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SULPHONAMIDE RASHES

AN ANALYSIS OF 500 CASES SEEN IN NORTH AFRICA AND ITALY

BY

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Since 1937 it has been widely realized that the administration of sulphonamides by mouth is liable to cause drug rashes, particularly of a photosensitive type (Goodman and Levy, 1937; Ballenger *et al.*, 1937; Hallam, 1939), but it was not appreciated until recent times that the local application of these drugs could produce reactions as serious and lasting in their effects as those caused by oral administration. At one time I was an enthusiastic user of sulphathiazole on the skin, in the form of 5%-strength in Lassar's paste or in a water-miscible cream (Peterkin and Jones, 1943). With this drug it was found that straightforward septic conditions of the skin such as impetigo contagiosa rapidly vanished. Only two or three cases of sensitization to the sulphonamide group were noted, and they had been treated with sulphanilamide powder before admission to hospital. These reactions soon yielded to soothing applications, so that sulphathiazole, used in this strength and in this form, was regarded as less liable to cause disagreeable reactions than such well-tried drugs as mercury.

In an active theatre of war, however, sulphonamides are used to a far greater extent than in military or civil life at home, and the relative proportion of individuals being treated with these drugs (for wounds, burns, and septic conditions) is very much higher. There is therefore far more risk of sensitization, and many more sulphonamide rashes tend to be observed abroad, though it is interesting to note that the incidence in North Africa and Italy seemed to be much higher than in the Middle East (Park, 1943; Tate and Klorfajn, 1944a, 1944b).

Since my arrival in North Africa in Feb., 1943, I have been compelled in no uncertain fashion to revise my original view concerning the use of these drugs as local applications. During my first 10 days in North Africa, of the 25 cases evacuated from the forward areas diagnosed as impetigo, no fewer than 15 were cases of sulphonamide-light dermatitis of a severity I had never seen in the United Kingdom. During the period spent in North Africa (Feb. to Dec., 1943) and in Italy (Jan. to Dec., 1944)—i.e., 23 months—over 650 cases of sulphonamide sensitization have been seen. Careful notes have been kept of 500 of these cases.

Under active service conditions it is difficult to obtain access to current literature, but it is believed that so far no paper has appeared describing a considerable number of sulphonamide eruptions and attempting to classify them into various groups, though the book by Bertin and Huriez (1942) must be mentioned as well as the paper by Pillsbury (1944).

Many authors have described cases of the different types of reaction due to the sulphonamides. Shaffer (1943) mentions "contact-type" dermatitis with often widespread vesicular lesions and exacerbation of the original disease, and also refers to scarlatiniform, morbilliform, urticarial, purpuric, vesicular, pemphigoid, pustular, and furunculoid eruptions, as well as rashes closely resembling erythema multiforme, erythema nodosum, and exfoliative dermatitis. Miescher (1943) notes a type composed of erythematous spots on the extremities, especially the extensor surfaces (and sometimes on the face), ranging in size from a lentil to about 2 sq. in.—not sharply defined but slightly infiltrated. The first mention of the fixed type of drug eruption (somewhat like a phenolphthalein rash) seems to have been made by Loveman and Simon (1939). Costello *et al.* (1942) noted that 21 of 196 cases treated with sulphathiazole developed skin eruptions, erythema nodosum, scarlatiniform, urticarial, and papular rashes, and angioneurotic oedema.

The photosensitization types come into a different group; they seem to be far less common in the United States than in Britain, and very few cases occurred in American soldiers serving over-seas. Despite a close liaison with three U.S. dermatologists, I saw only 5 cases in their patients, though the incidence among Canadian soldiers was as high as in British troops (Hair, personal communication). Sulphonamides were used, if anything, more freely in American patients, but sulphadiazine was more often prescribed than sulphanilamide or sulphathiazole.

Of the various drugs employed, sulphanilamide seemed the most apt to cause reactions, especially if used in the form of the powder, but sulphathiazole, sulphapyridine, sulphadiazine, and sulphaguanidine were often the agents used. The whole group were less likely to cause reactions if applied in the form of a thick paste or a water-miscible cream. In over 90% of cases the original drug which had sensitized the skin was sulphanilamide powder.

Types of Eruption seen in B.N.A.F. and C.M.F.: 500 Cases

	Cases	%
I. Sulphonamide-light	361	72·2
(*a*) Erythemato-papular	47	9·4
(*b*) Vesicular	1	0·2
(*c*) Severe—bullous, crusted, and oedematous	309	61·8
(*d*) Telangiectatic	4	0·8
II. Contact: Vesiculation, followed by weeping and superficial ulceration; maybe general eczematization	51	10·2
III. Infectious eczematoid dermatitis, following a contact dermatitis	31	6·2
IV. Disseminated neurodermatitis—maybe secondary to a patch of neurodermatitis	4	0·8
V. Generalized vesicular	4	0·8
VI. Generalized bullous (pemphigoid)	1	0·2
VII. Fixed type of drug eruption	1	0·2
VIII. Purpuric:		
(*a*) Generalized—after oral administration	1	0·2
(*b*) Contact—purpuric reaction	3	0·6
IX. Morbilliform: Often with vesico-bullous eruption of hands and feet	12	2·4
X. Scarlatiniform	3	0·6
XI. Urticarial	3	0·6
XII. Lupus erythematosus	5	1·0
XIII. Erythema multiforme	6	1·2
XIV. Erythema nodosum	5	1·0
XV. Pustular or acneform	4	0·8
XVI. Exfoliative dermatitis	5	1·0

I. Sulphonamide-Light Eruption

(*a*) *Erythemato-papular Type.*—This was the first type of reaction recognized as being due to the sulphonamides, and has been described by Goodman and Levy (1937), Ballenger *et al.* (1937), and Hallam (1939), among others. More recently, excellent descriptions of cases occurring in the Middle East have been given by Park and Platts (1942) and Park (1943).

This eruption may be seen in patients after oral medication or local application. Prior to 1941 the former was usually the cause, and was not uncommonly seen in peacetime in people who had been treated with sulphapyridine, followed by general ultra-violet irradiation as a tonic treatment. The typical dusky-red erythemato-papular rash, limited exactly to the areas exposed to light, disappeared spontaneously in 24 to 48 hours, and the patient did not remain light-sensitive. The type due to local application was rarely seen in civil life, but proved to be moderately common in Army dermatology. It was usually associated with a typical sulphonamide contact dermatitis (see below), and disappeared rapidly without treatment; 47 such cases were noted.

Illustrative Case.—Bdr. A., aged 25. First seen on June 22, 1943. He was admitted to a field ambulance with a gunshot wound of the lower left thigh, which had been treated by his R.M.O. with sulphanilamide powder and a shell dressing. For the next three weeks sulphanilamide powder was applied daily; he was then evacuated to the base, as the wound seemed more septic and a dermatitis had appeared. On June 21 a rash broke out on the face, neck, hands, arms, and knees. On examination he had a typical sulphonamide contact dermatitis of the left thigh, with a characteristic erythemato-papular eruption sharply limited to the exposed areas. In 24 hours the rash on the face and limbs had faded, and by July 5 the dermatitis had healed thoroughly.

(*b*) *Vesicular Type.*—Only one case of this kind was observed.

Illustrative Case.—Bdr. B., aged 24; admitted to hospital on Sept. 7, 1943. On Aug. 24 he received a kick on the shin while playing football; a superficial graze resulted. This was dressed at his unit with sulphanilamide powder, which was reapplied daily for seven days. On Aug. 31 he noticed small blisters on the back of the hands, and two days later his hands, face, neck, and knees were covered with hundreds of small blisters. He was sent to hospital as a case of smallpox, as there had been one or two cases in the neighbourhood. On examination the original graze was found healed, with a constellation of vesicles around; these were the size of seed pearls, and were exactly localized to the skin to which the dressing had been applied. The exposed areas of the skin—the face, neck (including the upper sternal area), forearms, hands, and knees—were studded with similar vesicles. These had a non-inflammatory base, were quite discrete, and cultures from them were sterile. Otherwise the skin was healthy except for pityriasis simplex capitis and perlèche. With a soothing and mildly astringent lotion (liq. plumbi subacetat. fort. in calamine lotion) the eruption disappeared in five days, but full recovery was retarded by the appearance of boils on the neck. He was returned to duty on Oct. 10, 1943.

(*c*) *Severe Type—Bullous, Crusted, and Oedematous.*—This was by far the commonest type of sulphonamide rash (309 cases), and accounted for over 60% of the total series. Though not unusual in the U.K., this type seen over-seas was usually of a severity unknown at home. Strong sunlight played its part, yet some of the worst cases were observed in Italy in Jan., 1944, when the weather was extremely cold and bitter, with little sun. It was significant that the syndrome was rarely recognized before the admission of the patient to hospital, the diagnosis usually being "severe impetigo" (often "with cheiropompholyx") or "pyodermia"; thus many unfortunate men were dosed with large quantities of sulphonamide tablets, with deplorable results. A great proportion of the patients were cases of impetigo which had been treated with sulphanilamide powder. The condition is best described by two illustrative cases:

Case 1.—Pte. C., aged 28; admitted Feb. 25, 1944. This patient was a medical orderly in an infantry unit at the Anzio beach-head; from Feb. 14 to 20 his chief duty had been the treatment of wounds with a sulphanilamide insufflator. On Feb. 20 he suddenly developed a crusted, oozing rash which covered his face like a mask, accompanied by a rise in temperature (i.e., a sulphonamide–light eruption). This was diagnosed as an acute impetigo, and he was given sulphanilamide tablets (7 g.) during the 22nd and 23rd. His eyes became inflamed, with intense photophobia; the whole face was swollen, and blisters appeared on the back of the hands. He was then evacuated to hospital. On examination the whole of the face and neck was a confluent crusted mass, with oedema of the eyelids and intense photophobia; the lips were swollen, crusted, and haemorrhagic; the back of the hands and the proximal phalanges were covered with a septic vesico-bullous eruption. Though he had been wearing battledress, the areas exposed in summer (arms, neck, and knees) showed slight desquamation. By March 11 the skin was healed, but still dry and taut. It was gradually exposed to direct sunlight, which caused a slight recurrence on the 20th, after 20 minutes' exposure, but he was able to tolerate full exposure to the sun for several hours by April 12. He was discharged on April 17, able to bare his body to sunlight for the whole day, and was recommended for indoor duties. He had spent 56 days in hospital. He kept well till Aug. 10, when for no apparent reason he had a violent recurrence. He was readmitted to hospital and sent home by hospital ship.

Case 2.—Gunner O., aged 29; admitted on June 2, 1944. In Oct., 1943, this patient had impetigo, which was treated with sulphanilamide powder; he developed a sulphonamide–light eruption, which healed after three weeks, leaving no photosensitivity. In Dec., 1943, he sustained a slight wound of the arm, and, despite his statement that he was "sulphonamide-sensitive," this was treated with sulphanilamide and vaselined gauze (S.V.G.). The usual rash appeared, and disappeared in four weeks. On June 3, 1944, he was wounded in the right thigh by shrapnel; this time, thinking it would be of no avail, he did not warn the medical officer that he was sensitive to sulphonamides. He had the wound dressed with sulphanilamide powder, and was given 2.5 g. of sulphanilamide. The next day he was sent to hospital with a moderately severe eruption. On admission the face, neck, upper part of the che[illegible] and the hands and arms were covered with a weeping crusted rash, with considerable swelling. The lower lip was raw and cracked. His skin healed well on 1% hydrarg. ammon. in Lassar's paste applied as a mask and as spreads, and he was discharged from hospital on June 23, tolerant to light. A label was affixed to his pay-book warning that he was sulphonamide-sensitive. He has kept well since.

Treatment of Type Ic

1. *Local.*—It was soon found that many drugs did not suit these cases, while others seemed to act almost as specifics. Saline soaks, ichthyol, but above all the flavine series, were unsuitable. In many instances the application of acriflavine had caused a marked exacerbation, and in five cases the use of this drug had produced a typical sulphonamide contact or light dermatitis in patients who had had this some months before, but who had not had any sulphonamide applied since that time. In this connexion the article by Russell and Beck (1944), pointing out the dangers of sulphonamide–proflavine mixtures in experimental wounds in rabbits, seems to show that each drug enhances the toxic reaction of the oth[illegible] It was found that in the crusted oedematous phase the most suitable dressing was lead and calamine or lead and zinc lotion, applied as wet dressings at least night and morning. Weak eusol or eau d'Alibour was also helpful. When the skin became less moist, with little oozing and crusting, a mask of 1% hydrarg. ammon. in Lassar's paste proved to be the most acceptable dressing: 2% hydrarg. ammon. often seemed to be too powerful, while the skin did not tolerate greasy applications such as ung. hydrarg. ammon dil. very well. This 1% hydrarg. ammon. paste healed the skin in two or three weeks, except in the severe cases, and it was then necessary to test the patient's tolerance to sunlight. The face, hands, and arms were therefore gradually exposed to light—on the first day for 5 minutes, the second day for 7 minutes, the third day for 10 minutes, and so on until the patient could bare his whole body for at least four hours to a strong sun. At first the skin was protected by an anti-light cream—quinoline derivatives and phenol salicylate were not available, and quinine sulphate creams proved of little use. The best cream was 5% tannic acid in a tragacanth or a lanette wax cream, which was applied liberally before exposure to the sun. Quercitannic acid, extracted from the cork oak in North Africa, was tried, but proved inferior to ordinary tannic acid. In the healing stage these sulphonamide–light eruptions closely resembled an impetiginized seborrhoeic dermatitis, and the drugs used in this condition were often employed—e.g., gentian violet 1%, silver nitrate 2%, etc. Penicillin cream also proved useful.

2. *General.*—(i) *Vitamin B complex* seemed to be indicated, as the photosensitivity brought to mind a nicotinic acid deficiency, and the crusted lesions of the mouth, the naso-labial folds, and the ears reminded one of a lack of riboflavin. Therefore yeast (in the form of D.C.L. tablets and dried yeast), multivite tablets, and stout were given in maximal dosage. The response was disappointing, though the impression was that yeast tablets seemed to have most beneficial effect. With the dose given the patients felt the "nicotinic acid flush," but the light sensitivity persisted as much as in those cases which were not given extra vitamins.

(ii) *Quinine sulphate and hydrochloride* were given to 20 cases—the doses being 5 gr. thrice daily—as they have been used with some beneficial effect in other dermatoses associated with sensitivity to sunlight—e.g., lupus erythematosus and erythema multiforme. In some cases the skin could tolerate full exposure to light after three or four days, but the photosensitivity returned after stopping the drug.

(iii) *Peptone* (5%, given subcutaneously thrice a week) was used in several severe cases, as its complex components seem to contain a substance or substances antagonistic to the sulphonamides (Heathcote, 1944). It had no effect whatsoever.

(iv) *Vaccines* were employed in many cases, as the predominant growth in every case was *Staph. haemolyticus*; they were helpful in patients with pustules and furuncles, but had no other effect.

(v) *Penicillin*, given intramuscularly, proved to be the most useful drug of all. It was used in a dosage ranging from 500,000 to 1,250,000 units, depending on the severity of the case. So far 23 cases have been treated. The sepsis usually disappeared within five days, leaving a tender healing skin. It had, of course, no effect on the light sensitivity.

(vi) *Sulphonamides.*—It was relatively easy to desensitize patients to the sulphonamides by starting with a tiny dose and increasing it daily. This, however, had no influence on the photosensitization; it was therefore of little practical value, and was discontinued.

(*d*) *Telangiectatic Type.*—This was seen in 4 cases, and was always the end-result of repeated attacks of a mild sulphonamide-light dermatitis. Two of the patients had been affected for over two years, the others for about four months. All had a typical appearance, somewhat reminiscent of a mild radiodermatitis—i.e., mottled pigmentation, fine telangiectasia, and early atrophy of the skin—associated with scattered islands of impetigo. One patient had some pre-carcinomatous keratoses. In all cases the condition was localized to the face, the "V" of the neck, and the back of the hands.

Illustrative Case.—Pte. E., aged 24; admitted to hospital on Oct. 21, 1944. Except for mild dandruff his skin had always been healthy. On June 28, 1944, he was wounded through the leg, which was dressed with sulphanilamide powder and then acriflavine. Three days after wounding a spotty rash appeared on the face and arms, which soon became crusted. He noticed that his lips were cracked and swollen. The erythema subsided but the crusting persisted. Various applications were used, and penicillin powder caused an acute exacerbation. On admission he showed pigmentation and telangiectasia of the brow, cheeks, neck, and lips, and odd patches of impetigo on the cheeks and brow. The latter cleared slowly but steadily with 1% gentian violet used alternately with 1% hydrarg. ammon. paste. Because of the atrophic changes he was invalided home.

II. Contact-type Dermatitis

This type was observed in 51 cases. It appears to have been first noted by York (1942), who described the treatment of 96 cases of staphylococcal infection of the skin: one boy with impetigo of the scalp developed a reaction—i.e., "punched-out ulcers appeared at the edge of the lesions," and healed readily on ammoniated mercury ointment.

According to the excellent papers on sulphonamide eruptions by Tate and Klorfajn (1944a, 1944b), this form of sulphonamide sensitivity seemed to be far commoner in the Middle East than the photosensitization type, which was so prevalent in North Africa and Italy. The reaction occurred most often on the limbs, but was seen occasionally on the head and trunk. Once a few cases had been seen a "spot diagnosis" was easily made, and confirmed by taking the history, but 5 cases (already mentioned) were healed sulphonamide dermatitis reactivated by acriflavine. The original lesion—usually a wound or a graze—had practically healed as a rule, and was surrounded either by bullae or, when they had ruptured, by small superficial ulcers, about 1 cm. in diameter, stippling a raw denuded surface. These ulcers were filled with a thin pus, which on culture gave a pure growth of *Staph. haemolyticus*, except for two cases which produced a growth of *Ps. pyocyanea*, with sparse colonies of *Staph. haemolyticus*: the latter cases had the clinical appearance of pemphigus foliaceus, with the typical large flaccid bullae and musty odour.

The ordinary sulphonamide contact dermatitis yielded rapidly o treatment: either wet dressings of lead and zinc lotion or veak eusol healed the ulcers quickly, and a dressing of Lassar's aste or zinc ointment protected the skin during the final ealing phase.

Illustrative Case.—Lieut. F., aged 31; admitted to hospital on arch 10, 1944. Six weeks before admission he grazed his left bow while playing football; the injury "went septic," and lphanilamide powder was applied on three occasions. A marked read of the infection ensued, so that the whole arm was affected. examination it was seen that the original graze had healed comtely. The whole forearm, from the deltoid to the wrist, was ered with septic blisters and small septic ulcers, with considerable ns of denuded skin. Wet dressings of lead and zinc lotion were lied, and on March 22 the arm had healed, leaving many healed hematous areas. He was seen again two months later, and his had remained well.

III. Infectious Eczematoid Dermatitis Type

This always began as a typical sulphonamide contact dermatitis, but the staphylococcal infection spread as impetiginous or ecthymatous lesions over the limbs, ears, and beard region. Thirty-one cases of this type were admitted; some of these had become markedly eczematized, and thus resistant to treatment. When seen in the early stages, however, the prognosis was excellent, and a speedy recovery was made. This type, like the contact one, is described by Tate and Klorfajn (1944a, 1944b).

Illustrative Case.—B.S.M. G., aged 25; admitted to hospital on March 23, 1944. On Feb. 19 a superficial gunshot wound of the left lower leg was treated with S.V.G. After several applications the wound had almost healed, but the surrounding skin became [illegible] and weeping, with septic bullae and superficial ulceration. The dermatitis spread until the whole leg was involved, and sores and blisters appeared on the arms, ears, chin, and neck. There was no photosensitivity. Both the leg and the secondary lesions healed quickly on penicillin cream (250 units in a lanette wax and adeps lanae cream).

IV. Disseminated Neurodermatitis Type

Only 4 cases of this type were seen; they were precisely similar except that one began after treatment of a wound in the thigh, two from patches of infective dermatitis, and one after sulphanilamide ointment had been applied to a patch of circumscribed neurodermatitis (lichen simplex chronicus) over the sacral region. The application of the sulphanilamide caused a sudden dissemination of erythemato-papular lesions with some lichenification on the neck, on the flexor surfaces of the forearms, especially in the antecubital fossae, and on the front of the thighs. None of these cases had any previous history, or family history, of skin disease.

Illustrative Case.—A.B. H., aged 32; admitted to hospital on May 30, 1944. About six months previously he felt an irritation just above the natal cleft, which caused him to scratch the part violently. Gradually the skin of that area became thick and leathery and intensely pruritic. He was seen by his doctor, who prescribed a 5% sulphanilamide ointment. After a few applications the rash spread "all over the body." The appearance on examination was typical of "eczéma neuropathique"; there was an erythemato-papular rash scattered over large areas of the body, with some lichenification and pigmentation. On the sacral area was a large thickened plaque of lichen simplex chronicus (Vidal). The patient, though a sailor with an almost heroic record, was a nervous introspective individual, intensely worried about home troubles. The resolution of these played an important part in the clearing of his skin condition, and he was returned to duty on June 20, with practically no itching but some residual lichenification, after treatment with crude gas tar.

V. Vesicular Type

Four cases of the vesicular type of rash were admitted, two being due to oral administration and two to local application of sulphonamides. The prognosis of these was excellent, as the vesicles rapidly disappeared, and the men could be returned to their units in a short space of time. Three were sent to hospital as cases of suspected smallpox: when the vesiculation was localized mainly to the exposed areas the appearance and distribution certainly suggested this diagnosis.

Case 1.—Lieut. I., aged 24. This officer was admitted to hospital on May 28, 1944, for treatment of an attack of bacillary dysentery, for which he was given sulphaguanidine tablets. When he had taken them for two days a vesicular rash appeared all over his body, and vanished in three or four days. A week later the tablets were again administered, and again a precisely similar rash appeared.

Case 2.—Dvr. J., aged 23, Sinhalese; admitted to hospital on May 8, 1944. For 2½ months this patient had had a dermatitis of the back of the left hand after an abrasion. On May 4 this became septic; acriflavine dressings were applied and sulphapyridine tablets (14 g.) given by mouth. On the 5th he developed malaise, giddiness, and a generalized rash, with intense pruritus. His body was covered by a vesicular rash, not unlike variola; the back of the left hand was raw and ulcerated, with marked oedema. In a week the generalized eruption had gone, but the original dermatitis of the hand did not heal completely till June 4. Though no sulphonamide had been applied to the patch of dermatitis the acriflavine had produced a typical sulphonamide contact dermatitis.

VI. Generalized Bullous (Pemphigoid)

Only one case of this type was seen, and only one could be found [illegible]cribed in the literature available—that in the [illegible] by [illegible] (1943).

Illustrative Case.—Lieut. K., aged 34; Polish officer; admitted to hospital under the care of Major H. C. Johnston, R.A.M.C., venereologist. This patient had contracted gonorrhoea, which his medical officer began to treat with sulphathiazole; after two days a slight rash appeared on the trunk, and the drug was stopped. However, the patient was determined to have sulphonamide treatment, and managed to secure some sulphathiazole in an illicit manner. He took two tablets, and next day was admitted to hospital with a generalized bullous eruption. He was extremely toxic and appeared to be desperately ill. His condition was very much like a true pemphigus, as the rash was entirely bullous, and Nikolsky's sign was positive; lesions were present on the tongue and the buccal mucous membrane. In order to treat his gonorrhoea, as well as any sepsis present, he was given penicillin intramuscularly: after 100,000 units the bullae disappeared, the mouth healed, and the skin was well within 7 days. His general health, however, remained poor, and even after some weeks at a convalescent depot he complained of weakness and lack of energy.

VII. Fixed Type of Drug Eruption

In this series—from Feb., 1943, to June, 1944—only one case of this type was seen, but since that time two other patients have reported with it. The eruption is essentially similar to the fixed erythema due to other drugs, such as phenolphthalein, the barbiturates, and arsenic. Since 1939, when Loveman and Simon described "sulphonamide fixed drug" eruption, several cases have been reported in the literature—by Director (1943), Dostrovski and Sagher (1944), and Freeman (1944), among others.

Illustrative Case.—Lieut.-Col. L. had for some years been troubled with a recurrent antral sinusitis, and obtained speedy relief by taking small doses of sulphanilamide, sulphathiazole, or sulphadiazine. As a rule the drug was used orally, but more recently he had been taking sulphathiazole powder as a snuff. Some months before, three scaly pigmented patches had gradually appeared on the face and chest, somewhat like a discoid lupus erythematosus. Each time sulphonamides were taken the patches became erythematous, swollen, and intensely pruritic. Macroscopic examination showed three circular, deeply pigmented lichenified plaques on the chin, forehead, and chest. The coloration was dark brown, there being no lilac tint and no follicular plugging. A histological section revealed a picture of chronic inflammation—hyperkeratosis, some acanthosis, increase of blood supply, and an intense round-cell infiltration.

VIII. Purpuric

In a severe case of sulphonamide dermatitis it is a common occurrence to observe purpuric lesions, particularly on the legs, but it is definitely unusual for the rash to be entirely purpuric in character. Shaffer mentions that purpura may be met with in sulphonamide eruptions, and I have now seen 8 cases with only a purpuric rash, 3 of these in the present series. Of the 8, one was due to administration of sulphanilamide tablets and the others to the local application of the powder. The rash in each case soon faded, leaving brown pigmentation.

Illustrative Case.—Capt. M., aged 31, was admitted to hospital with an ulcer on the front of the leg; this had appeared suddenly for no apparent reason 10 days previously. The sore was treated by the daily application of sulphanilamide powder. On examination a typical diphtheritic ulcer was seen; surrounding this was a plaque of purpuric skin, exactly square in shape—i.e., precisely the size of the white lint dressing which had been impregnated with the powder.

IX. Morbilliform

This rash is one of the commonest due to the sulphonamides, and usually occurs after oral administration. Though only 8 cases are included in this series, many others occurred in the hospitals in Africa and Italy. The eruption being well recognized by physicians and surgeons, the drug was withdrawn and the rash soon faded, so that the dermatologist did not often have the opportunity of seeing the reaction in full efflorescence. The rash is most pronounced on the trunk as a rule, but may affect all the skin and cause a vesico-bullous eruption of the hands and feet, with intense pruritus. It is precisely similar to the drug eruption due to the barbiturates—e.g., medinal—and, of course, no photosensitization develops.

Illustrative Case.—Sgt. N., aged 28, was admitted to hospital on Feb. 29, 1944, with an extensive infectious eczematoid dermatitis, which had begun after the secondary infection of an abrasion. The ar[illegible] legs, and buttocks were affected by crusted septic patches of [illegible]tis. After initial improvement he had a relapse on March 8; [illegible] the 9th was given sulphanilamide tablets [illegible] g. he developed a morbilliform rash on the trunk, limbs, and face, with a vesico-bullous eruption of the palms and soles. By the 13th the rash had disappeared except for some pigmentation, and a "gumboil" had suddenly made its presence felt in the lower jaw. Radiography showed evidence of a large apical abscess; the tooth was extracted, and his dermatitis healed rapidly and steadily. His skin two months later was still perfectly well.

X. Scarlatiniform

Only 2 cases of this type were seen, perhaps chiefly because it is an evanescent rash and usually disappears within 24 or 48 hours. The whole body may be affected, but as a rule the trunk is the main site of the eruption. Like the morbilliform, this type does not seem to be associated with photosensitivity, and patients who have had this rash tend to have the same manifestation if sulphonamides are given again.

Illustrative Case.—Spr. O., aged 22; admitted to hospital on March 16, 1944. Thirteen weeks previously he developed a boil on the right ankle. This was treated with S.V.G. for about a week, after which a weeping eruption appeared on the surrounding skin (i.e., sulphonamide contact dermatitis). On March 11, as the leg seemed to be "septic," he was given 5 tablets (2.5 g.) of sulphanilamide. Five hours later a rash appeared over the whole body, and the dermatitis of the ankle became much more pronounced. On admission he was covered with a scarlatiniform rash, and had a temperature of 102° F. The dermatitis of the right ankle was a typical sulphonamide contact dermatitis. By March 24 the leg had almost healed (the scarlatiniform eruption had disappeared by the 19th), but he had developed numerous boils. He was evacuated on the 25th, as beds were urgently required for fresh admissions.

XI. Urticarial

Two cases of acute urticaria after administration of sulphonamides were seen—one after sulphathiazole and one after sulphathiazole and sulphaguanidine. In both the rash faded in two or three days.

Illustrative Case.—Tpr. P., aged 24, was admitted to hospital on June 8, 1944, because of diarrhoea. His story was interesting. About the end of May he sustained multiple but superficial wounds, and was admitted to a casualty clearing station, where he was given sulphathiazole tablets by mouth. The next day a generalized rash appeared, apparently urticarial in nature; it vanished in two or three days. On June 8 he had a sudden attack of diarrhoea, and was transferred to the medical division of the hospital. On the 12th he was given sulphaguanidine, and next day was covered with urticaria, which disappeared in 12 hours. On July 2 he had further diarrhoea; 12 tablets of sulphaguanidine were administered, and in 3 hours the urticaria again erupted, disappearing within 12 hours.

XII. Lupus Erythematosus Type

The 5 cases seen were all patients who had been treated with oral sulphonamides for chest conditions—wounds with infected haemothorax or bronchopneumonia. The rash appeared after at least 30 g. had been given. It was exactly similar to an acute lupus erythematosus, and involved the cheeks, nose, brow, and sometimes the "V" of the neck, with the typical colour, scaling, and follicular plugging, but disappeared except for some desquamation in 7 to 10 days after stopping the drug and applying ichthyol–calamine lotion.

Illustrative Case.—Pte. Q., aged 21, was admitted to hospital in May, 1944, with a severe penetrating chest wound, which had cause an infected haemothorax. He was operated on by No. 2 Surgic Chest Team, and given sulphathiazole by mouth. His general con tion improved steadily, but after 28 g. of the drug he develo erythematous lesions on the cheeks and brow, the appearance distribution of which were most suggestive of lupus erythematos

XIII. Erythema Multiforme Type

In 5 of the 6 cases seen the eruption was a typical ery multiforme, and each patient gave a history of having throat, which was treated with sulphonamides orally possible that the rash might have appeared whether t had been used or not, as the lesions and course of t were indistinguishable from true erythema multifo case, however, was somewhat different. This patient sergeant who had had severe abdominal wounds which tated major surgery. The damage was skilfully repaire given sulphanilamide, but his temperature remaine no apparent reason. As either a streptococcal or coccal septicaemia was feared despite sterile blo the sulphanilamide was stopped and sulphathiazole

The temperature still remained high, and an erythematous rash appeared on his neck. This was a patch of erythema multiforme. The drug was withdrawn, and in two days his temperature fell, the rash disappeared, and he made an uninterrupted recovery.

XIV. Erythema Nodosum Type

Some of the 5 in this group were quite ordinary cases of this disease, while two showed circinate erythematous plaques which were more superficial than the typical erythema nodosum and were not extremely tender. Similar lesions have been described by Miescher (1943) as occurring on the limbs and face after oral sulphathiazole.

Illustrative Case.—Guardsman R., aged 26, was admitted to hospital with a cellulitis of the leg following an abrasion, and was given sulphathiazole by mouth. Within 24 hours the front parts of the legs were studded with numerous tender indurated erythematous plaques, which gradually disappeared, leaving brown pigmentation. A general examination, including radiography of the chest, revealed no physical changes.

XV. Pustular or Acneform Type

Though Shaffer *et al.* (1943) have described a case of pustular exacerbation of an acne vulgaris after oral sulphathiazole in a man whose skin had been sensitized by the previous use of a sulphathiazole lotion, the 4 cases in this series were all seen as an end-result of sulphonamide medication. The patients had either had a sulphonamide–light eruption, which had disappeared, leaving pustular lesions on the face, or had had a sulphonamide contact dermatitis, which had healed, leaving a persistent folliculitis that had proved difficult to clear.

Illustrative Case.—Spr. S., aged 32, was admitted to hospital in May, 1944, with a sulphonamide contact dermatitis of the left leg. Three weeks before admission he had grazed the calf of his leg on barbed wire, and sulphanilamide powder had been applied daily as a dressing. After 7 days the graze had practically healed, but a weeping dermatitis about 4 in. square developed. This healed rapidly on wet dressings of lead and calamine lotion, but follicular pustular lesions which were present persisted for 7 weeks after the original dermatitis had healed.

XVI. Exfoliative Dermatitis

Many patients, of course, had a complete exfoliation as the drug rash faded, especially in the morbilliform and scarlatiniform types, but in 5 a severe exfoliative dermatitis was produced, chiefly by the combination of local and oral sulphonamides. Some of these took many weeks to get better, and three patients had to be invalided home.

Illustrative Case.—Pte. T., aged 23, was admitted to hospital on March 10, 1943. For three months he had had a "running ear," treated in various ways, including insufflation with sulphanilamide powder. By February the pinna was involved and the eyebrows became crusted. He was admitted to a forward hospital, where the ears were treated daily with sulphanilamide powder and he was given sulphanilamide tablets four-hourly. A severe generalized dermatitis developed, and he was evacuated towards the base. In Dec., 1942, insufflations of sulphanilamide powder had cured his "running ear" in 4 or 5 days. About the end of Jan., 1943, he developed impetigo of both ears; this gradually spread to the face, and he was admitted to hospital in a forward area, where the infection was treated with sulphanilamide powder. The crusting spread rapidly after this (i.e., sulphonamide contact dermatitis), and he was then given sulphanilamide tablets four-hourly (number unknown). Within 24 hours of swallowing the first tablets his face swelled, with marked oedema of the eyelids, conjunctivitis, and photophobia. The face and neck were crusted and oozing, a mass of blisters appeared on the hands, and a rash erupted all over the body. When first seen, on March 10, 1943, after he had been evacuated towards the base, he had a generalized exfoliative dermatitis, all the skin of the body being raw and crusted and the lips, tongue, and buccal mucous membrane swollen and ulcerated. There were purpuric lesions on the legs, and the scrotum was oedematous and raw. The temperature was 102° F.; pulse rate, 112. Urine: albumin +; sugar —; bilirubin +++; porphyrins —. He was extremely ill and toxic.

Discussion

In the Central Mediterranean theatre skin sensitization due to sulphonamides ranks as an important problem: every patient with a chronic seborrhoeic dermatitis of a particularly severe impetigo has to be questioned closely regarding sudden exacerbation or photosensitization after the application of a powder or ointment or after the ingestion of tablets. In July, 1943, the Director of Medical Services, A.F.H.Q., B.N.A.F., issued an instruction that sulphonamides should not be used in skin conditions or minor injuries except under the direct supervision of a dermatological specialist. This order was repeated on several occasions, while at a later date surgeons were warned about the dangers of sulphonamide powders for ear disease, and the necessity for avoiding prolonged use of these powders in wounds and burns.

Fortunately, most of the rashes due to internal administration of the drugs soon disappeared, unless the skin had been previously sensitized by local application. Internal medication can precipitate any of the various kinds of eruption, even the contact type, once the skin has been sensitized. Thus the erythematous and morbilliform and the fixed types do not matter greatly. On the other hand, the bullous (pemphigoid) eruption may be a grave illness, and the patient may even die (Kennedy, personal communication), while Shaffer *et al.* report two cases which each took four months to recover. It resembles "butchers' pemphigus," and the patient appears to be extremely ill. The rapid response to a comparatively small dose of penicillin (100,000 units—it was a precious drug at that time) of the single case reported here is definitely encouraging.

The two forms which caused most trouble to the dermatologist were the contact and light eruptions. The great proportion of cases of sulphonamide contact dermatitis healed rapidly with appropriate treatment, but only too often the patients were admitted to hospital with a chronic eczematous process that tended to relapse after apparent cure.

More distressing still were some of the cases which had become photosensitive. The mild erythemato-papular type caused little disability, and the light sensitivity soon disappeared. The severe cases, admitted with oedema and crusting of the exposed areas, cheilitis, conjunctivitis, and a high temperature, took weeks or months to recover, and the tendency to relapse was so evident that the greater number were invalided home even though their skins seemed healthy. For example, out of a series of 65 cases, mild and severe, seen in North Africa in 1943, over 20 were sent home from that country; of the remainder, 11 were seen again in Italy in 1944 and invalided home with (1) a recurrence of their light sensitivity, sometimes but not always due to a further use of sulphonamides or acriflavine—5 cases; or (2) chronic eczema—3 cases; or (3) resistant staphylococcal infections (e.g., recurrent impetigo or seborrhoeic dermatitis, chronic furunculosis or folliculitis)—3 cases. These men seemed to have a skin unable to resist staphylococcal infections.

Four patients were seen with the telangiectatic type of sulphonamide–light eruption; their future may also be viewed with some concern, the atrophy, pigmentation, and telangiectasia having the appearance of a radiodermatitis or mild xerodermia pigmentosa rather than a chronic solar dermatitis, though only one had pre-carcinomatous lesions.

It is difficult to assess how long a man will remain sensitive to light. In the mild erythemato-papular cases the patient may well be able to tolerate light within 48 hours, while in the worse types men have been seen still photosensitive after 2½ years. The amount of the drug does not seem to play an important part, as some of the worst cases had had only two or three applications of sulphanilamide powder, and some of those who recovered rapidly had been dosed with large quantities of assorted sulphonamides.

The chronic cases do not resemble other light dermatoses, such as Hutchinson's summer prurigo, but are to all intents and purposes cases of chronic seborrhoeic dermatitis with a profuse dandruff, crusting of the eyebrows, chin, and ears, and often flexural seborrhoea. A careful history will elicit the use of sulphonamides and exacerbation on exposure to light localized to the face, neck, hands, arms, and knees.

It was significant that sulphanilamide in powder form was most liable to cause sensitization, but sulphanilamide in vaseline is almost as bad. This drug, probably because it was most commonly employed, was responsible for over 90% of all reactions. Only a few cases were caused by sulphadiazine and sulphaguanidine. Most patients appeared to be sensitized to all the sulphonamide drugs, but occasionally there was a selective sensitization, well described by Park in a recent paper.

The treatment of skin conditions such as impetigo, seborrhoeic dermatitis, and secondarily infected tinea led to the greatest number of reactions:

Dermatoses	62.66%
Otitis externa	4.00%
Wounds	13.00%
Grazes and minor injuries	14.33%
Burns	4.00%
Other diseases (e.g., tonsillitis, appendicitis)	2.00%

It seems impossible to determine what percentage of people treated by sulphonamides locally develop sensitization, but it is interesting to note the experience of other dermatologists in treating skin infections with these drugs. For instance, Pillsbury *et al.* (1941) treated 190 varied cases with no evidence of absorption and no local or general reaction; Kalz and Prinz (1942) treated 130 patients with no systemic effects and no mention of dermatitis; York (1942) had one case of contact dermatitis in 96 cases; the Robinsons (1941), in a series of 48 cases of impetigo, had two cases of contact dermatitis; Glicklich (1942) saw no toxic effects in 42 cases; Ingels (1943) had 10 cases of sensitivity in 300 cases; with microcrystalline sulphathiazole Bigger and Hodgson (1944) had one case of sensitivity in 50 cases treated; of 196 patients treated by Costello *et al.* (1942) 21 had skin reactions—i.e., of 1,052 cases treated 3.5% became sulphonamide-sensitive. Before I abandoned the local application of these drugs, out of 400 cases treated with 5% sulphathiazole paste or cream I observed 4 which developed photosensitization, either mild or severe.

There seems to be little doubt that sulphonamides can be applied to the skin, as Pillsbury (1944) says, with little risk of causing sensitization if the process is not an eczematous one and the drug is used for not longer than 5 days in the form of a thick paste or water-miscible cream; but as diseases such as impetigo can be treated satisfactorily by other methods, it appears that sulphonamides should no longer be used as a topical application.

In 1943 I performed various tests on men with the light eruption. Patch tests gave erratic results, as they were invariably positive on areas previously affected by the rash—i.e., the parts exposed to light—and usually negative on other parts of the skin. Scratch and intradermal tests were rarely used, as they tended to cause (as often happens with these tests) an exacerbation of the original condition.

Complexion had, it appeared, little or no significance in this series of cases—in fact, the rufous type seemed less prone to severe reactions, while the worst cases were seen in men with dark hair and skin. Photosensitization was seen in Indians, Gurkhas, Sinhalese, and men of negro stock.

The incidence of sulphonamide reactions in the U.S. Forces seemed to be much lower than in United Kingdom, Dominion, or Empire troops: light eruptions were rarely seen, but occasionally the other types occurred. Two busy American dermatologists practising during the twelve months of 1944 in the same theatre of war saw in their own group of patients only 4 cases each that were definitely due to the sulphonamide series. Several reasons for this extraordinary difference may be suggested, but the most important are that the commonest way of using sulphonamides locally in the U.S. Medical Corps was in the form of 5% sulphadiazine in a water-miscible cream, and that acriflavine was seldom employed. Not unnaturally, American colleagues were sceptical of the high incidence in British troops until they were absolutely convinced by the numbers of cases shown them.

Summary

From Feb., 1943, to Dec., 1944, over 650 cases of cutaneous sensitivity to sulphonamides have been seen in North Africa and Italy; of these, 500 are reported and classified into 16 various types.

These reactions were due to the treatment of many different conditions, from major wounds and burns to slight grazes, impetigo, and chancroid.

Only 3 of the types described are liable to cause a grave or prolonged illness—i.e., the pemphigoid, the sulphonamide-light eruption, and the sulphonamide contact dermatitis.

Sulphonamide-light dermatitis accounted for 72.2%, and contact dermatitis and its complications for 17.2%—i.e., 90% of the total.

Most cases of reaction were due to the use of sulphanilamide in powder form; the safest drugs appeared to be sulphadiazine and sulphaguanidine.

Acriflavine can reactivate a sulphonamide-light or contact dermatitis just as may cocaine.

No race is exempt from this sensitization—skin colour and texture make little or no difference.

Sulphonamide reactions are uncommon in U.S. troops compared with British.

The local application of sulphonamides is contraindicated in skin diseases, though there is little risk if the drugs are used with certain precautions.

Intramuscular penicillin appears to be the treatment of choice in two types—the pemphigoid and the severe light dermatitis.

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PREVENTION OF SEA-SICKNESS IN ASSAULT CRAFT

A REPORT OF EXPERIMENTS UNDER TROPICAL CONDITIONS

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Assault landings in combined operations entail the transport of large numbers of men in small craft over seas which may be rough. Previous experience in operations (such as the invasion of Sicily) and in training has shown how disabling sea-sickness can be to troops taking part in such landings. In many countries a number of remedies have been tested in the search for a means of preventing or mitigating sea-sickness without impairment of the fighting efficiency of troops when disembarked on the beaches.

From the reports of previous workers it appears that the most efficient remedy is hyoscine (Holling, McArdle, and Trotter, 1944; Holling and Trotter, 1944); other members of the atropine series are less effective. Amphetamine (benzedrine) had been claimed by Hill (quoted by Jowett, 1943) to reduce the sickness rate dramatically, but was found by Jowett and Thomson (1943) to be ineffective. A combination of hyoscine with amphetamine has been claimed (Jowett, 1943; Jowett and Thomson, 1943) to be highly effective. Chlorbutol has been found of little value (Holling and Trotter, 1944).

The possibility of side-effects being produced by hyoscine has been the subject of much research. The reduction in salivation, with consequent dryness of the mouth, is merely inconvenient. But the effects on the eye might, if severe, interfere with efficient shooting, observation, etc.; the sedative action might produce drowsiness; and, most important of all in tropical climates, the reduction in sweating might prove dangerous from interference with heat-loss. Both in Britain and in India tests with this drug have been carried out to determine whether these effects are pronounced enough to detract from its beneficial action in sea-sickness. Its effects on the stamina of troops and on their ability to perform complicated mechanical operations (stripping and reassembly of Bren guns, etc.) have been studied, and the performances of treated and untreated groups of men on the rifle range compared. Ophthalmological investigation of possible effects on accommodation and fine eye movements has been carried out (Wilson, quoted by Holling and Trotter, 1944). All reports agree that no undesirable effects are produced by the drug in the doses advocated for the relief of sea-sickness.

Studies have been made on two individuals working in a hot chamber reproducing tropical conditions, but no large-scale tests have so far been reported.

The experiments described in the present paper were carried out to determine the influence of this and other drugs on the incidence of sea-sickness among troops of various nationalities, and on the possible production of undesirable side-effects, under tropical conditions.

Material.—A group of over 5,000 men in training was used for the tests. The racial composition of the men was as follows: British troops, 1,667; Indian troops, 3,673; mixed (composition not recorded), 400. The various sects and races of Indian troops observed were: Punjabi Mussulmans, 637; Dogras, 206; Pathans, 316; Gurkhas, 1,586; mixed (Ajmirs, Brahmins, Ahirs, Moslems, Mundas, and Hoes), 928.

Meteorological Conditions.—The experiments were carried out on the west coast of India in latitude 19° N. during the month of May, approximately one month before the monsoon. Climatic conditions were average for place and season (see Table VII). Briefly, temperature and humidity were such as to favour the development of heat-stroke or heat-exhaustion in individuals performing strenuous exercise; sea conditions were never rough enough to produce more than 15 to 25% of sickness among unseasoned troops sailing in small craft.

Methods

During the investigation the troops were engaged on a full scheme of training, and experiments had to be designed so as not to interfere with this programme. In general it was impracticable to send parties of men to sea for the sole purpose of testing sea-sickness. Each experimental observation had to be fitted into the scheme of an assault exercise, planned and unalterable. This was usually possible, while still observing the essential conditions of the experiment—viz.: (1) the simultaneous observation under identical conditions of large numbers of men sailing at the same time in similar craft from the same starting-point to the same destination; and (2) their division into two or more groups of comparable size, one such group receiving inactive tablets (controls), while the other group or groups received tablets of the substance under test. Tablets were distributed one hour before embarkation to the selected groups of men, either by R.A.M.C. orderlies attached for duty in these experiments or by company commanders under the guidance of the unit medical officer. Particular care was taken to ensure that every man swallowed his prescribed pill. In all experiments the men in test and control groups alike were given paper vomit-bags, a supply of sweets, biscuits, and chewing-gum, and were instructed in the simple measures found by previous workers to reduce sickness among men crowded in small craft (i.e., keeping the deck clean by using bags for vomiting; eating a biscuit or a few sweets if slight nausea occurred). The chewing-gum was intended to reduce the unpleasant dryness of the mouth with hyoscine, but was given to all, irrespective of what drug they received.

The principles on which an experiment was planned may best be understood by consideration of an example.

Experiment V.—2/Blankshires; May 8/9, 1944

Three assault companies of a battalion, sailing in nine "Landing Craft Assault" (L.C.A.s) at 22.30 hours from the same point, were due to land on a beach at 02.00 hours and carry out an assault. Each L.C.A. carries 35 men, and the personnel allocated to each craft was given a serial number. Three serials or boat-loads were allotted to each company: Nos. 1–3, 4–6, and 7–9 respectively to the first, second, and third companies. Serial 10 was composed of Headquarters staff. Serials 11, 12, and 13 were made up of various auxiliary troops sailing in 3 L.C.A.s; serials 14, 15, and 16 carried the three platoons of the reserve company in 3 L.C.A.s. Serials 11–13 sailed at 22.30 hours and disembarked at 02.20 hours on the same beach as serials 1–9; serials 14–16 sailed at 23.40 hours and disembarked at 02.45 hours on the same assault beach. In addition several "Landing Craft Mechanized" (L.C.M.s) were employed carrying few men in addition to their vehicle loads, and three larger craft—one "Landing Craft Infantry (Large)" (L.C.I.(L.)), and two "Landing Craft Tank" (L.C.T.s). The former carried 185 men of various units, sailing at 17.00 hours the afternoon before the assault, and landing at 03.45 hours. The L.C.T.s carried respectively 66 and 81 men, sailing at 21.45 hours and 19.30 hours respectively from a different jetty, and landing their troops at 04.00 and 05.15 hours respectively.

In planning the experiment the first nine serials carrying the three assault companies were treated as a group. The remedies to be tested and the control tablets were distributed as follows:

Serial No.	Remedy	
1	Sod. bicarb.	each 1 platoon of 1st Coy.
2	Hyoscine	
3	Ergotamine	
4	Sod. bicarb.	each 1 platoon of 2nd Coy.
5	Hyoscine	
6	Ergotamine	
7	Sod. bicarb.	each 1 platoon of 3rd Coy.
8	Hyoscine	
9	Ergotamine	

The other six L.C.A.s (omitting HQ. in serial 10) were also treated as a group, and remedies distributed as follows:

Serial No.	Remedy	
11	Hyoscine	mixed troops
12	Hyoscine plus ergotamine	
13	Sod. bicarb.	
14	Hyoscine	each 1 platoon of reserve company
15	Hyoscine plus ergotamine	
16	Sod. bicarb.	

The men on the larger craft (serials 21, 22, and 23, sailing in the L.C.I.(L.) and L.C.T.s) were divided into roughly equal groups on each ship. To one party was given hyoscine, to the other sodium bicarbonate. It will be noted that in these craft controls and test groups were mingled, while in the smaller L.C.A.s carrying 30 to 35 men all individuals in one craft had the same pill—active or dummy, as the case might be. The small number of men carried in the L.C.M.s were omitted from the experiment.

Trained nursing orderlies, R.A.M.C., detailed for this duty, sailed in each craft as observers, one to each L.C.A., six in the L.C.I.(L.), and two to each L.C.T. They were provided with forms on which to record the names of all seen to vomit or noted to suffer from nausea. Details of actual times of sailing and disembarking, of entering and leaving rough waters, of lying "hove-to," and the code letter of the remedy administered to troops on board had to be entered in the spaces provided on the form. The orderlies followed the troops for half an hour after disembarkation to note any sign of illness or incapacity among the men. Arrangements had been made to deal with heat-stroke cases, should such occur.

It was considered that opinions regarding the military efficiency of the men would have most value if expressed by their own officers. Familiar with their men's usual behaviour, and with the particular situation as it developed on the beaches, they could be relied on to detect any abnormal reactions.

Figures from the analysis of the results of this experiment will be found in the Tables and the discussion below. It will be noted that in assessing the efficiency of a remedy due regard is paid to comparison with the control group sailing in identical craft over the same course at the same time.

Of 17 experiments, Nos. V, VI, and VII were of this type. Experiments I, II, and III were similar, except that in these the exercise was carried out by companies of infantry without ancillary troops; all serials sailed in L.C.A.s. Experiment VIII was an observation of a group selected out of over 5,000 men taking part in a large-scale exercise; it is discussed in detail below.

In several experiments (Nos. IX, X, XIV, XVI, and XVII) parties of men were sent to sea for a six-hour trip in "country-craft." These were 170-ton ocean-going dhows, all exactly similar. In each experiment a party of 150 men was divided into two groups of 75; each sailing in one dhow; to one group was given the remedy under test, to the other an inactive pill. So far as was possible the craft sailed together, under identical conditions, and remained at sea for the same time. R.A.M.C. observers sailed on each to record the incidence of sea-sickness. These trips were all by day; no exertion was demanded of the troops on disembarkation.

In another series of experiments parties of 120 to 200 men with R.A.M.C. observers sailed on an L.C.I.(L.) for a six-hour trip (Expts. XI, XII, and XIII). The men on board were divided into three groups without selection. To one group (controls) the inactive pills were given; to each of the other groups was given one of the remedies under test. No exertion was demanded of the troops on landing.

Remedies Tested.—Since hyoscine had already proved in other countries to be the drug of choice, and since data were required on its action in Indian troops and under tropical conditions, this remedy in a dose of 1/100 gr. was chosen for special study. In view of the preference expressed by other workers for a combination of hyoscine (1/100 gr.) with amphetamine (5 mg.) a number of experiments were made in order to compare the efficiency of this combination with that of hyoscine alone. Ergotamine (0.5 mg.) was also tested, alone and in combination with hyoscine (1/100 gr.), because of its known power to relieve the nausea, etc., of migraine and the possible benefit to sea-sick subjects of the "sympathicotonic" type. Chlorbutol in doses of 10 gr. was compared with hyoscine (1/100 gr.) under controlled conditions.

Heat-stroke Precautions.—The season and climate in which the experiments were carried out rendered heat casualties likely among large bodies of troops engaged in strenuous work. In view of the possible effect of hyoscine in suppression of sweating, preparations were made for the treatment of heat casualties on a large scale should they occur.

Results and Discussion

1. Action in Prevention of Sea-sickness

In the course of 17 experiments a total of 5,740 men were subjected to tests. Among these were 2,206 men to whom inert "placebo" tablets of chalk or sodium bicarbonate had been given, and who acted as controls for the groups receiving the active drugs. Owing to various causes a large number of results had to be discarded as useless for analysis.

Because of calm seas, the sickness rates in the control groups in eight experiments averaged only 2.3%. Such experiments are useless for estimating the potency of remedies, and were discarded. Again, on two occasions after men had taken their remedies as issued the sailing of the craft was cancelled for naval reasons. In a third group the men on a L.C.I.(L.) were at sea for 21 hours; they had been issued with their remedies 13 hours after embarking and 8 hours before landing. A number were ill before the remedies were given, and a number of others more than six hours later, when the period of expected action of the drugs was over. The effect of the remedies during their period of likely action could not therefore be accurately assessed, and the experiment was discarded.

The total number of observations discarded was 2,102; the observations remaining for analysis total 3,638.

A consolidated summary of all valid experiments is given in Table I. The average incidence of vomiting recorded in 1,385 control subjects was 12.4%; an additional 3.6% were nauseated. The total personnel affected in the control group was thus 16%. Rough comparisons only are permissible from this table in considering the figures for sickness incidence with various remedies, since the aggregate figures for many experiments are being compared rather than the figure for each remedy contrasted with its twin control group.

For comparison of the preventive effect of various remedies a "protective index" is advocated by Holling *et al.* (1944). This is obtained from the formula

$$\text{P.I.} = \frac{\%\ \text{Sick in control group} - \%\ \text{Sick in test group}}{\%\ \text{Sick in control group}} \times 100$$

This expression "shows the percentage of the sick in the control group who presumably would not have been affected if they had been in the test group" (quoted from the statistician's report on our experiments). This index for each experiment is given in the analytical tables. The indices in Table I show that ergotamine used alone fails to protect an appreciable percentage of susceptible individuals, while hyoscine alone or in combination with amphetamine protects over 70% of those liable to sea-sickness.

More exact analyses of these figures are given in Tables II to IV, in which figures for each remedy are compared with those from exactly comparable control groups. For example, in Table II (a) figures for hyoscine-treated individuals and controls, all sailing in L.C.A.s under exactly comparable conditions, are contrasted; and so for other series.

TABLE I.—*Incidence of Sea-sickness with Various Drugs: Consolidated Results*

Expt. No.	Total Men Observed	Control Group			Hyoscine			Hyoscine plus Amphetamine			Hyoscine plus Ergotamine			Chlorbutol			Ergotamine		
		No. in Grp.	No. Vomiting	No. with Nausea	No. in Grp.	No. Vomiting	No. with Nausea	No. in Grp.	No. Vomiting	No. with Nausea	No. in Grp.	No. Vomiting	No. with Nausea	No. in Grp.	No. Vomiting	No. with Nausea	No. in Grp.	No. Vomiting	No. with Nausea
I	305	104	9	5	100	1	0	101	4	2	—	—	—	—	—	—	—	—	—
II	413	137	20	14	138	6	4	138	12	1	—	—	—	—	—	—	—	—	—
III	395	128	33	2	129	3	1	138	2	3	—	—	—	—	—	—	—	—	—
V	752	305	20	1	313	1	0	—	—	—	52	2	0	—	—	—	82	10	3
VI*	516	173	12	0	175	9	0	—	—	—	64	0	0	—	—	—	104	12	0
VIII	544	282	34	12	262	7	0	—	—	—	—	—	—	—	—	—	—	—	—
IX	152	76	24	0	—	—	—	—	—	—	—	—	—	76	9	0	—	—	—
XV	411	105	10	6	103	0	1	105	0	0	—	—	—	98	9	1	—	—	—
XVI	150	75	9	10	—	—	—	—	—	—	—	—	—	75	3	0	—	—	—
Totals	3,638	1,385	171	50	1,220	27	6	482	18	6	116	2	0	249	21	1	186	22	3
Vomited			12·4%			2·2%			3·7%			1·7%			8·4%			11·8%	
Nauseated			3·6%			0·5%			1·2%			0			0·4%			1·6%	
Total Affected			16·0%			2·7%			4·9%			1·7%			8·8%			13·4%	
Protective Index: Vomiting						82·3%			71·8%			86·3%			32·2%			4·8%	
Protective Index: Total Affected						83·1%			69·4%			89·4%			45·0%			16·2%	

* Figures from large craft (1 L.C.I.(L.); 2 L.C.T.s) are omitted from analysis because sickness incidence in these was insignificant in both control and test groups.

TABLE II.—*Effect of Hyoscine on Sea-sickness*

Type of Craft	Expt. No.	Control Group			Hyoscine Group			Protective Index	
		No. in Group	No. Vomiting	No. with Nausea	No. in Group	No. Vomiting	No. with Nausea	For Vomiting	For Total Affected
(a) L.C.A.s	I	104	9	5	100	1	0		
	II	137	20	14	138	6	4		
	III	128	33	2	129	3	1		
	V (a)	89	8	0	93	0	0		
	V (b)	52	8	0	52	0	0		
	VI	103	11	0	104	7	0		
	VIII (a)	104	18	12	105	4	0		
	VIII (b)	102	4	4	105	3	5		
	XV	105	10	6	103	0	1		
Totals		924	121	43	929	24	11		
Percentages			13·1%	4·7%		2·6%	1·2%	80·1%	98·7%
(b) L.C.I.(L.)	V	100	2	1	85	0	0		
L.C.T.s	V	64	2	0	83	1	0		
L.C.M.s	VIII	31	5	2	24	0	0		
L.C.M.s	VIII	45	8	4	23	0	0		
Totals		240	17	7	215	1	0		
Percentages			7·1%	2·9%		0·5%	0	93·0%	95·0%

Table III.—*Effects of Hyoscine plus Amphetamine, of Hyoscine plus Ergotamine, and of Hyoscine on Sea-sickness*

Type of Craft	Expt. No.	Control Group			Hyoscine and Amphetamine			Hyoscine and Ergotamine			Hyoscine Only			Protective Indices					
														Vomiting			Total Affected		
		No. in Grp.	No. Vomiting	No. with Nausea	No. in Grp.	No. Vomiting	No. with Nausea	No. in Grp.	No. Vomiting	No. with Nausea	No. in Grp.	No. Vomiting	No. with Nausea	H. & A.	H. & E.	H.	H. & A.	H. & E.	H.
(a) L.C.A.s	I	104	9	5	101	4	2	—	—	—	100	1	0						
	II	137	20	14	138	12	1	—	—	—	138	6	4						
	III	128	33	2	138	2	3	—	—	—	129	3	1						
Totals	..	369	62	21	377	18	6	—	—	—	367	10	5						
Percentages	..		18·8%	5·7%		4·8%	1·6%	—	—	—		2·7%	1·35%	71·4%	—	83·9%	71·6%	—	82·0%
(b) L.C.A.s	V	52	8	0	—	—	—	52	2	0	52	0	0						
Percentages	..		15·4%	0	—	—	—		3·8%	0		Nil.		—	75·3%	100·0%	—	75·3%	100·0%

Table IV.—*Effects of Ergotamine and of Chlorbutol in Sea-sickness*

Type of Craft	Expt. No.	Control Group			Ergotamine Group			Chlorbutol Group			Protective Index	
		No. in Group	No. Vomiting	No. with Nausea	No. in Group	No. Vomiting	No. with Nausea	No. in Group	No. Vomiting	No. with Nausea	For Vomiting	For Total Affected
(a) L.C.A.s	V	89	8	0	82	10	3	—	—	—		
L.C.A.s	VI	103	11	0	104	12	0	—	—	—		
Totals	..	192	19	0	186	22	3	—	—	—		
Percentages	..		9·9%	0		11·8%	1·6%	—	—	—	Less than zero	Less than zero
(b) Dhows	IX	76	24	0	—	—	—	76	9	0		
Dhows	XVI	75	9	10	—	—	—	75	3	0		
Totals	..	151	33	10	—	—	—	151	12	0		
Percentages	..		21·8%	6·6%	—	—	—		7·9%	0	63·6%	72·2%
(c) L.C.A.s	XV	105	10	6	—	—	—	98	9	1		
Percentages			9·5%	5·7%	—	—	—		9·2%	1·0%	3·2%	32·9%

The individual hyoscine experiments of Table. II were analysed, evaluating the protective index in each experiment, to determine (*a*) the range of value, and (*b*) whether the index varies significantly with the sickness incidence in the control group. The results of this analysis are given in Table V.

Table V.—*Analysis of Protective Indices in Individual Experiments: Remedy, Hyoscine; Craft, L.C.A.s*

Expt. No.	Total Observed		Vomited		Total Affected		Protective Index	
	Controls	Test Group	Controls (%)	Test Group (%)	Controls (%)	Test Group (%)	Vomiting (%)	Total Affected (%)
I	104	100	8·6	1·0	13·4	1·0	88·3	92·5
II	137	138	14·6	4·4	24·8	7·3	69·8	70·6
III	128	129	25·3	2·3	27·3	3·0	90·9	89·0
V (a)	89	93	9·0	0	9·0	0	100·0	100·0
V (b)	52	52	15·4	0	15·4	0	100·0	100·0
VI	103	104	10·7	6·7	10·7	6·7	37·4	37·4
VIII (a)	104	105	17·3	3·8	28·8	3·8	78·0	86·8
VIII (b)	102	105	2·9	2·8	6·8	7·5	0·34	minus
XV	105	103	9·5	0	14·3	1·0	100·0	93·0

With two exceptions—Expts. VI and VIII (b)—the values of the protective index are all over 70%. The two strikingly low indices require further consideration.

Expt. VI.—In this experiment the remedies were administered to the troops as they boarded their craft, immediately before putting to sea. In other experiments of this series the remedies were given about one hour before sailing. There had not been sufficient time for absorption of the drug before the men were exposed to rough seas.

Expt. VIII (b).—In this case there is a discrepancy between the figures recorded by the R.A.M.C. observers and those reported by the men's company commander. The latter reported 7% of the test group sick, and 25% of the control group. The observers' figures have been retained to avoid any suspicion of manipulation of results. The protective index as calculated from the company commander's figures would indicate protection of the same order (72%) as in the other experiments in Table V.

Acclimatization.—Repeated exposure of the same individuals to the motion of the craft at sea was noted to produce some reduction in the incidence of sickness among the control (untreated) group in successive experiments. Possible fallacies in the experimental results due to this acclimatization were avoided through the method adopted of comparison of treated groups in all cases with a control group of similar individuals sailing under identical conditions.

Statistical Analysis of Results.—The results were reviewed by the Central Statistical Section, G.H.Q. (India). Values of χ^2 and of P calculated for each experiment are given in Table VI. The statistician's estimate of the reliability of each result is given in the final column of the table.

The results for hyoscine, with the exception of Expt. VI, are "reliable" or "highly reliable." The figures from Table II (a), derived from observations on 929 instances of hyoscine administration, have a probability of less than 1 in 100,000 that the observed effects were due to chance. The results for hyoscine plus amphetamine also are assessed as "highly reliable," with a probability of their being fortuitous of less than 1 in 10,000. The statistician considers, therefore, that the observed differ-

Table VI.—*Statistical Analysis of Tabulated Results*

(χ^2 = Measure of statistical reliability of the result. P = Probability that the result is independent of the use of the drug.)

No. of Table Analysed	Type of Craft	Drug Administered	Protective Index	Total Cover Index	χ^2	P	Reliability of Result	Remarks on Reliability
II (a)	L.C.A.s	Hyoscine	78·7%	96·2%	94·6	$<0{\cdot}00001$	Highly reliable	Large sample; 929 men
II (b)	L.C.M.s L.C.T.s L.C.I.(L)	,,	95·0%	99·5%	19·5	$<0{\cdot}0001$	Reliable	Good sample; 215 men
III (a)	L.C.A.s	,,	82·0%	96·0%	58·7	$<0{\cdot}0001$	,,	Good sample; 367 men
	L.C.A.s	Hyoscine and amphetamine	72·0%	93·0%	35·8	$<0{\cdot}0001$	,,	Good sample; 377 men
III (b)	L.C.A.s	Hyoscine	100·0%	100·0%	8·7	0·003	Not reliable	Sample too small for reliability
	L.C.A.s	Hyoscine and ergotamine	75·3%	96·2%	4·0	0·045	,,	Small sample; 52 men
IV (a)	L.C.A.s	Ergotamine	0	86·5%	0·92	0·337	* ,,	Good sample*; 186 men
IV (b)	Dhows	Chlorbutol	72·2%	92·1%	20·4	$<0{\cdot}0001$	Reliable	Good sample; 151 men
IV (c)	L.C.A.s	,,	32·9%	89·8%	1/1	0·294	*Not reliable	Good sample*; 98 men

* In these cases χ^2 is low although the samples are large enough to give a significant result. This suggests lack of efficiency of the drug used.

ences in protective indices for the two remedies are probably real. Further analysis by another method (standard deviations) confirmed this conclusion. This implies that the observed lower figures for protection by hyoscine plus amphetamine express an actual inferiority to hyoscine alone, under the conditions of the experiments.

The results for ergotamine, alone and combined with hyoscine, are assessed as "not reliable," since there are probabilities of from 337 in 1,000 to 45 in 1,000 that such results as were observed might be due to chance. In the footnote to Table VI it is pointed out that the unreliability of the results for ergotamine is not due to small samples. The low value for χ^2 is dependent on low observed differences between sickness rates in test and control groups. This statistically suggests that the drug (ergotamine) is not an effective remedy.

So, also, the results for chlorbutol in L.C.A.s are "not reliable," with a nearly 30% chance of error. The figures for chlorbutol derived from observations in dhows, however, are "reliable" and the chance that the results observed were unconnected with the remedy is less than 1 in 10,000. The wide disparity between the chlorbutol results in the two types of craft has not been explained. Further experiments would be required to define the efficacy of this drug.

Comparison of "Protective Index" and "Total Cover Index."—The protective index of Holling *et al.* has already been described. The "total cover index" is the percentage of men not affected in the test group, and includes those naturally immune plus those protected by the remedy given. From it the expectation of sickness with a given remedy is known. The values of both indices are given in Table VI.

Comparative Efficacy of Drugs.—Of the remedies tested in which the results are acceptable to the statisticians the degree of protection afforded by hyoscine is the highest, being throughout of the order of 80% as gauged by the protective index, and 96% as gauged by the total cover index. Hyoscine plus amphetamine gives somewhat lower figures, with a protective index of 72% and a total cover index of 93.6%. Chlorbutol in dhows shows protection of the same order (75% and 92% by the two indices).

2. Hyoscine and Heat-stroke

From Table VII it will be seen that during the investigation hyoscine was administered to a large number of men. The subjects were in part British troops (780) and in part Indian troops of many races and sects (1,951). Throughout the period of the experiments the climatic conditions were favourable for the development of heat-stroke and heat-exhaustion, as is shown by the meteorological data in the table. In the great majority of cases (2,213) the men who had had hyoscine underwent fairly strenuous exertion immediately after landing on assault beaches, comparable in degree to that demanded by actual battle conditions.

TABLE VII.—*Meteorological Conditions during Hyoscine Experiments*

Expt. No.	Total Men Engaged	No. of Men c̄ Hyoscine	Nature of Exercise	Time of Day	Meteor. Conditions				Observed Effects of Heat
					Cloud	Temp.		Humidity	
						Max.	Min.		
I	305	201	Moderate	Dawn	9/10	90·7	79·2	83%	Nil
II	413	278	"	"	9/10	90·9	79·6	90%	"
III	395	267	"	"	9/10	90·7	82·0	80%	"
IV	41	20	Light	Day	5/10	92·8	81 0	88%	"
V	752	365	Moderate	Night	—	92·8	81·0	88%	"
VI	814	359	"	"	—	93·4	82·8	77%	"
VII	625	248	"	"	—	90·3	81·2	78%	"
VIII	5,461	424	Strenuous	Day and Night	2–4/10	92·3	81·0	81%	*2 treated: *1 death
X	150	75	Nil	Day	2/10	92·0	81·0	78%	Nil
XI	120	74	Moderate	"	3/10	92·2	81·3	73%	"
XII	200	132	Nil	"	3/10	92·2	81·3	73%	"
XIII	120	80	"	"	5/10	93·0	81·0	75%	"
XIV	411	208	"	"	5/10	92·2	82·1	81%	"

* All among personnel *not* receiving hyoscine.

Throughout these experiments, in which over 2,700 men were given hyoscine, no case of heat-stroke occurred among those who had had the drug.

On one large-scale exercise (Expt. VIII) 424 men had hyoscine and carried out a very strenuous assault without incident. During this exercise one fatal case of heat-stroke occurred in a British soldier. This man was in the "control" company of a battalion that had had a pill of chalk at midnight on May 16–17. He disembarked with his unit at 09.00 hours on May 17, carried out strenuous military work all through a hot and brilliant day in an area where water was short, and developed symptoms of an urgent nature at about 18.00 hours. He died at 20.00 hours that evening. Post-mortem examination revealed no evidence of malaria or other infection. A most careful check was made, and there is no doubt that he had had a chalk pill. Of six other cases treated in medical units that day for "effects of heat," four proved to have infections (two coryza, one malaria, and one a superficial cutaneous infection); two were genuine cases of heat-exhaustion. One was a Sepoy, the other a British N.C.O.; neither of them had had any pill, active or inert.

From the results of the experiments it is concluded that hyoscine in the dosage employed (1/100 gr.) does not predispose to heat-stroke or heat-exhaustion among British or Indian troops carrying out full duty in assault exercises under tropical conditions.

3. Hyoscine and Military Efficiency

After the first few experiments various instances were brought to our notice in which men had apparently failed to carry out their duties efficiently, and the question of drug action arose. In one case an officer attributed his display of gross inefficiency to a pill he had had some hours before; it was shown that in fact he had had sodium bicarbonate. In other cases officers and men complained of feeling sleepy on landing in the early hours of the morning; in some cases a hyoscine action could not be excluded, though in others the pill given had been inert. It was soon apparent that there was a tendency among troops to ascribe to drug action any shortcomings in their behaviour during the exercises. On discussion with the officer commanding the troops in training, it was decided to make a large-scale test of the effects of hyoscine on efficiency rather than, as had been intended, to undertake a large-scale test of sea-sickness prevention.

Expt. VIII.—In each assault battalion (one British, one Indian) it was arranged to give hyoscine to one company, an inert pill to a second, and no pill of any kind to a third. The reserve battalion (Indian troops) were similarly treated. A smaller number of personnel of various artillery units were similarly subdivided, groups receiving respectively hyoscine, an inert pill, and no remedy. A supply of tablets of chalk, in shape and size approximating as closely as possible to the hyoscine tablets used, was secured for this experiment. The nature of the pills issued to individuals, companies, etc., was not known to anyone but us two.

The usual observations on sea-sickness incidence were made by R.A.M.C. observers, while detailed reports on efficiency of troops were called for from company and troop commanders, and from officers commanding units.

In this exercise a full-scale assault had to be carried out on beaches, with penetration inland over difficult hill country with scrub and bush. Troops were engaged in as nearly as possible battle conditions for a period of 36 to 48 hours. The experiment thus afforded a good test of whether hyoscine predisposed to the development of ill effects from heat or had any other effect on military efficiency. The reports from individual commanding officers, etc., may be summarized as follows:

Force Commander.—Generally speaking, the men were not seriously affected by hyoscine; some complained of drowsiness—as often as not those who had had the dummy pill. But one company of Pathans appeared to have been sleepy and incapable of reasonable action for an hour after landing; these men had had hyoscine. This same company had also complained of drowsiness on a previous occasion, when only one-third had had hyoscine.

Officer Commanding a British Battalion.—No complaint of inefficiency noted.

Officer Commanding an Indian Battalion.—One company commander complained that his men appeared "doped" on landing, and carried out an unusual manœuvre after disembarkation, earning adverse criticism in consequence. These were the Pathans referred to by the Force Commander. (It was later learned that their unusual manœuvre had been planned some days before the assault!)

Officer Commanding another Indian Battalion.—Reported signs of "dopiness" among men of one company on landing, which "wore off quickly once ashore." This company, unknown to him, had had hyoscine. It is to be noted that this battalion disembarked on a very gently shelving beach, and that the men had to cross a wide water-gap in wading ashore. This was considered by the umpires to have induced hesitation in disembarking.

Officer Commanding a Field Regiment and Anti-aircraft Battery (British Personnel).—No impairment of efficiency noted. In both these artillery units the experiment had been planned so as to include, in test and control groups alike, a number of individuals whose duties involved arduous physical labour or mental concentration.

The Commandant of the Training Centre stated that he personally did not consider that the remedies given interfered with the efficiency of the troops engaged. He stated that their performance compared very favourably with that of previous (and untreated) groups in training.

In considering the evidence it must be remembered that all the exercises in which excessive drowsiness was a source of complaint were carried out at night. Landings in general were at dawn, and the sea trips were made during the early hours of the morning after embarkation at or before midnight. Lack of sleep thus played a part in inducing drowsiness, as did the undoubted sleep-inducing effects of the motion of the craft. Further, such complaints as were received came from a relatively small section of the total subjects engaged, and the responsibility of the drug was not clearly established.

The balance of opinion, including that of senior officers observing the troops at work, was that untoward effects on military efficiency were not produced.

Summary

Experiments on the prevention of sea-sickness were carried out in the Tropics during the training of troops under conditions closely approximating those of battle. British (1,667) and Indian (3,673) troops were used for tests.

In all experiments, vomit-bags, sweets, biscuits, and chewing-gum were issued to all men taking part, and men were allowed to stand up in the craft if they so desired.

Assault craft of various types (L.C.A.s, L.C.M.s, L.C.T.s, L.C.I.(L.)s) were used for all but a few experiments in which 170-ton dhows were employed.

In all experiments control groups receiving inert pills were observed under conditions identical to those of the test group(s). Usually control and test groups were each of approximately 100 men.

The drugs tested and the number of observations on each were: hyoscine (1,990); hyoscine plus amphetamine (625); hyoscine plus ergotamine (116); chlorbutol (619); ergotamine (116).

After rejection of 2,102 observations rendered valueless by calm seas, etc., 3,638 remained for analysis. The validity of the results has been statistically assessed. A high degree of reliability is shown for those for hyoscine, hyoscine plus amphetamine, and for some chlorbutol experiments.

Of the remedies tested, hyoscine 1/100 gr. proved most effective. The degree of protection was of the order of four-fifths of those susceptible. This degree of protection was observed in relatively calm seas, when the sickness rate in controls was 16%.

No case of heat-stroke or heat-exhaustion occurred among 2,731 men who were given hyoscine. The average maximum and minimum temperatures during the experiments were 91.9° and 82.1° F., with an average relative humidity of 80%. Considerable physical exertion was performed by 1,789 of the treated men on assault exercises; a further 424 carried out a very strenuous assault during an exercise in which one fatal case of heat-stroke and two cases of heat-exhaustion occurred among 5,000 untreated troops.

The conditions of the tests were such as to reveal any impairment of military efficiency. Drowsiness in landing-craft was general in all experiments, in untreated as well as treated groups. Only on two occasions (and these involving the same men) was there a possibility that one company might have been adversely affected by hyoscine. Executive officers did not attribute shortcomings of the troops during exercises to the effect of any drug.

We are indebted to Lieut.-Gen. Gordon Wilson, C.B.E., *M.C.*, Director of Medical Services, General Headquarters, India, for permission to publish these results. It is a pleasure to record our appreciation of the co-operation and assistance so willingly given us by the Central Statistical Section of G.H.Q., India. Our thanks are also due to the officers commanding the training centre and the troops in training, as well as to their staffs, for the generous facilities afforded us and for the interest they displayed in the work.

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HUMAN CREEPING MYIASIS

REPORT OF A CASE

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Very few cases of human creeping myiasis have been reported and none described very fully, so that the following case may be of interest to both physicians and parasitologists.

Clinical History

The patient (K. C., W.857), a boy aged 14, was admitted on Jan. 21, 1944, to University College Hospital. He lived in South London, and had the normal activities of a boy of his age. He had never been abroad, and had left home only for holidays at Brighton or Shoreham, where he used to visit the harbour; but he had not done this during the previous two years. He often used to go on Epsom Downs to fly model aeroplanes. He had no allergic personal or family history, but was sometimes bitten by insects and he whealed markedly as a result. His general health was good. Twelve months before admission he began having prickly pains over the shoulders and chest—"like a needle pricking the skin"—associated with aching pains in the shoulders and legs. These continued, without causing much inconvenience, in bouts about twice monthly for six months and then stopped. In July, 1943, he first noticed a swelling in the skin, not reddened, about 3 cm. in diameter, giving rise to a pricking pain on pressure but otherwise painless. It lasted two days and then disappeared. From then on he had many similar swellings, usually single, occurring at various sites (left calf, right popliteal area, left shoulder, back, and the back of the head and neck). They were 1 to 5 cm. in diameter and raised 0.5 to 1 cm. above the skin. They were red or skin-coloured, and caused a pricking pain on being touched, but did not throb. They usually remained for a few days and then disappeared, but the boy had from time to time the sensation of something moving beneath the skin, and he thought that the lumps sometimes moved, going down at one place and coming up near by at another.

On Dec. 30, 1943, one of these swellings came up on the right thigh, and in a short time showed a black spot in the centre. It was fomented, and on Jan. 2 burst, discharging sero-sanguineous fluid. The cavity was syringed by a doctor, and a white maggot emerged. At that time the boy had a severe sore throat, which subsided uneventfully. He was shortly afterwards seen at the Hospital for Tropical Diseases and found to have an eosinophilia of 54%. He was then referred to U.C.H., where his course was as follows:

Jan. 21, 1944.—On admission there were no swellings and the skin was normal. The patient was a sensible uncomplaining boy in apparently good general health. T. 98.6°, P. 104, R. 20, B.P. 115/80. Blood count: R.B.C. 4,800,000, Hb 100%, W.B.C. 22,000 (neutrophils 35%, lymphocytes 19%, monocytes 2%, eosinophils 44%).

Jan. 24.—Left temporal region painful (throbbing, worse on palpation), no swelling visible. During the night a swelling developed, and next day it involved all the left circumorbital tissues and the frontal region to the roots of the hair, extending just over the midline; it was tender, showed capillary pulsation, was oedematous, and pitted readily on pressure. The skin was reddened, with no circumscribed margin. The palatal fauces were reddened. Soft glands were palpable in left axilla and on right side of neck. Attempts to obtain fluid from the swelling were unsuccessful. T. 103.6°, P. 108, R. 24, in the evening. Blood culture negative. Radiograph of chest negative.

Jan. 27.—Oedema spreading; left eye practically closed. Adrenaline (0.25 c.cm. of 1:1,000) given subcutaneously with doubtful effect. The oedema then gradually subsided and was gone by Feb. 4, as was also an irregular spiking temperature, present since admission. Urine normal. Stools negative for ova and parasites.

Feb. 6.—In the night the patient developed tenderness over the 7th left rib in the mid-axillary line. At 7 a.m. there was in this situation a small red non-indurated slightly tender raised area, 2 by 1 cm., with a central clear yellowish linear bleb. This was incised, and from immediately below the skin a white segmented maggot, very slightly motile, 1 by 0.3 cm. in size, was shelled out. Temperature 97.4°. The maggot was taken to the London School of Hygiene and Tropical Medicine, and identified by Dr. John Smart of the British Museum (Natural History) as the larva of the warble-fly (*Hypoderma bovis*) in the spineless stage (first instar, according to Knipling's (1935) description).

Feb. 8.—A similar swelling, but with a small dark spot in the centre, was present on the right medial malleolus. It was fomented; but by 8 p.m. the dark spot had disappeared, the swelling being otherwise unchanged. During the day four pink papules, 4 by 1 mm. in size, appeared in a straight line on the front of the left side of the chest, as though distributed along the 4th intercostal space. One of them was opened, but no maggot was found. Blood count: W.B.C. 20,800 (N. 30%. L. 24%, M. 2%, E. 44%). Erythrocyte sedimentation rate, 12 mm. in 1 hour. During the next five days the papules disappeared.

Feb. 13.—A reddish smooth swelling developed over the medial edge of the right scapula. The patient thought it was one of the papules that had migrated. Next day this swelling had disappeared, but one had come up in the right lumbar region, and the patient thought this also was a migration of the same swelling. *Feb. 15.*—No swellings present.

In the next three weeks, except for a spike to 101.2° on Feb. 16, the patient was afebrile and asymptomatic. Several swellings, similar to that of Feb. 6, developed, and three more specimens were obtained from the left buttock and the right lower leg—one excised and two forced out with ease by squeezing. The small central bleb noted on Feb. 6 was not again seen, but a few swellings showed the dark central spot observed on Feb. 8. Some of them were not touched, and it was noticed that the dark spot would spontaneously disappear in a few hours, though the surrounding swelling generally lasted for one or two days. *Feb. 24.*—Blood count: W.B.C. 20,000 (N. 24%, L. 17%, M. 2%, B. 1%, E. 56%).

No swellings or oedema developed after March 1. On March 7 the patient had a sore throat, which was reddened, and the right anterior cervical glands were swollen. There was no fever and the throat culture contained no pathogens. Symptoms subsided in a few days, and the patient was discharged on March 10. He has had no symptoms or signs since; he was last heard from on Feb. 22, 1945.

Commentary

Cattle are the usual hosts of *Hypoderma* flies, which are usually one of two species—*H. bovis* and *H. lineata*. Great economic loss results, on account of the damage caused to the hides by the emerging larvae. The flies are said (Herms, 1939) to occur throughout the U.S.A., Europe, and Asia. So far as has been ascertained, the adult fly usually lays her eggs on the legs of the host, and this often terrifies the animal, which may plunge about in a frenzy, or rush into water, in an attempt to dislodge the fly. The egg hatches in about a week, and the larva penetrates the skin directly or via a hair follicle. This process, in those cases observed in man (and presumably in our case), is painless. Once inside the host the larva moves about, usually among the viscera, and especially between the muscular and mucous layers of the oesophagus. In autumn, winter, or spring it migrates through the muscular tissues of the back to lie under the skin, through which it bores a hole for respiration. It then moults, and during this time a local purulent reaction develops, causing the "warble," which finally bursts, to allow the larva to fall out and pupate on the ground. The warbles are sometimes treated locally by farmers with derris or phenol.

Cases of human infestation by the warble-fly *Hypoderma bovis* are very rare, and I have found only five in the literature (Herms, 1939; Miller, 1910; Smart, 1939). A case involving the allied species, *H. lineata* (Style, 1924), was probably the first British case of infestation of man by a species of *Hypoderma* to be reported. In our case the boy's sore throat may have been caused by wanderings of the larvae in the oesophageal wall, especially as his pharyngeal flora showed no pathogens at the time. It is hard to be sure when the eggs were laid; the emergence of all the maggots during a period confined to about two months suggests that he was infested only once, or, at any rate, during one season only. This most probably was during the summer of 1943, perhaps while he was asleep on Epsom Downs. The manifestations seem to have been due partly to an allergic response (causing oedema and eosinophilia) and partly to the bodies of the larvae themselves. As the case stands it is impossible with certainty to say whether the larvae migrated in the patient or whether they emerged where oviposition occurred, as has been noted in infestation by other species (Herms, 1939, p. 354); though in view of their widespread distribution over the body, the sensation of "creeping," and the apparent surfacing and sinking of the larvae in the swellings, it seems likely that migration did take place.

I wish to make acknowledgment to the late Sir Thomas Lewis and Prof. P. A. Buxton for their help in preparing this report.

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ABACTERIAL PYURIA

BY

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There exists a condition, provisionally called by the unsatisfactory name of "abacterial pyuria," which is quite well known to urologists, but which is not sufficiently known to medical men as a whole. Of the 15 or so cases which have come under my care in the last six years, one was that of a doctor in full practice who was troubled for months with the condition until the diagnosis was made; another that of a young man who was invalided out of the Army, diagnosed interstitial cystitis; a third was a soldier sent home from the Western Front. It is because of such cases that the following account of the condition is given.

The patient, an adult male, begins to suffer from very frequent and uncomfortable or painful micturition. There may be some associated urethritis sufficient to stain the linen. The urethritis is not constant, and does not precede by much, if at all, the bladder symptoms, which are often the main and only complaint. Fever has not been recognized. At this point the man, if he has a urethral discharge, will be examined for gonorrhoea. The negative bacterial report will probably result in his being given a pot. cit. mixture and a pat on the shoulder—but his frequency will continue. The two-glass test shows an equal amount of pus in the second glass. Heavy treatment with sulphonamides brings no result. The urine is examined bacteriologically, but fails to show organisms in a specimen full of leucocytes. At this point tuberculosis of the urinary tract is suspected because of "pus in a sterile urine." Intravenous urograms show a normal upper urinary tract. Cystoscopy reveals a bladder too irritable for really good examination, but shows a complete cystitis and an angry red mucosa with no portion of the bladder wall uninvolved. A guinea-pig inoculation test for the tubercle bacillus is of course negative.

The above clinical picture warrants a provisional diagnosis of the disease. It is remarkable, and fortunate, that a specific and apparently infallible remedy is to hand. 0.3 g. of neoarsphenamine, given once a week, will improve the condition after two and will apparently cure it after three injections. I do not think I have seen a relapse yet, nor have I observed any systemic complications.

When one has surmounted a natural disinclination to accept a new disease, one begins to recognize peculiarities which make diagnosis easier. A purulent urethritis of non-gonococcal causation is itself rather unusual. When it is associated with marked frequency and a cloudy second glass of urine the disease must be definitely considered. When no organisms, or only a few colonies of an obvious contaminant, are reported in this urine full of leucocytes, there is a strong probability of the condition being present, for tuberculosis of the urinary tract is associated with urethritis with extreme rarity. Moreover, it is not so sudden in its onset, and the urine is as a rule only moderately cloudy. The completely red bladder is not at all like that of tuberculosis, in which there are practically always some areas of bladder almost normal in appearance.

Discussion

Moore (1943) has dealt with the pathology of the condition and with the various views as to its aetiology. My own preference is for the theory that it is caused by a virus—after all, the commonest cause of mucous surface infection in the body. Probably the pathogenic agent will remain unproved until Koch's postulates can be established by human experiment.

There has been recognized of recent years, and especially since the war, a subacute or chronic epididymitis often with little or no evidence of urinary infection. I do not think this can be related to abacterial pyuria, a striking feature of which is the failure of the urinary infection to respond to most forms of treatment.

I have not met with the condition in the female. It is reasonable to ask the question: Is there a vaginitis or cervicitis of similar causation and likely to respond to intravenous neoarsphenamine?

If the cause of abacterial pyuria is a virus, response to organic arsenic is worthy of attention. If one may be permitted to speculate a little—Domagk found prontosil to cure certain streptococcal infections. Subsequent experimental work produced sulphonamides with effect on other organisms. It would seem worth while re-examining some of Ehrlich's 606 original arsenicals and others, and trying some of them on smallpox, typhus, yellow fever, influenza, etc.,

Abstract of Some Typical Case Histories

D. B. G., aged 40.—First seen May 8, 1941, complaining of five months' painful frequency; some discomfort in the left loin. The urine was cloudy, and contained leucocytes and red blood cells; no organisms; guinea-pig inoculation negative for tubercle. Radiograph—no abnormal shadows; intravenous pyelograms normal. Cystoscopy revealed an intolerant bladder. Indigo carmine came equally and well from the ureters. Three injections each of 0.3 g. N.A.B. were given. On Aug. 15 the urine was clear; a cell was present in only three or four low-power fields.

D. A., aged 49.—First seen April, 1939, complaining of five weeks of frequency and scalding, with the passage of blood. The urine was cloudy; it contained a faint haze of albumin, and microscopically showed degenerate leucocytes. Cystoscopy revealed cystitis; indigo carmine came equally and well. The ureters were catheterized, specimens showing no excess of white blood cells. The laboratory report on the urine was: leucocytes; no organisms. Guinea-pig inoculation was negative for the tubercle bacillus. After the usual three injections of N.A.B. the patient improved, and in June his urine contained a doubtful thread. There was an occasional cell in the first glass; the second glass was clear.

Medical Practitioner, aged 52.—First seen March, 1942, complaining of a urethral discharge, with urgency and frequency of three months' duration. A film had been examined for gonococci, with negative results. Intensive sulphonamide treatment had been given without benefit. The urine (glasses 1 and 2) was cloudy. It contained no organisms in the film. No gonococci were obtained after culture with CO_2 enrichment. The gonococcal fixation test was negative. The usual three injections of N.A.B. were given, and the patient wrote on April 15 to say that he had no urinary symptoms; his urine was clear, and contained no albumin.

T. B., aged 51.—First seen on Nov. 22, 1944, complaining of frequency, every 20 minutes by day and five or six times by night, with some terminal haematuria, of two weeks' duration. The urine was cloudy, contained albumin, and microscopically leucocytes and red blood cells. Cystoscopy revealed a haemorrhagic cystitis. Blue came equally and well from the kidneys. The laboratory reported leucocytes but no organisms. After three injections of N.A.B. he lost his discomfort, and on Jan. 26, 1945, his urine, which was clear, contained a very faint haze of albumin and no leucocytes on microscopical examination.

A. D., aged 35.—First seen Oct. 27, 1944, complaining of frequency and haematuria of sudden onset two weeks before, with pain. The urine contained leucocytes. On cystoscopy the bladder was intolerant and intensely congested. The laboratory reported on the urine on Nov. 2: leucocytes, and on microscopical examination a few Gram-negative bacilli. On Dec. 15 the report on the urine was: leucocytes; no organisms. After three injections of N.A.B. the patient's symptoms were cured; and on Jan. 26, 1945, his urine contained no albumin, and nothing abnormal was seen on microscopical examination.

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At a summer school in social biology which the British Social Hygiene Council is to hold in the Hugh Stewart Hall of University College, Nottingham, from July 28 to Aug. 11, interest will be directed chiefly to problems of education and social life likely to arise through the coming increase in the school-leaving age. The director of the school is Prof. Winifred Cullis, D.Sc. The course is open to all types of teachers, social workers, and members of the general public interested in education and social problems from a biological aspect. The morning lecture programme has been planned to illustrate the aims and content of social biology. Courses of lectures will be given on the place of biology in education, the biological approach to personality, the social aspects of health, the contribution of natural history to social biology, and food production and nutrition. Dr. Mary Collis and Dr. A. C. Tibbits will give an account of the successful scheme of sex-education which they have helped to set going in schools in Nottinghamshire, and this will be followed by a discussion of the technique of sex-instruction in school. At the evening sessions lectures will be given by visiting speakers on the broader application of biological knowledge to human life and culture. A programme of excursions and visits to places of scientific and general interest has been arranged. The inclusive fee for the course is £12 12s. (enrolment fee £1 1s.) and early application should be made to the secretary, British Social Hygiene Council, Tavistock House North, Tavistock Square, London, W.C.1.

NOTES ON ADDER-BITE (ENGLAND AND WALES)

BY

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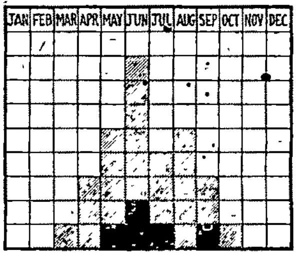
The following notes are based upon accounts of 50 cases, some of them already recorded, the remainder kindly sent me by doctors in many parts of England and Wales in response to a query published in the *Journal* (July 25, 1942, p. 118). Others have been obtained from patients themselves. The aim of the inquiry was to provide an answer to the question, "How serious is adder-bite?"—a question of some interest in view of our complete lack of a specific *V. berus* antivenene, or indeed, since 1940, of supplies of European viper antivenene of any kind.

The adder (*Vipera berus*) is our only poisonous snake. It is common in many parts of the country, though seldom seen owing to its shyness. It hibernates during the colder months, and is seldom in evidence even in summer, unless the day be warm and sunny. It is commonly believed to be most venomous in spring, but in the present series severe bites occurred throughout the season March to October. The diagram shows the month of occurrence of the dated cases; each lightly shaded square represents a case; the darker squares represent the five fatal cases. It is plain that high summer is the season of maximum danger from adder-bite.



Graph showing seasonal incidence of adder-bites in present series.

Situation of Bites.—The bites were all situated distally on the extremities,[1] three-quarters of them being on the hand, the remainder on foot, ankle, or calf, and one on the brow. The most usual sites were a finger (especially the index) or thumb. There was no apparent connexion between the position of the bite and the course and severity of the reaction, except that in the case of the man bitten on the brow collapse was early and complete and unconsciousness of long duration.

Clinical Features

The effects of the bite are general and local. The general reaction, which takes the form of shock or collapse, varies greatly in degree in different cases, whereas the local reaction is more constant, the bitten limb in nearly every case showing massive oedema up to the trunk and haemorrhagic discoloration, usually most pronounced in the neighbourhood of the main lymphatic trunks. The oedema as a rule spreads up the limb to the axilla or groin within six hours, but continues to progress in intensity generally for two days or so, and in severe cases to advance to some extent over the trunk or head.

The general reaction varies between the very slightest malaise on the one hand and profound collapse on the other. About half of the cases were severe enough to occasion real anxiety for the patient's life. In most cases the critical period was of brief duration, the patient being out of danger within 12 hours; but some remained critically ill for several days. Within 20 minutes of the bite the patient begins to feel faint and giddy, or experiences a sensation of constriction of the head; young children begin to be drowsy, and soon become semiconscious. Nausea occurs, and vomiting is usually a prominent feature and may last for days; there may be haematemesis. Colicky pains may occur, and diarrhoea is present in a quarter of the cases. Swelling of lips, face, and tongue is common, or there may be tightness of the throat, severe thirst, difficulty in breathing, or pain attributed to the heart. With the above symptoms collapse sets in. The patient is pale and cyanosed, cold, sweating, and semiconscious or unconscious. The pulse is rapid and thready, often almost or quite impalpable. The pupils may be widely dilated.

Fear may, as is often claimed, play a part in the causation of the early "shock," but it may be completely absent, as in the case of patients who are unaware they have been bitten and have not seen their assailant. As regards the prolongation of the collapse stage, it is important to note that the severe and prolonged vomiting and diarrhoea, the sweating and the massive localized oedema, are all factors in producing a state of dehydration, important from the therapeutic point of view.

It is commonly at this stage, two or three hours after the bite, that the patient is first seen by a doctor. In most cases by this time the oedema and discoloration have progressed some distance up the limb, and the site of the bite, at first painless, is beginning to be painful. In collapsed patients the swollen limb is often described as being very cold and blue, or even black. Collapse symptoms pass off as a rule about six to eight hours after the bite, and the temperature rises from subnormal to 101 or 102°. This rise may be brief, or slight fever may last from a few days to a week. Diminution of urine is noted at this stage: in one severe case there was anuria for three days. Cardiac depression occurs, evidenced by slow pulse and low blood pressure.

The swelling and haemorrhagic discoloration of the bitten limb increase in extent and intensity for one to three days, and then gradually decline, the various colours of a bruise being manifested. Tenderness is marked, but there is comparatively little pain as a rule; on recovery pain is felt on moving the joints, and there is extreme muscular weakness. In no case was there any septic complication or gangrene. The prevailing fear of the latter sequel appears to be groundless, and is based, no doubt, upon memories of the past, when strong ammonia and other harmful caustics were commonly used in treatment.

Immediate Prognosis and Course of Illness

The most important factors governing the severity of the general reaction appear to be the size of the adder, the age and health of the patient, and the rapidity and correctness of the treatment. As regards age, of 12 cases in subjects under 12 years old all except two were severe. In the "teens" and young adults mild, moderate, and severe reactions occurred in about equal proportions. Of seven cases in persons over 45 years old five were severe.

The age of the patient has a marked effect upon the duration of the illness and disablement. Children, adolescents, and young adults recovered within a fortnight; the only exceptions other than fatal cases were one child whose swelling had not disappeared in four weeks, and another (my own case) who, on first using his bitten leg after 17 days, ran a temperature of 102° for about 24 hours and had symptoms similar to those noted at the onset, as though dormant venom had been liberated into the circulation by movement of the part. In middle-aged and elderly patients resolution is slower. A woman aged 54 had a swollen ankle for three months; a man aged 45 had a swollen arm for over six weeks; and a man aged 57 had some swelling for over a year, then suffered for many months from a stiff and painful shoulder and could not close his fist properly for months after the swelling had subsided. A gamekeeper "nearly lost his life and could not work for at least a year"; a lady states: "It was about six weeks before I could walk properly."

Remote Prognosis

Recovery appears to be complete and without serious after-effects. Dr. Stradling wrote: "Many bitten persons who have recovered from all primary symptoms produced by the poison eventually succumb to its influence, in remote and indirect effects, at a later period," but I have been unable to find evidence to support this view. Four severe cases have remained perfectly well and suffered no after-effects after a lapse of 13, 16, 23, and 24 years respectively since their bites. Two men, severely bitten in youth, have now reached 79 and 81 years of age without observing any after-effects. I have many reports of perfect health for shorter periods.

A doctor aged 60, bitten by very young adders, had only the slightest reactions at the time, but developed endarteritis two years later; he attributed this to his bites, but I gather that medical opinion was divided on the subject. Another doctor, middle-aged, shed all his finger- and toe-nails a year after being bitten, but suffered no other inconvenience and lived to the allotted span. One adult male states that he still, after six years, experiences some swelling and discoloration in the bitten hand each autumn; a woman bitten over 20 years ago still has similar slight local recurrences of oedema. Another man developed phlebitis, starting at the situation (in the leg) where he had been bitten eight years earlier.

Fatal Cases

There have been seven deaths from adder-bite in England and Wales in the last 50 years. I have been unable to trace two of these. The five remaining subjects were aged 11, 4½, 6, 3, and 51 years respectively. The principal features in these cases may be tabulated thus:

No.	Sex	Age	Previous Health	Duration (hours)	Mode of Death
1	M	11	Delicate	12	Collapse; cardio-respiratory failure; conscious
2	M	4½	Healthy	60	Circulatory collapse; unconscious
3	F	3	,,	6	,, ,, ,,
4	F	6	Delicate	36	,, ,, ,,
5	M	51	Insane W.R.+	26	Unconscious, with T. 102°, bounding pulse, and stertorous breathing

Note.—None of the above received antivenene serum.

Summary of Conclusions

The danger of adder-bite is greatest in high summer. Its clinical features are: (1) a local spreading haemorrhagic oedema; (2) a general reaction of very varying degree, from slight weakness to profound collapse.

About 50% of the cases give rise to real anxiety. In young children the "shock" reaction is severe; in the "teens" and young adults mild, moderate, or severe in equal proportions; in persons over 45, generally severe. Children, however, recover much more quickly than adults. Recovery is complete and without after-effects.

Fatal cases are rare, but death can occur even in quite healthy young children. In the fatal cases, none of which had received antivenene serum, death occurred in from 6 to 60 hours.

My thanks are due to all those doctors who have kindly supplied me with reports of their unpublished cases of adder-bite; also to many bitten persons who have supplied data otherwise unobtainable.

Medical Memoranda

Allergy to Moulds in England

In a paper on moulds and asthma (Fraenkel, 1938) I compared skin reactions to a mixed mould extract from *Penicillium, Aspergillus,* and *Mucor* types of moulds in Germany and in England. It was found that 16% of the asthma patients tested in Germany gave positive reactions to this allergen, whereas asthmatics tested in England gave 53% of positive reactions to the same mixture.

It has become evident from the American literature on mould allergy that regional differences in the incidence of positive reactions to moulds have been observed in the U.S.A. Balyeat found in Oklahoma positive reactions to moulds in only 1% of his patients; 12.2% were obtained in Los Angeles by Lamson and Rogers. They used extracts supplied by the Arlington Company, made up from four types of *Aspergillus* and of one type each of *Alternaria, Chaetomium, Monilia, Mucor,* and *Penicillium*—in all, nine different types. Feinberg, in Chicago, obtained 28% positive reactions towards one or more of several fungi.

Another paper was published by Schonwald from Seattle, and this author observed that 77% of his patients gave positive results to one or the other of 10 types of moulds. Schonwald stressed the point that there is a far more abundant growth of moulds in Seattle, with an average humidity of 85% in the morning and 51% in the evening, compared with average humidities of 42% and 27% respectively 300 miles inland. These facts explain the great part played by moulds in the aetiology of asthma in this district of the United States. His views were confirmed by the success of desensitization treatment with mould extracts in 86 patients.

The moulds are an important factor in hay-fever and in asthma because of the abundance of mould spores in the atmosphere and because, being much smaller than grass pollen, they are more easily inhaled and absorbed. They are present indoors and out of doors, particularly in a damp climate like that of England, and in many cases are probably responsible for the fact that an allergic patient is ill in one particular district, house, or room. Mould-infested beddings, feathers, mattresses, or even kapok can become the cause of asthma or other allergic complaints, just as the *Cladosporium fulvum* Coke on decaying tomato plants causes asthma in gardeners, or moulds in cheese cause other allergic irritations.

These observations seemed sufficient reason to study allergy to moulds in this country more closely. In my first investigations I was aided by Miss Frances Stephens, of the Natural History Museum Department for Mycology. I learned that there are probably more than 1,200 different types of moulds to be found in this country, and that culture of moulds, identification, and classification are often not easy (Fraenkel, 1939). The task is not made easier by the fact that they are able to form cross-breeds, with apparently new characteristics.

Out of that abundance of moulds it seemed advisable to choose for further investigations those which were likely to be most important as allergic factors. It was presumed that moulds which were found in closest contact with the body of allergic patients would probably be more important than others. In 40 cases of allergy, mostly asthmatics, but also cases of vasomotor rhinitis (including hay-fever), of eczema or urticaria, and of migraine, moulds were cultured from the patient's environment (dust, beddings, etc.) and excretions (sputum in asthma, nasal swabs in rhinitis, and faeces in skin cases). In a great number of cases identical moulds were found in both excretions and environment. Extracts of these were used for skin tests in the patient, and where these gave positive reactions the allergens were also employed to desensitize him. Pure cultures of moulds and extracts were kept in stock. The results of this method were encouraging, but the number of patients examined and treated was too small to justify final conclusions. A great deal of material and of assistance was required for the mould cultures, and I wish to thank Mr. F. R. Hackett, of the Southern Group Laboratory, for the help he gave me in this investigation. In the course of the war it became increasingly difficult to carry on the investigations when work of greater importance had to be given preference. It was therefore decided to use the six types of moulds most frequently found in our allergic cases as stock allergens for skin tests and for desensitization.

180 allergic cases have so far been tested with these six types of moulds, which had been isolated from the environment and from the excretions of allergic patients. Of these, 120 were asthmatics, 30 were cases of vasomotor rhinitis (including hay-fever), and the others cases of urticaria, eczema, and migraine. The first 100 cases of asthma were evaluated statistically, as the number of other cases so far examined was considered too small for such purpose. They have all been subjected to scratch tests to allergens from the following types of moulds and to a mixture of these in equal parts: (1) *Sporotrichon*, (2) *Cladosporium*, (3) *Penicillium*, (4) *Aspergillus*, (5) *Mucor*, (6) *Monilia*.

Table showing Results of 100 Cases of Bronchial Asthma tested with 6 Types of Moulds

	Positive (%)	Negative (%)
With mould mixtures ..	66 (++14; +52)	34 (±6; −28)
„ Sporotrichon	65 (+++1; ++25; +39)	35 (±6; −29)
„ Cladosporium	53 (+++2; ++19; +32)	47 (±5; −42)
„ Penicillium	44 (++8; +36)	56 (±4; −52)
„ Aspergillus	39 (++9; +30)	61 (±5; −56)
„ Mucor	40 (++12; +28)	60 (±5; −55)
„ Monilia	31 (+++1; ++8; +22)	69 ±4; −65)

The mould mixture gave the most frequent positive reactions, as could be expected; next to it came *Sporotrichon* types, with 65%, and *Cladosporium*, with 53%. Of the cases examined 44% gave positive reactions to *Penicillium*, 40% to *Mucor*, 39% to *Aspergillus*, and 31% to *Monilia* types.

The results obtained are very near to Schonwald's figures as reported from Seattle, the geographical position of which on the American continent is similar to that of England in Europe. It can be presumed that climatic conditions, especially humidity of the air, dampness of the ground, and consequently growth of moulds, are also somewhat similar.

From these observations it may be justifiable to draw the conclusion that allergy to moulds cannot be neglected in the examination and treatment of asthmatics or other allergic patients in this country.

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Reviews

PREVENTION OF VENEREAL DISEASE

The Prevention of Venereal Disease. By L. Martindale, M.D., B.S., F.R.C.O.G. (Pp. 74. 2s. 6d.) London: Research Books, Ltd. 1945.

This little book is presumably written mainly for the general public, but it should also prove of interest to social service workers. The first part is devoted to an account of the three main venereal diseases, their symptoms, diagnosis, and treatment; the author makes the common mistake of stating that cold may kill the gonococcus, the very doubtful statement that syphilis can be transmitted to the 3rd and 4th generations, and slips up when she says that gonorrhoea is treated with penicillin for a total of 60 injections in 7½ days. Part II includes chapters on earlier experiments in legislation, an account of the success of the clinic system in Great Britain, war and legislation, notification, what Russia has achieved, and a final chapter on conclusions to be drawn. There are four appendices—the report of the Trevethin Committee, notification and compulsory treatment in various countries, a list of V.D. clinics in Great Britain (which incidentally is not up to date), and the Oath of Hippocrates.

Few will quarrel with the theme that runs through the book—that continence is the one sure way of avoiding V.D., that the problem is a moral, just as much as, or possibly more than, a medical one, and that education of the public to make it V.D.-conscious should be the main plank in the anti-V.D. platform. Miss Louisa Martindale is a stout opponent of any form of compulsion, and has nothing good to say for Regulation 33B, which, however, has hardly been the failure she would suggest if account is taken of the results of acting on a single notification. Recommendations include sex instruction, cleaner films and a higher standard of literature, better housing and living conditions, healthy recreation, improved treatment facilities, and more almoners; nothing is said about case finding, which has given very good results where it has been undertaken with energy and tact.

SETTING A COURSE FOR CONDUCT

Thoughts, Deeds and Human Happiness. By K. W. Monsarrat. (Pp. 123. 7s. 6d.) Liverpool: The University Press. 1944.

Three years ago Mr. Monsarrat published *My Self, My Thinking, My Thoughts,* which was an analysis of self-expression. In the present volume he further examines human view-forming powers and habits—a design for living and how and by what action the social desires and aspirations of men may be fulfilled. In his introduction he refers to the present war as employing the greatest number of men that the nations can muster, and all the means that ingenuity has devised and industry can produce to kill or maim each other. Always there have been men who have been antagonists of their own kind and have chosen the robbing of others of their lives or of their chances of happiness as a means for contriving their own advantage. Mr. Monsarrat says: "It is not certain that the human race is inevitably condemned to recurring orgies of mutual torture and murder, but it is certain that it will have to find a new way of living wholly different from that which has been its habit, coupled with new views, valuations, and beliefs, if it is to escape them."

Each of us desires his own stability and prosperity; the only way to ensure this is by giving these benefits to others, supplying their needs and adding to their wealth. In developing his thesis of a design for living (albeit with some tautology) the author stresses that the effort by men to acquire good states *for themselves* always brings them to the brink of social ruin. Most of the book is occupied with the question of planning what we desire and the best principles of behaviour. There is a good chapter on self-expression and the means to understanding. Sense and intelligence are the keynote of this book—the word "sense" being used for that ability which gives a man a "view" or picture, and the word "intelligence" for his habit of interpreting his "views" in terms of actions that have brought about what the views show. The volume is thought-provoking and contains the foundations for believing in and following the right course of human conduct. It is, after all, a scientific enunciation of the Christian doctrine.

SUR[illegible]L ERRORS AND SAFEGUARDS

Surgical [illegible] and Safeguards. By Max Thorek, M.D., LL.D., F.I.C.S. With foreword by Sir Hugh Devine, M.S. And a chapter on Legal Responsibility in Surgical Practice by Hubert Winston Smith, M.D. Fourth edition, completely revised. (Pp. 1,085; illustrated. 90s.) London: J. B. Lippincott Company.

This book by Max Thorek is now very widely known; the present, fourth, edition is enlarged to well over a thousand pages, and, as the author says, is a "compendium of the experiences of surgeons throughout the world" instead of being in the main a guide derived from personal experiences. As a result the work is more valuable and considerably expanded. To those who are not acquainted with the scope of this work it should be pointed out that the title is a little misleading in that it is much more than a mere recital of the pitfalls of operative surgery; many operative procedures are fairly fully described, and there is an abundance of information upon the value of diagnostic signs and symptoms. Indeed it might almost be considered to be a textbook of surgery, laying emphasis upon the mistakes which may be made.

The book is well produced, and the illustrations, nearly 800 in number, are of the excellence usually associated with Thorek's writings. When reviewing the original edition we drew attention to the unfortunate use of certain expressions which, while probably well recognized in the United States, are not understood elsewhere. The particular instance which we then picked upon—"Do not operate upon cases of frozen pelvis"—still remains in the text, and although thirteen years have elapsed we still do not know what it means. The volume, however, is one which can be strongly recommended for the perusal of the surgeon, be he young or old, about to deal with a type of case in which he is not as yet very experienced; it can be relied upon to have the chastening effect which is the author's aim.

Notes on Books

Welfare in the British Colonies, by L. P. MAIR, is published at 5s. by the Royal Institute of International Affairs (Chatham House, St. James's Square, London, S.W.1). This study of our various Colonial welfare services describes how the aims of social policy are put into practice. Education, labour, and health are the three subjects for which the Colonial Office employs specialist departments. Africa, Malaya, Hong Kong, the West Indies, and the Western Pacific Islands are the far-flung spheres, and the work done in one reacts upon that in every other. Great problems have had to be faced. This booklet shows that none are insoluble and that wonderful work is being done to adjust vast native populations to modern conditions. An all-round increase of welfare must greatly depend on improvement of health conditions, especially in the Tropics, where parasitic infections are much more prevalent than in Europe and have widespread debilitating effects. It is now recognized that the apathy and lack of initiative of Colonial peoples are much more likely to be due to their physical condition than to any quality inherent in their character, and emphasis is now shifting from the curative to the preventive aspects of tropical medicine. This calls for the co-operation of all experts in the tropical field. Mr. Mair has compressed into small compass a great deal of useful information that will give good guidance to intending Colonial medical officers.

Convalescence often passes through two phases; the first is pleasant to the patient, who daily feels progress is being made without effort or responsibility on his part. But as this rate of progress slows down, and the patient becomes less "interesting" to his attendants while having to revive his own resources, a period of disappointment is apt to ensue. It is with the treatment of this second phase that Miss SHEILA PIM's perceptive little book *Getting Better* (Faber and Faber; 6s.) deals; it is mostly addressed to the convalescent himself, and is full of useful hints of methods to avoid boredom and facilitate recovery, adapted to all grades of intelligence.

The shortage of nursing and domestic staff in tuberculosis institutions has prompted the Ministry of Labour and National Service to reissue for general circulation a small pamphlet, *The Healing Touch*, originally compiled by the National Association for the Prevention of Tuberculosis. This is designed to encourage recruitment for sanatorium nursing.

Correction.—Two mistakes appeared last week in the notice of the fourth edition of Dr. W. GORDON SEARS's *Medicine for Nurses*. The publishers are Messrs. Edward Arnold and Co., and the price is 10s.

Preparations and Appliances

APPARATUS TO ELEVATE A FRACTURE CASE FOR APPLICATION OF PLASTER

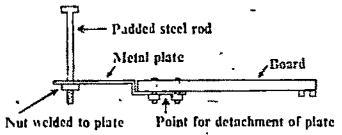
Fl. Lieut. J. NOEL-JACKSON, M.B., B.S., writes:

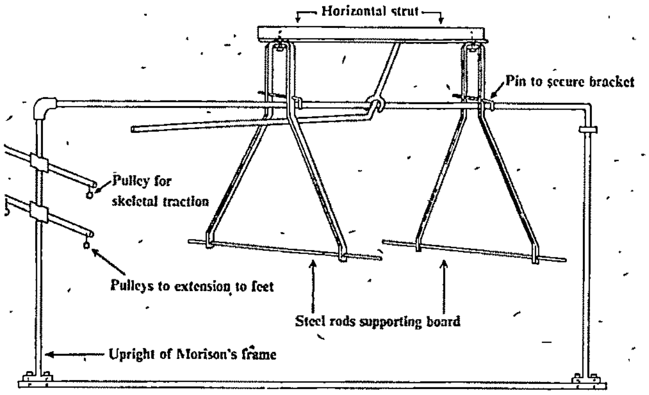
During the snowstorm in March, a man aged 76 fell near his home in an isolated village. On examination there was deformity of the left thigh and marked shortening. His condition of grave shock precluded the uncertain journey to hospital. The village was virtually cut off by the appalling weather and no appliances were available.

A Thomas splint was fashioned from steel rod and welded in a garage near by. Skin traction was applied and the patient put to bed. The general condition did not improve, and it was apparent that he required a more comfortable extension. A form of ice-tong calliper was designed. This had to be extremely simple because it had to be made without special skill. It consists of two pieces of 5/16-in. section steel rod tapered to a point at one end, flattened for 1 in. at the middle and at the other end, where a hole was drilled through it. Both were then bent to form a modified "S" as in the diagram. The two halves were then bolted together.

A Braun frame was made from steel strip, and skeletal traction fitted up. Application of a plaster cast without releasing the extension was the next problem.

A Morison gas-pipe frame was made up of 1½-in. steel tubes. Two inverted "V" brackets were made. These were to fit over the overhead beam of the frame suspending the patient clear of the bed. The brackets supported a board slipped under the patient's back. Horizontal cross-pieces were bracketed to the upright of Morison's frame to take pulleys for extension. When it was decided to apply a plaster cast the first step was to slip a flat board under the patient's back. This extended from the head to the level of the second lumbar vertebra. A metal plate was bolted to the lower end of this board. This plate could be detached from the board by unscrewing four nuts.




Horizontal strut
Pin to secure bracket
Pulley for skeletal traction
Pulleys to extension to feet
Steel rods supporting board
Upright of Morison's frame

The "V" brackets were then fitted to the overhead beam. Two steel rods were slipped under the board and through holes drilled through the lower end of the brackets. The extension was transferred from the Braun frame to a pulley on the upper horizontal cross-piece. The Braun frame was then removed and traction applied to both feet over pulleys at each end of the lower horizontal cross-piece.

A padded steel rod threaded at the lower end was screwed into the metal plate to provide counter-extension in the groin. The upper ends of the brackets were connected by a horizontal strut. A lever applied near the middle of this lifted the patient clear of the bed.

As the application of the cast proceeded the skeletal traction was removed. It should be observed that without the support of the Braun frame the leg took up an attitude of extension at the knee-joint due to the weight of the leg. Finally the patient was lowered, the board was detached from the metal plate by unscrewing four nuts, and the board slipped out sideways. The metal vertical rod was unscrewed from the metal plate and the latter withdrawn by pulling it upwards. Extension to the feet was removed.

The entire apparatus was designed to meet a novel and unforeseen emergency, and it is worth recording only because the entire apparatus was made with materials available almost anywhere. A skiagram taken some weeks after the injury shows an oblique fracture through the greater trochanter of the femur. Union is poor but apposition is excellent. The poor bony union vindicates the precautions taken to ensure continuity of extension, but the position achieved at least favours union and avoids shortening, and the patient is now walking about.

I am indebted to Mr. Exton, of Wheatcroft, for the incredible promptness with which the apparatus was reproduced from my brief drawings.

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THE ORGANIZATION OF THE MEDICAL PROFESSION IN WARTIME

We are privileged to print in this week's issue at page 22 a letter from the Minister of Health (Mr. Henry Willink) paying generous tribute to the work of the Central and Local Medical War Committees during the past six years. We are sure that the members of these committees and the profession generally would like us, in response, to acknowledge the friendly and helpful spirit of co-operation not only of Mr. Willink and his predecessors in office but also of the other Ministers, Government Departments, and the fighting Services who have needed and used the service of the profession throughout the war. During these strenuous years many things have been done, often under a shroud of secrecy, which easily slip the memory, and it may therefore be appropriate at this time to recall some of them.

As far back as 1925 the Council of the British Medical Association, actuated by its experience of the war of 1914–18, prepared a confidential memorandum on the machinery for dealing with the recruitment of medical practitioners in case of war, and set up Emergency Committees for England and Wales, Scotland, and Northern Ireland. These committees were kept in being and became active in November, 1936, when the clouds were beginning to gather over Europe. The committee for England and Wales was then reconstituted on a wider basis. Its first task was to circularize all members of the profession in order to ascertain what service at home or abroad each would be ready to give on the outbreak of war and before compulsory service might be imposed. Local medical emergency committees for each Division were established, and local emergency officers were appointed whose first function was to ensure completion and return of the questionary. In this way a register of the profession was compiled and maintained at headquarters, with copies of its local parts in the possession of each divisional emergency officer. By the spring of 1938 information was available as to 75% of the profession in Great Britain and Northern Ireland, according to their ages and types of practice. After the Munich crisis in the autumn of that year the percentage rapidly rose to 95, and it reached 98 in the early days of the war. This register, constantly revised, has been the foundation of the work of the committee.

The crisis of 1938 exposed some defects in the organization for effective mobilization of the profession. The information at the disposal of the committee was found to be insufficient to enable it to bring the medical services quickly into action in appropriate directions. In particular Government Departments and local authorities, who were the local agents for civil defence, appeared to have different ideas as to the medical staffing of their units, including first-aid posts; no definite understanding had been reached with the hospitals; further, there was no central or local information as to which areas had been assigned for the reception of evacuees. It was evident that the central and local committees could not successfully fulfil their task until their position as agents of the Government for the allocation of medical man-power was more clearly defined. Representations were accordingly made to the Government urging it to bring all medical services for civilians under one control, to co-ordinate them with the medical departments of the fighting Services, and give the emergency committees authority, in consultation with the Government organization, to allocate medical personnel to the various services in time of emergency. These views were largely accepted, and the wider responsibilities of the committees called for their further reconstitution. The Central Emergency Committee was greatly enlarged so as to include every important branch of medicine and remove any suspicion that its representatives were exclusively members of the British Medical Association. It became, in effect, an independent medical body responsible to the Government, although that part of its cost which was not refunded by the Government continued to be borne by the Association. Local emergency committees were made similarly elective by the whole profession in each Division.

When war broke out in September, 1939, the emergency committees became the Central and Local Medical War Committees, and their status had been fully recognized. The Emergency Medical Service and the schemes for civil defence and evacuation were well advanced. The immediate requirements of the fighting Services and the names of those with Service commitments were known. The central and local committees had been in active collaboration with the authorities in making the arrangements, and each member of the profession knew what calls would be made upon him. It was convenient also for the local committees to undertake for the Association and in collaboration with local insurance committees the administration of the Protection of Practices Scheme. A close working relation, by cross-representation and a common secretariat, had been attained with a Committee of Reference established by the Royal Colleges at the request of the Government for the placement of men of specialist or near-specialist rank in hospitals within the area of London County. Under these conditions the mobilization of medical personnel was achieved with the minimum of disorganization.

The burden borne by the medical war committees has been heavy. In the first year of the war, indeed, the staff of the British Medical Association could scarcely have carried it but for the temporary suspension of most of the Council and nearly all the normal committee activities. Inevitably changes of method had to be made in the light of experience. The anticipated casualties from air raids did not happen, and the Central Medical War Committee, in conjunction with the Committee of Reference, had to draw the Government's attention to the disbalance which the originally approved hospital scheme was causing among specialists, especially in London, where whole-time service had been extensively adopted. The system was then modified and guided from time to time by an Advisory

Emergency Medical Service Committee of the main committee, with direct access to the Minister of Health. This committee has been continuously watchful of the terms and conditions of service of consultants and specialists.

The bulk of the work of the Central Medical War Committee has, however, fallen upon its Services Committee and, for a time, upon the Young Practitioners Subcommittee, which dealt directly with the recruitment of recently qualified men and women without local attachment. With the institution of compulsory service the Services Committee became the central tribunal for the medical services. It has functioned in close association with Local Medical War Committees, Government Departments, the fighting Services, and all manner of bodies employing medical officers in such a way as to hold the unsteady balance between their several needs. Their demands have not always appeared to be synonymous with their needs, and it has been this committee's delicate task to sift the claims of bodies and individuals and arrive at a conclusion as to whether civil needs were such as to render recruitment or direction inadvisable. But, while it has been able to manipulate the pool of civilian doctors, usually with the help of local committees, occasionally against their representations, it has not been in the position to influence directly the demands of the fighting Services, although the presence on the committee of the representatives of these Services may have brought home to them from time to time the distressing state of civilian practice. In 1940 the unabated calls of the Services caused such concern that the Government was asked to look into them, and accordingly a special Government committee was set up, consisting of civilian and Service members under the chairmanship of Sir Arthur Robinson. This committee sat almost continuously for a fortnight, and, while its findings were not disclosed, one of the results was the establishment of the Medical Personnel (Priority) Committee under the chairmanship of Sir Geoffrey Shakespeare, M.P., which met the request of the Central Medical War Committee for a permanent wartime committee to scrutinize Service as well as other demands for medical officers and determine specifically the number to be recruited from time to time.

The volume of work of the Services Committee has not diminished. The multifarious matters coming before it and the local committees are infinite in their variety and complexity. Toward the end of the European war fewer medical officers have been recruited, but civilian needs have had to be met by a profession weakened by the attrition of age, retirement, ill-health, and death. In spite of repeated appeals the public have been unable to limit their calls on practitioners to a level within the capacity of the depleted profession. Each case of recruitment has therefore become an increasingly difficult problem. The requests, too, for the release of practitioners from the Services because of local or other special predicaments have grown in number, and the study of each of these and of its repercussions has been difficult and time-consuming. More recently the Central Medical War Committee has been engrossed in the problems of demobilization, as the letter to practitioners on service recently published in the *Journal*[1] has indicated. It may be noted that this question of demobilization was before the Central Emergency Committee at its meeting of October 1, 1937, and has been kept constantly in mind ever since.

Those who have experience of the conduct of committee business and who have seen the Central and Local Medical War Committees at work must have been struck with the care the members have devoted to the consideration of the mass of detail presented to them, with the efficiency of their action, and with the courtesy they have extended to those who have come before them. It will be some reward for their labours and a comfort in carrying out their unfinished tasks to know how much their work has been appreciated by the Minister to whom they have been responsible.

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[1] *Supplement* to the *British Medical Journal*, May 26, 1945, p. 95.

VITAMIN C AND THE GUMS

The swollen, soft, spongy, and haemorrhagic gums of scurvy respond rapidly to treatment with vitamin C, but there is much doubt about the part played by vitamin-C deficiency in the aetiology of inflammatory conditions of the gums seen in general medical and dental practice. A careful clinical examination should always be made of a patient with swollen and bleeding gums before vitamin-C deficiency is diagnosed, as the gum lesion may be a manifestation of a haemorrhagic condition. It is recorded that four cases of uraemic toxaemia with bleeding gums were once diagnosed as cases of vitamin-C deficiency.[1] Kruse[2] states that the macro- and micro-scopical examination of the gums affords a simple and objective method of detecting vitamin-C deficiency. The sites affected are stated to be involved in a definite order: interdental papillae, the marginal gingivae, and then the alveolar gingivae. Kruse describes vascular engorgement as the first stage, followed by swelling of the gums around the neck of the teeth. If the condition is untreated it becomes chronic, when the swelling is masked by oedema, which causes the gums to look pale. Finally, atrophy of the gums occurs, the dental papillae recede, and the teeth become loose. According to Kruse, these changes are reversed by vitamin C, but his observations conflict with those of Crandon[3] and of Farmer.[4] After six months on a scorbutic diet Crandon failed to observe any pathological changes in his gums, although the vitamin C in the white cell layer was zero. This was confirmed by Farmer and his colleagues, who kept volunteers on a scorbutic diet for many months but failed to observe any pathological changes in the gums, teeth, or bones of the jaw as seen with the naked eye, or by means of the biomicroscope and *x* rays: as in Crandon's case, the level of vitamin C in the white cell layer was zero.

In spite of these careful observations many workers have claimed that gingivitis alone is indicative of vitamin-C deficiency, and there are several reports on the beneficial effects of prescribing fruit juices or synthetic vitamin C. Vitamin-C deficiency, as evidenced by low excretion values or plasma levels, has also been recorded in patients with such conditions. Much of this work was uncontrolled, and as local treatment was also often carried out the effect of the vitamin C was difficult to assess. As pointed out previously in these columns,[5] urine tests and estimations of vitamin C in the plasma are of doubtful value for the detection of vitamin-C deficiency. More recently a number of workers have failed to find any significant relation between the intake of vitamin C and the incidence of gingivitis. Burrill,[6] from observations on 1,400 patients, noted that, although a large number of subjects with low vitamin-C levels in the plasma had gingivitis or periodontal disease, the correlation was not close enough to suggest any causal relation. He believes that a patient likely to neglect his mouth will also neglect his teeth; in other words, vitamin deficiency and periodontal disease may have the same origin, although they are not related aetiologically. MacDonald[7] noted a high incidence of bleeding gums and gingivitis among British naval ratings, but he was unable to show that it was related to vitamin-C deficiency, and the condition cleared up with local treatment. Similar observations were made by Ungley and Horton.[8] Local conditions, such as infection and tartar, were sufficient to account for the unhealthy gums which did not respond to treatment with vitamin C. In a carefully controlled study of nearly 3,000 R.A.F. personnel Stamm, Macrae, and Yudkin[9] found that 20% of them suffered from bleeding gums; vitamin C and the inert control tablets were equally ineffective in treatment.

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[1] Wright, F. J., *East Afr. med. J.*, 1944, **21**, 146.
[2] *Milbank mem. Fund Quart.*, 1942, **20**, 290.
[3] *J. Amer. med. Ass.*, 1941, **116**, 663; and *New Engl. J. Med.*, 1940, **222**, 748: 1940, **223**, 353.
[4] *Federation Proc.*, 1944, **3**, 179.

A high incidence of vitamin-C deficiency has been reported in subjects in the British Army and Navy suffering from ulcerative gingivitis[10] (ulcerative gingivo-stomatitis, Vincent's disease, "trench mouth"). But it is doubtful if it is directly related to vitamin-C deficiency, as it responds to local treatment alone, although some workers claim to have obtained the best results by local treatment combined with vitamin-C therapy. Pincus[11] and Williams[12] found no evidence of vitamin-C deficiency in a number of subjects suffering from ulcerative gingivitis, and vitamin C appeared to have no curative action. The chief factor in the spread of ulcerative gingivitis is probably contagion, due, for example, to dirty oral habits, unclean crockery, and a particular variety of kissing. It is conceivable that vitamin-C deficiency may result in lowered resistance of the gums to infection—although this is difficult to prove, and is certainly not borne out by the work of Crandon and of Farmer—but once the patient has ulcerative gingivitis large doses of vitamin C are ineffective in curing it.

These conflicting views on vitamin C and gingivitis are undoubtedly due to confusion over the aetiology and symptomatology of inflammatory conditions of the gums, the absence of established standards for the normal, and the lack of controlled observations by earlier workers. It is quite likely that there are three clinical entities: (1) scorbutic gingivitis, which must be relatively rare in this country, usually appears after other scorbutic symptoms, and responds to vitamin C; (2) ulcerative gingivitis, or Vincent's disease, which is primarily infective, is not related to vitamin-C deficiency, and is not cured by vitamin C; and (3) non-specific gingivitis, characterized by swollen, bleeding gums, which is common in the population at large and is unaffected by vitamin-C therapy.

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[5] *British Medical Journal*, 1945, **1**, 600.
[6] *J. dent. Res.*, 1942, **21**, 353.
[7] *Lancet*, 1943, **2**, 697.
[8] Ibid., 1943, **1**, 397.
[9] *British Medical Journal*, 1944, **2**, 239.
[10] Stuhl, F., *Lancet*, 1943, **1**, 640; Buchanan, J. W., *J. roy. nav. med. Serv.*, 1943, **29**, 249.
[11] *Brit. dent. J.*, 1943, **75**, 309.
[12] *J. roy. nav. med. Serv.*, 1943, **29**, 115.

TOXICITY OF SALICYLATES

E. K. Marshall's teaching on the importance of maintaining a steady concentration of sulphonamides in the blood has not been without effect. Much of the recent work on mepacrine has been based on the idea that to suppress clinical malaria one must maintain a certain concentration in the plasma, and now Coburn[1] states that a concentration of sodium salicylate greater than 36 mg. per 100 c.cm. is necessary for the effective relief of the symptoms of acute rheumatic fever. To obtain this high concentration the dose must be between 10 and 20 grammes per day—that is, from 150 to 300 grains. The usual dosage in this country is 8 grammes, or 120 grains, a day. Very high doses have resulted in toxic effects which were previously unknown. The most striking is a fall in the amount of prothrombin in the blood. Thus in a case reported by Fashena and Walker[2] the bleeding time was 5 min. 30 sec., the clotting time 10 min., and the prothrombin time 2 min. 45 sec.—"a value more than five times the normal, which connotes almost complete absence of circulating prothrombin." That the fall in prothrombin was due to salicylates has been proved by Link and his colleagues,[3] and also by Rapoport and Guest,[4] who observed it when they gave salicylates to rats and rabbits. In this connexion we may recall the late Sir Arthur Hurst's observation of the frequency of haematemesis in patients with gastric ulcer if they were given aspirin (acetylsalicylic acid). There can then be no doubt that salicylates will reduce the patient's prothrombin and decrease the power of his blood to clot. Does this matter? Is diminished coagulability of importance clinically? Apparently it may be. Ashworth and McKemie[5] have recently observed two deaths from haemorrhagic encephalitis in which salicylates appeared to be the lethal factor. The danger from diminished prothrombin can fortunately be removed by the simple expedient of giving the patient vitamin K or a related substance such as menaphthone (*B.P.*). Shapiro[6] has estimated that 1 mg. synthetic vitamin K will counteract the effect of 1 gramme (15 grains) of acetylsalicylic acid. No doubt the regular use of menaphthone together with salicylates will gradually become established.

There are other effects of salicylates, which Sable[7] considers in a recent review. Sometimes there is severe hyperpnoea, which is thought to be due to stimulation of the respiratory centre; the respiration has been found to increase from 5 to 37 litres per minute. This can be treated only by withdrawing salicylates, when the hyperpnoea subsides in 48 hours. Salicylates like aspirin may lead to an allergic condition in which there are asthma or dyspnoea, urticarial wheals, and subcutaneous oedema. These clear up when adrenaline is injected. The best-known symptoms of toxicity are nausea, vomiting, tinnitus, and partial deafness. These have been widely studied in the past, and have furnished those who teach pharmacology with a striking example of the variation which exists among patients in their sensitivity to drugs. As long ago as 1913

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[1] *Johns Hopk. Hosp. Bull.*, 1943, **73**, 435.
[2] *Amer. J. Dis. Child.*, 1944, **68**, 369.
[3] *J. biol. Chem.*, 1943, **147**, 468.
[4] *Proc. Soc. exp. Biol.*, N.Y., 1943, **53**, 40.
[5] *J. Amer. med. Ass.*, 1944, **126**, 806.
[6] Ibid., 1944, **125**, 546.
[7] *Canad. med. Ass. J.*, 1945, **52**, 153.

Hanzlik showed that in some men toxic effects occur after as small a dose as 40 grains of sodium salicylate, whereas others could take as much as 460 grains. Usually symptoms appeared after a dose of 190 grains.

GOING HOME

All over Europe the war-exiled are making for home, hungry for the familiar setting from which they were uprooted. For many there will be great happiness in reunion; for others the bitterness of loss, human and material; for all there must be in some degree the Rip van Winkle shock of realizing that neither for themselves nor for their families has Time stood still, so that the days of long ago can never be repeated. In its wisdom the Ministry of Health has recognized that a domestic problem of this kind arises with regard to the evacuated children now returning to their homes. A circular addressed to county and county borough councils and welfare authorities in the Metropolitan evacuation and other "return home" areas describes the kind of rehabilitation difficulties likely to occur, and gives advice on how these can be ameliorated. It is a very human document, stressing such homely points as the mother's possible disappointment at finding that the "baby" she cosseted is now a self-reliant school-child, anxious to stand on his own feet—or the opposite problem of the ex-baby's jealousy of the younger brothers and sisters born during his absence. It is noted that the change from billet to home almost inevitably means a change of standards: some evacuees may have grown accustomed to better social conditions, others to less care and comforts; in either case the imagination of childhood may well result in stories of Princess- or Cinderella-like experience, disturbing to parents who have not visited enough to judge for themselves and so add the requisite grains of salt to these fantasies. Country habits, too, may be hard to abandon in town, where "picking flowers becomes stealing . . . going for a walk can easily turn into 'wandering,' and climbing trees into 'wilful damage'"; though the adaptability of children and the common sense of authorities probably make this problem less important than others. For those who have grown attached to their foster-parents the question of divided loyalties may be a troublous one, accentuated by the contrast between dream pictures of the perfect home, so naturally built up by wanderers, and the imperfect, because human, reality. There may be, for those who have been fortunate in evacuation experience, a revulsion of feeling towards home, and a desire to go back to the foster-home, which in its turn may be glorified by absence.

There are also the special problems of those children who have been in hostels or residential war nurseries. These have been living as members, not of a family, but of a community planned and run for their benefit, usually in groups of their own age. They have as a rule become accustomed to high standards of physical well-being, but inevitably their opportunities for acquiring independence and resource have been limited. Many of those who return from nurseries will have forgotten, while others have never known, what life in a family is like. They have missed the normal experience of mixing with older and younger children, and may also be unused to the common risks of a household, such as boiling kettles, unguarded fires, or to the dangers of road traffic. Perhaps more important still, they are unused to parents except as visitors laden with gifts and free to devote all their time to their offspring. To smooth over the transition period it is suggested that home visits shall be arranged immediately after the return of children by welfare and education authorities, that teachers should encourage parents to consult them, and that the aid of such children's organizations as Scouts, Guides, clubs, and play-centres should be invoked. For children showing signs of special disturbance reference to the school medical officer and to child-guidance clinics is advised. The potential value of health visitors' friendly advice to mothers is rightly stressed in relation to ensuring continuity of good routine and diet for the under-fives. To sum up, this circular seems a notable example of planning for health, mental and physical, and should do much to safeguard at home the children whom the Ministry has so long and carefully shepherded on their wanderings.

NARCOLEPSY AS NEUROSIS

The work of Adie, Brain, Kinnier Wilson, and others has shown that narcolepsy may occur as the result of a lesion of the hypothalamus, or as an idiopathic state. In the majority of cases no cause for the condition can be discovered. Since the syndrome was first described by Gelineau in 1880, the frequency with which it is diagnosed has increased very much, particularly in latter years. Up till now it has always been looked on as due to physical states, probable related in nature to the causes of idiopathic epilepsy. The suggestion has now been made by Langworthy and Betz[1] that it may occur as a neurotic syndrome. These authors describe in detail the psychiatric background in two cases of narcolepsy which they have personally observed. They also review in psychiatric terms the available history of four further cases which had been previously investigated along laboratory lines by Levin.[2] In their opinion the data indicate that the syndrome arose in these cases in a situation of conflict, and in men and women whose personalities were incapable of a healthy resolution of the conflict; the illness represented a flight from the situation and a solution along neurotic lines. They point out that hysterical or hypochondriacal patients may suffer from somatic symptoms, such as precordial pain and palpitation, and nausea, anorexia, and diarrhoea. Narcolepsy, in this view, would represent the utilization of the nervous system to provide a defensive reaction.

The evidence so far adduced seems rather flimsy. It is not enough to show that a situation of conflict arose and symptoms of narcolepsy developed at about the same time to prove that they are causally related. Neurotic symptoms in general are symptoms which in minor degree are the common experience of man; but which occur with unusual severity in persons of predisposed constitution or in circumstances of stress. The narcoleptic syndrome is unusually clear-cut and distinctive and shows no readily comparable analogue in the normal range of experience. It is certainly related to dysfunction of the hypothalamus, and is specifically amenable to treatment by amphetamine sulphate. More evidence will be required than is here provided that the general run of idiopathic narcoleptics are suffering, as the authors suggest, from a neurosis.

THE HALF-YEARLY INDEXES

The half-yearly indexes to Vol. II of the *Journal* and the *Supplement* for 1944 have been printed. They will, however, not be issued with all copies of the *Journal* but only to those readers who ask for them. Any member or subscriber who wishes to have one or both of the indexes can obtain what he wants, post free, by sending a postcard notifying his desire to the Accountant, B.M.A. House, Tavistock Square, London, W.C.1. Those wishing to receive the indexes regularly as published should intimate this.

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[1] *Psychosomatic Med.*, 1944, **6**, 211.

[2] *Arch. Neurol. Psychiat.*, Chicago, 1929, **22**, 1172.

NOTES ON A MIXED SHORT-TERM DAY NURSERY

BY

J. F. DOW, M.D.

Medical Officer of Health for the County of Westmorland

The nursery which is here described is situated in a pleasant country-house on the shores of a beautiful lake. It has a large garden, which supplies the house with vegetables; and poultry provide the nursery with fresh eggs. It was first established as a day nursery with a view to the reception of the children of women working at a large neighbouring war factory. However, the requisite number of children were not forthcoming, and in late 1943 it was amalgamated with a neighbouring nursery, which had been used solely for the reception of young children during the period when their mothers were having a further confinement. Under this new arrangement residence was provided for 21 children, and day children up to a similar number could be admitted; throughout the year the residential part of the nursery varied from 17 to, during rush periods of evacuation, 24. Day children numbered from 5 to 10.

Throughout 1944 the nursery was thus taking three different types of children: (1) There were 10 children attending daily who came into the nursery between 7.30 and 9 a.m. and left between 5 and 6 p.m. (2) There were 97 short-term children aged from 1 to 5 years who were admitted during the sickness or confinement of their mothers. These were to a large extent the children of mothers evacuated from dangerous areas. (3) There were 14 children whose mothers were employed on war work that, because of the hours or other circumstances, made it impossible for the children to be with them. It was expected, and has generally been fulfilled, that the mothers should visit these children at week-ends and keep in touch with them.

The nursery is divided into three groups: a day and night nursery for 0–1 year, for 1–3 years, and for 3–5 years. It is obvious that a nursery of this varied type presents considerably more problems than would arise from a complete day nursery or residential nursery. The constant admission of new children for only a short time creates a greater risk of infection being brought in; they enter unclean and untrained, and these difficulties are corrected only when it is time for them to leave.

The staff consists of: (1) The matron, who is a fully trained State-registered nurse. She has a position of considerable responsibility, as children are sometimes admitted at only a few hours' notice, and one must rely on her examination of the new arrival to exclude infection. Moreover, the whole character of the nursery depends entirely on her—whether the atmosphere is that of an institution or a home. (2) Two child-care reserves; two nursery assistants; and three probationers. At first sight this staff will seem excessive, but when one considers the length of the day's programme (detailed below) and also that every member is entitled to three hours off duty each day, a day off each week, and three weeks' holiday each year, I think it will be agreed that such a staff is necessary. Indeed, quite apart from the care of the children during the day, all the children's clothes and napkins, etc., are washed by the nursery staff, and only the heavy linen is sent to the laundry. The mending, marking, and ironing of all the clothes are done by the staff, largely in the evening.

The daily programme for the children is as follows:

6 a.m.—Children under 1 given milk.

6.45 a.m.—All children wakened; toilet; orange juice; wash.

7.15 a.m.—Breakfast: Porridge or corn flakes; prunes, bacon, fried bread, or fresh eggs, scrambled or poached; bread-and-butter, jam or syrup, rusks, milk.

8 to 8.30 a.m.—Toilet; wash; free play.

9.30 to 10 a.m.—Cocoa or milk and biscuits; cod-liver oil and malt.

10 a.m. to 12 noon.—Out for walk or play in the grounds, and sleep in the prams or in the night nursery; toilet.

12 noon.—Lunch: Soup or mince or fish, or cheese dish, potato and gravy, and two vegetables when possible; rice or semolina, custard and fruit (own produce bottled or fresh in season) or prunes; sponge puddings; orange juice.

12.45 to 2.30 p.m.—Toilet; wash; rest period.

2.30 to 4 p.m.—Toilet; either walk or play, or drawing; plasticine; imaginative play; nursery rhyme songs to piano. Older children love to gather leaves, twigs, and flowers for nursery.

4 p.m.—Tea: Dates and grated carrot, or shredded cabbage; fresh scrambled eggs; home-made cakes, or junket, bread-and-butter, rusks or biscuits.

4 to 5.30 p.m.—Toilet; bathing and bed. Preparation of daily children for home.

9.30 to 10 p.m.—Baby-feeding and toilet.

Diet and rest for the 3–5 year children are the same as for the 1–3 year group. The older group has more constructive play, including chute, sand-pit, and swings; and songs and dances to the piano; also, their walks are taken in the surrounding woods and field, and to a near-by farmyard. Their bedtime is 6.15 p.m., after bathing.

Infectious Diseases

During the year all the children had chicken-pox, and many had rubella; in both instances the infection was traced to a day child. Three of the young staff were also affected by the latter disease. One child was admitted and discovered to be in an advanced stage of whooping-cough, but all the children were at once immunized and there was no further case. Every one of them has, of course, been immunized for diphtheria. These infections were of a mild type, and gave rise to no complications. During the whole year there was no other case of sickness necessitating the children being kept in bed, and the general standard of health was excellent. During the first few days of admission a child is fretful, and generally needs up to 48 hours to settle down; this also is a period of extra work for the staff, and may account for the fact that the short-term residents do not gain weight in proportion to the permanent ones.

The day children vary in age from 2 to 5 and also in the length of time they attend. They all gained weight, to an average of 5 lb. 8 oz. The 97 short-term resident children aged 1 to 5 years were admitted for a period of two to seven weeks, and gained weight as follows: 1–2 years, 12 oz.; 2–5 years, 1 lb. 14 oz. The 14 permanent residents who were in the whole year gained weight as follows: 0–1 year, 16 lb. 4 oz.; 1–2 years, 7 lb. 9 oz.; 2–3 years, 6 lb. 14 oz.; 3–5 years, 7 lb. 8 oz.

Conclusions

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The nursery has really been fortunate in avoiding the more serious types of infectious diseases, and was even unaffected by the influenza epidemic. This result may be in some way due to the fresh-air policy, but it must be admitted that the risk of such infection is very great. As a short-term nursery for children of mothers who were being confined in our maternity home or had been taken suddenly ill, it has been exceedingly useful. It has been invaluable in dealing with the children of the group of London expectant mothers who were evacuated to this district in the summer.

The improvement in weight, health, and general condition of the whole-time resident children is most gratifying. One satisfaction has been that nearly all the mothers have kept in touch with their children and helped so far as was possible. It is of course open to argument whether mothers of children of these ages should work; personally, I am not convinced that children under 2 years of age should be away from the mother. However, there are certain reasons during wartime, and in the cases of illegitimacy, where this course seems essential.

Finally, I would stress that the success of a nursery depends to a very great extent on the matron. She must be given responsibility and be trusted to run her nursery without undue interference; her success will depend as much on her motherliness as on her nursing skill. Our matron was the widow of an R.A.F. casualty, and had her two children in the nursery. These children received the same care and attention as all the others, and no more.

C. L. Steinberg (*U.S. nav. med. Bull.*, **42,** 567) in the course of five months has seen 10 cases of meningo-encephalitis in a total of 165 cases of mumps. As mumps meningitis is rarely fatal pathological reports on the condition are few, but Larkin and Gordon found congestion of the pia mater with patchy infiltration of the parenchyma along cerebral vessels.

WORK OF THE CENTRAL MEDICAL WAR COMMITTEE

MINISTER OF HEALTH'S TRIBUTE

The following letter has been addressed by the Minister of Health, Mr. Henry Willink, to Dr. Charles Hill, Secretary of the Central Medical War Committee.

My dear Dr. Hill,

Now that the war in Europe has ended I feel I must convey to the Central Medical War Committee my warm thanks for their valuable help and co-operation during the last six years. The task which the Committee readily undertook at the outbreak of war assumed a magnitude and complexity greater than could have been foreseen, but they have faced its problems and shouldered the great volume of work with a determination and efficiency which is very highly appreciated.

Their first duty was to provide the practitioners necessary for the medical needs of the Armed Forces and I well know how successfully this was achieved. It was, indeed, a positive contribution to victory. I know, too, what difficulties were entailed in meeting the demands of the Services—how the Committee had, throughout, to weigh the counter-claims of civilian needs in general practice, hospitals, public services, teaching, research and other fields. As the war lengthened and civilian medical resources were progressively depleted it could almost be said that each individual case became a problem, but the Committee could always be relied upon for a sound and fair-minded judgment in striking the balance between civil and military needs.

This was the Committee's main task. But they have also devoted much careful consideration to safeguarding the interests of serving practitioners and have had before them the claims of civilian services overseas, relief and missionary work, problems affecting aliens and a wide range of other matters. The same care has been evident in the Committe's handling of all of them.

The success of their work in meeting the demands of the Services has inevitably placed a heavy strain upon general practitioners, hospital staffs and others remaining in civilian life. Many of them have carried on under conditions of great difficulty and almost intolerable strain. I cannot allow this opportunity to pass without expressing the Government's thanks to all those practitioners, for the manner in which their burdens have been borne.

The Committee's work is not yet finished and what remains will present many new problems, but I am confident that they will meet the calls upon them with the same success as has attended their efforts in the past.

I would also ask you in your capacity as Liaison Officer to convey to members of the Committee of Reference my sincere thanks for the valuable work they have done within their special field of reviewing the hospital staffs of Greater London.

Finally I should be glad if you would let members and secretaries of Local Medical War Committees know how deeply I appreciate their contribution to this work, to which they have given voluntarily and without stint so much of their time and energies throughout the years of war.

Yours sincerely,

Ministry of Health,
Whitehall, S.W.1.
June 25, 1945.

HENRY WILLINK.

The annual general meeting of the Society for Relief of Widows and Orphans of Medical Men was held on May 23, with Dr. R. A. Young, president, in the chair. The report and accounts for 1944 were presented and approved. £5,125 was distributed in grants among the 55 widows who were in receipt of relief during the year. The total membership of the Society was 287 at the end of 1944. One widow had received £1,925 on behalf of herself and her son. Mr. W. Gilliatt was elected a vice-president, and Dr. R. R. Trail and Mr. G. T. Mullally directors. A legacy of £5,000 was received from the executors of the late Dr. Charles Reid, of Stafford. A vote of thanks was passed to the editors of the medical journals who, from time to time, publish reports of meetings of the Society. Relief is granted to the widows of deceased members whose yearly income is £135 or less. Membership is open to any registered medical man who, at the time of his election, is residing within a twenty-mile radius of Charing Cross. Full particulars may be obtained from the secretary, 11, Chandos Street, Cavendish Square, London, W.1.

CENTENARY OF ST. MARY'S HOSPITAL

The centenary of St. Mary's Hospital, Paddington, was celebrated by a Mansion House dinner on June 27, when an appeal was launched for reconstruction and extension. The scheme provides for rebuilding of the present hospital, with an increase of bed accommodation from 414 to 700, a new west block to house the out-patient and casualty departments, the fracture clinic, and the diagnostic *x*-ray department, with about 50 additional beds, and on the east side, beyond the medical school, the completion of the nurses' home, a portion of which is already built.

The Lord Mayor presided at the dinner, saying what pleasure it gave him to offer civic hospitality to a great teaching hospital which, like the other teaching hospitals, would play a large part in any future national health service scheme. Three great contemporary names were associated with St. Mary's—Sir Almroth Wright, the pioneer of vaccinotherapy, Sir Alexander Fleming, the discoverer of penicillin, and Lord Moran, in whose charge had been the health of the Prime Minister during the war years.

Mr. Brendan Bracken, First Lord of the Admiralty, said that the hospital was in the constituency which he was at the moment contesting, and it was a great refreshment to escape from the hustings to praise St. Mary's. Many institutions after a hundred years began to show distressing signs of old age, but St. Mary's remained one of the youngest of the great hospitals, alike in its work in the spheres of healing, of teaching, and of research. It was a nursery of doctors and a centre of vigorous and far-reaching investigation of medical problems. He added that whatever form the Government plan for a national health service ultimately took it would mean an even greater call on the medical profession, and so the responsibility for establishing the future health of the country rested to a great degree upon the voluntary teaching hospitals.

Lord Moran, P.R.C.P., Dean of St. Mary's Medical School, whose name was coupled with the toast of the hospital, read the following message from the Prime Minister:

> "In the future health services of this country greatly increased demands will inevitably be made on St. Mary's as one of the vital medical teaching centres in this country. No hospital has a finer record of work and achievement. The discovery of penicillin by Sir Alexander Fleming has placed the whole world in its debt. It is clear from its past record that there exists in this institution an organization of exceptional worth in the field of medical education, treatment, and research. Let us, therefore, be quite sure that its work is in no way hampered by lack of proper accommodation and modern equipment. I commend most heartily this appeal to all men of good will throughout this country, our Dominions, and also to our very great friends in the United States of America. No cause could be more worthy."

Lord Moran mentioned that between the landing in Normandy and the end of the European war thousands of men had been treated with penicillin, and 95% of those so treated had recovered.

Mr. Anthony de Rothschild, chairman of the board of management of the hospital, mentioned with pride the fact that his family had been connected with St. Mary's for roughly half the century which had been completed. In a reference to some of the benefactions to the hospital he announced that King Edward's Fund for London had made a preliminary gift of £10,000. Lord McGowan, treasurer of the Inoculation Department, read a message from Field-Marshal Sir Bernard Montgomery, who, it was hoped, would have been present. The message referred to the widespread admiration aroused by the work of the Inoculation Department, and added that penicillin had revolutionized the treatment of the wounded in the field and had saved countless lives.

A collection taken at the Mansion House tables during the dinner resulted in £145,000 for the appeal fund. The centenary celebrations were continued during the week at the hospital, which was visited by the Queen, who is its president. The deeds of the land presented by the Great Western Railway for the extension of the site were handed to Her Majesty. Demonstrations of the scientific work of the hospital have also been given.

Reports of Societies

BONE AND SOFT-TISSUE DEFICIENCY IN THE LIMBS

Among the chief subjects discussed at the spring meeting of the British Orthopaedic Association, which was held at Horton Hospital, Epsom, and at Hill End Hospital, St. Albans, under the presidency of Mr. St. J. D. **Buxton**, were bone and soft-tissue deficiency in the limbs, penicillin, and vascular lesions.

Cancellous Bone Grafts

Wing-Commander I. **Lawson Dick** opened a paper on the use of cancellous bone transplants with a historical survey of our knowledge of osteogenesis in relation to bone grafting from the time of John Belchier in 1736. The generally accepted view now was that the viability and osteogenetic properties of transplanted bone depended upon the facility with which it could be revascularized. Osteogenesis and viability were long delayed in the depths of massive cortical grafts and most readily ensured in cancellous bone. If the mechanical stability of cortical grafts could be maintained by other means healing and consolidation would be hastened by the superior osteogenetic properties of cancellous bone. A disadvantage of removing grafts from the tibia was the not uncommon occurrence of fatigue fractures in the donor bone. The most rapid and sure method of bone transplantation was by the use of cancellous chips from the ilium.

Mr. S. L. **Higgs** described 71 cases of bone grafting, 60 being for non-union of the long bones; in 20, cortical grafts alone were used, and in 40, cortical grafts plus cancellous chips. All had resulted in bony union, but union had taken at least twice as long with cortical grafts alone as it had with both types of graft, except in the femur, where the average had been half as long again for healing with cortical grafts alone. Rigid fixation must be applied in the operative procedure if cancellous chips were to do their work well and quickly. To maintain this with length and alignment was the reason for combining a cortical graft with the chips. Referring to the methods used for different long bones the speaker emphasized that there need be no hesitation in excising all sclerosed bone from the site of non-union: similarly all fibrous tissue to facilitate vascularization. Associated skin defects must be adequately treated by plastic methods beforehand.

Mr. Ivor **Robertson** discussed the treatment of chronic infective osteitis, the essentials of which must be a careful but extensive excision of all infected bone and scar tissue and the replacement of tissue loss by bone, muscle flaps, and full-thickness skin grafts. Such treatment required careful selection, and those described had been cases of chronic haematogenous osteitis of limited area and surgically accessible and cases of chronic osteitis resulting from compound fractures or war wounds. The treatment was carried out in three stages under penicillin control: first, by excision of the bone and soft-tissue defects and then covering with Thiersch grafts; secondly, a month later, by closure after removing this graft and substituting a full-thickness skin graft; thirdly, at least two months later, by bone grafting. Where an ununited fracture was present both cortical and cancellous chip were involved. In cases of chronic haematogenous osteitis stages 2 and 3 might be combined, and iliac cancellous chips alone were packed into the dead space between the walls of the cavity and skin flap. To ensure an adequate blood supply a muscle flap was swung over them and sutured to the periosteum.

Mr. Rainsford **Mowlem**, discussing in more detail the problem of soft-tissue defects in the limbs, emphasized the need for continuous care from the beginning of all elements of damage—skeletal, vascular, neuromuscular, and skin covering—in all injuries. No one element must be ignored, but from every point of view a limb otherwise intact was useless without its skin covering. Indeed fibrosis secondary to infection and exposure—the influence of this upon underlying muscles and joints—would prevent adequate treatment for these deeper parts and greatly increase the disorganization of the limb as a whole. The use of free grafts and pedicles or flaps was discussed. In the former, split grafts could be applied at any time during which there was a good vascular surface, and generally as soon as possible. For adhesion, maintained pressure was preferable to any glues. If the bed was avascular it must be excised. The presence of infection was no contraindication to grafting so long as it was dealt with by suitable chemotherapy. Pyocyaneus, proteus, or *B. coli* infection was a special problem, but even here successful grafting was not impossible. Exudation was the difficulty, and its mechanical effects could be minimized by using strip or postage-stamp-shaped grafts. After a month all grafts tended to become dry and to contract; massage with grease would help. Grafted areas below the knee needed prolonged pressure bandaging to reduce the ill effects of oedema. In weight-bearing surfaces keratosis might be aided by the use of the sulphydryl radicle. Usually here, however, split grafts should only be a preliminary to whole-thickness grafts. The design, formation, and methods of transplanting whole-thickness grafts were discussed, particularly the possibilities, where indicated, of flap grafts in the primary treatment of certain types of injury, noticeably in the hand.

Penicillin Treatment

Prof. L. P. **Garrod** said that, whereas the results of penicillin therapy in soft-tissue lesions could be almost guaranteed, the story was very different in bone lesions. In the future more liberal and purer supplies of penicillin should be available. With greater purification three types of drug were being isolated, the use of which might be found to be specialized according to the type of infection. Improved methods of parenteral administration now gave greater comfort to the patient and greater convenience to the staff. One of the difficulties was the rapid dissipation of the drug's effect, and this problem was being investigated by U.S. workers with the development of suspensions in oil and so forth, which were more slowly absorbed. It was hoped that manufacturing methods would eventually permit oral administration, the need, of course, being to protect the drug from the gastric acidity. British economy had called for much greater exploitation of local administration of penicillin, and there was much to be said for the good effects when thus used; adequate concentration could be achieved where most needed. Economy in the use of the drug had resulted in the discovery that the effect of penicillin, unlike that of other antiseptics, did not depend on its concentration. Its full action was obtained in low strengths; nothing was gained by increasing it, and, in fact, with some penicillin the reverse effect occurred. Prof. Garrod said the use of penicillin with sulphonamides was still being discussed, but his own work, though not conclusive, suggested that the sulphonamides interfered with the effect of penicillin on rapidly multiplying organisms.

Dr. G. F. **Kalmykov** (U.S.S.R.), in a paper on end-bearing amputation stumps in the lower extremity, said that an important field of surgery after the war would be concerned with re-amputation, because of the practice of emergency primary amputation behind the battlefield leaving definitive amputation to a later date. The extent of this varied in different nations. In Soviet Russia the percentage of re-amputations required was not less than 80. At one large centre in the U.S.A. he had found the percentage to be 78, while in British hospitals it did not exceed 25, which was explained by the more frequent flap amputation instead of the guillotine. Soviet surgeons where possible sought to create end-bearing stumps by an osteoplastic operation. Thus they followed the work of Pirogoff, whose well-known operation in the lower leg was being performed in Russia to-day. Other methods practised were those of Bier in amputations below the knee and Gritti Stokes in amputations above the knee. After such operations it was very important to prepare the stump properly for end-bearing: the latter achieved better distribution of weight within the prosthesis and resulting improved gait and confidence.

Dr. M. N. **Polonsky** (U.S.S.R.) described a new type of prosthesis in amputations through or near the hip-joint, which, he thought, solved the well-known difficulties of limb-fitting in this region. The advantages claimed were the relative lightness, greater comfort in walking and sitting; and greater economy in manufacturing costs and time. A normal type of above-knee prosthesis was employed, fixed to the usual type of pelvic band from the front of which a broad leather sling passed continuously downwards into the front of the prosthesis, over a transversely placed wooden roller, and out through the back of the limb to be attached to the back of the pelvic band, where its tension could be adjusted by lacing. The top of the appliance held a slightly hollowed, springy platform with soft felt lining upon which the soft parts of the hip gained a shock-absorbing support in walking.

Intervertebral Disk Lesions

Dr. E. J. CRISP, dealing with the early diagnosis and treatment of intervertebral disk lesions, said that the lumbar disks suffered trauma more often than was generally appreciated, but in the absence of crural pain or radiographic changes the resulting lesion was apt to be mistaken for sacro-iliac strain or fibrositis. The condition might be easily recognized by the extreme and persistent lumbar spasm at first associated with an increase in the lumbar concavity; later, scoliosis to the side of the lesion and lumbar kyphosis developed with sciatic pain, the lordosis occurring when rupture of the annular fibrosis was incomplete, and kyphosis when it was complete. Treatment was advised by conservative means along well-recognized lines such as the use of the plaster jacket. The essence of Dr. Crisp's views was that persistent lumbar spasm and a "tight" lumbar spine in an otherwise healthy patient indicated trauma to a disk and should be dealt with before the onset of sciatica.

Mr. J. E. O'CONNELL based his observations on the diagnosis of lumbar intervertebral disk protrusions on a study of 240 patients operated upon; 227 of these explorations had given positive evidence of intraspinal protrusions. By careful analysis of the clinical pictures one could locate with accuracy the site of intraspinal nerve-root stretching which affected the extradural portion of the nerve root leaving the spinal canal at the intervertebral foramen next below the disk level affected. In his series 39 cases had been studied before operation by myelography with 6 negative (15%) explorations. In 201 cases explored without myelography there had been only 7 negative operations (3.5%). While a variety of conditions could occasionally produce a picture similar to that of a lumbar disk protrusion, there were only three which did so at all frequently: an intraspinal tumour, a metastatic tumour in the lumbar vertebrae, and spondylolisthesis. Clinical examination would help in the differentiation, but certain accessory methods might be necessary. The speaker emphasized the need for adequate excision of the disk at operation. With proper selection the results in the majority of cases were excellent. Backache might prove to be frequent but rarely incapacitating. There had been a few recurrences, most often in the opposite leg.

Miscellaneous

Prof. J. PATERSON ROSS, in a paper on ischaemic phenomena following vascular injuries in the lower extremity, drew attention to the relation of the origin of the sural arteries, supplying the gastrocnemius muscles, to a region of special vulnerability in the popliteal artery. If these and all the terminal branches of that artery were blocked the leg was liable to be useless and sympathectomy would not improve it; pain might necessitate amputation. Where the sural arteries had been blocked but the collateral circulation preserved pain in the upper calf was troublesome after walking 300 yards; this was relieved by sympathectomy. If the popliteal artery had been damaged below the sural vessels pain was felt only in the lower calf and was not appreciably affected by sympathectomy. Block high up in the popliteal or femoral artery gave a good leg, which could often be improved by sympathectomy because the vessels to the calf—even if small—were still open. The popliteal artery was vulnerable to direct injury from bone and was liable to "spontaneous" thrombosis, which might be related to less direct trauma and to thrombosis the result of degenerative changes. In none of the cases described did gangrene occur, but in cases in which the popliteal or femoral vein had to be tied venous congestion was troublesome and was worse after sympathectomy. In arteriovenous fistula, if the main artery was ligated a good collateral arterial circulation developed, but without coincident ligation of the vein excessive venous drainage rendered the circulation of the periphery precarious. In one case of external iliac artery ligation in which the arteriovenous fistula had not been recognized, and also in 2 cases of wounds of the femoral artery and in 2 wounds of the popliteal artery, immediate paralysis of the lateral popliteal nerve occurred, suggesting an important additional segmental supply from the popliteal artery. These recovered like a regenerating peripheral nerve. Major D. LLOYD GRIFFITHS, R.A.M.C., remarked on the large number of cases of vascular injury to the larger vessels which he had seen in two years at a number of centres. He attributed this to the great conservation (due to chemotherapy) of limbs which formerly would have been amputated. In the past, and even now, ligature of main arteries had too light-heartedly been carried out. He considered that a very large proportion of all of them, even at reputedly safe sites, had been followed by vicious effects in the periphery, such as intermittent claudication, incorrigible anaesthesia, and gangrene of the digits. He pleaded for greater practice of lateral suture of arterial wounds and avoidance of ligature.

Fracture of the medial epicondyle displaced into the elbow-joint was discussed by Mr. JAMES PATRICK, who said that radiological diagnosis might appear difficult owing to the patient's being unable to extend the elbow in order to get a good antero-posterior view. If the medial epicondyle could be seen in the lateral view through the joint line, it could be regarded on this view alone as being incarcerated in the joint. After reduction of the incarcerated fragment (and in all simple medial epicondyle fractures) the fragment lay above the level of the joint line and so ceased to be visible in the lateral view. Reduction in early cases could be done easily by anaesthetizing the patient, gently abducting the forearm on the humerus, and applying faradism to the flexor muscles. Cases missed for more than five or six weeks after injury should be treated conservatively. In such cases the epicondyle eventually developed a bony fusion to the ulna. Anterior transposition of the ulnar nerve was probably unnecessary.

In some observations on scoliosis in relation to thoracic disease Mr. C. PRICE THOMAS said that this type of scoliosis followed most commonly upon conditions involving the pleura—e.g., chronic empyema and imperfectly treated haemothorax. Pulmonary fibrosis and atelectasis also gave rise to the deformity, but these only did so when the mediastinum was fixed. The underlying cause was a concentric pull on the chest wall towards the lung root or increase in intrathoracic negative pressure, or both. There was a striking difference in the chest deformity from that found in primary scoliosis; the intercostal spaces were much more contracted, and the curvature of the rib angles was increased and the anterior part of the chest flattened on the concave side of the scoliosis. The impression gained also was that vertebral rotation was not so marked in thoracic scoliosis. Mr. Thomas illustrated the types of remedial exercises used to prevent the deformity, in treatment of the causal disease, and in after-care of thoracic operations. In some operations, however, because so much of the spinal stability depended upon muscles having rib attachments which were lost, some degree of scoliosis was inevitable, but even so it could be mitigated by remedial exercises.

Mr. A. D. LE VAY, in a paper on costo-clavicular compression of the brachial plexus, discussed the importance of this factor in explaining certain neurological and vascular disturbances in the upper extremity, based upon one personal case and reference to recent literature. The patient a year previously had been treated for symptoms of the "scalenus syndrome" type (without cervical rib) by tenotomy of the scalenus anterior, after which the symptoms were much aggravated. Mr. Le Vay then operated under local analgesia, and found that the subclavian artery and brachial plexus were very superficial and bound to the back of the clavicle by dense inflammatory fibrous tissue. The artery was small and transversely grooved as if just released from a clamp; by bracing the shoulders back these structures were firmly squeezed between the clavicle and rib; a portion of the latter was excised so that artery and plexus sank back against the pleura. This operation was quickly followed by practically complete recovery.

Dr. P. BAUWENS demonstrated a method of measuring the action potentials of normal and denervated muscles, using a special amplifier with the cathode-ray oscilloscope connected by terminals embedded in the muscles being tested. By attaching a shunt having a resistance exactly counterbalancing the amplifier, with a microammeter it was possible to switch over during the test, and then from the calibrations of the microammeter obtain quantitative readings which were of great value in addition to the qualitative impressions received from the sounds emitted from the amplifier. Dr. Bauwens also demonstrated another apparatus devised by him which, taking advantage of the slower chronaxia of denervated muscles, enabled responses to electrical stimulation to be obtained from these muscles without affecting normal muscle fibres. Mr. W. SAYLE CREER showed a cinematograph film of foot faults related to form and function which, by means of dissections and ingeniously contrived models, illustrated the anatomy and physiology of the foot, its pathology and treatment. A clinical demonstration was given at Horton E.M.S. Hospital by Mr. St. J. D. Buxton and members of the staff of that hospital; Dr. P. H. Jayes, of the Plastic Unit, East Grinstead; Dr. E. E. Harris, of the Heritage Craft Schools; Mr. B. H. Burns and Mr. R. H. Young, of Botley's Park; Mr. F. C. Durbin, St. Nicholas Hospital, Pyrford; and by Mr. G. N. Goulden, Guildford.

LOCAL HEALTH SERVICES IN THE U.S.A.

At a recent meeting of the Fever Group of the Society of Medical Officers of Health, Dr. M. MITMAN presiding, Lieut.-Col. HUGH R. LEAVELL, of U.N.R.R.A., read a paper on present trends in local health service in the United States. He said there was a movement to incorporate cities and the surrounding suburban and rural areas into a single administrative health unit. Health centres were increasing and provided all types of preventive (and in some cases also therapeutic) services. In spite of objections on the part of some medical officers of health there was a movement to combine all Government-supported health services under a single administrative head. Health education of the public was being approached on a much broader basis and more intelligently than ever before. The quality of public health service was also improved through extension of the merit system, more adequate compensation, more widespread full-time service, and a wider use of public health nurses, etc. A planning committee of the American Public Health Association, with Dr. Haven Emerson as chairman, had recommended that the local health units in the United States be set up in accordance with certain fundamental principles:

1. The entire area and population of the United States should be served by full-time local health units. (In 1942, 31% of the population had no full-time service.)

2. The local community should be responsible for providing basic public health services—namely, vital statistics, control of communicable disease, environmental sanitation, public health laboratory services, maternal and child health services, and public health education.

3. A minimum population of 50,000 should ordinarily be required to provide necessary financial support of a local health unit.

4. The district for which a local health unit is responsible should have a distance from the centre to the periphery of not over 25 to 40 miles.

5. Districts should be set up to include both rural and urban population where possible; and there should be a minimum of 3 general hospital beds per 1,000 population, and a physician-patient ratio of not less than 1 to 1,500.

6. The minimum personnel for a local health unit should be: medical officer; 1 public health nurse per 5,000 population (with at least one of supervisory grade); 2 sanitation officers per 50,000 population (with at least one of professional grade); and 1 clerk per 15,000 population.

7. The local health unit should be suitably housed so that its work might be performed effectively.

These recommendations had been implemented by nearly all the 48 States in their planning. They would be used by the United States Public Health Service in allocating Federal funds for health purposes to the various States.

Dr. MELVILLE MACKENZIE (Ministry of Health), describing a recent visit to the United States, said he was impressed by the enthusiasm of all public health workers. Co-operation between the public health and university authorities was very close. He gave instances where the statistical approach to problems had been most helpful in planning future public health programmes. Public health nurses were highly trained and not considered eligible to practise until 28 years of age; they tackled a wide range of health problems in home visiting. Laboratory facilities in the best public health departments were highly developed; in some cases it was obligatory for the practitioner to submit specimens—e.g., in a suspected typhoid case—and health officers were kept informed of possible foci of infection by receiving copies of laboratory reports. Diphtheria immunization tended now to be combined with immunization against whooping-cough, and was undertaken when the child was 3 months old. In some cases it was thought necessary to inoculate all children against tetanus. In many health centres the social amenities for parents and children avoided the atmosphere of a place to which people only came when they were ill. Health education, including that of the medical profession, was very actively pursued, and wide use was made of wireless, schools, etc., for health propaganda.

Dr. A. TOPPING (U.N.R.R.A.) felt that health propaganda was sometimes considerably distorted by the Press in America. He was surprised to find that payment was sometimes required for essential treatment such as plasma transfusion. He agreed that American public health nurses had a long and exhaustive training, but thought that the best type of health visitor in this country was second to none. The ratio of 3 hospital beds per 1,000 population was only half the number aimed at in this country. (Col. Leavell later explained that the figures he had given were minimal.)

Dr. F. J. BENTLEY (L.C.C.) derived comfort from the fact that the United States had found it difficult to avoid some of the complexities of public health administration which worried us in this country. He was assured by Col. Leavell that the shortage of nurses was equally acute in America, where the public health service was subsidizing the training of 60,000 nurses. In reply to other questions Col. Leavell said that any State could refuse to adopt the recommendations for reorganizing its health services, although some financial pressure could be exerted. Medical care (including hospital provision) was unfortunately not always the responsibility of the public health department. In matters of housing the department was in an advisory position only. The largest local health units would be in the big towns and might include populations up to 250,000, but units of this size would be exceptional.

EVOLUTION OF SPEECH ORGANS

At the recent annual meeting of the Manchester Medical Society Mr. V. E. NEGUS gave an address on the evolution of the speech organs of man.

He said that sound had been adopted by man as a means of communication because of its many advantages; alternatives were gesture, olfaction with its very limited application, and touch. Sound could be used in the dark; it would pass obstacles which impeded vision and travel against the wind; it could be used to express ideas; and it left the hands free. The human being's vocal apparatus consisted of the sound-producing larynx, with a series of resonators—the lungs, the pharynx, nose, and mouth—to amplify and modulate the mixture of pitches resulting from vibration of the vocal cords. The larynx was evolved as a valve to protect the lungs and not as a vocal organ; it had undergone many modifications. The simple muscular sphincter of lung fish had changed in higher animals to a more complicated organ with cartilages which provided a framework and thus facilitated opening and closing. Herbivorous animals had a special modification to help in swallowing large quantities of semi-solid food; the margins of the larynx were raised to prevent fluid entering the air tract. Animals of herbivorous ancestry which took to climbing trees had a secondary valve, usually called the vocal cords, the object of which was to assist in fixing the thorax when the fore-limbs were in use. In keen-scented animals the larynx was apposed to the nasal passages in order to direct the air stream through the olfactory area and thus to maintain a keen sense of smell. Man did not rely on powers of scent; in him the larynx had descended in the neck as a result of recession of the jaws and the adoption of the erect posture, and a gap was thus produced between the larynx and the palate. The pharynx thereby increased in size. The pharyngeal, buccal, and nasal resonators were capable of great variation in size and shape.

In reply to Prof. Wood Jones, Mr. Negus said that the air passages and larynx in the whale, which had no sense of smell, were closely connected to enable the air to be warmed and for inspiration to take place without the necessity for emptying the mouth and pharynx of food and water. Dr. T. H. Blench referred to the beating of the chest by gorillas and the axillary air sacs in the orang as accessories in the production of sound without using the chest muscles. Mr. Negus concluded that animals living in dense or wooded country required voice and methods of sound production, while those living in open country, such as the giraffe and vulture, did not need them.

The report for 1944 of the Institute of Physics shows that its membership increased by some 15%. Despite wartime difficulties the Groups and the Branches both at home and over-seas held meetings and conferences covering a wide range of technical and professional subjects. A new and successful venture was the publication of a series of lectures given before the Industrial Radiology Group as a *Handbook of Industrial Radiology*. The *Report on the Teaching of Mathematics to Physicists* prepared jointly with the Mathematical Association was published during the year.

Correspondence

Poliomyelitis in Malta

SIR,—With reference to your leader in the *Journal* of June 2 on poliomyelitis in Malta please compare my conclusions relative to the same outbreak at pages vii and viii of the annual report of the Medical and Health Department, Malta, for 1942; the statistics were revised in the report for 1943. My opinion was that spread was by contact droplet infection, and other means excluded. This is now confirmed by Seddon. I left open origin of outbreak, but inclined to importation of fresh strain of virus from abroad. Information now given by Seddon, not available to me then—that 200 airmen arrived in Malta in October, 1942—favours my opinion that virulent infection was freshly imported, especially when place of origin and nationality of airmen are considered. I laid emphasis on the importance of healthy carriers in introducing and disseminating infection, and said that the appearance of paralytic cases was not an absolute index of date of introduction or commencement of infection. The relative immunity of adult Maltese may be due to a racial factor; this disease is always infantile in Malta.—I am, etc.,

A. V. BERNARD, M.D.,
Late Chief Government Medical Officer;
President, Malta Branch, B.M.A.

Malta (by cable).

Portable Surgical Hospitals for China

SIR,—You will recall that in 1942 the War Organization of the British Red Cross and Order of St. John sent out to China a hospital unit consisting of doctors and nurses, who, under enormous difficulties, have rendered some aid to the wounded soldiers and the sick and wounded refugees in the provinces of Hunan, Kweichow, and Yunnan.

Now that victory has been attained in the West it is fitting that we should pay further and closer attention to the needs of China, our ally in the Far East. Accordingly the War Organization plans to send out the personnel and equipment for four portable surgical hospitals to work with the advance troops of the Chinese Army now being reorganized with the assistance of United States Army personnel. These portable surgical hospitals will consist of mobile teams with their own transport and equipment. They will probably have to operate from tents and live under canvas. Part of the staff will be highly trained Chinese. To complete the staff of these portable surgical hospitals the War Organization requires the services as soon as possible of 12 doctors (men with surgical experience) and six mechanics (if possible with first-aid training). Applicants, who must be young men, medically fit, should apply in writing, giving age and qualifications, to Dr. H. Gordon Thompson, China Section, War Organization of the British Red Cross and Order of St. John, 14, Grosvenor Crescent, London, S.W.1.

I trust that the response to this appeal for help may be as swift and effective as the need is both desperate and great.—I am, etc.,

PHILIP CHETWODE,
Field-Marshal, Chairman.

War Organization, B.R.C. and Order of St. John,
London, S.W.1.

Teaching of Physiology

SIR,—Dr. Ff. Roberts's article on realism and humanism in medical training (June 16, p. 848) will, I am sure, have been read with interest by teachers of the pre-clinical subjects, for it is always of value to have the comments of those whose criticisms are not inhibited by recent practical experience of their subject. Teachers of physiology are only too well aware of the shortcomings of the present courses, and I noted with disappointment—though not with surprise—an absence of any constructive proposals.

Dr. Roberts regards as excessive the disproportion in present-day teaching of physiology to medical students between factual knowledge and practical experimental experience. I entirely agree with him, but few will take seriously his assertion that the cause is indifference or incompetence on the part of the teachers. There are, as a matter of fact, several considerations which make it difficult, if not impossible, in the present state of things, to increase materially the relevant experimental practice of pre-clinical students in physiology, desirable as this would be. These difficulties are so well known to teachers of physiology that I am inclined to think we too readily assume that they are also appreciated by those who are now improving the education of the medical student.

1. *Size of Classes and Practical Work.*—The steady increase in the size of classes together with reduction in the time available for practical physiology (owing to the introduction and expansion of other subjects) has had a considerable influence on the nature and scope of practical classes. Experiments and demonstrations which are suitable for a dozen or so students who can spend several hours over them are out of the question with a hundred or more students who cannot devote more than two or three hours on any one occasion.

2. *Use of Animals by Medical Students.*—Despite the large size of modern classes and the limited time available, it would nevertheless be a simple matter for the student to perform for himself many of the important mammalian experiments which he reads about in the books but sees only as demonstrations, if at all, but for the following facts.

Students are forbidden by law to experiment on any vertebrate animal except one which has been decerebrated by a demonstrator; the use of anaesthetized animals—even rats—is not allowed. Now it takes a certain amount of skill with the aid of an assistant and some ten or fifteen minutes to decerebrate a cat (or rat); obviously, therefore, the necessity for preliminary decerebration severely limits the extent to which mammalian experiments can be included in practical classes for medical students. If the use of anaesthetized animals were permitted, it would at once be possible to effect a great improvement in the scope and teaching value of practical physiology classes; the use of frogs could be restricted to those few experiments for which they are actually the most suitable, and a large number of valuable experiments carried out by the students themselves on mammals. Relaxation of the law in this respect would render superfluous many animal demonstrations; but there would still remain a large number for which the use of an unanaesthetized animal, previously prepared by feeding, aseptic surgery, or training, is essential—e.g., many demonstrations on the functions of the nervous system, digestion, absorption, the semicircular canals, and the reproductive organs (to quote only Dr. Roberts's examples of subjects at present learned indirectly from the book).

Such demonstrations cannot be shown to students in this country because no experiment may be performed on an animal for demonstration purposes unless it is anaesthetized throughout and is killed before it recovers consciousness (Certificate C). Moreover, since such experiments may not be demonstrated, it follows that no films can be made of them; the teaching films of animal experiments shown in this country have either been made abroad or involve only completely anaesthetized animals. A little thought will show the vast number of valuable demonstrations and films which it is impossible to make or show for teaching purposes.

3. *Supply of Cats and Dogs for Teaching and Research.*—Even supposing the present restrictions upon the use of animals for medical teaching and research were removed or modified, there would still remain a further difficulty which bids fair to become the most serious of all—namely, the supply of cats and dogs for these purposes. I doubt whether any teaching school in the country is able at the present time to count upon a regular supply of six cats and dogs per week. Our dwindling supplies of these vital necessities for research and teaching are obtained from private animal dealers; we are entirely at their mercy in the matter of prices, which are steadily rising (cats now cost 6s. to 7s. each and dogs from 12s. 6d. to £2). In this city alone last year *more than 30,000* stray cats were destroyed in the lethal chamber by the R.S.P.C.A.; and the use of stray dogs for experimental purposes is forbidden by law.

My own appreciation of the extent to which the teaching of physiology in this country is obstructed by the obsolete restrictions to which I refer is increased by my recollections of the methods of teaching practical physiology to medical students that I was privileged to observe in 1939 in the medical school of Northwestern University, Chicago, Ill., U.S.A., under the direction of Prof. A. C. Ivy. An ample supply of stray dogs was made available by the city authorities for medical teaching and research; and the well-balanced and extensive course of practical instruction provided for pre-clinical students included the performance, on anaesthetized dogs, by students working in groups of four (operator, assistant, anaesthetist, and clerk) of a considerable number of experiments on the circulation, respiration, digestion, absorbtion, excretion, lymph-flow, etc. In addition each group performed at some time towards the end of their course an aseptic operation on an anaesthetized dog (splenectomy) and were responsible for the after-care of the animal. The class also witnessed demonstrations on unanaesthetized dogs provided with gastric pouches and similar preparations which were being used in the department for research.

These students went on to their clinical work not only with an extensive practical experience of mammalian physiology and the techniques employed, many of which are, of course, common to medicine and surgery, but they carried with them also an abiding appreciation of the experimental method as an approach to clinical problems; and a surprising proportion of them returned during and after their hospital training, on their own initiative, to do research—often of very high standard—upon problems directly related to their clinical work.

We all want to see the standard of physiology teaching to medical students raised higher in this country than anywhere else in the world, but we might as well admit that we are at present a long way from this ideal, and shall remain so while we are prevented from giving to medical students that practical experimental experience in physiology which they ought to have, and which, indeed, they may now receive abroad, if they are to assimilate the enormous mass of facts with which they must deal.—I am, etc.,

Department of Physiology, University of Liverpool. R. A. GREGORY.

Trench Fever as a Cause of Pyrexia in P.O.W.s

SIR,—The following case of trench fever in a batch of some 300 or more repatriated P.O.W.s is of interest, and might help to explain some cases of pyrexia that might be occurring among the many thousands of P.O.W.s now on leave in this country.

The patient, a South African, aged 33, was admitted on April 18. He gave a history of 3½ years' imprisonment, during which time he was in good health except for two relapses of malaria. He was sent on the march and developed diarrhoea. On admission he was moderately undernourished, skin dry and scaly. There were several louse bites on his arms, abdomen, and legs. He was afebrile, but three days after admission he complained of a frontal headache and had a temperature of 100° F. His heart and chest were normal, and his abdomen was distended. Liver and spleen were not palpable, there was no glandular enlargement, and his urine was normal. No abnormal organisms detected in faeces; the haemoglobin was 73%, with a total of 4,100,000 R.B.C. and C.I. of 0.9, total leucocytes 6,000.

His temperature subsided within 24 hours and he was allowed up. Ten days after this he had a second attack of fever, and this time complained of aching pains in the shafts of both tibiae and profuse sweating. There were still no abnormal physical signs except for some conjunctival injection. A blood count taken at this time showed haemoglobin 87%, leucocytes 12,000, neutrophils 60%, lymphocytes 4%, and monocytes 6%, E.S.R. 18 (Wintrobe). No parasites were seen in a blood smear taken at the height of his fever.

Subsequently he appeared well, and five days later had recurrence of fever with sweating and deep aching pains in both shins. His agglutination reactions to *Br. abortus*, *B. proteus*—OX 19, OX 20, OX K, were negative. A blood culture was sterile. Since then he has had four bouts of pyrexia, average 100°, occurring every 5 days with shin-bone pains. During the interim periods he feels very well.

The clinical picture of 5-day fever with shin-bone pains, the negative blood findings, and the history of louse infestation before admission make it clear that this is a case of trench fever. Treatment has been symptomatic, salicylate sufficing to relieve pain. Each bout is less severe, and the last expected bout of fever has not occurred. Sedimentation rate is still raised.

I am indebted to Dr. Robinson of the pathological laboratory for his assistance and to Major-Gen. H. H. Blake for his permission to submit this.—I am, etc.,

Stoke Mandeville Hospital, Aylesbury. J. E. DAVIES.

Treatment of Unconfirmed Amoebiasis

SIR,—It has been repeatedly stressed in recent publications that the use of emetine alone in the treatment of amoebiasis is to be condemned. The following type of case presents a problem which, according to hospital physicians in Ceylon, is not uncommon.

An engineer aged 26 complained of sore throat, headache, and pain in the right hypochondrium on respiration, one day after the ship reached a Ceylon port. He had no previous or present history of diarrhoea or similar pain, though sore throats and headaches were frequent. On examination an audible and palpable rub was noted in the right hypochondrium, basal rhonchi, large red tonsils, T. 103°. No other abnormal findings. His temperature fell to normal in three days, but the pain and rub persisted for three weeks in spite of rest in hospital ashore. Chest *x*-ray, differential white cell count, urine, and stools examined for cysts were normal. Apart from his pain he felt and looked fit. On return to the ship he was given a ten-days course of emetine hydrochloride, and local signs and pain disappeared after the fourth injection.

Hurst describes a supposed amoebic hepatitis in which the only symptom may be malaise and the only signs tenderness over the liver and an abnormal laevulose tolerance test. Sigmoidoscopy and stool examination and white cell count show no abnormality. He recommends repeated short courses of emetine hydrochloride for these cases.

Is a full course of emetine, emetine bismuth iodide, stovarsol, and chinoform justifiable in cases of subacute hepatitis which respond rapidly to emetine hydrochloride but have no amoebae in their stools, or evidence of ulceration on sigmoidoscopy?—I am, etc.,

RICHARD MEYER, M.B.,
Late Ship Surgeon,
London, W.1. Elderman Bucknall S.S. Co., Ltd.

Malaria and Salvarsan

SIR,—With the return of thousands of malaria-infected soldiers from the Tropics a timely warning against the dangers of malaria in general and of the administration of organic arsenicals in particular—either for treatment of syphilis in malaria patients or for other purposes—seems only too appropriate. The danger is especially great, as many people may suffer now and later on from malaria without knowing it; they might even have been infected in this country, where, as we all know, anopheles mosquitoes do exist. A friend of mine has already detected a case of malaria in an officer nine months after his return from Africa who never had an attack whilst abroad.

Administration of salvarsan preparations can give rise to a cerebral malaria which, if unsuspected, only too often tends to take a rapidly fatal course. In a publication, "Häufung von Malariatodesfällen nach Salvarsaninjektionen" ("Increase in Cases of Death from Malaria following Salvarsan Injections") (*Klin. Wschr.*, Vol. I, No. 28), 23 years ago, I stressed the importance of the necessity always to think of a possible malaria in febrile conditions of unknown origin, particularly in syphilitics and those patients whom one intends to treat with organic arsenicals for other reasons.—I am, etc.,

London, W.1. ERNST SKLARZ.

Methods of Venepuncture

SIR,—It goes without saying that any reasonable person will agree with Dr. Mendelssohn and Prof. Witts (June 16, p. 852) that everything used for venepuncture should be sterile wherever possible. I think, however, that they underestimate the difficulties of the under-staffed laboratory where the pathologist must do everything himself and at the same time handle large numbers of patients and specimens. The counsel of perfection is not easily attained under such circumstances, and I think that the method I have described has given too good results to be ignored. I may mention that the figures I gave (of over 40,000 such punctures) were not a mere guess but were founded on those taken from my card indices for annual return purposes.

As to the risk when the vein is missed, it should not be necessary to pull on the piston, as the blood appears spontaneously in the syringe when the vein is tapped. With regard to the possibility of bruising or haematomata resulting from the method, while it is impossible to ignore the impressive array of authorities that they quote, it may, I think, be sufficient to say that with this method such sequelae just do not occur; indeed, it is hard to see how they can. So far as "following-up" is concerned to ascertain the incidence, if any, of infection or haematoma, it may be mentioned that these cases afford an almost unique opportunity to do so, as they are cases of chronic rheumatism attending a large clinic, nearly all of them attending for many months, and some attending for a number of years, most of them being seen at frequent intervals. I am still seeing some who first attended in 1933. I may say that at no time has there been any evidence of jaundice or other infection.

I am, of course, only too acutely aware that it would be fatally easy to murmur *Experientia docet* and leave it at that. It might easily be alleged that no case of infective jaundice has yet come along to infect the instruments, though with such a large number of cases the possibilities would seem to be considerable. I am as anxious as Prof. Witts to avoid any mischance, and can assure him that he is mistaken in thinking that I treat this important part of my profession too lightly; I am quite prepared to use any better methods that may offer themselves. I do indeed remember the passively filled tubes used at Guy's years ago, but I also remember how extremely bad they were, how impossible to use on very small veins, and also what a row I got into with the contemporary professor for venturing to criticize them. In order to obtain enough blood before clotting occurred, cruelly large needles had to be used, even when a mouth-suction-tube was employed. I well remember how the patients, quite rightly, objected to them, and I have known them refuse to have any further punctures made with them after one experience. I soon gave them up, and used apparatus of my own. A venule is not bad, but it is hard to collect measured amounts with one, and it is never possible to be sure that the vacuum is really there when needed, though I have often re-evacuated them, using the makers' own method.

One thing, however, does emerge from this discussion—that venepuncture should not be entrusted to inexperienced persons. As house officers we always used to do them ourselves when they were not done by our superiors, and it is hard to see why the house officers of the present day should delegate the task to subordinates; with all due respect to those able women, it should be no part of a sister's duty. If such delegation is avoided, the risks of disaster such as that recently described should be eliminated.—I am, etc.,

Haywards Heath. J. W. SHACKLE.

Mono-articular Osteo-arthritis of the Hip

SIR,—In an interesting article on treatment of this condition Mr. Grant Waugh (June 23, p. 873) has stressed the value of acid injection of the joint. His technique, however, consists of two parts: (1) the injection and (2) very gradual manipulation, and *flexion-abduction-extension exercises, without weight-bearing, consistently and perseveringly carried out by the patient* (my italics). In my view it is these exercises that are the crux of successful treatment for this condition. They are simple and consist of: (*a*) flexion of thigh and flexion of knee on chest assisted by the patient's hands; (*b*) straight-leg raising to the perpendicular and then allowing the leg to fall at right angles to the trunk; and (*c*) abduction of both legs with the feet inverted. The patient should be taught how to do the exercises rhythmically, without jerk and with proper intervals of relaxation. Further, each exercise should be done up to a dozen times each morning with the patient lying on a bed or the floor. Then, if carried out consistently and perseveringly, there should be no need for injection of the joint or manipulation.—I am, etc.,

Bath. G. R. P. ALDRED-BROWN.

Puerperal and Lactational Mastitis

SIR,—With reference to the letter (June 23, p. 886) from Dr. V. Mary Crosse giving the incidence of mastitis in Birmingham during the past seven years I should like to take the opportunity of correcting a misapprehension on the part of Dr. Crosse. The figures published by me do not refer to the city of Dundee but to a much smaller town of some 43,000 inhabitants.—I am, etc.,

Public Health Department,
Dundee.

A. A. FULTON,
Maternity and Infant Welfare Medical Officer.

"Predisposition" to War Neuroses

SIR,—I concur with the views expressed by Dr. F. Dillon (April 21, p. 570). A full investigation into the records of the Service man who has seen action beyond what might be termed a given saturation period in this war is indicated. This is naturally only feasible if the Service medical branches either conduct it or open their otherwise secret records to outside investigators. A "combined operation" would be conducive to a balanced view, seeing that the rehabilitation period on discharge from the Forces would needs have to be included.

The personal as well as the family history of the patient would, in my submission, aid both the personnel selection departments of the three Services when the conscript enlists and for posting purposes on completion of initial training, and the Service medical branches who watch over the progress of the enlisted as a fighting man.

Dr. William Brown in his *Peace and War* (*Essays in Psychological Analysis*) has shown convincingly that war itself is a state of national neurosis. Neurotics of certain types appear and have proved themselves to be capable of excellent and brave conduct under fire, whereas the day-to-day existence of the average civilian would produce recurrent lapses into some form of delinquency or abnormality.

In my experience, however, the junior leader must have a stable personality. Leadership in the face of the enemy after all requires coolness as well as audacity, appraisal as well as love of danger, a feeling of high obligation both for the sake of personal prestige and in view of the position in the formation and the responsibilities that go with it. This equilibrium would appear to be lacking in a psychopathic personality.—I am, etc.,

Hempstead, Long Island, N.Y., U.S.A. K. H. STEIN.

Psychosomatic Factors in Disease

SIR,—Your correspondent Dr. Victor Leitner, in his letter on psychosomatic factors in disease (Feb. 17, p. 235), states that "it is just as dangerous to label as neurotic a patient with a *real* complaint as vice versa." What a deplorable observation! Does Dr. Leitner really suggest that the neuroses are not real complaints? His injunction to remember that "some chronic conditions of slow and insidious onset—e.g., pulmonary tuberculosis and pernicious anaemia"—may simulate neurotic illness long before any definite clinical signs can be elicited is important enough to warrant more than "a careful taking of the family history in cases of this sort." It cannot be too strongly emphasized that any fault in function, efficiency, or stability should be interpreted as a fault of the entire body mechanism and not as some purely local upset quite divorced from the rest of the body.

In endeavouring to identify whether an illness is predominantly physical or psychogenic a careful history is imperative. Search should be made for predisposing and precipitating factors. The duration, intensity, and appropriateness of the symptoms should be carefully elicited and considered, and a possible motive for the disability suspected when the symptomatology generally or the emphasis laid on a particular symptom is unusual, exaggerated, or incongruous.

For administrative purposes it is obviously important to reach a diagnosis. I cannot agree that the "labelling of a patient as neurotic" is in any way "dangerous." Such a classification should in no way preclude the early identification of organic criteria if these present themselves, provided that the physician in charge of the case is "psychosomatic conscious."—I am, etc.,

S.E.A.C.

E. STUNGO,
Major, R.A.M.C.

Venereal Disease Prophylaxis

SIR,—For years I have scanned medical literature in the hope of finding the announcement of a prophylaxis whereby "the man in the street" should, on occasion, protect himself from infection with the germs of venereal disease. In the meantime I have often seen in non-medical literature statements to the effect that in various parts of the British Empire the Government has had to spend larger sums on the treatment of venereal diseases than (say) on "poor relief."

In the last war, as a battalion medical officer, I had no great difficulty in carrying out the commanding officer's request that the unit be kept free from the incidence of venereal diseases when we were in certain areas. In this war during the past four and a half years I have not seen a single case of syphilis, gonorrhoea, or chancroids arising among the various Service units of whom I have been in medical charge. I ascribe this to the fact that men have fully co-operated in the work, after hearing that the prophylaxis advised would be absolutely effective and that its employment after every exposure would be as sure a sign of their culture as the daily use of their tooth-brushes, and that venereal diseases can only infect the ignorant, the careless, and the helpless. In some areas showers of well-meaning but inaccurate and rather hysterical pamphlets have proved, as I understand from medical and police authorities, a godsend to the gonococcus and the spirochaete, which will continue to sweep forward like the four horsemen of the Apocalypse until the medical profession mobilizes the forces of prophylaxis against them.—I am, etc.,

A. C. KIRTON.

The Cloistered Nurse

SIR,—There is much discussion to-day about the difficulty of finding candidates for the nursing profession. Even now there are hospital authorities who ignore many aspects of the problem.

Some years ago, when in municipal employ, I was acutely conscious of certain handicaps and discomforts of hospital life. I had a bed-sitting-room into which the sun never shone; here the day and night were disturbed by screams from the children's ward, groans from the old men, a gramophone above, and a piano below. Such "noises off" made life somewhat trying and were also audible from the nurses' quarters. On more than one occasion I was going round a ward with a junior nurse, in the absence of the ward sister or staff nurse, and had an opportunity to learn quite a lot. Several times I found these girls acutely unhappy, and several times I had to rush them into a side ward where they had a good cry. Between sobs I used to hear, "Oh, I've been in London five years and I haven't been in anybody's house once." As a Londoner who has been lonely in London I think I know what this means. If there is a normal then it is in the house and home and not in an institution. Both nurses and doctors have not only to work, but also to live, with people with whom they may have no affinity at all. One is tolerable for a few years in one's youth. The two together may become unbearable. Yet it is quite common to meet members of hospital staffs who are resident and who likewise confess in candid moments that they feel strange in a private house.

Now this is on the border line of sanity, and we should see to it that those who deal with the sick never get into this state. It is not so much a question of money as of imagination and humanity. After much effort I did manage to start a social club for the nurses. The opposition and the apprehensions which this step excited were quite amazing. Even now senior nurses are exposed to dragooning and coercion quite out of keeping with their status and their age. Municipal authorities are, I think, worse offenders than those of voluntary hospitals. It has not occurred to some that at the bedside something should go out of the medical and nursing attendants into the sick patient. And this intangible something, some little courage and cheerfulness, cannot be imparted if the staff, by the conditions of their living and employment, feel unhappy and humiliated. Everyone who has the care of sickness must feel a "person" to be able to do any good. It is to be hoped that in post-war medical schemes this point will not be overlooked. —I am, etc.,

B.L.A.

G. C. PETHER,
Major, R.A.M.C.

Examinations for Nurses

SIR,—One point in Mr. Wilfrid Adams's excellent letter (June 16, p. 857) drawing attention to the increasing burden of bookwork laid upon the student nurse seems to call for comment. He says that her studies are on a par with those of a medical student. This is not quite true in so far as the medical student does at least dissect the body, look down a microscope, use a stethoscope. He is not required, as the nurse is, to memorize like a parrot textbook descriptions of such things as the microscopic structure of tissues, the appearance of the commoner micro-organisms, the signs of pneumonia.

Those of us who are accustomed to teach student nurses must often have reflected upon the waste of time and effort involved in imparting and acquiring all this second-hand information which can have no greater practical or educational value to a nurse than a knowledge, say, of the anatomy of the fly's eye or the markings on Mars.—I am, etc.,

Hove.

CONSTANCE OTTLEY.

SIR,—As a State-registered nurse I have been reading with great interest the correspondence on the standard of the nurses' examination papers, and hasten to write in defence of the General Nursing Council and against lowering the standard.

In his letter of June 16 (p. 857) Mr. Wilfrid Adams states that by studying for such examinations a nurse becomes less proficient. Is this possible? A nurse practises her nursing procedure for 54 hours weekly and does all her studying and attends the majority of her lectures in her off-duty time. Whereby does the patient suffer? Or doesn't Mr. Adams think 54 hours weekly is long enough to practise nursing procedure? The knowledge of the course of disease, the treatment of it, and what complications to watch for surely impresses a nurse with the importance of her nursing care much more than orders issued by a "good sister" to do this or not to let the patient do that. Knowledge of the results which her efficient nursing is likely to produce surely urges her to put that little extra effort into her work that would be lacking with ignorance. Certainly encourage the art of nursing as much as possible, but what use would the art be in an emergency unless combined with knowledge? I would therefore say: teach her the technical side, and any nurse of average intelligence who is interested in her work will apply that teaching to the betterment of her nursing procedure.

There is no arguing the fact that there is a shortage of nurses, but improving the accommodation and recreational facilities is more likely to encourage a girl to the profession than cutting out some of the interest from the work; and increasing the domestic staff of hospitals would give the nurses more opportunity to practise the art of nursing. Even as theatre staff nurse of a big general hospital I spent many hours a week scrubbing floors when I could have been more profitably employed in teaching junior nurses.—I am, etc.,

Redruth.

JEAN L. PEARSON.

The Position of Medical Research

SIR,—I have searched the various political effusions dealing with proposals for a new era in health together with the more cautious proposals of medical bodies, and am surprised to find little or no attention being paid to that fountain-head of medical progress—namely, medical research.

At the present moment the greatest advances in medicine—such as sulphonamide therapy and penicillin therapy—come to us from the field of biochemistry. The opportunities available for those of us with the necessary academic qualifications to justify us working in this field are extremely small and poorly paid. Few can afford to exist upon the quite inadequate salaries—£400 a year is about the average—at present offered. Some of our best brains are earning good money in consulting medicine or surgery, and it is quite uneconomic to expect these men to sacrifice part or the whole of their incomes for the good of mankind.

Were it not for the security and fair pay offered by commercial concerns I doubt if we should have progressed as far as we have done. In industry one of the highest-paid employees is the research chemist. Why cannot research workers in medicine have similar security free from financial stress? In art it would seem necessary to be down at heel, penniless, and half starved before one can produce a masterpiece, but surely this should not apply to medicine. Perhaps the large insurance firms would find that a dividend could be paid from financing research in preventive medicine; it would certainly cut down the number and extent of the claims made against them for sickness and probably premature death.—I am, etc.,

Bebington, Cheshire.

JOHN HERBERT HANNAN.

Housing the Returned Consultant

SIR,—Col. T. W. Preston (June 23, p. 888) has touched the root of the problem. The "Harley Street tradition" dates from the days at the close of the last century when the majority of London consultants lived in this and neighbouring streets. Now that few actually live there, and those who practise are outnumbered by the "consultoids," the tradition has no foundation and must sooner or later collapse. The future of consulting practice lies with the hospitals—that is, consultants must see private as well as hospital patients at their hospitals and admit such as need institutional treatment into private or contributory wards. Only so can group investigations be arranged without loss of time or needless expense. Only so can the public be protected from exploitation and assured that they are getting specialist service in exchange for specialist fees. If hospitals will put facilities for interviewing and examining private patients, with reasonable attendance and secretarial help, at the disposal of members of their staffs, the majority of consultants returning from the Forces and the E.M.S. will gladly turn their backs on the *juju* of the brass plate.—I am, etc.,

London, N.W.8. W. H. OGILVIE.

SIR,—Major H. B. Stallard's recent letter has raised a wider issue. He very rightly stresses the difficulties confronting the returning Service doctor. These difficulties are in great part due to the inundation of the fields of British medical practice by alien doctors, who, in the first instance, sought sanctuary in this country. Our profession not only offered them hospitality but the means of livelihood in their need by admission to our *Medical Register*. The very political conditions which drove these men from their homelands have been reversed by the Allied Armies, and with these Armies went our own doctors: and here is the crux of the matter—many of our doctors are still there. For many of these this has meant the sacrifice of nearly six of their peak earning years. How is it possible to justify the retention of one British doctor in liberated Europe while there remains one refugee doctor in this country? Surely his claim to practise his own profession among his own folk is the privilege of any doctor. He should be afforded every facility to do so.

We have no doubt that this facility would be very acceptable to every British doctor whether still over-seas or, having served in the Forces, is now attempting to resume his pre-war vocation.—We are, etc.,

L. T. CLARKE,
Major, R.A.M.C.
R. S. MACHARDY,
Major, R.A.M.C.

Obituary

Dr. GEOFFREY HEMPSON died on June 2 after a long illness. He was educated at Sherborne and University College Hospital, taking the Conjoint qualification in 1915. He immediately joined the Army and served with distinction, reaching the rank of captain. On his return home he took the D.P.H., and after house appointments at U.C.H. and the Brompton Hospital, decided to specialize in tuberculosis, gaining the post of senior assistant medical officer at Pinewood Sanatorium. It was during his years there that he laid the foundation of that skill and knowledge which led to his appointment in 1927 as medical superintendent of the Royal National Hospital for Consumption, Ventnor, which he was to serve unremittingly until ill-health compelled his retirement in 1942. Geoffrey Hempson (writes A. K. M.) was above all a physician, skilled at his specialty and able to command the confidence of his patients through long spells of treatment. His great charm of manner and his innate kindness gained him the affection as well as the respect of his patients, and indeed of all the hospital staff. Nobody who worked under him will forget his kindness and courtesy. During his tenure of office considerable developments in the treatment of tuberculosis occurred, for this was the era of the wide development of artificial pneumothorax and thoracoplasty: Hempson kept the hospital fully abreast of these modern methods, and it was during this time that major thoracic surgery was first undertaken there by Tudor Edwards. He proved a skilful administrator, able to get discordant personalities to work together, and the building programme carried out at this time owed much to his wise advice. His love of animals and his knowledge of them were remarkable, and he was always to be seen early in the morning exercising his dogs, which he bred and showed with success. Hempson excelled at amateur theatricals and was never happier than when coaching the hospital staff for the annual Christmas show. His enthusiasm, his striking personality, and his histrionic ability made it difficult to live up to him on the stage, and he was the mainspring of a long succession of successful shows. The reorganization of the hospital to take casualties under the Emergency Medical Scheme threw a burden on Hempson; for his conscientiousness made him attend personally to the smallest details, and finally his health broke down and retirement became necessary. He leaves a wife and daughter.

Dr. JOHN H. MOIR, who died on June 7, was born at Newhall, in Derbyshire, son of J. H. Moir, M.D. Both his parents came from Aberdeenshire. He entered Aberdeen University as a medical student in 1901 and graduated M.B., Ch.B. in 1907, proceeding M.D. four years later; he also took the D.P.H. "Derbyshire" writes: To all his many friends the death, at 59 years of age, of John Hay Moir must come as a shock. After qualification he became house-surgeon at the Children's Hospital, Birmingham, and later was R.S.O. at Southwark Infirmary, and finally joined his father's practice in South Derbyshire. After the death of his father he remained in single practice until the outbreak of the last war, when he at once volunteered for service. While a lieutenant, R.A.M.C., he was decorated with the D.S.O. for an act of outstanding courage. Later, as a captain, he received the further awards of the Military Cross and bar, and was also twice mentioned in dispatches. His old friends in the 17th Royal Fusiliers and the 20th General Hospital will not forget his work and deeds on active service in France and the Mediterranean. In 1919 he returned to his practice and, when joined in partnership by Dr. E. M. R. Frazer in 1926, removed to the neighbouring district of Swadlincote, where he lived until his death. He was honorary surgeon to the General Infirmary, Burton-on-Trent, and examining surgeon to the Midland Colliery Owners Mutual Indemnity Company. In the latter appointment he displayed a unique knowledge of the application of the Workmen's Compensation Act to medical problems. His death after an illness of a few weeks leaves a sense of great personal loss to his medical colleagues and patients alike. His sterling character and shrewd clinical judgment were hidden under a quiet and slightly deprecatory manner. Though admitting no medical politics, he had the happy knack of contributing original suggestions at medical and lay meetings which carried real weight. Beneath it all lay a fine sense of humour, and many of his witty, and often disconcerting, remarks will be remembered and treasured. Jack Moir was a sportsman who loved life, his friends, his work, and his patients: and his many quiet kindly actions won him the gratitude and respect of all who knew him. Struck down by his fatal illness with appalling suddenness, and knowing he had not long to live, he remained to the end a very gallant man.

The death of Dr. VISHWA MITRA LAMBAH on May 12 has removed one of the most beloved and attractive figures from Bilston, where he practised medicine for many years. Born at Peshawar City, North-West Frontier Province, on April 2, 1887, he studied medicine first in Bombay and then at Edinburgh University, where he obtained the degrees of M.B., Ch.B. in 1912, and B.Sc. in Public Health. In 1914-15 he served in the Indian Medical Service and in 1916 became resident medical officer at New Cross Hospital. From 1916 until his death he worked as a general practitioner in Bilston, where he also held many appointments: acting M.O.H., police surgeon, examiner and lecturer for the St. John Ambulance Brigade, and A.R.P. medical officer to all the works in Bilston. Apart from this, Dr. Lambah took a vivid interest in social activities there and was president of the Bilston Horticultural Society for 7 years and president of the tennis club for 20 years, during which time he did much to improve them. He worked untiringly to promote friendship between the British and Indian peoples and was well equipped to do this, being closely associated with both. He was president of the Birmingham Indian Association, president of the Punjabee Society for 8 years, vice-president of the Indian Medical Association, vice-president of the Chief Punjab Association, and Trustee of the Indian Social Conference. He organized many receptions in London, Birmingham, and Wolverhampton to give us the opportunity of meeting representatives of India. Some notable instances were the receptions given to delegates of the three Round Table Conferences and the Indian cricket team. Dr. Lambah was a philosopher, patient and unassuming, always courteous and considerate—a character that will be sadly missed.—W. H.

Dr. **ALFRED G. S. BROUGHTON**, who had practised at Batley, Yorks, for 45 years, collapsed and died while playing golf at Howley on June 9. He was born in 1875, and after education at the Yorkshire College graduated M.B., Ch.B. of Victoria University in 1900. Dr. Broughton joined the honorary medical staff of the Batley and District Hospital in 1914 and was president 1938–41. He had been closely identified with ambulance work in the neighbourhood since 1907 and received the long service medal in 1924 as surgeon to the Dewsbury and District Corps; he was also a Commander of the Order of St. John of Jerusalem and a J.P. for the borough. He held office as chairman of the Dewsbury Division of the B.M.A. in 1922–3 and again in 1939–43, and had been president of the Yorkshire Branch. He was an enthusiastic musician and a pillar of the Batley Amateur Thespian Society, in whose orchestra he played for several years. His son, Dr. A. D. D. Broughton, also a past chairman of the Dewsbury Division, is serving as squadron leader in the R.A.F.V.R.

We regret to announce that Dr. **ROBERT CRANNA**, of Bolton, Lancs, died on June 12. He had been honorary secretary of the Bolton Division of the B.M.A. from 1923 and was elected chairman in 1939; he had also been a member of the Insurance Acts Committee for the past seven years. Born at Crimmond, Aberdeenshire, in 1876, he graduated M.B., Ch.B. at the University of Aberdeen in 1901 and four years later went to Bolton, where he built up a large practice and was a familiar and greatly respected personality. In 1923 he became honorary secretary of the Local Medical and Panel Committee and in 1935 was appointed its chairman and a member of the Bolton Insurance Committee. For the past four years he had been chairman of the local Medical Board responsible for passing men and women into the Services, and he was chairman and honorary secretary of several emergency committees dealing with practice in the borough. By the medical profession of Bolton and district the loss of Dr. Cranna will be sorely felt; they looked upon him as their counsellor and friend, and few can have given greater service to their fellow-practitioners or have been held in higher regard. He leaves a widow, a daughter, and three sons, two of whom are members of their father's profession, one being a major in the R.A.M.C.

Universities and Colleges

UNIVERSITY OF OXFORD

The Osler Memorial Medal for 1945 has been awarded to Prof. C. G. Douglas, D.M., F.R.S., Fellow of St. John's College.

At a Congregation on July 21 the degree of M.A., *honoris causa*, will be conferred on Col. L. M. Dyke, U.S. Army Medical Corps, officer-in-charge of the 91st General Hospital (Churchill Hospital).

On June 9 the degree of B.M. was conferred on D. F. van Zwanenberg in absence.

UNIVERSITY OF CAMBRIDGE

The following candidates have been approved at the examination indicated:

FINAL M.B.—*Part II (Principles and Practice of Physic, Pathology, and Pharmacology)*: D. G. Abrahams, D. A. Bailey, D. A. N. Barran, A. D. Beard, R. Bellamy, A. M. H. Bennett, J. G. Benstead, M. F. Bethell, P. F. Boreham, A. R. Buckley, A. R. C. Butson, R. E. Church, J. M. Cliff, N. K. Connolly, J. Crichton, D. E. Cullington, W. P. Dallas Ross, I. M. P. Dawson, J. A. R. Debenham, J. A. Dew, A. G. Dingley, A. C. Elithorn, A. M. Elliott, W. S. R. Fenton, J. F. Fisher, J. W. B. Forshaw, S. G. A. Forsyth, J. Gloster, R. A. Green, R. E. Gruchy, E. Halász, P. M. Jeavons, C. H. Kinder, J. B. Lawson, N. B. Malleson, H. R. Mallows, J. R. Moffat, J. P. D. Mounsey, G. R. E. Naylor, K. M. Nuttall, C. J. H. Paget, B. W. Pay, V. R. Pickles, D. A. Pyke, K. E. B. Read, J. W. T. Redfearn, J. A. Rycroft, D. N. Seaton, D. W. S. Sheldon, F. S. Sinker, J. C. Sloper, J. R. Smythies, R. E. B. Spencer, M. G. Thorne, A. J. Underwood Whitney, O. L. Wade, R. V. Walley, J. M. Walshe, W. Waugh, J. A. Waycott, E. J. M. Weaver, N. T. Welford, J. E. M. Whitehead, R. H. Whitworth, D. Wilkes. I. P. Williams, D. Wilson, R. B. Wilson, J. H. F. Wood, I. D. P. Wootton, S. P. Wrightson. *Women:* I. M. S. Chappel, P. J. Coope, C. E. Cooper, M. E. P. Hele, J. E. Keilin, M. M. Mason, L. A. Norris, H. M. Russell, C. N. Smith, J. Whitham, G. B. Wrong.

UNIVERSITY OF EDINBURGH

At a graduation ceremony, held on June 22, the honorary degree of LL.D. was conferred on Lieut.-Gen. Sir Alexander Hood, K.C.B., C.B.E., M.D., F.R.C.S.Ed., Director-General of Army Medical Services.

UNIVERSITY OF GLASGOW

At a graduation ceremony, held on June 26, the honorary degree of LL.D. was conferred on Major-Gen. Sir John Taylor, C.I.E., D.S.O., M.D., I.M.S. (ret.), late Director of the Central Research Institute, Kasauli.

The Harry Stewart Hutchison Prize for an essay on a subject connected with the health of children has been awarded to Marjory N. McFarlane, M.D.

UNIVERSITY OF ST. ANDREWS

At a graduation ceremony, held on June 29, the honorary degree of LL.D. was conferred on William Thomson Munro, M.D.St.And., F.R.C.P.Ed., late director of Glenlomond Sanatorium.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

His Majesty King Farouk of Egypt has sent a donation to the Restoration and Development Fund of the College. This gift is greatly appreciated by the Fellows and Members of the College as evidence of the importance which King Farouk attaches to the maintenance of close relationships between the Royal Medical Colleges of England and the Medical Faculty of the Egyptian University.

The Royal Egyptian Medical Association has sent a gift of £250, which, with the contributions from Egyptian Fellows of the Royal College of Surgeons, brings the contribution of medical colleagues in Egypt to over £1,000. This generous gesture is particularly valued, for the Royal Medical Colleges are very desirous of promoting good relations and cementing friendships between the members of the medical profession in our two countries.

ROYAL COLLEGE OF OBSTETRICIANS AND GYNAECOLOGISTS

In the report of the annual general meeting of the College (June 16, p. 857) there was the following omission:

Re-elected to the Council:—*Representatives of the Fellows:* A. M. Claye, H. J. Malkin, C. A. G. Macafee. *Representative of the Members:* H. R. MacLennan.

SOCIETY OF APOTHECARIES OF LONDON

R. J. Mitchell, M.B., D.R.C.O.G., has satisfied the examiners at the examination for the diploma of Mastery of Midwifery.

The Services

Acting Surg. Cmdr. R. S. Rudland and Surg. Lieut.-Cmdr. J. C. Moor, R.N.V.R., have been awarded the R.N.V.R. Officers' Decoration.

Temp. Surg. Lieut. A. K. Mighton, R.C.N.V.R., has been appointed M.B.E. (Military Division) for bravery, determination, and great devotion to duty while serving in H.M.S. *Affleck*, when an explosion caused the whole of the ship to be penetrated by chlorsulphonic acid fumes. In spite of the appalling conditions the casualties were properly tended and the ship brought back to safety.

Major I. Mackenzie, R.A.M.C., has been appointed M.B.E. (Military Division) and Major (Temp.) G. E. Parker, R.A.M.C., has been awarded the D.S.O. in recognition of gallant and distinguished services in the field.

Major J. T. Macdougall, R.C.A.M.C., has been awarded the D.S.O., and Lieut. R. H. Jackson, R.A.M.C., the M.C., in recognition of gallant and distinguished services in Italy.

Capts. W. A. Lopez and L. P. De Souza, I.A.M.C., have been awarded the M.C. in recognition of gallant and distinguished services in Burma.

The following have been appointed to the Civil Consulting Staff of King Edward VII's Convalescent Home for Officers at Osborne, Isle of Wight: Sir Francis R. Fraser, M.D., F.R.C.P., Brig. W. Rowley Bristow, F.R.C.S., Sir Claude Frankau, C.B.E., D.S.O., M.S., F.R.C.S., Prof. J. Paterson Ross, M.S., F.R.C.S., Mr. G. T. Mullally, *M.C.*, M.S., F.R.C.S., Dr. F. M. R. Walshe, O.B.E., F.R.C.P., Brig. D. Evan Bedford, M.D., F.R.C.P., and Surg. Capt. W. D. W. Brooks, D.M., F.R.C.P., R.N.V.R.

The following appointments, awards, and mentions have been announced in recognition of gallant and distinguished services in Italy:

C.B.E. (Military Division).—Brigs. (Temp.) J. H. Bayley, M.C., J. G. Morgan, O.B.E., T.D.; Brig. (Acting) J. M. Mackenzie, O.B.E., M.C.; Brig. (local) F. A. R. Stammers, R.A.M.C.

O.B.E. (Military Division).—Lieut.-Col. R. L. Turner; Lieut.-Cols. (Temp.) T. M. R. Ahern, C. G. Baker, V. J. Downie, D.S.O., M.C., W. H. Gabb, W. Graham, J. H. Hutchison, and K. McNeill, R.A.M.C.; Col. (Temp.) R. L. Raymond and Lieut.-Col. (Temp.) W. H. A. Thorne, I.A.M.C.

M.B.E. (Military Division).—Majors (Temp.) F. W. Bunting, G. J. Cleland, H. G. Estcourt, T. E. Field, D. B. Jagger, B. J. Malley, J. Mason, J. M. McKiddie, R. L. Orchardson, D. L. Owen, and J. McL. Ross; Capts. R. J. A. Macdonald and J. B. Wyman, R.A.M.C.; Major (Temp.) A. K. Dutt, I.A.M.C.

D.S.O.—Lieut.-Cols. (Temp.) J. N. Groves and D. Wright, R.A.M.C.; Lieut.-Cols. (Acting) H. F. T. Macfetridge and N. A. A. Khan, I.A.M.C.

M.C.—Majors (Temp.) H. J. Minford and R. Waddell, Capt. G. Patton, and Lieut. W. S. Roderick, R.A.M.C.; Capts. S. Kesavulu, G. D. Koshal, and S. Mascarenhas, I.A.M.C.

Mentioned in Dispatches.—Lieut.-Cols. M. R. Elliott and E. C. Janes; Majors E. H. Anderson, D.S.O., R. W. Boyden, D.S.O., J. U. Coleman, J. A. Langille, and A. St. C. Rumball; Capt. (Acting Major) H. V. G. Latour; Capts. E. Aiello, R. J. Fassina, W. L. Menzies, J. Mitchell, H. L. Nutik, J. P. Pearce, H. M. Ross, and T. H. Smellie, R.C.A.M.C.

The following appointments, awards, and mentions have been announced in recognition of gallant and distinguished services in North-West Europe:

O.B.E. (Military Division).—Cols. (Temp.) S. O. Dolan, D. L. Kerr, T.D., M. A. Rea, and T. H. Sarsfield; Lieut.-Cols. (Temp.) W. J. M. Brandon, J. H. Dunn, T.D., M. de Lacey, T.D., A. McG. Michie, J. M. Scott, John Smith, and R. S. Taylor, T.D., R.A.M.C.

M.B.E. (Military Division).—Major (Temp.) J. MacP. Harker and Lieut. G. Ollerenshaw, R.A.M.C.

M.C.—Majors (Temp.) H. O. P. McSheehy, C. A. G. Cook, G.M., A. F. Wallace, and Gordon Williams; Capt. G. V. Cole, R.A.M.C.

Mentioned in Dispatches.—Col. G. E. Wight; Lieut.-Col. (Acting Col.) R. H. Cooper; Lieut.-Cols. C. D. S. Leef and D. F. W. Porter; Majors G. A. W. Curric and W. S. Keith; Capt. (Acting Major) J St. C. Moffat; Capts. H. H. Chase, M.M., N. Kaufman, A. H. Megill, A. L. Richardson, and R. W. Tisdale; Lieuts. J. J. H. Connors and B. G. Turnbull, R.C.A.M.C.

The following appointments, awards, and mentions have been announced in recognition of gallant and distinguished services in the Mediterranean theatre:

C.B.E. (Military Division).—Brig. (Temp.) R. A. Hepple, O.B.E., M.C., late R.A.M.C.

O.B.E. (Military Division).—Lieut.-Cols. (Temp.) S. A. MacKeith and A. H. Penman, R.A.M.C.

M.B.E. (Military Division).—Major (Temp.) B. P. R. Hartley and Capt. J. B. Brown, R.A.M.C.

M.C.—Major (Temp.) C. MacT. Hopkins, R.A.M.C.

Mentioned in Dispatches.—Brig. (Temp.) F. R. Sandford, C.B.E., M.C., T.D., Major (Temp.) A. E. Paxton, and Capt. J. P. Irwin, R.A.M.C.

The following appointments and awards have been announced in recognition of gallant and distinguished services in Burma:

C.B.E. (Military Division).—Brig. (Temp.) W. E. R. Dimond, C.I.E., O.B.E., I.M.S.

O.B.E. (Military Division).—Cols. (Temp.) F. K. Bush and R. V. Franklin; Lieut.-Cols. T. E. A. Carr, T.D., and H. R. Sheppard; Lieut.-Col. (Acting) M. MacR. Paterson; Lieut.-Cols. (Temp.) J. B. Bunting, J. B. M. Milne, M.B.E., and R. P. Smyth, R.A.M.C.; Col. (Temp.) F. R. Cawthorn, I.M.S.

M.B.E. (Military Division).—Capt. W. N. Calder, R.A.M.C.; Capts. C. K. Hassan, L. McA. Hogg, and S. S. Grewal, I.M.S.; Capt. (Temp.) M. M. K. Najam, I.A.M.C.

M.C.—Capts. J. A. Chamberlin, H. D. Cockburn, H. M. Jamison, M.B.E., and E. D. Kerr, R.A.M.C.; Capt. C. K. Rao, I.M.S.

CASUALTIES IN THE MEDICAL SERVICES

Died on active service.—Col. Basil Cedric Ashton, C.B.E., I.M.S.

Missing from Singapore since February, 1942, now reported to have died of dysentery as a prisoner of war in Rangoon on Aug. 31, 1942.—Major Hugh McPherson Kilgour, R.A.M.C.

DEATHS IN THE SERVICES

Lieut.-Col. JOHN CHARLES LAMONT, C.I.E., I.M.S., died on June 19 in Edinburgh at the ripe age of 80. He was educated at the Liverpool College and Edinburgh University, where he graduated M.B., C.M. in 1885 with first-class honours. In 1886–7 he was demonstrator of anatomy in the University, an appointment which determined his life's work. In 1887 he entered the Bengal Medical Service and saw active service with the Chin-Lushai Expedition of 1889–90 and the Munipur Expedition in 1891, receiving the Frontier medal with clasp. Three years later he was appointed professor of anatomy in the Punjab University at Lahore, a post that he occupied with distinction until 1906, when he went on leave preparatory to retiring in 1908 from the Indian Medical Service. He immediately took up the post of lecturer on anatomy, University College, Dundee, which he filled from 1906 to 1914, and for three years he was examiner in anatomy at the Royal College of Physicians of Edinburgh. He published a number of papers in the *Journal of Anatomy*, and was elected to F.R.S.Ed. in 1920. In 1914 he volunteered for military service, was re-employed by the Government of India, and was awarded the C.I.E. in 1919. His recreations were fishing and golf, and he was one of the five original members of council of the Clan Lamont Society, founded in 1895. His wife, a daughter of Stephen Adam, of Edinburgh, died in 1935, and in 1940, to commemorate her, he magnanimously gave his house at 7, Merchiston Park to the Corporation of Edinburgh, with the suggestion that it should eventually be used as a rest or convalescent home for their employees, though it has been used during the present war as an A.R.P. depot. Col. Lamont was a sound anatomist with wide interests and many friends and admirers. He had unbroken membership of the B.M.A. from January, 1888.

Medical Notes in Parliament

Diphtheria Statistics.—The following information was given by Mr. WILLINK in reply to questions on June 7: (1) According to returns received from all but a few local authorities in England and Wales the number of notifications of diphtheria during 1944 in children under 15 who had completed the course of immunization was 4,633, compared with 12,455 cases in non-immunized children. (2) Returns from local authorities in England and Wales, which do not include immunizations by doctors in private practice, show that during the year 1944 approximately 386,240 children under 5 and 175,080 between the ages of 5 and 15 were immunized against diphtheria. (3) 23,152 cases finally diagnosed as diphtheria were notified in England and Wales during 1944. Deaths from that disease registered in the same period are provisionally numbered at 934.

Tuberculous Persons in Prisons.—Sir DONALD SOMERVELL told Dr. Summerskill on June 7 that much attention had been given of recent years to prisoners suffering from tuberculosis. *X*-ray examinations were made in doubtful cases; and the prison medical officers received valuable help from the local tuberculosis officers. Care was taken to keep tuberculous prisoners whose condition was infectious apart from others. At prisons where there were several such prisoners special working parties were arranged. Where possible they were employed on light gardening work.

Ministry of Health Nursing Staff.—In the Ministry of Health nursing division the professional staff wholly engaged on nursing questions comprises one chief nursing officer, two deputy chief nursing officers, and 23 nursing officers, of whom three are permanent. In addition there are on the public health side 18 officers with nursing qualifications. The future complements are under discussion.

Vaccination and Death Certificates.—Mr. VIANT inquired on June 7 how many death certificates were received in the year 1944 in which vaccination, vaccinia, post-vaccinal encephalitis, generalized vaccinia, or any other symptom connected with vaccination was given as the cause or one of the causes of death. Mr. WILLINK replied that deaths of the type indicated which were registered in England and Wales during 1944 numbered 12. These were assigned as follows: vaccination 2, vaccinia 2, post-vaccinal encephalitis 4, generalized vaccinia 2, encephalitis myelitis 1. In addition vaccination was mentioned on the death certificate in the case of 1 death assigned to septicaemia.

Training of Midwives in Gas-and-air Analgesia.—In reply to Dr. Summerskill on June 7 Mr. WILLINK said that out of 188 local supervising authorities in England and Wales, 101 had made arrangements before Dec. 31, 1943, for the instruction of their midwives in the administration of analgesics in childbirth. The corresponding figure in the 1938 returns was 30, but there is reason to think that this was an understatement.

Notes in Brief

Mr. Butler states that miners partially disabled by silicosis or pneumoconiosis are eligible for the training and other facilities now provided to assist the resettlement of disabled persons. A number have secured satisfactory employment in this way. These cases will also be eligible for the further facilities to be provided under the Disabled Persons (Employment) Act which are in active preparation.

The Teviot Committee on Dentistry is proceeding with its inquiry as speedily as possible, but Mr. Willink cannot say when the final report will be presented.

The total number of experiments on animals performed during the year 1943 was 1,170,412, a large number of which were simple inoculations and similar proceedings performed either on behalf of official bodies with a view to preservation of the public health or directly for the diagnosis and treatment of disease in man or animals. Figures for 1944 are not yet issued.

The National Insurance (Industrial Injuries) Bill was introduced on June 12 and printed.

Mr. Harold Macmillan states that the release of students from the Services is under consideration.

In the ten-year period April, 1924, to March, 1934, 46,979 dwellings were erected by the L.C.C. For the ten-year period April, 1934, to March, 1943, the figure was 33,836, of which 30,189 houses were completed before new housing operations were suspended in September, 1939.

Payments made by the Exchequer for tuberculosis allowances during the year ended March 31, 1945, amounted to approximately £650,000.

The Trinidad Committee of Investigation on Local Medical Services has completed its survey. The committee's report has been published in Trinidad as a Legislative Council Paper. Copies should be available shortly at the Crown Agents for sale in the United Kingdom.

Medical News

A lecture on the war in the Pacific will be given by Brig. W. A. Hailes, C.B.E., D.S.O., Director of Surgery, Australian Military Forces, in the new lecture theatre, Radcliffe Infirmary, Oxford, at 5 p.m. on Friday, July 13.

The second annual conference to discuss the study of seminology is being held under the auspices of the Family Planning Association, at the School of Agriculture at Cambridge, on July 14 and 15.

A meeting of the Ross Institute Industrial Advisory Committee will be held at the Rubber Growers' Association, 19, Fenchurch Street, E.C., on Thursday, July 12, at 2.30 p.m., when Dr. G. Macdonald will speak on "Recent Developments in Tropical Hygiene." A discussion will follow.

A meeting of the Medico-Legal Society will be held at 26, Portland Place, W., on Thursday, July 19 (immediately after the annual general meeting at 5 p.m.), when the president, Mr. Roland Burrows, K.C., will give an address on "Some Thoughts on Crime."

Prof. A. V. Hill, Sc.D., Senior Secretary of the Royal Society, left England on June 26 for Copenhagen to convey the greetings of the society, as representing the men of science of Great Britain, to their Danish colleagues, and through the Academy of Sciences in that country to discuss with them what aid British science can give to the rehabilitation of science and scientific education in Denmark. After three days in Copenhagen Prof. Hill went to Oslo for the same purpose and was received at an extraordinary meeting of the Norwegian Academy of Sciences.

A Standing Advisory Committee on Artificial Limbs has been appointed by the Minister of Pensions under the chairmanship of Sir Charles Darwin, F.R.S. The other members are: Dr. A. W. J. Craft, Lieut.-Col. A. L. Eyre-Brook, F.R.C.S., Mr. E. Ramsay Green, Prof. T. P. McMurray, F.R.C.S.Ed., Mr. L. P. B. Merriam, Mr. George Perkins, F.R.C.S., and Sir A. Rowland Smith. The secretary to the committee will be Mr. K. S. Watt.

Raymond Lewthwaite, D.M., Field Director, and Kenneth Mellanby, Sc.D., Experimental Biologist, Typhus Research Commission, have been appointed O.B.E. (Civil Division) for services to the Forces in India.

A. L. Banks, M.D., M.R.C.P. (Lincoln's Inn), and M. MacGregor, M.D. (Middle Temple), were called to the Bar on June 13.

At the June meeting of the Council of the Royal Sanitary Institute, Mr. David M. Watson, B.Sc., M.Inst.C.E., was elected chairman, to take office on Oct. 1, 1945.

EPIDEMIOLOGICAL NOTES

Discussion of Table

In *England and Wales* notifications of whooping-cough rose by 97 cases, of dysentery by 38, and of diphtheria by 15; there were 573 fewer notifications of measles, and 95 of scarlet fever.

There were only small changes in the local trends of scarlet fever: Essex reported 20 fewer cases than last week. Lancashire reported 20 more cases of diphtheria, Essex 11, and Durham 10. Yorks West Riding had 156 fewer notifications of measles, and Kent 153; the largest rise was 112 in Berkshire.

A large outbreak of dysentery, involving 113 persons, was reported from Worcestershire, Malvern U.D. The other large returns were London 49, Lancashire 44, Buckinghamshire 43, Middlesex 27, Surrey 26, Northumberland 24, Warwickshire 15, Devonshire 14, Berkshire 11, Southampton 10.

In *Scotland* dysentery notifications fell by 42—making the total half that of a fortnight ago, and the lowest since the beginning of January. The notifications of diphtheria increased by 10; Glasgow had 11 more cases than last week.

In *Eire* measles notifications rose by 30, and whooping-cough by 26, but those for diphtheria fell by 9. The largest returns for measles were Dublin C.B. 30, and Wexford, Wexford U.D., 13, and for whooping-cough Dublin C.B. 25, and Wexford, Gorey R.D., 12.

In *Northern Ireland* the incidence of diphtheria increased by 7, and of scarlet fever by 10, while whooping-cough fell by 12.

Plague in Malta

The diagnosis of 4 cases of bubonic plague in Malta has been confirmed.

Week Ending June 23

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,237, whooping-cough 1,117, diphtheria 422, measles 6,626, acute pneumonia 376, cerebrospinal fever 46, dysentery 287, paratyphoid 4, typhoid 7.

No. 24

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended June 16.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1945					1944 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever	47	6	29	2	2	58	4	29	2	—
Deaths		1	—				—	1		
Diphtheria	438	25	113	69	17	456	23	111	82	20
Deaths	5	—	2	—	—	6	1	—	—	—
Dysentery	464	49	77	2	—	191	28	63	3	—
Deaths				—	—				—	—
Encephalitis lethargica, acute	—	—	—	—	—	—	—	—	3	—
Deaths		1					—			
Erysipelas			47	11	1		—	44	8	3
Deaths		—					—			
Infective enteritis or diarrhoea under 2 years				34					17	
Deaths	45	4	8	6	3	43	10	12	10	3
Measles*	7,890	412	351	70	9	2,623	199	429	134	43
Deaths	4	—	1	—	—	—	—	3	—	—
Ophthalmia neonatorum	57	6	27	—	—	63	9	24	—	—
Deaths										
Paratyphoid fever	1	—	1 (B)	—	—	5	—	—	2 (B)	—
Deaths	—	—	1	—	—	—	—	—	—	—
Pneumonia, influenzal†	389	20	16	1	4	490	40	3	6	3
Deaths (from influenza)	14	2	—	—	2	6	1	—	—	—
Pneumonia, primary ..			194	18				199	19	7
Deaths		23		8	9		23		3	
Polio-encephalitis, acute	1	—				2	—			
Deaths		—					—			
Poliomyelitis, acute ..	6	—	2	1	2	11	—	1	—	—
Deaths		—					—			
Puerperal fever		1	15		1		4	18		—
Deaths										
Puerperal pyrexia‡ ..	129	8	17	4	—	167	15	15	4	3
Deaths		—					—			
Relapsing fever ..	—	—			—	—	—			—
Deaths										
Scarlet fever	1,314	65	201	18	44	1,544	86	212	28	65
Deaths	—	—	—	—	—	2	—	—	—	—
Smallpox	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Typhoid fever	5	—	2	2	—	8	—	2	6	—
Deaths	—	—	—	—	—	1	—	—	—	—
Typhus fever	1	1	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Whooping-cough* ..	1,130	48	97	54	8	2,628	250	197	64	17
Deaths	4	1	2	1	1	15	1	2	3	—
Deaths (0–1 year) ..	305	34	55	19	22	315	40	57	22	16
Infant mortality rate (per 1,000 live births)										
Deaths (excluding stillbirths)	3,901	573	548	189	117	3,943	622	587	176	112
Annual death rate (per 1,000 persons living)			12·4	12·2	§			13·5	11·4	§
Live births	6,895	811	928	410	257	7,525	864	906	407	298
Annual rate per 1,000 persons living ..			18·6	26·5	§			18·4	—	§
Stillbirths	238	30	42			228	27	39		
Rate per 1,000 total births (including stillborn)			43					41		

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

‡ Includes puerperal fever for England and Wales and Eire.

§ Owing to movements of population, birth and death rates for Northern Ireland are still not available.

Letters, Notes, and Answers

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ANY QUESTIONS?

Industrial Dermatitis

Q.—*A patient weighs out and mixes arsenic powder in an atmosphere of alkali powder and cobalt powder. He has a rash on his face. What should be done to prevent this? Would a cream be of any use?*

A.—There are worse things than a rash on the face, and the materials used and the circumstances suggested make it seem that fume-cupboard conditions are advisable. The rash on the face may be caused (or aggravated) by the exposure described; on the other hand, it might be unconnected with the work. A dermatologist's opinion would seem desirable. Barrier preparations are not, of course, intended for the treatment of skin conditions, and some types are definitely unsuitable for application to an inflamed skin. For prophylaxis, reduction to a minimum of exposure to the powdered ingredients and scrupulous cleanliness would be preferable to barrier creams.

Survival of Tubercle Bacilli

Q.—*Is a country house, with its own water supply and sanitary arrangements, which up to 2 years ago was occupied by a man aged 30 who died from pulmonary tuberculosis, fit to be taken by people with a young child? They are afraid the child might contract tuberculosis from the dust, etc., of this house. Fumigation was done by the public health authorities 2 years ago, and it has since been occupied by people with no children. How long can tubercle bacilli live in dust and dark rooms?*

A.—There should be no risk of infection from the tubercle bacillus in a house which was last occupied by a patient two years ago. There are few records of the survival of the tubercle bacillus outside the animal body for longer than two or three months. Under the most favourable conditions as regards darkness and moisture to which the bacillus is ordinarily exposed, the longest recorded period of survival is about six months, and this appears to be exceptional.

Premature Systoles

Q.—*What treatment would you advise for premature systoles? Causal factor unknown. Tobacco eliminated. Bromides have been tried.*

A.—Sepsis—oral, nasal, urinary, and genital—must be considered; also excess of tea or coffee and disturbances of gastric or gall-bladder origin. But unless the premature systoles worry the patient, treatment of them is really superfluous. Quinidine, or quinine, sometimes may abolish them, or small doses of phenobarbitone. Some authorities have found that a grain or so of digitalis leaf daily is effective. Last and not least is the careful consideration of the patient's general health. A run-down condition, overwork, overstrain, and worry may all play a part in the causation of premature systoles.

Acupuncture

Q.—*What exactly is acupuncture? Is treatment by this method ever used to-day? I once read in an old medical journal that Sir James Simpson, who thought he had discovered this treatment and obtained such wonderful results from it, believed that after his death he would be remembered more for acupuncture than for chloroform.*

A.—A brief note in Comroe's *Arthritis* mentions that acupuncture was first described about A.D. 300 in a treatise by Huang Fu. If it had been of any real value it would hardly have been lost sight of and rediscovered from time to time. It is probably simply a form of counter-irritation akin to the seton fashionable in pre-antiseptic days. Puncture with a needle conveying an electric current is sometimes advised as a method of detecting the tender trigger points in fibrositis, but otherwise the only modern method of this kind is injection of analgesic substances such as procaine into tender areas in fibrositis and traumatic conditions such as strains.

Synovitis and Synovectomy

Q.—*A male aged 30 has during the past year had several attacks of synovitis of the left knee-joint. There was no definite history of trauma, but he thought that the swelling first appeared a few days after a strenuous game of squash. After periods of splinting and firm bandaging the fluid diminished, only to recur within a few days of support being removed. Never any pain or tenderness, no limitation of movement apart from that consequent upon the presence of fluid. X-ray examination shows no abnormality, and no constitutional cause is discoverable. He has been advised to have an operation for synovectomy. What are the results of this operation, particularly with regard to range of movement usually obtained post-operatively?*

A.—Without clinical examination it is not permissible to give a diagnosis on the evidence available. On the face of it synovectomy appears to us a rather heroic measure in the circumstances as described. Synovectomy is an operation the indications for which have not clearly been laid down as yet. Two conditions of the knee-joint in particular do call for it: (*a*) chronic villous arthritis which has not responded to other measures; (*b*) synovial osteochondromatosis. In rheumatoid arthritis, where the changes are predominantly of synovial type with more or less hydrops which does not respond to conservative measures, we have another possible indication. For rheumatoid and osteo-arthritis of the ordinary types the procedure is, however, still in the experimental stage. Very few series of cases have been described, yet the present writer is convinced of the value of the procedure in well-selected examples. The ease with which movement is restored is sometimes quite remarkable, and obviously there must be considerable powers of regeneration.

The question often brought up is whether the patella should be excised. There may be an indication for this, more especially in osteo-arthritis, but one feels that to do it at the same time as synovectomy very much complicates the after-treatment. The repair of the quadriceps after patellectomy adds difficulty when one wishes to begin early movements for the synovectomy. One's impression is that synovectomy improves the whole arthritic process probably by improving vascularity. After synovectomy one expects to obtain flexion of the knee-joint at least to a right-angle, which is sufficient for ordinary use.

Treatment of Hirsutism

Q.—*Is short-wave diathermy a practicable method of treatment for hirsutism? If so, how is it carried out and with what results? I have heard of long-wave diathermy being used (as surgical diathermy). Electrolysis seems the best method.*

A.—In short-wave diathermy the electrodes must be placed some centimetres distant from the skin to avoid a burn, which would result from direct contact. It follows that as the heating effect is diffused over a varying area, treatment of this kind can have no application in the removal of superfluous hair.

Long-wave diathermy is used to remove superfluous hair, but it is open to question whether the results are superior to the old-fashioned constant-current battery, with needle attached to the *negative* pole. Scarring cannot be avoided, nor does electrolysis prevent growth of new coarse hair. Nevertheless, the patient feels and sees that something is being done. Removal with wax, as carried out in reputable establishments, gives a good temporary depilation. Only rarely can patients be persuaded to shave, although this is by far the best procedure. On no account should *x*-ray treatment be countenanced.

Removing Buried Tonsils

Q.—*In tonsillectomy by dissection, in the case of buried and very adherent tonsils, under general anaesthesia, is it safe to infiltrate the capsule by injecting a weak solution of novocain with adrenaline in order to facilitate removal?*

A.—It is quite safe unless chloroform is being administered. Incidentally, saline and weak adrenaline is as efficacious as novocain and adrenaline in reducing haemorrhage. It is, however, doubtful if any infiltration will be of much assistance.

Vulval and Pubic Boils

Q.—*A woman patient aged 57 is troubled with recurrent boils affecting chiefly the vulval and pubic regions. Can you suggest the treatment? The urine contains neither sugar nor albumin.*

A.—The treatment of boils affecting the vulval and pubic regions does not differ materially from that of boils occurring in other moist situations. If all the usual methods of treatment have been tried without success the use of penicillin is recommended. This should be applied as a spray, a solution containing 1,000 Oxford units per c.cm. being most likely to be effective; if a fine spray is used very small quantities are required. Needless to say it should be determined first whether the infecting organism is penicillin-sensitive. If penicillin is not available, local applications of sulphonamide powder or cream may be tried, but should not be used for more than a few days for fear of sensitizing the patient.

Allergy to Alkaloids

Q.—*A pharmaceutical chemist suffers from asthmatic attacks when engaged on preparation of hypodermic tablets of morphine, atropine, and heroin. Patch tests and intradermal injections of minute quantities of these drugs produce large wheals. Do alkaloids cause the attacks, or can they be attributed to an excipient? Should these drugs be avoided in a future illness?*

A.—Dermatitis has been described from contact with opium and belladonna and their alkaloids, and rashes sometimes occur after ingestion of these drugs. It is therefore probable that the asthma in this patient is the result of inhalation of the powdered alkaloids. The mechanism in these and other drug allergies is a combination of the drug with body protein to form an allergen to which the individual becomes sensitized, and it is therefore probable that an allergic reaction would occur if the drugs were given by mouth or parenterally. It is also probable that the patient would react unfavourably to any of the opium or belladonna alkaloids. It would nevertheless be desirable to carry out tests with the excipient to exclude the possibility that this is the harmful substance. Patients can often be desensitized to drugs to which they are sensitive, but this may not be practicable here owing to the pharmacological actions of the alkaloids.

Treatment of Menopausal Flushes

Q.—*A woman aged 42 is very inconvenienced by hot flushes, which began 18 months ago when menstrual periods became irregular. They were completely cured by hexoestrol 2 mg. daily, and periods started again and were normal for a few months. Periods ceased again (hexoestrol had been reduced) and flushes became marked. Hexoestrol 3 mg. given daily. Flushes better and had normal period, but flushes started intensely during this period and have continued since. She is a stable type, not neurotic, but the flushes are unpleasant and tiring. Her weight is 12 st. 4 lb., slightly increasing. Suggestions for treatment would be welcomed.*

A.—The fact that the flushes initially responded to oestrogen is suggestive that they are a climacteric manifestation. That they no longer respond is probably because the dose employed has been heavy and the treatment prolonged, so the patient has become resistant to it. This being the case, oestrogen therapy should be abandoned—at any rate for the time being—and instead thyroid should be tried, beginning with 1 gr. daily and gradually increasing the dose, short of producing toxic symptoms. Calcium in large doses (45 gr. daily), and synthetic vitamin E (3 mg. b.i.d.) might also be helpful. Although the woman is of stable type, general measures, sedatives, reassurance, and protection from nervous and physical strain remain important in treatment. An attempt to reduce the patient's weight by dieting should also be made.

If after 4 to 6 months the flushes remain troublesome, oestrogen therapy might be tried again, but the dose should be much smaller—insufficient to produce further uterine bleeding, and just sufficient to reduce the number of flushes and not to abolish them. Oestrone, or one of its esters, 0.1 to 0.3 mg. t.d.s. by mouth, should be adequate, and after 2 or 3 weeks' treatment at this level the dose should be *gradually* reduced week by week, and discontinued within 2 to 3 months.

Adder-bites

Q.—*In certain parts of the Scottish Highlands during the summer numerous adders are to be found, and occasionally adder-bites give rise to serious emergencies. What is the up-to-date treatment of the condition, "first-aid" and "long-term"? Is antivenom readily obtainable? Is it stable, and will it keep "in stock"?*

A.—The only poisonous snake in Great Britain is the adder or common viper (*V. berus*), which is more frequently met with in the northern parts of the island. Though the venom is poisonous its bite is not very dangerous to adults, yet with children there is more serious danger. A fatal result is rare. The venom of the viper contains haemorrhagin—a proteolytic poison which causes great local swelling and may lead to intravascular coagulation if the poison gets into the blood stream. There is also a small proportion of a toxin which affects the nervous system. The symptoms which result from the bite come on within a few minutes, and consist of swelling round the bitten part, and later collapse and peripheral circulatory failure if the venom enters the general circulation.

The immediate treatment is to prevent the poison getting into the general vascular system. This is achieved by the immediate application of a tourniquet tied on the limb (generally the leg) proximal to the bite. The tourniquet must not be left on for more than half an hour without temporary relaxation. Meanwhile an incision should be made at the bitten area and an attempt made to suck out the poison. Preferably this should be done by mechanical means, but it may be necessary to use the mouth when nothing else is at hand. Some authorities state that the injection of a few cubic centimetres of a 1% solution of potassium permanganate into and around the wound will destroy all the poison not yet absorbed. If general symptoms supervene restorative measures must be adopted—e.g., warmth, the administration of fluids (tea and coffee) by the mouth, and in extreme cases blood transfusion. The administration of strychnine and morphine is forbidden, for these drugs make matters worse; nor should alcohol be given if an anti-serum is to be administered.

Antivenom is not readily obtainable in this country, for it is not made in any of our laboratories. It can be obtained from India, from at least one place on the Continent, and from America. Since the serum is sufficiently stable and will keep for a year or more it could be kept in stock. When available the serum is injected into the subcutaneous tissue of the lateral abdominal wall. Doses of 10, 20, or 30 c.cm. may be necessary.

Action of D.D.T.

Q.—*In what way does D.D.T. prove lethal to pediculi, flies, cockroaches, etc.?*

A.—D.D.T. is a contact poison: that is to say, contact with the dry powder or with drops of a solution of D.D.T. is fatal to most types of insect. The lethal dose is much lower than that of any of the usual synthetic insecticides. Its action is rather slow, so that an affected insect may not die for several hours, but in the meantime it will exhibit characteristic symptoms (continuous unco-ordinated movement). The speed of kill varies with different insects: the susceptible mosquitoes and flies are usually killed in a matter of minutes, pediculi live for several hours, while bugs and roaches, which are rather resistant, may survive a day or two after contact.

Renal Glycosuria

Q.—*A young man of about 25 suffers from intermittent glycosuria. A glucose-tolerance test done with 50 g. glucose orally gave the following result: blood sugar before glucose 100 mg. per 100 c.cm.; 1/2 an hour after glucose, 120 mg.; 1 hour after glucose, 110 mg.; 1½ hours after glucose, 100 mg.; 2 hours after glucose, 80 mg. The corresponding urine sugar values were nil, trace, 0.2%, 0.1%, nil. No acetone bodies were detected in the urine. Does this condition require treatment? If not, is it a disqualification for Government service, civil or military? Will he be accepted by life insurance companies as a first-class life?*

A.—The sugar tolerance is normal in this patient, since the fasting value of the blood sugar is 100 mg. per 100 c.cm. blood, and after 50 grammes of glucose the blood sugar does not rise above 120 mg. per 100 c.cm. and has returned to 80 mg. after two hours. The top level of the blood-sugar curve, if it is venous blood, should not exceed 150 mg., and if it is capillary blood 180 mg. The presence of glycosuria shows that the threshold of the kidney is set at a level which is considerably lower than the normal, and is probably about 100 mg. per 100 c.cm. blood. This condition of renal glycosuria does not require any treatment at all. It should not be a disqualification for civil or military service; though it is possible that the military authorities might regard it with suspicion. These patients are accepted by most of the life insurance companies as first-class lives.

The Anamnestic Reaction

Q.—*What is the anamnestic reaction, and what is its significance?*

A.—The anamnestic reaction is the reappearance in the blood of an antibody produced in response to previous infection on inoculation, or an increase in its quantity, consequent on some other stimulus. A commonly observed example is an increase in titre of agglutinin for a member of the enteric group during the course of another possibly quite unrelated infection. This complicates the diagnosis of enteric fever by means of the agglutination test in persons who have had T.A.B. vaccine. Fortunately, the anamnestic reaction involves H (flagellar) agglutinins only; a rising O agglutinin titre is therefore significant of actual infection.

How is Milk Dried?

Q.—*I understand that there are different processes for drying milk. What are these processes? How do they affect the chemical or physical constitution of the reconstituted milk? Can you say which methods are used by well-known makers? What is National Dried Milk, and by whom is it made?*

A.—The processes in general use for the drying of milk are of two types: the roller (drum or film) processes, and the spray (or atomizer) processes. In the roller processes the milk is distributed as a film on the surface of revolving metal rollers, or drums, which are heated internally by steam. The film of milk dries to form an extremely thin solid sheet which is removed from the rollers by a stationary knife-edged scraper and sieved to a powder of the desired fineness of grain. In some roller processes the milk is pre-condensed in a vacuum-pan or continuous-flow evaporator before application to the rollers. The rollers may work singly or in pairs; in the latter case the milk is fed into the trough between two closely set rollers rotating towards each other. Roller-drying systems may be divided into two classes: those working at atmospheric pressure at high temperatures, and those working *in vacuo* at lower temperatures. In the spray processes the milk, usually pre-condensed to several times its initial solids content, is reduced to an exceedingly fine spray or mist in the presence of a current of heated air. The minute droplets of liquid expose a very large surface to the hot air, and evaporation of their moisture is virtually instantaneous. The droplets become small particles of powder which fall to the bottom of the drying chamber. There are various methods of obtaining the necessary fine spray, and various designs of drying chamber.

As a result of their different methods of manufacture, the roller- and spray-dried milk powders differ in their physical structure in the dry state and in their properties on reconstitution. Particles of roller powder are solid and granular and of irregular shape (mainly in the form of thin flakes); they are usually ground to pass a sieve of 0.02 in. mesh. In the whole-milk product the fat is present in relatively large masses, which when the powder is reconstituted rapidly run together and rise to form an upper layer. Particles of spray powder are spherical with an enclosed air bubble, and usually about 0.002 in. in diameter. They are individually light and fluffy, but in the bulk pack more closely than the roller type. The fat is present as very small globules, which remain dispersed on reconstitution.

The two types of powder differ markedly in "solubility"—that is, in the extent to which, when mixed with the appropriate quantity of water, they simulate the characteristics of fresh milk by the individual constituents resuming their natural states of true or colloidal solution or emulsion. In roller-drying at atmospheric pressure the film of milk reaches a high temperature and dries fairly slowly. Solubility is impaired, and is usually about 75 to 85% in cold water and 80 to 95% in hot water. In spray-drying the extremely rapid evaporation maintains the temperature of the milk particles at a very low figure, and good spray powders are practically completely soluble in cold water. Roller-drying *in vacuo* yields a powder approaching the spray type in solubility, but is apparently not carried out in this country. The insoluble matter of the powders is largely protein, with a little mineral matter. Subjection of the milk to high temperatures causes denaturation of the casein and soluble proteins, and these flocculate and lose their power of fine colloidal dispersion. The digestibility of both types of powder is very high; reconstituted roller powder yields a softer curd than fresh milk or reconstituted unmodified spray powder.

Spray-dried and high-quality roller-dried milk powder retain, on reconstitution, the nutritive value of the original raw milk to a remarkable extent, but the processing does cause some loss. Spray-dried milk loses about 20% of its vitamin C and 10% of its vitamin B_1. The biological value of its protein is reduced by not more than 5%. High-quality roller-dried milk loses about 30% of its vitamin C and 15% of its vitamin B_1; the deterioration of the proteins is greater than in the spray type. The availability of the other constituents—including vitamin A, vitamin D, riboflavin, carotene, and the minerals—is not significantly affected by either process.

Most of the milk-powder made by our well-known firms is roller-dried. It is cheaper to produce, and under ordinary packaging and storage conditions roller-dried powders containing fat—that is, the full-cream and part-cream milk powders—keep in a palatable condition longer than the corresponding spray-dried products. Recent developments in the production and storage of spray-dried whole-milk powder of long-keeping quality may, however, encourage its manufacture.

National dried milk is roller-dried in two varieties—a straight full-cream powder, with no addition, having the usual fat content of 26 to 27%; and a "half-cream" powder with a fat content of 16.5%. It is made, under official wartime enactment, by various firms in this country.

INCOME TAX

Partner Acquires Whole Practice

V. acquired the other partner's share in the practice, including the former partner's house. Can V. now claim to deduct for income-tax purposes (*a*) the cost of removal to the newly acquired premises, (*b*) the £31 paid to his former landlord for dilapidations, and (*c*) the payments made for the furniture and fittings taken over from the former partner?

⁂ The matter is not free from doubt, the expenses being in the main a matter between the partners rather than between the practice and the outside world. On the whole, however, and assuming that for, say, the first year under the new arrangement the practice is carried on as a "sole" practice, our opinion is: (*a*) and (*b*) These expenses can be deducted in so far as they relate to the professional as distinct from the private purposes; some reasonable proportion should be claimed. (*c*) Yes, but subject to two limitations. First, the amounts received for the corresponding fixtures, etc., sold from the former premises must be deducted from the total cost; and, secondly, a further deduction must be made in respect of any improvement secured by the transaction—improvement, being a "capital" affair, does not carry an income-tax claim to deduction.

LETTERS, NOTES, ETC.

Treatment of Intractable Eczema

Dr. P. KIRWAN (Northampton) writes: Your readers may be interested in this account of a cure of a particularly intractable case of infantile eczema. The case was one of about 5 months' standing in a female child of 2. The child had attended at hospital, and various treatments had been given, but all to no avail. When first seen by me the condition had spread all over the face and neck and was patchy on the scalp. It had reached the encrusted and weeping stage with many follicular pustules and bilateral blepharitis. The child was in great distress and had, naturally, been scratching. The treatment was as follows: To prevent scratching the arms were covered in cotton-wool and encased in stiff corrugated cardboard. Strict instructions were given that no soap or water be used for cleaning the affected parts. The crusts and scales were removed by applying a starch poultice, and the following ointment was applied twice daily:

Hydrarg. ammon.	gr. x
Liq. picis carb.	ʒj
Liq. plumbi subacetatis	ʒss
Vaselini	ʒij
Adipis lanae hydrosi	ad ℥j

Combined with this, a mixture was prescribed containing arsenic, 3 minims to the teaspoonful dose t.i.d. Tabs. "adalin" 1 nightly were given to ensure sleep. Frequent visits were made to see that instructions were being carried out, and it is satisfactory to record that this long-standing condition was completely cleared up in 3 weeks.

Physiology and Psychology of Craving

Dr. H. C. BROADHURST (Hounslow) writes: Your psychologist, in answer to a query on this subject (June 2, p. 793), states that when the body has need of some particular food, it feels the need for it although it has no knowledge of what it needs. He instances the hypoglycaemic child who craves for sugar. But what child does *not* crave for sugar? And does the rachitic child crave cod-liver oil or the anaemic child spinach or liver? Obviously not. Hunger is instinctive, but while we naturally prefer a mixed and tasty diet to one which is monotonous and unpalatable, we have not in fact an instinctive liking for the right *kind* of food. Hence the need for education in this matter. I doubt if piglets rush to eat earth because they need the iron in it. Rats deprived of vitamin B possess no instinct which prompts them to select food containing this vitamin when a variety of foods is offered to them. It is true that after experience rats will choose the appropriate food, but this is the result of education and not of instinct.

Sterilizing Needles, etc.

Dr. W. F. COOPER (Kingston-on-Thames) writes: You describe sterilization of needles. I find that few men know of the tip that urea melts at 132° C.; so that needles (I also sterilize gauze, etc., in small tins) can be wrapped in paper, put in the oven near some urea, and heated until the urea melts, then the oven allowed to cool. Another useful tip is that paper starts to go brown, singes, at about 150° C. Sugar starts to become caramel at about that temperature, so a dodge is to add a crystal to oil in a spoon and heat over a flame until the sugar goes brown. Amyl alcohol is not nice stuff, but it boils at about 130° C. and can be washed out by alcohol and then water. Hexamine tablets burn with a smokeless flame and are useful to carry in one's case. You do not mention the tip of running a needle into a cork, at the correct angle, and rubbing down both cork and needle. One should use a fine stone, not carborundum.

Apparatus for Caudal Analgesia

Mr. J. H. PEEL and Dr. A. H. GALLEY, whose letter appeared on June 9 (p. 821), write to say that they are very short of apparatus for caudal analgesia, and it has come to their notice that numbers of complete outfits are arriving in this country and are included in American Red Cross parcels. They ask any practitioners who come into possession of these outfits to forward them if not wanted by themselves. "Either 86, Harley Street, London, W.1, or King's College Hospital, London, S.E.5, would find us, and we would be very willing to refund postage; as you know, Red Cross material must not be sold."

Journals and Books for Italy

Major W. MACKENZIE, R.A.M.C., writes to say that there is a great need in Italy for British medical publications of any kind. If any reader has periodicals or books to spare, and would address them to Major MacKenzie, c/o the *British Medical Journal*, we would forward them to him for distribution.

BRITISH MEDICAL JOURNAL

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SOME NEW DEVELOPMENTS IN THE MORPHOPHYSIOLOGY OF THE CEREBRAL CORTEX

BY

Prof. S. SARKISOV, M.D.

The study of the mechanism of the physiological and pathophysiological processes of the brain has for a long time occupied the attention of investigators. The work of I. P. Pavlov on conditioned reflexes has opened new ways to the understanding of the activities of the brain up to the most complicated ones—i.e., the highest nervous activities. There is no need to stress the importance of these experimental investigations, which furnish us with new ideas and methods for the better understanding of the cerebral processes, both normal and pathological, of man. A few examples of the work done will illustrate the position.

M. K. Petrova, one of the oldest pupils of Pavlov, succeeded in establishing in different dogs different types of nervous system with the precise characteristics of the various breeds. Petrova has furthermore ascertained that by inducing conditioned reflexes it is possible to produce experimentally in dogs nervous conditions which are characteristic of typical forms of neurosis. It is important to note, too, that she has ascertained that by the administration of a special dosage of bromine this experimentally produced neurosis can be completely cured.

Very interesting from the point of view of the influence of the cerebral cortex on the pathology of the organism are the experiments on conditioned reflexes in combination with the application of camphor. In the laboratories of Pavlov one of his pupils, Dolin, combined the use of the conditioning stimulant with the introduction into the organism of the dog of camphor, which, as is well known, causes convulsive epileptic fits. Having established the conditioned reflex through the introduction of camphor, Dolin succeeded, solely by means of the conditioning stimulant, without the introduction of camphor, in causing epileptic fits in the dog.

The investigations into the problem of the influence of the cerebral cortex upon the inner organs are, for medicine, in the broadest sense of the word, of particular importance. While up till now we have been able to speak only *a priori* of the influence of the " psyche " on somatic processes, the experimental investigations of K. M. Bukow and his pupils, using the methods of conditioned reflexes, have revealed definite physiological laws and the interdependence of the cerebral cortex and the inner organs—the heart, stomach, spleen, liver, urogenital organs, etc. These investigations show how, by causing certain conditioned reflexes in dogs, one can influence and alter the action of such organs as the liver, the kidneys, and the stomach. On the other hand, by a series of experiments, changes in the highest nervous activities of an animal, dependent on the condition of the inner organs, have been established. These experiments have shown the influence on the cerebral cortex of the impulses originating from the inner organs—in other words, the place which the most complex inner world of an animal has in its physiological behaviour has been established.

In these experiments it was found that, in causing conditioned reflexes or conditioned reflexive activity in an animal, new " temporary connexions " between the various sections of the central nervous system and the various organs and tissues of the organism are apparently created.

These investigations, in further developing the teaching of Pavlov on conditioned reflexes, have made it necessary to deal with the question of the morphophysiological nature of these " temporary connexions " formed in the complicated processes of the brain. Knowledge of the mechanism of these processes and their morphophysiological relations would offer new possibilities for the identification of pathological symptoms in the brain.

Recent Electro-physiological Investigations

Of great importance for this research work are the recent electro-physiological investigations, particularly of the bio-electrical phenomena of the brain, and also the new data on the finest structural features of the cerebral cortex. Bio-electrical investigations (electro-encephalograms)—carried out in various laboratories of the Soviet Union by Sarkisov, Livanov, Russinov, and Steinberg; in England by Adrian, Matthews, Walter, Ultridge, and others; and in America by Lenox, Gibbs, Davis, and others—have opened up fresh possibilities of a dynamic conception of the delicate mechanism involved in brain activity.

The numerous investigations of the last 10 to 15 years have considerably enriched our knowledge of the electro-physiological mechanism of the various sections of the central and peripheral nervous system in both the normal and the pathological state. We have now definite conceptions of the chief characteristic peculiarities of the bio-electrical current curves of the cerebral cortex, of its various sections, of the finest laminae of the cortex, of the post-cortical formations, of the peripheral nervous system, and so on. A series of investigations have also been made on bio-currents in the state of waking, sleeping, hypnosis, and so on.

Very interesting are the investigations into the bio-electrical manifestations of the brain under different influences. We were able to establish, for instance, the laws governing the variations in these manifestations under the influence of various narcotic substances—e.g., strychnine, morphine, and others (Sarkisov). It is important to note, for instance, the following fact. As we know, morphine has a depressing effect on the central nervous system. Yet our electro-encephalograms have shown that it acts differently on each region of the cerebral cortex, and that in the different stages of narcosis the potentials of the various sections of the cortex and the post-cortex are dissimilar.

Our investigations, and those of others, have shown numerous changes of the normal brain potentials in cases of mental disease—e.g., epilepsy, schizophrenia, manic-depressive conditions, and so on—and also as a result of various changes in metabolism. Of great importance also is the study of the bio-electrical manifestations in the case of organic diseases of the brain. Characteristic alterations of the ordinary encephalogram occur, for instance, in cases of tumours of the brain. Of considerable and practical interest, in this respect, are the investigations of Grey Walter, who has suggested a novel method of using bio-currents for ascertaining the seat of disease in a case of brain tumour. Our investigations of the bio-electrical phenomena in the presence of artificially caused tumours of the brain in animals have produced curious results. It was found that the bio-electrical phenomena are directly dependent on the seat and also on the character or nature of the tumour. We have produced tumours in the brain of rabbits experimentally, and have carried out series of investigations on these animals by means of electro-encephalograms. The tumours were muscular, "paraffinous," and "cancerous."

These investigations (Sarkisov and Penzik—published in 1940) revealed characteristic slow vibrations of the bio-electric potentials near the tumour. We noticed alterations of a somewhat different character at a considerable distance from the tumour, and it is particularly necessary to emphasize that the bio-currents of the brain vary according to the kind of tumour.

Fig. 1 shows an electro-encephalogram of a tumorous human brain with characteristically slow vibrations of 4 to 5 per second, instead of 10 to 12 vibrations in the normal state.

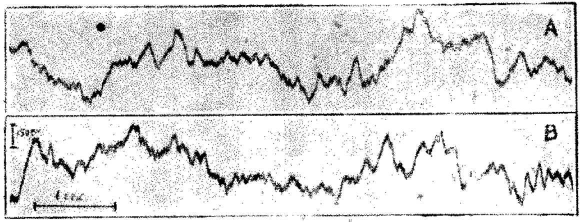

FIG. 1.—An electro-encephalogram of a tumorous human brain, 13/10/43. A, left temporal; B, right temporal.

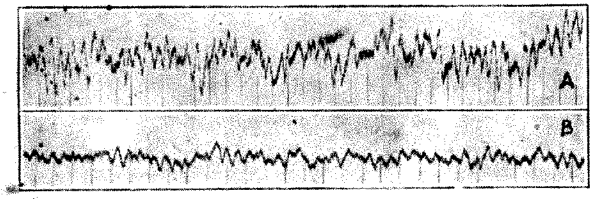

FIG. 2.—Same brain as Fig. 1. A, left occipital; B, right occipital. Recording, 30/10/43; operation, 22/11/43. Follicular abscess in right parietal area. Restricted injury of the cortex and of the white substance of the upper temporal area. Time recording, 0.2 sec.

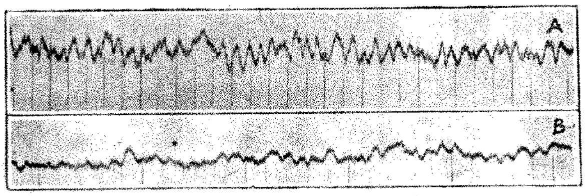

FIG. 3.—Same brain as Figs. 1 and 2. A, left central; B, right central. Time recording, 0.2 sec.

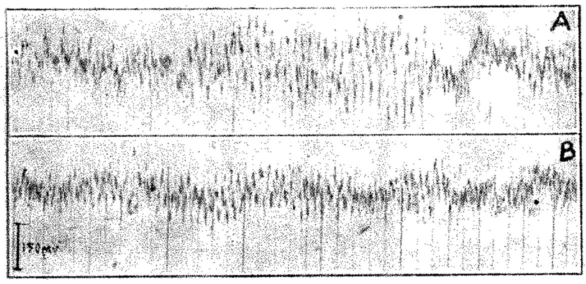

FIG. 4.—A, left occipital; B, right occipital. Deep injury of the left premotor region reaching the subcortical ganglia, with a metal fragment in the left frontal zone. Cicatrization not complicated by the purulent process. Time recording, 0.2 sec.

In our laboratories, Russinov, Livanov, Preobrashenskaya, and Lurya have during the war done a considerable number of electro-encephalograms (more than 1,300) in cases of various forms of cranium-brain wounds, and particularly of abscesses of the brain. The curves in Fig. 2 characterize the bio-electrical currents of the occipital regions of the brain in cases of various diseases of the parietal area. In Fig. 3 the curves depict the variations in the bio-electrical currents of the central region (right and left) of the same brain. Fig. 4 shows the curves of the right and left occipital regions of the injured cranium. The deep wound is in the left premotor region (reaching to the subcortical ganglia, with a metallic fragment), and in the left frontal region with a cicatrix (without abscess).

These examples should suffice to prove that the electro-encephalograms represent the separate nervous processes of the tissue of the brain in both normal and pathological states. However, it is necessary to emphasize that in each single case much in the electro-encephalogram is as yet obscure—that is, not accessible to analysis in the light of our physiological knowledge. Still, the data of the electro-encephalograms undoubtedly aid the examination of the various aspects of the complex brain processes. By means of the encephalogram we are now able, in a considerable percentage of cases, to pronounce on the character and periods of epilepsy, on tumours and abscesses, on the seat of a disease; and we can speak of a disease in the sense of its being local, and so on.

I have no space here to deal with another aspect of the electro-encephalographic investigation—the functions of the nervous tissue, central and peripheral, the laws governing the processes of excitation and inhibition, and other questions. Much has been done in this field in the Cambridge laboratories (Adrian) and in the Moscow Brain Institute (Livanov), and by others.

Physiology of the Brain

In connexion with our new ideas on the physiology of the most differentiated nervous activity and on the physiology and pathology of the cerebral cortex, our knowledge of the minute morphological organizations and connexions of the cortex is also broadening. We have now considerable knowledge of the brain, and especially of the cortical formations and the various architectonic cellular structures of the most highly organized matter of that organ. At the Moscow Brain Institute during the last 15 to 20 years specialized investigations in the phylogenesis (pertaining to a species) and ontogenesis (individual development) of the brain, and particularly of the cerebral cortex, have considerably extended our knowledge of its complex organization. Specific laws have been established governing the formation of the minute architectonic structures of the cortex and the cerebrum as a whole, in the various stages of their phylogenetic and ontogenetic development. The results of these investigations have been publishd in the form of separate works and monographs by the research workers at the Moscow Brain Institute—Philimonoff, Sarkisov, Kolonova, Blinkov, Preobrashenskaya, and others.

In emphasizing these achievements of modern neurology it may be said that our conceptions of the architectonic features of the cerebral cortex do not suffice to reveal the fundamental morphophysiological mechanism of the cortical function. In order to extend further our knowledge of the morphophysiological mechanism of the functions of the brain it is necessary to study the multiformity of the cellular architecture together with the picture of the elaborate and complex intercellular connexions and their dynamics.

Structure of the Cerebral Cortex

The methods of architectonic investigation have been of great use in establishing the general features of the structure of the cerebral cortex, its division into separate areas and regions according to the character of the various cellular and fibroid laminae, and so on. These investigations play a particular part in solving one of the fundamental problems of modern neurology—i.e., the problem of localization. The data obtained in this way are the basis for further advancement in the study of the brain. It will be necessary, however, to ascertain how the formation of the neurons of the cortex in their entirety proceeds—i.e., to trace the development of the different types of neural cells of the cortex with all their appendices; that is, the dendrites and their axons. Furthermore, it is necessary to discover how in the process of development the connexions between the various groups of neurons establish themselves inside the individual cortical formations, as well as between the various cortical regions. What I have in mind is the significance of the most delicate connexions—i.e., the synapses in the cerebral cortex. The treatment of this question is indispensable to the understanding of the intimate physiological and pathological processes of the brain.

It is well known that the method of Golgi provides the possibility for this study. It is particularly necessary to emphasize that up till now the finest connexions between the neurons in the cortex, as distinct from the synapses of the peripheral nervous system and, to a certain degree, of the lower section of the central (cerebrospinal) system, have been studied quite inadequately, if one leaves out of account the well-known work of Ramón y Cajal and others. This is due, in the first place, to the enormous difficulties arising in the study of the synaptic mechanism, especially in the cortex—as the most complicated part of the cerebral nervous system. These difficulties arise particularly in the study of the cerebral cortex of an adult. Therefore it should be expedient to study, by the method of Golgi, the cerebral cortex in ontogenesis, when the intercellular connexions and their structural features are comparatively simple and more easily accessible.

So far as we know, the study of the ontogenetic development of the cerebral cortex by Golgi's method has not yet been fully carried out. (Cajal investigated chiefly the brain of the newborn and in the first months after birth.) The first to start these researches was Dr. G. I. Polyakov, in the Moscow Brain Institute. It is not my aim to give a full account of his investigations into the study of the functioning of the cerebral cortex. Polyakov is about to publish his results in a monograph. Still, I would like to give at least a few illustrations from his studies, so as to convey some idea of the importance of the data obtained:

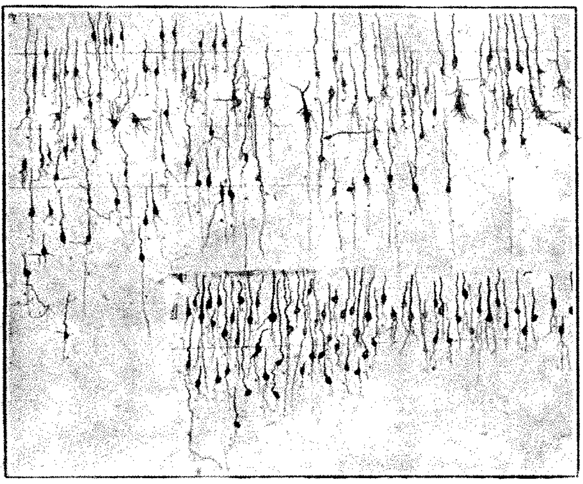

FIG. 5.—Four-lunar-months foetus. Above, formation of the precentral cortex (area 4). Below, formation of the optical cortex (area 17).

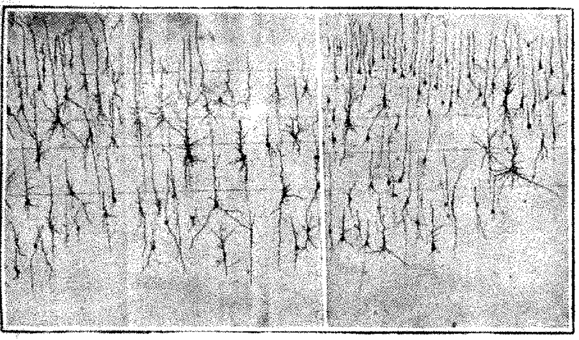

FIG. 6.—Five-and-a-half-months foetus. Left, precentral area 4; right, postcentral area 1.

Fig. 5 shows the picture of the cellular structure in an embryo of 4 lunar months, where the upper lamina of the cells has been taken from the precentral region, and the lower lamina from the optical cortex—i.e., from the occipital pole of the brain. We notice here, in the earliest stage of the organization of the cortical cellular elements of neuroblasts, an apparently similar picture of the cells and their appendix in the precentral and optical regions. Still, it is not difficult, even to the naked eye, to notice, already in this stage, the differences in the shape of the cells and the characteristics of their appendices.

Fig. 6 represents the organization of the cortical structure in an embryo of 5½ months. To the left is the cortex from the precentral region; to the right, from the postcentral region. Here the difference in the shape of the cells, and particularly in the shape of the appendices, seems even more distinct.

The next differentiation of these connexions in an embryo of 8 months is of great interest with regard to those of the cortical structure. In Figs. 7 and 8 are shown the formation of the intercellular connexions of the frontal, lower-sinciput, and postcentral regions. One notices very fine cellular appendices of extraordinary multiformity and peculiarity in the three regions of the cortex in the embryo of 8 months; in the frontal region (precentral and motorial), strongly developed cells with significant vertical appendices. Contrary to this, the cells in the postcentral, and especially in the lower-sinciput (associatory), region of the cortex are considerably smaller and at the same time their appendices are distinguished by greater delicacy and multiformity. And, what is most important, they are distinguished by significant appendices extending laterally—i.e., in a horizontal direction—which obviously is largely characteristic of the receptive type of cortex. These fine neuron formations are obviously best distinguishable in the last month of uterine gestation.

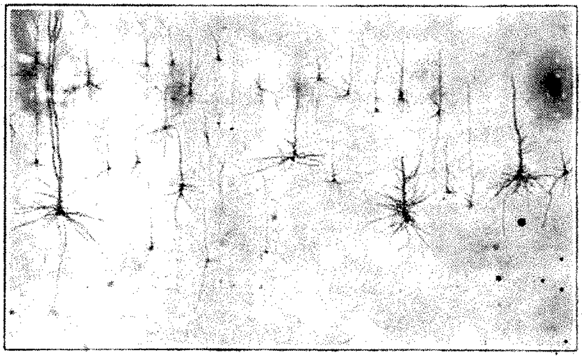

FIG. 7.—Eight-lunar-months foetus. Precentral agranular cortex (area 4).

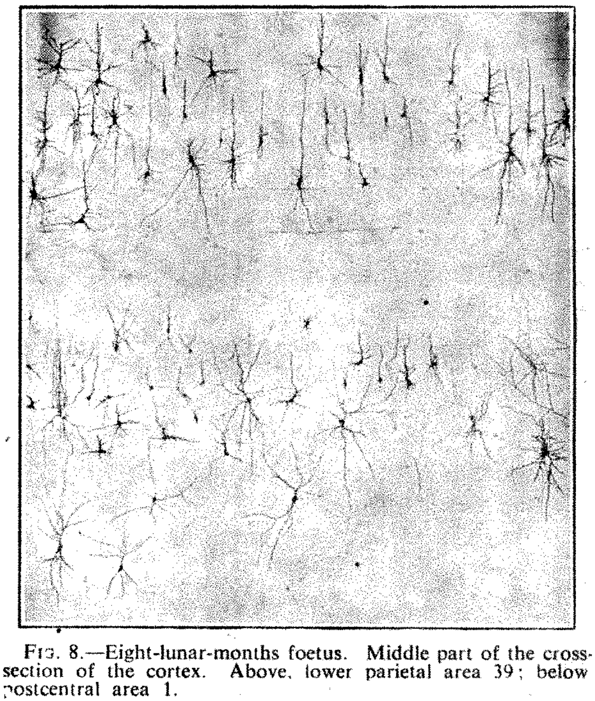

FIG. 8.—Eight-lunar-months foetus. Middle part of the cross-section of the cortex. Above, lower parietal area 39; below postcentral area 1.

Conclusion

I shall not dwell here on a full description of all the details of this amazingly diverse picture of the cellular structures and their appendices. They will be dealt with separately by Dr. Polyakov. Particularly important are the examination and the establishment of these structures in the adult. The examples given above convey some idea of the new data concerning the finest and most complicated structural features of the cerebral cortex. There is no need to prove that on these data the processes of the cerebral cortex in the normal and pathological state are based. Can one doubt the intimate physiological part which these minute intercellular formations play? Can one doubt that in various pathological affections of the brain as a whole, and of the cerebral cortex in particular, these delicate intercellular structures are the first to be exposed to disease, being the most vulnerable? Of special interest are these data from the point of view of pathological changes of the brain in the so-called "functional diseases" of the nervous system. Obviously, in various "functional diseases," and also in many cases of psychosis, where we are not in a position to identify definite changes in cellular structure, one must assume first of all an affection of these intercellular connexions. The examination of these amazingly fine and diverse structural formations of the cortex presents us with more problems, the resolving of which is one of the chief tasks of modern neurology and neurophysiology. The work of the research staff of the Moscow Brain Institute is dedicated to the study of these questions.

Summary

The classical method of Pavlov in conditioned reflexes enriches considerably our knowledge and understanding of the part which the cortex plays in the most differentiated nervous activity and of the connexion of the cortex with the functions of the inner organs. The novel method of bio-electrical currents, and the exploration of the finest morphological structures of the cortex and its intercellular connexions, open new ways and opportunities for establishing the laws governing the fundamental morphophysiological mechanism of the complicated activity of the cerebral cortex.

DERMATITIS FROM WEARING ARMY SPECTACLES

BY

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WITH

SPECIAL REPORT BY

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Although dermatitis due to the dye in artificial-shell glasses is fairly well known (Thistlethwaite, 1943; Gray, 1943) there has been little mention of a similar dermatitis resulting from the wearing of spectacles with metal frames, since its inconvenience is easily avoided under normal civilian conditions. Between December, 1941, and March, 1942, six cases of such a condition were seen by us at a military clinic in Scotland.

The Army spectacle frames (Mk. III) are made of "nickel silver" plated with nickel. Nickel silver has the advantage of useful corrosion-resisting properties; it is an alloy of nickel, copper, and zinc in the following proportions:

Part of Frame	Nickel	Copper	Zinc
Bridge	25%	60%–65%	10%–15%
End-pieces	25%	60%–65%	10%–15%
Cables	12%	60%–65%	23%–28%
Eye-wires	12%	60%–65%	23%–28%
Butts	10%	60%–65%	25%–30%

After manufacture the frames are given a solid nickel plating. It will be noted that the percentage of copper does not vary: the physical properties of ductility, hardness, etc., depend on the relative proportions of nickel and zinc. Common impurities—sulphur, lead, iron, and mercury—are all harmful in the alloy, and to avoid them the raw materials used in the casting consist only of pure nickel, electrolytic copper, and electrolytic zinc. Samples of each of these substances as well as the alloy, and alloy finally plated with nickel, were supplied by the metallurgists for the purpose of a patch test.

The physical state of the metal is of some interest. In the first place the raw material used is dead soft and therefore in an amorphous state. In the case of the eye-wires this condition is not greatly changed, as the only process is that of rolling and cutting. However, in the case of all other components, striking and reducing operations are carried out, and the metal must therefore be in a more or less crystalline state as a result.

A study of dermatological literature shows that dermatitis is not uncommon in the nickel industry (Blaschko, 1889; Landsteiner, 1924; Bulmer and Mackenzie, 1926; White, 1928; Jadassohn and Schaaf, 1929; Stauffer, 1931; Goldman, 1933; Stewart, 1933), but the first mention of sensitivity to spectacle frames containing nickel seems to be that of Lain (1931), followed by Fox (1933), Urbach (1935), Kristjansen (1937), and Löwenstein (1938).

Lain describes three cases of dermatitis occurring on the temples and ears of men wearing spectacles. In each case the frames were made of so-called "white gold," reported as an alloy of gold, copper, and nickel. In his first case the eruption occurred also across the bridge of the nose, but in the other two the bridge of the spectacles was of a different metal, and the eruption occurred only on the temples and ears. On his inquiry, the optical company manufacturing the glasses instituted a research in their laboratory and reported as follows:

> "The trouble seems to be due largely to nickel that is found in white gold alloy. We believe that the action is largely electrolytic; that is, an electrolytic battery action is produced when there are dissimilar metals and an acid (or in some cases an alkaline) fluid is present and in contact with these dissimilar metals. When the perspiration, which is an electrolyte, acts upon the base, metal salts are formed, and such action is more pronounced in the presence of heat. It is probably a salt of the nickel that causes the irritation, which seems to be analogous to a trouble that is present in the nickel-plating industry called commonly 'nickel itch.'"

The case quoted by Fox (1933) was sensitive to both spectacle frames and a wrist-watch made of this white gold.

Goldman in 1933 surveyed the literature up to then and added two cases (not due to the wearing of spectacles) in nickel-workers. Citing the cases of Lain and Fox, he suggests that, in spite of strong presumptive evidence, the failure to perform eliminative patch tests had not positively incriminated the nickel. Both his cases gave a history of previous allergic disturbances (urticaria and hay-fever). Both gave strong responses to patch tests with nickel but negative to the closely allied metal, cobalt, thus showing a strong specificity to the nickel. This specificity, associated with the abnormally short latent periods in his cases (2 days and 3 days) before the appearance of the intolerance, suggests that the hypersensitivity may have been gained by: (1) inherited or congenital idiosyncrasy; (2) exceptionally rapid sensitization (the normal interval is 8 to 10 days); or (3) repeated brief contact with the metal (perhaps as nickel coins or suspender buckles) without appreciable clinical manifestation—the so-called "silent sensitization." Urbach (1935) described a case of sensitivity to nickel-framed spectacles. A patch test with an Austrian schilling, which contains a large percentage of nickel, gave a positive reaction. As the schilling contains other metals, this is of course insufficient as an eliminative test

That this is not a very infrequent problem when the wearing of nickel-framed spectacles is necessary is shown by the fact that six cases were seen by us in a small area within three months and that similar cases (Bettley and Lyle, personal communication) have occurred in other parts of the country.

Case 1

Pte. H. G.; Pioneer, aged 31; single. Received glasses Jan., 1941: myopia, −9.00 dioptres. Within a month a reddish patch developed where the spectacles touched the skin. After a time wearing the glasses for 5 to 10 minutes caused recurrence after a latent period of 15 to 30 hours. Since in spite of treatment it kept recurring on resumption of the spectacles, he was referred to us.

Examination on Dec. 2 revealed vesicular eczematous dermatitis wherever the spectacles touched the skin—behind the ears, over the temples and zygoma, on cheeks eyebrows, and sides of the nose where the pads touched. There was no history of drug sensitivity or other allergic phenomena. Mild pityriasis sicca capitis was present.

Treatment.—The skin healed with calamine lotion, but only when the spectacles were left off. A patch test was performed in the interscapular area with part of the frames, and gave a marked positive reaction in 48 hours. A control patch was negative. The following expedients were then tried: (1) A new pair of glasses: skin broke down in six hours. (2) Zinc adhesive plaster applied over parts of frames in contact with skin: lesion recurred. (3) Cellulose acetate varnish painted on to frames: successfully prevented recurrence, but started to peel off within four days. (4) Cycle-tyre-valve tubing pulled over flexible ear-curls and pads, xylonite half-rings (" washers " in optical trade) clipped over rims, and jaconet covers stitched over flat sides. This final attempt was highly successful, and the covering could easily be renewed when worn out.

Further patch tests were now carried out with the elements of the alloy received from the metallurgists.

Test Patches	24 hours	48 hours	72 hours	96 hours
Pure nickel	−	−	+	++
Nickel silver alloy	−	+	++	+++
Copper	−	−	+	+
Zinc	−	−	−	−
Plaster control	−	−	−	−

The copper test, repeated 10 days later, was then negative. On March 23, 1942, the Prausnitz-Küstner reaction was carried out on Cpl. B. (a volunteer test subject), and was negative to both nickel and nickel alloy.

Case II

Gnr. A. B., aged 38, married; Army and civil occupation, clerk. At school he was unable to wear metal-framed spectacles owing to " breaking down of the skin ": no trouble with shell frames. Refractive error small, but finds glasses essential to his work as a clerk. While in France in 1939 he was provided with Mk. III spectacles. Within three days he felt an itching of the skin in contact with the frames. Soon it became reddened and moist, and began to peel. This stopped as soon as the glasses were left off. There was no history of allergic illness or skin disease. Examination on Dec. 8, 1941, revealed a condition similar to that in Case I. There was no other skin lesion. A patch test with a portion of his own spectacle frames gave a weak positive result. On discarding the glasses the skin on the face healed within seven days.

This man also had a trial of the cellulose enamel treatment to his spectacles, but it began to wear off even more quickly (24 hours), so a pair of frames were covered as in the final experiment in Case I, with equal success.

Case III

Gnr. N. H., aged 32; married. Army occupation, driver; civil occupation, machinist (costumes). Received Mk. III glasses Oct., 1941: myopia, −1.50 dioptres. The second day after wearing these the skin began to break—owing, he thought, to friction, as the glasses fitted rather tightly. Not until the next day did it become inflamed, starting with a burning pain and itching. He then left the glasses off and the skin healed after three weeks. Later, when on guard duty, he was ordered to wear them, and again the skin broke down after only two hours. There was no history of allergic disturbances, or skin disease except boils, nor was he taking drugs of any description.

On account of the abnormally wide distance across the forehead the fit of the glasses was not good. The dermatitis, distributed as above, was a vesicular eczematized condition with slight secondary infection. There was also slight pityriasis sicca capitis with comedones. The glasses were withdrawn: no treatment was given, and when he returned in 20 days the skin was quite healed. The fit was then very carefully adjusted to avoid all friction, but once more the lesion recurred after six hours. Patch tests were then carried out with portions of frames from each of three manufacturers:

Test Patches	24 hours	48 hours	72 hours	96 hours
Frames " A "	−	−	doubtful	+
„ " B "	−	−	„	+
„ " C "	−	−	„	++
Plaster control	−	−	−	−

In view of the low refractive error it was considered that this was an ideal case for fitting with " respirator wafers " (Taylor, 1944), which give correction during the wearing of the respirator. At other times he was allowed to wear shell frames.

Case IV

Cpl. R.; Pioneer, aged 37; married; civil occupation, slater. Moderate myopic astigmatism. Received Army glasses in Aug., 1941, and wore them constantly with no trouble for about three or four weeks. First noticed a soreness over the bridge of the nose; then the skin broke and began to weep. Soon the eyebrows were involved, followed by the skin over the temples and behind the ears. The fit of the glasses was always good. Treatment with ointment had no effect, and calamine lotion also failed to cure, although it kept the lesion in check. He returned to the specialist who had prescribed the glasses, and was advised to wear his shell frames and leave off the Army pair. The skin then healed within three to four weeks, using only calamine lotion.

When examined by us on Feb. 1, 1942, after wearing metal glasses again for a few days, he had pityriasis sicca capitis and also a mild seborrhoeic eczematoid condition of forehead and cheeks. Treated with skin paste, this cleared up rapidly, revealing an underlying and resistant spectacle dermatitis. The glasses were removed, and in three days the skin healed. There was no history of allergic disease, nor was he taking any drugs. He had not previously worn white-metal frames or a wrist-watch. Patch tests as in Case III.

Test Patches	24 hours	48 hours	72 hours
Frames " A "	−	−	+
„ " B "	−	−	+
„ " C "	−	−	+
Plaster control	−	−	−

A trial was made of the cellulose varnish, but within a day it was already starting to peel off, so the frames were covered as in Cases I and II. After wearing these for a month there was no recurrence.

Case V

Cpl. W. M. S., aged 26; married. Army occupation, M.O.'s clerk; civil occupation, schoolmaster. Mk. III glasses prescribed Dec. 10, 1940: low myopic astigmatism. At first, when these were worn only once a week for an hour during the gas practice period, no trouble was experienced. In May, 1941, he started to wear them constantly, and after six days the skin in contact with the frames began to discharge and the pads stuck to his nose. There was slight itching. When the spectacles were discarded the lesion cleared up in one or two days, but each time they were worn again the trouble recurred. He had not previously worn white-metal frames or a wrist-watch.

On Feb. 9, 1942, after wearing the glasses for five days, there was mild weeping and desquamation. No seborrhoea was present, and there was no history of other allergic disturbance or previous skin disease. He was not taking drugs of any sort. The skin actually healed without any treatment while under observation and while the same glasses were in occasional use, although adjusted so as to have little contact with the skin except behind the ears. Patch tests were carried out as follows:

Test Patches	24 hours	48 hours	72 hours
Frames " A "	−	doubtful	doubtful
„ " B "	−	„	„
„ " C " (nickel worn)	+	+	+
Plaster control	+	+	+

In view of these equivocal results and the behaviour of the lesion while under observation one wonders whether in the course of his Army occupation he had learned of this condition and perhaps caused an artefact. In any case, special correction did not seem necessary, and he did not return.

Case VI

Dvr. T. T., aged 32. Army glasses had been prescribed about a year previously. There was no trouble until after six months, when the skin over the bridge of the nose, around the ears, and over the temples broke down. It did not heal until he changed to his reserve pair. Thereafter it remained well until four days before we saw him. Examination on March 1, 1942, showed an eruption similar in appearance and distribution to the previous cases. Seborrhoea was well marked, and pityriasis sicca capitis and a tendency to comedo formation on the skin of the forehead were present. There was no history of skin disease or of previous allergic phenomena, nor was he taking drugs of any kind. The glasses were seen to be roughened, and the nickel plating was worn off over a large area; they were therefore withdrawn. In a week the skin had completely healed without other treatment. Patch tests were carried out.

Test Patches	48 hours	72 hours	96 hours
Nickel silver	−	+	
Alloy plated with nickel	++	++	
Zinc	−	−	−
Copper	−	−	−

The Prausnitz-Küstner test was performed, the result being negative to both the nickel silver and the plated alloy. On March 23 he was fitted with frames covered as previously described. In September he returned when the frames required renewal of the rubber tubing. There was a slight recurrence where the metal had come into contact with the skin, but otherwise he had remained perfectly well.

Discussion

These cases are clearly similar to those of Lain and Fox. What is the mechanism of this disorder? (1) It may be mechanical (artefact, roughness of metal parts, bad fit, or roughening of parts during adjustment with pliers). (2) It may be due to an ingested substance which can interact with the metal—sulphur, mercury, etc. (3) It may be an allergic phenomenon.

That our cases were not due to mechanical causes is shown by the fact that the fit was never a matter for complaint (except in Case III; and here, after great care had been taken to secure a perfect fit, the intact skin broke down within six hours). Careful observation, in addition to the various patch tests, eliminated the possibility of artefact, except perhaps in Case V.

In every case except No. II careful inquiry was made as to the taking of any drugs such as sulphur or mercury, and it appeared that none of the patients was taking even a purgative or was under treatment for syphilis.

There remains the possibility of an allergic or pseudo-allergic cause. To incriminate the spectacle frames as a cause of an allergic skin response one must inquire: (1) Can the metal become ionized under conditions of wear? (Woods, 1933; Landsteiner, 1924.) (2) Do the history and mode of onset suggest allergy? (3) Does the lesion clear promptly on removal of the frames? (4) What is the response to specific patch tests? (5) Can this specific hypersensitivity be transmitted? (Prausnitz and Küstner, 1921.)

Lain quotes a company of manufacturing opticians who, after research, stated that they believed there was an electrolytic battery action between the dissimilar metals of the alloy in the presence of perspiration and aided by body heat.

Specimens of the frames were submitted to Lieut. Atkins, who reports as follows:

> "The specimens were washed in absolute alcohol to remove traces of grease and then placed in distilled water, slightly acid as it always is, for several days. There was no trace of nickel by the most sensitive tests, and the surface remained bright. With sodium chloride in the water, between 1% and 2%, there was, however, slight reaction, so that after two or three days there was a marked pink with dimethyl glyoxine and ammonia with specimen 'C,' a definite but lesser pink with specimen 'A,' and no perceptible pink with specimen 'B.' It is possible that there would be still greater reaction if a complete frame was tested, due to one side being electronegative to the other. In this case the dermatitis might be earlier and more marked on one side. It is also obvious that this reaction requires the intermediary of sweat."

It will be noted that all the cases except II and V suffered from pityriasis sicca capitis, and all reported that they sweated very easily. The wearing of a respirator of course induces free perspiration under the rubber. In only one case was an inequality in the dermatitis noted—the worst case, No. III, in which the left side was earlier and more severely affected.

With regard to the second requirement, all these cases conform to the allergic types, with the exception of the doubtful case, No. V. Case II is the only one with a history of a previous intolerance, which explains the short latent period here. Case III also, with a brief latent period, had a breaking of the skin *before* the burning and itching, and may be explained as the mechanical effect of a bad fit which later became a true allergy, since, in the absence of mechanical irritation, the intact skin broke down in six hours. It does not seem necessary in any of these cases to appeal to the "silent sensitization" mentioned by Goldman, although the number of objects of everyday use which contain nickel is adequate—coins, badges, buttons, plumbers' fittings, parts of motor-cars, as well as the E.P.N.S. forms of tableware and cutlery.

The third requirement is fulfilled, since all cleared up promptly, only the most severe case taking more than a week to do so.

The response to specific patch tests is, as Goldman suggests, the vital test to detect the specific cause, and the results shown above strongly support the hypothesis that the nickel silver is the cause of a specific hypersensitivity. The tests were carried out with the standards laid down by J. Jadassohn and Bloch. Various tests were performed. Cases I to V were all patch-tested with a portion of the actual frames worn, and all were positive. Cases III, IV, and V were tested with portions of frames made by each of three different manufacturers. The results reveal no significant variation. Cases I and II were patch-tested with the separate elements of the alloy, and showed no reaction to the copper and zinc, but some reaction to pure nickel; there was a marked reaction to the alloy itself. The Prausnitz-Küstner reaction was tried in Cases I and VI. Both were negative. It is possible that the injected individuals did not perspire sufficiently.

Finally, a word might be said about occupational causes, but the wide variation in the civil and military occupations seems to rule this out.

Treatment

The occurrence of six cases in a short period of time from a fairly small group makes the question of treatment an important one from the military point of view. It is obvious that desensitization is too slow and uncertain a procedure for military use. The various methods employed by us have been discussed: it only remains to mention that rhodium and chromium plating proved a failure (Bettley and Lyle, personal communication, 1941).

From all points of view the most satisfactory solution was the adoption of the correcting wafer applied to the respirator eyepiece for use during gas attacks and of gold or shell frames at other times. When the refractive error is too high for satisfactory correction by a wafer the best expedient is to cover the frames in the manner prescribed for Case I. This involves only the use of easily obtained materials, and can be renewed by the soldier himself. It does not affect the gas-tightness of his respirator.

Summary of Conclusions

We conclude that dermatitis arising from the use of Army spectacles is an allergic phenomenon resulting from a prior electrolytic battery action which ionizes some of the nickel in the presence of the acid sweat and dissimilar metals, aided by the body heat.

Our acknowledgments and thanks are due to Brig. Sir Stewart Duke-Elder, K.B.E., for his interest and assistance in obtaining the cellulose varnish; to Brig. R. Cormack, O.B.E., D.M.S., E.A. Command, for permission to publish; and to Col. (now Brig.) W. K. Morrison, A.D.M.S., West Scotland Area, for permission to carry out the experimental part of the investigations.

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CEREBRAL FAT EMBOLISM AFTER ELECTRICAL CONVULSION THERAPY

BY

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Electrical convulsion treatment is rightly regarded as the safest of the shock methods available so far. Only a few fatal accidents have been reported in the literature (Alpers and Hughes, 1942; Ebaugh, Barnacle, and Neubuerger, 1943; Napier, 1944). The last-mentioned author described 5 cases, which he considers to be the only deaths in England and Wales; in none of them had a microscopical investigation of the C.N.S. been carried out. According to Alexander and Löwenbach (1944), three possible mechanisms may account for the fatal outcome. The first is direct action of the electric current upon the brain tissue through which it passes, resulting in vasoconstriction and blanching of the tissue. They demonstrated this in animal experiments, but to obtain this effect shocks were necessary which in amperage, duration of flow, and density of current far exceeded those used in electric-shock treatment in human patients. The second mechanism is excessive stimulation of the vago-vasomotor centres of the medulla, causing generalized circulatory disturbances. This mechanism becomes operative only if the electrodes are placed in too posterior a plane, allowing the current to flow through the hind-brain. It is conceivable that some of the conflicting experimental results in animals, could be explained in this way. The third group is concerned with patients whose impaired cardio-circulatory-respiratory system cannot stand up to the excessive demands imposed by a convulsion.

The present case does not fall into any of these categories. It showed pathological changes which are of some practical and theoretical interest, and for this reason its publication seems to be justified.

Case History

The patient, a man aged 53, was admitted to Springfield Hospital as a certified patient on March 31, 1944. He had recently taken 108 aspirin tablets, as he thought he was being followed by hundreds of plain-clothes detectives. His physical condition was good. He had sustained gunshot wounds at the back of the right knee during the war of 1914–18, and now complained of severe pain in this knee, with inability to straighten the leg. The local lesion did not appear to be entirely responsible for this disability, and, indeed, under sodium amytal and suggestion therapy the patient was able to walk about freely without pain. Prolonged somnifaine narcosis was given from April 30 to May 15, but no lasting improvement resulted. Psychotherapy and occupational therapy were continued until December.

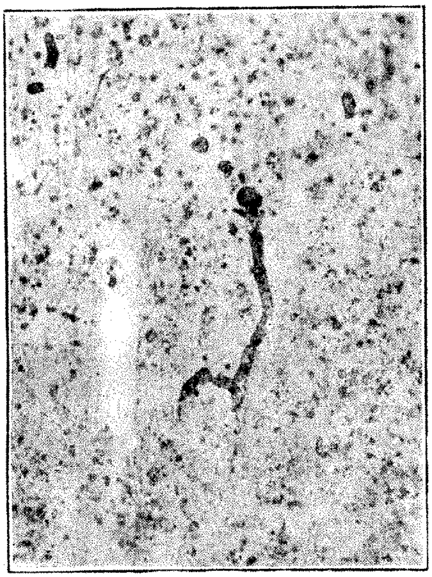

FIG. 1.—Frontal cortex. Scharlach R stain. (×130.)

At 10.10 a.m. on Dec. 5 an electric convulsion was instituted by a standard commencing strength of 120 volts alternating current for 0.3 second. After a latent period of one second a very strong fit lasting 55 seconds resulted. He made a fair recovery and was able to answer questions, but was pale and restless and complained of pain in the back. At 10.30 a.m. he collapsed and was given first 5 c.cm. and then 4 c.cm. of nikethamide. He improved and was able to take some tea at 11 a.m. He vomited the tea, and at 11.45 a.m. more nikethamide was given with intranasal oxygen and carbon dioxide. Again there was a slight improvement, but he collapsed at 12.45 p.m., and from that time remained unconscious, pale, and restless. Respiration was rapid and the pulse rapid and thready. At 3 p.m. his blood pressure had dropped from 148/90 to 110/90, and a pint of reconstituted blood serum was given slowly with 5 c.cm. of nikethamide. His condition steadily deteriorated and he died at 10.50 p.m. the same day.

Post-mortem Examination.—The body was well nourished. There were no external burns or abrasions. Two old scars were seen behind the right knee; they were superficial and not attached to deeper structures. A careful examination of the spine, ribs, pelvis, and skull failed to reveal any fracture. There was no bruising, deformity, or crepitus to suggest a fracture in any of the long bones. The meninges were congested; several small petechial haemorrhages were seen in the midbrain and in the frontal regions. Apart from congestion, which was most pronounced in the lungs, there was no significant macroscopic change in the other organs. Only the brain was sent for histological examination to the Central Pathological Laboratory.

Histological Investigation of the Brain.—Numerous blocks from all regions were examined by the usual neurohistological methods. No significant pathological changes could be demonstrated with methods which stain nerve cells, nerve fibres, and the glia. No petechial haemorrhages were seen in any of the slides, which indicates that those noticed macroscopically were only few in number. There was, however, a considerable degree of congestion of all capillaries and veins. The fat stain revealed a surprising change. As Figs. 1–3 unmistakably show, many capillaries were blocked by fat emboli. These fat emboli occurred to a varying degree in all regions of the brain, including the cerebellum. They were more frequent in the grey matter than in the white.

Discussion

The diagnosis of cerebral fat embolism is established by the histological evidence and also clinically suggested by the so-called "free interval"—although it was not entirely free of symptoms and there is some doubt whether it ended with the first collapse about 20 minutes after the convulsion or with the second final collapse about two hours later. The characteristic petechial haemorrhages of the skin were absent; in the brain only a few were encountered.

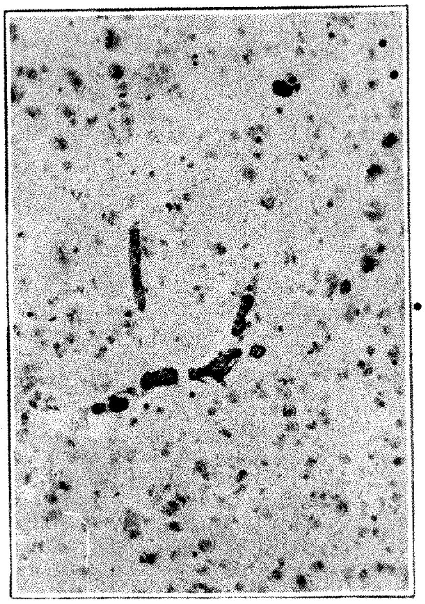

FIG. 2.—Occipital cortex. Scharlach R stain. (×130.)

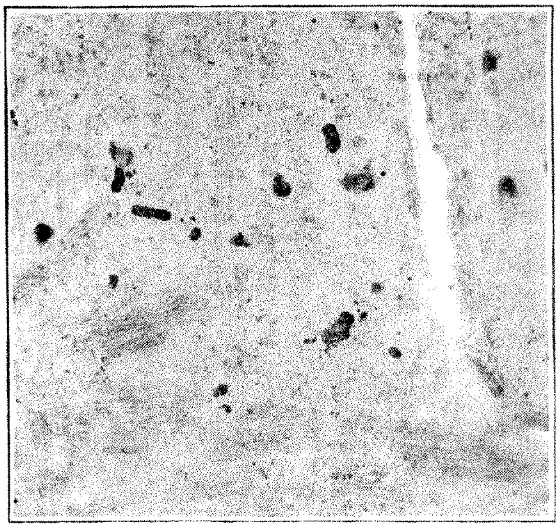

FIG. 3.—Medulla. Scharlach R stain. (×120.)

Cerebral fat embolism has not yet been described after electrical convulsion treatment. It has been found, however, by Nightingale and Meyer (1940) in a patient dying after shocks produced by triazol, and by Nielsen and Ingham (1940) after treatment with leptazol (cardiazol). In the last-mentioned case fractures of both femora were responsible, while in Nightingale and Meyer's case no fracture was noted, although a vertebral fracture could not be excluded. In the present case the patient complained of backache, but despite careful post-mortem search no fracture of the limbs, spine, or any other osseous part of the body could be detected. It is therefore necessary to consider other possible causes of fat embolism.

Apart from fractures, widely recognized causes of fat embolism are severe contusion, deep laceration of skin, severe burns, operations on adipose persons, and forceful orthopaedic manipulations (Strauss, 1933). Concussion as a causative factor has been recognized for 70 years (Robb-Smith, 1941a), and its significance has been stressed also by Silverstein and Konzelman (1940), but it should be remembered that most of the evidence is of an experimental nature (Strauss, 1933). The claim made by Robb-Smith (1941a) that blast alone may cause fat embolism has not been confirmed by subsequent authors (Zuckerman, 1941), but, if found, it should be regarded as a complication.

Convulsions and violent exertion during certain types of psychoses such as delirium tremens are occasionally mentioned as a possible cause of fat embolism (MacCallum, 1936), but the fact that fractures are more often produced by epileptic convulsions than was known in the past tends to qualify the significance of these older views. We were unable to trace any reference to this point in modern neurological treatises. One of us (A. M.) has investigated five brains from epileptics dying suddenly during or after convulsions. In four of these he failed to find fat emboli in the bodily organs, including the brain. Occasionally intravascular substances staining light pink with Sudan and usually not occupying the whole lumen of the vessels were encountered. They were also found, however, in other conditions, including carbon monoxide poisoning and tuberculous meningitis. These lipoidal substances, whatever their significance may be, are not likely to be of an embolic nature. It is possible, however, that they may have been confused with fat emboli by earlier investigators. Only in one case of death after epileptic convulsions was true fat embolism of the lung and, to a lesser degree, of the systemic circulation found. This was in a patient suffering from lipoidosis of the Hurler type (gargoylism).* The liver and spleen were enormously enlarged, and contained an abundance of fatty substances, which may have been an important facilitating factor, just as the danger of fat embolism is increased in operations performed on adipose persons.

Opinion is still divided on the role of the blood lipoids in the formation of fat emboli. The most fully substantiated instance of haemic origin appears to be alkali poisoning (Robb-Smith, 1941b), followed by either hyperlipaemia or lipoproteolysis. Macfarlane, Oakley, and Anderson (1941) were able to produce *in vitro* free fat from blood to which *Cl. welchii* toxins had been added. Winkelman (1942), surveying previous experimental evidence, seems to favour the haemic hypothesis in view of the presence of large amounts of fat in the lungs and brain following mild injury or fracture of the smaller bones of the body, which are not likely to release a supply of free fat sufficient to cause widespread embolism. It is interesting that hypercholesterolaemia occurs in a large proportion of cases submitted to electrical convulsion treatment as well as after spontaneous convulsions (Katzenelbogen, Baur, and Coyne, 1944).

At the present stage of our knowledge it is impossible to say which of the factors surveyed above has been operative in our case. Although there was no evidence of a fracture of bone or contusion or laceration of other fat deposits of the body, it must be admitted that an unobtrusive mild fracture or any other of the common sources of fat embolism might have been overlooked. So far, this case should be regarded as an exceptional complication of electrical convulsion therapy.

In reporting the above case it is not our intention to point out any increased risk associated with this form of shock treatment. It is well, however, in future post-mortem investigations of sudden and unexplained death after electrical convulsion therapy, to keep the possibility of fat embolism in mind, particularly if a fracture has been produced. One of us (D. T.) has made a previous observation of death produced by electric shock treatment: the patient was a female schizophrenic aged 42. During the first treatment a current of 130 volts, lasting 0.3 second, was given after lesser applications had failed to produce a convulsion. The fit lasted 58 seconds. After 3 hours the patient was still unconscious. At intervals until she died, 19½ hours after the fit, she almost regained consciousness. At the necropsy no injuries, burns, or fractures were found. There was acute pulmonary oedema throughout the lungs. The liver was slightly fatty, the uterus was absent, the meninges were congested, and the brain was macroscopically normal. No histological investigation was carried out.

The absence of a free interval before the onset of the terminal symptoms militates against the diagnosis of fat embolism in this case, although atypical cases have been recorded. Excessive vago-vasomotor stimulation (the second group of Alexander and Löwenbach, 1944) might be an alternative explanation.

Summary

A case has been described in which sudden death after electrical convulsion therapy was caused by cerebral fat embolism.

Neither a fracture nor any of the other recognized causes of fat embolism were found post mortem. Other possible causes of fat embolism have been considered, but no final decision is justified at the present moment. The problem calls for special clinical and pathological attention in similar cases.

We wish to thank Mr. J. W. Hulme, Assistant Deputy Coroner, Southern District, County of London, and Mr. H. G. Broadbridge, Coroner for the Western District of Middlesex, for permission to publish the case. We are also indebted to Dr. J. H. Ewen, medical superintendent, Springfield Hospital, and Dr. C. Friedman for additional clinical data. The histological slides and photomicrographs have been prepared by Mrs. E. Beck.

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PELLAGRA IN A MORPHINE ADDICT

BY

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AND

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Quite apart from those areas where it is endemic and due to inadequacy of the local diet, or where it is associated with alcoholism (Deeny, 1942), pellagra has been recorded in a variety of conditions interfering with digestion and absorption. It is not uncommon in chronic psychotics and in cases with peptic ulcer—classes of patient who may limit their diet voluntarily. Cases in which morphine appears to have been the chief factor are rare (Bean, Spies, and Blankenhorn, 1944). We therefore record the following instance.

Case History

The patient, the widow of a medical practitioner, was said to have been a morphine addict for 12 years. She took the drug in the form of 1/3-gr. tablets hypodermically—at one time as many as 20 a day. Latterly she had taken only 12 a day. In one particular week she had taken 200 tablets. The usual amount was about 100 a week. She also took large quantities of aspirin. There was a history of dyspepsia but no radiological evidence of peptic ulcer, and it is certain, in view of her behaviour, that her frequent complaints of pain were efforts to obtain morphine.

Since the addiction developed she had taken little food. She ate no vegetables and little fruit. Occasionally she ate a lamb chop, but no other meat, no milk (except in coffee), and no eggs. Her diet consisted almost exclusively of white bread and butter, a little cheese, a little bacon, tea, and marmalade. She became very thin, in contrast to her former plumpness.

She had had attacks of diarrhoea at intervals for three years. These were controlled "only by morphia." She had had brown patches on her skin off and on for years, and used to be distressed about their unsightliness. They did not irritate, and they showed the usual seasonal variation. Since taking morphine she had been very moody—easily excited, then depressed. She rarely went out, and often made scenes—screaming, etc.—when the morphine allowance was finished. Her son dreaded coming home. She was admitted to the observation unit, St. Alfege's Hospital, on Aug. 7, 1941. She was pale, and the typical brownish branny patches on her skin stood out in contrast. In general the exposed areas were pigmented. There were particularly well marked pigmented patches over the manubrium sterni and nape of the neck, disposed "necklace" fashion, also on the backs of the fingers, wrists, and insteps. Her tongue was pale and very smooth. There was no fur, despite the poor appetite and the fact that she had taken so little food before admission. Her blood pressure was 110/70. There was gross oedema of the ankles

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* This case will be published in full, together with two other cases affected by the same condition.

All tendon-jerks were absent. The patient said that they had been absent for years. She did not display the classical pellagrous dementia. Cerebration was quick and fairly accurate. She was hypochondriacal, and would resort to any device, from violence to wheedling, to get morphine. She was very self-centred. The blood Wassermann reaction and Kahn test were negative. A barium meal showed evidence of "gastritis" (thickening of rugae), with poor gastric tone and some initial delay followed by rapid emptying. No ulcer was demonstrated.

Progress.—The patient remained at St. Alfege's Hospital for 11 days, improving considerably and putting on weight. She had been extremely emaciated, with deep-sunken eyes, but at the time of her transfer had filled out considerably. No morphine was given, and after the first day no sedatives, although her craving persisted and she became very depressed when refused the drug. However, she soon became more reasonable and co-operative, and was willing to discuss other subjects than sedatives. On Aug. 18 she was transferred to Bexley Hospital, where a blood count showed Hb 44%, R.B.C. 2,430,000, C.I. 0.9. The patient was given large doses of iron and liver extract. Subsequent blood counts were as follows: Sept. 23—Hb 48%, R.B.C. 3,390,000, C.I. 0.71; Dec. 3—Hb 88%, R.B.C. 5,000,000. She was given nicotinic acid in 50-mg. doses six times daily, and thiamine in 50-mg. doses twice daily subcutaneously to a total of 1.8 g. Shortly after transfer she collapsed and was very ill for a few days. On recovery from this attack her physical improvement was progressive. She developed a ravenous appetite. There was at first no mental improvement, but four months after the beginning of treatment the mental state also changed for the better, and by mid-January, 1942, she had improved strikingly: She was quick, lively, cheerful, and took an active interest in her surroundings and in plans for her future. She was much less pale and the branny patches had become less evident. She was able to get about well and had put on much weight. There was still some oedema of the ankles on exertion. She was discharged home on Feb. 7, 1942.

When visited 16 months later the patient was active, able to walk several miles, and could do her housework; but unfortunately she had not co-operated in out-patient treatment, and was receiving no vitamin concentrates. She had deliberately restricted her diet on account of dyspepsia, and was taking only the small priority ration of eggs and milk which she was allowed, together with a very little bread-and-butter. She again had slight oedema of the ankles and branny patches on face, neck, arms, wrists, and hands; and her memory, especially for names, was poor. She declared that she was not taking morphia or alcohol.

Discussion

It is clear that in this case, as in most cases of vitamin deficiency, there was evidence of shortage of more than one essential factor (Sebrell, 1940). The main pellagrous picture is attributable to a nicotinic acid deficiency, but the polyneuritis and the cardiovascular disturbance suggest a thiamine lack, and the anaemia may have been due to a shortage of iron or of pyridoxine (vitamin B_6: Unna, 1940). The exact mechanism of causation cannot be determined with certainty, but the principal factor was probably the apathy and loss of appetite induced by morphine addiction.

The effect of morphine on digestion and absorption is complex. The secretion of digestive juices is diminished (Douthwaite, 1932; Edwards and Gunn, 1941), but the effect of this reduction is counterbalanced by a subsequent increase in the gastric secretion and by the fact that the food remains longer in the stomach and intestine. Thus there is no reduction in absorption attributable to the direct action of morphine. It does not therefore appear that direct disturbance of digestive function by the drug can have been a prominent factor in the production of pellagra.

A further possibility is suggested by the work of Shideman and Seevers (1941), which indicates that chronic morphine addiction and thiamine deficiency both produce the same sort of metabolic defect (characterized by a reduction of the normal increase in oxygen output from muscle following addition of pyruvate and co-carboxylase *in vitro*). Ellinger, Hassan, and Taha (1937) noted that dehydrogenases are inhibited by narcotics. This would not account for the pellagrous features of the above case, but might be partially responsible for the development of polyneuritis and oedema. The tendency, after cessation of therapy, to relapse without a return of the morphine addiction does not eliminate any of these possibilities, since, on the one hand, permanent metabolic changes may have been caused by the prolonged habituation to morphine, and, on the other, her diet after discharge was probably inadequate.

Summary

A case of pellagra in a long-standing morphine addict is discussed. There were also polyneuritis and anaemia. Great improvement occurred with treatment, followed by relapse on cessation of therapy. Loss of appetite due to morphine was thought to be the cause of the pellagra. (The possibility that morphine may disturb metabolism more directly is considered.)

Our thanks are due to Dr. Eli Davis, deputy medical superintendent, St. Andrew's Hospital, Bow, for his help in diagnosis and treatment of the patient and for his assistance in the compilation of this report.

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MALARIA EPIDEMICS AT EXCEPTIONALLY HIGH ALTITUDES IN KENYA

BY

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Malaria in tropical and subtropical countries is usually thought to disappear once a certain altitude is reached, though the accepted "safe" height varies from place to place. Six thousand feet is usually regarded as the upper limit. Manson-Bahr (1941) quotes figures for Abyssinia which indicate that the transmission of malaria in that country ceases at 6,600 feet, though doubtful records exist of cases of benign tertian malaria at Addis Ababa at 8,175 feet. Schwetz (1942) in a review of the African literature gives limits up to 5,000–6,500 feet.

Hitherto in Kenya Colony malaria was thought to be absent from places above 7,000 feet. In June, 1941, a small farming community at Londiani (7,500–7,800 feet) was suddenly stricken by a severe epidemic of the disease. On 12 of the 14 farms at least one European became infected between June and August, and on every farm cases of malaria were numerous among the African labourers. Blood slides taken from 35 ill Africans (of non-immune tribes, and long resident in the district) were examined, and 27 showed malaria parasites. Twenty-six of these infections were *Plasmodium falciparum*, and one was *P. vivax*. This represented only a small sample of the total number of cases. The European infections were malignant tertian with the exception of a single case of benign tertian.

The Londiani district (75 miles from the provincial centre, Kisumu) comprises a small township with an Indian bazaar and native location surrounded by European farms extending for a radius of about 12 miles. There was also at the time of the outbreak a large military camp sited at Londiani. Bordering the farms there are extensive areas of forest reserve in which live African squatters numbering several thousands. The epidemic particularly affected the farms and the military camp, though in the latter many of the cases may have been relapses from infections contracted elsewhere. It is interesting to note that little malaria occurred in the isolated huts of the forest squatters.

The epidemic came to an abrupt end in August, 1941. Smaller outbreaks occurred in 1942, 1943, and 1944, at the same season.

Many of the cases were severe because treatment was delayed, the reason for the delay being that malaria was not thought of in these cold highlands. In 1943 several cases with typhoid-like symptoms and nearly moribund were seen; and these were proved to be malaria only by finding rings and schizonts of *P. falciparum* in the blood. The same curious localization of cases occurred in the later years: in November, 1943, through the kindness of the military authorities, I was permitted to examine 300 Italian prisoners of war who had been resident for at least six months in the Londiani camp, and not a single one showed malaria parasites in the blood slides (thick drop preparations).

Much of the country at Londiani is vlei land, and in rainy weather becomes waterlogged, providing ample facilities for mosquito breeding. Dammed streams, quarry pits, roadside drains, and seepages are also common anopheline breeding-places. Table I gives the results of several mosquito surveys undertaken at Londiani.

TABLE I.—*Anopheline Mosquito Surveys—Londiani*

Date	Adults*	Larvae
Dec., 1927 ..	Nil	*A. garnhami*
June, 1936 ..	*A. gambiae* (6)	*A. natalensis* and *coustani*
Nov., 1936 ..	Nil	*A. natalensis* and *garnhami*
May, 1941 ..	*A. christyi*	Nil
July, 1941 ..	*A. garnhami* (2)	*A. christyi* and *squamosus*
Aug., 1941 ..	*A. christyi* (5)	*A. christyi* (403), *squamosus* (120), and *coustani* (90)
April, 1942 ..	*A. garnhami* (6) and *kingi* (2)	*A. christyi, squamosus,* and *natalensis*
May, 1942 ..	Nil	*A. gambiae*
July, 1942 ..	*A. gambiae* (3) and *christyi* (6)	*A. christyi* (319), *coustani* (15), and *garnhami* (4)
June, 1943 ..	*A. gambiae* (2), *christyi* (4), *garnhami* (5), *squamosus* (5)	*A. christyi* (7) and *garnhami* (39)
Jan., 1944 ..	*A. christyi* (2) and *natalensis* (1)	*A. christyi* (255) and *squamosus* (5)

* Adults were collected from native huts, cattle-sheds, and river-banks. All *gambiae* came from dwellings.

Of the seven species represented at Londiani only one—*A. gambiae*—is a known vector of malaria. The salivary glands of all the adults collected were examined for sporozoites, but no infections were found. (The glands of one *A. gambiae* were very heavily infected with leptomonads.) These surveys indicate that *A. gambiae* breeds for a short period about May and that adults persist during the next two months. Climatic records for Londiani are shown in Table II.

TABLE II.—*Climatic Records, 1941—Londiani (7,500 feet)*

Month	Rainfall in Inches	Temperatures* in Degrees F.		
		Mean Max.	Mean Min.	½ Max. Min.
Jan.	3·46	73	45	59
Feb.	1·00	76	46	61
March ..	4·56	76	50	63
April ..	10·22	75	50	62
May ..	8·78	73	49	61
June ..	5·47	70	47	59
July	11·01	67	47	57
Aug. ..	5·05	66	46	56
Sept. ..	3·36	70	46	58
Oct.	3·33	71	47	59
Nov. ..	6·35	70	47	59
Dec. ..	2·93	70	47	59

* 1941 temperature records are not available. These figures represent the mean of 1942, 1943, and 1944 observations.

In May, 1944, the extension of malaria into the highlands of Kenya went one step further. An epidemic of a fatal disease was reported on a farm about 20 miles to the north of Londiani at an altitude of 8,300 to 8,500 feet. Twenty cases (among 220 inhabitants) showing symptoms of headache, backache, shivering, and fever were examined and blood slides were taken. Previously one woman had died after six days' illness (during the second half of which she had been semiconscious). Eight cases showed *P. falciparum* (including one with gametocytes) in the blood, and of these eight, six were proved not to have left the farm for at least six months. The fatal case was probably due to cerebral malaria. Most of the sufferers were Africans of the non-immune Kikuyu tribe and lived in huts scattered on the slopes of the hills and down by the streams. A mosquito survey revealed the presence of numerous anopheline larvae (*A. christyi, garnhami,* and *ardensis,* but no *gambiae*) and two very worn specimens of *A. gambiae* (females) in huts. Suitable breeding-places for *A. gambiae* existed in the cattle- and pig hoof prints in the swampy sides of the streams. The epidemic began about May 24, and the last case occurred on June 7. Malaria was apparently confined to this one farm; squatters living in the adjacent forests were unaffected. Climatic records of a B.E.A. meteorological station about 10 miles from this area and 500 feet higher are shown in Table III.

TABLE III.—*Climatic Records, 1944—Equator Station (9,000 feet)*

Month	Rainfall in Inches	Temperatures in Degrees F.		
		Mean Max.	Mean Min.	½ Max. Min.
Jan.	0·34	68	45	57
Feb.	0·67	71	46	58
March ..	2·48	70	47	59
April ..	3·85	66	48	57
May ..	5·07	66	47	57
June ..	2·66	65	46	56
July	3·86	60	47	53
Aug. ..	11·66	61	47	54
Sept. ..	6·19	63	47	55
Oct.	2·14	65	46	55
Nov. ..	4·53	64	47	55
Dec. ..	1·11	64	47	55

Temperatures on the affected farm were probably 2° F. higher.

Discussion

Malaria at these surprisingly high altitudes (7,500–8,500 feet) must be governed by three factors at least—the presence o human carriers, a range of rainfall and temperature suitable fo the breeding of *A. gambiae,* and a temperature above the know minimum, to enable the parasite to develop in the mosquito

The carrier problem is simple. Most farms employ larg numbers of Africans who come from the malarious lowlands o the province, and these men, and more particularly the childre who accompany them, provide a good source of gametocytes

The climatic factors concerned in the breeding of *A. gambia* are rainfall and temperature. This species is essentially dependent upon rainfall, and Tables II and III show that it i adequate at Londiani and at the Equator station. Variou authors (De Meillon, 1934; Leeson, 1931) give a mean temperature of not less than 61° F. as the limit for *A. gambiae.* O the farm below the Equator station this temperature is reache in one month of the year only—in March—when the mean i 59° + 2° = 61° F. At Londiani, four months—February, March April, and May—appear to be suitable, though the low rainfal of February invalidates that month for *A. gambiae* breeding A sudden drop in temperature occurs in June, and this presumably inhibits further breeding until the rains and highe temperatures of the succeeding year.

Lastly, there is the sexual cycle of the parasite in the mosquito to consider, and if outside (shade) temperatures were alon to be reckoned with it is obvious that development could no occur. Wenyon (1926) states that a minimum *constant* temperature of 64.4° F. is required for *P. falciparum,* and at this temperature development probably takes three weeks at least. A the Equator station hourly readings showed that temperature above 64° F. were attained for not more than two hours in th 24. At Londiani the mean temperature never reaches th critical figure. The answer to the problem is provided by th domestic habits of this species of mosquito. *A. gambiae* spend most of its life in human habitations—viz., small thatched huts with no windows or ventilation, with fires burning night an day, and overcrowded at night with people and goats. In suc circumstances the temperature is 5 to 10° F. higher than tha prevailing outside. This suggests that the mean temperatur inside huts on the "Equator farm" was 59°+5° F., and a Londiani 61°+5° F., during the month of May. These figure just suffice for sporogony of *P. falciparum.*

The meteorological conditions are such that the survival *A. gambiae* throughout the year is extremely doubtful in th case of Londiani and impossible in the case of the "Equat farm," and it is reasonable to assume that the mosquito introduced annually by road or rail transport. Partial co firmation that the latter occurs is provided by the results searches of trains arriving at Kisumu. Sixty-three *gambi* were caught in the coaches in the years 1943 and 1944.

It is unlikely that Wynter-Blyth's (1943) explanation of t occurrence of malaria at exceptionally high altitudes in t

Nilgiris (6,300 feet) applies here. He suggested that warm winds blowing from below brought the mosquitoes up; here they would have to be blown 20 miles, up 4,000 feet, and through a narrow twisting valley, which is inconceivable.

A hypothetical diary of events of the epidemic on the "Equator farm," based on the above considerations, is as follows:

(i) Gravid *A. gambiae* were transported to the farm in motor vehicles coming by road from a malarious valley 20 miles below. *March.*

(ii) Eggs laid and first (and only) generation emerged. *Beginning of April.*

(iii) These adults bit African gametocyte carriers. *April.*

(iv) Sporozoites in glands. *About May 13.*

(v) Human cases. *May 24 to June 7.*

(vi) Death of last infected mosquitoes. *About May 27.*

Summary

Epidemics of malignant tertian malaria began for the first time in Londiani in the year 1941 and were repeated on a milder scale in succeeding years (May to July). The altitude of the locality is 7,500 to 7,800 feet. A few cases of benign tertian malaria also occurred.

In 1944 a localized outbreak of malignant tertian malaria occurred on a farm about 20 miles to the north of Londiani, at an altitude of 8,300 to 8,500 feet. It lasted for a fortnight only.

Anopheles gambiae Giles was found at both places, and is the probable vector.

Climatic records indicate that the breeding of this species is possible at 8,300 feet only during the month of March and at 7,500 feet only during March, April, and May.

Temperature records suggest that the completion of the sporogonic cycle is possible only because *A. gambiae* spends practically all its life indoors, where the temperature is several degrees higher than outside. The external environment is too cold for development to occur.

It is probable that *A. gambiae* is reintroduced annually by road and rail transport.

I have to thank the Hon. Director of Medical Services, Kenya, for permission to publish this paper, and Mr. J. O. Harper, Entomological Field Officer, for help in some of the mosquito surveys.

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Medical Memoranda

Mediastinal Emphysema and Bilateral Pneumothorax after Tracheotomy

The following case of complications after tracheotomy is thought to be interesting enough to be put on record.

CASE REPORT

Early on Christmas morning I operated on a little girl, 2½ years old, suffering from acute asphyxia; by 10 a.m. (10 hours afterwards) the child had died. The obstruction had come on quite suddenly the previous evening. There was marked retraction of the intercostal spaces and the suprasternal notch; the throat was injected, but no membrane was seen. The temperature was 100° F. The mother stated that there had been an alteration in the voice for some time.

Tracheotomy was performed in the usual way without undue haste under light general inhalation anaesthesia. The engorged veins over the trachea were ligated to preserve haemostasis; the layers of the cervical fascia were then incised—the pretracheal transversely—and the tracheotomy tube was inserted without difficulty through an opening made into the trachea. The breathing improved as a result, but did not seem to be completely relieved. On return to the ward the child's condition was fair, but later she became cyanotic, gasped for breath, and finally stopped breathing and died.

I am indebted to Dr. Donald Teare for the post-mortem findings: "Small wart-like papillomata of the vocal cord, tracheitis, acute bronchitis, emphysema of the mediastinum (some of the bullae being 2 cm. in diameter), and bilateral pneumothorax were found." He adds the comment that "acute respiratory infection was superimposed on the papilloma of the cord so that the tracheotomy did not completely relieve the respiratory distress." Though this is the first case of this nature that I have encountered, it would appear from the literature that this complication is not so rare as might be supposed. Minor degrees of emphysema of the mediastinum probably resolve and are therefore overlooked unless a radiograph is taken, and severe conditions, with pneumothorax ending fatally, may not be properly diagnosed unless the disaster which has overtaken the lungs is recognized.

At operation a suture was placed at the top end of the wound because a deep and rather mobile trachea necessitated a long incision, as is often the case in a child, otherwise the wound was left open and lightly packed with gauze beneath the cannula. Close suturing has been thought to be a possible cause (C. Jackson). There is no reason to suppose that the pleural dome was injured at the time (another cause cited). The usual explanation given is that air enters through the wound in the cervical fascia, becomes imprisoned in the mediastinum, especially when the obstruction is not relieved, and finally reaches a tension high enough to rupture the mediastinal pleura, which is generally thin, particularly in children. When there is a pneumothorax there seems always to be a coexisting mediastinal emphysema; the pneumothorax too is usually bilateral.

Michels (1939) has suggested the preliminary use of the bronchoscope to restore an adequate airway as early as possible and so convert a struggling and restless child into a quiet one. At operation it would seem desirable to disturb the layers of the cervical fascia as little as possible after incising them. The possibility of the sudden onset of pneumothorax as a complication after operation, as shown by hyperresonance, a displaced heart, and absent breath sounds, must be kept in mind, and appropriately treated by aspiration when it appears.

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An Unusual Case of the Labyrinthine Fistula Symptom

Rarefaction and compression of air in the external auditory meatus producing nystagmus, giddiness, or other labyrinthine reactions is known as the labyrinthine fistula symptom. The syndrome is caused by the partial destruction of the bony wall of the labyrinth (commonly by chronic otitis, rarely acute), so that alterations in atmospheric pressure within the external auditory meatus are transmitted through the perforated drum membrane to the labyrinthine fluid. This syndrome is important because it indicates direct communication between the infected middle ear and the labyrinth, and in consequence requires special care.

CASE HISTORY

The patient, a man aged 35, was admitted to the West Middlesex County Hospital on Aug. 28, 1943, having had right otorrhoea of 16 years' duration. The ear had been operated on in 1927, a few weeks after onset of aural discharge, when an incomplete mastoidectomy was performed. For eight days previous to admission he had complained of right-sided headache. This had been followed five days later by the development of pain in the right ear, accompanied by true vertigo—objects in the room moving round him in a horizontal plane—and effortless vomiting. He could not say whether objects moved right to left or left to right. Once during those eight days, while lying in bed on his right side, he had felt "giddy" and vomited.

On examination there was a non-pulsating offensive purulent discharge from the right ear. No nystagmus was obtained when carrying out the so-called "labyrinthine fistula test" (rarefaction and compression of air in the external meatus). There was no tenderness over the mastoid. No abnormality of the central nervous system was found, and the C.S.F. was normal. The discharge gave a growth of anaerobic streptococci and the blood count showed a moderate leucocytosis. The history was suggestive of a labyrinthitis. However, signs of the labyrinthine fistula symptom remained negative, although the patient consistently complained of giddiness and headaches.

Three days after admission he dreamt* that he was in a motor-car which was going round and round, faster and faster, from right to left. When he awoke he was violently sick. Inquiry revealed that he had been lying with his right temporal region pressing on the edge of the mattress. Pressure was applied to that region just above the auricle, when a horizontal rotary nystagmus—slow movement to the left—occurred, and the patient had a recrudescence of the above symptoms. It was noted that the old operational scar was more extensive than usual and reached high up on the right temporal region. The E.N.T. surgeon was consulted, and it was decided that the reason for obtaining nystagmus in this unusual site was that connecting the external scar with the labyrinthine fistula was a band (probably fibrous) which transmitted to the labyrinth pressure applied to the external scar.

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* Dreams in patients suffering from labyrinthitis with fistula symptoms were described by K. Eisinger and P. Schilder in *Mschr. Psych. Neurol.*, 1929, **73**, 314.

A radical mastoidectomy was performed. The bone was found to be sclerotic, and the middle ear contained granulation tissue, pus, and a cholesteatoma. There was a fistula extending to the horizontal semicircular canal, filled with granulation tissue, down to which the fibrous tissue of the old incision extended. Thus the suggested causative mechanism was confirmed.

COMMENT

This case has been recorded as an interesting example of the "labyrinthine fistula symptom," in which nystagmus and giddiness were obtained by pressure over the temporal bone and not on compression or rarefaction of air in the external meatus. The narrow external meatus and the scar condition which had developed after the first operation explain this abnormal symptomatology.

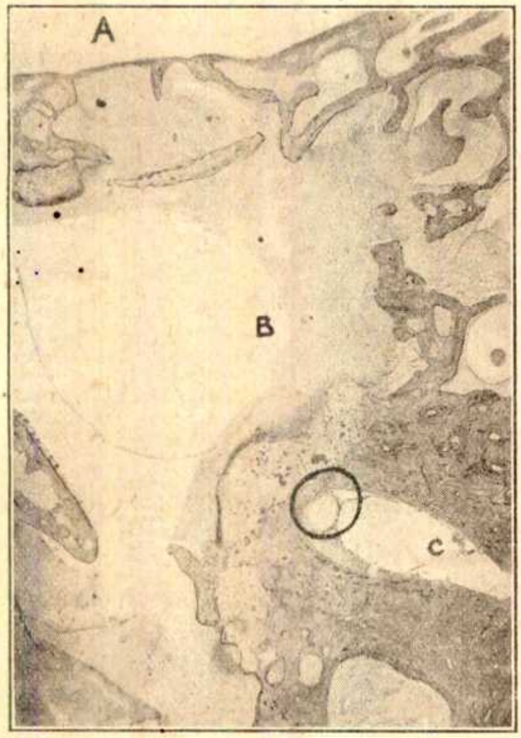

FIG. 1.—A, the middle fossa. B, the antrum. C, the interior of the horizontal bony labyrinth.

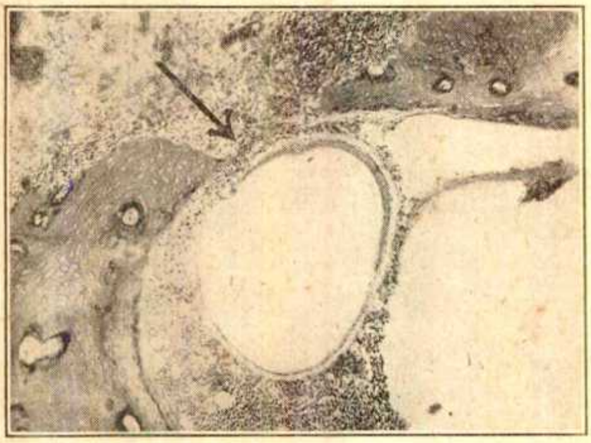

FIG. 2.—High-power field of marked circle in Fig. 1. The fistula is indicated by an arrow.

The photomicrographs taken from a case of purulent labyrinthitis, explain the mechanism of the fistula symptom, demonstrating the perilymphatic space exposed through the erosion of the bony semicircular canal. This histological section was kindly lent to me by Mr. Eisinger, E.N.T. surgeon attached to this hospital.

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Reviews

THE AMINO-ACIDS OF FOOD

The Amino-acid Composition of Proteins and Foods. Analytical Methods and Results. By Richard J. Block, Ph.D., and Diana Bolling, B.S. (Pp. 396. $6.50 or 36s.) Springfield and Baltimore: Charles C. Thomas; London: Baillière, Tindall and Cox.

The publication of this well-produced, if rather high-priced, monograph is timely for two reasons. First, it collects in one place data that have so far been available only after prolonged search in a widely scattered literature; secondly, it shows how very much more work is needed if we are to have anything like a complete picture of the amino-acids required by man and of their quantitative distribution in his foods. The authors are well-known authorities in the United States, where they have carried out and published new or improved methods for estimating histidine, threonine, leucine, *iso*-leucine, and valine, as well as extensive studies in protein chemistry, notably on serum protein and on keratin and allied substances.

One would therefore expect their book to have a strong practical bias, and in this one is not disappointed. The general lay-out of the first eight chapters is similar: methods for breaking down the proteins of food are given, and these are followed by accounts of any essential separations that must then be carried out before the application of more or less specific tests for individual amino-acids. In these chapters the authors consider in turn the diamino-acids (arginine, histidine, lysine, hydroxylysine, and citrulline); the aromatic amino-acids (tyrosine, tryptophan, phenylalanine, diiodotyrosine, and thyroxine); the sulphur-containing amino-acids (cystine, cysteine, and methionine); the β-hydroxy amino-acids (serine and threonine); the "leucines" (leucine, *iso*-leucine, and valine); the dicarboxylic amino-acids (aspartic and glutamic acids); glycine and alanine; and proline and hydroxyproline. Each of these specialist chapters ends with detailed tables showing the amounts of the relevant amino-acids present in food and other proteins, in so far as this information is available. Some of it is doubtless new and derived from the authors' own laboratory.

In Chapter IX attention is turned to a consideration of general methods for amino-acids—and here there are certainly to be found matters of interest to others than those concerned with practical problems of food composition. That the book has gallantly struggled to keep up to date with a very rapidly moving subject is witnessed by the inclusion here of brief references to the partition chromatography introduced by Gordon, Martin, and Synge, and extended by these workers and by Catch, Cook, and Heilbron—an all-British contribution to this branch of science—as well as to the microbiological methods now being rapidly developed at several laboratories in the United States. Both these procedures will doubtless deserve and get much more detailed attention in the many subsequent editions of this admirable monograph, to which we look forward with interest and the certainty of profit.

A tenth chapter consists of summary tables. There is a slight dogmatic tendency, hardly justified by the experimental evidence available, to be found in the authors' inclusion here of data on the daily quantitative amino-acid requirements of man. Further, they have included histidine in the category of "essential," in spite of the findings of Rose, Haines, Johnson, and Warner, whose paper is not mentioned in the bibliography of some 700 titles. Nor are the titles mentioned of certain other papers by Holt and colleagues, and of yet others by the Rose group; these all bear on the problem of essentiality, not perhaps strictly germane to the book's main theme. Yet the conclusions of these papers are given in Chapter X, and the reader should surely be made able to consult the original papers—otherwise this chapter may appear to consist of summary tables in a sense not intended by the authors. Besides the bibliography there are both author and subject indexes, as well as an interesting and unusual page of typographical information. But the printer slipped once—when setting the title of Chapter VII in the table of contents (p. xiv). The authors, again, can surely not have meant to instruct the user of the polarigraphic cystine determination to keep the voltage constant.

However, criticism on these and other minor points is disarmed in advance by the authors' request for amendments and corrections: that so few errors or omissions can be found within the 300-odd pages is evidence of their enthusiasm and thoroughness. They and the publishers are to be congratulated, as are all those who will have sense enough, and the good fortune, to acquire a copy of what can become in the course of a very few days an invaluable—even an indispensable—companion in any laboratory or office where food is of the essence of the problem.

DECLINING POPULATION

Population Facts and Policies. By Eva M. Hubback. (Pp. 47. 2s. 6d.) Published for the British Social Hygiene Council by George Allen and Unwin.

Miss Hubback's pamphlet gives a clear and impartial summary of the demographic facts which lead to the conclusion that our population will decline and of the remedies or palliatives which have been proposed. We need not summarize these—we have done so many times; perhaps, however, some general reflections may be permitted.

The various proposals of financial aid to parents are too vague for it to be possible to say definitely whether, let us say, a married couple with five children will, after satisfying the basic needs of the family, have as much to spend on "pleasure" as a childless couple *at the same economic level.* But common sense, even unfortified by statistics, suggests that the childless *will* have a good deal more to spend on themselves. That is no doubt why so much stress is put, and quite rightly put, upon the moral advantages of old-fashioned family life. Still, human beings are imperfect, and the question may be asked whether the simplification of life which war conditions imposed might not, if it became a permanent feature of our civilization, do a good deal more for family life than anything else. One does not miss luxuries and pleasures which nobody can enjoy. One envies somebody, not nobody.

LESIONS OF THE SHOULDER

Shoulder Lesions. By H. F. Moseley, D.M., M.Ch., F.R.C.S., F.A.C.S. (Pp. 181; illustrated. $4.50 or 25s.) Springfield and Baltimore: Charles C. Thomas; London: Baillière, Tindall and Cox. 1945.

The tendency to produce monographs upon very limited aspects of the subject of surgery continues; one of the most recent additions to the list is *Shoulder Lesions*, by H. F. Moseley, of McGill University. The advantages of such monographs are here well displayed, for the surgeon will find a much more satisfying and practically useful account of the various troubles which arise around and in the shoulder-joint than he could possibly expect in even the best general book on orthopaedic surgery. As the author correctly points out, far too little attention has been devoted to many shoulder lesions, considering their frequency.

The first two chapters, upon the mechanism and examination of the shoulder respectively, are excellent, and there is a good description of the scalenus syndrome in the neurological chapter, which is by Dr. McNaughton. Recurrent dislocation of the shoulder is fully discussed, the author's conclusions being that the Bankart operation is superior to all others in that it is a direct repair of the pathological lesion. Derangements of the so-called "rotator cuff" receive adequate attention. The illustrations, especially the skiagrams, have reproduced well.

The general production of the book is up to the high standard set by Messrs. Charles C. Thomas for their publications, but the appearance of an ordinary cartoon, depicting patients with shoulder lesions crowding into the doctor's surgery, on page 146, is a little incongruous and seems out of place in a book of this kind. Will the next "advance" be the introduction of the comic strip into serious medical works?

Notes on Books

Gonorrhoea is a collection of twelve articles on the subject published by the U.S. Office of War Information. The first, entitled "The Management of Gonorrhoea in General Practice," carries the authority of the American Neisserian Medical Society and should be an excellent guide for the general practitioner in not only the treatment but the handling of cases of gonorrhoea. It is pointed out that the mere treatment of the disease does not constitute the sole duty of the doctor; he must diagnose correctly, see that contacts are followed up, and ensure that the patient is really cured. No mention is made of penicillin, but the use of this antibiotic is described in subsequent articles; there is an excellent "reading list" appended. Other articles include "Treatment of Gonorrhoea," issued by the U.S. War Department, giving the details of routine penicillin administration; "Studies on the Action of Penicillin"; "The Treatment of Sulphonamide-resistant Gonorrhoea with Penicillin"; "Penicillin in the Treatment of Ophthalmia Neonatorum"; "The Successful Treatment of Gonorrhoea with a Single Injection of Penicillin." This is an up-to-date symposium, and all those who treat gonorrhoea will do well to consult it if they are fortunate enough to obtain copies through the Librarian at the American Embassy, 1, Grosvenor Square, London, W.

The second edition of Dr. J. **BAILEY CARTER**'s *Fundamentals of Electrocardiographic Interpretation* (Springfield and Baltimore: Charles C. Thomas; $6.00 post paid) has unfortunately a large proportion of poor illustrations. Many are photographically bad, or reduced to such small size as to be hard to read. The text is too scanty, and much of the extensive bibliography might well be reduced to leave room for more. The index is inadequate. The discussion on chest leads leaves even the experienced reader in some confusion. Nowadays pressure on the carotid sinus has long displaced "pressure on the vagus." There are omissions such as ventricular fibrillation as a cause of Stokes-Adams attacks; parasystole is not mentioned; the discussion of bundle branch block is out of date. Neither the student nor the more advanced reader will find this book of much assistance.

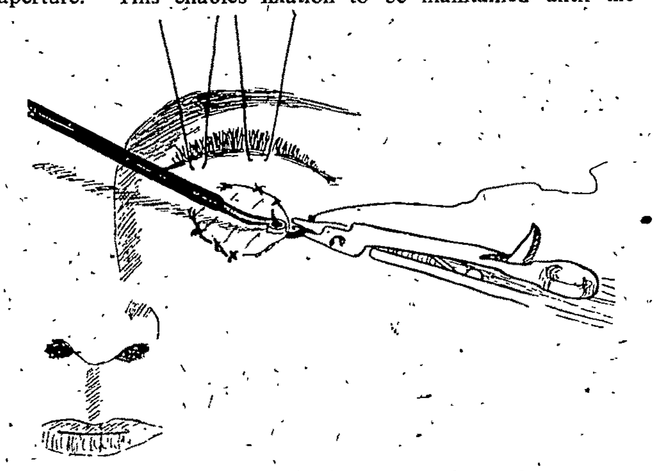
Hayfever Plants, by **ROGER P. WODEHOUSE**, Ph.D., of the Lederle Laboratories, has appeared as Vol. XV of a new series of Plant Science books edited by Frans Verdoorn. It is published by the Chronica Botanica Company, of Waltham, Massachusetts, U.S.A., and by William Dawson and Sons Ltd., London, W.1, at the price of $4.75 or 30s. The purpose of the book (which most readers in Europe will find far too comprehensive) is to bring together the botany that should be known in order to gain a clear understanding of the part that plants and their pollens play as causes of the allergies, of hay-fever and asthma. As the subtitle indicates, the plants are dealt with in regard to their appearance, distribution, time of flowering, and their role in hay-fever, with special and very detailed reference to the flora of North America. Chapter 1 is on the botany of hay-fever; Chapter 2, on hay-fever plants—gymnosperms; Chapter 3, on hay-fever plants—angiosperms; and Chapter 4 is entirely devoted to regional surveys in North America.

Preparations and Appliances

DEVICE FOR FIXATION OF A WOLFE GRAFT

Major I. C. **MICHAELSON**, R.A.M.C., ophthalmic specialist, writes:

The accompanying sketch shows a simple device for the fixation of a thin Wolfe graft while it is being stitched into the receiving area. There is a narrow slit opening in the ring just wide enough to allow the thread to be brought out from the aperture. This enables fixation to be maintained until the



needle has been drawn completely through the graft and aperture. The under surface is grooved to permit better fixation.

The purpose of this device is to avoid the trauma inevitable with forceps and the time spent when a plastic hook is used. It has proved of service in the work of plastic and ophthalmic units in the Middle East.

The appliance is made in stainless steel by Messrs. Down Bros. Ltd.

BRITISH MEDICAL JOURNAL
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THROMBO-EMBOLISM

For many decades after Virchow[1] established the embolic basis of infarction of the lung the magnitude of the clinical disaster of pulmonary embolism distracted attention from the source, usually symptomless, of the responsible clot. More recently clinical interest has turned from the lost horse to the stable door, and a symposium in the February number of *Surgery* finally relegates pulmonary embolism to its proper pathological perspective as an occasional effect, simple and mechanical, of a common but rather complicated pathological process. The term "thrombo-embolism" covers all thrombosis, overt and occult, and the embolism which occasionally results from it. Denecke[2] first suggested that the primary thrombus which precedes pulmonary embolism develops not in the femoral and iliac veins, which had previously been suspect, but in the deep veins of the calf and foot. This was confirmed by Rössle,[3] who, at 324 consecutive necropsies, found thrombi in the calf veins in no less than 27%; in nearly a third of these there was a concomitant femoral thrombosis, but the ilio-femoral vein was alone affected in only 2.1%. W. G. Hunter and his associates[4] have traced 9 out of 11 pulmonary emboli to the legs. Thrombo-embolism is not solely a post-operative phenomenon; it may occur in any adult patient who is confined to bed; it is, however, particularly common at certain ages and after certain operations. Barker and others,[5] in a study of 172,888 operations performed in the Mayo Clinic, reported that thrombosis and embolism were twice as common after laparotomy, and three times as common after trans-abdominal operations on the pelvic organs, as after other operations, and that they occurred most often after extensive resections of abdominal organs. De Takats and Fowler[6] recognize in the veins of the lower extremity certain types of thrombosis which, though fairly well defined, may merge into each other by growth of thrombus.

1. Superficial phlebitis may develop, with large red painful thrombi visible and palpable, in pre-existent varices.
2. Ascending plantar vein thrombosis, not uncommon in younger patients, gives the tenderness which Payr[7] described over the lateral aspect of the foot, behind the internal malleolus, and along the posterior tibial vessels.
3. In calf muscle thrombosis, which often escapes detection until pulmonary embolism occurs, there may be cramp in the calf, and Homans's sign[5]—pain in the calf when the knee is extended and the ankle dorsiflexed—can be elicited.
4. Femoral thrombosis, associated as it usually is with "white-leg," is seldom followed by pulmonary embolism. Indeed, Homans has confidently affirmed that if an embolus does detach "one can be reasonably certain that it comes not from the vein of the swollen limb but from the other or innocent-appearing leg." Veal and Hussey[9] and Fine and Starr[10] report instances of pulmonary embolism occurring in the presence of "white-leg."
5. In pelvic vein thrombosis there are swelling and cyanosis of the thigh and sometimes buttock, distension of superficial veins, and, occasionally, slight suprapubic oedema, frequency of micturition, mucous diarrhoea, and firm cords palpable from the rectum; pulmonary embolism is not infrequent if the thrombus is confined to the hypogastric veins, less likely to occur after its extension to the upper pelvic veins.

Thrombosis in the deep leg veins is usually non-inflammatory. Hunter[4] found histological evidence of inflammation in only 2.5% of the thrombosed veins which he examined. For spontaneous coagulation there are presumed to be three important causal factors—slow circulation rate, increased coagulability of the blood, and injury to the intima of the affected vessel. The first of these can be ascribed predominantly to immobility in bed, and venous return may be further impeded by the pressure of an enlarged uterus, by gaseous distension of the abdomen, and by a tight abdominal binder. Flexion of the thigh can obstruct the ilio-femoral veins in the groin if the patient is kept sitting up in bed, and a "donkey" inserted under the knees to maintain that position can compress the popliteal and calf veins. Simpson[11] has reported a real increase in pulmonary embolism among elderly London people who developed "shelter leg" from sitting night after night in camp chairs, a wooden crossbar compressing the back of the calf. Some years ago a remarkable increase in the incidence of thrombo-embolism in a famous hospital abroad followed the introduction of a special type of bed designed to bring the patient effortlessly to a sitting position, hips and knees flexed, by the turning of a handle. Yet slowing of the venous circulation does not in itself cause thrombosis; blood remains fluid in a segment of vein isolated between two ligatures, provided the intima has not been damaged. Ochsner[12] summarizes certain post-operative blood changes which facilitate clotting: hypoproteinaemia, hyperglobulinaemia, increase in fibrinogen, polypeptide, peptidase, and calcium, acceleration of the sedimentation rate, exaggeration of the tendency of the platelets to agglutinate, and, if dehydration has occurred, increased viscosity of the blood. In addition, thrombokinase is presumed to be liberated from the operation field, and Barker[5] reports that the incidence of thrombo-embolism is precisely twice as high after bilateral as after unilateral herniotomy. Important as these post-operative blood changes may be, it has not yet been shown that they are more remarkable after those operations, and at those age periods, when thrombo-embolism is commonest. More convincing is the detection by de Takats[6] in the subjects of thrombo-embolism of a decreased heparin tolerance and even—though this has been more difficult to establish—of an increased prothrombin time in the diluted plasma. Injury to the intima, important in arterial thrombosis and post-traumatic venous thrombosis, seems to play little part in post-operative thrombosis and the thrombosis of recumbency. Perhaps the pressure of the calf on the mattress causes intimal bruising and decides the localization of the initial thrombus.

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[1] *Beitr. exp. Path. Phys.*, 1846, **2**, 1.
[2] *Münch. med. Wschr.*, 1929, **76**, 1912.
[3] *Virchows Arch.*, 1937, **300**, 180.
[4] *Surgery*, 1945, **17**, 178.
[5] *Proc. Mayo Clin.*, 1940, **15**, 769.
[6] *Surgery*, 1945, **17**, 153.
[7] *Zbl. Chir.*, 1930, **57**, 961.
[8] *New Engl. J. Med.*, 1934, **211**, 993.
[9] *Surgery*, 1945, **17**, 218.
[10] Ibid., p. 232.
[11] *Lancet*, 1940, **2**, 744.
[12] *Surgery*, 1945, **17**, 240.

To prevent post-operative thrombosis, blood-flow in the lower extremities may be increased by massage and leg exercises, and blood return may be improved by forbidding abdominal binders, the sitting position, and bolsters under the knees, and avoiding abdominal distension. The Fowler position can safely be obtained by raising the head of the bed; this procedure not only avoids flexion at the hip but encourages leg movement—the patient actively tries not to slip downwards. The incidence of thrombo-embolism can be reduced still further by getting patients up soon after operation. Zava,[13] who allows patients to get up 24 to 48 hours after gynaecological operations, reports 6,000 operations without a single embolism, and Smith and Allen[14] have shown a 50% improvement in the circulation rate if patients are allowed up on the fifth day instead of on the tenth. Elevation of the lower limbs to 30 degrees also increased blood flow in the limbs, and Ochsner[12] advises pressure bandages to improve blood return. Dehydration should be controlled, too, to reduce blood viscosity if for no other reason.

To combat the disturbance of blood coagulability which seems partly responsible for post-operative thrombosis, anticoagulants may be administered. Barker and his associates[15] have given dicumarol after 1,000 operations. The patients were chosen for this form of prophylaxis either because the operation performed upon them (hysterectomy) is commonly followed by thrombo-embolism, or because they had already suffered, or were suffering, from thrombosis or embolism. No instance of thrombosis or of pulmonary embolism occurred in 438 patients who had been submitted to hysterectomy, and the incidence of thrombo-embolism in the whole series was significantly lower than in a comparable control series. The aim of the method is to produce a certain degree of prothrombin insufficiency, and, therefore, since susceptibility to dicumarol varies with the individual, the method is not entirely devoid of the risk of haemorrhage, and should not be employed without daily and constantly comparable estimation of the prothrombin time by the Quick method.[16] [17] The drug is given by mouth in a single daily dose—300 mg. on the first day and 200 mg. on each successive day; if the prothrombin time is less than 20% of normal on any day the dose is omitted. The full effect of dicumarol lags 24 to 48 hours behind its ingestion, and to obtain an immediate effect 50 mg. of heparin may be injected intravenously at four-hourly intervals during the first day or so of dicumarol administration. If bleeding occurs it can be controlled by blood transfusion, and the prothrombin time can be raised quickly to a safe level by an intravenous injection of 64 mg. of menadione bisulphite (synthetic vitamin K). Dicumarol therapy should not be employed in the presence of renal or hepatic insufficiency or a tendency to haemorrhage, and it should be given with special care in patients with exposed raw surfaces.

If, in spite of available preventive measures, thrombosis or embolism occurs and is detected, steps are taken to prevent extension of thrombosis and recurrence of embolism. Both lower limbs are elevated by raising the foot of the bed, and paravertebral sympathetic block may be induced to increase the circulation rate. Ligation of the affected vein may have some application, but precise indications for this operation are still not available. Allen, Linton, and Donaldson[18] advise ligation when, after a pulmonary embolism, the site of thrombosis is recognized in one or both calves, the thigh is not swollen, and the femoral vein is not tender, rather than in overt femoral thrombosis. They ligate the femoral vein just below the entrance of its profunda branch. Fine and Starr[10] advise femoral, iliac, or caval ligation according to the upper limit of the intravenous clot, and they perform the bilateral operation even if thrombosis appears to be restricted to one side. Dicumarol therapy seems also to be valuable after signs of thrombo-embolism have appeared. In 81 patients suffering from post-operative thrombosis or embolism de Takats found that in no case was there evidence of embolism or of extension of thrombosis after treatment had begun, and Barker's results were equally satisfactory. It is from recent, friable, non-adherent clot that emboli are likely to be detached; recurrent emboli seem to be due to progressive thrombosis, and if a thrombus can by the administration of anticoagulants be prevented from growing, emboli are not likely to occur or to recur.

The conclusions to be drawn from the recent literature of thrombo-embolism are (1) that a studied post-operative regime will lower the incidence of this complication; (2) that the careful daily post-operative examination of all adults for signs of thrombosis in leg and foot will permit detection of the early stages of thrombo-embolism; and (3) that measures for the prevention of embolism are increasing in number and effectiveness. Routine post-operative administration of anticoagulants is not likely to be generally adopted at present—standard tests for dosage control are not yet sufficiently simple—but the value and practicability of dicumarol therapy in preventing embolism or extension of thrombosis after thrombosis has actually occurred seem to be proved.

EXTERNAL PANCREATIC SECRETION IN MAN

The external secretion of the pancreas is regarded as being under a dual nervous and hormonal control. Pavlov[19] demonstrated that stimulation of the vagus nerve produced a secretion of pancreatic juice, small in amount but rich in ferments; Bayliss and Starling[20] and later investigators showed that the injection of secretin produced a large volume of alkaline juice poor in enzyme content. Even this clear-cut division of function between the nervous and hormonal stimulants may not be entirely true, as it has recently been shown that secretin-free extracts of intestinal mucosa will stimulate the secretion of pancreatic enzymes.[21] These observations are based on animal experiments, and the confirmation of some of them on human subjects has depended on two methods, neither of which is entirely satisfactory. The first of these is the collection of pancreatic juice by means of a duodenal tube, as, for example, in the work of Ägren and Lagerlöf,[22] who stimulated the pancreas by the injection of secretin. By this method the pancreatic juice is unavoidably contaminated by intestinal secretions. The second method is the study of juice obtained from fistulae of the pancreas—the sequel, usually, to an acute inflammatory condition of the pancreas or to drainage of a pancreatic cyst. It is obvious that the reactions of the pancreas in such pathological conditions may not be comparable with those of the normal organ. Using one or other of these methods various observers have found that the human pancreas, like that of lower animals, responds to the intravenous injection of secretin by the secretion of an alkaline fluid with a low concentration of enzymes. Attempts to demonstrate the effect of nervous stimulation of the human pancreas by the injection of various parasympathetic drugs have yielded contradictory results. Comfort and Osterberg[23] found that mecholyl chloride caused a marked stimulation of enzyme output by the pancreas. In cases of pancreatic fistulae, however, McCaughan, Sinner, and Sullivan[24] found that physostigmine and mecholyl chloride increased the flow of juice; whereas Miller and Wiper[25] found that physostigmine and pilocarpine diminished the rate of secretion. The marked side-effects of these powerful drugs may explain the discrepant results. All observers have found that the introduction of hydrochloric acid into the intestine is a powerful stimulus to pancreatic secretion. Comfort and Priestley,[26] who compared the effect of meals given by mouth and administered intraduodenally, have shown that the stimulant effect of carbohydrate and protein meals upon pancreatic secretion is probably secondary to their stimulant action upon the secretion of hydrochloric acid by the stomach. Fat, on the other hand, appears to stimulate pancreatic secretion by acting directly from the small bowel.

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[13] *Policlinico*, 1940 (Sez. Pract.), **47**, 865.
[14] *Proc. Mayo Clin.*, 1941, **16**, 53.
[15] *Surgery*, 1945, **17**, 207.
[16] *Amer. J. med. Sci.*, 1935, **190**, 501.
[17] *J. Amer. med. Ass.*, 1938, **110**, 1658.
[18] *Ann. Surg.*, 1943, **118**, 728.
[19] *The Work of the Digestive Glands*, 2nd ed., 1910, London.
[20] *J. Physiol.*, 1902, **28**, 325.

In general, therefore, the results in man agree with those obtained on animals in showing the importance of secretin for the production of the alkaline fluid, of gastric hydrochloric acid for the release of the secretin, and of the vagus nerve for the enzyme content of the juice. Two important gaps in our knowledge of the physiology of the pancreas remain unfilled either by animal experiments or by observations on man. These are the question whether the concentration of the enzymes of the pancreatic juice is adapted to the nature of the foodstuff being digested; and, secondly, the more general question of how the discharge in the vagal fibres of the pancreas is controlled. There is no doubt that in animals electrical stimulation of the vagus nerve brings about a parallel increase in the tryptic, lipolytic, and amylolytic activities of the pancreatic juice. Whether, when the vagal activity is increased during digestion, there is a selective increase in the secretion of one or other of the enzymes corresponding to the type of food being digested, and whether disease of the pancreas may selectively diminish the secretion of one enzyme (as Ägren, Lagerlöf, and Berglund[27] have suggested) is an unsettled question. The more general problem of how the vagal stimulation of the pancreas is brought about also awaits solution. In the case of gastric secretion the vagus is the efferent pathway for the production of the important psychic secretion. All observers, however, are agreed that any psychic effect on the pancreas is either feeble or nonexistent. Possible solutions of the problem are that the stimulation of the pancreas depends on long reflexes through afferent nerves from the intestine itself, or is brought about by some chemical stimulant in the blood acting on the vagal nucleus in the medulla during digestion.

MÉNIÈRE'S SYNDROME

The clinical diagnosis of Ménière's syndrome is nearly always easy, but the pathological basis of the lesion or stimulus which brings on these attacks is still unknown. A number of temporal bones have now been examined, and in some gross dilatation of the membranous labyrinth has been demonstrated; nevertheless we do not know the mechanism by which the labyrinthine storm is raised, and consequently treatment is empirical, such as destruction of the labyrinth or section of the eighth nerve. Shelden and Horton[28] based a method of treatment on the idea that alteration in the permeability of the capillary walls with local oedema is the probable aetiological factor, without specifying whether the oedema is likely to be intracellular or extracellular, and histamine was suggested as an agent which would perhaps affect capillary permeability. In 1940 and 1941 they reported[29] spectacular relief in certain cases by the intravenous injection of histamine. Now Lillie, Horton, and Thornell[30] present a review of 25 cases treated by injection of histamine but studied from a slightly different aspect. Of these patients 18 were men and 7 women, and their ages ranged from 27 to 65 years, with an average of 46. The treatment consisted in the intravenous injection of 2.75 mg. of histamine diphosphate (the equivalent of 1 mg. of histamine base) in 250 c.cm. of either normal saline or 5% solution of dextrose or 0.8% solution of potassium chloride, at the rate of 20 to 60 drops a minute. The administration was repeated daily for three to six days. Subcutaneous injections were also given, consisting of a 1–10,000 solution of histamine base, the dosage rising gradually by 0.05 c.cm. from 0.2 c.cm. to 1.0 c.cm. Audiometric studies of this series of cases showed that in 12 of the 25 the hearing was improved by the treatment, and in 6 of these the improvement was very noticeable. In 4 of these 6 the potassium chloride solution was used. Tinnitus was present in all but one case. In 10 there was no change, but in 2 cases the tinnitus disappeared, and it was much improved in 8. Vertigo was the symptom which showed the best response, for it disappeared completely in 19 cases, and in only 2 was there no change. These observers were not able to confirm the suggestion made by Atkinson[31] that such cases could be divided by intradermal testing into those sensitive and those insensitive to histamine. By such a selection of cases those insensitive to histamine could be treated in some other way, and Atkinson proposed the administration of nicotinic acid for its vasodilator effect, not for its action as a vitamin. Regarding tinnitus as a form of paraesthesia,[32] Atkinson has claimed that all vasodilators bring transient relief—an effect which can be produced by blocking the stellate ganglion or injecting drugs with vasodilator action. Using nicotinic acid as the vasodilator, he claims a high percentage of good effects in all forms of deafness accompanied by tinnitus.

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[21] Harper, A. A., and Raper, H. S., *J. Physiol.*, 1943, **102**, 115.
[22] *Acta med. scand.*, 1936, **90**, 1.
[23] *Amer. J. digest. Dis. Nutr.*, 1941, **8**, 337.
[24] *Arch. intern. Med.*, 1938, **61**, 739.
[25] *Ann. Surg.*, 1944, **120**, 852.
[26] *Proc. Mayo Clin.*, 1943, **18**, 409.
[27] *Acta med. scand.*, 1936, **90**, 224.
[28] *Proc. Mayo Clin.*, 1940, **15**, 17.
[29] *Surg. Gynec. Obstet.*, 1941, **72**, 417.
[30] *Ann. Otol.*, St. Louis, 1944, **53**, 717.
[31] *J. Amer. med. Ass.*, 1941, **116**, 1753.

From all this it appears that the control of the labyrinthine circulation may prove to be the factor in the successful treatment of Ménière's syndrome, but it is probably the circulation of the endolymph, rather than the vascular circulation, which needs to be controlled. However, very little is known about the endolymph, though by analogy it is probably secreted by the capillaries in the stria vascularis in the cochlea in the same way as the cerebrospinal fluid is secreted by the choroid plexus. The endolymph is probably secreted also from capillaries in the saccule and utricle and in the semicircular canals, but nothing is certain about this. It remains also to determine how the effect can be maintained in persons who respond favourably to histamine, and the continuation of maintenance doses by subcutaneous injections is suggested. This line of management is supported by the success which sometimes attends simple restriction of salt intake, the sodium ion being considered the morbid factor. Large doses of ammonium chloride are used to replace the salt—45 grains in capsules three times a day with meals. The success attending the small number of cases in which the histamine was given in a solution of potassium chloride is perhaps significant. There will, however, remain a proportion of cases in which the function of the labyrinth is so disordered that the symptoms will yield only to destruction of the labyrinth or section of the eighth nerve. Lillie, Horton, and Thornell give an excellent bibliography of the whole subject, of which the above commentary displays only one facet.

MEDICINE AND THE PROGRESS OF THOUGHT

In the recent course of lectures at Cambridge on the history of science Dr. A. E. Clark-Kennedy made an outstanding contribution on *The Art of Medicine in Relation to the Progress of Thought*. It is fortunate, therefore, that his lecture has now been published in book form by the Cambridge University Press (2s.). The very moderation of his claims adds to their effectiveness. Broadly speaking, he considers medicine exercised an influence only at three epochs—the Hippocratic Age, the Renaissance, and in modern times. In the first period the great achievement was to lay the foundation of the observational method in the study of natural phenomena, thereby adding to the progress of thought in a way which it would be difficult to overestimate. Disease was regarded as a disharmony of body or mind; in general the Stoical philosophy was adhered to and an ethical standard formulated. Galen, the aftermath of this epoch, by adapting Aristotle's conception of the relation of the soul to the physiology of the body, helped to prepare the world for the acceptance of individual responsibility and the Christian interpretation of human life. His teleological teaching was naturally attractive to the new faith, though the Pauline conception of the "vile body" was alien to him. At the Renaissance the biological studies of Vesalius and Harvey were based on physical concepts, and the body was regarded as a machine worked by mechanical laws, mind and consciousness being by-products of the material world. Hobbes accepted this view, and metaphysics was not yet ready to criticize it. Despite its own advances, medicine cannot claim to have made any other particular contribution to human thought in that age. When he comes to the modern period Dr. Clark-Kennedy finds it easier to speak of the achievements of medicine in the latter half of the nineteenth century than of its contribution to thought. Darwin and Pasteur exerted a profound influence, but neither of them was a medical man. In this century study from the medical aspect of genetics and psychology has had an effect scarcely less profound; it has influenced modern thought, education, and our way of life. Repressions, rationalizations, and the unconscious mind have become topics of conversation. If man is merely the resultant of his inherited genes and his environment the question of moral responsibility is raised in a peculiarly disconcerting form. But it is probable that psychology, leaving out of account the possibility of something introduced and influencing the mind from without, and tending to ignore the freedom of the will, gives only a partial explanation of the working of the human mind. If the increasing influence of medicine is to be rightly directed the present breach between science and humanism must be healed. These are only a few of the many thought-provoking topics in a lecture which establishes the author in the ranks of scholar-physicians.

BARNARDO CENTENARY

A service, attended by the Lord Mayor and Lady Mayoress, was held in St. Paul's Cathedral on July 4 to commemorate the centenary of Dr. T. J. Barnardo's birth and to give thanks for his work for children and the founding of the Barnardo Homes. The Bishop of Exeter in an address said that Dr. Barnardo was a great man, a seer, a man who saw defects in the law concerning children, a pioneer in whose footsteps many others had followed. Thomas John Barnardo was born in Dublin on July 4, 1845. After medical study in London, Edinburgh, and Paris he took the F.R.C.S.Ed. While at the London Hospital in 1866 his attention was drawn to the condition of waif children on the streets. He continued to investigate the subject and to labour in spare hours on their behalf. He established his first Home in 1867, founded a village for girls at Ilford in 1873, an institution for sick waifs in 1887, and formed the Young Helpers League in 1891. He died on Sept. 19, 1905. Before his death he had rescued and trained over 59,000 destitute children and had otherwise helped a quarter of a million children in want.

The next session of the General Medical Council will begin on Tuesday, July 17, at 10.30 a.m., when the President, Sir Herbert Lightfoot Eason, will take the chair.

The Yorkshire Cancer Campaign was launched in 1925, and next year will therefore see the coming of age of cancer research in Yorkshire, guided by a strong medical and scientific committee and carried out by members of the staff of the department of experimental pathology and cancer research at Leeds University and also at Sheffield. The 19th annual report was presented on June 4. It includes an account by Prof. R. D. Passey of the work of the department at Leeds, with special reference to experimental carcinogenesis, experimental bladder cancer, and an inquiry into the question whether arsenic is really capable of giving rise to malignant disease. There is also a report of progress in the radium department of the General Infirmary at Leeds. Prof. H. N. Green supplies an account of research on cancer in the department of pathology at Sheffield University. As in the two previous years, the main work there has been an attempt to elucidate factors which may modify the pathogenesis of tumours induced by 2-acetyl aminofluorene. Studies of constitutional factors have started, and dietetic and hormonal factors are being investigated.

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[32] *Ann. Otol.*, St. Louis, 1944, 53, 742.

MEDICAL REHABILITATION IN HOSPITAL*

BY

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A comprehensive rehabilitation scheme, in the modern sense of this term, is a two-stage process. The *first stage* is that of *medical rehabilitation*, which covers the period extending from the beginning of an illness or injury to the end of convalescence and reconditioning. This stage is primarily the concern of the medical man and his team of auxiliaries. The *second stage* is that of *social* and *industrial rehabilitation*, in which the victim of illness or accident, after having been restored to the maximum degree of fitness possible under the circumstances, is resettled in his former occupation or trained to follow a new occupation. In the past, the social and industrial aspects of rehabilitation have depended almost entirely on the zeal and activities of voluntary organizations. But now the State has entered the field as a powerful reinforcement, through the new functions of the Ministry of Labour.* But I would emphasize the view that there is no clear-cut dividing-line between medical rehabilitation and social or industrial rehabilitation as it concerns the sick person. The whole process is indivisible. The hospital physician or surgeon who is interested in his patients as men and women conditioned to a particular social or industrial environment must of necessity want to learn how successfully—if indeed at all—they have become adjusted to the mental and physical stress of the old work or the new vocation. The medical man must also be prepared to challenge, if need be, the suitability of the new working conditions. And equally the social worker, whether lady almoner or Ministry of Labour rehabilitation officer, must come into action during the stage of medical rehabilitation. They should make their first contacts with the hospital patient before his period of treatment and re-enablement has ended. This early contact is provided for under the Disabled Persons (Employment) Act of 1944—a notable piece of social legislation which is the outcome of the Tomlinson report (1942). The complete scheme of rehabilitation is in its infancy, but we can look forward to a time in the near future when the harmonious blending of remedial and social measures will be one of the outstanding features of our health services. Furthermore, there are signs that certain industries may make a contribution to the stage of medical rehabilitation by providing workshops in which lighter forms of occupation can be deliberately prescribed on a curative and remedial basis. This experiment is now under trial in the Austin Motor Company's works at Birmingham in conjunction with the Birmingham Accident Hospital, and is meeting with conspicuous success.

History of Medical Rehabilitation

In the age of Pericles we find that Hippocrates gave clear instructions for the rational use of sun, air, water, and above all *exercise*, as a means of restoring the injured and sick to health. Hippocrates, it is interesting to learn, understood the importance of balancing a regime of *exercise* with a regime of *rest*. The respective roles of rest and exercise have been the subject of debate again and again during the 2,000 years and more which have elapsed since the founding of the Hippocratic school of medicine.

The end of the eighteenth century and the earlier years of the nineteenth were the period of the founding of the earliest orthopaedic hospitals in various European countries, including Great Britain. As this was long before Lister had made operations safe by the introduction of the antiseptic technique, non-operative methods of treatment held the field. The Orthopaedic Institute founded at Montpellier, in France, in 1825 is deserving of special notice, for it was perhaps the first of the country orthopaedic hospitals—the forerunner of hospitals which are so familiar to us to-day. This institution was set up in a park on the outskirts of Montpellier and was equipped on almost a lavish scale for gymnastics, games, and other forms of recreational therapy—in short, for many of the remedial measures included in the modern programme of medical rehabilitation based on our wartime hospitals. Since those early days orthopaedic hospitals and orthopaedic surgeons have played the predominant part in the development and organization of the expanding techniques of rehabilitation, and have been responsible for their inclusion in the armamentarium for the treatment of crippling disease and injury. It was Sir Robert Jones (1858–1933), the greatest master of orthopaedic surgery of modern times, who during the First World War gave us the following definition of the sphere of action of the orthopaedic surgeon: "The treatment by manipulation, operation, re-education and rehabilitation of the injuries and diseases of the locomotor system."

The First World War, 1914–18.—This was the period when the present-day concept and practice of medical rehabilitation first took shape. Many will remember the splendidly equipped military orthopaedic hospitals, as they were called, which Sir Robert Jones, after much opposition, was permitted to organize. There was the parent hospital at Alder Hey, Liverpool; the Shepherd's Bush Hospital in London—the greatest of them all; there were military orthopaedic centres at Birmingham, Oxford, Leeds, Edinburgh, Glasgow, Aberdeen, Belfast, and Manchester. In all these hospitals a wide range of rehabilitation facilities was installed—departments of physiotherapy for massage and electrical treatment; departments of hydrotherapy, with whirlpool baths as the popular treatment; gymnasia for class exercises and fast-moving games; and curative workshops equipped for both light and heavy crafts. Rehabilitation programmes were devised for patients immobilized in bed owing to gunshot fractures of the lower limbs, as well as for those who were ambulatory. A full "working day" was followed with the various types of remedial and diversional therapy represented in a programme for each patient. But in the military hospitals of that day the cost of rehabilitation facilities—apart from massage, the simpler forms of electrical treatment, and remedial exercises—was not provided by the Treasury under the Army vote. It was the B.R.C.S. who came forward to fill the gap, and by generous gifts of money enabled these special centres to set up remedial departments on a scale hitherto unknown in Great Britain, or indeed elsewhere.

After the U.S.A. entered the war against Germany, the British scheme of special military orthopaedic hospital centres was adopted and brought to a high pitch of efficiency by Col. J. E. Goldthwait, of Boston, one of the leaders of orthopaedic surgery in America at that time. In the American scheme we see the first appearance of the occupational therapist as a member of the hospital rehabilitation team. Large numbers of young women were trained in Boston during 1917 and came to France in 1918 to work in the splendidly equipped American military hospitals, which at the time of the Armistice provided over 250,000 beds. This gave a great impetus to a new profession in the hierarchy of the "rehabilitationists" of the future.

The Period between the Wars.—The elaborate and highly organized rehabilitation departments of the wartime orthopaedic centres were carried over into peacetime and flourished during the period of greatest activity of the Ministry of Pensions. The great Shepherd's Bush Hospital, once the Mecca of surgeons from all parts of the Empire, ultimately reverted to its old functions as a general hospital under a Board of Guardians. The curative workshops, alas! were dismantled. In the early years after the war it was found that the planned rehabilitation day with its disciplined programme could not be transplanted in its entirety to civilian hospitals. In any case, both accommodation and equipment were lacking. Remedial measures, however, were provided in plenty by the rapid development and expansion of massage departments in hospitals where no such developments had existed before. Occupational therapy in Great Britain was fostered mainly in the mental hospitals.

Rehabilitation in its modern guise came back into the picture during the period 1935–9, stimulated by the publication of the findings of (1) the Fracture Committee of the B.M.A. (1935); and (2) the Interdepartmental Committee of the Ministry of Health and Home Office on Accidents (1939). These reports found not only that there was a need for organized fracture or accident services in all large hospitals, but that after such hospital departments had made their maximal contribution to the functional recovery of the injured man or woman, in a certain proportion of cases something more would be required. For this final act of reconditioning, or rehabilitation as it now came to be called, special residential centres outside the hospital appeared to be necessary. During the present war, under the aegis of the Miners' Welfare Commission, a number of miners' rehabilitation centres have been established in England and Scotland, and are in full activity. More recently non-residential centres for dockers have been set up in the ports of Liverpool and Manchester. These "day centres" provide a full and varied programme of diversional and remedial pursuits and deal with the after-effects of illness as well as with accidents.

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* An address given to the East Lancashire branch of the B.R.C.S. Officers' Training Course, Manchester, May 13, 1945.

Medical Rehabilitation To-day

We have now brought our story down to the present day. As the result of the experience gained during the five and a half years of the war which has so recently ended in Europe, we have become even more conscious of the significance of both *medical* and *social* or *industrial* rehabilitation. The whole conception has assumed a more dynamic form. But, as I have tried to show, rehabilitation is not a new idea. During the Second World War the hospital rehabilitation schemes developed by the Emergency Medical Service of the Ministry of Health, and by the hospitals of the fighting Services, have in essence reproduced the pattern of the military orthopaedic centres of the First World War. To see the full medical rehabilitation programme in action in an E.M.S. special centre is a stimulating and inspiring experience. Each patient has his day mapped out, and he goes from one department to another in accordance with his special needs. In such hospital rehabilitation departments, patients who are likely to regain full fighting or industrial capacity in a relatively short period can be submitted to strenuous types of reconditioning. But in order to witness the most powerful and intensive reconditioning programmes we must go outside the hospitals and visit an Army Convalescent Depot, an R.A.F. Rehabilitation Centre, or a Miners' Rehabilitation Centre. Here we can see the application of the supreme tests of fitness and agility.

What lessons have we learnt as a result of all this experience? How much of this pattern of intense and sustained activity can be applied to the sick and injured during in-patient treatment and convalescence in our hospitals in peacetime? The experience of the E.M.S. has emphasized two facts: first, that rehabilitation facilities exist not only for the injured but also for the sick; and, secondly, that for all patients in bed, unless acutely ill, a suitable rehabilitation programme can and should be instituted in the early days of the disease or injury. The basis of such an active regime is movement, as opposed to rest and relaxation; movement prescribed in the form of individual exercises or in simple "class" exercise under the direction of the physiotherapist or ward sister. The occupational therapist is also to be introduced at an early stage, and the most suitable bedside craft or diversion chosen for each individual patient. For patients whose illness or disability necessitates a long stay in hospital such active measures have a special value in preventing certain complications to which bed-fast patients have always been liable. This was known to Hippocrates. The large-scale experiment of the Ministry of Health in *medical* rehabilitation, conducted mainly in *ad hoc* hospitals, has stimulated the civilian hospitals to review and overhaul their existing facilities. In the departments of physiotherapy and in the training of physiotherapy students, greater emphasis is now laid on the use of active rather than passive methods of treatment. There is also a move to set up separate rehabilitation huts or departments where a full day programme can be offered to selected groups of patients whose occupation or disability calls for such special attention. Hospitals are also becoming more aware of the need for a more direct link with the stage of social and industrial rehabilitation. Hospitals which have been slow to encourage an almoner service, or have misused the almoner for the purpose of assessing and collecting contributions, are beginning to realize the necessity for the attachment of social workers to all the main clinical departments. Furthermore, they are learning to open their doors to the entry of Ministry social officers from the outside. This is all to the good; it represents a step forward in the fusion of curative medicine and social services in a co-ordinated scheme for the benefit of the hospital patient. Such are the immediate lessons to be learnt from the experience of the last few years.

There is now another side of the picture to be considered. We must realize that we are still looking at medical rehabilitation through the spectacles of total war, with its increase in tempo and intense stress on the minds and bodies of men and women. The urge has been to return the man (or woman) to the fighting line or workshop at the earliest possible moment and to cut down periods of incapacity by a degree which can be demonstrated to all by the figures of the statistician. Medical rehabilitation, in our present mood, has come to mean an intense tightening up—a hardening process, with speed as its prime mover. We may well ask ourselves whether there is no longer a place for rest and relaxation during and following illness or accident. A regime consciously or unconsciously designed during war to provide for the needs of fit young men or women, at a time when there is unity of purpose in the nation, may not of necessity be suitable for a society which, in Great Britain in ten years, will present an increasing proportion of elderly folk who must continue to work. To cut down, by the most intensive form of rehabilitation, the incapacity period for a particular illness or accident by, say, 2.5 days may not in the future appeal to members of a society which comes to think of work, rest, and leisure in terms of human happiness, "the good life," rather than in terms of individual industrial output. This is not to say that the period of convalescence should not be better planned in the future; purposive activity remains the keynote of recovery. For, as Hippocrates taught, "exercise strengthens and inactivity wastes." But in any comprehensive rehabilitation plan there is a time and a place for both mental and bodily rest as well as action. I believe that there will still be room for the old-style convalescent home—the rest home—but equipped with facilities for diversion and recreation, to provide for a stage in recovery which precedes the final act of reconditioning. Less strenuous measures of rehabilitation will also be required by that large section of the community, mainly middle-aged, who are the victims of the various forms of chronic rheumatic disease.

It will thus be necessary, in the future planning of schemes of rehabilitation, to preserve that harmonious balance between rest and activity which is best calculated to restore the sick or injured man or woman to a state of maximum health and happiness.

EPSOM COLLEGE IN 1944-5

At the 92nd annual general meeting of Governors, held on June 22, Lord Leverhulme, the president, referred to the new Education Act and said that the good news that Epsom College and all other public schools in the country were safe in their independence at least for some years to come was a result of the patient work of the Governing Bodies Association, the Headmasters' Conference, and other bodies. The new Burnham Scale would affect salaries as a whole, but, as many felt that the new scale was not generous enough to graduates or to headmasters, most public schools would wish to pay more. A fair and reasonable post-war salaries scale at Epsom was now being considered. The fees, too, would have to be increased, because not only did they not cover the cost just before the war, but a heavy rise in expenses must occur when wartime restrictions were removed. Two events were imminent—namely, the College Centenary and the War Memorial.

Referring to the finances during 1944, Lord Leverhulme said that the small surplus on the school account would have been more by some £1,300 but for the V bombs, which caused the sending home of boys not taking public examinations two or three weeks before the end of the summer term, for which an allowance was made to parents. The numbers of boys during 1944–5 showed an increase of 15 over the preceding school year, and it was confidently hoped that the school would have its full complement of 500 boys in 1946. With regard to new benefactions, the president stressed the value of the bequest of the late Mr. J. W. Loader Cooper founding scholarships for sons of solicitors, and of the Eastes Trust, the income from which would go in the relief of doctors of either sex, less than 60 years of age, or widows, and also to educate children of medical practitioners.

FUTURE HOSPITAL SERVICES

PATTERN FOR LONDON AND SURROUNDING AREA

In 1941 the then Minister of Health announced his intention of ordering a survey of hospital services. For this purpose England and Wales was divided into ten areas, and the survey was conducted in each area by a team of two or three hospital experts. For London and its region Dr. A. M. H. Gray and Dr. Andrew Topping were appointed surveying officers, and the result of their work is now published in a massive Blue Book,[1] two-thirds of which is taken up with tables and analyses.

The area of this survey was roughly bounded by the line of the Chilterns to the north-west of London and the east and south coast from Essex to Dorset, comprising twelve counties or parts of counties, with, in 1938, a population of over 14 millions. In this area there are 390 voluntary hospitals, the hospitals of 25 major local authorities, and 130 isolation hospitals provided by minor authorities. In 1938—the last normal year—the voluntary hospitals in this area had 472,750 new in-patients, and the local authority hospitals a slightly larger number (476,507). Note is made of the patchwork of administrative arrangements and the irrelevance of administrative boundaries to the distribution and flow of hospital traffic, so that patients living within easy reach of a municipal hospital may be debarred from using it because the administrative boundary runs through the next street. Voluntary hospitals are, of course, free from this difficulty, but they have their own drawbacks—competitive development to meet the same need, friction instead of co-operation with other hospitals, and dispersal of resources instead of concentration into efficient units.

Voluntary Hospital Services

The surveying officers make three main criticisms of voluntary hospitals:

1. In their view there are no advantages attached to the custom of expecting the consultant and specialist to give his services without remuneration. The custom has resulted in unequal and unsatisfactory distribution of consultants and specialists. Only by the system of salaried part-time specialists can a service be provided adequately covering the whole area.

2. The large proportion of surgical cases dealt with at small "general practitioner" hospitals has the unfortunate result that surgery is often carried out by general practitioners whose skill and experience must necessarily be limited. In any case it is a diversion of this type of hospital from its proper function, which is the nursing under the care of their own general practitioner of medical and surgical cases which cannot properly be nursed at home.

3. The independent spirit of voluntary hospitals, their initiative and power of inspiring local loyalty are not always conducive to the maintenance of an efficient service. There have been examples of a tendency to adopt a course of action more likely to enhance the importance of individual hospitals than to produce the best facilities for the patient. The way in which some hospitals have undertaken the treatment of malignant cases by radiotherapy without either expert staff or the necessary ancillary facilities is mentioned as an example.

Local Authority Hospitals

Municipal hospitals also come in for some criticism, particularly as regards their methods of staffing. They are staffed by a medical superintendent whose duties are primarily administrative, by whole-time officers, and by visiting specialists who do not normally have charge of beds. The arrangement may have been satisfactory when comparatively little "acute" work was done, but it has ceased to be adequate. It is open to four main objections:

1. It tends to result in understaffing; the number of senior staff at municipal general hospitals is proportionately much lower than at similar voluntary hospitals.

2. The appointment of whole-time staff tends to divorce the work of the municipal hospitals from that of the voluntary hospitals and thus accentuates the division.

3. The visiting consultant, not having charge of beds, has little real stake or interest in the work of the hospital.

4. The system of paying comparatively low salaries to whole-time specialists and the highest salary to the medical superintendent has tended to drive clinicians of good standing into administrative posts as the only avenue of promotion.

Other points emphasized in connexion with municipal hospital services are the urgent need for further provision of consultative out-patient departments; the room for improvement in arrangements made for the diagnosis of patients before they are classified as "chronic," and for their care as long-stay cases; and the fact that local patriotism has in some districts produced the same tendency towards duplication of services and over-ambitious developments which has been noted in the voluntary hospitals.

It is added that co-operation between the two branches of the hospital service could with advantage be closer in most districts. Here and there it has reached a more advanced stage, and by the appointment of the same consulting staff in certain branches and a limited division of functions some voluntary and municipal hospitals are laying the foundations for a thoroughly co-ordinated service in the future.

Adequacy of Services

In the London voluntary hospitals in 1938 61% of the in-patients came from the county of London, 30% from the four adjoining counties (Middlesex, Essex, Kent, and Surrey), and 9% from further afield. It is noteworthy that in spite of the considerable development of municipal hospital services in London and of the fall of nearly 8% in the population of the county between 1931 and 1938, the number of Londoners treated in voluntary hospitals in London increased by nearly 5%. Again, in spite of the development of municipal hospital services in Middlesex and Surrey, and to a less extent in Essex and Kent, the number and proportion of non-Londoners treated in London voluntary hospitals rose by 15% during that same period, though that, of course, is partly a reflection of the great increase in the population of Outer London.

Before the war heavy pressure was experienced on general hospitals in London, especially south of the Thames; there was also general shortage of beds in Middlesex, at many places in Essex and Kent, and particular deficiencies in certain parts of Surrey. General practitioners in almost every area outside London testified to widespread difficulty in obtaining consultant and specialist services. As for pathology, except in London and the large towns, what is known as "postal pathology" was relied on, with little opportunity for consultation between pathologist and clinician.

The war, and especially the Emergency Hospital Scheme arising out of it, has had a marked effect on hospital services. It has helped the co-ordination of hospitals, the use of accommodation in the most advantageous manner, and the free transfer of patients. London since 1938 has sustained a net loss of 2,370 general hospital beds, but Middlesex has had a net gain of 1,365, and over the area covered by this survey the net gain has been 4,260, or, taking into account the beds in public assistance institutions and sanatoria, nearly 11,000. These should go a long way towards relieving deficiencies until major building becomes possible.

> "On the solid foundation provided by the pre-war hospitals, both voluntary and municipal, with their staffs and equipment, and by the help given by emergency developments, it should be possible when the war ends to introduce a service better than that of 1938 in all parts of our survey area."

It is often suggested that, with modern transport, hospitals should be located outside towns, in more healthy surroundings. The surveying officers do not think that suggestion altogether well founded. Town hospitals may have pleasant surroundings if planning is adequate, and both for the out-patient and for the in-patient and his visitors ease of access is as important as suburban air. The "acute" general hospital must be as nearly as possible central to the population it serves, and this applies even more strongly to the teaching hospital.

Medical Staffing and Hospital Linkage

The surveying officers point out that the problem of making hospital facilities available in every area is largely a problem of staff—not of building. The circumstance which has prevented the development of hospitals staffed by specialists in Greater London is the impossibility of remunerative private practice away from Central London. They hold, therefore, that specialists should be adequately paid for their hospital work, whether at a voluntary or municipal hospital, and whether on a whole-time or part-time basis. They declare against payment by sessional fees. Such a method is satisfactory neither to the specialist nor to the hospital. It exposes the former to the charge of trying to increase his income by rendering unnecessary services, and tempts the latter to economize by calling for his services less frequently than it should.

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[1] *Hospital Survey. The Hospital Services of London and the Surrounding Area.* 1945. London: H.M. Stationery Office. (10s. net.)

In urging a common specialist staff as a link between voluntary and municipal hospitals, the surveying officers are anxious that it should not be assumed that the specialist staff of undergraduate teaching hospitals will link up with large general hospitals at a distance. In their view this will be impracticable. Any linkage between the teaching and the outer hospitals must be sought in other ways—for example, by house appointments at the outer hospitals for graduates from the teaching hospitals.

It is recommended that the appointing bodies for the common specialist staff should be assisted by an expert medical advisory committee comprising representatives of the medical faculty of the university, of the branch of medicine concerned, and of the hospitals where the specialists will have to work. In municipal hospitals it is considered that the salaries payable to whole-time senior members of the clinical staff should be little, if at all, lower than that of the medical superintendent, and the latter, whose title might be changed to "senior resident medical officer" or "hospital superintendent," should be engaged on administrative duties only.

Concentration of Services

This survey sets out the desirable provision in terms of beds and medical staff for a district hospital (that is, a general hospital, staffed by specialists and assistants, and providing for all normal types of "acute" work, both out-patient and in-patient) and for a special centre (an in-patient unit for specialties the exercise of which necessitates a high degree of concentration of staff or equipment in order to produce maximum efficiency). It is considered that maternity accommodation should be provided, wherever possible, in a unit associated with a general hospital. The provision for cases of infectious disease by means of small independent isolation hospitals is regarded as an anachronism. The solution is believed to lie in one of two directions—the provision of larger independent hospitals or of fever units in association with general hospitals. Beds for the chronic sick should also be provided in association with a general hospital, preferably as a separate block in the same curtilage.

In local (cottage) hospitals patients should be under the care of their own general practitioner, and it is thought essential that every practitioner in the locality should be able freely to secure the admission of his patients and to attend them. The hospital should, however, be visited regularly by the specialist staff of the district hospital with which it is associated.

> "It is one of the great advantages of the smaller voluntary hospital in the past that it has provided a link between the general practitioner and the hospital service and a meeting-place for discussion and consultation between practitioners."

Short-term and Long-term Proposals

A large number of recommendations are made for the building or extension of hospitals, but a distinction is drawn between short-term proposals, which can be put into effect in the immediate post-war period, and long-term ones which may reasonably be spread over the next twenty or thirty years in the light of present knowledge and probable change. In some areas there is pressing need for new buildings, for which hutted accommodation might for the present serve, and in almost all areas an even more pressing need for specialist staff. The key to the problem is once again the decentralization of specialists from London and their appointment at the principal hospitals—the so-called district hospitals—in the surrounding area. So far as geographical and other circumstances permit, two or three major hospitals should be grouped for the part-time employment of specialists.

The building recommendations may be briefly summarized as follows:

County of London.—Except in South London, where two new hospitals (at Tooting and Sydenham) are needed, the problem is one of co-ordination, with contraction rather than expansion. Teaching hospitals should remain in Central London, except Charing Cross, which might migrate to Harrow, and St. George's, to South-West London. Ultimate migration of the Royal Free by union with some other centre, such as the Royal Northern, should be borne in mind. Special hospitals should be reduced in number and grouped so far as possible around the University, sharing certain common services. It is suggested that a large site should be reserved in the university precincts in Bloomsbury. Here, among others, a new hospital for dermatology and a new hospital for urology should be established. St. Thomas's should be reconstructed and King's College extended.

Middlesex.—New district hospitals at Harrow (which might be the new Charing Cross), Enfield, and to the north of Golders Green; extensions at Ealing, rebuilding at Hillingdon, and new out-patient departments at West Middlesex and Staines.

Kent.—New hospitals in the Gillingham, Folkestone–Dover, and Bexley areas, and extensions at Canterbury.

Surrey.—New hospitals in Coulsdon–Purley and Woking, rebuilding and development at Kingston, Epsom, and Croydon.

Essex.—New hospitals at South Ilford–North Barking, Wanstead, West Ham, and Colchester.

Sussex.—Additional beds in the Worthing–Shoreham district.

Hertfordshire.—New hospital or extensions at Watford, and within a short time at St. Albans.

Bedfordshire.—Extensions at Luton and Bedford.

Hampshire, Dorset, and Isle of Wight.—New hospital at Aldershot, extensions at Portsmouth, Southampton, and Newport (I.O.W.), and extensions or new hospital at Weymouth.

Special Centre Services

Apart from special cases, an example of which is an orthopaedic hospital or a radiotherapy unit for cancer, no sufficient reason is found for special hospitals, apart from the requirements of teaching or research. The recommendations, however, propose certain special centre services, one such service being tuberculosis. In the past there has been a marked shortage of accommodation for this purpose, and some of the existing units are poor and obsolete. Nevertheless, if the best use is made of wartime extensions it should be possible to go far towards remedying the deficiencies, at least temporarily. For orthopaedics it is considered that each district hospital—or one hospital within the district hospital group—should provide a unit for fractures or traumatic surgery. Four rehabilitation centres are suggested: the Northern (L.C.C.) Hospital, Winchmore Hill; Mount Vernon Hospital, Northwood; Queen Mary's Hospital, Sidcup, and Orpington Hospital. The extent to which these centres are needed and the best method of organizing them can be decided only in the light of experience.

Some outstanding proposals are made concerning radiotherapy centres. An efficient centre is believed to require a population of about two millions as its constituency if uneconomical dispersal of skilled staff and costly equipment are to be avoided. At convenient points there should be hospitals fully staffed and equipped to provide treatment by radium and deep *x* rays, and outside these centres the treatment of malignant disease by these methods should not be undertaken at any hospital, large or small, general or special. The staff of the centre should visit all the district and subdistrict hospitals of the area for consultation on diagnosis and treatment as part of the cancer service.

According to this survey there are only two places in the region to which radiotherapy centres can reasonably be allocated—namely, London and Southampton. There is proposed accordingly a concentration of facilities in six grouped hospitals in London, each group serving a population of from 1½ to 2 millions, and, for Hampshire, Dorset, the Isle of Wight, and a part of Wiltshire, a centre based on the South Hants and Southampton Hospital, serving a population of 1½ millions. The six London centres would be the following:

1. Middlesex, University College, Marie Curie, and Mount Vernon Hospitals, the last two perhaps amalgamating.
2. St. Bartholomew's.
3. London Hospital.
4. Guy's, Lambeth, and St. Thomas's, with Lambeth, perhaps, playing the principal part.
5. Westminster and Royal Cancer Hospitals, with additional beds in the adjoining St. Luke's (L.C.C.) Hospital.
6. Hammersmith Hospital.

Within each group constituting a centre the radiotherapeutic, surgical, medical, and other staff engaged in cancer treatment would be common to all the hospitals.

Dr. Gray and Dr. Topping have liberally interpreted their reference to survey the hospitals and advise the Minister what area would properly be served by a hospital system centred on

London; and what modifications or enlargements of existing hospital facilities would be necessary or desirable to give effect to the general principles of post-war policy which the Minister announced in Parliament in October, 1941. Very much that they have to say applies not to the London region only but to the whole country; but that does not make it less useful or pertinent.

ROYAL SOCIETY OF MEDICINE

PRESENTATION OF AWARDS

At the annual meeting of Fellows of the Royal Society of Medicine on July 3 the gold medal of the Society was presented to Brig. Sir Lionel Whitby, and scrolls of honorary fellowship to certain distinguished persons in the medical services of the British and Allied Forces. The meeting was preceded by a luncheon at which the recipients of the honours, the Belgian and Norwegian Ambassadors, and the Presidents of the Royal College of Physicians, the Royal College of Obstetricians and Gynaecologists, and the British Medical Association, were present.

The President of the Society, Surg. Rear-Adml. Gordon-Taylor, in making the presentations, addressed the Czech, Norwegian, and Belgian recipients each in his own tongue. Of Sir Lionel Whitby he said that it was primarily for his distinguished work on the problems of wound shock and transfusion of blood that the gold medal was awarded. Of the numerous factors which had contributed to the lowering of mortality among those damaged by enemy action, despite the increased gravity of the injuries sustained, blood transfusion indubitably had played the most important role. He described Sir Lionel Whitby as "the greatest vampire the world has known."

The first of the awards of honorary fellowship was made to Gen. Frantisek Langer, D.G.M.S., Czech Army. The award was accepted on his behalf by Col. Mahler, who explained that Gen. Langer had now returned to Czechoslovakia. He took occasion to express the sincere thanks of his compatriots for the friendship with which they had been received in this country. Dr. Karl Evang, D.G., Norwegian Public Health Services, was the next recipient. The President said that the award was made in virtue of his distinguished services to free medicine and in the hope that this small gesture would help him in his work of rehabilitation in Norway. Dr. Evang expressed thanks especially for the way in which the Royal Society of Medicine had opened its doors and made its facilities available to foreign visitors. He added that Norwegian medical science before the war, though it had turned partly to this country and the United States, had also looked to the south, to Austria and Germany. There would now be a radical change, and in future more Norwegian medical men would be knocking at the British door. The last of the Allied recipients was Col. Gallemaerts, D.G.M.S., Belgian Army, who accepted the award as a compliment not to himself alone but to his fellow Belgians.

It had been intended to confer the honorary fellowship on Gen. Smirnov, head of the medical service of the Red Army, but the President explained that although letters and cables had been sent to him in Moscow, telling him of his nomination, they must have miscarried, for no reply had been received. This academic award could not be received by any Russian representative on his behalf until certain Governmental formalities were completed. If these difficulties could be smoothed over there was a hope that they might yet one day see the distinguished D.G.M.S. of the famous Red Army among them.

The honorary fellowship was next conferred on Surg. Vice-Adml. Sir Sheldon Dudley, D.G.M.S., R.N., for his wide and distinguished work in the field of pathology and epidemiology and also as Director-General of his great Service; on Lieut.-Gen. Sir Alexander Hood, D.G.A.M.S., an outstanding feature of whose reign of office, said the President, was the harmonious relation between himself and his staff and those drawn into the Service from civilian ranks; on Air Marshal Sir Harold Whittingham, D.G.M.S., R.A.F., whose many great contributions to pathology, clinical medicine, and especially the medical problems connected with aviation, were acknowledged; and on Sir Francis Fraser, D.G., E.M.S., who had earned the high regard of the immense service which he had controlled.

At the ensuing business meeting of the Society the annual report of the Council was adopted. This showed a total membership of 7,390, a gain of 609 on the year. Reference was made to the successful series of Inter-Allied Conferences on War Medicine held throughout the session. The Society had made all medical men in the Allied Forces welcome to its meetings and as guests in its library. It was mentioned that the formation of a Section of Endocrinology was under discussion by the Council. An Oestrogen Committee had also been set up following a meeting of the Section of Radiology on the treatment of cases of cancer of the breast with stilboestrol; the investigation undertaken by the committee, with Prof. E. C. Dodds as chairman, had been considerably extended.

ROYAL MEDICAL BENEVOLENT FUND

The annual general meeting of the Royal Medical Benevolent Fund was held at the Medical Society of London on June 20. The death of the late president, Sir Thomas Barlow, was recorded with great regret, and many references were made to his untiring work for and sympathy with the Fund. Sir Arnold Lawson, K.B.E., F.R.C.S., was elected as president, and Dr. C. Luther Batteson as honorary treasurer and Mr. R. M. Handfield-Jones, *M.C.*, M.S., as honorary secretary. The honorary auditors, Messrs. Deloitte, Plender, Griffiths and Co., were re-elected for the ensuing year.

The resignation of Dr. C. O. Hawthorne, who for many years served as chairman of the Case Committee, was received with very great regret, and as a token of the members' appreciation and his great service he was elected a vice-president of the Fund together with Dr. W. P. S. Branson, C.B.E., who had served on the committee for many years, and Mr. F. J. Strong Heaney, F.R.C.S., who rendered valuable services as honorary local secretary in Liverpool for many years.

The balance sheet and accounts of the Royal Medical Benevolent Fund and of the Ladies' Guild of the Royal Medical Benevolent Fund were adopted. A vote of thanks was proposed from the chair to the *British Medical Journal* for the help given to the Fund during the past year, special reference being made to the generous support afforded by the *Journal* to the Christmas Gift Appeal.

ORDER OF ST. JOHN

The following medical promotions in and appointments to the Venerable Order of the Hospital of St. John of Jerusalem have been announced:

As Knights, Surg. Rear-Admiral C. P. G. Wakeley, C.B., Air Marshal Sir Harold E. Whittingham, K.C.B., K.B.E., K.H.P., and Dr. J. M. Wilson. *As Commanders (Brothers)*, Major-Gens. Sir Ernest M. Cowell, K.B.E., C.B., D.S.O., K.H.S., and Sir Percy S. Tomlinson, K.B.E., C.B., D.S.O., Lieut.-Col. D. C. L. Fitzwilliams, C.M.G., and Drs. D. L. Beath, O.B.E., E. Lewys-Lloyd, and T. H. Leggett. *As Officers (Brothers)*, Col. D. Clyde, C.I.E., Lieut.-Col. L. K. Ledger, O.B.E., and Major G. B. Thomas, I.M.S., Capt. G. F. Shepherd, Surg. Capt. A. McCallum, O.B.E., V.D., Surg. Cmdrs. J. S. Elliott, A. E. Ginn, and C. H. Birt, Air Cdre. D. McLaren, Group Capt. J. Kyle, and Drs. L. D. Porteous, J. B. McKay, W. Mailer, C. V. Nicoll, A. P. Spark, S. McClure, C. H. Buckley, and J. C. Ashton. *As Serving Brothers*, Lieut.-Cols. T. F. Briggs, and F. A. Bevan, T.D., R.A.M.C., Messrs. D. A. Davies, F.R.C.S., J. B. Dobson, F.R.C.S., and K. Watson, F.R.C.S.Ed., and Drs. J. K. Thomas, G. F. Mitchell, J. H. Kahn, D. F. Barrett, W. C. Saunders, W. H. Shilvock, W. J. F. Craig, H. S. Savage, E. L. Butler, T. R. Hunter, E. M. Dearn, W. Radcliffe, C. C. H. Cuff, O.B.E., S. F. Jayawardene, W. B. Winckworth, W. W. Ballardie, J. Fenton, G. R. Bruce, O.B.E., J. W. Pickard, W. A. F. Hurst, J. N. Hudson, D. G. Lloyd, R. G. Bingham, C. T. Scott, J. S. Briggs, J. P. Davies, R. W. Edwards, J. A. Evans, H. Middleton, M.C., and W. G. Saunders. *As Serving Sisters*, Drs. Ethel Browell and (Mrs.) Ada V. V. Parkes.

TRAVELLING FELLOWSHIPS IN MEDICINE

The Medical Research Council announces that preliminary arrangements have been made for the resumption of Rockefeller Medical Fellowships, to be provided from a fund entrusted to the Council by the Rockefeller Foundation of New York. These fellowships are intended for graduates resident in this country who have had some training in research work in clinical medicine or surgery, or in some other branch of medical science, and who are likely to profit by a period of work at a centre in the United States or elsewhere abroad, before taking up positions for higher teaching or research in the United Kingdom. It is hoped it may be possible to make a limited number of awards during the academic year 1945–6, depending on the availability of candidates and facilities for travelling.

MATERNITY AND CHILD WELFARE

NATIONAL CONFERENCE IN LONDON

A National Conference on Maternity and Child Welfare was held at Friends House, London, on June 28 and 29. It was arranged by the National Association of Maternity and Child Welfare Centres and for the Prevention of Infant Mortality, and was attended by about one thousand delegates—the largest number ever recorded.

In opening the conference Dr. JANE H. TURNBULL, chairman of the National Association, recalled the fact that the first conference of the kind was held in 1906, and was presided over by the late Mr. John Burns, then President of the Local Government Board. Since 1913 there had been a conference every year, with the exception of two years in each of the great wars. The conference represented a valuable union between Government and municipal effort on the one hand and the efforts of voluntary organizations on the other. She went on to refer to the inevitable modification of maternity and child welfare services which would come about in connexion with the proposed National Health Service. Any such modification, however, should develop and not destroy the admirable organization for maternity and child care exemplified in the schemes of the best local authorities. Progressive research was needed in the nutrition of mother and child, and more attention to education in mothercraft and fathercraft, to the care of the homeless child, and to the standards of staffing in institutions.

Minister of Health's Survey

The MINISTER OF HEALTH (Mr. Henry Willink), in a presidential address to the conference, gave a survey of the achievements of maternity and child welfare during the war. He began with a reference to the improvement in vital statistics:

	1940	1944
Birth rate per 1,000 population	14.6	18
Infant mortality per 1,000 births	56.7	46
Stillbirths " " "	36	28
Neonatal deaths " " "	29.6	24.5*
Maternal mortality " " "	2.61	1.94*

* Provisional figures.

Mr. Willink said that in the middle of a General Election he would not be expected to make any startling announcement on policy; he would say only a little on projects in hand. Among past achievements he referred to the emergency maternity homes and ante-natal and post-natal hostels for expectant mothers from the target areas. Within a few months from the start of this effort 260 emergency homes, with about 3,700 lying-in beds, were opened, in which 75,000 confinements took place in the year. Many of these homes had now been taken over by the major welfare authorities or had been closed if no longer suitable, but many others would have to remain open for some months yet, until more of the maternity accommodation which had been destroyed by bombing could be restored. Along with these maternity homes had been built up a system of residential nurseries for "under-fives" who had been deprived of parental care. The third great wartime experiment in maternity and child welfare was the provision of day nurseries for the children of war workers—1,500 of them, with places for between 70,000 and 75,000 children.

The campaign for diphtheria immunization had been actively continued, and the results were good. Not only was the death rate from diphtheria falling but there was a striking difference in incidence, and a still more marked difference in death rate, between protected and unprotected children. The necessary standard of immunization had not yet been reached if the disease was to be controlled, and he hoped there would be no slackening of effort. Two of the subcommittees of his valuable Advisory Committee on Mothers and Young Children had recently completed their work. The result was, first, a leaflet on rickets, shortly to be published by his Department; and, secondly, a report on arrangements for the provision and supervision of foster-mothers.

As for the future, there was need for increased maternity accommodation. During the war 5,500 new beds had been put into commission in maternity homes, but the proportion of institutional confinements had increased from about one-third to one-half of the total, and the demand for accommodation had been by no means satisfied. The Government idea was that all maternity units should be planned as integral parts of the pattern of hospital accommodation over a wide area, even greater than the area of a single local authority. It was desired to associate maternity units with large general hospitals, so far as geographical considerations allowed, in order to make readily available the services of consultants and the use of special equipment. It was also proposed to extend the training of health visitors from six months to nine months. He alluded finally to the Royal Commission on Population now sitting, pointing out that it was a new thing in history that the growth or decline of a population now depended on the deliberate judgment of the people themselves—a momentous and perplexing problem for Western civilization.

Nutrition of Expectant Mothers

The first discussion at the conference was on nutrition. It was opened by Prof. S. J. COWELL, who stressed the importance of a sufficiency of protective foods, during both pregnancy and lactation, and made it clear that in practice the aim of preventing deficiencies was not as yet fully realized. Dr. MARGARET WRIGHT addressed herself particularly to vitamin K, the coagulation vitamin, mainly provided by vegetables, the intake of which remained at the discretion of the expectant and nursing mother. A regular intake of leafy vegetables, tomatoes, and liver might be expected to improve the dietary resources of vitamin K. One medical measure which might be responsible for diminishing the absorption of this vitamin was the general use of mineral oil in the form of liquid paraffin. This had been shown to reduce the absorption of carotene in animals, and it seemed uneconomic to take so much trouble over dietary provision and education of expectant mothers and at the same time encourage them to use a popular laxative which must in some measure minimize their efforts. She suggested that a revision of medical and nursing opinion on liquid paraffin was due. Miss R. M. SIMMONS, dietitian to Hammersmith Hospital, gave an interesting account of the ways in which expectant mothers and mothers of young children are taught to feed themselves and their offspring.

Unity of Services

A session presided over by Prof. J. M. MACKINTOSH was devoted to the question of unity of the maternity and child welfare services. The subject was introduced by Dr. NORA WATTIE, senior child welfare officer, Glasgow Corporation, who argued that as reproduction was a continuous physiological process from conception until the end of lactation it was logical that there should be a unified control of services which a mother needed; yet she pointed out that during this period of reproduction mothers might pass through several hands from one administration to another.

> "No one can be satisfied with the present set-up. For instance, in most areas the maternity and child welfare ante-natal clinics are not staffed by personnel who have a hospital connexion, and the medical staff very often after appointment no longer engage in obstetric practice. In my view the ante-natal clinics and the maternity beds should be administered as a single service in the health department, the clinics, whether held at the hospital or at the maternity and child welfare centre, being staffed by medical officers whose duties would include both clinic and hospital practice. . . . There are obvious advantages in having the maternity unit part of a general hospital sharing common services and facilities, but it should not be administered as such. The maternity unit should be regarded not so much as a hospital but as part of the cycle of childbearing—a normal physiological process. It is mainly for this very important reason that emphasis should be laid on the necessity for avoiding any administrative break in the continuous care of the mother during the expectant, lying-in, and post-natal stages. It follows, therefore, that indoor maternity provision should be administered as part of the general maternity service."

Dr. Wattie considered it disappointing that the conception of the health centre in the White Paper had been so unfavourably received, because, for large areas of population, such a development was just what was wanted. The joint centre would become the focal point for the persons engaged in the various aspects of the care and health of the child from birth to the end of school life. The same medical officer should look after the child from infancy up to school-leaving age, and the health visitor should carry out the same continuity of supervision.

The Midwives' View

Miss G. L. Reed, who spoke on behalf of the College of Midwives, said that midwives desired a closer unity in the services. For all domiciliary midwifery there should be access to specialist hospital services when and where necessary, but those services should not intrude so far on the normal as to minimize the position of the mother as a member of the family and a partner in the home. A large percentage of women would always need to be confined in hospital, but the encouragement of family unity should not be forgotten; and birth in people's own homes had been for many generations an underlying factor of British midwifery.

Dr. Alan Moncrieff put forward the views of the British Paediatric Association on certain points. The association, he said, disliked the idea that ante-natal work should be divorced from the actual conduct and supervision of labour and the puerperium. He hoped that in future it would no longer be true, as it was in London, that ante-natal work was largely undertaken by the borough councils and the actual midwifery by the county council. If medical officers were to be responsible for seeing the mother right through they would clearly have to be specialists in their subject. Similarly in the case of the child, it was hoped that medical officers would undertake the care of the newborn, of the older infant and young child, and of the school child, so that there was a continuity right through childhood; and here again specialization appeared to be necessary.

> "If general practitioners are to do more of the health work among children, as the White Paper suggested, they too must be closely linked with the appropriate hospital services. A general practitioner doing infant welfare clinic work, for example, should also be on the staff as a clinical assistant of the nearest paediatric department. The division in the past between hospital paediatricians and child health medical officers has been unfortunate, and a unity in this part of the work seems to me of very much greater importance for the health of the community than preserving a unity at the level of the medical officer between maternity and child welfare. The training of medical officers of health in the future must surely allow for early specialization in one or other of these major branches."

One delegate from the floor of the hall protested against high maternity-home charges, which she declared to be a "dreadful scandal."

Day Nurseries

A discussion on the State and the parent in relation to the child was noteworthy for an attack by the Archbishop of Westminster (Dr. Griffin) on day nurseries. Efforts to tempt women to leave the care of their little ones to professionals were, he said, both harmful and unnecessary in normal circumstances. Money spent on day nurseries had better be spent in consolidating home life. Dr. Leslie Housden tilted at the idea of Francis Bacon, repeated in modern times, that the best works and of greatest merit for the public have proceeded from unmarried or childless men. Well, Shakespeare and Milton each had four children; Bach had twenty; Charles Darwin was survived by seven children; Mohammed had six, and the founder of the Salvation Army had eight. The happy family was not a drag but an inspiration. Dr. Grantly Dick Read made an eloquent plea for the teaching of parenthood and the spread of a more general knowledge of the advances in obstetric science so that fear of childbirth would cease.

The Lancashire County Council was among the first to provide a mass radiography unit, and at the beginning of this year the County Tuberculosis Committee presented a report of the first three surveys, ending on June 7, 1944. The surveys were made on (a) the staff of a county mental hospital, (b) employees of a large industrial undertaking, and certain allied groups; and (c) employees of a Royal Ordnance Factory. According to the report made by the County Central Tuberculosis Officer, Dr. Lissant Cox, 10,730 miniatures were taken, and 842 cases were submitted to full-sized radiography. No abnormalities were found in 93%; active pulmonary tuberculosis was found in 36 cases, and cardiovascular lesions were detected in 62. No diagnosis was made on the miniature film alone. Twelve of the 36 pulmonary cases had a positive sputum. Expressed in another way, the pulmonary cases represent 3.3 per thousand examinations, and the sputum-positive cases 1.1 per thousand.

Reports of Societies

URINARY BILHARZIASIS

Some surgical aspects of urinary bilharziasis were discussed by Mr. R. Ogier Ward at a meeting of the Section of Urology of the Royal Society of Medicine on June 28, Mr. McG. Loughnane presiding.

Mr. Ogier Ward said that patients with symptoms of this disease, typical or obscure, might be expected to make their appearance in hospitals in this country during the years immediately ahead, for British troops had served in territories where bilharziasis was always present and many had been infected. A. J. Renoult, the French surgeon of Napoleon's time, reported the condition as occurring mainly among cavalry, the result of excessive sweating, forced marches, and riding horses *vif et fougueux*. During the Boer War 625 cases were recorded, and a few were found among soldiers returned to England. In the first European war there were also many cases.

He next discussed the three main species of the bilharzia or schistosoma parasite: *S. haematobium*, the cause of the genito-urinary disease under consideration; *S. mansoni*, the cause of Egyptian splenomegaly and intestinal bilharziasis; and *S. japonicum*, the cause of eastern bilharziasis, a variety affecting chiefly the liver and spleen and confined to the territories bordering the western shores of the Pacific. The distribution of *S. haematobium* in Africa included the British territories of Sierra Leone, Gold Coast, and Nigeria, and all the north coast. There were a few places in Arabia and Iraq. As for the east and south of the continent, it was said to predominate in those territories whose waters drained into the Indian Ocean—e.g., the Zambesi. Most of the research on the parasite had been carried out in Egypt, an ideal country for its cycle. The disease was shown to have existed there since the twentieth dynasty (1250–1000 B.C.). Ruffer, in 1910, taking six mummies of that dynasty, soaked some of their organs in a solution containing glycerin, and on cutting microscopical sections found in two of them the terminal spined ova in the straight renal tubes.

In recent years the disease had assumed serious proportions in Egypt. In 1939 it was estimated by Scott, a director in the public health department of the Egyptian Government, as a result of 40,000 examinations, that half the population in the lowest and widest part of the delta harboured this parasite, very large numbers also being infected with the *S. mansoni*. The peculiar methods of agriculture in Egypt subjected the fellahin to constant and heavy reinfection. In other lands the disease did not commonly give rise to the advanced pathological conditions with which Egyptian surgeons were familiar.

Diagnostic Investigations

The most general method of making a diagnosis of urinary bilharziasis was to examine the last few drops of urine passed. Until cystitis occurred—and that was late in the disease—the urine, except for the last few drops, was clean to the naked eye. A solitary examination of the urine for ova was a quite unreliable test, for ova were not continuously released from the lesions of the mucosa. Five consecutive morning specimens, the last few drops of urine being collected and centrifuged, would in about 85% of cases show either ova or red blood cells. Even in the absence of these the continual presence of pus or albumin meant that a diagnosis of bilharziasis might be made until it was disproved. Cystoscopy was the most accurate method of diagnosis in all active phases, and should never be omitted in a suspected case in which no ova were found. Patches of congestion, most commonly in the trigonal region, were the earliest abnormality seen in the bladder mucosa, but these had no characteristics which would enable a certain diagnosis to be made. Later stages were specific. The first was the appearance of bilharzial tubercles, similar to the tubercles due to Koch's bacillus, with occasional congestion of the area of mucosa around a collection of them. An intense invasion by ova often caused very marked oedema. Bilharzial nodules were larger than tubercles, more permanent, and greyer, and were commonly met with in chronically infected bladders.

Mr. Ogier Ward went on to discuss the different ways in which bilharziasis of the bladder might develop from the earliest stages. Live ova from an infected area of the bladder might work their way through the mucosal covering and be shed into the urine, the healed area leaving no scar; or dead ova which had not been discharged might remain as tubercles for a long time. Calcification of bladder tissues around the ova was a permanent feature in severely infected, long-standing, and untreated cases, the calcification affecting chiefly the submucous layers of the bladder wall. Another stage was the development of bilharzial ulcer, usually single. When large numbers of ova collected in the submucous layer they might cause tumour-like bilharzial masses to project into the bladder. Tubercles were often seen on the surface of these masses. This condition could not be cured by antibilharzial treatment. Vesical papillomata due to bilharzia were common in Egypt, and it was said by Makar that bilharzial cancer was not rare in the Egyptian upper classes. Among the primitive populations of the Delta these malignant growths often produced great extensions and widespread metastases before the patients reached hospital, and in such cases pain, strangury, frequency, and bleeding were severe. Vesical calculi were met with in bilharziasis, and the ova had been found within the stones.

Until treatment with antimony sodium tartrate was introduced by McDonagh and Christopherson there was no known remedy for urinary bilharziasis. A number of other drugs had been tried, but tartar emetic remained the best, despite some unpleasant symptoms associated with its administration. The antimony first sterilized the generative apparatus of the female worms and ultimately destroyed them. In this country it was very unlikely that the latter complications—such as bladder growths and fistula—would be encountered, but examples of the earlier stages might well be seen. Officers and men of all three Services had been in the countries where this disease was endemic, and clearly some might bring it home with them. Urologists should know how to diagnose the early stages of bilharziasis; its later manifestations might remain chiefly a matter of general interest. One thing to be on the watch for was the insidious danger of ureteric obstruction when all signs of active prostatic infection had disappeared. It was necessary also to bear in mind that the worms, when their normal vein paths were obstructed, might find their way to the seminal vesicles, prostate, vas, epididymis, testis, or tunica vaginalis, and cause sclerosing changes in those organs.

Mr. **Clifford Morson** said that his first introduction to this disease occurred when he was house-surgeon to Sir John Bland-Sutton, who always believed that malignant disease was parasitic in origin. A case of cancer of the bladder was admitted, and in the course of investigation the ova of bilharzia were found, which seemed to confirm Bland-Sutton's theories. During the last war Mr. Morson had come into contact with cases of the disease while in Egypt, and what had impressed him was the complete indifference shown by the native to the passing of blood in the urine.

Sir **Philip Manson-Bahr** said that he had tackled bilharziasis in its origin in the field, together with his colleague Dr. N. H. Fairley. In 1916 men at the camp at Tel-el-Kebir on the eastern border of the Nile delta welcomed a chance of bathing in one of the irrigation canals, but they quickly began to suffer from a skin irritation, an urticarial rash, and an irregular pyrexia, and a number of cases of bilharziasis appeared. The condition was becoming much more prevalent than formerly in West Africa, and he did not doubt that cases would be found in this country among men returning from war service.

A representative of the War Office referred to an interesting observation lately made in India, where there were large numbers of West African troops near native villages and rice fields, and where it was quite certain that owing to the insanitary habits of the Africans the water would be infected. Yet although the ova were widely demonstrated in the African troops and among a proportion of the European officers, there was no infection of the Indian population. Some of the ova were collected from the troops and put in contact with local snails, but none of the snails became infected.

Mr. **Ogier Ward**, in reply, stressed the importance of thorough treatment with antimony. The course should amount to 30 grains, and it must be intensive lest a resistance to antimony was acquired.

Correspondence

Poliomyelitis in Malta

Sir,—As one who was connected with the poliomyelitis epidemic in Malta from its beginning may I be allowed to add a few comments to the very interesting paper by Prof. Seddon and Drs. Agius, Bartolo, and Coleiro (June 2, p. 759).

The authors, and your editorial comment (p. 773), give the impression that the generalized pains and the stiffness of the back, usually regarded as the first signs of this disease, were not a striking feature of the epidemic; that in fact they were conspicuous by their rarity. This view requires clarification. Of the 375 cases which occurred in Malta (as distinct from Gozo) I saw 210 in consultation at their homes before admission to hospital. On Jan. 2, 1943, I was appointed consulting physician to St. Luke's Hospital, and all the cases treated there were under my care until the acute phase of the epidemic was over, and Prof. Seddon arrived to take charge of what had now become an orthopaedic rather than a medical problem.

My experience was that two types of pain could be distinguished: an *initial* generalized hyperaesthesia due to meningeal irritation, and a *later* more localized pain sometimes associated with muscular spasm. The generalized pain was common and occurred in at least two-thirds of the cases. It usually preceded the paralysis and it affected limbs which were not subsequently affected. Here the diagnostic problem was to determine whether the child refused to move on account of the pain or on account of the muscular weakness. At the beginning of the epidemic scurvy was often suspected as a possible cause in view of the food situation at that time. The pain was not spontaneous and, left to itself, the child made no complaint. It only appeared when any attempt at movement was made by the examiner, and was especially marked when the movement involved the spine. Shaking the bed was also resented. This hyperaesthesia, elicited by examination, was not likely to be noticed by mothers—a fact which may explain why it was missed in the interrogation carried out two or three months after the event.

Stiffness of the back and of the neck, sometimes amounting to rigidity, was likewise a noticeable feature in the early stages. Coupled with a more or less marked Kernig's sign it frequently raised the suspicion of meningitis and necessitated an immediate lumbar puncture. In all the cases where this was carried out there was a high lymphocyte count without, however, a corresponding increase of proteins or a diminution of the chlorides.

With regard to the "spine" and the "tripod sign," it was difficult to obtain the co-operation of the young patients, even in those cases where the general condition permitted their being sat up. It must be emphasized that this pain and stiffness were very early signs, and had usually disappeared by the time the child was admitted to hospital.

The localized pains came later when the paralysis was already established. The first case of poliomyelitis to be diagnosed (D. C.) was referred to me as a case of rheumatism. The patient had had fever and generalized pain, *which her mother did not mention at first,* 7 days before, and now she complained of very severe pain in the shoulder and arm, which were, and have remained paralysed. The pain was eased as soon as the arm was immobilized in a raised and abducted position. I believe that these localized pains are of muscular or at least peripheral origin, and that they are due either to: (1) stretching of the paralysed muscles, (2) spasmodic contraction of surviving fibres, or (3) spasmodic contraction of unopposed antagonists. This type of pain was extremely rare among the patients admitted to hospital at an early stage, and I attribute this fact to the immediate, complete, and adequate immobilization, which was adopted as a routine when I took charge of the wards. I was anxious to give Sister Kenny's treatment a fair trial, but there was no opportunity to do so as pain and spasm were conspicuous by their absence. I can only remember one case (P. X., 10 months) where pain with spasm and flexion of both thighs persisted for more than one day after admission. The patient was given hot packs and massage, and the pain ceased when the limbs were gradually stretched out and splinted in an extended position. The child has made a complete recovery.

A number of patients developed pain while in hospital, and this was invariably traced to immobilization in a faulty position. In one particular case (C. B.) there was pain, spasmodic contraction, and tenderness of the adductors of the right thigh which was relieved as soon as the limb was put in abduction. From conversation with doctors who treated patients at home I understand that pain was a more frequent symptom, and I have no doubt that this was due to the less rigid insistence on immobilization.

It is now generally accepted that the virus of poliomyelitis does not attack the higher centres and that cerebral and cerebellar forms do not occur. This is borne out by my experience in this epidemic. The convulsions mentioned in the paper occurred either at the beginning of the infection and were probably due to the thermal disturbance, or towards the end, when they were caused by asphyxia. In the article under review reference is made to vertigo and to "typical cerebellar symptoms" in one case. It is extremely difficult to make children explain exactly what they feel, and giddiness is a common symptom in many fevers. The absence of nystagmus, noted by the authors, would seem to exclude a cerebellar origin.

With regard to treatment, no specific or convalescent serum was available at the outset of the epidemic. Later on, when a supply of specific serum was obtained, no suitable cases presented themselves. Sulphonamides were not employed, as they had already been proved to be ineffective. Treatment by potassium chlorate was considered, but, in view of the conflicting reports and its undoubted dangers, it was not used. Reliance was placed on immediate and complete immobilization of the whole body in the neutral position until the initial extensive paralysis had settled down. Thereafter immobilization was confined to the limbs and parts which showed any weakness and was adapted to the individual needs of each case. The splints were extremely primitive, but they were the only ones available at the moment. Many of them were knocked up by the house-physicians, and by myself, on account of the acute shortage of labour at that time and the rush of patients requiring attention. After the first fortnight the splints were taken off once daily and light massage was given to all the muscles.

The results seem to justify the procedures adopted. A mortality of 3.5% is not too high (average 5% to 20%) and a complete recovery rate of almost 40% compares favourably with 25% mentioned by Lovett. To me, however, the most satisfactory feature was the almost complete absence of contractures while the patients were under my care. As stated by the authors, a most painstaking review carried out in March and April "revealed only two cases in which there was very slight contracture"—in a thumb and in a toe, I believe. In the present state of our knowledge paralysis cannot be prevented once infection has occurred, nor can axonal regeneration be accelerated by the means at our disposal. Treatment in the early stages resolves itself into the prevention of contractures and deformities. That much, at least, was accomplished, albeit with very primitive means, by a rigid and unswerving adherence to the policy of immobilization.

It is unfortunate that no mention was made of the cases with bulbar involvement (36). The loss of speech, the salivation, and the dysphagia mentioned under different headings were due to this. These cases presented a difficult and distressing therapeutic problem. It was difficult to adapt the Drinker respirator to these young patients, and where this was done the benefit was only temporary. The best results were obtained by nursing in the head-down position and by giving large, sometimes heroic, doses of atropine.—I am, etc.,

Malta. J. E. Debono.

Transmission of Infection during Withdrawal of Blood

Sir,—In an article in the *Journal* of May 5 (p. 625) Dr. K. Mendelssohn and Prof. L. J. Witts, stimulated by the occurrence of an outbreak of homologous serum hepatitis in Droller's diabetic clinic, discussed the possibility of transmission of infection during the withdrawal of samples of blood. They came to the conclusion that after aspirating blood from a vein and then releasing the tourniquet before withdrawing the needle in order to prevent the formation of a haematoma, a negative pressure is produced and some of the blood in the syringe finds its way again into the circulation. They proved this by the following experiment: A burette, connected to a short length of rubber tubing, which in its turn was connected to a glass tube provided with a tap, was filled with water, and the apparatus fixed so that the rubber occupied the lowest position. A few drops of a concentrated solution of methylene blue were drawn into a syringe, the needle fitted, the rubber punctured in the direction of the tap, and some of the water drawn into the syringe. When the tap was opened—which corresponds to releasing the tourniquet—the fluid flowing from it was noticed to be tinged with the dye.

The experiment is simple and convincing; in fact it was repeated with identical results, but it was thought that it might be of some interest to do it again in what might be considered a somewhat more natural way—namely, by slightly contaminating the syringe with staphylococci instead of drawing methylene blue into it and by filling the burette with sterile broth, taking care to sterilize the whole apparatus. Otherwise everything else was done in the same way as above. The fluid flowing from the tap was received in a sterile flask and incubated at 37° C. for 24 hours. Growth of staphylococci appeared, but was rather scanty, showing that the inoculum was small. Another burette, full also of sterile broth, was used, the rubber was punctured, the fluid drawn as before, and the needle withdrawn without opening the tap. This corresponds to the withdrawal of the needle from the vein before removing the tourniquet. The whole apparatus was then incubated at 37° C. for 24 hours; no growth appeared.

One point is worth discussion: is it always necessary, in order to prevent the formation of a haematoma, to release the tourniquet before withdrawing the needle from the vein? I find that by applying firm pressure on the site of the puncture immediately the needle is withdrawn, at the same time removing the tourniquet, a haematoma hardly ever occurs. Nevertheless it would be, as the authors put it, penny wise and pound foolish to economize in sterile syringes.—I am, etc.,

Faculty of Medicine, Cairo. M. A. Gohar.

Excision of Patella

Sir,—A number of surgeons appear to regard removal of the patella not only as a highly satisfactory procedure but even as the operation of choice in fractures of this bone. On the other hand there are many who disagree strongly with this view and who resort to excision of the fractured patella only when severe comminution is present. That an excellent result may follow a properly conducted operation which includes excision of the bone none will deny. In too many cases, however, the result has been anything but perfect. Almost without exception I have found extension to be incomplete at the time of examination, usually within three or four months of the date of operation, even in those with an otherwise promising result. A common complaint is a feeling of insecurity on stairs and of stumbling on rough ground. Several of the results seen have been even more unsatisfactory, and in some the chances of a substantial improvement seemed small. Gross chronic swelling and thickening, marked limitation of both flexion and extension, and varying degrees of insecurity or unreliability of the joint have all been met with. One young woman, seen eighteen months after the operation, could negotiate stairs only with considerable risk of a fall; voluntary extension was incomplete by several degrees; flexion was complete but excessive. If the knee was allowed to flex beyond 35 degrees, while her weight was borne by the limb, she fell to the ground. A badly conducted operation, it will be said, and probably with truth, yet similar though less disastrous results are not so very uncommon. I am not denying excision is a sound procedure in badly comminuted fractures where it is impossible to restore the articular surface of the bone with anything approaching accuracy. The operation may also be indicated in a few carefully selected cases of osteo-arthritis.

My contention is that the patella is a useful bone, both as a protection to the joint and as an important part of the extensor apparatus, and, in the opinion of many besides myself, it should not be sacrificed, in whole or in part, when accurate suture is a possible alternative. Haxton (1945) has shown by experiment on the cadaver that "the patella improves the efficiency of knee extension in the more important extended position of the knee-joint. . . ."

Certain advantages are claimed for excision in place of suture. It is true that the period of immobilization can be reduced and recovery of flexion may be accelerated after excision, but not without risk to the power of extension. The sutured tissues should be given time to unite. Too early efforts to restore mobility have been known to result in disaster. The statement that arthritic changes on the front of the femur are entirely eliminated cannot be accepted; gross arthritic changes have occurred after removal of the bone. Published experimental work on animals suggests such changes are not only probable but inevitable. Bruce and Walmsley (1942) using rabbits found that degenerative changes in the articular cartilage of the patellar surface of the femur followed removal of the patella. Cohn (1944), in two groups of rabbits, adult and young, confirmed this, changes in the cartilage being found in every animal after patellectomy. When only the lower half of the bone had been removed similar degeneration of the cartilage was seen in every adult rabbit, but not in the immature animals. The fact that excision is in many cases an easier operation to perform than accurate suture must not be given undue weight. Which operation is favoured must surely depend chiefly on a comparison of the late results of the two procedures.

So far as I am aware, no considerable series of cases of excision of the patella has been published to support the contention made by Brooke in 1936 that this operation gives better results than suture in transverse fracture of the bone. There is, however, some evidence to the contrary to support our personal observations. An investigation, Brig. Bristow tells me, into the late results in soldiers who had sustained a fracture of the patella showed that of 27 cases treated by excision only 11% were returned to duty in category A, whereas of 31 cases treated by conservative measures, including suture, 80% were returned in category A. These figures may be objected to on the score that more detailed information is required before accepting them at their face value. No doubt those treated by excision included a larger proportion of the more severe types of fracture than the other group. Even if allowance be made for the first group's being the result of greater violence than the second, the figures must surely be regarded as impressive.

Friberg (1941), dealing with cases of chondromalacia and of "adverse sequence of fractures" treated by excision of the patella, reported that the function after excision of the bone was "complete" in 84%, yet no less than 43.8% of his 32 cases complained of insufficient strength and want of reliability and stumbling on rough ground. Seven cases of excision of the patella were followed up by Wass and Davies (1942), and in every single one the result was poor. Unsatisfactory results do, of course, occasionally follow suture, but I believe they are less frequent than after excision, and they could be further reduced in numbers were more attention paid to accurate suturing. As an indication of what can be achieved by skilful suture I may quote Scudder and Miller, who in 1916 published the results in a series of 38 cases. Extension was full in 94% and flexion was full in 60.5%. In 63% capacity for work was unaffected. Mr. F. W. Holdsworth tells me that in a recent follow-up of a small series of 10 cases dealt with by suture he found that in all but one extension was complete, while in only one was flexion less than 130 degrees, and in the exception it amounted to 90 degrees.

When it is decided the bone should be removed much depends on the way the operation is completed. Though it is possible in cases operated upon early to suture the extensor tendon to the ligamentum patellae, it is not really necessary to do this, and probably, as some believe, it is undesirable if the return of full flexion is not to be jeopardized. It is, however, essential that the hole left in the capsule should be reduced in size and prevented from gaping by stitches and not simply covered over with what has been stripped from the front of the bone. The statement that the extensor tendon passes entirely in front of the bone every surgeon knows to be inaccurate. With regard to the care usually taken to keep close to the bone when dissecting out the fragments, attention may be called to the fact that Friberg and also Wass and Davies found that the appearance of more than a trifling amount of calcification and ossification at the site of the patella was a distinct disadvantage and interfered with recovery of function.

Lastly there is the question of removal of the smaller fragment when the bone is broken into two unequal portions. On what grounds it is maintained by those who practise this that the chances of arthritis are materially diminished it is difficult to see. It seems a pity to throw away a fragment which affords the best possible hold for the stitches and which, at the lower pole, may be entirely devoid of cartilage.

I am convinced that the best advice one could give a young surgeon would be to learn to suture the fragments of a fractured patella with accuracy and not to resort to excision of the bone in the hope of getting a rapid result.—I am, etc.,

London, W.1. H. A. T. FAIRBANK.

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The Edinburgh Outbreak of Smallpox, 1942

SIR,—Dr. A. L. Ferguson (June 30, p. 923), writing from South Africa, says: "The deaths from post-vaccinal encephalitis are regretted, but the deaths from smallpox would have been very much greater had not the population of Edinburgh been quickly and adequately protected by the measure of mass vaccination undertaken by the health authority." May I suggest that this assertion is really begging the whole question which it was the express object of my article to discuss. If, as I showed, the outbreak was definitely declining when the mass vaccination campaign was begun, what right has anyone to assert that the deaths would have been much greater?

Dr. Ferguson expresses surprise at the views I hold, but had he been living in this country he would doubtless have been aware of the great change which has taken place in medical opinion on the whole question of vaccination in relation to smallpox in recent years. Perhaps he will be even more surprised when he learns that the Minister of Health in this country, acting on the advice of his Medical Advisory Committee, proposes to terminate the present compulsory system of vaccination, and that the Council of the British Medical Association has agreed to the proposal. I can remember the time when any such proposal would have met with the very strongest opposition from the medical profession. To-day it is likely to meet with practically none, or, more probably, with a sigh of relief. Truly, *tempora mutantur, nos et mutamur in illis.*—I am, etc.,

Leicester. C. KILLICK MILLARD.

Sweating Sickness and Picardy Sweat

SIR,—In your *Journal* for June 2 (p. 792) an inquirer asks if anything is known of the aetiology of sweating sickness which was common in the fifteenth and sixteenth centuries. Your commentator replied that "Hamer gave reasons for thinking that the sweats were epidemics of influenza." The evidence which exists makes this conclusion improbable. A case of this disease which occurred in a soldier in Picardy in 1918 was recorded by the late Dr. Michael Foster in the volume dedicated to Osler on his seventieth birthday (*Contributions to Medical and Biological Research*, 1, 52, Hoeber, New York, 1919). I discussed this case several times with Foster, and I also had a case under me in 14 Stationary Hospital for Infectious Diseases. Unfortunately the latter case was before Foster's, and the diagnosis was not made.

Sweating sickness first appeared as a new and previously unrecognized disease in 1485, when it attacked and caused a high mortality in the army of King Henry VII which had landed at Milford Haven from France. Between 1485 and 1551 there were at least four large epidemics in England. Caius in 1551 wrote the only medical account in the English language. After 1557 the disease completely vanished from England. Meanwhile it had appeared on the Continent, where it was known as *sudor anglicus*, but it subsequently disappeared for over 100 years.

From the beginning of the eighteenth century epidemics occurred in France of a disease which was called Picardy sweat or *suette miliare*. John Churchill the poet, whose death in 1764 is referred to by your correspondent, was taken ill at

Boulogne. Outbreaks with a high mortality occurred in 1840 and 1880. The last extensive epidemic was in 1906, when 6,000 persons were attacked in a few weeks in the Charentes area. This epidemic was studied by modern methods by a Commission under Chantemesse, but all investigations were negative.

The identity of Picardy sweat and *sudor anglicus* has often been discussed by French authors. The point at issue is the occurrence of an eruption in Picardy sweat, which Caius does not mention. Caius's "Boke" on sweating sickness is lengthy, but mostly consists of philosophical discourses and methods of preparation of herbal remedies. The clinical description is brief and applies to fulminant cases fatal within a few hours, in which type no eruption may develop. But the symptoms which Caius describes recur constantly almost word for word in the French literature of Picardy sweat, and were present in Foster's case. With regard to influenza, Chantemesse assured Foster that there was no resemblance between the two diseases. Certainly the two cases here referred to were not influenza. With plague it has no connexion. There is no substantial reason to doubt the identity of *sudor anglicus* and Picardy sweat.

The epidemics are explosive. They reach their maximum in a few days, maintain it for two or three weeks, tail off, and then completely leave the locality. The case mortality is very variable. In some epidemics the symptoms have been mild and there have been practically no deaths, but in many others the mortality has reached 30 or 40%. The epidemic of 1906 in Charente wiped out whole families in a few days. Deaths are almost confined to fulminant cases, and a fatal ending is rare after 48 hours. Rural areas are affected, and large cities are not attacked. It is not particularly an epidemic of warfare. The Commission of 1906 decided against direct contagion from person to person and attributed infection to the fleas of field mice.

As to the clinical features, the sweats are extraordinarily profuse and are independent of the height of the temperature or of its rise and fall. There are other symptoms which still exhibit the characters described by Caius: paroxysms of precordial pain with sensation of constriction in the chest and upper abdomen, feelings of suffocation and great distress, but there are no catarrhal symptoms and no abnormal signs in the lungs, heart, or cardiovascular system. There are curious sensations in the limbs and joints as of air moving—a description given by Caius, repeated by French authors, and accepted by Foster's patient. In the fulminant cases delirium and collapse rapidly develop, and death often occurs within a few hours of the onset of symptoms.

The eruption appears on the third or fourth day, or occasionally later. There are two factors—an erythema, and glistening white miliaria, which has led to the name *suette miliare* or miliary fever. The miliaria coalesce and form vesicles. The rash starts on the neck and trunk and spreads over the whole or most of the body. The rash has one curious characteristic: it stops at the wrist as if prevented from spreading further, and forms the miliary bracelet, which persists after the eruption has subsided elsewhere. This was present in both the cases in 1918. The eruption lasts a few days and is followed by desquamation. Convalescence is slow, but there are no sequelae.

Such is the disease which at one time was feared even above plague. We may bear in mind Foster's warning: "We should be unwise to regard it as necessarily a disease nearing extinction."—I am, etc.,

London, W.1. Henry Tidy.

March Fracture

Sir,—The frequency of march fracture (of the foot) and the line of treatment advocated by some are on occasion leading to this injury's being treated rather lightly, with the result that the number of cases coming to my notice where a march fracture has been diagnosed and the soldier kept on duty is increasing. That march fracture is a painful condition most will readily agree, and why the Service man with this disability should be kept going on an admittedly painful foot is difficult to determine. Whatever may be the structural defect which predisposes to the condition it must be admitted that the occurrence of the fracture does not remove it, and continued weight-bearing can do further damage to the foot itself, to say nothing of the effect of the continued pain.

Recently I have seen three cases of multiple march fracture in the same foot, and in all the history has been the same: either the first fracture was overlooked or, if it was diagnosed, it was disregarded and the man kept on his normal or slightly modified duty. In addition I have seen two bilateral cases with very similar histories. The case described below illustrates well the course of events, although this was the only case in which three fractures in one foot were found.

C. E., aged 18; service 6 months. Grade A1. After six weeks' training, towards the end of Dec., 1944, he developed a pain in the left foot during a route march. March fracture was diagnosed and *x*-ray examination confirmed a fracture of the third metatarsal. He was kept off duty for one week and then returned to training. After a week or two he had some further discomfort in the foot, which had never been entirely free from pain, but managed to carry on and complete this part of his course. At the beginning of May, 1945, he again had severe pain in the left foot when marching; he reported sick and was referred to hospital, where *x*-ray examination revealed this most interesting condition: third metatarsal, a healed fracture; fourth metatarsal, a partly healed fracture; second metatarsal, a recent fracture. *X*-ray examination of the right foot revealed no abnormality.

Whether march fracture when first discovered should be treated by simple relief from weight-bearing, by plaster fixation without weight-bearing, or by walking plaster, is probably a matter of personal preference, but all these methods do relieve the man's pain and would prevent multiple fractures; I believe that one or other of them should always be employed, and that keeping infantrymen on duty can hardly be justified.—I am, etc.,

Lancaster. Ian D. Kitchin.

An Occupational Therapy Department

Sir,—We have recently re-established at Maida Vale Hospital for Nervous Diseases a Department of Occupational Therapy, directed by a member of the Association of Occupational Therapists. This department is now open to receive out-patients from other hospitals, whether neurological, orthopaedic, or general, which lack occupational therapy facilities, or whose facilities are too far from the patients' homes for out-patient attendance. Private patients also are received. I think that the facilities offered by the department, being unusual in Central London, ought to be made known as widely as possible.

The department is well equipped for cases with physical and nervous disorders. Its facilities, when complete, will include evening sessions for those back at work, a children's room, and a homebound service for non-ambulant cases. The charge made is 2s. per patient per session, payable by the sending hospital, except private patients, who are reasonably assessed. Patients are received only on medical prescription, forms for which will be sent on application to the occupational therapist, who will also be glad to show the department to and to discuss possible scope with anyone interested, especially those who may not so far have utilized this treatment. Patients receiving occupational therapy may also, if desired, attend for speech therapy and other rehabilitation departments, which work in conjunction with the Department of Occupational Therapy.—I am, etc.,

Wilfred Harris,
London, W.9. Senior Physician, Maida Vale Hospital.

The Integration of Medicine

Sir,—The oration on the integration of medicine by Dr. F. M. R. Walshe, an abridged version of which was published in the *Journal* of May 26, appeared to concern itself more with the general foundations of scientific knowledge than with those simple acts of medical judgment which constitute the bulk of medical practice and in which all medical research culminates. Dr. Walshe deplores the lack of integration of scientific facts "beyond the basic elements of medicine as we know it"; are not just these basic elements at stake when we attempt to assess the scientific foundations of medicine?

The distinction between "liberal" and "useful" professions does indeed throw into relief the unique nature of the physician's work. Even if biological research were to conform to the high standard of integration demanded by Dr. Walshe, the fruits of research would still have to pass the test of clinical application in each individual patient. Research is invalidating, or at least questioning, an increasing number of "basic principles"; the scientist shrugs his shoulders at the physician who rests the heart by keeping the patient flat in bed, or applies warmth to every case of surgical shock. However well ordered the results of physiological research may be, however conscious the physiologist himself of the limitations of his science, doctors—everywhere and every day—practise their professions according to their lights.

By charging "clinical observation," "intuition and judgment," with the task of integrating medicine Dr. Walshe admits that medicine is not a science, nor must the so-called doctor–patient relationship be regarded as a mythical panacea, invoked whenever the doctor's status as scientist is in doubt. Semi-scientific activity of any kind does not derive sanction solely from the fact that it leads to the desired result from the patient's point of view. So far as human values and the sanctity of the individual are concerned, there is little to choose between the performance of controlled experiments on patients and the waving of the magician's wand. The doctor alone is not qualified to decide where liberal knowledge ends and useful knowledge begins. Around that decision revolves the practice of our profession. On that decision more than on anything else the integrating power of science must come to bear.

The material on which we work is human as we are ourselves. A weapon is thus placed in our hands of which the other sciences do not dispose. The will to live, so essential to the cure of any illness, could be transformed from an instinct into active co-operation by the patient if he were taken into the doctor's confidence more often. Many precepts of medical science could then be applied more rationally, many placebos dispensed with completely. Intellectual honesty of the doctor must naturally not be prejudicial to the patient's happiness or its object will be defeated; but the public must be made aware of the double orientation of the doctor if the fog that envelops us on our travels between bedside and laboratory is ever to lift. Ideally, the integration of medicine will take place when physicians have ceased to be necessary.—I am, etc.,

B.L.A. P. FRANKEL,
Capt., R.A.M.C.

Belsen Camp

SIR,—I know it was impossible for Dr. W. R. F. Collis (June 9, p. 814) to include everyone in his excellent article on Belsen, but a tribute should be paid to Lieut. F. J. Murray, to Paul Dupont who offered his services as a stretcher-bearer, and to personnel of "D" Platoon, 567 Company R.A.S.C. (American Field Service). This unit, consisting of volunteers from the U.S.A., carried out magnificent work in helping us to clear the horror camp. Nothing was too big for them, and I have never known men so hungry for work or more willing to co-operate in any task.—I am, etc.,

B.L.A. M. W. GONIN,
Lieut.-Colonel, R.A.M.C.

Bureaucracy and the Control of Medical Appliances

SIR,—For about two years medical supplies reaching this country from America have been on a "Lease-Lend" basis, and subject to the control of the Ministries of Health and of Supply. Many of the profession may not be aware that if they desire to purchase a product from the U.S.A. through one of the various instrument retailers these firms are not at liberty to order and sell such articles as they feel disposed to do, but are under orders from the above Ministries as to purchase and disposal, and, in fact, have become styled "agents for the Ministry of Supply." The muddle and chaos that customarily occur when bureaucracy takes a hand in trying to control and direct the affairs of private enterprise have again become evident in this particular field.

In my own experience the interior of an x-ray tube, known as the insert, was ordered officially in November, 1943, and was delivered to the hospital concerned in May, 1945—only 18 months overdue. In May this year a certain type of x-ray tube insert was requested, but the Ministry appeared to be out of stock of the particular article, and released a substitute with the implication that it could be accepted or left, as there was nothing else to offer. This substitute lasted exactly 30 days, and each new insert costs £55 per tube, although in fairness to the Ministry of Supply it is recorded that full allowance is to be made for the tube that lasted 30 days. The Ministry, of course, have very carefully absolved themselves from all responsibility as to the honesty of the state or manufacture of the product by inserting a clause in their contract form that: "This material is Lease/Lend and there is no guarantee or warranty given." I wonder if our American friends know of this gross injustice regarding their products and their sale conditions in this country. I do know, however, of the indignation of their British "agents." As the result of the above failures a third insert tube was ordered from the Ministry, and, amazing as it may appear, they still had not a supply of the particular article and offered yet another variety and a third type. I could enumerate other medical appliances that have been on order for over 18 months, but to date there is no sign of release by the Ministries concerned.

In 1943 a deputation of representative members of the British Institute of Radiology to the Ministry of Health discussed this matter of defective supplies of x-ray equipment which was then being felt throughout the country. The Ministry gave some assurance that the defect would be remedied, but to-day chaos continues. Further, the B.I.R. asked for representation on the appropriate committee controlling these matters, but the request, made on two separate occasions, was refused. As far back as 18 months ago these tubes and spare parts were being manufactured in America in adequate quantity for the requirements of both U.S.A. and Great Britain, and they only needed collection. The usual plea of shortage of shipping space was put forward by the Ministry, and still apparently is the excuse to-day. I suggested then that these parts occupying very small space could (and can now) reach this country in many of the almost empty aircraft coming here, and at one time landing at the rate of so many per hour daily. Some Americans are amazed at, in fact suspicious of, our lethargy in failing to collect these precious articles.

I need not dwell on the implications these facts have for a full-time salaried health service. We are a very tolerant people in this country, but surely even the Director-General of the E.M.S. cannot tolerate this continued state of inefficiency and mismanagement. How much longer are we to be subjected to unnecessary and humiliating control? The firms concerned are quite competent to resume the individual control of their business and to order the right types and adequate supplies of the goods which they know, much better than the Ministerial mind, are required for the smooth running of the profession in this country. The public must also suffer if the doctors are to be denied the tools with which to carry out the work.—I am, etc.,

London, W.1. NORMAN P. HENDERSON.

The Beveridge Report

SIR,—In this report, which is so universally accepted, there is a grave fallacy which the medical press at least should notice. It contrasts the crude mortality of London in 1900 and 1935—namely, 18.6 and 11.4 respectively—as evidence of progress. Crude rates, especially of single towns and years, have value for generalization in only one respect—they suggest a weak case. It is so here. The standardized rates for England and Wales) were for 1891–1900 and 1901–10 respectively 18.1 and 15.2. Such a rate of fall, continued for twenty years, would of itself have brought us by the end of 1930 to less than London's crude rate of 11.4. But it was gaining speed; the work of last century was beginning to tell in the elder groups, and 45, 55, 65 were all diminishing instead of increasing the national mortality, and for the second half of the decade the rate was only 14.4, falling in 1910 to 13.2. That set a norm henceforward; and for 1911–15 it was only 13.8, though, including two years in which the burden of the Insurance Act was plain, one of them also having its figures based on civilians only—i.e., on a residuum of the less fit. In 1912 it fell to 13.0; had we then enjoyed the same low birth rate and infant mortality as 1935 the low record would have been equalled. In any case in 12 years before the Insurance Act progress was about four times as fast as in the 23 years after, when the State was very active in benefactions. The argument is a poor one for extending the Act, but a powerful one for making it optional.

The great advance of medicine in all branches in this century would naturally suggest speeding-up rather than slowing of progress; and in the case of the well-to-do no one suggests it has been slowed. Nay, all the State solicitude aims at providing for poor people what the rich can provide for themselves. That the provision does not reach the poor is plain; our infant mortality, according to Mr. Titmus, is higher than in any other civilized country *among the poor*; and at no time in this century, said Sir George Newman, has the mortality of youth fallen so rapidly as it did in 1860–90; and in 1911–20, for the first known time, death discriminated against the young.

That, by ensuring a rising standard of real wages and leaving the rest to science and to the people themselves, Government can ensure a rising standard of health was conspicuously shown last century; and by two remarkable control experiments in the two great wars, which, for the first known time, moved poverty from the poor. The commentary of the Registrar-General's annual report for 1919 shows how from 1916 onwards there were established a series of low records of mortality—that is, after the money wages had overtaken the rise in prices; and the course of events in this war has been similar. Sir William Beveridge himself (par. 461) has upset the whole report. He says, "Freedom from want cannot be forced on democracy nor given to democracy; it *must be won by them*." That is true, and he speaks as responsible for the dictum. Could the report have been written with that for text instead of belated confession?—I am, etc.,

London, S.E.26. B. G. M. BASKETT.

Electro-convulsive Therapy Apparatus

SIR,—From a letter in the *Journal* of June 30 (p. 926) I gather that there is some dispute as to the technical performance desirable in electric convulsion therapy apparatus. I should like to pour oil on these troubled waters to some extent by pointing out that the conditions for satisfactory working are not nearly as critical as was at first supposed. From experiments made both in this country and abroad it would appear that the ratio between the average convulsive "dose" and the minimum lethal dose of electric current is at least 1–50, in respect of duration, so that even the simplest switch apparatus would seem quite adequate for both convenience and safety.

The importance of exact measurement of patient-resistance has also been somewhat exaggerated, since this resistance bears little or no relation to the convulsive threshold and actually serves only to satisfy the operator that the patient circuit is continuous and that no leads are frayed or broken.

In electromedical subjects it would seem most important to establish at an early stage of development the limits of accuracy and intricacy which are desirable in any particular type of equipment. In some fields there is a tendency to under- and in some to over-design. Both tendencies are harmful, since the one leads to untrustworthy results and the other to excessive cost and restricted scope.—I am, etc.,

Bristol. W. GREY WALTER.

Alien Doctors

SIR,—In three successive issues of the *Journal* letters have appeared referring to foreign doctors in what can be only described as hostile terms. In that of June 30 (p. 927) Dr. Wm. A. O'Connor went further and reference was made to "what Major Stallard euphemistically refers to as Central Europeans" and "'Central European' doctors and other strange importations." It is difficult to appreciate quite what is meant by these phrases, and one wonders whether the Irish who have remained neutral throughout the war are included. We have just ended a war in Europe against the leading exponents of the race theory, and it is with some misgiving that one reads letters of the type to which I refer.

There are three points which I would like to raise. In the first place every doctor who can practise in this country is serving this country; there can be no doubt about this. Furthermore, the Central Medical War Committee can control almost entirely what work every doctor does. Secondly, it should be possible for you, Sir, to publish how many "foreign" doctors are employed in this country—i.e., those who come under the category of "refugees"—and also how many practise in the coveted area of which Harley Street is the centre. What percentage these doctors represent of the total doctors in that area can also be determined. This information should be obtainable from the Central Medical War Committee. Thirdly, what exactly is the position regarding the return to Europe of these doctors? I understand that our own Government is not prepared at present to allow the return even of those who want to go.

I think it is most irresponsible to raise the question of the position of the refugee doctors unless the facts are fully known, and the writers of the letters referred to could not have possibly known the facts. It is too easy to stir up unjustifiable hostility to foreigners. Besides, this country has always boasted of its granting asylum to refugees, and our profession has liberal traditions of which it is proud.—I am, etc.,

University College, London. J. JOSEPH,
Captain, R.A.M.C.

Education of Nurses

SIR,—I would like to endorse whole-heartedly the views expressed by Mr. A. Wilfrid Adams (June 16, p. 857). In this connexion may I draw attention to the syllabus of the Queen's Institute of District Nursing? Apparently, trainees who are already qualified nurses on the General Part of the Register are to have a six-months smattering in all sorts of subjects, ranging from district nursing and social science (whatever that may be) to blood pressure, including an "explanation of high and low blood pressure" and "method of taking blood pressure." On the other hand, only two lectures "by medical officer of health or specialist" are devoted to infectious diseases. There are to be eight lectures on public health legislation and administration, two on psychology, two on nutrition and dietetics, four on tuberculosis, four on hygiene, and one or two on V.D. The syllabus is a good example of an overloaded and ill-balanced curriculum.

It would seem that the education of nurses has somehow got into the hands of the wrong people, and that the needs of the patient and the medical practitioner are overlooked. Is it not time that the medical profession not only expressed its views but took steps to make them felt?—I am, etc.,

Exeter. G. B. PAGE.

The Services

Col. the Right Hon. Walter E. Elliot, *M.C.*, M.B., F.R.C.P., F.R.S., former Minister of Health, has been appointed Honorary Colonel of the Royal Corps of Signals, Territorial Army, in succession to Lord Stevenson.

Major-Gen. E. Phillips, C.B.E., D.S.O., M.C., late R.A.M.C., has been appointed C.B. (Military Division) in recognition of gallant and distinguished services in North-West Europe.

Fl. Lieut. R. Logan Ewing, R.A.F.V.R., was mentioned in dispatches in the 1945 New Year Honours and was appointed M.B.E. (Military Division) in the recently published Birthday Honours. Squad. Ldr. H. T. Macaulay, R.A.F.V.R., was mentioned in dispatches in the Birthday Honours published last month.

Flight Lieut. (Mrs.) Phyllys P. Pigott, R.A.F.V.R., has been mentioned in dispatches.

Major G. Singh, Jaipur Medical Service, Indian State Forces, has been awarded the D.S.O. in recognition of gallant and distinguished services in Italy.

CASUALTIES IN THE MEDICAL SERVICES

Missing.—Acting Squad. Ldr. Robert William Stanley Marshall, R.A.F.V.R.

DEATHS IN THE SERVICES

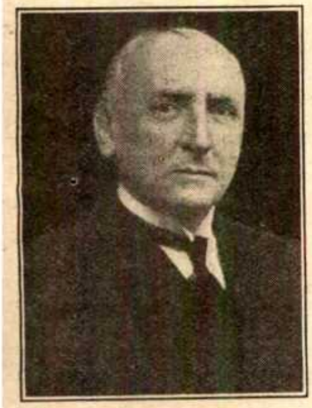
Capt. ST. GEORGE EYRE HARRIS, O.B.E., who served continuously with the R.A.M.C. as a temporary and war substantive officer from 1915 onwards, died at Farnborough on May 27, aged 68. He studied medicine at Trinity College, Dublin, graduating M.B., B.Ch. in 1899 and M.D. in 1902, and was for a time resident medical officer at the National Sanatorium for Consumption, Bournemouth. At the beginning of the last war he was senior surgeon to a French hospital at St. Malo and from 1917 to 1941 was associated with the Cambridge Hospital, Aldershot—as ear, nose, and throat specialist for most of the time. From 1941 he was employed on medical boards. Capt. Harris's long service with the Corps made him widely known to officers of the regular R.A.M.C.

Obituary

THOMAS BEATTIE, D.C.L., M.D., F.R.C.P.

The death, at the age of 77, of Emeritus Professor Thomas Beattie removes an outstanding figure from the medical profession of Newcastle-upon-Tyne. He was a native of the city, his father, Alderman John Beattie, being mayor in 1900. His whole professional career was spent in association with the Royal Victoria Infirmary and the University of Durham College of Medicine in Newcastle.

He qualified in 1890, gaining first-class honours in the final M.B., B.S. examination; in 1895 he was awarded the gold medal for his M.D. thesis. He became a Member of the Royal College of Physicians in 1898 and was elected a Fellow in 1915. Passing through the usual resident posts he became honorary assistant physician, honorary pathologist, honorary physician, and was made consulting physician in 1927 on his retirement from the active staff. In the Medical School he filled various posts—lecturer in materia medica, professor of therapeutics, lecturer in medicine, and finally professor of medicine. In 1935 he received the honorary degree of D.C.L. from the University of Durham.



It may be fairly said that his passing removes the last link with the older school of physicians of Newcastle. His precise and painstaking manner in clinical teaching, together with his outstanding physical attributes and personality, have left a lasting impression on his colleagues and numerous generations of students. He took an active part in local medical affairs, passing through the presidential chair of the Northumberland and Durham Medical Society and also that of the North of England Branch of the British Medical Association. At the Annual Meeting of the B.M.A. in 1921 he presided over the Section of Medicine. During the 1914–18 war he served as lieut.-colonel in the 1st Northern General Hospital in Newcastle. His later years were beset with physical difficulties which he bore with stoicism and without any alteration in his habits or manner. He died in the hospital he had served so long and well. A memorial service was held on June 28 in St. Luke's Chapel in the Royal Victoria Infirmary. It was attended by many old colleagues and members of the House Committee.

Prof. G. **GREY TURNER** writes:

Dr. Thomas Beattie was a well-known physician in Newcastle-upon-Tyne and the North Country, and by his death a notable personality has passed on. Beattie was from first to last a Newcastle product. He was born in that city 77 years ago and obtained his early education at the Grammar School. His medical education was carried out at the University of Durham College of Medicine, which has always been located in Newcastle. During his academic career, which was very successful, he gained many prizes, scholarships, and other distinctions. After obtaining his university degree he held a long series of resident posts at the Royal Infirmary extending over five years, and was also secretary to the medical staff. These years furnished a wonderful opportunity for one with the capacity and avidity to profit by what was happening in a great institution which has always been a storehouse of clinical material. His career at that stage was an apt reminder of William Hunter's remark that "were he to make a man truly great in his profession, he would place him in a great hospital where he might attend the sick and dissect the dead," which is just what Beattie did, using his abundant opportunities to the utmost. Beattie was always a great student of morbid anatomy, and after leaving the house and returning as a member of the staff, his first post in 1895 was as pathologist. In that appointment he carried out his work with great diligence, making all the post-mortem examinations himself. He spent hours in the dead-house conducting each examination with minute thoroughness and inculcating in his clerks those powers of observation which he had so highly developed. In 1897 he became assistant physician, and continued on the medical side until his retirement as senior physician on attaining the age limit in 1927; thereafter he was promoted as consulting physician. Though he filled other offices he never allowed anything to interfere with what he considered the major business of his life—his work at the Infirmary. During the 1914–18 war, with the rank of lieut.-colonel, he did an enormous amount at the 1st Northern General Hospital, including a much larger share of medical board work than fell to the lot of other members of the staff. Everything that he did in his military capacity was carefully recorded, and his reports, written in his own hand, were a model of accuracy and fullness. After retiring from the staff at the Infirmary he became director of the medical division at the Newcastle General Hospital, and there he continued the same high standard of clinical work. At the College of Medicine he held the lectureship in therapeutics until on the retirement of Prof. Oliver from the chair of medicine he was appointed and occupied that position for seven years. His lectures were good and were valuable for those who already possessed a good groundwork, but they were not of the same high standard as his bedside teaching.

Beattie was happiest when working late. He and I often met at a near-by letter-box in the old days just before midnight and there, standing in the open air, Beattie would always be willing to talk for quite a long time about some experiences of the day or to expound something that had bearing on cases of interest or current medical affairs. He never lost interest in surgery, and it was indeed a happy experience to meet him in consultation, to talk over the problems presented, and to have his critical eye on the operative field and in the analysis of the subsequent events. As a young man he had a tuberculous pulmonary lesion which compelled him to stay for a year or more in Switzerland, where he co-operated so thoroughly in his own treatment that a lasting cure resulted. This experience directed his attention to chronic pulmonary diseases, and was reflected in his own management of similar cases. His knowledge of tubercle in all its forms was very wide. He wrote little, but his apparent neglect in that respect was founded on a conviction that there was always so much more to be learnt that it was dangerous to commit to writing what might be improperly digested knowledge, and possibly misleading to younger men. As an examiner he was very fair, and though possibly a little terrifying to the candidate, he appreciated honest effort. As a physician no one could have spent more time and trouble in bedside investigation, which was then and for long afterwards the vogue. Up to the end of his hospital days he was rather suspicious of the ancillary aids, and he tended to lag behind what was becoming current practice in those fields. But his knowledge of disease and its natural history was very extensive, and few men could have had a greater practical experience. It was not that he belittled or scorned additional aids, but he early detected the tendency to allow these methods to replace clinical examination, and to this he would never yield. He applied with great thoroughness those lessons he had so well learned during his early studies in the wards and the dead-house. With Beattie there was never any hurry, and he would take no end of pains to establish a diagnosis. He trained his house-physicians in the same careful and thorough manner, and he expected from them a very high standard of ordinary clinical work. This thoroughness was the great characteristic of all his work. Time and place made no difference, and whether in the convenient atmosphere of the hospital or late at night in the surroundings of some small country home his standard never relaxed. In his management of patients he was sometimes accused of being rather harsh, but it is certain that he never proposed any discipline more rigid than he would have applied in his own case. Thomas Beattie was a most helpful consultant, and many of us are grateful for his assistance in times of difficulty. He was very easy, almost careless, about fees, especially if his interest was aroused in some clinical problem. After his retirement and indeed up to the outbreak of this war Beattie was regular in attendance at meetings of the house committee of the Newcastle Infirmary. Until his health broke down about two years ago he had been actively occupied as president of recruiting boards. Whatever he undertook—and his professional occupations were many—he carried out to the utmost of his capacity and according to his own rigid interpretation of his duty. Throughout life he had to face a succession of personal trials, but these he bore unflinchingly and with great courage, and no one ever heard him complain.

EDWARD BARCLAY-SMITH, M.D.

Emeritus Professor E. Barclay-Smith, for many years one of the pillars of the Anatomical Society of Great Britain and Ireland, died in London on July 5, aged 84. In 1927 he resigned the chair of anatomy in the University of London, tenable at King's College, where he was also for some years Dean of the Medical Faculty; he had been chairman of the Board of Intermediate Medical Studies, and of the Board of Human Anatomy and Morphology in the University, and represented the Council of the College on the committee of management of King's College Hospital.

Edward Barclay-Smith—son of Capt. W. E. Smith, a musketry expert, and Louisa Barclay, daughter of a naval officer—was educated at Brighton College and Downing College, Cambridge. After clinical training at the London Hospital he took the M.A., M.B., B.Ch. degrees in 1890 and proceeded M.D. three years later. Returning to Cambridge he became demonstrator under Prof. Alexander Macalister and won the regard and admiration of a long line of students in the dissecting room; later he held the position of lecturer in advanced human anatomy at Cambridge before his appointment at King's College, London. His gifts as a teacher and organizer were widely recognized. He edited several editions of Buchanan's *Manual of Anatomy* and saw Buchanan's *Dissection Guide* through the press; he was for many years an active member of the editorial committee of the *Journal of Anatomy*; and he examined in human anatomy for the Universities of Cambridge, Durham, London, Manchester, and Birmingham, and for the English Conjoint Board.

Barclay-Smith had been a member of the Anatomical Society for well over 50 years and held office as treasurer 1931–7, and as secretary for the very long period 1919–38; he declined its presidency in order to carry on in the congenial post of secretary. He wrote a short but valuable history of the society and assisted in the preparation of its *Proceedings*. In all his work for the society and for the advancement of its aims he constantly sought to help and encourage younger members. He was also a member of the Association des Anatomistes.

Mr. **John Allison Panton**, F.R.C.S., senior honorary surgeon to the Southport Infirmary, died suddenly on July 1. He had a brilliant career as an undergraduate of the Victoria University of Manchester, winning the Tom Jones exhibition in anatomy, and gold medal, and the senior Robert Platt exhibition in physiology in 1913. On graduating M.B., Ch.B. in 1916 he was awarded distinction in obstetrics and gynaecology and bracketed equal for the John Henry Agnew scholarship in diseases of children. He held a temporary commission in the R.A.M.C. for over three years and then became resident surgical officer at Ancoats Hospital, demonstrator in anatomy in the University, gynaecological house-surgeon and acting resident surgical officer at St. Mary's Hospital, Manchester, and surgical registrar at the Royal Infirmary. In 1921 he received the gold medal for his M.D. thesis and four years later took the Ch.M. degree and the Fellowship of the Royal Colleges of Surgeons of England and Edinburgh. After a short period at Bolton he joined the staff of the Southport Infirmary as honorary anaesthetist and later as honorary surgeon. Mr. Panton was an active member of the Manchester Medical and Surgical Societies, and was for three years honorary secretary of the Southport Division of the B.M.A. He published in the *Journal of Anatomy* a paper on factors bearing upon the aetiology of femoral hernia.

Mr. **David Davies**, consulting ophthalmic surgeon to the Kent and Sussex Hospital, Tunbridge Wells, who died on June 18, aged 72, was a student of University College Hospital, qualifying in 1898 and taking the M.B.Lond. a year later. After serving as house-surgeon and ophthalmic assistant at U.C.H. he became chief clinical assistant at Moorfields Eye Hospital and later set up in practice at Tunbridge Wells. Besides his work at the general hospital he was ophthalmic surgeon to the borough council schools, to the Hermitage Training Home at Uckfield, and consultant to the Crowborough Cottage Hospital and other local institutions. David Davies joined the B.M.A. in 1902 and was honorary secretary of the Tunbridge Wells Division from 1918 to 1934, acting in a joint capacity for the last three years. He was a member of the Ophthalmological Society of the United Kingdom.

Dr. **George Wallace Eustace**, who died in London on June 18, was a former mayor of Arundel, Sussex, author of a history of the borough and castle, and chairman for thirteen years of the county bench. Born at Donnybrook, Co. Dublin, on April 25, 1870, son of Marcus Eustace, F.R.C.P.I., he was educated at Corrig School, Kingstown, and Trinity College, Dublin, where he graduated B.A. in 1891, M.B., B.Ch., B.A.O. in 1893, and M.A., M.D. in 1898, after winning a senior moderatorship and gold medal in natural science and first-class honours. From 1894 to 1921 his practice was at Arundel. He saw active service in the South African War, and in France and Flanders with the Sussex Yeomanry during the last war as captain, R.A.M.C., and was awarded the Military Cross. In 1921 Dr. Eustace became regional medical officer under the Ministry of Health, retiring in 1927. He had been on the staff of the Arundel Cottage Hospital and honorary radiologist to the Royal West Sussex Hospital, Chichester. He joined the B.M.A. in 1894, and held office as chairman of the Chichester and Worthing Division twenty years later. He was devoted to fishing and field archaeology and published a number of articles on the antiquities of West Sussex. During the present war he had been medical officer to the R.A.F. and W.A.A.F. camp two miles from his home.

Dr. **Edgar James Tyrrell**, who practised in the City of London for many years and undertook much work for insurance companies, died on June 16, aged 66. He was educated at the University of Durham College of Medicine, Newcastle, graduating M.B., B.S. in 1915, and afterwards took the Cambridge D.P.H. and the D.M.R.E. In the Durham examinations he won honours and university prizes. He had served as a private in the R.A.M.C. during the South African War and held a commission as captain in 1915–17; for four years after the armistice he was medical referee under the Ministry of Pensions for the borough of Fulham. Dr. Tyrrell had been clinical assistant in the electrotherapeutic and *x*-ray department of the West London Hospital and at the Lock Hospital, and took a special interest in skin diseases, winning the Chesterfield medal in dermatology at St. John's Hospital in 1924. A correspondent writes: The death of Dr. Edgar J. Tyrrell deprived the City of London of a well-known character. Affectionately known as "The Stock Exchange Doctor," he had practised at 33, Cornhill since 1918, chiefly among the insurance offices and other companies, many of whom regarded him not only as a valued adviser but as a beloved friend. He left his Devonshire home as a youth to serve as a dresser during the Boer War, and afterwards spent some time in various ventures in South Africa. Returning to England he took his degrees at Durham University, and served as an R.A.M.C. officer in the last war but was invalided from the Army after the Somme battle of 1916, with a heart so much impaired that he was told by a distinguished consultant to "run away and play, for he had only six months to live." A born fighter, he determined to cheat the prophecy, and from then until six months before his death he devoted himself to his city practice, although handicapped by increasing ill health. The declaration of war in 1939 found him over age for Government service in any form, but he resolved to stand by the companies whose interests were so near his heart, and even when a bomb fell just outside his offices he continued his visits to the city under utmost difficulties, and at the cost of a severe strain on his enfeebled health. Only most urgent symptoms at last induced him to seek medical advice. A severe operation was followed by six months of extreme suffering, which he bore with a calm fortitude inspired, as was his whole life, by a humble and sincere religious faith.

Dr. **Martyn Cecil Beatty**, who practised at Broadway, Worcestershire, for the past fifteen years, has died in Evesham Hospital at the age of 70. After graduating M.B., Ch.B.Ed. and taking the D.P.H. he served in the R.A.M.C. for thirty years, reaching the rank of lieut.-colonel. He saw active service in the South African War, and after being stationed in Northern Ireland, in India, and at Plymouth, went to France with the first Expeditionary Force, and later to Egypt and the North-West Frontier, and joined the Army of Occupation at Cologne and Wiesbaden. During this war he lectured and helped to train members of the first-aid post at Broadway and was on the panel of doctors examining recruits at Worcester.

Dr. G. H. Pringle, M.O.H. for Bridgwater, writes: It was my privilege to work with Dr. H. J. **Phillips** as his deputy in Worthing from early in 1939 until the summer of 1941. His administrative ability and flair for organization were outstanding assets, though his talent was by no means limited to this sphere. As a clinician he was at his best at the borough isolation hospital. The outbreak of war brought with it the heavy burden of evacuation, and to add to the difficulties the trend of events meant that Worthing, in a short period, not only ceased to be a reception area but an official evacuation took place. This sudden change from apparent safety to the danger of a front-line town put a heavy strain on the C.D. organization's casualty services, which had to be rapidly augmented. Thanks to Dr. Phillips all these difficulties were successfully overcome. As can be expected from a hard worker, Dr. Phillips had no time for slackers, though he always showed the greatest consideration to all members of his staff. In his scanty leisure hours I have happy recollections of an occasional game of tennis in his lovely garden, and, even in the dark days of the autumn of 1940, lively discussions on our common hobby of philately. I look back on my time in Worthing as an education in sound and tactful administration. By the sudden passing of Dr. Phillips I have lost a good friend, and a progressive borough has lost a progressive medical officer of health.

Universities and Colleges

UNIVERSITY OF BIRMINGHAM

At a Congregation, held on June 30, the following medical degrees were conferred:

M.B., Ch.B.—*J. R. G. Bastable, *J. L. Stafford, †L. D. Abrams, A. F. Alvarez, H. J. Bagnall, Clarice E. Butler, J. M. Crossley, Muriel J. Davies, Helena M. Ellis, R. H. Freeman, Doreen E. George, R. L. Greenwood, Zoe Hartley, P. Hogg, G. B. Hopkins, G. Hoyle, ‡J. G. Jackson, A. T. Johnson, Barbara D. King, J. D. Lacon, R. S. Male, Joan Marsden, Martha H. Martin, ‡Doreen M. Matthews, Hilda M. Morgan, D. E. Oakley, J. S. Owen, M. W. Parker, ‡A. J. Pearce, M. J. Peto, J. G. Piccaver, D. J. Rigby, M. J. Roper-Hall, R. H. Sage, W. H. Scrase, M. H. Stroud, A. E. Szulman, N. A. Thomas, R. R. Trussell, Helen M. H. Wilson, Joyce E. Wiseberg, Joan S. Woodhouse, D. Zuck.

* Second-class honours. † Distinction in surgery. ‡ Distinction in medicine.

The following scholarships, etc., were awarded in the Faculty of Medicine:

Queen's Scholarship (Third Year): F. B. Buckley, Jean M. Smout. *Queen's Scholarship (Fifth Year):* Barbara M. Ansell. *Ingleby Scholarships:* C. A. Jewels, W. J. Walkden. *Arthur Foxwell Memorial Medal* and *Priestley Smith Prize in Ophthalmology:* J. N. Ormrod. *Sampson Gamgee Memorial Medal:* W. J. Walkden. *Queen's Scholarship (Final Year):* C. A. Jewels. *Leith Newman Prizes in Pathology (Fourth Year):* Margaret L. Fallon, Rose A. J. Whitelaw. *Peter Thompson Prize in Anatomy (Third Year):* Jean M. Smout. *Russell Memorial Prize:* J. L. Stafford. *Bertram Windle Prize in Anatomy:* B. D. Bower, E. W. Clarke. *John Barritt Nelson Memorial Gold Medal:* F. B. Buckley. *Foyle Prize:* N. K. Shinton. *Alexander Youngson Prize:* H. E. Schweinburg. *Lawrence Barnard Carlton Scholarship:* P. A. Bramley. *John Humphrey Memorial Prize:* J. A. C. Smith.

UNIVERSITY OF LIVERPOOL

The following candidates have been approved at the examinations indicated:

M.D.—I. Ansell, H. Dakin, B. Phillips, G. O. Thomas, P. H. Whitaker.

Ch.M.—L. McK. Crooks.

Final M.B., Ch.B.—*Part III:* Beryl G. Anscombe, G. Ansell, K. W. Baruch, B. Dover, Monica Drinkel, J. W. L. Edwards, P. Foster, B. R. Frisby, S. Gillis, L. Griffiths, B. B. Harrison, D. C. R. Jones, J. T. W. Jones, P. R. B. Jones, R. V. Kinnish, M. Kirwan, Joyce R. Lewis, J. B. Roberts, Corris Venables, H. Wickham, J. R. E. Wilson. *Passed in Separate Subjects:* A. D. Charnley and M. M. I. el Haddad (Medicine and Surgery). R. Ellam (Surgery and Obstetrics and Gynaecology). *Final Examination: Part II.—Passed in Forensic Medicine and Toxicology.*—Joan Evans, P. Hampson, Vivien P. Helme, Maureen M. Hoey, D. T. L. Hughes, Nellie Hughes, J. C. Rumber, L. Robinson, L. Rosenbloom.

UNIVERSITY OF ST. ANDREWS

The following candidates have been approved at the examination indicated:

M.B., Ch.B.—*Diana Butler, †R. T. D. Emond, †D. A. Grewar, †K. R. Keay. †W. D. Mackenzie, †Nancy M. E. Robertshaw, †T. Sanderson, †A. T. Sandison, †D. P. A. L. Scott, I. M. Baird, W. Bryson, W. H. Condie, Agnes K. Conn, Vivienne A. Croxford, Jean B. Davidson, Janet M. Donald, Christina C. Ferguson, D. M. Ferguson, J. G. Ferguson, A. P. M. Forrest, W. Frain-Bell, A. R. G. Gordon, Jean G. Gordon, J. S. Innes, N. G. Johnston, R. I. Just, W. F. Kinnear. J. L. McDougall, W. S. Macmillan, Margaret Mann, Louise I. S. Millar, J. G. Millers, A. A. Mudie, I. S. Mudie, N. Murray, Margaret H. Mutch, E. G. Naylor, W. D. Paterson, Ruth Sabel, Mary J. M. Shaw, R. D. Simpson, T. V. Simpson, R. R. Stevenson, D. C. H. Tullis, H. R. Turner, Mary E. Walker, I. C. Whyte. H. Williams.

* With distinction. † With commendation.

UNIVERSITY OF DUBLIN

At a Congregation, held on July 4, the following medical degrees were conferred on students of the School of Physic, Trinity College:

M.D.—R. T. Burkitt, H. L. Parker.

M.B., B.Ch., B.A.O.—Etheline E. Hopkins-Brady, Margaret E. Brook, Elizabeth P. Carlisle, W. J. H. Collins, G. F. Corbett, P. F. Daly, Gwendoline E. Davison, D. A. N. Drury, R. F. Fouché, R. Graham, D. McK. Hamilton, J. W. Jackson, J. D. Llewellyn-Jones, F. T. Kee, G. L. Kennedy, Jean H. King, J. G. Kirker, R. L. McClelland, T. C. Millar, Mary A. Montgomery, J. H. Murphy, J. B. Musgrave, R. Smith, Barbara M. Stokes, S. D. Walsh, Anna M. Grove-White, S. W. Wolfe.

QUEEN'S UNIVERSITY, BELFAST

The following candidates have been approved for medical and surgical degrees:

M.D.—J. W. Beattie, J. T. Carson, H. S. Hogg, H. E. Rutherford, S. Ruttle, *By Thesis:* S. J. Allen (with high commendation), Elizabeth F. McKeown (with gold medal), Yvonne A. Murray (with gold medal).

M.Ch.—J. P. McGinley.

M.B., B.Ch., B.A.O.—D. A. Bain, D. M. Bell, G. Dornan, Laurna Evans, H. F. Fleming, R. Fulton, E. M. Hamilton, Eileen E. M. Hanna, J. T. Heron, A. C. Houston, M. H. A. Jamison, R. V. C. Kerr, R. F. Keys, Joan B. M. Leith, T. G. Lowry, J. J. McSorley, J. D. H. Mahony, W. M. Martin, J. J. O'Brien, C. F. Patterson, Kathleen Powell, J. H. Stewart, Laura Thompson, S. Thompson, R. P. Thornton, J. F. Walsh, D. H. Warden, A. Warnock J. E. Watson. *With Second-class Honours:* J. D. F. Leith, J. R. Milliken, S. R. C. Ritchie.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

Election to the Council

On July 5 four Fellows were elected into the Council to fill the vacancies caused by the retirement in rotation of Surg. Rear-Adml. C. P. G. Wakeley, Mr. L. E. C. Norbury, and Surg. Capt. L. C. Rogers, and by the death of Mr. C. A. Joll. The Fellows elected were:

	Votes
Cecil Pembrey Grey Wakeley (King's College) ..	840
Lambert Charles Rogers (Cardiff)	835
Lionel Edward Close Norbury (Royal Free) ..	716
Robert John McNeill Love (Royal Northern) ..	546

The following were the other candidates:

Arthur Dickson Wright (St. Mary's)	483
Arthur Lawrence Abel (Princess Beatrice)	417
Henry Hamilton Bailey (Royal Northern)	349

In all 1,322 Fellows voted; in addition 20 votes were found to be invalid. Surg. Rear-Adml. Wakeley, Mr. Norbury, and Surg. Capt. Rogers are all elected for the full period of eight years. Mr. McNeill Love is elected as a substitute member for two years.

Medical News

A meeting of the Association of Clinical Pathologists will be held at the London School of Hygiene and Tropical Medicine, Keppel Street, W.C., on Friday and Saturday, July 20 and 21, at 9.30 a.m.

A clinical meeting of the London Association of the Medical Women's Federation, arranged by members of the staff of University College Hospital, will be held at the Maternity Hospital, Huntley Street, W.C., on Saturday, July 21, at 3 p.m.

By courtesy of the Royal Society of Medicine, the British Association of Physical Medicine has arranged to show a sound film on the management of infantile paralysis by the Kenny method. This film, which claims to adduce evidence in support of the rationale underlying the originator's unorthodox concept of the disease, will be shown in the Barnes Hall, at 1, Wimpole Street, W., on Monday, July 30, at 2.30 p.m. A discussion will follow an interval for tea. The President and members of the B.A.P.M. extend a cordial invitation to Fellows of the R.S.M. interested in this subject.

Prof. A. Baudouin, who visited England recently with other leading French physicians and surgeons, has been re-elected dean of the Paris Faculty of Medicine.

Prof. Roussy, member of the Institute and rector of the University of Paris at the beginning of the war, has been elected general secretary of the Académie de Médecine in succession to the late Prof. Achard.

Boots Pure Drug Company Ltd., of Nottingham, have recently presented the diabetic department of King's College Hospital, London, with funds to provide research scholarships in diabetes and allied diseases. The amount of this gift is £1,000 a year for seven years.

Dr. Smith Ely Jelliffe has resigned the post of editor of the *Journal of Nervous and Mental Diseases,* which he has held for forty years, and is being succeeded by Dr. Dolan D. C. Lewis, of the College of Physicians and Surgeons, Columbia University.

Licences are still required in respect of the export to the Channel Islands of drugs to which the Dangerous Drugs Acts apply. The licences will, as in the past, be issued by the Drugs Branch, Home Office.

The May-June issue of *Industrial Welfare and Personnel Management,* the journal of the Industrial Welfare Society, includes a two-years record of a group medical scheme for industrial welfare by C. F. Richards, a note on penicillin in industrial medicine by Dr. H. B. May, and an account of the first year's work of the Roffey Park Rehabilitation Centre by Dr. T. M. Ling, medical superintendent.

The decoration of officer of the Order of Polonia Restituta has been conferred on Mr. A. H. McIndoe, C.B.E., M.S., F.R.C.S., by the President of the Polish Republic in recognition of services during the war.

The Commonwealth Government of Australia has given £5,000 to the Queen Victoria Cottage Hospital at East Grinstead, Sussex, in recognition of its work for Australian airmen suffering from burns requiring plastic surgery.

The late Dr. Herbert Thomlinson Nixon, of Liverpool, who left estate valued at £53,105, bequeathed, subject to two life interests, £1,000 each to the Royal Medical Benevolent Fund and Epsom College.

A conference of medical consultants, India Command, and medical specialists, Central Command and North-Western Army, India, was held at King Edward Medical College, Lahore, in February, 1944. A large number of officers were present and took part in the discussions on various short papers presented—for example, on malaria, tuberculosis, enteric fevers, tropical eosinophilia, dysentery, typhoid, anaemia, and malnutrition. A 150-page report of the proceedings of the conference has now been published and is available in the library of the B.M.A.

The late Dr. James Richard Whitwell, for many years honorary librarian of the Royal Medico-Psychological Association, who died on Jan. 9, 1945, left £26,318. Subject to a life interest he bequeathed the residue of his estate to form a Whitwell Fund for the benefit of mental patients of St. Audry's Hospital, Melton, or of the Mental After-Care Association, or otherwise for the benefit of "that class of patient to whose welfare I have devoted such a large portion of my life."

The Central Midwives Board has announced an alteration in its rules of training whereby, from a date to be announced later, registered sick children's nurses will be admitted to the shortened period of training extending over six calendar months for the first certificate of the Board.

The Order of the Nile (Fourth Class) has been conferred by the King of Egypt upon Dr. A. R. McKelvie, ophthalmic surgeon, and Dr. N. L. Corkill, chief inspector, Sudan Medical Service, in recognition of valuable services rendered by them.

Alfred Charles Fisher, M.D., has been nominated an unofficial member of the Legislative Council of Northern Rhodesia.

Mr. James C. Young has been elected President of the Pharmaceutical Society of Great Britain.

EPIDEMIOLOGICAL NOTES

Discussion of Table

In *England and Wales* during the week there were fewer notifications of infectious diseases, the totals falling by the following amounts: measles 1,264, dysentery 177, scarlet fever 77.

Scarlet fever notifications dropped by 34 in Lancashire. The incidence of diphtheria fell by 17 in Essex, but rose by 16 in Gloucester. Notifications of whooping-cough rose by 27 in Lancashire, and by 22 in London, but fell by 34 in Yorks West Riding. There was a general fall in the notifications of measles, the only important exception being a rise of 30 in Suffolk, where the total was the largest during the current epidemic.

Dysentery notifications, 287, were the lowest since the first week of the year. The only fresh outbreak reported during the week was in Nottinghamshire, Nottingham C.B. 15. The other principal centres of infection were Lancashire 51, London 49, Northumberland 19, Warwickshire 18, Essex 14, Yorks West Riding 14, Derbyshire 11, Kent 10, Oxfordshire 10.

Scotland recorded an increase of 54 and 20 in the notifications of measles and dysentery respectively, but the incidence of diphtheria fell by 14. In Edinburgh numbers of cases of dysentery rose from 11 to 23, and in Glasgow from 25 to 34. It is feared that Glasgow may have a recurrence during the summer of gastro-enteritis, which last August and September caused 269 infant deaths. The cause of this outbreak was never determined, but milk was suspected, as only 22 of the 522 infants admitted to hospital were breast-fed. Steps to forestall an outbreak are being taken by the medical officer of health.

In *Eire* notifications of measles fell by 31, and those of whooping-cough by 21; there was a slight rise of 7 in diphtheria.

Quarterly Returns for Eire

The birth rate during the first quarter of this year was 21.5, which is 1.2 below the rate for the March quarter of 1944. The infant mortality was 89 per 1,000 registered births, being 12 below the rate for the corresponding quarter of 1944, but between 5 and 11 above the rates for 1940–2. The general death rate was 18.4 per 1,000, which is 1.7 below the rate for the preceding March quarter: 718 deaths were attributed to pulmonary tuberculosis, and 250 to other forms, the former being 160 below the average of the five preceding first quarters, and the latter 26 above.

Week Ending June 30

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,255, whooping-cough 1,194, diphtheria 421, measles 6,004, acute pneumonia 424, cerebrospinal fever 52, dysentery 292, paratyphoid 7, typhoid 5, typhus 1.

No. 25

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended June 23.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1945					1944 (Corresponding Week).				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever	46	3	25	1	2	53	2	32	2	1
Deaths		1	—				—	—		
Diphtheria	422	22	99	76	14	487	33	119	55	17
Deaths	4	—	1	1	—	4	—	—	5	—
Dysentery	287	49	97	6	—	201	10	88	—	—
Deaths				—	—				—	—
Encephalitis lethargica, acute	—	—	—	—	—	2	—	—	1	—
Deaths		—					1			
Erysipelas			35	15	2			39	8	6
Deaths		—					—			
Infective enteritis or diarrhoea under 2 years				43					11	
Deaths	41	5	8	11	5	38	7	13	12	3
Measles*	6,626	342	405	39	10	2,538	139	282	129	45
Deaths	5	1	—	—	—	—	—	2	—	—
Ophthalmia neonatorum	78	1	21	—	—	74	5	10	—	—
Deaths										
Paratyphoid fever	4	—	3 (B)	—	—	7	1	1 (B)	5 (B)	—
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenzal†	376	22	3	5	2	452	17	5	5	6
Deaths (from influenza)	7	—	—	—	—	12	—	1	—	—
Pneumonia, primary			184	21				187	13	
Deaths		22		15	9	-	23		11	9
Polio-encephalitis, acute	1	—				1	—			
Deaths		—					—			
Poliomyelitis, acute	6	—	—	—	2	15	—	2	1	—
Deaths		—					—			
Puerperal fever		3	21		—		4	13		—
Deaths										
Puerperal pyrexia‡	132	9	13	3	—	138	9	25	1	1
Deaths		—					—			—
Relapsing fever	—	—			—	—	—			—
Deaths										
Scarlet fever	1,237	47	207	18	33	1,451	90	185	18	56
Deaths	1	—	—	—	—	3	—	—	—	—
Smallpox	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Typhoid fever	7	—	5	3	1	10	1	22	12	1
Deaths	—	—	—	—	—	—	—	—	—	—
Typhus fever	—	—	—	—	—	—	—	—	1	—
Deaths				—	—				—	—
Whooping-cough*	1,117	70	96	33	8	2,424	233	153	63	18
Deaths	2	—	2	1	—	11	1	1	4	1
Deaths (0–1 year)	304	42	47	27	20	303	36	58	31	14
Infant mortality rate (per 1,000 live births)										
Deaths (excluding stillbirths)	4,010	551	582	197	115	4,777	1206	604	197	118
Annual death rate (per 1,000 persons living)			13·2	12·7	§			13·9	12·8	§
Live births	7,031	834	887	402	288	7,575	840	1048	449	278
Annual rate per 1,000 persons living			17·7	25·9	§			21·3	—	3
Stillbirths	219	24	38			198	13	35		
Rate per 1,000 total births (including stillborn)			41					32		

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* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

‡ Includes puerperal fever for England and Wales and Eire.

§ Owing to movements of population, birth and death rates for Northern Ireland are still not available.

Letters, Notes, and Answers

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: *Aitiology Westcent, London.* ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated.

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B.M.A. SCOTTISH OFFICE: 7, Drumsheugh Gardens, Edinburgh.

ANY QUESTIONS?

Pregnancy and "White-leg"

Q.—*Would you advise a healthy woman, aged 30, who had white-leg after a breech birth 2 years ago to have any more children? If so, what is the likelihood of a recurrent phlebitis during and after the pregnancy?*

A.—Another pregnancy should not be discouraged. There is no increased risk of a deep thrombosis in either leg after another confinement, and most women who have had white-leg bear subsequent children without any great disability. If the deep venous circulation is permanently impaired the leg is likely to swell to some extent during another pregnancy and the superficial veins may dilate. This could be controlled by an elastic supporting stocking and by adequate rest. The risk of puerperal thrombophlebitis in any superficial varicose veins which might develop could be minimized by encouraging active exercises immediately after delivery and possibly by limiting the lying-in period to 4 or 5 days.

"Flat Feet" in Infants

Q.—*At what age does the arch of the foot become apparent? Does a child of 1 year 9 months who is inclined to throw the weight on the inner side of the foot, when barefoot, need corrected shoes? She wears heels of the "start rite" type with a wedge prolonged under the instep. With these the tendency to throw the weight on the inner side of the foot is not noticeable. She is tall and heavy beyond her age, though not fat.*

A.—The popular view is that all babies have flat feet. On the contrary, at birth the long arch is present, but in the first year or so of life is usually disguised by the plantar fat pad, which in some infants is so prominent as to cause undue maternal anxiety. A child, as described, who really does tend to throw an abnormal amount of weight on the inner side of the foot is probably suffering from a mild congenital talipes valgus. For such a case the Thomas heel, in which, on the inner side, there is a forward extension of half an inch and a 1/16-inch wedge, is advisable. Frequently medical men wedge the inner side of the sole also: this we believe to be bad, for the development of a normal gait does depend upon firm implantation of the first metatarsal head upon the ground. As with all children with mild postural deformities, the aim should be to remove artificial aids as soon as possible. It is, therefore, important to educate the child into good habits of control by games and suitable remedial exercises to improve control in all the muscles of the foot—not, as is so often done, just in the invertors and plantar flexors.

T.A.B. Treatment of Arthritis

Q.—*A nurse aged 50 has developed a multiple arthritis which threatens to cripple her. Would T.A.B. injections be of any use? If so, what doses are recommended, how many, and at what intervals should the doses be given? Is there any danger of adverse effects from the injections?*

A.—Foreign-protein therapy, of which T.A.B. vaccine is an example, may produce temporary improvement in rheumatoid arthritis, but rarely permanent benefit. It is most likely to prove helpful when recovery has begun but seems to be at a standstill. The object is to produce a febrile reaction, and in individuals who have been previously immunized with typhoid vaccine this may be difficult or impossible to effect. Since the shock produced is the object in view it is obvious that the method is to be avoided in the presence of any debilitating condition which might render the patient unfit to bear the further strain, and therefore any circulatory weakness, cardiac disease, hypertension, or acute illness are contra-indications. The usual dosage is to begin with 10 to 25 millions intravenously, repeated every four or five days provided that the temperature has been normal for 24 hours; if the reaction has been severe the same dose should be used, but otherwise it should be increased up to double the first dose. The injections should be continued at the same intervals with a proportionate increase, but if no benefit is experienced should not go beyond four, and in any case not more than five or six should be given and only if the patient is not too exhausted by the reactions. It is well to keep the patient in bed until the temperature is normal after each injection, and also for a few hours before injection. Fluids should be given freely, and the usual methods of treating shock must be adopted if this is severe. There is usually an increase in the symptoms at first, followed by improvement. The adverse effects are those which may arise from shock in enfeebled individuals.

"Struck off the Register"

Q.—*Why does the General Medical Council try cases which have already been tried by the civil courts? If a doctor has been struck off the Register, can he reapply for admission? What happens to his practice when he is struck off? How long must he wait before being re-registered?*

A.—The General Medical Council is not a court of law but a statutory body appointed to keep the *Medical Register* and to see that all practitioners registered in it shall be fit and proper persons to practise. When they call a practitioner's conduct in question, they are concerned merely with inquiring whether he is fit or not to remain on the *Register*. Therefore the findings of a civil court do not bind them, for the civil court has been inquiring into a different issue, often with different parties to it. The Council until recently made an exception in cases where a practitioner was reported to it by the authorities of the Divorce Division as having been respondent or co-respondent to a divorce petition in circumstances which suggested that he had committed adultery with a patient. In such cases the Council's practice was to take the evidence and findings of the Divorce Court as binding on them and to refuse to allow the practitioner to bring evidence in contradiction. The Court of Appeal held in *Ex parte* Spackman (1943) 2 All E.R. 337 that this practice was wrong, and that the Council must hear evidence which either party desires to give as well as the transcript of the Divorce Court proceedings.

The position is different where a practitioner has been convicted before a criminal court of an offence, for in that event the Council has power by section 29 of the Medical Act, 1858, to erase the practitioner's name merely on proof of the conviction.

A doctor is entitled to apply for readmission at any time after his name has been erased, and in dealing with the request the Council will consider whether he is likely to have profited by the penalty of erasure to such an extent as to be fit for readmission. Applications for readmission come before the Council at its November session. The applicant must state the ground on which he is applying, and support the application with a statutory declaration and at least two certificates of his identity and good character signed by fellow practitioners or by a practitioner and a magistrate. The licensing body which gave the practitioner his qualifications originally, and the complainant, if any, may object in writing. The Executive Committee deals with the application and reports to the Council, which considers the report in private and announces its decision in public.

When a doctor's name is erased from the *Register* he is not prohibited from continuing to practise, but he must not hold himself out as registered, he may not use dangerous drugs or scheduled poisons, or do National Health Insurance work, or sign official certificates, or hold any public appointment. His activities are, therefore, severely restricted. Doubtless if he can find a friend to look after his practice he will do so. His former partners may elect to continue it, but as his erasure dissolved the partnership they are under no legal obligation to readmit him if his name is restored, nor can he claim any further interest in the partnership. He cannot continue to practise in association with a registered friend or partner, for his colleague would then be covering him and himself liable to penal erasure. Probably in many such cases an erased practitioner's practice disappears or becomes merged in those of his neighbours.

Haematoma after Hydrocele Operation

Q.—*How can post-operative haematoma in excision of a hydrocele be avoided?*

A.—It is likely that most surgeons have at some time in their early career been annoyed by the formation of a haematoma in the scrotum after they have performed the operation of the excision of the parietal layer of a hydrocele. There is hardly any operation in which it is so necessary to ensure accurate haemostasis, for the lax scrotal tissues exert no pressure on any bleeding vessel and easily allow blood to accumulate.

By due care it is always possible to avoid a haematoma. The blood vessels are close to the outer fibrous layer of the sac, and sometimes it may be possible to peel out the inner thin and avascular lining membrane and avoid cutting away the thicker and vascular outer layer. This will prevent any danger of bleeding. Commonly, however, the fibrous layer must be removed, and then bleeding should be controlled by over-sewing the cut edge of the sac by a catgut suture. This is best done by stages. Section after section of the sac is cut and immediately over-sewn until the whole parietal layer is removed. One or more continuous sutures are used. The sac should not be cut too close to the testicle. Before closing the wound the greatest care should be taken to inspect the whole exposed area and to ligate or underpin even the smallest bleeding point. If this be done there will be no need to drain the wound. After operation the scrotum should be slightly elevated on a small pillow.

There is nearly always slight swelling of the testicle after the operation; this is probably due to the slight trauma caused by handling the organ. An inexperienced house-surgeon has been known to mistake this testicular swelling for a haematoma.

Ectopia Lentis

Q.—*A woman aged 34 was born with ectopia lentis; the lenses became dislocated and had to be removed, following secondary glaucoma. Her daughter, now aged 11, is suffering from ectopia lentis, the vision of the right eye being 1/60, with −20.0 D. Sphere 2/18. The left vision is 6/18 when corrected. What operation would you advise for the right eye in view of the mother's lenses having been dislocated?*

A.—Before attempting operation certain points must be considered: (*a*) Are there any myopic fundus changes and what degree of vision could be expected if operation were successful? (*b*) What is the possibility of detachment of the retina following extraction? (*c*) Having in view the fair vision in the other eye, and knowing the extreme difficulties of any operation, should the worse eye be touched? If the lens can be coaxed into the anterior chamber, the operation is somewhat simplified; otherwise the extraction is very difficult, since the lens tends to run away from any instrument touching it and is usually accompanied with loss of vitreous.

Gastric Ulcer and Femoral Thrombosis

Q.—*Four years ago a patient developed a thrombophlebitis of the left leg, and subsequently a typical gastric ulcer. I now have notes of seven somewhat similar cases in four years. One is tempted to theorize and suppose that products of thrombolysis might possibly act as toxins and cause an ulcer of the duodenum. Is this a known fact, and if so, can the condition result from a "white-leg" of puerperal origin? (My cases were all in women of menopausal age or older.)*

A.—Gastro-duodenal ulceration is present in approximately 2.5% of adults and therefore must frequently coexist with other diseases. No statistical evidence for a special association of femoral thrombosis and peptic ulcer has been seen, and one's impression is that peptic ulcer is uncommon following "white-leg" in the puerperium. Nevertheless, the two factors which favour thrombophlebitis—sepsis and increased coagulability of the blood—also favour the formation of ulcers. The association of sepsis and acute gastric ulcer is well known. Chronic peptic ulcer has been proved to be unduly common in polycythaemia vera, in which there is a tendency to thrombosis. The ulcers are presumably due to thrombosis in the vessels supplying the gastro-duodenal mucosa, and there seems no need to postulate a gastrotoxic action of the products of autolysis of the thrombus in the leg.

Ante-partum Haemorrhage

Q.—*A second-para aged 20, seven months pregnant, called me for severe haemorrhage. On P.V. examination there was a two-finger dilatation, and a tense bag of membranes could be felt. I punctured the membranes to reduce the haemorrhage and quicken the process of labour; instead of the amniotic fluid about a pint of blood and clots came out in a gush. After the condition of the patient was restored, I examined her again. The bleeding had stopped. The uterus was contracting well and the head was fixed. In another six hours the entire foetus was expelled intact in the amniotic sac complete with the placenta. Obviously the bleeding was inside the two membranes, though a part of the placenta was also separated beforehand and a biggish clot was delivered with the foetus. What is the explanation of the condition?*

A.—It is doubtful whether the evidence presented is sufficient to justify the conclusion that the haemorrhage occurred between the chorion and the amnion. Unless liquor escapes it can be difficult to be certain that one or both membranes have been ruptured, and it is just possible that the manipulations in this case released a clot with some dammed-up fluid blood from the chorio-decidual space. If the blood was lying between the chorion and amnion, then, after the products of conception were delivered, the area of separation of the two membranes should have been obvious and there should also have been some remaining blood-clot to confirm the site of the haemorrhage.

If it be assumed that the blood was lying between the chorion and the amnion, then it must have been of maternal origin, if only because the amount was greater than the total volume of foetal blood (in foetus, cord, and placenta) at term. In cases of concealed accidental haemorrhage the blood can burst through the membranes and enter the amniotic sac, and reference to this is found in most of the larger obstetrical textbooks. In certain circumstances, such as an area of weakening or degeneration in the chorion, associated with a tough amnion, it is conceivable that it might break through the chorion only, and then track down between the two membranes. If such was the case here, the tear in the chorion should have been seen after delivery.

Haemorrhage between the chorion and amnion can also occur without any retroplacental haemorrhage, and a case was recently described by W. H. Carlisle (*J. Obstet. Gynaec. Brit. Emp.*, 1944, **51**, 541). In that case the position was proved by demonstrating blood-clot remaining between the membranes after delivery, and it was suggested, although not proved, that the source of the bleeding was the marginal sinus of the placenta.

Suture Materials and their Sterilization

Q.—*What are the various suture materials made of? I should particularly like to know about silkworm gut, salmon gut, silk, and catgut. Can you explain the peculiar nomenclature? Can you let me have a few references to methods of sterilizing suture material?*

A.—Suture materials are of three principal kinds: thread (silk, linen, or nylon), catgut, and silkworm gut. Catgut is spun from strips of the submucosa of sheep's intestine: the origin of its name is obscure. To obtain silkworm gut, silkworm larvae are immersed in acetic acid, the two silk glands are then removed, and the viscous fluid which they contain is drawn out into threads of different length and thickness which are dried in the sun. This type of gut is used largely for casting-lines in rod-fishing; it is often known even in surgical circles as fishing gut, and salmon gut is the stronger variety required for big fish.

Instructions for sterilizing suture materials will be found in most textbooks of surgery. The only serious difficulty arises in connexion with catgut, which is very liable, owing to its origin, to contain the resistant spores of such organisms as *Cl. tetani*, but is softened and spoiled by autoclaving. It can be sterilized by heat and other means during the process of manufacture, and if bought as "sterile surgical catgut" requires no further sterilization. If bought "raw" it can be sterilized only by immersion for ten days in Claudius's solution (iodine 1 g., pot. iod. 1.5 g., water 100 c.cm.). The sterilization of catgut, and the utter inefficacy of other chemical methods of disinfecting it on which reliance has been placed with disastrous consequences even in the recent past, are fully dealt with in the monograph entitled *The Preparation of Catgut for Surgical Use*, by W. Bulloch, L. H. Lampitt, and J. H. Bushill (M.R.C. Spec. Rep. Ser. No. 138, London, 1929). All other suture materials are usually boiled.

Children and Dried Milk

Q.—*There are a number of different makes of dried milk on the market, and the published compositions of a given type (full cream, half cream, etc.) are almost the same in terms of fat, protein, and carbohydrate. Yet it is sometimes stated that a child may not be suited to one make and yet thrive on another. Can individual susceptibility to a particular brand exist? If so, wherein does the difference lie?*

A.—Foods of approximately the same composition can only have the same effect as regards digestibility and gain in weight provided they are given in the same strength or dilution. Magical effects have often been attributed to dried milk "X," for example, as compared with National Dried Milk, even in that particular part of the country where it is known that they are identical. It follows that the good effects attributed to a special brand can only be due to (*a*) the fact that it has been given in a different dilution, or with additions; or (*b*) that the child got well while on this particular brand. This is the most likely explanation in most cases, for so many of the disorders of infancy produce gastro-intestinal symptoms and signs. It is the baby that is wrong in so many cases, not the type of feed, and a change of food is seldom the right move. This must be particularly stressed when the baby is breast-fed; for then a change of cow's milk for symptoms such as vomiting may be equivalent to signing a death warrant.

Spraying Enclosed Spaces

Q.—*Is paraffin or kerosene the best solvent for the spraying of enclosed spaces, such as mess-decks?*

A.—Kerosene (paraffin) is about the most satisfactory carrier liquid for insecticides available at present, since it combines effectiveness, cheapness, and availability with low toxicity to man. It must be realized that there is some fire risk, depending on the flash point of the grade used, and therefore all naked flames must be extinguished and smoking prohibited while spraying is in progress. The most desirable type for many insecticides is "odourless distillate," a grade purified by removal of aromatics (which cause the smell of ordinary paraffin) and of a comparatively high flash point. The only disadvantage of odourless distillate is that it is a rather poor solvent for D.D.T. and will take up only about 3 to 4% compared with the 5 to 8% dissolved by crude kerosene. Some of the unpleasant features of spraying in confined quarters can be mitigated by using a coarser spray. The fog produced by very fine atomizers is required only where it is essential to kill *flying* insects rather quickly.

Intravenous Adrenaline

Q.—*In the* JOURNAL *of Feb. 10, 1945 (p. 208), it is stated that "intravenous injection of adrenaline is a dangerous procedure." In the* JOURNAL *of April 21 (pp. 567, 568), Lieut.-Col. D. C. Macdonald, referring to Prof. Ascoli's treatment for malaria by intravenous adrenaline, states that "it is harmless to the host." It is unlikely that both of these statements can be correct. I should welcome further information.*

A.—Prof. Ascoli's treatment of malaria by intravenous injection of adrenaline has been carried out by this time in a large number of subjects and has at least sufficed to demonstrate that intravenous adrenaline is nearly always harmless, though it is very alarming to the subject. It is safe to say that in patients whose heart and vessels are not affected by pathological changes adrenaline is quite harmless, because it is so rapidly destroyed. In those in whom pathological changes have occurred the sudden great rise of blood pressure which adrenaline produces when put into a vein must expose them to the risk of haemorrhage. The view commonly held that adrenaline injections are always dangerous arises from the effects produced by adrenaline in conjunction with other substances, of which chloroform is the outstanding example. A recent investigation of Ascoli's method of treating malaria, which has not been published, indicates that when a carefully controlled series of observations is made patients suffering from malaria obtain no benefit from a course of intravenous injections with adrenaline.

Hay-fever

Q.—*What is the best treatment for a case of hay-fever now that attacks are at their worst? Adrenaline and ephedrine are being used, though they afford little relief. Is it true that desensitization is ineffective unless carried out before the Timothy-grass pollen is in the air? If not, can you tell me the best way to carry out desensitization? The patient is 27 years old and is severely affected, though he has not suffered from hay-fever before this year.*

A.—Desensitization is probably the best treatment for this patient, presuming that he has been shown to be sensitive to pollen. Desensitization may be attempted by either the co-seasonal method or the rush method, but the former is the one recommended. In the co-seasonal method treatment is begun with 10 to 20 units of pollen along with 0.2 to 0.3 c.cm. of 1 in 1,000 solution of adrenaline hydrochloride. Injections are repeated daily, the dose being increased by 20 units until a maximum of 80 units is reached. After relief occurs the frequency of injections may be reduced to every two or three days. Increase in symptoms would suggest that the level of dosage was too high. For the rush method patients should be admitted to hospital under the care of an experienced allergist and treated in a pollen-free room. Treatment is begun with minimal doses, as in the routine method, but the injections are repeated every one to four hours and the number of units is increased as rapidly as possible, until a final dose of several thousand units is reached. Unless adequate skill and facilities are available rush therapy should not be attempted, particularly during the pollen season.

Penicillin for Acne Vulgaris

Q.—*Is penicillin cream a better remedy for acne vulgaris than the old-time treatments with zinc lotions, x rays, etc.? If so, how is the treatment applied?*

A.—Acne vulgaris is often regarded as a physiological rather than a pathological condition because of its presence—perhaps as no more than one or two blackheads—in the majority of adolescents. Its full development seems to depend upon the combination of an age-endocrine factor and a seborrhoeic skin, the second part being favourably influenced by sulphur, *x* rays, etc. Secondary infection in acne is an accidental rather than an essential part of the acne "formula"; where this occurs, and if it is due to a penicillin-sensitive organism, then a penicillin cream containing from 200 to 1,000 units per gramme is of some benefit. In the present state of knowledge it would thus seem that penicillin can have no more than an ephemeral effect—a view open to modification upon wider experience.

INCOME TAX

Expenses Allowance

"DELTA" is in full-time employment receiving a salary and bonus and in addition "an annual allowance of £100," apparently in view of the fact that he maintains a house in London to which he returns for the week-ends. In the past this allowance was not assessed, but since "pay as you earn" came into operation tax has been deducted from it.

⁂ The deduction of tax (whether correct or not) is not the final test; an assessment will presumably be made in due course, as in past years, and on receipt of a notice of that assessment "Delta" will see whether the allowance has been included in the amount assessed. If it has, he can lodge an appeal; if it has not the notice will presumably show an over-payment of tax and inform him how the excess can be recovered. Section 26 of the Finance Act, 1942, provided a special deduction (maximum £10) for expenses of this nature, and it may well be the case that the £100 is correctly chargeable subject to the statutory deduction of £10.

Expenses in Connection with Different Appointments

H. P. holds an appointment for which he draws a fixed salary. He has, with permission, accepted two other appointments, one of which at least will entail travelling and hotel expenses, in addition to work at his residence. What expenses can he claim?

⁂ So far as the travelling and hotel expenses are concerned H. P. will have no claim in law, owing to the restriction of allowable expenses under the Schedule E rules to expenses incurred wholly, exclusively, and necessarily in the performance of the duties of the office. The point has been taken to the Courts more than once—e.g., Cook *v.* Knott in 1887, and Ricketts *v.* Colquhoun in 1924—and it is an accepted principle that such expenses are incurred not "in the performance," etc., but anterior to the performance and in order that the individual concerned may put himself in a position in which he can perform his duties. As regards expenses at the residence, the basic question seems to be what additional expenses are in fact incurred (or what portions of the domestic accommodation are relinquished) in order to carry out the duties of the additional appointments. Possibly some small allowance could be claimed and, if necessary, supported by explanations.

Retirement from Colonial Service

F. F. inquires as to the basis of calculating the "£45" tax mentioned in a reply to "Colony" in our issue of Feb. 17, 1945.

⁂ On the facts as stated to us the only income expected to be received in the United Kingdom in the year ending April 5, 1946, was a proportion of a "salary," and £45 was the estimated amount of tax payable thereon.

Tax Due on Share of Partnership Profits

M. has recently ceased to be a member of a firm and has agreed to pay tax on his share of the income for the last year. The share amounts to £605 after deducting expenses. What is the amount of tax due on that sum?

⁂ Assuming that the whole of M.'s allowances are available to be set against this particular income—i.e., that no part has been absorbed by being set off against some other income—the calculation is as follows:

	£	s.	d.	£	s.	d.
Amount of profits £605 less £45 wear and tear ..				560	0	0
Deduct :						
Earned income relief	56	0	0			
Personal allowance	140	0	0			
Children allowance	100	0	0			
				296	0	0
				264	0	0
£165 @ 6s. 6d. in the £	53	12	6			
£99 @ 10s. in the £	49	10	0			
				103	2	6
Life assurance relief £13 @ 3s. 6d.				2	5	6
Net tax due				£100	17	0

Part-time Employment

F. M. is employed in part-time posts in two clinics. He does no private work. Can he claim deductions for (*a*) the cost of travelling to and from the clinics, (*b*) subscriptions to the B.M.A., etc., and (*c*) purchases of medical books.

⁂ The earnings are assessable under Schedule E and the stricter rule as regards expenses applies. The answers are therefore (*a*) No; (*b*) No, unless membership of the associations in question is required by the terms of his employment; (*c*) No.

Sale of X-ray Apparatus

E. H. bought an *x*-ray apparatus in 1930 for £250; he has since received allowances for wear and tear amounting in all to £75 and has now sold it for £100—leaving him in the position of having lost £250–(£75+£100=) £175, i.e., £75 for which he has had no allowance.

⁂ If he replaces the apparatus he can claim a deduction of £75 as "obsolescence"; otherwise no allowance is legally due. The allowances for wear and tear in past years have clearly been inadequate, and if E. H. cannot claim "obsolescence," he may be able to induce the inspector of taxes to reopen the past year's assessments and increase the past allowances.

Examiner's Fees

C. B. acts "from time to time as an examiner for the General Nursing Council and the Central Midwives Board." Are these fees assessable under Schedule D or Schedule E?

⁂ An examinership can frequently be regarded as an appointment or employment, in which case the fees are legally assessable under Schedule E. In any case, however, if the examiner is engaged in general professional work, the income-tax authorities are willing to regard the fees as falling within Schedule D so that they can conveniently be included in one general return. This, however, does not affect any legal right the examining body has of deducting tax under the "pay-as-you-earn" system. If that is being done C. B. had better put the facts before his inspector of taxes.

"Cash" or "Bookings" Basis

W. B. ceased doing panel work a few years ago, but has recently rejoined the panel and now has a substantial number of panel patients. He has lodged an appeal against his assessment, claiming that he is entitled to calculate his gross income on a cash basis.

⁂ It has to be remembered that the cash basis has no legal validity. The correct basis for the gross income is the amount earned, less a reasonable allowance for probable losses by bad debts. Industrialists, traders, and others are refused the cash basis, but by long-standing practice it is allowed in the special case of medical practitioners because of the difficulty in such cases of estimating the loss by bad debts. But that concession applies only where a practice is proceeding normally, in which case the cash receipts can be assumed to give about the same result. In the case of a new practice or a large and sudden addition to the gross earnings of a practice (as in W. B.'s case), the value of the bookings exceeds the amount of the cash receipts, and the legal basis properly applies. In the circumstances we should not expect W. B. to succeed in his appeal.

LETTERS, NOTES, ETC.

Safe Milk for Children

Dr. W. A. Lethem (Ministry of Health) writes: In your issue of June 9 (p. 829), under the heading "Safe Milk for Children," you say that legislation has been passed which will eventually make it compulsory for all milk to be pasteurized except that from T.T. and "accredited" cows. No such legislation has been passed. *Defence Regulation 55G* named certain milks which alone might be sold in "specified areas"—but no such area has yet been specified, and even if any are before the Regulation is annulled they will not cover the whole country. The raw milk to be sold in such areas was T.T. milk and accredited milk *from single herds*, not accredited milk generally, most of which is bulked and therefore cannot be traced to its source. This was admittedly a concession to the small farmer with his own milk round.

⁂ According to the White Paper on milk policy issued in 1943, "the Government proposes to schedule areas in which it will be an offence to sell milk retail unless it is (1) heat-treated as defined by Order, (2) lawfully sold as T.T. milk, or (3) 'accredited milk' sold by a retailer who sells the milk of a single 'accredited herd.'" In a debate in the House of Lords on July 27, 1943, Lord Woolton said that "within the next few months they [the Ministry of Food] would be able to increase the amount of pasteurized milk from 65% by another 15%, and that in a year from that time—eighteen months from now [i.e., in January, 1945]—they would be able to cover the whole of the country *in which they had introduced rationalization schemes*. The problem before the Government was to get sufficient new plant to deal with this increased quantity of milk. Broadly speaking, the rationalization schemes would deal with all the places where there was bulked milk." (Our italics.) On the basis of Lord Woolton's statement, the answerer of the question assumed that compulsory pasteurization would be gradually extended to milk that was not accredited or from T.T. herds. But if, as Dr. Lethem states, areas have not yet been specified, we have yet another melancholy example of the reluctance of the Government to protect the people at the cost of offending one section of a particular trade. Surely one visit to an orthopaedic hospital or children's sanatorium should convince any politician of the need for rigorous and immediate action. American troops in this country are not allowed to drink milk which is not from T.T. herds and is also pasteurized, which is the only milk which may be sold in most of the United States.—Ed., *B.M.J.*

Swaddling and Thumb-sucking

Mr. John A. McCluskie, B.Sc. (Royal Infirmary, Aberdeen) writes: I have been interested for some time in the practice described by Dr. S. H. Waddy (April 14, p. 529) of the binding of infants in swaddling clothes. May I call attention to some observations made by W. and M. G. Dennis in the American *Journal of Genetic Psychology* in 1940. The cradle board used by the Hopi Indians restricts movements of arms and legs to a severe degree. This practice does not increase the infantile mortality rate, and the infants do not even show any evidence of hyperactivity or rage reactions, which are the usual psychiatric result of restraint of movement. The reverse would appear to exist: in children over a year old attempts were made to return to the board during emotional tension. W. Dennis in the *Trans. N.Y. Acad. Sciences* in the same year stated that there was no evidence that swaddling in cradles produced either restlessness or rage reactions. His opinion is that so long as no purposive activity is thwarted, no reaction follows. On the other hand, there is considerable evidence that thwarting thumb-sucking by swaddling produces considerable reaction. But the widespread practice among midwives is closely allied to that of the Hopi Indians, and there is much to be said for it, although, as your correspondent indicates, it can be a dangerous practice, and I think it is one which would repay detailed investigations. Some experiments have been made with chickens which show that it is possible to control the development of habits—e.g., feeding with a dropper controls the pecking urge—so that binding in certain cases associated with replacement of the sucking habit by something else might very well be a way out for the thumb-sucking baby. Should we look to the biologists for that "something else"?

Penicillin and Other Drugs

Major A. J. Cameron (R.A.M. College, Millbank) writes: In the *Journal* of June 16 (p. 864) I have read with considerable interest the letter from Major C. F. Garfit, of Lahore, referring to my medical memorandum on penicillin in ocular therapeutics which appeared in the *Journal* of Feb. 17 (p. 222). The answer to his query is "yes." The preparation of adrenaline used was the liq. adrenalin. hydrochlor. *B.P.* For myself I was not aware that it contained 0.5% chlorbutol, nor do I know what the effect of that drug is upon the sensitivity of penicillin. It is, I agree, a point of some interest, and I should like to know; but, as Major Garfit says, it is the liq. adrenalin. hydrochlor. which is used in practical ophthalmology most times.

Doubtful Penetrating Abdominal Wound

Dr. Reginald Fisher (King's Langley) writes: Referring to Brig. Charles Donald's article (June 9, p. 802) on the above subject, may I mention a point that may help in these cases—a memory of the last war. When *x*-ray screening for foreign bodies I often noticed that if they were in the peritoneal cavity they were motionless (except sometimes in the liver), while if in the abdominal wall they moved freely with respiration.

An Eyeless Needle

Mr. J. L. Aymard writes from Berlin, C.P., South Africa: My method has been for some two years past to take from a bundle of horsehair a single strand and one which tapers to a thin portion. A fine hypodermic needle, even a dental one, is broken off at its junction to the base holder. The thin end of the hair is threaded down the shaft from the eye; as soon as the strand wedges then it is withdrawn a little, cut off, and redrawn into the shaft. This same needle can be used over and over again. I have found the above very useful in fine plastic work and trust others may do likewise.

Herpes and Varicella

Dr. H. E. Gibson (South Godstone) writes: The relation between herpes and varicella seems very complicated. Unlike Squad. Ldr. H. R. E. Wallis (April 21, p. 580), I had chicken-pox as a child, and again at 26. I have just had a patient who suffered from herpes at 42, and three weeks later her younger daughter, aged 7, developed chicken-pox.

Miss E. Sylvia Pankhurst, honorary secretary of the Princess Tsahai Memorial Hospital Fund (3, Charteris Road, Woodford, Essex) asks physicians and surgeons who would be willing to accept a position on the staff of this hospital in Addis Ababa, Ethiopia, to communicate with her, so that she may lay their applications before the honorary medical committee. The chairman of the Fund is Lord Davies, and the honorary treasurer Lord Horder.

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THE EFFECTS OF HIGH ALTITUDE ON MAN*

BY

B. H. C. MATTHEWS, C.B.E., Sc.D., F.R.S.

LECTURE I

Dr. Oliver founded these lectures in memory of William Sharpey "to promote physiological research by observation and experiment and to encourage the application of physiological knowledge to prevention and cure of disease and the prolongation of life."

The subject of the present lectures is the application of physiological knowledge to the saving of life and to increasing the efficiency of flying personnel. As an example, enemy fire is an obvious risk to which aircrews are often exposed, but, flying at 25,000 feet, many thousands of men are constantly exposed to other less obvious physiological dangers to life. At this height the atmosphere is lethal to men acclimatized to sea level, so that they must be protected by oxygen equipment. The intense cold is another danger, from which they are protected by special clothing and equipment. The physiological risk, anoxia, is an unseen enemy, present continually, from which aircrews must be protected not only by oxygen equipment but also by training to make them realize the nature of this danger and its effects. If they have to crash-land, the hazards of sudden deceleration can be greatly reduced by the application of physiological knowledge embodied in crash procedure and body harnesses. In tight turns the effects of centrifugal forces on the circulation can be minimized.

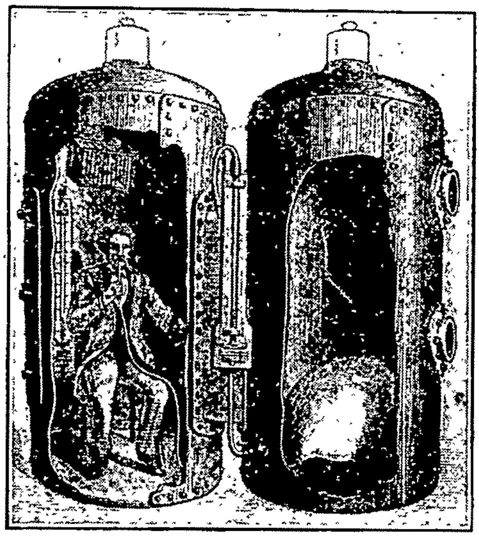

FIG. 1.—Paul Bert's decompression chamber.

Research on physiological problems of flying has been carried out intensively in all Allied countries; the Germans also were early in the field, and large funds and facilities were available for the purpose from 1933 onwards. The Flying Personnel Research Committee, under the chairmanship of Sir Edward Mellanby, was set up by the Secretary of State for Air before the outbreak of the war; it initiated intensive investigations for the R.A.F. by R.A.F. medical officers and civilians, working both in the laboratory and in the field, to carry out basic research and organize its application to aircrews. The Americans gave much help before Pearl Harbour, but since then they have provided almost unlimited facilities for research in the physiology of flight. Research in Canada and Australia has been very active, and the results are of great value. It is impossible to give credit here to the many research workers involved. Free interchange of information has taken place between the Allies, and much of the resulting success has come from team-work by men from all the Allied nations.

The field of aviation physiology is wide, and here two subjects are chosen: (1) the effects of high-altitude flying; (2) the effects of mechanical stress.

Physiological Effects of High Altitude

These can be divided into: (1) the effects of lowered partial pressure of oxygen at high altitude; (2) the effects of the lowered atmospheric pressure. The first leads to incomplete saturation of the blood with oxygen, and may indirectly disturb the carbon dioxide content of the blood. The second may lead to bubble formation within blood vessels and tissues, and also to effects following expansion of the gas present in the viscera, sinuses, middle ear, and, after chest injuries, of air within the pleura.

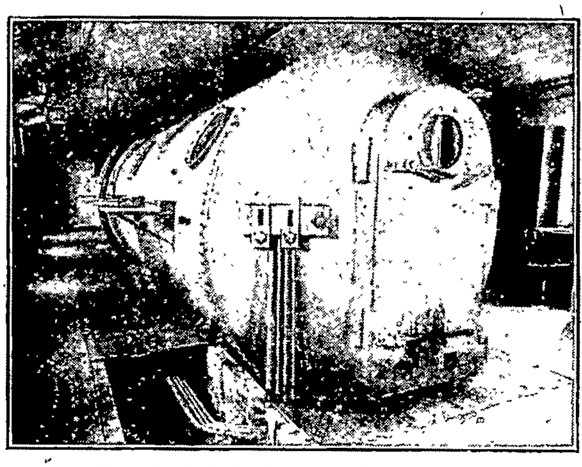

FIG. 2.—R.A.F. decompression chamber.

Anoxia

Anoxia is not a new problem; the effects of oxygen lack on man were encountered both on mountains and in balloon ascents before the beginning of the last century, but modern research on this subject was initiated by Paul Bert after the disaster in 1875 to the balloon "Zenith," in which Tissandier's two companions lost their lives from anoxia, although oxygen for breathing was carried in the balloon. Paul Bert (1878) built the first decompression chamber (Fig. 1), in which low-pressure air conditions could be studied on the ground, and this was followed by the work of Haldane, Barcroft, Henderson, and Flack, which, in addition to elucidating the nature of anoxia, shed much light on the normal processes of respiration. While many physiological studies have been carried out in flight, the greater part of our exact knowledge comes from studies made in decompression chambers (Fig. 2) at sea level or in mountain expeditions, as the conditions for research and experiment are not easily met with during flight. It is necessary to draw a sharp distinction between the mountaineer who has had days or weeks to acclimatize to low air pressure and the aviator who usually starts from ground level and is rarely away from it for more than 12 hours. An altitude of 28,000 feet has been reached on Mount Everest by men not using oxygen equipment; the same height may prove fatal to an aviator in about half an hour.

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* The first of two Oliver-Sharpey Lectures before the Royal College of Physicians of London, March, 1945.

The accompanying table sets out the major effects of oxygen lack as they are seen in the aviator. There are three primary factors determining the intensity of symptoms: (1) the oxygen partial pressure of exposure; (2) the duration of exposure; (3) the muscular activity of the subject. At heights up to 35,000 feet all symptoms are entirely prevented by breathing pure oxygen or air enriched with oxygen (Col. VII of table).

Effects of Oxygen Lack on Man

I	II	III	IV	V	VI	VII
Altitude; Oxygen p.p., mm. Hg.	Approx. Blood Saturation (%)	Effect	Time for Full Development	Unconsciousness	Death	Approx. O_2 Percentage in Inspirate for Normality
5,000–10,000 ft. 126·5–104·5	95–90	Reduced night vision	Over 1 hour	Never	No	28%
10,000–15,000 ft. 85·8	90–78	Fatigue, headache, errors of judgment, and indifferent mental condition	Over 1 hour	Very uncommon, and only with hard work	No	35%
15,000–18,000 ft. 77·5	80–68	More pronounced mental errors. Reduced capacity for physical work	30 min.	Incidence less than 1% if at rest	Only in pathological subjects	42%
18,000–22,000 ft. 64	70–55	Gross mental abnormality. Euphoria or drowsiness and lethargy. Loss of neuromuscular co-ordination	15 min.	Unconsciousness may occur above 20,000 ft. Dangerous, especially in single-seater aircraft	Rare, but possible with other adverse conditions (cold, etc.)	50%
22,000–27,000 ft. 51	Less than 65	Rapid loss of muscular control, often with uncontrollable twitching, especially if some hyperventilation	10–2 min.	Individual variation in time for onset of unconsciousness, 5–30 min.	Death likely at 27,000 ft. in less than 1 hour	70%
27,000–30,000 ft. 45		Rapid loss of consciousness, 1–5 min.			Death probable in 20–60 min.	80%
30,000–37,000 ft. 32		Unconsciousness in ½ to 2 minutes			Death to be expected in less than 30 min.	90–100%
37,000–44,000 ft. 24		Breathing 100% oxygen, anoxia present. Severe at 44,000 ft.				
Over 44,000 ft.		Only safe with pressure cabin or pressure suit				

The effect of changing from oxygen to air at 35,000 feet is to produce unconsciousness in less than a minute. Respiratory failure is to be expected after about 7½ to 8 minutes and death in about 10 minutes. At 25,000 feet the same change leads to a progressive development of symptoms. The first symptoms seen are cerebral; subjects are often euphoric within two minutes. Failure of the nervous and muscular co-ordination follows. The electro-encephalogram (Beigel *et al.*, 1942) parallels the clinical reaction to anoxia; slow waves are observed as the subject becomes unconscious, and spike activity during convulsive seizures. There are often intensive peripheral vasodilatation and great acceleration of the heart just before unconsciousness occurs; alternatively, some subjects show collapse of the cardiovascular system before becoming unconscious. Unconsciousness and loss of muscular tone may ensue in about 5 minutes. Death is unlikely to occur in less than 30 minutes, but there is a possibility that it may follow longer exposure.

The danger of an oxygen breakdown and death of a member of the crew in large R.A.F. aircraft is reduced by telephonic communication, maintained at regular short intervals from the captain to all his men, and very few deaths attributable to anoxia have occurred. In the U.S.A.A.F., which has had to operate under different conditions, the considerable number of deaths from this cause enables lethal exposure to be deduced to an approximation. Death is unlikely to occur below 22,000 feet and may occur in a few minutes above 27,000 feet (see Col. VI of table). A number of necropsies have been performed on those who have died from anoxia, and 27 are described in a recent paper by Kitzler (1944). These show little pathological change except a great congestion of the lungs, viscera, and, particularly, the kidneys.

A man breathing air at 30,000 feet remains conscious for little more than a minute, and it will be appreciated how rapidly aircrews must act if their oxygen equipment should fail at these altitudes. In large bomber aircraft the crew are provided with small portable oxygen sets, so that they may carry out duties which necessitate walking any considerable distance in the fuselage. In fighter aircraft the high-altitude pilot carries in his parachute packing an emergency oxygen set which can not only be used in emergency but which goes with him to supply oxygen during descent, should he have occasion to use his parachute. Otherwise he may become unconscious while falling and fail to pull his parachute rip-cord.

Anoxia of gradual onset is extremely insidious in that the subject is usually quite unaware that anything is wrong. His behaviour appears normal to himself, but to others may be that of a drunken man. In the last war, cases of the bombing of friendly targets occurred owing to anoxia. It is for this reason that the R.A.F. have put into operation large numbers of mobile decompression chambers. In these, aircrews can be shown what happens if they neglect to use oxygen properly; this is done at ground level in safety under the supervision of a medical officer. This familiarization of aircrews with the proper use of their oxygen equipment probably accounts for the very low incidence of oxygen failures in the R.A.F.

Subjects vary greatly in their reaction to lack of oxygen, and these differences appear in part to be connected with the varying sensitivity of individual respiratory centres to oxygen lack. The respiratory centre and carotid sinus are primarily controlled by the carbon dioxide in the blood and, to a secondary and much more variable extent, by the oxygen tension. Some subjects placidly pass into coma and unconsciousness with increasing altitude with very little rise in the respiratory minute-volume and without muscular movement. Others show considerable hyperventilation, which often enables them to resist a greater degree of anoxia than the former class, but may then exhibit violent involuntary movements, sometimes extending to a generalized convulsion before they become unconscious. The lowering of carbon dioxide by hyperventilation in the latter class appears to be responsible for the very marked difference in their symptoms (Schmidt, 1943). When oxygen is administered to subjects who have become unconscious, unless a low flow is used at first they may pass through a phase of convulsion and twitching before returning to normality. Recovery can be very rapid, and the subject is practically unaware, a minute later, of what he has been through, provided the unconsciousness has been of short duration. Moreover, if pure oxygen is given to a subject on the verge of collapse it may produce complete collapse for some 30 seconds, followed by a very rapid recovery. While the biochemistry of this is not fully established, it probably is a reaction to the sudden change of acidity in the blood which will result from rapid conversion of reduced haemoglobin to oxyhaemoglobin (the Bohr effect).

In the last war, pilots often flew at 18,000 feet without using oxygen. Anoxia was then regarded as one of the normal stresses of flying, and pilots were required to pass an anoxia-tolerance test. In this they breathed from a closed spirometer, the carbon dioxide being absorbed and the oxygen tension falling progressively. Those who showed early pulse irregularities or fainting were rejected. This is now no longer necessary, as anoxia is a stress which can be removed with proper oxygen equipment, and all who are fit on clinical examination are able to fly to at least 25,000 feet when using that gas. In R.A.F. aircraft the use of oxygen is compulsory above 10,000 feet, and below that at night for some aircrews. Between 10,000 and 15,000 feet there is no gross danger if not used; but experience has shown that not only is a man less mentally alert and his range of vision reduced if he does not have oxygen at these heights, but he subsequently suffers considerable fatigue if exposed to slight anoxia for several hours; this is avoided by the employment of oxygen. Moreover, without oxygen he "blacks out" more easily in a tight turn.

It is well known that prolonged oxygen-breathing at ground level may produce pulmonary oedema, and, as Paul Bert first showed, at pressures greater than atmospheric it may produce convulsions. The dangers of oxygen poisoning do not exist, as this gas is used in aviation at reduced pressures. No difficulties from this cause have arisen. Oxygen equipment for air use has to meet stringent requirements. It must be of minimum encumbrance to the wearer and require the minimum of his attention. All the Allied Air Forces use oxygen stored in cylinders, for although liquid oxygen in thermos containers can save weight, and was so employed both in the last war and subsequently by the R.A.F., its disadvantages—evaporative loss and the difficulty of controlling the flow to requirements—have rendered it less suitable than oxygen in cylinders for use in the rough-and-tumble of operational flying. The weight of the cylinders introduces the question of economy in the use of oxygen. All Air Forces employ systems in which the flow of oxygen to the mask is interrupted during expiration, as the consumption when this is done is little more than one-third of that needed with a constant flow. Apparatus must be able to supply a flow sufficient to cover the physiological requirement for any physical work that aircrews may have to undertake. A liberal rating is necessary to cover both this and the rapid ventilation that may occur during the stress of combat. Figures for ventilation rates of aircrews taken during bomber operations show an increase in areas of danger.

A man at 18,000 feet, though still conscious, becomes very sluggish mentally. He is incapable of physical exertion and may become unconscious if he attempts it. In contrast to this, men who have become acclimatized over a period of weeks are able to lead a normal life at 17,000 feet and to carry out hard physical work. There are three major changes which make this possible:

1. The red blood corpuscle count rises by up to 50% and the oxygen-combining capacity of the blood increases with this.
2. The ventilation rate progressively increases, the alkalosis resulting is compensated by the kidneys, and the acclimatized man is able to breathe rapidly, with approximately normal *p*H of the blood.
3. There are changes in the tissue-oxidase systems which enable cells to work normally in spite of the reduced oxygen pressure in the blood reaching them. For example, in animals the concentration of myoglobin in the diaphragm is approximately doubled with acclimatization.

On return to sea level acclimatization is lost by a reversal of these changes, occupying a fortnight or more; artificially induced acclimatization (Rühl, 1943)—e.g., by ingestion of ammonium chloride—has not been very successful.

At heights above 18,000 feet little further acclimatization appears to take place, and the experience from mountain expeditions has been that above 20,000 feet men deteriorate in physical condition, sleep very little, are capricious in their diet, and ways lose weight. It may be conjectured that the chemical ocesses of digestion and metabolism are unable to proceed rmally at the low oxygen partial pressure which occurs under se conditions. Discontinuous exposure to altitudes of 10,000 14,000 feet, as may occur in pilots who are not using oxygen, s not lead to any very significant acclimatization. In one y of the blood of civil airline pilots not using oxygen a in the red blood count was found (Clinton and Thorn, 1943). ausea and respiratory distress, commonly seen in mountain ess, are much less prominent in short exposure to oxygen this fact appears to be due to slowness in lowering the by hyperventilation in the early stages of acclimatization Compensation 2, above, has occurred, and those symp- must be attributed to this, acting concurrently with anoxia, recalling Mosso's early hypothesis, now discarded, that loss of CO_2 was the primary cause of mountain sickness.

Effects of Low Pressure per se

The dangers of compressed-air illness have long been recognized among under-water and caisson workers, but it is only recently that the parallel effects that may occur at pressures below atmospheric have been recognized and studied. Symptoms occurring at low pressure that could not be attributed to lack of oxygen are found in the literature of exposure to low pressure (e.g., Jungbluet), but were first fully described by Armstrong (1939). Intensive research has been carried out since then to elucidate the nature of decompression sickness as it occurs at reduced atmospheric pressure.

There is a great difference in the conditions leading to decompression sickness in the diver and the aviator. The diver spends his life at the lower pressure (atmospheric) and a short time at the higher pressure when under water. Consequently nitrogen reaches and goes into solution only in certain tissues readily accessible to the circulation, and does not attain a high pressure in inaccessible tissues—for example, the optical media of the eye. In diving, the pauses during ascent necessary to allow nitrogen to escape from the lungs are a small multiple of the total time spent submerged at high pressures. In contrast, the aviator spends his life at the high pressure (atmospheric), and his exposure takes place when he ascends to great altitudes. It is just from those tissues which do not become saturated with nitrogen in diving that escape of nitrogen is most difficult in the case of the aviator. One of the commonest sites of bubble formation at reduced pressure is the synovial fluid of joints, from which gas has difficulty in escaping owing to very low vascularity, and bubbles can often be seen by *x*-ray examination at low pressure. The first description of decompression sickness was by Robert Boyle, who saw a bubble within the eye of a viper when he decompressed it to a pressure equivalent to that at about 50,000 feet.

In general the symptoms are less severe and of slower onset than those seen in divers. Moreover, they disappear at once on descent to 20,000 feet. There are three main factors responsible for the formation of bubbles in the blood vessels and tissues at lowered pressure: (1) the ratio of pressures, and to a lesser extent the absolute magnitude of the pressure change; (2) the rate of change: this is of great importance in diving, but the rate to avoid aerial bends is so slow that gradual ascent to avoid symptoms is impracticable; (3) local conditions in the tissues which may precipitate formation of bubbles—e.g., exercise. While the bubbles in divers are primarily composed of nitrogen, those occurring in aviators contain a high proportion of carbon dioxide.

From theory and experiments on divers the late J. S. Haldane deduced that a change of pressure in a ratio of 2 : 1 at least was necessary before bubble formation could take place, and this appears true at reduced pressures, as decompression sickness is never seen below 20,000 feet. Above 30,000 feet it becomes increasingly common, and the symptoms are of increasing severity. The symptoms usually develop gradually, starting with muscular and joint pain, with pain in the chest followed by sensory symptoms, and anaesthesia of limbs; itching and tingling sensations are common. These may be followed by a collapse of central origin in which the subject suddenly becomes intensely white, the pulse may slow and become imperceptible, and consciousness is lost. On immediate increase of pressure to 20,000 feet recovery takes place in a few minutes, though delayed neural reactions, of which the commonest are visual scotomata (Engel *et al.*, 1944), and, rarely, epileptiform convulsions, may appear subsequent to return to ground level, and in rare cases death has occurred after severe chest symptoms (Goggio and Houck, 1945). In these, massive hydrothorax and pulmonary oedema have been found at necropsy.

The incidence of symptoms is extremely variable in the same subject between daily exposures, and between different individuals. This is a matter of great practical importance, but intensive research has so far failed to locate the fundamental biochemical factors involved. As in divers, overweight and obese body build are unfavourable. There is evidence of symptoms increasing with age (Thorne, 1943), but some subjects seem completely immune from bends at pressures corresponding to

40,000 feet. It is at present impossible to predict liability to bends from other physical characteristics, and it has therefore been necessary to select flying personnel for very high altitude work by tests carried out in a decompression chamber with two or three exposures on different days for each subject. At present we cannot foretell how long the selection will remain reliable. Protection against bends is possible by breathing oxygen before exposure to low pressure—to dispel nitrogen from the blood and replace it by oxygen, which can be used up within the body when the pressure falls. By pre-breathing oxygen for several hours a very high degree of protection against bends is obtained. This has obvious practical difficulties for flying personnel, and can be employed only on missions working to a prearranged time-table. In practice, where available to crews, it is little used, as after selection they very rarely experience decompression symptoms in the air.

In early work the central effects were attributed to raised C.S.F. pressure resulting from bubble formation; but while the escape of gases from C.S.F. is very slow—as shown by McArdle (1945) on oxygen-breathing human subjects from whom C.S.F. was withdrawn for analysis by lumbar puncture—animal experiments have not revealed any great rise in C.S.F. pressure which can be attributed to internal bubble formation. Moreover, little rise in intracranial pressure occurs in man (Peterson *et al.*, 1944). It is most probable that the central effects follow local interruption of circulation by bubbles in blood vessels in the brain. That the peripheral symptoms of pain or itching have a peripheral origin was proved by Squad. Ldr. Pask in a number of cases in which the application of pressure to the affected limb with a special pressure bag removed the symptoms.

Change of Pressure

With rapid change of pressure the sinuses and middle ear must equalize their pressure with that outside; otherwise, symptoms may result from congestion and exudation with rising pressure, or cessation of circulation with falling pressure. This is a matter of great practical importance, as the maintenance of a healthy E.N.T. condition in aircrews is necessary for them to fly without any discomfort. The subject of otitic barotrauma has received much attention in the R.A.F. (Dickson *et al.*, 1943), but sudden change of pressure has no other physiological effects, and, provided the Eustachian tubes are patent, a fall of pressure of half an atmosphere in about half a second can be tolerated by man without any discomfort. Studies on this explosive decompression were first carried out by Armstrong and Heim, and later extended by the R.A.F. It was found that even such a severe change of pressure produced no discomfort in normal subjects. On the other hand, with increasing pressure air must be admitted to the middle ear by opening the Eustachian tube, and this cannot be done rapidly enough to tolerate descent at anything like this rate. Most aircrews can clear their ears by swallowing or by jaw movements, so that they can descend at 4,000 to 10,000 feet a minute without discomfort. (Expansion of gas in the viscera is rarely a practical source of difficulty in high flying.) All personnel can operate to 25,000 feet without oxygen; selected aircrews can operate to about 40,000 feet. Above this height it is essential to apply pressure all over the body surface either by a pressure suit (Marshall, 1937) such as was employed by Adam in 1937 when he took the altitude record to 54,000 feet, or a pressurized cabin or a pressure gondola such as was used in the U.S. Army high-altitude balloon flight to 72,000 feet.

For civil use high-altitude flying has many advantages. It enables aircraft to operate fast and economically, to fly over the weather, and to fly in smooth air. It seems certain that pressure-cabin aircraft will ultimately be employed for all long-distance travel. Passengers inside will not then need to wear oxygen masks to avoid anoxia; nor would they incur the risks of decompression sickness or experience the discomforts of rapid pressure change on their ears. It therefore becomes a matter of engineering to overcome the physiological stresses of altitude to which man has been subjected since the start of flying.

It is interesting to turn to the work of Paul Bert, written in 1877, to see his recommendations on oxygen for aeronauts. "Aeronauts planning very lofty ascents ought in the preceding days to avoid nervous and intellectual fatigue. Before starting they should take meals of substantial food and take with them some cheering victuals to eat frequently on the way. To be safe it is necessary only to breathe the air whose oxygen content rises proportionately as the pressure falls, and I cannot recommend too strongly that at 5,000 or 6,000 metres a direct and compulsory connexion be made between the oxygen bags and the mouths of the aeronauts." Much of the physiological work for the R.A.F. during this war has been directed towards putting Paul Bert's recommendations into effect.

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IRREPARABLE VESICO-VAGINAL FISTULA IN IRAQ

TREATMENT BY URETEROCOLOSTOMY

BY

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Thirty centuries before the birth of Christ the Sumerians, living on the banks of the River Tigris, recorded their deeds in writing, maintained an army for their own defence, and drank a "liquid closely resembling beer" (Lloyd, 1943). But in spite of this admirable beginning Iraq was but an outlying province of the decadent Ottoman Empire at the outbreak of the First Great War. She was loosely governed by corrupt officials, who were satisfied in the discharge of their duties if a sufficient revenue was extorted from the country and a sufficient quota of conscripts was obtained for the Turkish Army. The real power in the country lay in the hands of the great Kurdish and Bedouin sheikhs, to whom social reform and social services made no appeal.

To-day, a mere 20 years since the foundations of independent Iraq were laid, the structure of a universal health service is well established, its two main pillars a thriving medical school and a school of nursing. But a sad legacy of centuries of ignorance and neglect remains. Tuberculosis is rife, and in every tow and village the hideous ravages of smallpox, trachoma, leishmaniasis, and venereal disease are evident. The infantile mortality in country districts is over 50%.

It is with the results of neglect in pre-natal and natal ca that this paper deals. In the smaller towns and villages, ar in the desert, women are attended during childbirth by th relatives. Hospital care, even when available, is not used unl the relatives consider that life is in danger. This is in p due to distrust of hospitals and in part to the great difficul of transport in the desert. As a result women may lie in ch birth for seven to ten days without any skilled attention w soever, and large fistulae between the bladder and ante vaginal wall may occur from prolonged pressure of the fo head.

Material of the Present Series

During the last three years 29 cases of vesico-vaginal f have been admitted to the gynaecological wards of the Hospital, Baghdad. Of the 29 cases 25 came from ou villages or the desert. In all of them the infant was sti The average time in labour was about 120 hours, but six were known to have been in labour for over 168 hours a for 240 hours. As a rule the infant was extracted manu an unskilled woman in the desert, although six cases had had a forceps delivery in a provincial hospital.

Eleven of the 29 cases were admitted to the surgical wards for ureterocolostomy. All the 11 were judged by the department of gynaecology to be irreparable, and most of them had had one or more attempts at plastic repair. The age of the patients varied from 18 to 40. On the whole the physical health of the women appeared to have suffered very little, although in one case a persistent pyelitis was present. But mentally they were miserable and life was a burden to them. Their clothes were permanently soaked in urine, their vulvae and thighs excoriated and raw, and an all-pervading ammoniacal odour caused them to be shunned by their fellows. It is a striking witness to their misery that, in a land ridden by religious superstition, where a mullah's amulet is trusted more than medical advice, none of these patients refused this very considerable two-stage operation.

Pre-operative Care

The renal function was investigated by intravenous pyelography to demonstrate the presence of two functioning kidneys and by the estimation of the blood urea. Urea-clearance and concentration tests are of course impossible in these cases because of the leak of urine from the fistula. In only two instances was there any evidence of impairment of renal function: Case 4 showed a left renal calculus and Case 9 a mild bilateral hydronephrosis with pyelitis and a blood urea of 56 mg. per 100 c.cm.

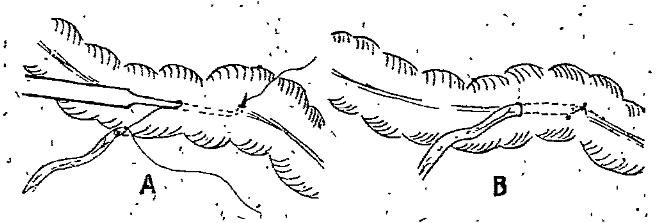
In attributing this renal dysfunction to the fistula one must bear in mind the fact that urinary bilharziasis is extremely common in Iraq, and consequent strictures of the intramural part of the ureter are very often met with. It is possible, and even likely, that in a series of 11 hospital admissions taken at random just as high an incidence of mild renal dysfunction might be detected.

Preparation of the Colon.—If sulphasuxidine had been available it would have played an important part in the preparation of the colon, but in its absence our efforts were directed towards obtaining a dry and empty colon in which to implant the ureter. This was achieved by withdrawal of food for 24 hours before operation and the avoidance of enemata within 12 hours of operation. In practice, a purge was given on the evening of the second day before operation, a wash-out the following morning, and no further food. On the evening before operation a low enema was given. This routine gave satisfactory results.

Operation

Anaesthesia.—General anaesthesia was preferred to spinal analgesia in these cases, for a purely technical reason. Under spinal analgesia it was found that the bowel remained in tone and peristaltic waves were frequent, during which the bowel was contracted to a firm rope-like structure. When in this condition it is very difficult to introduce the all-important anchoring suture and later the enfolding layer of sutures. Under general anaesthesia, on the other hand, because of the intact sympathetic inhibitory reflex pathway, the bowel is relaxed and atonic, and the whole operation is simplified.

Technique.—The operative technique followed was that of Grey Turner (1943), with one major modification (see Fig.).



Method of introducing the ureter into the lumen of the colon. (A) A cleft-palate needle carrying the anchoring suture is passed into the lumen and downwards for 1½–2 in. and out again. (B) The broad shank of the needle dilates a round hole in the bowel through which the ureter can subsequently be passed.

Instead of incising the bowel to introduce the ureter, the wall of the bowel was pierced with a cleft-palate needle carrying the anchoring suture. As the needle was pushed down the lumen for some two inches its broader shank dilated the hole in the bowel wall, into which the ureter fitted snugly. The round hole so made did not tend to tear widely as an incision does, and the risk of leakage is perhaps minimized thereby. The anastomosis was made extraperitoneal, so far as was possible, by bringing a flap of posterior parietal peritoneum over it; but this manœuvre was by no means always successful, and one patient died of peritonitis from a leaking suture line. All cases were dealt with by a two-stage technique, the interval between the two stages usually being about a month.

Double Ureter.—In two cases a double ureter was encountered, in both on the right side. On the first occasion one was rather at a loss as to what course of action to adopt, but a moment's thought showed it to be a comparatively simple matter. The anchoring suture was inserted through adjacent walls of the two ureters and loosely tied, and thereafter the procedure was as in a normal case, both ureters being inserted through the same hole in the bowel wall.

Post-operative Care

On returning to the ward an intravenous drip infusion of 0.45% saline was instituted and kept going for 48 hours. No fluid was allowed by the mouth for 24 hours. Sulphathiazole was given in 1-g. doses every four hours for the first three days with the object of preventing renal infection in the immediate post-operative period. As a rule the bowels moved with a fluid urinous motion about the third day—but sometimes no urine was excreted for as long as eight days. This suggests strongly that occasionally suppression of renal function may take place after the operation, either reflexly or by blocking of the ureter by oedema. After the second stage, urine was excreted from the bowel almost invariably the first day.

Mortality

Two of the 11 patients died. Post-mortem examination revealed that peritonitis was the cause of death in both cases. But the cause of the peritonitis was not the same in both cases. In Case 3 there was sloughing of the lower end of the ureter at its point of entry into the bowel. This was without doubt due to clumsy technique on my part in dealing with a difficult and obese subject. It was hard to get a sufficient length of ureter mobilized to introduce it without tension into the bowel because of the great amount of fat in the retroperitoneal tissues and pelvic mesocolon. Hence the ureter was stripped too far back and separated from its mesentery for too great a distance, thus being deprived of its blood supply.

The second death occurred in the ninth case in the series, after the second stage. Post-mortem examination showed that the suture line in the colon had failed to heal adequately and a faecal leak had occurred. A diffuse peritonitis resulted, and death ensued on the eighth post-operative day. It is of interest that these two deaths occurred in the two oldest patients in the series. Both were over 40 years of age.

Complications

Pyelitis was the commonest complication. It occurred in 5 of the 11 cases, but it would perhaps be scientifically more accurate to say that it occurred in 5 of the 22 kidneys. The time of onset of the pyelitis is interesting. It appears constantly between the 8th and 14th post-operative days. It was evidenced by raised temperature and pulse, pain in the loin, rigors, and rectal frequency. The last-named is a distressing symptom noted by Grey Turner, and suggests that a proctitis from infected urine is as easily produced as cystitis. The symptoms yielded readily enough to the administration of sulphathiazole, though in one case it was necessary to resort to intravenous dosage. This patient was seen six months after operation, and although her general health was good she still had rectal frequency of about six times a day.

Abdominal Distension.—Mild paralytic ileus was common and was often accompanied by vomiting, but no satisfactory explanation was ever found for this. It is possible that a degree of peritoneal soiling occurred in many cases in spite of scrupulous packing off of the suture line. Another possible explanation is that retroperitoneal dissection is necessary to mobilize the ureters, and the tendency to ileus after retroperitoneal operations is well known.

Discussion

The nine survivors were among the most appreciative and grateful patients I had in Iraq. They were able to return to their husbands and homes and begin a normal life again. It can be realized what that meant when one remembers that their average age was between 18 and 25 years. Nevertheless a far more efficient follow-up system than is possible in Iraq is necessary to compute the end-results of the operation. In Grey Turner's series some patients survived for 20 and 30 years. The mortality of 2 deaths in 11 cases makes the operation one of considerable hazard, certainly not to be undertaken lightly. But the lot of a patient with an incurable vesico-vaginal fistula is such a miserable one that I believe it to be justified. In more skilled hands the mortality is likely to be considerably lower.

Summary

Eleven cases of ureterocolostomy for incurable vesico-vaginal fistula are described. The operative modification whereby incision of the bowel is avoided is described.

There were two deaths in the series, both from peritonitis; the remaining nine patients returned to active life.

It is a pleasure to acknowledge the great help and advice given by Brig. C. Naunton Morgan in this series, the stimulation and practical assistance of the writings of my teacher and chief, Prof. Grey Turner, and the data of Prof. M. McDowall, of the department of gynaecology, Royal Hospital, Baghdad. Dr. Kadhim Shubbar, Dr. Najibal-Yacubi, and Dr. Ghanim Akrowie were of the greatest assistance in pre- and post-operative care.

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OTITIS EXTERNA

BY

J. F. BIRRELL, M.D., F.R.C.S.Ed.

T/Major, R.A.M.C.

Otitis externa is one of the most common conditions met with in any ear-nose-and-throat department. This is especially true in the Army over-seas, where it may account for one-quarter of all aural cases, or one-sixth of all E.N.T. patients examined. There are many problems connected with the disease that are worthy of study, and, indeed, many to which there is as yet no answer. This report is mainly based on nearly 1,000 cases of otitis externa seen in the Army. Furunculosis and dermatitis of the auricle are not discussed in any detail, but are mentioned briefly as coexisting affections.

Aetiology

The disease does not respect age or rank. It may occur in children and persist at intervals throughout life. The mechanism appears to be twofold. A meatal congestion is set up, causing irritation, which is attacked by the patient, who scratches the ear voluntarily or involuntarily, or by the doctor, who attempts to diagnose, treat, or remove the cause of the irritation. The result is a break in skin continuity, through which normally present saprophytic or invading pyogenic organisms may enter and cause trouble.

The meatal congestion may be caused by (i) irritants which enter the meatus from the middle ear, (ii) the natural secretions of the meatus, (iii) irritants entering the canal from the outside, (iv) general conditions predisposing to skin infections, or (v) local or general allergy. A brief consideration of the anatomy of the external meatus will show how easy it is for foreign material of all kinds to reach the canal, how difficult it may be for such matter to find its way out once it has reached the downward-sloping inner half of the meatus, and how simple it is to injure the meatal skin in an attempt to remove the irritant. Daggett (1942), in a valuable article, has drawn attention to the deep anterior meatal recess as a reservoir which may retain pus and debris.

The irritant entering the meatus from its inner end is pus, associated with an active otitis media. The meatal floor is constantly bathed in pus, the organisms of which welcome any disruption in the epithelial surface through which they may enter and multiply.

Wax and sweat are the natural secretions of the external meatus. Wax is secreted by the ceruminous glands of the outer half of the meatus, lines the canal, separates from the walls apparently by the movements of the mandible, and works its way out, bringing with it desquamated epithelium. Unskilled attempts to remove the wax by a match, a Kirby grip, a knitting-needle, or some such similar article may abrade the skin. Similarly, the meatal epithelium may be lacerated by the tip of an aural syringe, especially if the wax is hard and difficult to remove. After syringing, the canal should be thoroughly dried with wool or gauze, and the walls painted with spirit, or the retained solution, if hypotonic, may macerate the skin. In the same way the epithelium may suffer during the removal by scoop, curette, or syringe of the tightly adherent mass of cerumen and epithelium called keratosis obturans, which in its milder forms is more common than is often realized. Sweat may be produced in excess in hot weather, and may, by the discomfort it causes, lead to scratching of the ear. It may cause a matted condition of the hair at the outer end of the meatus, and this in turn results in irritation.

Many things may be introduced into the meatus through its outer end. One of the most common, particularly in soldiers serving over-seas, is salt water, and in the "tideless" Mediterranean the water is permanently dirty in frequented beaches. Daggett, while discounting sea-bathing as an important aetiological factor in desquamative otitis externa, points out that in the heat of the day the water will be evaporated from the meatus, leaving a deposit of salt which may increase skin maceration by hygroscopic action. In Italy these swimming ears presented such a characteristic appearance that one came to regard them as a specific infection.

Cotton-wool or paper may be pushed into the meatus and forgotten—for example, by gunners who use these substances as ear-plugs against muzzle blast. After some weeks the meatal skin reacts to the breakdown of vegetable matter by producing an otitis externa which is often most acute. Dust and sand may be blown into the meatus and, mixing with wax and sweat, cause irritation. Insects, such as the bed-bug or the maggot, may find their way into the canal and, by their movement, scratching, or biting, may set up a most acute infection. Lastly, infection may be transmitted by the finger from some other part of the body.

Chemicals may act on the meatus by a direct burn, such as occurs with caustics, acids, hydrogen peroxide, vesicant gases, etc., or by a local allergic reaction, such as is seen with sulphanilamide powder in susceptible people. Insufflation of sulphanilamide powder was a common practice in the Tunisian campaign, but was discontinued in Italy as a result of adverse reports from otologists. The powder tends to form a hard caked mass, and otitis externa occurs in a significant number of cases.

General conditions which predispose the skin of the meatus to infection are seborrhoeic dermatitis, especially of the scalp, and relapsing furunculosis. It is possible that vitamin deficiency may produce the condition, although there is no positive evidence as yet. In recent years much thought has been given to allergic conditions of the ear, and otitis externa of purely allergic origin has been described.

Bacteriology

Friedman and Hinkel (1941), studying a series of 200 cases, found that in every instance more than one organism was present, and that the commonest were *Staph. albus*, diphtheroids, *Ps. pyocyanea*, and micrococci. Furthermore, they stated that in those cases which most resisted treatment no single organism predominated. A study of 25 normal ears showed the same group with the exception of *Ps. pyocyanea*. Daggett reported that diphtheroids, either alone or in combination with *B. proteus*, *Ps. pyocyanea*, or *Staph. albus*, were found most frequently in 49 cases. In this hospital *Ps. pyocyanea* was obtained as the predominant organism in nearly every case in which a swab was taken. An effort was made to swab the ears of patients showing different varieties of the condition in the hope of being able in future to diagnose the predominant organism from the clinical appearances. This hope was not fulfilled. Apart from the constant presence of pure *Ps. pyocyanea* with green pus in the meatus, no association could be discovered. The subsidiary organisms were the same as those found by Daggett.

Varieties

The condition is usually described as being of two types—wet and dry—but this is inadequate for a proper understanding of the disease. The earliest manifestation is meatal injection. When infection supervenes there is desquamation of the meatal epithelium and pus formation. In some cases this is more acute, and is associated with a marked oedema of the meatal walls. Prolonged or recurrent infection leads to a hypertrophy of the epithelium, which is thrown into ridges. The various stages may be called congestive, exudative, oedematous, and hypertrophic; or the varieties named mild, acute, acute oedematous, and chronic hypertrophic otitis externa. Some cases, however, do not fit into this picture. There is the fungous infection, in which the debris resembles wet blotting-paper; the membranous variety, commonly found after sea-bathing, in which the membrane probably contains salt; and the granular type, in which granulations may form on the meatal wall and spread on to the intact drum.

Symptoms

The earliest complaint is of itching or irritation, which may be so severe as to be unbearable. In the congestive stage this is the only symptom. Then discharge appears—at first watery, but later becoming purulent and finally a cheesy debris as the pux mixes with desquamated epithelium. A purely external infection never results in a mucopurulent discharge, as there are no mucous glands in the meatus. Pain may be felt, depending on the amount of tension under the epithelium and the speed with which the tension is set up. Meatal skin is tightly bound down to perichondrium, and thus a furuncle or acute meatal oedema may cause extreme pain. The discomfort is referred, as a rule, to the region of the parotid gland and to the jaws, and is aggravated by any movement of the temporomandibular joint.

Where the middle ear is normal hearing is not affected, but if the meatal lumen is occluded by oedema or debris deafness may be complained of. Other symptoms are a feeling of swelling in the ear, associated with a slowly produced oedema; and dermatitis when the infection spreads to the auricle.

Appearances

It is important to examine the auricle before inspecting the meatus, as the diagnosis can often be made before a speculum is inserted. In a very large proportion of cases the skin of the anterior incisura, between the tragus and the lower anterior end of the helix, will show infection—a small crust, a fissure, or a small raw area. Where this is found the diagnosis of otitis externa is certain, although there may be a coexisting otitis media. Dermatitis of the auricle from an otitis media alone is found in the line of the pus—along the meatal floor, the floor of the concha, and via the incisura intertragica to the skin of the fissure between the lobule and the angle of the jaw.

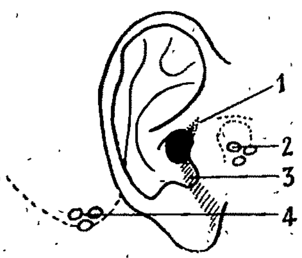
In the external meatus congestion is the earliest sign of trouble. It often affects the floor about the junction of cartilaginous and bony meatus. In the exudative stage the meatus contains a varying amount of pus and desquamated epithelium. This must be carefully and gently mopped away with wool-tipped probes, particular attention being paid to the anterior meatal recess. A light wire probe and a light touch are the secrets of success in this manœuvre. The probe should be held so loosely that the finger and thumb will slip along the shaft if the tip is impeded in any way. One must remember that the skin lining the inner half of the meatus is extremely sensitive to the touch. Thorough cleansing is essential for accurate diagnosis and successful treatment, and, while mopping under direct vision is ideal, the same result can be achieved by blind mopping if care and patience are exercised and frequent examinations with the auriscope made to determine how much secretion is left. In cases in which the epithelial debris is difficult to remove it is often helpful to moisten the tip of the mop with 20% sodium sulphate solution.

When the meatus has been cleaned the epithelium will be found to be rough, red, and desquamating. The outer surface of the drum may share in this process, leading one to suspect an otitis media. In the acute oedematous type the narrowed meatal lumen is obvious. Pain will be experienced on insertion of the speculum, and no attempt should be made to force its passage. Mopping—necessarily blind mopping—should be carried out as described. An estimate of the amount of oedema can be obtained by comparison with the other ear if it is healthy. The narrowing of the lumen in chronic otitis externa is much more resistant to the passage of a speculum than in the oedematous cases. This is due to hypertrophy rather than pain. Pus and debris will be found, and there is often a coexisting perichondritis of the auricle.

Regional adenitis may be present, the glands involved being situated in front of the tragus or over the tip of the mastoid process. Systemic upset varies a good deal. Some patients have no general disturbance, while others look ill, feel ill, have a raised temperature and pulse rate, show a furred tongue, complain of loss of appetite, and have difficulty in sleeping.

Differential Diagnosis

Diagnosis must be made from otitis media (see Fig.) and, if pain be present, from mastoiditis. The criterion in distinguishing between otitis externa and otitis media is the appearance of the drum, and, as the two conditions often coexist, one is not justified in ruling out otitis media until every part of the drum has been inspected for perforation. In many cases perforation in an oedematous congested membrane is found only after a diligent search. A purely external otitis is suggested if the hearing is good and there is no mucus in the discharge. The presence of mucus can be tested for by leaving a wick of ribbon gauze, soaked in 5% lead acetate solution, in the meatus for 24 hours. On removal, if mucus is present in the discharge the innermost end of the wick will be found to be black, while if the discharge is purely external in origin no colour change will be seen. This test has been used in doubtful cases for a year now, and has proved most reliable.



1. Auricular spread in otitis externa. 2. Anterior auricular glands. 3. Auricular spread in otitis media. 4. Posterior auricular glands.

The diagnosis between otitis externa and mastoiditis is often difficult. Both conditions result in otorrhoea with pain, both may be associated with constitutional upset, and in both the mastoid region may be tender and oedematous. In mastoiditis tenderness is maximal on deep pressure, especially over the mastoid antrum, while in otitis externa tenderness is maximal on superficial pressure over the glands at the tip of the mastoid process. In external infection, also, there is tenderness on pressure over the tragus or on movement of the auricle. *X*-ray examination of the mastoids will show no abnormality if the middle ear is normal and if there is no post-auricular oedema.

Prognosis

The prognosis in any attack of otitis externa is good, a cure being effected in 2 to 14 days, depending on the severity of the infection: 60 to 70% of cases are healed within a week. Where chronic otitis media is present as well, healing takes longer, although the meatal infection should clear up in three weeks. Dermatitis of the auricle in association with otitis externa does not materially lengthen the time for healing in most cases, provided adequate treatment is given.

Unfortunately, relapses are common. The percentage of cases which recur cannot be measured accurately in the Army, as patients discharged from hospital do not necessarily stay in the locality, and thus an otologist cannot follow up his cases.

A relapse means either that treatment has been inadequate or that reinfection has occurred. No particular organisms appear to be responsible. Chronic otitis media is often the cause of a relapse. Frequent recurrences or lack of treatment lead to chronicity which, once established, is well-nigh impossible to cure.

Treatment

Brain (1942) stressed that "treatment should be governed by two important facts. The first is that our protection from external irritants and infections depends upon a dry and intact horny layer, and treatment should be designed to maintain it. . . The second fact of therapeutic importance is that living cells are instantly damaged by water or by grossly hypotonic solutions, and this applies to the skin when the protective stratum corneum is missing, or its continuity is disrupted by exudation."

Treatment resolves itself into two approximately equal parts—the thorough cleansing from the meatus of all particles of discharge, and the application of lotions to the inflamed meatal walls. The mechanism of mopping has been described, and its importance cannot be too strongly emphasized. Drugs are applied to the infected skin on wicks of ribbon gauze or painted on by means of wool-tipped wire probes. The ribbon gauze wick must be inserted gently so that it maintains contact with the walls in the whole length of the meatus. It should be changed daily, and some authorities moisten the wick with the appropriate solution every 12 hours. Cotton-wool adheres to the raw skin surface and should never be used. The selected solution must be non-irritant and isotonic; it should not stain the meatal walls or leave a deposit thereon; it should not dry enough to cause pain on removal. Pastes and powders allow infection to spread under them.

An acute oedematous otitis externa must first have the oedema reduced to permit complete cleansing of the drum and the deep anterior recess. Then the inflamed epithelium must be healed and finally dried and hardened. The drugs used for reducing oedema are 20% sodium sulphate, 8% aluminium acetate, or 10% ichthyol in hypertonic saline. The first two both tend to dry off during the course of 24 hours and are thus painful to remove. The ichthyol preparation has been used by me for nearly three years, and has proved most efficacious. After 48 hours' treatment the case usually resembles one in the exudative stage.

In this stage numerous solutions may be used to heal the skin. Those already mentioned may be persevered with, or one may try 10% ichthyol in water, 10% ichthyol in glycerin, 5% lead acetate, 10% argyrol, or calamine lotion. Of these, ichthyol in water dries quickly and is painful to remove; calamine lotion leaves a deposit on the skin which obscures the view of the progress; lead acetate has the same fault to a lesser degree, but has considerable healing properties, and is, in my experience, more efficacious than argyrol, which is superior for inflamed mucous membranes. Ichthyol in glycerin is probably the best all-round treatment, being soothing and easy to insert and remove.

When no further exudation is found the case resembles one in the congestive phase. Here a paint of 1% silver nitrate or 1% alcoholic solution of gentian violet should be used to harden the meatal skin. The latter solution stains the meatal skin and should not be employed until all discharge has stopped. It is the best treatment for fungous infection and for the granular type. When pus is green, or if *Ps. pyocyanea* predominates without green pus, 1% acetic acid, or a mixture of 1% acetic acid and 10% ichthyol, will give good results, although some patients find them uncomfortable, and they tend to dry off.

Pain is best treated with heat—fomentations, kaolin poultices, or hot-water bottles—and sedatives. The patient under treatment should be instructed not to scratch the ear, however itchy, and not to let water enter the meatus during washing. He should be told specifically not to use cotton-wool as a plug while the ear is discharging, as this only increases skin infection. Sea-bathing is forbidden for several months.

If a dermatitis of the auricle is present, good results are obtained with 1% ammoniated mercury in Lassar's paste applied on spreads and moulded to the pinna. Five per cent. sulphathiazole paste was efficacious, but was discontinued when it was found to produce local reactions and even generalized sensitivity to light.

The question of chemotherapy in otitis externa is a vexed one. Many patients had had a course of one of the sulphonamide drugs before reaching hospital, with no benefit to the local condition. One has seen cases in which penicillin has been given parenterally for wound infections, furunculosis, or the aural condition itself, and yet otitis externa persists. The reason is obvious. Otitis externa is a mixed infection, and most of the causal organisms are insensitive to penicillin and the sulphonamides.

Syringing the ear in a case of otitis externa is always liable to increase the infection; but it is necessary sometimes when the secretion in the anterior meatal recess is too hard for mopping. To leave this debris is to invite recurrence. I have been in the habit of syringing these cases on the first day on which the ear is dry, and treating with ichthyol in hypertonic saline or ichthyol in glycerin for a day or two before going on to the paint.

It is with pleasure that I record my thanks to Col. C. H. K. Smith, O.B.E., *M.C.*, commanding officer of a general hospital, for permission to publish this article.

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PENICILLIN GROWN FROM A NUTRIENT MEDIUM PREPARED FROM POTATO EXTRACT

BY

J. O. GAVRONSKY, M.D.

The production of penicillin is rapidly growing. This is likely to continue for some time to come. Other antibiotics in application to agriculture, horticulture, and veterinary surgery will soon have to be produced on a large scale, possibly on a scale exceeding the production of penicillin. Under these circumstances the question of preparation of nutrient media becomes of great importance.

Conditions for growing moulds, to obtain the needed product of their metabolism, vary with the mould one is dealing with. To a large extent the result depends on the nutrient medium used. This medium must be both satisfactory and cheap. With very few exceptions the composition of such media is kept secret. In making known the composition and mode of preparation of a nutrient medium used by me I cannot claim to get a higher content of penicillin in the metabolic solution than that obtained in some of the media already used. I can only say that the titre of penicillin compares favourably with that obtained by using Czapek-Dox medium with the addition of yeast or corn-steep liquor, or by using the medium introduced by Challinor and McNaughton. The preparation of the medium is as follows:

Method

Potatoes or potato peelings are hydrolysed in twice the quantity of tap-water with 2% of HCl on the weight of potatoes. The hydrolysis proceeds for 2¼ hours at a pressure of 3 atmospheres. After filtering the hydrolysate through a linen cloth an extract is obtained with an average glucose content of 5.5%. The sugar content naturally varies with the starch content of the potatoes or potato peelings used. In the case of potato peelings, unless they are used soon after peeling, a longer time is needed for hydrolysation. In the case of potatoes, these are washed and cut into pieces of approximately 1/2 to 2 cm. thickness. The necessity for cutting is avoided by using potato peelings.

The quantity of extract thus obtained from 1 kg. of potatoes with 2 litres of water and 20 c.cm. of strong HCl, after disposing of the solid residue by wringing out the linen bag used for filtering, is approximately 2,450 c.cm. This extract is diluted to 4% glucose content. We thus obtain 3,360 c.cm. approximately. The *p*H is roughly adjusted to neutral to litmus. Corn-steep liquor is added, 370 c.cm.—that is, 10% of the total quantity of medium. $NaNO_3$ is added—3% per litre; and activated charcoal—1/2% on weight of potatoes. The *p*H is adjusted to 6, and the medium sterilized in the autoclave for a time, depending on the bulk of medium in preparation. While it is sufficient to have a litre flask containing 200 c.cm. of medium for 10 minutes at 1 atmosphere, a 5-litre aspiration bottle filled with medium requires three-quarters of an hour at 1 atmosphere pressure. It is advisable to add to the medium 10% of water to allow for evaporation in the autoclave.

This medium, when ready, is of a dark-brown colour. The addition of 1/2% of activated charcoal clarifies it to a certain extent. Fortunately, the waste water, after extraction of penicillin with amyl acetate, retains the bulk of the pigment, so that ultimately a powder is obtained with a degree of freedom from pigment corresponding to the stage of purification. Nor are these pigments, or other impurities derived from the medium, toxic: 1/2 c.cm. of sodium salt of 2,500 units per c.cm. injected into three mice did not seem to affect them adversely.

The titre of the crude penicillin solution obtained by using this medium, tested by serial dilution or ring method, frequently exceeds 60 units per c.cm. The average titre is above 30 units per c.cm. The highest figures obtained by me when using the Challinor and McNaughton medium were in the neighbourhood of 25 units per c.cm. I did not get up to this level with the Czapek-Dox medium.

Discussion

Apparently a nutrient medium prepared in the way described, besides containing all the glucose and most of the nitrogenous foodstuffs needed by a growing mould, must contain certain activating substances. By chemical analysis the nutrient medium was found to contain all the inorganic salts entering into the composition of Czapek-Dox salts except $MgSO_4$ and $NaNO_3$. The addition of $MgSO_4$ was shown by comparative experiments to be unnecessary, while $NaNO_3$ definitely improved the titre of penicillin. Corn-steep liquor certainly has a beneficial effect. In comparative experiments, while a flask containing hydrolysed potato medium would show at its height a titre of 15–20 units per c.cm., a flask containing medium to which corn-steep liquor has been added would show 60 and up to 80 units per c.cm. Before sterilization the addition of a small percentage of pulp made from cabbage, or particularly carrots, seems to have a beneficial effect. As the height of titre constantly varies from day to day, and from experiment to experiment, I have not yet been able to draw definite conclusions as to the effect of such additions.

I need not enter into details of the actual cost of my medium. The economy is obvious—always on condition that the titre should not be lower than that of the other media used, and it does not seem to be so.

At present I have three experimental vessels—apparatus for penicillin production by surface growth in a continuous process —working at Highgate Hospital laboratory. From the seventh day—that is, from the time of the titre approaching its height —the average titre of all three tanks is 34.5 units per c.cm. What is the cost of this medium per litre? It amounts to the cost of 100 c.cm. of corn-steep liquor, 3 g. $NaNO_3$, 1 g. activated charcoal, and the potato peelings, which I get either from a hospital kitchen or from any canteen in the neighbourhood—free of charge. Working on a large scale, the additional cost would be the transport of potato peelings or diseased potatoes to the factory. True, on a farm one may use the peelings for feeding pigs, but the market value of it would hardly exceed 10s. a ton. One must therefore expect that agricultural waste will ultimately play an important part in the preparation of media for the production of various antibiotics.

I am much indebted to Dr. J. M. Alston for his constant interest and help in my work on antibiotics, and I must thank the London County Council and Dr. J. R. Reed for enabling me to work at Highgate Hospital.

The Federation of the British Legion has approved a recommendation of the Council of Management of the British Legion Village for the appointment of 21 medical men as honorary consultants to Preston Hall, Maidstone, Kent; the British Legion Sanatorium, Nayland, Colchester, Essex; and Douglas House, Bournemouth, the convalescent seaside annexe of Preston Hall. During the absence of Dr. J. B. McDougall (medical director of the British Legion Village), who is now attached to U.N.R.R.A., Dr. Frederick Heaf has been appointed honorary consulting medical director. The consultants will form a medical committee under the chairmanship of the honorary consulting medical director to advise the Council of Management in all medical matters connected with the British Legion Village.

HYPERSENSITIVITY TO TRANSFUSED BLOOD

BY

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AND

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A patient who is believed to be suffering from the rare disease called lupus erythematosus diffusus required a series of transfusions on account of persistent anaemia. As a result of these transfusions a remarkable succession of antibodies has appeared in her serum. The patient's red cells are Group O, M, P, Rh_1Rh_1, and negative with the three "new" antibodies to be described. She has never been pregnant.

Transfusions

	Date	Donor's Name	Donors' Groups			
			Rh	Anti-Lutheran	Anti-Willis	Anti-Levay
1	Feb. 2, 1944	Marshall	Rh_1rh	—	—	—
2	Aug. 19, 1944	R. B.	rhrh		Unknown	
3	Aug. 19, 1944	Lutheran	rhrh	+	—	—
4	Sept. 23, 1944	Willis	Rh_1Rh_1	—	+	—
5	Sept. 29, 1944	Mules	Rh_1rh	—	—	—
6	Oct. 6, 1944	Howes	Rh_1Rh_1	—	+	—
7	Nov. 7, 1944	Levay	Rh_1Rh_1	—	—	+
8	Nov. 20, 1944	Allington	Rh_1Rh_1	—	—	—
9	Jan. 31, 1945	"	Rh_1Rh_1	—	—	—

Anti-Lutheran = The patient's serum taken at the end of Aug., 1944.
Anti-Willis = The patient's serum taken in Oct., 1944.
Anti-Levay = The patient's serum taken in Nov., 1944.

A specimen of serum taken shortly after the Lutheran transfusion was found to contain the rh agglutinin called St (γ Fisher); the "incomplete" form of this antibody was also present. More interesting, however, was the finding of another separable agglutinin, called anti-Lutheran in the table. The red cells of 8–9% of the English population, irrespective of the ABO, MN, P, or Rh groups, are agglutinated by this antibody. The Lutheran antigen is inherited as a dominant Mendelian character. The statistical and family evidence will be presented in detail elsewhere.

The St and anti-Lutheran antibodies gradually disappeared, their titre being low at the time of the September and October transfusions. After the Willis, Mules, and Howes transfusions a second "new" antibody—anti-Willis—appeared. The donor Howes's blood presumably assisted in this immunization, for Howes also has the Willis antigen. The Willis antigen is inherited as a dominant Mendelian character independent of ABO, MN, or P but not independent of Rh, and it is now practically certain that it is controlled by another allele at Fisher's C-c locus (Race, 1944), which may be called C^w. The Willis antigen is present in about 7% of Rh_1Rh_1 bloods, and the relative frequencies of the three alleles in the English population must be about C 43.5%, C^w 1.5%, and c 55%. Again the evidence for this interpretation will be presented elsewhere.

After some weeks of existence anti-Willis faded from the patient's serum, but towards the end of this period Levay's blood was given. This blood also proved to be incompatible, for about 14 days later a weak agglutinin—anti-Levay—was evident. The Levay antigen is a rare one and probably also a "dominant," for so far it has been found only in the blood of Levay and in the blood of this donor's father, but not in several hundred random bloods examined. All three "new" antibodies are more active at 37° C. than at lower temperatures.

Attempts to immunize one volunteer to the Lutheran antigen and two to the Willis have so far had no success. As the Lutheran and Willis antibodies may not be reproducible, and as the supply of antiserum is limited, it is proposed to deposit the names and addresses of as many of the Lutheran and Willis positives as are willing to help at the Bureau of Human Heredity, 115, Gower Street, London, W.C.1. It is hoped with the help of Major Moloney, of the U.S. Army Medical Corps, to make some equivalent arrangement with people whose homes are near New York. If either of these antibodies do turn up again, as they are sure to do, sooner or later, it may be possible to correlate the present work.

Comment

There are two points of general interest in this history. First, the patient must be extraordinarily sensitive to antigenic differences, and this supports the hypothesis that the symptoms of the disease lupus erythematosus are manifestations of some undetected antigen–antibody reaction. Secondly, given such a hypersensitive recipient, a glimpse is obtained of the multiplicity of red cell antigens which may be found in the future. One familiar and three "new" antibodies have been made to the blood of eight donors, although considerable care has been taken to use appropriate blood. Landsteiner was of the opinion that blood groups would some day be known to be as individual as finger-prints.

Our thanks are due to Prof. Cappell and Prof. Fisher for continued interest and encouragement; to the donors for permission to use their names; and to the patient, who has been very co-operative.

REFERENCE

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A CASE OF NOCTURNAL HAEMOGLOBINURIA

BY

JOHN A. MILNE, M.B., Ch.B.

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(From the Gardiner Institute of Medicine, University of Glasgow)

The syndrome of paroxysmal nocturnal haemoglobinuria with haemolytic anaemia was first recorded by Marchiafava and Nazari in 1911, and according to Wintrobe only 41 cases had been described in the literature up to 1943.

Case Report

The patient, a Royal Marine aged 27, was admitted from a naval hospital for special investigation to the wards of Prof. J. W. McNee in the Western Infirmary, Glasgow. He was complaining of anaemia, with frontal headaches, tiredness, and weakness. He entered the Navy 8 years ago and his only illness was in Oct., 1943, while in the Faroe Islands. It was characterized by diarrhoea, vomiting, and urticaria, which was diagnosed as food poisoning. He has never had malaria. He is married and has one healthy child aged 21 months. There is no history of anaemia or jaundice in the family.

In March, 1944, the patient began to suffer from frontal headaches while working. These persisted unless he sat down and rested for a short while. These headaches gradually increased in severity, and he noticed that he was becoming very easily tired and breathless on exertion. In May, 1944, he reported sick, and was admitted to a naval hospital, where he was found to be profoundly anaemic. Three weeks later he developed a painful tongue and tender bleeding gums. The condition yielded rapidly to large doses of ascorbic acid, and glycerin and borax applied locally. For the anaemia he received iron and a variety of liver preparations without any improvement. When he had been two months in hospital he was given one pint of blood, with slight improvement in haemoglobin level. A month later he was given another pint of blood of correct group, after which, for the first time, his urine was noticed to be very dark in colour for two days following the transfusion. He was admitted to the Western Infirmary on Dec. 9 for special investigation, as the exact diagnosis of the anaemia remained uncertain.

On admission he was seen to be a pale well-nourished man with a slight icteric tinge of the skin and sclerotics; a few discrete hard lymphatic glands were present in both axillae and groins. The heart, lungs, and nervous system showed no abnormality. The liver and spleen were not palpable.

Blood Picture.—The following investigations were made, using the technique described by Wintrobe. Haemoglobin was estimated by means of a photo-electric colorimeter. Erythrocytes, 3,060,000 per c.mm.; leucocytes, 2,400 per c.mm.; haemoglobin, 11.4 g. per 100 c.cm.; packed-cell volume, 32.5%; mean cell volume, 106 $c.\mu$; mean corpuscular haemoglobin concentration, 34.8%; reticulocytes, 12.5%. Differential leucocyte count: neutrophils, 44.5%; eosinophils, 2.5%; lymphocytes, 48%; monocytes, 4%. A film stained with Leishman's stain showed anisocytosis, slight poikilocytosis, and macrocytosis of the erythrocytes. There was no evidence of malaria parasites or pigmentation of leucocytes.

On sternal puncture marrow was easily obtained; it appeared to be hypoplastic, as the film made from it contained numerous fat spaces. A few primitive erythroblasts were seen, but the marrow was definitely normoblastic. The blood plasma gave a positive indirect van den Bergh reaction—0.7 mg. of bilirubin per 100 c.cm. The fragility of the patient's erythrocytes to saline was within normal limits, haemolysis starting at 0.45%. Wassermann reaction, negative. A fractional test meal showed a normal hydrochloric acid curve. The urine contained a quantity of urobilin. At this point a haemolytic anaemia was diagnosed, the cause, however, being unknown.

Progress.—One week after admission the patient complained of pain in one of his lower molar teeth. The tooth was extracted under local analgesia on Dec. 18. At 2 a.m. on Dec. 19 he awoke and complained of an ache across his lumbar region, and a specimen of urine passed at this time was noticed to be dark red. Another specimen of urine at 6 a.m. was still dark in colour, while one at 9 a.m. was perfectly clear. The van den Bergh reaction on Dec. 19 showed a positive indirect reaction—1.4 mg. of bilirubin per 100 c.cm. Early on the morning of Dec. 21 he again passed a dark-red specimen of urine, while at 9 a.m. the urine was clear. Examination of the urine showed the colour to be due to a haemoglobin derivative. No erythrocytes were seen. The haemoglobin derivative was identified spectroscopically as oxyhaemoglobin. Since then haemoglobinuria has recurred regularly, the specimen passed in the early hours of the morning being dark red, that passed about five hours later being perfectly clear.

Further Investigations.—(1) The Donath-Landsteiner test was performed in order to exclude haemoglobinuria due to cold; it was negative. (2) In order to determine whether the fall in the *p*H of the blood during sleep was a factor in the production of the haemolysis (Ham, 1939) the patient's erythrocytes and serum were set up against an isotonic system over a *p*H range of 6.5 to 7.0 by Dr. W. B. Kyles, clinical pathologist to the Infirmary. The result was quite negative. (3) Even the clear specimens of urine contained a constant deposit of haemosiderin, demonstrated by the hydrochloric acid-potassium ferrocyanide reaction (Wintrobe). (4) As necrosis of the liver is a feature of this disease (Scott, Robb-Smith, and Scowen, 1938) liver function was estimated by the laevulose-tolerance and Quick's sodium benzoate tests, but was found to be within normal limits. (5) A specimen of serum was examined by Prof. D. F. Cappell; this identified the patient as Group O and Genotype Rh_1Rh_2. (6) In order to bring out the association of the haemoglobinuria with sleep, his sleep rhythm was altered and he slept through the day and remained awake at night. This caused the haemoglobinuria to appear through the day while the patient slept, and was absent at night when he remained awake.

Discussion

The pathology of this disease and the mechanism of production of the haemoglobinuria are fully discussed by Scott, Robb-Smith, and Scowen (1938). The hypothesis put forward for this explanation of the nocturnal haemoglobinuria is the alteration in the *p*H of the blood during sleep (Ham, 1939). While sleep undoubtedly is a factor, as seen by altering the sleep rhythm, the laboratory experiment carried out by altering the *p*H of a specimen of blood, while not conclusive, would tend to point against alteration of the *p*H being part of the mechanism, as the range of *p*H covered was much greater than would occur in the human body. It is known that transfusions and trauma are factors which increase or precipitate the haemolysis. This is well shown in this case.

Summary

A case of chronic haemolytic anaemia associated with nocturnal haemoglobinuria is presented. Blackwater fever, syphilis, and Lederer's anaemia were excluded. The patient was Rh-positive. The existence of the nocturnal periodicity of the haemoglobinuria was confirmed by altering the sleep rhythm, thus indicating that the patient suffered from the Marchiafava-Micheli syndrome.

I should like to thank Prof. J. W. McNee for his permission to publish this case.

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The Mothers' Hospital of the Salvation Army in Lower Clapton Road, London, E.5, is entirely staffed by medical women. The report for 1944 is curtailed in the interests of economy, but space has been found for a foreword by Miss Margaret Basden, senior obstetric surgeon, who on the outbreak of war took up residence in the hospital. She writes in moving words of the fine spirit with which the nursing staff and patients and the fire-watchers endured the ordeal of air raids.

Medical Memoranda

A Case of Gangrene of Meckel's Diverticulum

I send the following notes in view of the interesting questions raised by the case.

CLINICAL HISTORY

I was called early one morning to see a man aged 66, who had been in great abdominal pain all night. The pain was widely diffused all over the abdomen, the bowels had been well opened twice the previous day, the temperature was normal, and the pulse 96 and rather weak.

I found a very distended bladder, but the patient expressed no desire to pass water. He had passed it on retiring to bed for the night, after a day during which he had felt particularly well and energetic. (It so happened that I had examined him 10 days previously, when attending another member of the family. He then complained of vague abdominal pain, but there was no question of constipation or urinary difficulty, and palpation showed no abdominal tumour. I accordingly advised *x*-ray investigation if the pain persisted, but within a day or two he stated it had quite gone.)

I gave him morphine gr. 1/6, and ordered a prolonged hot bath. After some thirty minutes he passed about 4 oz. of urine. I then felt able to leave him and went to my surgery. Upon my return he had passed no more urine, and the abdomen was still very distended. I decided to tie in a size 5 Jaques catheter. Visiting him again 6 hours later I found that 30 oz. of urine had come away. He was, however, looking iller than before, the abdomen was still very distended, and I could feel a mass in the abdomen to the left side, which I thought was separate from the bladder.

I felt a further opinion was necessary, and called in a surgical colleague. Unfortunately it was not possible to arrange the consultation for a further 3 hours, and when we visited the patient his bladder had again apparently made it difficult to be certain about the diagnosis of the second tumour. It was decided to take him into hospital, and again slowly drain the bladder. By this time the patient was obviously very ill, but the temperature was still normal, though the pulse had risen to 110 and was "thready" in nature.

Overnight catheterization showed a completely empty bladder, and no urine was secreted for 48 hours. Thus it became evident that the tumour felt was not a distended bladder. An *x*-ray examination of the abdomen brought the following report from the radiologist. "Considerable gas distension of the stomach. No gas distension of the small intestine. No evidence of intestinal obstruction from *x*-ray."

A Ryle's tube was passed, and constant suction applied. After 48 hours he was completely comfortable. Some flatus had been passed after enemata, but he was still markedly distended. The Ryle's tube by this time was discharging considerable quantities of upper jejunal contents, so the evidence of an upper intestinal obstruction was definite.

OPERATION AND POST-MORTEM FINDINGS

Operation was performed under a low-spinal anaesthetic. On entering the abdomen the first findings were two or three pints of blood-stained fluid in the peritoneal cavity. Considerable distension of the jejunum was present and a mass to the left of the umbilicus covered by very adherent omentum. On liberating this mass and separating the omentum a gangrenous Meckel's diverticulum was found; the obstruction was consequent upon the adhesion of the omentum. About 6 in. of the bowel including the gangrenous diverticulum were excised.

At the end of the operation the patient's general condition was moderately satisfactory, but a physician was called in to cope with advancing left heart failure. The next day he seemed to be improving, but suddenly vomited jejunal contents and died immediately afterwards.

A limited post-mortem examination showed gangrene of 1 ft. of the small intestine, proximal to the anastomosis, due to mesenteric thrombosis. The sequence of events appears to be an acute inflammation of a Meckel's diverticulum. This was completely encased in omentum. The bowel was at first partially but later completely obstructed. The gangrene of the proximal loop of bowel after the operation can be explained by an extension of the thrombosis to a main branch of the superior mesenteric artery.

I am hoping that explanations may appear in the *Journal* to account for (1) the acute urinary retention ushering in the illness, (2) the complete anuria subsequently developing, and (3) the acute dilatation of the stomach.

To save space I have omitted various unessential details of the treatment given while in hospital. I am grateful to Mr. R. Trevor Jones, F.R.C.S., for his help with the case, for performing the necessary operations, and for his helpful criticisms of my notes.

Mill Hill, London, N.W.7. D. A. GRATTAN, M.B., Ch.B.

L. E. McCrea (*J. Urol.*, 1945, **53**, 466) records his observations on 581 patients with prostatic hyperplasia of all types. The average age was 63.2 years. Only 19.6% were well after a five-year period, or out of 367 operated on only 31% were in good health.

Reviews

ENCYCLOPAEDIA OF MEDICAL PRACTICE

The British Encyclopaedia of Medical Practice, including Medicine, Surgery, Obstetrics, Gynaecology and other Special Subjects. Medical Progress. London: Butterworth and Co. 1945.

This is the first supplementary volume of the *British Encyclopaedia of Medical Practice* to appear since the lamented death of the General Editor, Sir Humphry Rolleston, but as the publishers declare, "The Rolleston tradition survives," and the general plan he adopted is scrupulously followed. We are further reminded of another loss the profession has sustained during the year by the article on alimentary tract diseases from the pen of Sir Arthur Hurst. Prof. Grey Turner and Prof. Lambert Rogers contribute a valuable review of surgical progress, which is naturally largely based on their war experiences. Dr. Langton Hewer's article on anaesthesia and analgesia emphasizes the advances made in intravenous methods of anaesthesia, which are so much less trying to the patient, but which call for skilful and careful administration. Moreover, intravenous general analgesia offers a hopeful field for research. A slow drip infusion of 0.2% procaine hydrochloride in from 5 to 10% glucose relieves the intense pruritus of jaundice and provides sufficient analgesia for painful burn dressings. Dr. R. D. Gillespie's paper on mental diseases illustrates the reaction from the over-simplification of mental processes that followed too ready an application of Pavlov's conditioned reflexes to them. For the rest he naturally dwells at some length on the influence of war experiences on the mental state. Pulmonary tuberculosis has proved a serious problem in wartime, and Dr. Maurice Davidson contributes a thoughtful review on the subject. He inclines more and more to the opinion that further progress in the control of this national scourge will depend upon study of the soil rather than upon study of the seed; it is a general infection with a local manifestation in the delicate lung parenchyma. Of recent advances in treatment he regards as perhaps the most significant not only the improvement in the technique of thoracic surgery but also the better understanding of what is implied by collapse therapy, involving various tactical forms of one common strategy. Sir Leonard Rogers brings his unique experience to bear on recent work on tropical diseases, and Prof. Dilling, as usual, deals with recent developments in drug therapy. The rest of the volume consists of careful abstracts arranged alphabetically according to diseases. As Prof. Bruce Perry summarizes it, "during the year no phenomenal advance has been made in any special field, but there has been steady progress on all fronts." And of that progress this volume is an admirable record.

BACTERIA IN RELATION TO MILK

Bacteria in Relation to the Milk Supply. A Practical Guide for the Commercial Bacteriologist. By C. H. Chalmers, B.Sc. 3rd edition. (Pp. 272; illustrated. 8s. 6d.) London: Edward Arnold.

The third edition of this handy little compendium of information on dairy bacteriology will be welcomed by dairy students, commercial bacteriologists, sanitary inspectors, and not a few medical officers of health. The sections on control of milk at the farm and at the creamery have been rewritten. There is a good critical review of the methods available for judging the bacteriological quality of milk, and the author has not allowed himself to be carried away by the exaggerated claims made for the resazurin test. What will prove of particular value to sanitary inspectors is the description of the technique of pasteurization—both the holding and the H.T.S.T. methods—since the practical aspect of processing is so seldom considered by dairy writers in this country. The appendix containing the formulae for a number of standard media will be found useful for reference. There are a few minor criticisms. The bacteriology is not always as good or as up-to-date as it should be. The technique of examination of water supplies is fifteen years old; the method for differentiation of coliform organisms laid down by the Ministry of Health in 1939 and used in public health laboratories with great satisfaction ever since is not even mentioned. Bacterial nomenclature is chaotic. Any system that awards different generic names to organisms as closely related as *coli* and *aerogenes* or to different members of the anaerobic spore-bearing group is surely open to condemnation. The method described for the cultural examination of milk for *Br. abortus* is not likely to be very successful. The author might also consider replacing 5% carbolic acid for the disinfection of hands by 1% chloros; he will find it equally effective and far less damaging to the skin.

MASS RADIOGRAPHY OF THE CHEST

Mass Radiography of the Chest. By Herman E. Hilleboe, M.D., and Russell H. Morgan, M.D. (Pp. 288; illustrated. $3.50 or 21s.) Chicago: The Year Book Publishers; London: H. K. Lewis and Co. 1945.

This new book adds very little to that which has already been written about this topical subject, but it has the merit that it condenses otherwise scattered information into a small, well illustrated, and excellently produced volume. Perhaps the best chapter is that devoted to the objectives of tuberculosis control; here the authors present the problem concisely and sensibly and avoid the common error of exaggerating the possibilities of mass radiography in this field. Another section, promisingly entitled "Equipment Available," shows a tantalizing profusion of *x*-ray apparatus, screens, cameras, and photoelectric timing mechanisms which are not likely to be obtainable in this country for a long time. In an interesting discussion of the physical factors affecting the choice of equipment, the authors compare the relative efficiency of various sizes of film. It appears that there is much to recommend the use of 4 x 5 in. film in preference to the 35 mm. size for small surveys. The 4 x 5 in. film has twice the resolving power of 35 mm. film, so that it gives a much better rendering of detail, and it is large enough to be viewed conveniently without any magnifying or projection device. The descriptions of technique and administration are concise and comprehensive, but the section on interpretation of films is too brief to be of much practical value. There are a number of excellent reproductions of radiographs, but too many of these are of gross abnormalities or relatively uncommon conditions; of the 47 reproductions, only one shows minimal pulmonary tuberculosis.

Notes on Books

Sir ROBERT HUTCHISON'S *Elements of Medical Treatment* (John Wright and Sons, Bristol; 10s. 6d.) is a well-established favourite which has now reached a fourth edition. As might be expected from a master both of clinical teaching and of lucid writing, this book is practical in tone and definite in its directions. A pleasing feature is the care with which the reason is stated for each ingredient in the illustrative prescriptions. While relying mainly on the drugs of established reputation, due regard is paid to the newer remedies.

The St. John Ambulance Association has published from St. John's Gate, Clerkenwell, E.C.1, a third edition of its simply written booklet *A Preliminary Course of Home Nursing* (price 1s., by post 1s. 1½d.). This was originally compiled for girls under 16; but, being based on the adult textbook of the Association, many older learners have found it a useful introduction.

Dr. ROBERT G. PATERSON has written an interesting short history of the genesis and development of the antituberculosis campaign in the U.S.A. under the title *Antecedents of the National Tuberculosis Association.* This pamphlet, with eight portraits of pioneers, is published by the Association at 25 cents from 1790, Broadway, New York 19, N.Y.

The inevitably disintegrating effect of total war on family life has led Lady PATERSON to write what she terms a challenge under the title *The Family Woman and the Feminist* (William Heinemann; 2s. 6d.), which is an ardent and sincere appeal to restore the balance in favour of home life and not to leave the responsibility for the upbringing of children entirely to the State. A useful tract for to-day.

The Board of Registration of Medical Auxiliaries (B.M.A. House, Tavistock Square, London, W.C.1) has published a fifth edition (1944) of the Chiropodists' Section of the National Register of Medical Auxiliary Services. Chiropodists whose names are included in the Register have qualified according to a standard laid down by the Board and approved by the British Medical Association. A memorandum prepared by the Chiropody Group Council on the relationship of chiropody to the health of the community, with special reference to registered medical auxiliary chiropodists, is obtainable at the price of 6d.

Preparations and Appliances

A SYSTEMIC PENICILLIN APPARATUS

Mr. F. RONALD EDWARDS, M.D., Ch.M., F.R.C.S., assistant to the Professor of Surgery, writes from the Department of Surgery, University of Liverpool:

The systemic administration of penicillin is to-day carried out by a series of 2- or 3-hourly injections or by a continuous intramuscular drip. The employment of individual injections, while of great value in conditions of emergency, is associated with an increasing degree of apprehension as the number of needle punctures rises; they may amount to 70 or more in a full course of treatment. This is particularly noticeable in children and severely toxic patients. The continuous intramuscular drip apparatuses now in use are complicated, rather easily broken, and need autoclave sterilization. Their method of working, while relatively simple to the mechanically minded, become less easily understood the more untrained the staff that is called upon to control them. The increased availability of penicillin and its probable use in the home calls for a simplified form of apparatus which functions by one simple movement requiring no mechanical knowledge and when once set up can be left for days without fear of breakdown or obstruction. With these objects in view the following apparatus has been devised. It is a return to the intermittent injection method of administration, with the maintenance of a slightly less constant blood level than that given by the intramuscular drip. There is as yet no conclusive evidence forthcoming that this variation in level has a less therapeutic effect than when the intramuscular drip is used.

The Apparatus and its Use

With this apparatus the volume of penicillin solution administered during the day is 12 c.cm. if a dose is given 3-hourly and 18 c.cm. if given 2-hourly, so that the water-logging of the site of injection is minimal. The penicillin reservoir needs recharging once a day, but the actual administration can be undertaken by untrained personnel, such as the patient's relatives.

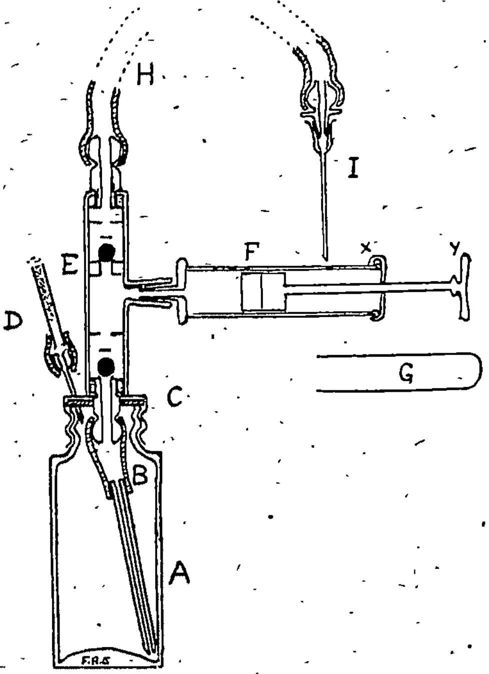

FIG. 1.—Diagrammatic representation of the apparatus. The valve mechanism is enlarged to show detail.

The apparatus is shown diagrammatically in Fig. 1. It consists of a 1-oz. wide-necked standard bottle (A), fitted with a metal cap and rubber disk (C). This metal cap is perforated to take one end of a "Riley's chest aspirator." (Riley's chest aspirator is marketed by Messrs. Alexander and Fowler, Pembroke Place, Liverpool, and is described in the *B.M.J.*, Jan. 15, 1944.) This aspirator is then fixed to the cap by unscrewing one end of the intake valve, threading on the metal cap, and replacing the unscrewed portion. A hole is cut in the rubber washer and this is replaced over the aspirator end. A hole is bored in the metal cap to take a serum needle, which acts as an air inlet into the bottle, and is maintained in position by perforation of the rubber disk. A small glass tube (D) is fixed to the outer end of the needle by a short length of rubber tubing. To the bottle end of the aspirator a piece of rubber tubing (B) and a length of wide capillary glass tubing is inserted, the whole being slightly longer than the bottle length so that the end of the capillary tubing, which is rounded off in a flame, sits in the gutter at the edge of the bottom of the bottle. To the output end of the aspirator 12 inches of rubber tubing are attached (H), and to the other end of this an adapter and a serum needle (I). To the side of the adapter a 1-c.cm. syringe is fitted (F). This syringe is fitted firmly in position by a piece of wide rubber tubing which fits over the end of the syringe for about half an inch, and is split at its opposite end so that it surrounds the body of the aspirator. The rubber tube is then pulled tight and slight tension is maintained by passing a safety-pin through the split end of the rubber tube in such a manner that the pin-legs press against the body of the aspirator (see Fig. 5). This prevents the syringe accidentally becoming detached.

The apparatus is sterilized by boiling, the piston of the syringe being removed. After sterilization the piston is reinserted and a sterile rubber glove finger (G) is threaded over the handle of the piston. This is then tied by thread on to the piston handle and the end of the barrel of the syringe at X and Y, thus keeping the inside of the syringe barrel sterile. A wisp of sterile cotton-wool is put into the glass tube D. The apparatus is then emptied of water by pumping the syringe, after which it is ready for use.

The full stroke of the piston of a 1-c.cm. syringe gives almost exactly 1.5 c.cm., and hence the concentration of the penicillin dispensed depends on this factor and the frequency with which it is proposed to administer the dose. If 100,000 units a day are to be given, then this amount is dissolved in 12 c.cm. or 18 c.cm. of saline, depending as to whether it is to be given 3-hourly or 2-hourly respectively. The requisite daily volume is dispensed in a similar bottle to A, which is found in all bacteriological laboratories. The dead space of the apparatus is approximately 3 c.cm., so that the first day's dose should be dissolved in 3 c.cm. more saline than is necessary on other days, and then on the last day the administration is continued until a syringeful of air is obtained and this is injected down the tube. If a little air goes into the muscles no harm will result.

To start the administration, bottle A is removed, and the penicillin bottle screwed in, a procedure which can be undertaken in a sterile manner quite easily. Two pumps of the syringe will fill the apparatus, and the needle is inserted into the anterior or lateral thigh muscles through a pledget of wool soaked in proflavine solution. Each dose of penicillin is given by one full stroke of the piston of the syringe, the piston being kept in the fully home position in between times.

The bottle is fixed on the inner side of the thigh with the syringe crossing the anterior aspect. It can be fixed by firm bandaging or strapping, but is most conveniently fastened to a special harness which can easily be made in the occupational therapy department or the home (Fig. 2).

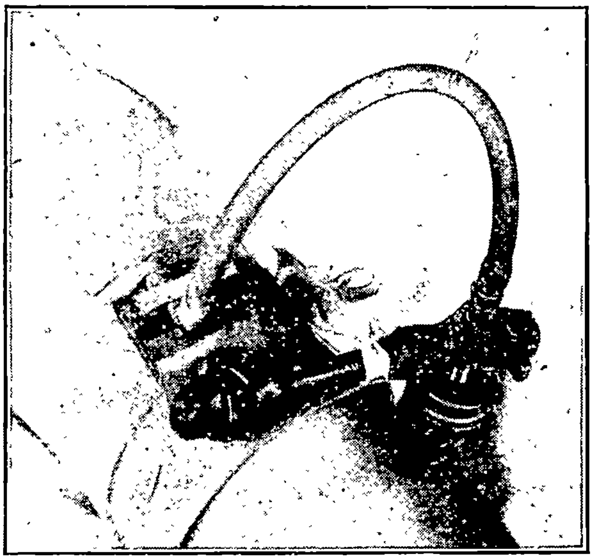

FIG. 2.—Method of fixing apparatus to the leg.

A piece of webbing 2 in. wide and 9 in. long has two tapes tied on to each end (Fig. 3). A small webbing bag is made of such a size that it fits the outside of the 1-oz. bottle, and this is stitched along one side of the webbing as shown in the diagram. Two tapes, also stitched a little further along, serve to fix the syringe barrel. A small wooden wedge is made at an angle of approximately 30° with a groove down the centre along which the tubing can lie; this maintains most comfortably and least painfully the intramuscular needle (Fig. 4). The wedge is fixed to the webbing strap in any desired position by pushing two drawing pins through from the opposite side. This type of harness is very comfortable to wear and allows considerable movement in the bed (Fig. 5), the bedclothes being kept from the leg by the use of a cage.

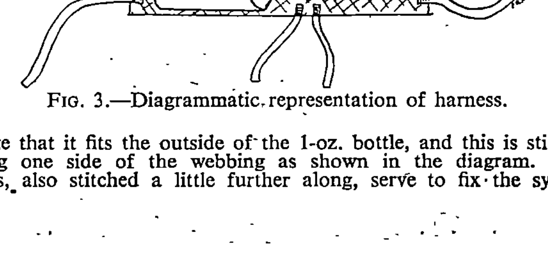

FIG. 3.—Diagrammatic representation of harness.

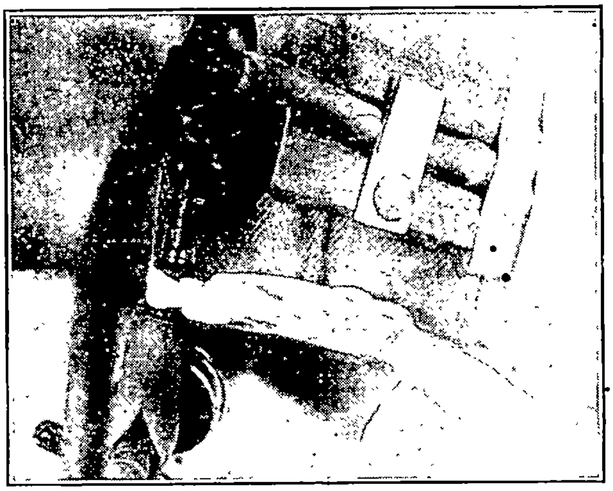

FIG. 4.—Method of fixing tubing and needle to the wedge.

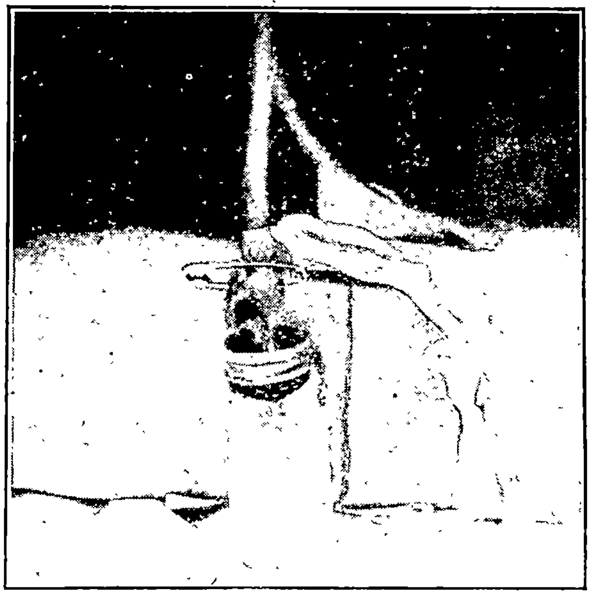

FIG. 5.—Lateral view of the apparatus *in situ*.

In use this apparatus has been found to be quite satisfactory, being preferred by the nursing staff to any other so far produced. Blocking of the needle is practically impossible as the injection is given by direct pressure, and from the patient's point of view the small amount of fluid injected causes the minimum of soreness. The valve mechanism can be cleaned by pumping water through as long as penicillin solution alone is used in it. If any serous fluid is used then it should be taken to pieces and cleaned out, because a fibrinous deposit makes it inefficient. The valve mechanism only works efficiently in the vertical and semi-vertical position, for it depends upon a ball fitting in a seating. This position is maintained by its location on the bottle.

This apparatus is made from materials in standard production, and its cost to make is approximately 25s.

I am indebted to Dr. Noel Bleasdale, registrar, Liverpool Chest Surgical Centre, Broadgreen Hospital, for suggesting modifications to the original apparatus.

J. M. Kennedy (*J. Laryngol. Otol.*, 1944, **59**, 243) records a case of laryngo-tracheal diphtheria in a pregnant woman, aged 23, which necessitated tracheotomy and was followed by delivery of a six-months foetus. She was treated with 60,000 units of antitoxin intramuscularly and 16 g. thiazamide intravenously with no complications and complete recovery.

LENINGRAD SURGEONS

BY

Prof. NIKOLAI BLINOV

The Pirogov Surgical Society of Leningrad continued its work throughout the period of the siege, although its meetings were frequently interrupted by enemy shelling; surgeons were sometimes unable to reach the meeting hall, and others had to leave in order to give first aid to the injured. Since the raising of the siege we have been able to meet regularly in accordance with old traditions.

In April, 1944, the re-election of the presidium of the society took place. Academician Peter Kupriyanov, vice-president of the Academy of Medical Sciences, was elected chairman of the presidium; the vice-chairman is Ivan Vinogradov, an old Leningrad surgeon and honoured doctor of the R.S.F.S.R., and the present author was elected secretary of the society. During 1944 the society held 19 meetings, all of which were attended by an average of 200 to 250 members.

Papers and Demonstrations

The annual Pirogov Memorial Meeting heard a paper by Col.-General Eugene Smirnov on "Pirogov and War Medicine." This dealt with the tremendous part which Pirogov played in the development of war medicine both as an organizer and as a surgeon. At the same meeting Academician Justin Janelidze read a paper on "The Free Transplantation of Skin in Russia and the Soviet Union." He gave a historical review of the subject and mentioned a number of Russian surgeons who practised free transplantation in the nineteenth century but whose names are not known to doctors in general; at this time an original method for the free transplantation of skin was proposed.

In general, questions of plastics and plastic surgery have frequently been raised at meetings of the society. Prof. Alexander Limberg spoke on "The Use in Plastics of Two Conjoined Triangles cut in the Neighbourhood of the Defect." The large number of demonstrations show that Leningrad surgeons are much interested in the technique of covering large skin defects. The methods used are the conjoined triangles (demonstrated by Xenia Stroikova and Natalia Dembo), the strip method, and others. Maria Arkhangelskaya-Levina demonstrated her own method: she removes the fringes of the wound as far as the fascia and places her transplant on the separated strips; this enables her to draw the strips together and cover the defect. All these demonstrations gave rise to lengthy discussions, during which many surgeons related their experiences in this field.

The treatment of defects in other parts of the body was also dealt with at the society's meetings. Emma Alexandrova, from Prof. Limberg's clinic, demonstrated five cases of restored lower lips and chins after gunshot wounds had been treated, and several cases of free osteoplasties for the treatment of defects and slowly consolidating gunshot fractures of the lower jaw.

Some other demonstrations were: two cases of the complete consolidation of the clavicle without the development of osteomyelitis, when the bone had a defect 6 to 7 cm. in length as the result of a gunshot wound (Nikolai Blinov); patients with false articulations cured surgically (Prof. Grigory Epstein). Prof. Epstein also in a paper on "Operative Treatment of 225 Cases of False Articulation in Peace and Wartime" showed preference for osteoplastic methods and objected to the fastening of the bones with metal fasteners. The technique of amputations after gunshot wounds in limbs and methods of post-operative treatment to ensure the formation of a firm stump were dealt with by Prof. Alexander Nadein. He proposed the use of plaster bandages on the stump after the operation. Prof. Vladimir Weinstein read a paper on plastic covering of the knee-joint with the aid of the patella. Thus it can be seen that Leningrad surgeons show considerable interest in questions of plastic surgery.

Until quite recently a large number of cases were demonstrated in which foreign bodies had been removed from the organs of the thorax; this year, however, only special cases were demonstrated—for example, removal of shell splinters from the right ventricle, removal of a bullet from the heart, removal of a foreign body from the lungs, and a case in which a metallic foreign body had passed through the heart.

Several papers were read on the treatment of gunshot wounds and subsequent osteomyelitis: wound of the hip-joint (Grigory Gomziakov), wound of the proximal part of the thigh (Nikolai Tseringer), and gunshot osteomyelitis of the pelvis (Prof. Y. Ryvlin). The papers were based on the rich material of the Leningrad military hospitals and led to very animated discussions, which enabled the society to define its attitude towards these injuries and determine the indications for resection of the hip-joint and the pelvis. In a paper on "Iodoform–Vaseline Tampons as a Method of Closing Bone Fissures," read by Prof. Peter Kornev, 650 cases were analysed; the paper illustrated the advantages of this treatment, which were confirmed by other surgeons in the discussion that followed.

Cases of good primary and later treatment of gunshot wounds were demonstrated and showed the high degree of skill attained by Leningrad surgeons. The papers and demonstrations proved that surgery can give back their lives to people who had lost all hope.

INTER-ALLIED CONFERENCES ON WAR MEDICINE

The long series of inter-Allied conferences on war medicine, held in private under the chairmanship of Sir Henry Tidy at the Royal Society of Medicine, came to an end on July 9, and to commemorate it there was a farewell dinner that evening at 1, Wimpole Street. This was an informal gathering and most enjoyable. The only neighbouring Ally unrepresented was France, because Col. Vignol and his colleagues had had to return to Paris on duty. The guests were welcomed on behalf of the R.S.M. by its President, Surg. Rear-Admiral G. Gordon-Taylor, with Mr. J. B. Hunter, hon. treasurer, Mr. R. H. O. B. Robinson, hon. secretary, and Mr. Geoffrey R. Edwards, the secretary. Besides the representatives listed below the dinner was attended by Sir Alfred Webb-Johnson, P.R.C.S., Mr. Eardley Holland, P.R.C.O.G., and Mr. H. S. Souttar, President of the B.M.A.; Lord Horder, Sir Ernest Rock Carling, Sir Francis Fraser (Director-General E.M.S.), Dr. Geoffrey Evans, Dr. D. P. O'Brien of the Rockefeller Foundation; and the editors of the *Lancet* and the *British Medical Journal*. Sir Henry Tidy took the chair and recalled the many valuable discussions that had taken place at 1, Wimpole Street on the application of medicine to the organization of medical service for war, mentioning dryly the acute differences of opinion that arose and the lessons that might be drawn from them. The meetings, he said, had fulfilled their object. He paid tribute to Col. Gallemaerts for his initiative in the matter and to Brig.-Gen. Elliott Cutler for his later services; also to Mr. Edwards for organizing the conferences, to the R.S.M. for its hospitality, and to the medical heads of the Services for arranging the discussions. Surg. Rear-Admiral Gordon-Taylor spoke eloquently of the medical services of the Allies and of the friendships forged by these meetings. Group Capt. Fiumel briefly acknowledged the toast of the guests, Brig.-Gen. Cutler (as Major-Gen. Hawley's deputy) distributed a double handful of bouquets to various inter-Allied colleagues, and Col. Gallemaerts also spoke in reply.

Representatives at the Farewell Dinner

Canada.—Major-Gen. R. M. Luton, D.G.M.S. Brig. J. H. Palmer.

Australia.—Brig. W. A. Railes.

New Zealand.—Brig. J. M. Twhigg.

Great Britain.—Surg. Vice-Admiral Sir Sheldon Dudley, D.G.M.S., R.N. Lieut.-Gen. Sir Alexander Hood, D.G.A.M.S. Air Marshal Sir Harold Whittingham, D.G.M.S., R.A.F. Lieut.-Gen. Sir Ernest Bradfield, India Office. Major-Gen. A. G. Biggam. Major-Gen. D. C. Monro. Brig. J. M. Macfie. Col. D. A. O. Wilson. Air Vice-Marshal C. P. Symonds. Brig. H. L. Marriott.

Belgium.—Col. Victor Gallemaerts.

Czechoslovakia.—Lieut.-Col. Mahler.

Norway.—Surg. Cmdr. G. Finson.

Holland.—Major W. Van der Sluys. Surg. Capt. V. M. J. Kettlitz.

Poland.—Group Capt. A. Fiumel. Surg. Cmdr. B. Danielowicz.

U.S.A.—Brig.-Gen. Elliott C. Cutler. Capt. C. J. Brown (U.S.N.). Col. W. S. Middleton. Col. Ellis. Col. Harry G. Armstrong. Col. Lloyd Thompson.

J. H. Press, E. L. Shlevin, and A. P. Losen (*Ann. intern. Med.*, 1945, **22,** 546) record their observations on a series of 96 cases of sporadic infectious mononucleosis seen at the Jewish Hospital, Brooklyn, over a ten-year period. The diagnosis of infectious mononucleosis is in order in the presence of a suspected clinical picture when the blood findings are positive. A positive Paul-Bunnell test is strongly indicative of the disease, but its absence does not exclude the diagnosis.

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HAEMOGLOBIN LEVELS IN THE FOURTH YEAR OF WAR

At the request of the Ministry of Health the Medical Research Council undertook to obtain evidence as to the nutritional state of the people of Great Britain in the fourth year of war. The Council appointed a special committee to consider the problem, recognizing from the outset that the nutritional state of an individual or a community depends not only on the availability of foodstuffs but also on hygienic, sociological, and psychological factors. Although it is clear that no single examination can provide a complete measure of nutritional state, it is known that long-continued deficiency in iron will affect the haemoglobin level and that long-continued deficiency in protein will tend to affect all the proteins of the blood. The committee therefore decided to institute a co-ordinated series of investigations of haemoglobin and protein levels in the blood of representative samples of the population. The results which have now been published[1] should give legislators, physicians, and workers in the social sciences much to consider, and it is to be hoped will stimulate them to constructive action.

Haemoglobin estimations were made on 13,000 adults and 3,000 children in various social and occupational groups by the Haldane-Gowers technique, for reasons discussed at length in the report. These data have been subjected to statistical analysis, and an attempt has been made to compare the results (*a*) with levels previously regarded as normal, and (*b*) with levels obtained in similar surveys made both before the present war and since the onset of rationing in 1940. Only results obtained by the same method as that used in the present survey were employed in this comparison, but in many instances the instruments were not available for standardization, and previous workers had often failed to make it clear that in selecting their groups they had appreciated the many physiological factors which may affect haemoglobin levels. Their results are therefore not always easy to interpret. For these reasons the committee feels, on the evidence available, that it is unjustifiable to accept a normal mean for any group in the community except men. Taking all the facts into account, it concludes there is no greater degree of anaemia present in the survey groups than there was in the limited pre-war samples and in groups studied in the first years of the war, and that in certain groups, notably pregnant women, there is probably less. Though the results suggest, then, that in the group studies the incidence of anaemia has not increased, thus agreeing with other published results for 1943 and 1944, they also indicate that there is still an undue amount of preventable anaemia which may be due to lack of haemopoietic factors, especially iron in the diet. This anaemia is found particularly in infants and young children, pregnant women, housewives, and certain occupational groups, especially a group of factory workers and agricultural workers. Serum protein estimations were made on 353 blood donors, who may be taken as a fair random sample of the population according to other evidence contained in the report, and on 100 Canadian soldiers taking the British Home Service ration. The mean level for the 353 English donors was significantly lower than that of the Canadian soldiers. It is tentatively suggested that the difference observed between the two groups is dependent upon the difference in animal-protein intake in the diets.

In discussing these results the committee accepts the possibility that the higher iron content of national bread may be responsible for the rise in haemoglobin observed, but states that the available evidence makes this conclusion indefinite. Other factors, such as the animal-protein level of the diet, may be of equal importance, but it is suggested that any future proposal to change the bread supplied to the community should take cognizance of its possible effect on haemopoiesis. The committee concludes: "An effort should be made to reduce the considerable proportion of low levels of haemoglobin which some groups still reveal—e.g., young children, pregnant women, and persons at the lower economic level." This report illustrates in a striking way, quite apart from the interest of its immediate findings, the need for the closest future collaboration of medicine with the social sciences if the solution of many problems essential to the well-being of the community is to be found. Why, for instance, is the haemoglobin level of agricultural workers so much lower than that of London policemen and higher-grade civil servants? Why were low figures found in a group of textile workers? The answer must surely lie in social and economic factors, and for their proper elucidation medicine must look for help to the social scientists. What is true of nutrition is also true of other medical problems, such as sickness absenteeism in industry.

THE VESICO-VAGINAL FISTULA

In recent months a number of publications have appeared concerning the treatment of vesico-vaginal fistulae. This injury is now rarely seen in this country, but in parts of India, Africa, and other lands where midwifery services are undeveloped it is still an all-too-common sequel of difficult labour. Sir J. Y. Simpson spoke of it as "the most depressing and deplorable of all infirmities to which woman is liable, a condition looked upon as beyond all relief and help." Long years ago Marion Sims and other workers broke this conception, but in spite of their work the condition to this day retains more than a little of its sinister reputation.

There is no doubt that the surgical closure of a fistula can on occasions be a "tricky business"; nevertheless, many surgeons have considerable success to their credit. Mahfouz Pacha,[1] of Cairo, writing with experience of more than 400 cases, reports that, of his last 100, 95% were cured by vaginal operation. Schmitz,[2] Miller,[3] and Phaneuf[4] in the U.S.A. have all reported a high proportion of successes, though their individual series have been much smaller. Recently Benion Thomas,[5] working in India, has described 40 cases of fistula; 28 of them were treated by vaginal operation and 25 cured. Thompson[6] also has reported successful closure by vaginal operation in a high proportion of difficult cases admitted to a mission hospital in India. At a recent meeting at the Royal Society of Medicine Chassar Moir[7] presented his results in cases collected from different parts of this country, in many of which there had been previous multiple operations with consequent extensive vaginal scarring. In each of 24 cases the fistula was closed by vaginal operation, and usually at the first attempt. The results of these and other workers leave little doubt that the great majority of vesico-vaginal fistulae are capable of repair by simple surgical methods and by direct approach from the vagina.

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[1] M.R.C. Special Report Series No. 252. "Haemoglobin Levels in Great Britain, 1943 (with Observations upon Serum Protein Levels)." Part I. On Haemoglobin Surveys. H.M. Stationery Office, 2s.

[1] *J. Obstet. Gynaec. Brit. Emp.*, 1938, 45, 405.

It must, however, be conceded that sometimes a fistula is found in so difficult a situation or surrounded by so much scar tissue that further attempts at local closure must be abandoned. In these circumstances the operation of transplantation of the ureters—first performed by Stiles, of Edinburgh, on infants suffering from ectopia vesicae—must be considered. It is surprising how little this drastic alteration of human physiology does in fact upset the patient: the person concerned is usually able to lead a normal life with full control of the rectum—now changed to cloaca. Grey Turner[8] has recorded the late history of many such patients, most of whom have continued to enjoy excellent health for years. In our present issue Douglas reports 11 such operations for irreparable vesico-vaginal fistula, and comments on the gratitude of the patients for the relief they have obtained. His notes on operative technique will be read with interest by those who may have to perform the operation.

But there is another side to the picture. The mortality of ureterocolostomy is by no means negligible. Murray and Ahmed,[9] writing with experience in India, report that, of 65 patients, 14 (21.5%) died after the operation. Roberts,[10] working in Nyasaland, performed the operation in 90 cases with an immediate mortality of 12.2%, though in 41 cases in which the Coffey No. 1 operation was performed in two stages there was only one death. Douglas, too, in his present series reports two deaths from peritonitis in eleven cases. Those statistics refer to immediate deaths only. A few later fatalities from pyelo-nephritis are inevitable, though not many surgeons in this country would go so far as Mahfouz Pacha when he says " few patients survive the operation more than three years." Possibly the prevalence of bilharzial and other infection adds to the danger of the operation in certain tropical or subtropical countries. It is clear, therefore, that great judgment must be exercised in selecting cases for the formidable operation of ureterocolostomy. When a fistula is truly irreparable it is, however, the patient's only hope. By it alone can prospect be given of something happier than a life of semi-seclusion, of physical discomfort, and of constant embarrassment in the presence of strangers, that is otherwise the woman's lot.

For most surgeons the vesico-vaginal fistula is so rare an encounter that experience in the technique of plastic repair of the bladder and vagina is hard to gain. Yet, perhaps more than in any other comparable operation, it is of paramount importance that the patient should be treated on sound lines from the first. Schmitz has expressed himself forcefully in this matter:

> " One of the greatest causes of failure in fistula operations must be attributed to a lack of understanding of the problem involved by the person who first attempts to close the opening. The percentage of bad results mounts rapidly after each attempted closure. Undue haste in operating and lack of willingness to work out slowly and painstakingly each bit of tissue needed contributes to failure. . . . The time to close the fistula is at the first sitting, and all vanity and professional squeamishness should be set aside to the end that a case of this kind may get into the proper hands from the very beginning and not after an unsuccessful attempt to close has seriously jeopardized the patient's chances of prompt and complete recovery."

These words must be taken to heart by anyone in general or in special practice who may be called upon to give advice to a patient unfortunate enough to suffer from this distressing condition.

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[2] *J. Amer. med. Ass.*, 1934, 104, 1214.
[3] *Amer. J. Obstet. Gynec.*, 1942, 44, 573.
[4] *Amer. J. Surg.*, 1944, 64, 3.
[5] *J. Obstet. Gynaec. Brit. Emp.*, 1945, 52, 262.
[6] Ibid., 1945, 52, 271.
[7] *British Medical Journal*, 1945, 1, 850.
[8] Ibid., 1943, 2, 535.
[9] *J. Obstet. Gynaec. Brit. Emp.*, 1943, 50, 347.
[10] Ibid., 1944, 51, 519.

THE BRITISH COUNCIL'S MEDICAL DEPARTMENT

The British Council, which now celebrates its tenth anniversary, has steadily built up a wide range of services in the medical field. The work of the Medical Department is directed to promoting knowledge over-seas of medical science in Britain, and facilitating contact between the medical professions of this and other countries. It issues the *British Medical Bulletin* at approximately monthly intervals. This contains original articles, abstracts, books reviews, and lists of the contents of current British medical and cognate journals. There are editions in English, French, Spanish, Portuguese, and Turkish, but circulation has hitherto been restricted to medical editors, teachers, investigators, and libraries. In 1944 arrangements were made for a limited number of copies to be available by subscription in this country, and this method of distribution is being developed in several places abroad. The Council acted on the suggestion of a distinguished Swedish professor of medicine that the English edition should be reprinted in Stockholm. The Turkish edition is produced from the Council office at Ankara, and the Turkish Ministry of Health has helped in its distribution.

Requests for copies of papers (reprints or photostats), bibliographies, and general information on a wide variety of medical subjects are received in increasing volume, and now form an important part of the work. Exchanges between British and foreign medical journals are arranged, and British medical books and journals are supplied to oversea medical libraries. Arising out of these services many requests come for small supplies of new drugs for research purposes, and for new or improved types of medical instruments and apparatus of British manufacture. Wherever possible the Department obtains samples of drugs, sometimes not yet commercially available, for interested research workers, and may even act as intermediary for the purchase of equipment and apparatus by oversea medical men and institutes. It also acts as an agent for the supply to foreign laboratories of standard bacterial cultures, sera, etc. A start has been made on a programme of medical films, with commentaries in several languages, intended primarily for oversea medical audiences. Two—"Surgery in Chest Disease" and "Accident Service"—have been widely shown in this country also. A small committee views existing medical films, most of which are amateur 16 mm. productions made by surgeons or others interested in the application of cinematography to medical teaching.

Medical visitors come sometimes as the guests of the Council, sometimes at their own expense, and programmes are arranged for them in consultation with suitable experts and professional organizations. Recently there have been such visits by a professor of public health and a surgeon from Portugal, three Turkish members of a medical mission appointed by the Turkish Ministry of Health, and medical missions from France and Belgium. Medical graduates are now in this country as British Council scholars from France, Belgium, Turkey, Portugal, and Argentina. Study-programmes are arranged for them, and contact is maintained with them during their stay. Visits abroad by distinguished medical men are sponsored by the Council. These involve the delivery of lectures and informal contacts with representatives of the medical profession abroad. In 1943 the Council and the Medical Research Council jointly sponsored a British surgical mission to the U.S.S.R., which was later extended to become an Anglo-American-Canadian mission.

The Medical Department, under Dr. N. Howard Jones, is a unit in the Science Department, advised by a science committee whose chairman is Sir Henry Dale. Sir Edward Mellanby is chairman of the medical panel. Individual experts in various subjects are often consulted—whether on a request for information, the making of a film, matters in connexion with the *Bulletin*, or a programme for a medical visitor—and their willingness in most cases to give of their wealth of special knowledge has been most encouraging. Such outside collaboration is essential to the work of the Council, whose function is not so much to provide technical information as to act as a channel through which the knowledge and opinions of experts can be obtained

FOLIC ACID

Folic acid, so called because it occurs in green leaves, is one of the most recently discovered members of the vitamin B complex. It was originally defined as the active principle required for the growth of the micro-organism *Str. lactis R.* under specified conditions.[1] The substance has not yet been identified chemically, though its empirical formula is known and much of its chemistry has been worked out.[2] It is acidic in nature, contains nitrogen, and has a molecular weight of about 500. It has been suggested that folic acid is chemically related to xanthopterin, the yellow pigment in butterfly wings, because the absorption spectra of the two compounds are similar, and xanthopterin incubated with liver tissue produces folic acid. More recent work, however, identifies it with vitamin B , also known as the chick anti-anaemic factor, which is present in liver and yeast. Until pure folic acid becomes generally available much of the work already done on it will need confirmation, as hitherto this has been done mostly with concentrates containing the substance.

Folic acid has in minute quantities a powerful growth-stimulating action on normal cells, and is a growth factor for rats, dogs, pigs, and certain bacteria. It inhibits tumour growth.[3] Recently it has been reported[4] that complete regression of breast cancer in mice occurred in 43% of the affected animals treated daily with 5 μg. of folic acid. No tumours regressed among control mice not treated with folic acid. Certain animals, including the rat, can synthesize folic acid in the intestine; this is probably effected by the agency of the coliform bacteria of the gut, for it is inhibited by the bacteriostatic action of such sulphonamides as succinylsulphathiazole and sulphaguanidine.[5] There is some evidence that folic acid is associated with haemopoiesis. The anti-anaemia properties of liver concentrates for the chick have been recognized for some years, and the active principle in liver has now been identified with folic acid.[6] It has been shown that the granulocytopenia, leucopenia, and anaemia produced in rats receiving sulphonamides in purified diets can be prevented by administering folic acid, the level of which falls considerably in the liver when these drugs are given.[7] Folic acid probably acts by stimulating the bone marrow rather than by directly inhibiting the sulphonamides, as it can prevent and correct the granulocytopenia sometimes observed in rats fed on purified diets without the sulphonamides.[8] It has been suggested that folic acid and biotin, another member of the vitamin B complex, are essential for making use of pantothenic acid and vitamin K. It is not known whether folic acid is essential for human nutrition. So far not enough pure folic acid has been available to test its curative effect in any of the nutritional syndromes seen in man. The human excretion of folic acid is very low—about 10 μg. daily—compared with the average daily intake of 1.4 mg. The significance of this is quite unknown.

INSULIN FOR DELIRIUM TREMENS

Delirium tremens is a serious illness. According to Piker and Cohn[9] its mortality when treated by the standard methods is about 5%. Once the patient can be got to sleep for 6 to 7 hours he is usually well on the way to recovery. He generally receives, therefore, not only plentiful fluids but also fairly heavy sedation by such relatively safe drugs as paraldehyde. Unfortunately, however, alcoholics are more than usually tolerant of this drug, and it may produce not the desired sleep but only increasing restlessness. The clinical state of the patient can be mild or very severe; on an average the length of stay in hospital has to be about five days. Considerable improvement on these figures has been claimed by several authors[10-13] who employed insulin therapy. The injection of insulin may be followed almost immediately by giving glucose; but according to Tillim the best results are obtained when the patient does not receive it until after 2½ hours, which he has spent in a soporose state, perspiring freely. The dose of insulin is determined empirically, but will as a rule be from 40 to 80 units. If the initial dose is insufficient to produce a soporose state in an hour a second injection can then be given intravenously. If the patient shows signs of going too deep the insulin may be "fractionally" neutralized by 5 to 10 grammes of glucose intravenously. Throughout the treatment he should be supplied with plenty of water to drink, and after it a large meal, for which he will have an excellent appetite. As a result of this he becomes much more composed, and at night will sleep with only a small dose of nembutal or other suitable hypnotic. One to four such treatments, of which two may be given in twenty-four hours, usually suffice for complete recovery. The average stay in hospital is halved.

Tillim has also reported good results with this method in the treatment of opiate-withdrawal states. It is interesting that insulin was first used in the treatment of withdrawal symptoms in morphine addiction by Sakel about fifteen years ago, and his observations led him to try insulin in schizophrenia, where it is pushed to the point of producing coma. So-called modified insulin treatment (Sargant and Craske,[14] Sands[15]) is in practice the same as the method employed by Tillim, and no coma but only sopor is produced. It has proved very successful in this war in treating neurotic reactions among battle casualties, especially those that occur in a setting of physical exhaustion. The biochemical bodily changes induced by hypoglycaemia seem to be of benefit, therefore, in clinically very different states. It is time we knew more of their nature and by what paths they bring about their results.

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[1] *Proc. nation. Acad. Sci.*, 1941, **27**, 1.
[2] *J. Amer. chem. Soc.*, 1944, **66**, 271.
[3] *Proc. Soc. exp. Biol.*, N.Y., 1944, **55**, 204.
[4] *Science*, 1945, **101**, 46.
[5] *J. Nutrit.*, 1943, **25**, 555.
[6] *Science*, 1943, **97**, 404.
[7] *Publ. Hlth. Rep. Wash.*, 1943, **58**, 1542.
[8] *Proc. Soc. exp. Biol.*, N.Y., 1945, **58**, 46.
[9] *J. Amer. med. Ass.*, 1937, **108**, 345.
[10] Robinson, G. W., *J. Kans. med. Soc.*, 1937, **38**, 463.
[11] Strecker, E. A., and Rivers, T. D., *Penn. med. J.*, 1942, **45**, 601.
[12] Wortis, J., Bowman, K. M., and Goldfarb, W., *Med. Clin. N. Amer.*, 1940, **24**, 671.
[13] Tillim, S. J., *Amer. J. Psychiat.*, 1944, **101**, 396.

LUMBAR GANGLIONECTOMY

After the long period during which we have been unable to keep in touch with the activities of French surgeons it is good to read a communication made by Leriche to the Académie de Chirurgie[16] upon the results of 800 lumbar ganglionectomies, and to find that the ardour and enthusiasm which we have come to associate with his work and writings are apparently unabated. The largest and most interesting groups are those in which the operation was performed for obliterative arteritis, arterial hypertension, megacolon, and the sequelae of phlebitis. Unfortunately all forms of arteritis are grouped together, and the statement is made that, provided the operation is performed early enough in the evolution of the disease, success will be achieved. In the earliest stage, when signs of ischaemia appear only on exertion, results are good; later, when there are symptoms at rest, only half the cases respond to ganglionectomy; and in the final stage of trophic ulceration and gangrene it is too late to operate. Some clinicians who take a special interest in vascular disease would hesitate to accept Leriche's rather dogmatic statements about this grouping, and from other remarks in this communication one can tell that he is not perfectly happy about it even in his own mind. He alludes to the causes of the arteritis and to the level of the block as matters of some importance, without making it clear that they may in fact be preeminent. Adrenalectomy, in his belief, is the proper treatment for thrombo-angiitis obliterans.

For hypertension Leriche advises on the right side section of all the splanchnic nerves with the last two thoracic and the upper two lumbar ganglia; and some weeks later the same operation on the sympathetic trunk and splanchnic nerves of the left side, plus adrenalectomy. For the aftereffects of venous thrombosis ganglionectomy may be successful in relieving pain and diminishing or even abolishing oedema. With ulceration there is less hope of success, and once again the earlier the operation is done the better. When it fails—and it seems to be impossible to predict its result with confidence—extensive resection of the thrombosed vein may yet give relief. For megacolon bilateral lumbar ganglionectomy with section of the splanchnic nerves on one, usually the right, side is considered the operation of choice. A plea is made for further study of the anatomy and physiology of the sympathetic system so that more limited operations may be effective. Leriche criticizes the modern tendency to carry out more and more extensive resections in order to ensure the destruction of all the sympathetic pathways along which impulses could possibly travel; for, although these operations carry a small mortality rate, the needless sacrifice of nerves which must be of physiological importance should be avoided.

In this brief summary of the work of 20 years it has obviously been impossible to give proper consideration to all the observations and impressions which have gone to make up the experience amassed in that time by Leriche and his collaborators, and we look forward to a full-length presentation of all the clinical details in the near future.

A GREAT ABDOMINAL SURGEON

The centenary of the birth of Lawson Tait was celebrated on June 30 at Birmingham by the University of Birmingham, the Midland Medical Society, and the Birmingham Women's Hospital. Prof. Leonard Gamgee gave a commemorative oration, with particular reference to Tait's outstanding work in Birmingham, where he settled in 1870 and was instrumental in founding the Women's Hospital; there he became an increasingly brilliant operator and achieved the sequence of advances in abdominal surgery which have made him famous. Robert Lawson Tait was born in Edinburgh of Scottish parentage on May 1, 1845, and entered as a student of medicine at the University; in 1866 he was admitted a licentiate of the Edinburgh Royal Colleges. He assisted Sir James Young Simpson for a time and was greatly influenced by the example of James Syme, whose habits in surgical work were in contrast with the methods and results of most of his contemporaries. In Birmingham, as Sir D'Arcy Power wrote in the *Dictionary of National Biography*, Tait soon made a name for himself as a bold surgeon, an aggressive enemy, and an original thinker. He became F.R.C.S.Ed. in 1870 and F.R.C.S.Eng. in 1871. Two years later he was awarded the Hastings gold medal of the British Medical Association for his essay on diseases of the ovaries. It was in 1873, too, that Tait performed his first hysterectomy for myoma of the uterus. In 1876 he removed a haematosalpinx, and thus made the profession familiar with the pathology of this condition. In 1879 he did his first cholecystotomy, which marked the beginning of the rational surgery of the gall tract. In 1883 he first performed the operation for ruptured tubal pregnancy, and saved the patient. Lawson Tait took a large part in organizing the Birmingham Medical Institute and was one of the founders of the British Gynaecological Society. By 1878 he had begun to express doubts as to the value of the Listerian precautions then adopted by most operating surgeons, and thus became a leader in the school of aseptic as opposed to antiseptic surgery. In the B.M.A. Tait was a member of Council, president of the Birmingham Branch and also of the Worcestershire and Hereford Branch, and in 1890 gave the Address in Surgery at the Annual Meeting in Birmingham. The Medical Defence Union owed much to him. He died after a long illness on June 13, 1899. As a surgeon (to quote again from D'Arcy Power) he simplified and perfected the technique, and greatly enlarged the scope, of abdominal surgery. Consummate operative skill, coupled with his power of generalization, enabled him to extend the range of uterine surgery and to apply its principles to other abdominal organs.

As part of the memorial ceremony at Birmingham the honorary degree of LL.D. was conferred by the University on Major-Gen. P. R. Hawley, chief surgeon to the American Forces in the European theatre of war, and on Mr. Eardley Holland, P.R.C.O.G.

We are again asked by the Central Medical War Committee to draw the attention of readers to the urgent need for medical officers to serve with a large company operating in the Middle East. An advertisement inviting applications for these posts appears in our advertising columns this week. The filling of the posts is important and urgent, and the Central Medical War Committee will most carefully consider the possibility of any selected applicants within its jurisdiction being allowed to accept them.

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[14] *Lancet*, 1941, **2**, 212. [15] *J. ment. Sci.*, 1944, **90**, 767.
[16] *Mém. Acad. Chir.*, 1944, **70**, 385.

TEACHING AND PRACTICE OF CHEMICAL PATHOLOGY

A MEMORANDUM BY THE CHEMICAL PATHOLOGISTS OF THE LONDON TEACHING HOSPITALS

The role of chemical pathology in the study of disease and in the practice of medicine is of great importance, yet its position in the curriculum and in the final examination has not received its proper recognition. The Committee of the Chemical Pathologists of the London Teaching Hospitals has met on several occasions and has prepared the following memorandum in order that the present unsatisfactory position may receive attention.

The Goodenough Report

With certain qualifications we agree with the following recommendations of the Goodenough report.

(*a*) Chemical pathology should form a separate department in the division of pathology and should be under the direction of a professor, reader, or senior lecturer. To this we would add that the chemical pathologist should be a full member of the medical committee of his hospital.

(*b*) Proper assistance and equipment should be provided. The staff proposed in the Goodenough report of one departmental head, one senior lecturer, one resident assistant, two demonstrators (one of whom is part time), six technicians, and one secretary-typist for a thousand-bed hospital is based on the assumption that much of the routine chemical work will be done in the department of clinical pathology. If our alternative recommendation (see below) on this point be accepted it would necessitate some extra staff in the department of chemical pathology, which would best be provided by the appointment of an additional science graduate, a type of worker whom we consider specially desirable in this department. An extra junior technician might also be required. If many tests are to be done on patients in the laboratory a nurse will be needed. Bench space should also be available for research scholars working on special problems.

The selection of suitable technicians for the department of chemical pathology is a difficult problem, but we would recommend that whenever possible they should be of an educational standard such that they could read for a scientific qualification, and that they should be given every encouragement to do so.

(*c*) Undergraduate teaching in chemical pathology should be given in the form of a short introductory course at the commencement of the clinical period, with other lectures and lecture-demonstrations spread over the remaining clinical years.

(*d*) Proposals for the training of pathologists allow a period of three to four years, which are to be divided between the four departments. A further period in the special department is required by anyone desiring to specialize in one branch. This scheme is well designed to create pathologists with experience in all branches to take complete charge of smaller laboratories. It is doubtful whether such an arrangement is equally suitable for those who intend to specialize in chemical pathology, and we would emphasize the importance of making the training as elastic as possible, as in fact has been suggested in the Goodenough report (chapter 17, para. 34, p. 218).

There is, however, one main proposal in the Goodenough report with which we cannot agree—namely, that which allots the "routine" chemical work to the clinical pathologist. In our opinion this arrangement would have the following disadvantages.

(i) The chemical pathologist would be largely cut off from the clinical material which should form the principal source of his inspiration, and his teaching of the basic principles and routine methods would tend to lose contact with current practice. Thus if, for example, no routine blood urea estimations were performed in his department, both the technique and the interpretation of this test would eventually become something remote from his personal experience. (ii) The standard of chemical work would be lower. (iii) The tendency to specialization in pathology, recognized in the report, is inevitable, and it is a retrograde step to aim at a type of pathologist who has, by definition, avoided specialization. This may be necessary in the smaller hospitals, but it is not an ideal solution for the large teaching hospital. (iv) In a hospital of a thousand beds the amount of routine work in haematology and bacteriology will be so large that the addition of routine chemical tests would be an excessive burden on the department of clinical pathology. (v) The liaison between pathologist and clinicians, on which great emphasis is rightly laid, will finally depend more upon the growth of a generation of clinicians who are interested in pathology than upon the creation of a non-specialized pathologist. We are therefore strongly in favour of some modification of this proposal such as one of the alternatives discussed in the next paragraph.

Relation of the Routine Laboratory to the Main Pathology Departments

While wide variations in the pattern of organization of the pathology division in teaching hospitals may be desirable or necessary, the geographical position of the laboratories is an important factor in most cases. So far as chemical pathology is concerned two principal alternatives are in operation at this time:

(*a*) The chemical pathology laboratories are all situated in one place, which may be in the hospital, medical school, or special institute of pathology or biochemistry. In this case we suggest some arrangement such as that mentioned in the Goodenough report (chapter 8, para. 22, p. 143), whereby specimens and requests arrive at a central sorting office with subsequent dispatch to the appropriate department. In such circumstances the specimens are often collected by students or house officers, who are responsible for their proper delivery. It is important that adequate accommodation should be provided in the laboratory for certain special tests on in-patients and on out-patients which cannot be done satisfactorily in the wards—for example, basal metabolism estimations, and other procedures such as sugar-tolerance tests, urea-clearance tests, etc., are better carried out in the laboratory. This requires the provision of several suitably equipped patients' rooms, which have proved of great value in at least two hospitals where this arrangement is in use. It also requires the help of at least one nurse.

(*b*) In certain cases another laboratory, suitable for clinical pathology, is situated in the hospital, the main laboratories being elsewhere. Many routine chemical estimations are then carried out in this clinical laboratory—an arrangement which is convenient for patients and clinicians but which makes adequate supervision of the work more difficult. We suggest that such hospital laboratories should be organized by the heads of the departments of bacteriology, clinical pathology, and chemical pathology, the director of the division of pathology being the responsible administrative officer. The chemical pathologist should, however, always be responsible for work of a chemical nature which might well be undertaken by a specially appointed senior member of his staff.

Liaison between Chemical Pathology and Pre-clinical Biochemistry

As will be seen in our recommendations on the curriculum, we recommend that detailed practical instruction should not be given during the years of clinical study, so that it is desirable that pre-clinical instruction should include methods actually used in chemical pathology. For this reason the person responsible for the department of chemical pathology in a medical school should attend staff meetings of the pre-clinical biochemical department of that school, where this exists. Where the school does not possess a pre-clinical department other means should be adopted of effecting a close liaison between the department of chemical pathology and the biochemical department in which the students have received their pre-clinical instruction. It is important that there be continuity in the teaching of chemistry and biochemistry throughout the students' career.

Curriculum

We propose the following curriculum, which is based on the assumption that a total of 24 hours' instruction during the clinical period should be adequate.

(i) An introductory course of six hourly periods, early in the first clinical year, dealing with the general principles and including instruction on the collection of specimens and on urine testing. In hospitals where all students serve as clerks in pathology and are personally instructed in these matters, this course could be omitted.

(ii) A general course of 18 hourly periods during the second and third clinical years, covering the whole subject of the application of chemical methods to clinical problems.

(iii) A limited number of lectures on special aspects and recent advances given during the pre-registration year.

It is recommended that, while detailed practical instruction should not be emphasized during the years of clinical study, facilities should be provided for students to acquire some practical experience.

Examinations

An analysis of some questions set in the final pathology papers during a period of more than 10 years gives the following results:

Examination	No. of Questions Analysed	No. Entirely Chemical	No. Partly Chemical
M.B., B.S.	167	8	24
M.R.C.S., L.R.C.P.	281	25	16

In the M.B., B.S. examination a complete absence of entirely chemical questions was noted over a particular 4-year period. In our opinion this position as a whole is discouraging to the teachers and is not in line with the importance of biochemistry in current medical practice. We therefore recommend that in every examination of pathology chemical pathology should receive representation equal to that accorded to the other three branches, and that the chemical questions should be set by a chemical pathologist appointed to the board of examiners for that purpose. If the pathology examinations become internal, as recommended in the Goodenough report, there would be no difficulty in arranging for the chemical question to be marked by the chemical pathologist, who should also take part in any practical and viva voce examinations.

Summary

The recommendation of the Goodenough report whereby the clinical pathologist undertakes the routine chemical work in teaching hospitals is criticized and some alternative proposals are offered.

A closer liaison between the pre-clinical biochemical and chemical pathology departments of medical schools is advised.

An outline of a curriculum has been prepared.

We recommend that in every examination of pathology chemical pathology should receive representation equal to that accorded to the other three branches.

ROYAL COLLEGE OF SURGEONS MUSEUM

GIFT FROM THE WELLCOME TRUST

The letter printed below, offering £80,000 towards the cost of extending the museum accommodation of the Royal College of Surgeons of England, has been sent to the President of the College by Sir Henry Dale, P.R.S., chairman of the Wellcome Trustees.

Dear President,

When you were good enough to put before the Wellcome Trustees the plans for restoration and rebuilding which had been made for the Royal College of Surgeons, we explained to you that the particular item of the activities of the College which, under the terms of our Trust, we were entitled to consider as suitable for a grant in aid of the proposed rebuilding and extension, was the great service which the Royal College has so long rendered to surgery, and to a much wider range of medical and scientific knowledge, by the maintenance of its historic and world-famous museums of human and comparative anatomy and pathology. As we also then informed you, one of the clauses of the will of the late Sir Henry Wellcome, creating the Trust which we administer, empowers us to make grants for the foundation or extension of museums dealing with medical science or research, provided that any such foundation or extension is suitably associated in its title with the name of the testator.

We have now had further opportunity of considering the general plans which you put before us, together with the report by a member of our Trust, Mr. Martin Price, F.C.A., and have decided to offer to your rebuilding fund a sum to be applied to the construction and equipment of the three new museum floors which, in the plans which you showed us, were to be superimposed on a great hall in a new wing of the College. You mentioned upper and lower limits for the estimated cost of these three museum floors, from which we judged that a sum of £80,000 should be sufficient to enable the Royal College to undertake this extension of its museum accommodation. This is, accordingly, the sum which, on that assumption, we have decided to offer to your rebuilding fund.

As already mentioned, we are obliged by the terms of our Trust to make the offer conditional on the willingness of the College to associate the name "Wellcome" in some appropriate manner with the museum extension for which the gift would provide. We believe that there will be no difficulty in this, in view of the fact that Sir Henry Wellcome was himself an Honorary Fellow of the Royal College of Surgeons, and that he was himself directly responsible for the creation of important museums of the history of medicine and of medical science, which are still maintained by the Wellcome Foundation Ltd.

The Wellcome Trustees venture to hope that the acceptance of their offer by the Royal College of Surgeons will result in increased and progressive opportunities for friendly interchange between the museums of the Royal College and those to the creation and development of which Sir Henry Wellcome devoted so much of his interest in the later decades of his life.—Yours sincerely,

H. H. DALE,
Chairman of the Wellcome Trustees.

July 9, 1945.

The Council of the Royal College of Surgeons, at its meeting on July 12, received the offer of support from the Wellcome Trustees with great gratification, and decided to name one wing of the new buildings the "Sir Henry Wellcome Wing." It was particularly pleased to have his name identified with the College—not only on account of this munificent gift from the Trust but also because of its appreciation of Sir Henry Wellcome's great contributions to medical education and research. The Council was also glad of the opportunity thus afforded for close liaison between the museums of the Royal College and the great museums maintained by the Wellcome Foundation. This gift brings the amount so far received to £122,000 towards the total of £250,000 required to complete the restoration and development of the College.

WORK OF THE LISTER INSTITUTE

The report of the governing body of the Lister Institute of Preventive Medicine, above the signature of its chairman, Sir Henry Dale, P.R.S., covers only a dozen pages, but it reviews a large number of continuing studies by the staff in the pathological, biochemical, biophysical, and nutritional fields. Some of the work done under the auspices of the Institute has been recorded during the past year in the pages of this *Journal*—the work of Ellinger and others on nicotinamide and of MacLennan and Macfarlane on the treatment of gas gangrene.

Work on the typing of typhoid, paratyphoid, and food-poisoning bacilli with the Vi bacteriophage has been continued, and during the year one further Vi-phage type of the typhoid bacillus has been added to the list of new types or sub-types previously identified in the British Isles. The number of known Vi types or subtypes of the paratyphoid B bacillus indigenous to Britain remains five, but it is becoming apparent that hitherto unknown phage-types of typhoid and paratyphoid B bacilli are being introduced from abroad. Further progress has been made with the typing of *Bact. typhi-murium*, one of the most common causes of food-poisoning in this and in many other countries. Nine different Vi-phage types of this organism have been identified so far, and their epidemiological significance has been confirmed in all these outbreaks which have been investigated up to the present time. But the practical value of the bacteriophage typing of this organism is not as great as that of the typing of typhoid and paratyphoid B bacilli. Strains of the bacterium are often found to be devoid of the Vi antigen and cannot be typed by the bacteriophage method.

Two workers at the Institute have made some observations on the cardiac hypertrophy in the rabbit induced by an arteriovenous anastomosis. Following such an anastomosis, the weight of the heart in many instances is doubled. If the anastomosis is removed when the hypertrophy has been established for about two months, the weight of the heart quickly returns to a normal value, indicating that the hypertrophy produced by such an anastomosis is physiological in type. In certain animals, however, the hypertrophy does not disappear, suggesting that it may be pathological, and the matter is being investigated further.

Vaccinia Virus Studies

Pooled samples of serum from recently vaccinated persons have been examined to determine the time after vaccination at which the highest titres of virus-neutralizing antibody can be obtained. These tests indicate that the most potent sera are likely to be obtained during the third and fourth weeks after vaccination, but that no marked fall in potency occurs up to the end of the sixth week. The observations were undertaken as a preliminary to the collection of such serum and its storage in the dried state for therapeutic trial in the complications following vaccination, and possibly in smallpox.

A number of biochemical and biophysical studies are set out in the report, none the less interesting because in most cases definite results have not as yet been achieved. One practical development has been the elaboration of a tray-type drier capable of reducing the solid content of 5 litres of fluid to a powder of the same apparent volume and a residual moisture content of 2% in 15 hours. An indication of the optimum operating conditions for this plant has been obtained by a study of the drying of calcium penicillin, human plasma, and human milk. On the basis of this experience a large-scale plant has been erected by Imperial Chemical Industries at Manchester for the drying of penicillin.

Nutritional Studies

Some further work has been done at the Institute on the potato. A definite deterioration in the nutritive value of the nitrogenous constituents was found to occur when potatoes were stored for several months in a clamp; this was less marked when storage took place in a chamber with temperature controlled at 5° C. Study has been continued of the potato protein tuberin and the non-protein nitrogenous materials in the expressed juice. Evidence has been obtained of the existence of an additional unrecognized protein, but so far separation has not been effected. In connexion with the vitamin-A content of potatoes it has been found that rats can survive indefinitely with no, or very slight, skin lesions of vitamin-A deficiency, on a diet composed almost wholly of potato and with no other source of this vitamin.

A human experiment on deprivation of vitamin A, which began in July, 1942, at Sheffield, was concluded last year, and it was found that some of the subjects showed little evidence of depletion after two years of the deficient diet, though others had well-marked signs. The whole of the results of blood tests, food and faeces tests, and tests for capacity for dark adaptation have been tabulated and analysed and are being prepared for publication. The long-suffering subjects have been transferred to an experiment on the deprivation of vitamin D.

An experiment on yeast showed that while the proteins in dried yeast were much inferior to those of whole wheat, a mixture of the two was superior to the latter. The nitrogenous substances in domestic " beef tea " possess no growth-promoting value, but when combined with those of white flour they provide a mixture whose nutritive value is much superior to that of white-flour proteins fed alone. The supplementary action which the nitrogenous substances in beef extract and yeast have for cereal proteins is thought to be due to the high content of these nitrogenous substances in respect of the essential amino-acid lysine, in which cereal proteins are relatively deficient.

A note is appended to the report about the National Collection of Type Cultures, which is accommodated at the Institute's laboratories at Elstree. During the year under review over 4,500 cultures were distributed, and some 200 strains lodged for maintenance or investigation.

ROYAL MEDICAL FOUNDATION OF EPSOM COLLEGE

Pension, Scholarships, and Grants

The Council of Epsom College in December will award a France Pension of £30 per annum to a necessitous medical man, fully 55 years of age, who has been registered for five years, and who is in need of help.

The Council will also award St. Anne's Scholarships to girls attending Church of England Schools. Candidates must be fully 9 years of age, and must be orphan daughters of medical men who have been in independent practice in England or Wales for not less than five years. The value of each scholarship is dependent upon the means of the applicant and the locality and fees of the school chosen.

Educational grants will also be available in November from the Sherman Bigg Fund for children of either sex. These grants are not restricted to orphans, or to members of any religious denomination, but candidates must be of public school age and in need of such help.

Available from the Eastes Trust are grants for the relief of registered members of the profession of any age, their widows and orphans, and educational assistance for daughters or, failing them, sons of deceased male members, or for full orphans, one or both of whose parents were members of the profession.

Forms of application for the vacant pension, scholarships, and grants can be obtained from the secretary, at the Secretary's Office, Epsom College, Surrey, and must be completed and returned by Sept. 15.

SCOTTISH MEDICAL WAR COMMITTEES

Lord Rosebery's Appreciation

The Scottish Central Medical War Committee has received the following letter from Lord Rosebery, Secretary of State for Scotland:

Dear Professor Sydney Smith,

At this stage in the work of the Scottish Central Medical War Committee, when the emphasis is shifting from the selection of medical practitioners for an expanding Navy, Army, and Air Force to the rebuilding of civilian services, I feel it is appropriate for me to express the Government's grateful thanks for the valuable contribution to victory in Europe represented by the labour of members and officers of the Scottish Central Medical War Committee and of Local Medical War Committees throughout Scotland.

The needs of the Forces reached a high level, and the Government relied upon your Committee to allot to each of the civilian services such contributions towards meeting these needs as would least prejudice the security of the home front. General practice, the hospitals, and the public services, as well as teaching, research, and other fields, have all yielded up their quotas; and the war against Germany has been won without serious dislocation at home. Not only the doctors who went away, but also those left behind in general practice and elsewhere, have borne a severe burden, and to them too I convey the Government's appreciation and thanks for their untiring labours.

The Committee's work is not yet done, and I am confident that they will tackle the problems of the future with the same energy and success as they have tackled those of the last six years.

Yours sincerely,

St. Andrew's House, Edinburgh, 1. ROSEBERY.

Reports of Societies

FOOD AND WOUNDS

The Nutrition Society held a conference on nutritional factors affecting wound healing at the London School of Hygiene on May 26, with Prof. J. R. **LEARMONTH** presiding.

Protein Loss

Dr. D. P. **CUTHBERTSON** spoke first on dietary protein in relation to convalescence from injury. Depletion of protein after injury had several causes, such as loss of the damaged tissues, loss of blood or exudate, loss by atrophy, and loss by excessive katabolism, due either to the injury or to superimposed infection. Thus the losses during the first 10 days caused by a severe burn covering 60% of the surface of the body might be assessed at 700 g. in the destruction of the skin and underlying tissues, 600 g. in exudation from the weeping surface, 700–800 g. through katabolic reaction to the trauma, and 100 g. through atrophy. The total loss was therefore more than 2 kg. of protein under these headings alone. In addition protein might sometimes be lost as the result of coccal infections during the first week, and of abundant mixed coccal and bacillary infections when the necrotic tissues were separating during the second to fourth weeks. Skin grafting might add to the deficit.

In injuries such as fractures and dislocations of the bones no tissues were lost by destruction or exudation, but the excess of katabolism, which reached its maximum between the fourth and eighth days, was still considerable. Since the days of Hunter it had been assumed that the body's reactions to injury worked in the direction of initiating a cure. The increase in protein katabolism, which also occurred in fever, probably indicated a raid on the protein reserves of the body in order to mobilize amino-acids specially required for the process of healing. Dietary measures to enable the body to make good the protein loss were therefore important. In the uninjured subject the katabolism of protein might be reduced by overfeeding with either a mixed diet or with extra carbohydrate: When the food intake exceeded the metabolic requirement protein and fat were stored more easily than carbohydrate, with the result that the last was preferentially katabolized. At the height of the katabolic phase after fractures, however, even a diet rich in protein and giving 5,000 calories failed to prevent a negative nitrogen balance. In serious cases blood, plasma, or serum should be administered to make good the loss. There was, indeed, no increase in nitrogen excretion in rats which had been starved of protein, or in malnourished human subjects, but this was merely an indication of the failure of the healing processes. After injury in normal subjects there was often severe anaemia, and appropriate steps should be taken if the haemoglobin level fell below 60%.

At the conclusion of the stage of protein katabolism the patient entered a period when through lack of appetite the loss of protein might not be made good quickly enough. The patient should be encouraged to eat as much as he conveniently could, and in convalescence the protein intake should be 150 to 200 g. a day, with enough carbohydrate and fat to permit the maximum anabolism of tissue protein. Milk (particularly evaporated), cheese, eggs, poultry, meat, and fish should be given to supply animal and cereals to supply vegetable proteins. In facio-maxillary injuries the diet might be given through a tube as a mash made from blocks of dehydrated food. Parenteral feeding must always be regarded as a temporary substitute for normal eating, but complete alimentation with hydrolysed casein and glucose for as long as 40 days had been recorded. Casein hydrolysates were usually prepared in 5% concentration with 5% glucose, and care must be taken to avoid local thrombosis. Daily doses of aneurin 2 mg., riboflavin 2 mg., nicotinic acid 20 mg., and ascorbic acid 50 mg., might be given if this form of nutrition had to be continued over a long period.

Dr. P. B. Croft described his experiments with Prof. R. A. Peters on nitrogen loss after thermal burns. When rats which received a diet containing 10% casein and 10% dried yeast as sources of protein were scalded with hot water there was an increased excretion of nitrogen in the urine, which was maintained for at least 10 days and was accompanied by loss of body weight. By raising the casein in the diet to 18.2%, however, both the increased excretion of nitrogen and loss in weight were prevented. When the effects of various amino-acids in preventing the excretion of nitrogen were examined a supplement of 1% of methionine was found to be effective, whereas other amino-acids were ineffective. It was natural to think that the beneficial action of methionine might be exerted either because of its high sulphur content or because of some role, such as methylation, in the liver.

Capt. J. A. F. Stevenson, R.C.A.M.C., in nitrogen-balance studies in acute diseases such as influenza, colds, and conjunctivitis, had found that protein katabolism was increased just as after trauma. In his experience the period of excessive protein katabolism was followed by a period of anabolism, during which the urinary nitrogen fell below normal. While the value of maintaining nutrition at a high level during the katabolic phase was open to question, the benefit of a liberal diet during the anabolic phase was beyond dispute.

Dr. B. S. Platt gave an account of his work on the relation of diet to the incidence of tropical ulcers. No ulcers were found in the population of Newfoundland, but a high incidence was found in Barbados, and higher still in Gambia. The distribution of dry skin and of "crackled" skin was similar. Examination of the diet in the three regions showed no correlation of the incidence of ulcers with the intake of vitamins, but suggested that low protein was a significant factor. The intake of methionine in some tropical diets might be only a quarter of that in European diets. Dr. Dagmar Wilson referred to her observations in India on the roughening and ulceration of the skin found in those leper colonies where the diet consisted mainly of rice. Lepers receiving better diets, which included milk or in which wheat was substituted for rice, did not have these skin abnormalities.

Vitamin-C Deficiency

Drs. J. F. Danielli, H. B. Fell, and E. Kodicek described the histological effects of partial vitamin-C deficiency on phosphatase formation in experimental skin wounds. The distribution of the enzyme was studied by Gomori's histochemical method, which could be applied to ordinary paraffin sections. In the healing of wounds in normal guinea-pigs there were two peaks in phosphatase activity. The first reached its height within a few days after wounding, and coincided with the invasion of the wound with leucocytes. The second peak was associated with the differentiation of collagenous fibrous tissue, and was usually at its maximum between the twenty-first and twenty-eighth days after wounding. In acute deficiency of vitamin C the first peak of phosphatase activity was not affected, but the second was suppressed. Though the wound became fully epithelized it was oedematous and haemorrhagic, and collagen was either absent or highly abnormal. To test the effect of partial deficiency of vitamin C, guinea-pigs were first kept on a scorbutic diet for 9 days and then given graded daily doses of ascorbic acid. Standardized wounds were made with a rotating knife 24 days after the commencement of dosing, and the animals were then killed 28 days after wounding—i.e., at about the time of the second peak in phosphatase activity. With doses of 5 mg. and 10 mg. both healing and phosphatase activity were virtually normal. With 2-mg. doses phosphatase activity was subnormal, and the wound was enlarged, but the intercellular fibres were more numerous and better differentiated than in complete deficiency. With doses of 1 mg. or under the wound was filled with spongy haemorrhagic material, though both the intercellular material and phosphatase reaction were slightly less abnormal than in acute deficiency. It was obvious, therefore, that the doses of ascorbic acid necessary for the efficient healing of wounds were many times greater than those necessary to maintain growth or to prevent scurvy.

Drs. P. D. F. Murray and E. Kodicek dealt with the effect on bone repair of partial deficiency of vitamin C. In unwounded guinea-pigs partially deprived of the vitamin the incidence of hyperostosis was 23%. The muscles were often swollen, with hyperplasia of the connective tissues, and ankylosis of the knee-joints was common. Other animals on the same diet were wounded by fracturing a fibula without open operation. Hyperostosis was found in 84% of this group. The callus produced was smaller than in normal animals, and the union of the fractured ends was probably delayed. If fractures were inflicted on normal guinea-pigs, and they were allowed to heal before the animals were restricted to diets deficient in vitamin C or D, or in both, no evidence of the reopening of the callus was detected.

Dr. Geoffrey H. Bourne's paper on the role of vitamin C in healing wounds was read by Dr. L. J. Harris. Guinea-pigs were kept for one week on a scorbutic diet, which in some groups was supplemented with graded doses of ascorbic acid. To study the healing of surface wounds two quarter-inch cuts were then inflicted, one on each flank. After another week the animals were killed, and the excised scars were examined both histologically and for tensile strength. With doses of 0–2 mg. of ascorbic acid the tensile strength increased with the magnitude of the dose, but raising the daily dose to 30 mg. caused no further improvement. It was clear, therefore, that ascorbic acid affected the strength of wounds, that saturation of the organism was not necessary, and that loss of tensile strength occurred with doses of vitamin sufficient to prevent the symptoms of scurvy. Histological studies confirmed that the weakening of wounds was essentially due to failure in collagen formation. The healing of wounds in bones was investigated by boring a small hole in each femur with a dentist's twist drill, full aseptic precautions being taken. After one week had been allowed for healing the animals were killed, and the femurs were decalcified and sections of the wounded areas prepared. The extent to which the holes had been filled up with trabeculae was then studied by an ingenious optical method. With graded doses of ascorbic acid the response increased between the levels of 0 and 1 mg., but higher doses had little further effect. A slightly greater formation of trabeculae was observed after dosing with calcium ascorbate than with the free acid.

Dr. J. Waterlow remarked that according to Dr. Pemberton little difference in the tensile strength of wounds could be found between normal human beings and vitamin-C-deficient volunteers when the lesions were examined 10 days after infliction. From Dr. Fell's sections of guinea-pigs' wounds, moreover, it appeared that the greatest differences between normal and deficient animals did not appear until after 21 to 28 days. It was rather surprising, therefore, that Dr. Bourne should have noticed differences in tensile strength only 7 days after wounding. Dr. BERGEL drew attention to the claim of Prof. Campbell and Dr. Cooke that in practical dentistry the administration of a large dose of ascorbic acid before the extraction of teeth greatly accelerated the healing of the gums.

Prof. LEARMONTH, in commenting on the work of the conference, stressed the desirability of nutritional preparation of patients awaiting admission to hospital for operation. If all patients could be as well nourished as possible before entry, the hospital would be relieved of responsibility in this respect. In hospital the feeding of patients with mixtures of amino-acids might have special value when necessity demanded, but the administration of nutrients by tubes was psychologically undesirable. The most urgent need was for an improvement in the ordinary hospital diet. Trained dietitians should be attached to all hospitals, and should ensure that the food was not only nutritious and well cooked but in keeping with local dietary customs and tastes.

Correspondence

The Position of Medical Research

SIR,—Dr. J. H. Hannan (July 7, p. 29) expresses surprise that, so little attention has been paid to medical research in proposals for the health programme of the future. Since the only way to impress a point of view is to go on repeating it I make no apology for stating that the planning of medical research should be on a nation-wide scale. In a letter in the *Journal* of April 22, 1944 (p. 572), I revealed that the financial side of medical research was very unsatisfactory. The Medical Research Council (M.R.C.), which serves such a useful purpose, receives an annual grant of £215,000 from the Treasury. This meagre financial support is hopelessly inadequate. It is up to the profession to organize and clamour for more money with which to conduct research work. The Government can, of course, afford a much larger sum.

Politicians know very little about medical research, and it would be worth while informing them that it has saved thousands of lives. Malaria, yellow fever, smallpox, as well as other diseases, all bow their heads before science; and tuberculosis, the venereal diseases, and diphtheria are also gradually giving way to the conquering strides of science. They could be told that if our great cities were deprived of the protection of medical science, civilization would fall back five centuries, pestilences would return, and epidemics sweep the country and destroy thousands of innocent lives. Medical research by discovering the vitamins proved that the lack of these essential food factors gives rise to such diseases as rickets, scurvy, beri-beri, and pellagra. The work that has been done on the general hygiene of our city life—the purification of water, the disposal and treatment of sewage, the control of food manufacture by means of food analysis and inspection, and the detection of adulteration, to recall but a few examples—could be mentioned to illustrate how science benefits living conditions. The achievements of British medicine are great and manifold, and it would require someone more competent than I to describe them. The miracle is not that so little has been accomplished but that so much has been achieved in spite of lack of funds. The latest achievement—penicillin—has attracted world-wide attention. The work of Sir Alexander Fleming and his school is so well known that it hardly needs to be mentioned.

It is unfortunate that the profession itself has remained aloof in political matters and not urged the Government to be more helpful in utilizing medical research for solving many of the problems which jeopardize health. The attitude of the Government towards medical research is reflected in their meagre allowance of less than a quarter of a million pounds per annum. If people are to be liberated from the fetters of poverty, ignorance, and illness, medical research should be in the forefront of future planning by the Government. Yet, as Dr. Hannan has pointed out, little or no attention is being paid to research. It goes without saying that diseases should be wiped out and medical men mobilized to tackle problems still unsolved. Is it not surprising, then, that less money is available for research in this country than in either the United States or the Soviet Union?

The M.R.C. represents this country's efforts to attack the most difficult problems of medicine in a planned way. The M.R.C., moreover, is the high school for the training of young research workers, but at the present time most workers are obliged to spend half their time in practice in order to earn a living. The young man who has no private income finds it difficult to enter upon a career devoted to research. In spite of the fellowships offered by the M.R.C. and positions available in research departments of universities, where research as well as educational work is carried on, many young men have to live for years on minimum salaries that do not allow them to support a family. The M.R.C. has become the important planning agency in the field of medicine, and it has amply demonstrated the wisdom of having research directed by a group of eminent scientists rather than by philanthropists and business men who cannot possibly have a sound judgment in medical matters. Medical research is not a luxury supported by philanthropic agencies, but it is, on the contrary, the most powerful instrument that the country possesses for ameliorating the lot of mankind and ensuring human harmony.

A difficulty which progressive medicine has encountered, particularly during the war, has been the shortage of paper, which has made the publishing of medical works very difficult. There is now a great shortage of books and literature because the demand for books and journals is almost inexhaustible. The publication of a medical book should not depend on its commercial value; if it is worth being printed—and nobody but doctors can decide—the book should be published. Surely the Government can allow medical publishers more paper now when the need is so great and urgent. A liberal enough allowance was made to prospective Parliamentary candidates! The British Navy, Army, and Air Force played a magnificent part in conquering Hitlerite Germany. Now let us utilize medical man-power to make the world a better place in which to live. For, to repeat the words that Herbert Spencer promulgated in his epigram: "Science is for Life, not Life for Science."—I am, etc.,

Preston Hall Hospital, Maidstone. GEORGE R. W. N. LUNTZ.

Newer Concepts of Breast-feeding

SIR,—Replying to Dr. Eric Coldrey (April 14, p. 530) it strikes me that he wishes to stampede us into thinking that the panacea for successful breast-feeding is enthusiasm on the part of the mother and strict non-interference. Such advice fails hopelessly in actual practice. Most mothers are very enthusiastic to breast-feed, and yet see the countless number that fail! The explanation is simply this: in addition to enthusiasm it is essential that the mother should be instructed and taught *how* to breast-feed successfully. Dr. Coldrey completely fails to see this vital factor, but instead points an accusing finger at the "sick visitor, the mother, the mother-in-law, neighbour," etc.

Let us face the truth. The fault lies mainly with the medical profession. The profession has failed to recognize that successful breast-feeding is not accomplished by enthusiasm alone. Lactation is indeed a fine art requiring the closest study. There is in breast-feeding, as in everything else, a right way and a wrong way. First and foremost it is imperative for the doctor to be equipped with a thorough knowledge and clear understanding of the physiology and the clinical aspects of this most important subject. To the doctor the mechanism of the lactating breast and the nipple in all its variations must be made crystal clear. Only then will he be able to enlighten the mother and help her solve her feeding problem; only then shall we find more mothers breast-feeding successfully. Without such knowledge it is a case of the blind leading the blind.

Fifteen years of close observation of all sorts of methods of breast-feeding in an extensive paediatric practice have convinced me absolutely that the technique I employ and described in the *Journal* (March 31, p. 441) is the easiest, the most natural, and the most satisfactory. The newer concepts mentioned are clinically and biologically sound and the *modus operandi* is simplicity itself.—I am, etc.,

Johannesburg. M. WITKIN.

The Filigree Operation

Sir,—The *Journal* of June 9 has belatedly come to hand. The relevancy of Mr. Greenwood's quotation (p. 820) from Burke escapes me: is it to be inferred that the present-day advocates of the filigree are, like Livy and Virgil, Raphael or Michelangelo, to be admired by all the learned, or merely that the filigree operation is like the Constitution of England, to be venerated if not comprehended? I do not intend to judge of the former, and as to the latter I am sure that nowadays the filigree operation is hardly a constitutional, established practice.

I spoke disparagingly neither of the filigree operation nor of Mr. Coles's results, but pointed out that the comparison of figures made was unsound on two grounds: (1) Individual figures are not comparable with collective figures. Mr. Coles's 3% cannot be compared with "over 12% representative of British surgery as a whole," nor Mr. Greenwood's individual 1% recurrence rate with the collective or group figure for the series of Page and McPherson, which were operated upon by several surgeons. (2) The follow-ups should be comparable and equally searching. In neither Mr. Coles's nor Mr. Greenwood's series are details given of the percentage of cases actually traced and examined or at what intervals after operation.

An ideal follow-up would be fully comprehensive: 100% of patients seen and examined, say, 4 years after operation. This in unattainable, but naturally the means available for following up police cases is likely to lead and did lead to a very high percentage being traced. The more cases examined, naturally, the more recurrences one finds. The follow-up must be active: it is insufficient to rely on patients reporting by themselves or sending a postcard—they may be "bombed out" or dead.

The filigree operation may be the answer to the hernia problem, but I still do not think that the figures available nor the comparisons that have been made prove it, or warrant a return to an operation considered unsatisfactory in the past.—I am, etc.,

J. B. Kinmonth,
Squad. Ldr., R.A.F.V.R.: Surgical Specialist.

Effects of Tobacco Smoking on Health

Sir,—As the smoking of tobacco in this country has increased criticism of smoking has decreased, and to-day discussion of the facts about the effects of smoking on health is "not done"—i.e., is taboo.

The majority of people, even medical men, are, however, scarcely conscious of the existence of the "tobacco taboo." Smokers repress their thoughts about the ill effects of smoking, and thus they observe the tobacco taboo unconsciously; and the compliance of non-smokers, impressed usually at an early age, also tends to become habitual and largely unconscious. Increased publicity given to matters of health of late years has by contrast served to accentuate the rarity of talks, or articles, on the effects of smoking on health.

Although the facts are taboo, rationalizations, even untruths, about smoking circulate freely. The fundamental facts are that tobacco is a drug, and smoking a drug addiction (more precisely, a means of administering a drug of addiction), but these are seldom mentioned. Tobacco is spoken of freely—but as a luxury; and smoking is mentioned freely—but as a habit. Drugs of addiction are not, however, luxuries, and habit merely supplements the main urge to smoke—viz., an inner craving. Drug addiction, and therefore tobacco smoking, is a disease—an intoxication like the majority of diseases although the specific toxins are not bacterial. It is significant that this important disease is not referred to in standard textbooks on medicine—e.g., Beaumont, Osler, Price, etc.—except as a predisposing cause of other diseases.

Recognition of smoking as a disease has been impeded by smokers repressing the occurrence of unpleasant symptoms following the initial agreeable action of tobacco on addicts. Observation and interrogation of over 500 individuals cured of smoking has suggested that these symptoms include depression, apathy, moral deterioration; loss of energy, of appetite, of weight, and of sexual potency. Smokers only become aware of these remote effects as a rule when smoking has been given up, and even then persisting craving for tobacco may cause them to disregard or make light of their improvement in health. The alleged absence or insignificance of such improvement (not confirmed by observation) is sometimes advanced to extenuate a relapse to smoking. When symptoms cannot be repressed, as in the case of troublesome cough or clearing the throat, smokers often rationalize the cause: I have pointed out in a previous communication (Johnston, 1942) that they often attribute their cough to a variety of causes other than smoking and "take all manner of useless medicaments while rejecting and even resenting the suggestion that smoking might be responsible."

In repressing and rationalizing facts adverse to smoking, smokers deceive themselves and communicate their deception to non-smokers. In this respect tobaccoism is clearly a communicable disease, spread by the example, the encouragement (e.g., the proffered cigarette), and by the communicated deception of smokers (i.e., by "psychological infection"). The frequency of references to the comforting action of tobacco (without any indication of its repressed unpleasant effects), and the scale of tobacco advertisements (all of which suggest that it is harmless, normal, manly, or attractive to smoke a particular brand), give some indication of the volume of deception to which non-smokers (and smokers) are exposed. The pandemic of smoking to-day testifies to the efficacy of such "infection."

Owing to the resistance of smokers I have been unable up to now to ascertain the time lost on account of illness by comparable groups of smokers and non-smokers on an adequate scale. Some indication of the total harm caused to health by smoking can, however, be deduced from its effects on mortality. The following figures were published by Raymond Pearl in 1938:

Table I

The death rate (1,000qx) and survivorship (lx) functions at 5-year intervals, starting at the age of 30, of non-users of tobacco, moderate smokers, and heavy smokers.

Age	Non-users		Moderate Smokers		Heavy Smokers	
30 ..	8·18	100,000	7·86	100,000	16·89	100,000
35 ..	8·78	95,883	9·63	95,804	21·27	90,943
40 ..	10·01	91,546	11·89	90,883	23·91	81,191
45 ..	12·04	86,730	14·80	85,129	25·69	71,665
50 ..	15·16	81,160	18·61	78,436	27·49	62,699
55 ..	19·92	74,538	23·67	70,712	30·09	54,277
60 ..	26·73	66,564	30·49	61,911	34·29	46,226
65 ..	36·88	57,018	39·83	52,082	41·20	38,328
70 ..	51·69	45,919	52·84	41,431	52·72	30,393
75 ..	73·02	33,767	71·28	30,455	72·33	22,388
Total investigated	2,094		2,814		1,905	

Age groups over 75 are excluded by me from Pearl's table.

A personal investigation of the smoking of an unselected series of men and women of a wage-earning community in England in 1936–7 provided the following analysis:

Table II

Total		Non-smokers	Moderate Smokers	Heavy Smokers
Men	804	89 (11%)	270 (34%)	445 (55%)
Women	762	580 (76%)	151 (20%)	31 (4%)

Heavy smokers smoked more, moderate smokers less, than 10 cigarettes or ½ oz. pipe tobacco per day.

It will be observed (Table I) that the mortality of heavy smokers from all causes between the ages of 30 and 45 is more than double that of non-smokers; also that the effects of smoking on mortality diminish as age advances. Since 55% of our male population and 4% of our female population were heavy smokers in 1937 (Table II) and the consumption of tobacco in this country in 1944 was 34% higher than in 1937, it is clear that smoking is an important cause of mortality and that active measures to combat tobaccoism are urgently called for.

I should like to express my gratitude to Dr. James L. Halliday, Department of Health for Scotland, for valuable criticism.—I am, etc.,

Wallasey. Lennox Johnston.

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Report of the Commissioners of His Majesty's Customs and Excise, 1944.

Trichlorethylene in Midwifery

SIR,—I have read Dr. D. R. Cairns's letter (June 23, p. 885) with interest. His experience with trichlorethylene in midwifery is similar to mine. However, I think that some caution should be exercised, and it is my practice not to use trichlorethylene in patients who have been on a very low protein diet. This is, of course, to avoid the possibility of liver damage. When labour has been difficult and prolonged I think that extra care should be used to give only small amounts of the drug in order to ensure that the tone of the uterus does not suffer.

I see no reason why an inhaler such as Freedman's should not be used by midwives providing they have received adequate instruction; but I would suggest that Clover's or Hewitt's modification will give better results in the hands of the practitioner. In my letter in the *Journal* of March 24 (p. 422) I described my experiences using Hewitt's wide-bore inhaler. The great advantage is, of course, that it allows for fine adjustment of the concentration of vapours one desires to use. Differences in individuals in their response to anaesthetics are too well known to need description.—I am, etc.,

Eastcote, Middlesex. D. C. DEVITT.

Mono-articular Osteo-arthritis of the Hip

SIR,—Mr. Grant Waugh is to be congratulated on his results with acid injection of the osteo-arthritic hip (June 23, p. 873) and on his temerity in publishing them. For he will know well enough that intra-articular injection is regarded as a rather improper procedure, since it transgresses (in some manner never quite clear to me) the rules of civilized warfare—against disease. But having to my shame injected rheumatic joints some quarter of a million times, with constant failure in the case of the hip-joint, I applaud the man who offers sober and solid proof that he can powerfully help persons suffering from this gravest and most disabling of all osteo-arthritic lesions. For this reason it would seem most unfortunate if Dr. Aldred-Brown's attempt (July 7, p. 28) to explain away the results of intra-articular medication should deter others from trying the matter out in their own practice. It must be within the competence of few to attain the success hinted at by Dr. Aldred-Brown as won by simple exercises, but acid injection can be tried out by all. I shall try it myself, having over many years observed uniform failure of exercises, simple and otherwise, in obviously less skilful hands than those of Dr. Aldred-Brown. —I am, etc.,

London, W. G. LAUGHTON SCOTT.

SIR,—I am the last to minimize the value of non-weight-bearing exercises in this condition; but if Dr. Aldred-Brown will inject one joint in a bilateral case and use the other as a control he will, I think, find that the rate of recovery to a considerable degree of functional efficiency is very much more rapid in the injected joint than in the other.—I am, etc.,

Sunderland. W. GRANT WAUGH.

Procedure to Stop Anginal and Asthmatic Attacks

SIR,—Peller published in 1923 an account of the therapeutic effect following the obstruction of the venous return of the upper and lower extremities on cardiac asthma and angina pectoris. He observed a decrease of the systolic and diastolic pressure within a few minutes as a result of this procedure. He did not mention who was the first to introduce this method.

The therapeutic effect following venous congestion of both extremities (arms and legs) is really startling. Since Peller's publication I have used this simple method in acute cases of so-called bronchial asthma as well, with the same surprising result—the immediate cessation of the attack. Only the venous circulation should be obstructed, not the arterial.

Peller believed that by reducing the amount of blood returning to the right side of the heart and the lungs so that the dilated right auricle had a chance to recover its tone and in decreasing the amount of venous blood reaching the lungs the circulation and gaseous exchange in this organ were improved. There may, however, be another explanation for this startling effect, so far as I know not mentioned before. Having studied the varicose syndrome of the legs and the rectum with their sometimes agonizing pains and cramps, it struck me that there may be an analogy between these clinical symptoms and those of angina pectoris, cardiac and bronchial asthma.

Supposing the right auricle is being overloaded with venous blood, the auricle distended, and the muscle losing its tone, we may then expect there to be back pressure into the coronary sinuses. Now if the venous return from the heart proper suffers, following distension of the heart veins there will be temporary "cramps," then loss of muscle tone, and later atrophy of the myocardium due to anoxaemia and intoxication of the heart muscle. This leads me to propose, therefore, that the syndrome complex called in our present clinical language "asthma" and "angina" may be caused by a functional disturbance of the venous return from the heart muscle proper, due to distension of the right auricle. I feel that the pathological changes which may or may not be present in the coronary arteries—i.e., coronary sclerosis—are late changes, and that the arterial changes are not primary but the result of a functional disturbance of the venous return from the heart muscle.

I would like to hear of the experiences of others using this simple procedure, and, if possible, a better explanation of the startling effect produced. The above procedure is simple, can be repeated in following attacks, saves morphine, and is easily performed by the nursing staff using four elastic bandages or pneumatic tourniquets.—I am, etc.,

London, W.1. KASPER BLOND.

Electro-convulsive Therapy Apparatus

SIR,—It was with some astonishment that we read the letter in your issue of June 30, regarding an E.C.T. instrument we described recently. Your correspondent, who styles himself "S.M.I.E.E.," which we understand connotes student member of the Institute of Electrical Engineers, makes the most extravagant statements in regard to the instrument, and in doing so displays a lack of knowledge of the practical problems of shock therapy with which it is concerned. We feel obliged to answer his criticisms lest they should mislead other readers.

He states that the apparatus is not capable of "delivering exactly the required voltage for an exact period of time measured in 1/10th of a second," and has not a margin of electrical safety suitable for medical work. Yet it was precisely with these requirements in mind that the instrument was developed. The time intervals obtainable with the apparatus are spaced by 1/10th second, ranging from 0.1 to 1 second—intervals which are *more* than sufficiently close for the accuracy to which dosages can be prescribed, and which cover a greater range of times than is required in practice. The voltage steps were chosen with the same consideration. To imply that it is an advantage to be able to deliver a shock lasting, say, for 0.431 second is simply ludicrous, and merely leads one away from the all-important requirement of simplicity and fool-proof operation. The telephone dial was chosen because it *has* been proved to have an extremely high degree of reliability; it is in fact considerably more trustworthy than most relays and condensers.

Voltage regulation is criticized similarly (though without any detailed knowledge of the transformer used). The voltage drop on load is in fact only a few per cent., and does not detract in any way from the ability of the apparatus to supply the required shock at a reasonably closely prescribed voltage.

Earthing of the patient in such treatment is largely a matter of opinion. If the patient is treated on an insulating couch then earthing of the secondary winding gives protection against possible faults in the transformer or other parts of the circuit. If, however, there is a likelihood of the patient's touching an earthed conductor while being treated it is better to keep the secondary winding free. This can be readily achieved by disconnecting a lead in the apparatus; it is not in any way fundamental to the circuit.

The use of a 1 mA meter for the "test" circuit has been found quite satisfactory with the size of electrodes we use, and we see no grounds for replacing this by a much more costly instrument. The design has been chosen to meet the practical needs, not the theoretical ideals which so easily obscure the main issue.

We would, in conclusion, point out that we have not been unmindful of the many factors to which your correspondent has so kindly drawn our attention. There is no need for him to talk of "fatal complications," "convulsion trauma," and "accidental electrocution," and to imply that these dreadful results can be avoided only if one purchases a machine which is heavy, bulky, and probably expensive, due to the fact that many of these embody a number of refinements of no practical value whatever.—We are, etc.,

A. SPENCER PATERSON.
F. T. FARMER.

Belsen Camp

SIR,—In the recent literature published on what has been done in Belsen Camp reference has been made to the excellent work of medical students, research teams, civilian workers, and combatant units, but so far no mention has been made of the work of the Army nursing sisters. Nursing officers of 32 C.C.S. and 9 Br. General Hospital were in the hospital area from the earliest days, and some account may be given of the conditions under which they worked.

The hospital was divided into blocks holding 150 beds, and subdivided into rooms of 4 to 8 patients; one sister was in charge of each block, helped by one British orderly and an inadequate number of internees later replaced by Germans. Patients were admitted at the rate of about 500 a day, beds consisting mainly of palliasses on the floor. It was estimated that about 80% had diarrhoea, most were confined to their palliasses, and there were 2 bed-pans to each block. The results can be imagined!

Food distribution was a major problem; all the patients had an insatiable hunger and were invariably dissatisfied with the amount they got; free fights between the different races were a common occurrence at meal-times. Hoarding was almost universal, and nearly every bed had mangled scraps of bread, butter, etc., hidden under the mattress or blankets. Deaths to begin with were numerous, and it was a common occurrence to find several dead in bed on the morning round. The patients themselves were miserable and emaciated to an almost unbelievable degree; they were entirely lacking in any form of self-respect and uninterested in anything except food. The language difficulty precluded conversation even with the workers, who had to be instructed in their duties by means of signs and demonstrations.

Working under these conditions in close and constant contact with the patients the Army sisters showed a willingness and initiative that deserve the highest praise, and the skill and cheerfulness with which they dealt with the patients, obstinately refusing to be put off by sights and smells, must be reckoned as a major factor in the rapid recovery, both mental and physical, of the patients under their care. It is to be noted that many of the sisters came to Belsen immediately following a hectic and gruelling time dealing with the casualties of the Rhine crossing, and at the end of nearly a year's service with the B.L.A.—We are, etc.,

HILDA ROBERTS,
Major, R.A.M.C.
PETRONELLA POTTER,
B.L.A. Capt., R.A.M.C.

Tuberculous Persons in Prisons

SIR,—I am horrified to read in the *Journal* of July 7 (p. 32) Sir Donald Somervell's statement in Parliament concerning tuberculous prisoners. He states that *where possible* the prisoners are employed in light gardening work. Does this mean, therefore, that if light work is not available then they are put to heavier manual labour? The statement, if I understand it rightly, does not lend itself to the interpretation that if "suitable" work is not found for them then the prisoners are excused from working altogether. The "special working parties" mentioned are arranged, he admits, with the purpose of segregating these cases of active tuberculosis from other prisoners who are free from infection, and not in order to relieve them of doing work which would accelerate the cours of the disease.

Surely every patient (even if he is a criminal) is entitled t all the medical and nursing care, which includes absolute rest so vitally necessary to cases of active phthisis. Or are we suc a degenerate nation that we can deliberately allow patients t suffer and die a premature death simply because they have bee guilty of some crime in the past, and consequently are considered no longer fit persons to receive adequate sanatoriun treatment?

Further, I am wondering in what degree (if at all) moder prison conditions could be accounted aetiological factors i tuberculosis in prisoners.—I am, etc.,

Aldershot. AUDREY ROBERTS.

Teaching of Physiology

SIR,—Dr. R. A. Gregory (July 7, p. 26) no doubt expect general commiseration on the fact that 30,000 cats were lost t his physiological abattoir in Liverpool last year. I, for one congratulate the R.S.P.C.A. on their vigilance, rank heres though it be to say so, and I can raise no enthusiasm over thos Continental physiologists with their revolting cruelties, thoug they were, it is true, only practised on small trussed-up animals

One cannot, of course, expect a professional physiologist t look at it in that way. After all, physiologists must live, an they have the common weakness of all specialists in having profound belief in the efficacy of their own nostrums; in thi case more, and ever more, physiology for the top-heav medical student. Will, we may ask with all respect to th professors, an increase in the kind of dilettante surgery whic goes on in a physiological laboratory improve the quality o the average doctor? One takes leave to doubt it. It used t require a "slaughter of the innocents" to prove that a muscl contracted when stimulated, whereas one has merely to dro a brick on to one's foot to make a whole host of muscles—facial, lingual, and skeletal—contract very smartly.

However, living perpetually in an atmosphere divorced fro human reality seems to make even simple facts difficult c perception. What is the objection to a competent demonstrat giving an exhibition of the main facts of experimental physic logy? This is far better than the maiming and mauling whic usually goes on in the average laboratory and the inconclusiv and unsatisfactory results which come from such bunglin How many of us have to leave hospital having left undon those things which ought to have been done, and having t make them good later on? If there are going to be any omissions in the welter of things required to be done by the medic student, then let it be in the sphere of physiology rather tha of clinical medicine, and our long-suffering patients may hav cause to be grateful for an increased knowledge in the doctors of what really matters.—I am, etc.,

Hove. G. L. DAVIES.

A Token of Thanksgiving

SIR,—As Honorary Treasurer of the Royal Medical Benevolent Fund, I recently received a letter from which I venture t quote the following words:

> "For many weeks I have been intending to send the enclos cheque for 50 guineas as a token of thanksgiving for the end the bombardment of London, the preservation of my wife and myse and our home, and the cessation of the fighting in Europe."

If it was more widely realized how heavy and burdenso have been the lives of the beneficiaries of the Fund during t years of the European War, there would be many who, havin a feeling of great thankfulness, would like by a "token to t Fund" to bring greater comfort and happiness into the liv of these old people now that peace is again in our own lan I should be so thankful to acknowledge, on behalf of t committee, any special donations that may be sent to me fro any who have the same feeling as our medical colleague wh has forwarded the first token of thanksgiving.—I am, etc.,

C. LUTHER BATTESON,
Honorary Treasurer, R.M.B.F.

1, Balliol House,
Manor Fields, Putney, S.W.15.

Identification of Epidemics

SIR,—The identification of epidemics described by our predecessors must always be speculative, but, in justice to the memory of a great epidemiologist, it is right to mention that most of the evidence quoted by Sir Henry Tidy (July 14, p. 63)—and a great deal more—is fully discussed in Hamer's *Milroy Lectures,* and it may be of interest to remind readers of the train of reasoning (*The Milroy Lectures on Epidemic Disease, etc.,* by W. H. Hamer, London, 1906, pp. 72, Bedford Press).

Both the symptoms reported and the physical signs observed in cases of illness during an epidemic or pandemic of influenza vary much (profuse sweating, for instance, is mentioned as a prominent feature in many famous epidemics—e.g., by Baker in the great influenza of 1762); but there is one criterion—whether one should call it statistical, epidemiological, or clinical, I am not quite sure—which applies to all great epidemics—namely, the dissociation of symptoms and physical signs at an early stage; the patients are much more ill than the physical signs would lead one to expect. A very good practitioner has said that if he were called to a number of patients taken suddenly ill with "colds" who were very much worse than anything he could find in the chest justified, he would know that influenza was epidemic. Now, apart from sweating sickness, there have been and continue to be odd outbursts of epidemic disease, Haffkrankheit, Bornholm disease, epidemic myalgia, etc., in which one has the features of sudden onset, very great severity, and variable symptomatology; also, of course, the agues, obscure nervous illnesses, and so on, to which Creighton, Crookshank, and others called attention.

Now Hamer, an enthusiastic admirer of Sydenham, wished to rationalize Sydenham's mysterious doctrine of epidemic constitutions, and suggested that these odd epidemics belonged to what he called the "setting" of a pandemic—they led up to, or followed after, a great explosion. How far he was successful is a matter of opinion. Personally I agree with Freind, who thought Sydenham's doctrine mythological, but it is quite certain that Hamer and Crookshank *did* make out a curious association in time between these odd epidemiological happenings and the emergence of a great epidemic of influenza. Vague as all this may be, it is valuable, because one of the wholly unsolved problems of pandemic influenza is what prepares the way. If there are indeed forerunners, perhaps with our present knowledge of virus we may reach an explanation.—I am, etc.,

MAJOR GREENWOOD.

The Services

Surg. Lieut. R. St. C. Mooney, R.N.V.R., has been awarded the D.S.C. for outstanding courage, tenacity, and devotion to duty when H.M.S. *Bedouin* was sunk in defence of a convoy to Malta.

Temp. Surg. Lieut. M. C. Connell, R.N.V.R., has been mentioned in dispatches for bravery, great endurance, and devotion to duty.

Temp. Surg. Lieut. George Smith, R.N.V.R., has been appointed M.B.E. (Military Division) for bravery and great devotion to duty, while serving in H.M.S. *Daffodil,* in refusing to leave his ship though seriously wounded himself in order that he might attend casualties.

Lieut. N. St. J. Hennessy, R.A.M.C., has been awarded the M.C. in recognition of gallant and distinguished services in Burma.

The following appointments and awards have been announced in recognition of gallant and distinguished services in North-West Europe:

O.B.E. (Military Division).—Cols. W. A. Fraser and S. G. U. Shier; Lieut.-Cols. D. L. Maclean and E. F. Ross, R.C.A.M.C.

M.B.E. (Military Division).—Majors D. R. McCrimmon and E. I. Ostrey, R.C.A.M.C.

Bar to the M.C.—Capt. E. L. Moore, M.C., R.A.M.C.

M.C.—Major (Temp.) D. I. McCallum; Capts. W. Blair, J. Clark, P. Esmonde, A. I. D. Prentice, and T. McS. Wilson; Lieut. E. C. B. S. Keat, R.A.M.C.

CASUALTIES IN THE MEDICAL SERVICES

Died.—Lieut.-Col. Gilbert Cleary Babington, R.A.M.C., W/Capt. Alexander Prentice Thomson, R.A.M.C.

Obituary

A. R. LAURIE, C.B.E., M.B.

Dr. Alan R. Laurie, C.B.E., T.D., M.B., Ch.B., D.M.R.E., who died at his home in Derby on June 27, was a man of wide enthusiasms and many interests. His main professional work lay in radiology, and at the Derbyshire Royal Infirmary he and his friend, G. L. Stiles, formed a powerful team of clinical experience and wise interpretation.

A. L. S. writes:

Dr. Laurie's previous work as a general practitioner gave him an appreciation of and sympathy with the problems of radiology from the family doctor's side. He had a wide private consulting practice in radiology throughout Derby and Derbyshire, and apart from the hospitals in Derby to which he was radiologist he acted in a similar capacity to many smaller institutions throughout the county. He was also in charge of the Skin Department at the Derbyshire Royal Infirmary, and to attend his out-patients was an experience to remember—his unfailing good humour and wit, his courtesy and tenderness to the tiresome old "chronics," and the absence of bustle and boredom, produced a happy atmosphere not always obtained at out-patients.

Apart from his purely professional work I would say that his great interest lay in his Army associations. I was with him in the last war, when he was in turn adjutant to an R.A.M.C. training centre, medical officer to the 6th Yorks in France, and a vital and active member of the 34th Field Ambulance. In 1936 he became A.D.M.S. to the 46th (North Midland) Anti-Aircraft Division, following a highly successful period as O.C. 137th Field Ambulance, which he brought up to wartime strength and a high efficiency. Probably no man knew more of the medical service of the A.A. Forces generally than Dr. Laurie, and a C.B.E. was some recognition of the enormous amount of hard work, imagination, and detailed care that he put into this work.

As a sportsman he was versatile and keen: a cricketer of skill, a forceful batsman, and a brilliant fieldsman, he could have played for his county had he had the time. He obtained his blue at Edinburgh University for cricket and soccer, and he played soccer for a time with the Derbyshire Amateurs. He loved the country and his fishing and an hour at the local inn with men who always welcomed and respected him. The stage lost a fine actor in Dr. Laurie; he stage-managed and took parts in many performances of the Derby Branch of the British Shakespeare Society; and, in lighter vein, he produced shows for the nurses at the Derbyshire Royal Infirmary. Only a few of his friends knew the difficulties that he had been working under for a year or more. He was too vital and conscientious to take the rest that was necessary, and he had—perhaps happily—only a short period of invalidism before he died. "Peter" Laurie was a man of courage and vision, incapable of any meanness and generous in thought and deed, and friends from many walks of life mourn his loss. He leaves a widow and four daughters.

G. GREGORY KAYNE, M.D., M.R.C.P.

The premature death of Dr. G. Gregory Kayne at the age of 44 deprives workers in the field of tuberculosis of one of their most valued colleagues. Born on the Continent, he came in boyhood to this country, and subsequently entered St. Bartholomew's Hospital, qualifying in 1923. He gained the prize for the B.M.A. essay, proceeded to the degree of M.D.Lond., and became M.R.C.P. in 1927 and D.P.H. in 1936. After filling posts in general medicine and surgery he turned to the problems associated with tuberculosis, and these remained his absorbing interest for the rest of his life. After serving a period as assistant medical officer at the North Wales Sanatorium, he was appointed Dorothy Temple Cross Research Fellow in Tuberculosis by the Medical Research Council. This scholarship took him to most of the important centres of tuberculosis work in

Europe, and he became a colleague and friend of Savé, Hazemann, Armand-Delille, Wallgren, and other leading workers. He studied particularly preventive work, notably the B.C.G. vaccine and the "Grancher system," and wrote papers on both these subjects. His interests in the field were wide and his knowledge of the literature remarkably extensive. The last ten years of his life were spent in the service of the Middlesex County Council, first as deputy medical superintendent at Clare Hall, and then as tuberculosis medical officer at Hounslow.

Perhaps Kayne's greatest activity was shown as a writer. For some time he edited *Tubercle*, but his chief work was the book *Pulmonary Tuberculosis*, which he wrote with Pagel (for pathology) and O'Shaughnessy (for surgery), and edited. This important volume remains a sound guide for tuberculosis workers.

In council and committee his views were clearly and vigorously expounded; his wide knowledge, especially of foreign literature, was invaluable and was often put at the disposal of this *Journal*. He served on the Tuberculosis Committee of the M.R.C., and was a member of the Council of the Tuberculosis Association. Unsparing of himself, he often worked far into the night; at times his keenness perhaps made him forget that others might not keep pace with him. He overcame many hardships of early life, and battled with great personal difficulties in achieving a position where he did work of lasting value, which was honoured not only by his colleagues in this country but by the official recognition of the French Government.

A colleague writes:

In the death of Gregory Kayne phthisiology loses one of its most lively, industrious, and progressive promoters. His main interest and gift lay in the clear presentation of controversial problems. He was not the man to be satisfied with a superficial sifting of pros and cons, and he would never evade difficulties which could be covered up by brilliant diction, but would work on, after a day overflowing with professional duties, until he had found his way through the literature, whatever its magnitude. A thorough command of modern languages, an unusual capacity for logical thinking, and a critical understanding of the most urgent problems of tuberculosis enabled him to give masterly reviews of the B.C.G. question, of heredity and immunity in relation to tuberculosis, and of the control of tuberculosis in England. But it was on a multitude of personal observations collected in many countries that he could base his work on tuberculosis in home contacts, children and adults, which formed the nucleus of a comprehensive report on the prevention of tuberculosis in childhood with special reference to methods of separation—the main result of his work under a Dorothy Temple Cross scholarship awarded to him by the Medical Research Council. The same original material and technique of investigation are recognizable in Kayne's pioneer work on tuberculin—a series of papers starting with a comparison of old tuberculin with a preparation from a synthetic protein-free medium, which led up to the elaboration of the modern technique of the Pirquet-Mantoux test.

In the book on pulmonary tuberculosis jointly written with W. Pagel and L. O'Shaughnessy, Kayne visualized the work as an organic whole in which the various aspects should influence and penetrate each other, rather than an encyclopaedia in which they form independent and uncorrelated articles. If anything of this nature has been achieved, the credit goes to Kayne's able editorship and tireless co-ordinating, often restricting, but always stimulating energy. For a life so full of fruitful labour as that of Gregory Kayne there is no more fitting motto than the word of the sages: "The day is short, and the work is great; the labourers are sluggish and the reward is much, and the master of the house is urgent."

The sudden death of Dr. A. W. Matthew on May 27, just as he was taking leave of some friends, has filled many at St. Mary's Hospital and elsewhere with regret at the loss of one so staunch and loyal, while still in full activity at the age of 54. Matthew was a student at the London Hospital, and not long after qualification was swept into the war of 1914-18, in which he achieved the curious distinction of being the last man to be evacuated from Gallipoli at Suvla, where he had to stay with a party of sick and wounded. Afterwards he was severely wounded on the Somme and narrowly escaped the loss of an arm. On demobilization in 1919 he obtained the appointment of anaesthetist at the Throat and Ear Hospital in Golden Square, and also to the Queen's Hospital for Plastic Surgery at Sidcup. Then in 1922 he was appointed anaesthetist to St. Mary's, where for some years he had a close association with the late Mr. Clayton Greene—a sufficient testimony to the trust and esteem in which his professional capacity was held. Another was his election to the office of president of the Section of Anaesthetics at the Royal Society of Medicine during this war. Although he had command of the newer appliances and used them with skill, he never forgot the obligation he owed to the students whom he had to teach and that often they would have to rely upon simple methods, for elaborate apparatus would not always be available in practice. He insisted, therefore, upon simplicity in anaesthesia when it was possible without sacrificing other advantages, and his point of view was appreciated alike by surgeons and students. This simplicity was truly part of his character, and with unfailing kindness endeared him to the many with whom he worked for so long.

Major C. E. S. Phillips, whose death occurred on June 17, was born in February, 1871. Charles Phillips was a gifted man; he played the violin, painted in oils, and was otherwise dexterous of hand. Easy financial circumstances all his life allowed him to put his time at the service of science in many ways. Perhaps his most important piece of applied science was done on the War Office *X*-ray Committee during the last war. The question of portable *x*-ray equipment for work in casualty clearing stations on a big scale had certainly not been solved in 1914, and the committee tackled the problem under the joint leadership of Prof. Callendar and Sir Archibald Reid, the organization of the laboratory work being in the hands of Dr. J. H. Brinkworth. Phillips also prepared a kind of non-transparent glass which had unusual electrical conducting power, and physicists in the early years of radio-activity struggling with electroscopes which had to be frequently charged were grateful to him for a very ingenious electrical charger. Phillips gave freely of his time in the service of scientific societies, at whose meetings his genial ways won him many friends. He was at one time president of the Röntgen Society and acted as honorary treasurer over a period of many years for that society, the Institute of Physics, and the Royal Institution. He acted for some years as honorary physicist to the Cancer Hospital.

Dr. Arthur George Troup, D.P.H., who had been medical superintendent of the Willesden Municipal Hospital for nearly 20 years, died suddenly at Stonebridge, N.W.10, on July 6. He was born in Aberdeen on Oct. 24, 1884, and was educated at the Robert Gordon College and the University of Aberdeen, where he graduated M.B., Ch.B. in 1906 and proceeded M.D. in 1914. Before his appointment to Willesden in 1925 Dr. Troup had been assistant M.O.H. for Essex and Hampshire, and house-physician and later resident pathologist at the Stephen Ralli Memorial Laboratory, Royal Sussex County Hospital, Brighton. During the last war he served with the R.A.M.C. over-seas as M.O. to the 1/11 London Regiment, to No. 77 Casualty Clearing Station, and to No. 11 Egyptian Stationary Hospital, reaching the rank of acting major. Dr. Troup had received a B.M.A. scientific grant in 1908, was chairman of the Willesden Division in 1931–2, and clinical secretary 1933–4. He was a Fellow of the Society of Medical Officers of Health, had been assistant examiner for the D.P.H. of the English Conjoint Board, and for some years lectured on infectious diseases at the Middlesex Hospital Medical School. He had contributed to the *Journal of State Medicine* and the *Lancet*, and was joint author with Dr. R. Adam and Prof. S. P. Bedson of the report of an outbreak of psittacosis at the London Zoological Gardens published in this *Journal* in January, 1939.

Dr. Francis Darlow, who had been in practice at Horsforth, near Leeds, for 47 years, died on July 8. He was born on March 15, 1872, at Bradford, and from Bingley Grammar School went to the Leeds Medical School. He graduated M.B., Ch.B. of the Victoria University in 1897 and took the same degree *ad eundem* at Leeds University in 1905. Starting as junior officer in the 1st West Riding Field Ambulance (T.F.) on its formation in 1908 he was transferred to the unit then known as the 49th Division Casualty Clearing Station, with which he went over-seas in 1914. He served with the rank of lieut.-colonel as officer commanding No. 7 C.C.S., and afterwards commanded the 49th (2nd Northern) C.C.S.; he was awarded the Territorial Decoration and retired as colonel. Dr. Darlow had been a member of the B.M.A. since graduation. He was an associate of the Yorkshire College and a member of the Leeds and West Riding Medico-Chirurgical Society. He took a keen interest in the British Legion, and for a number of years was a member of the Horsforth Urban District Council.

The death is announced of Mr. W. J. Allkins, who was on the editorial staff of the *Medical Directory* for 46 years. Joining the firm of J. and A. Churchill at the age of 17, he retired in 1933. Owing to the absence of the editor and subeditor on active service, he took up his duties again in 1941 and was acting editor during the centenary year of 1944. His quiet efficiency and strict attention to detail contributed much to the accuracy and usefulness of this well-known work of reference.

Universities and Colleges

UNIVERSITY OF MANCHESTER

The following candidates have been approved at the examinations indicated:

M.D.—G. Caplan, F. S. Hawkins, J. A. Herd.

FINAL M.B., CH.B.—*†H. Jackson, *‡ M. H. Oelbaum, *‡ N. J. Roussak, Constance Atkinson, N. J. Blockey, J. L. Braithwaite, M. Brookes, R. B. Broughton, Dorothy B. Charlton, N. K. Crooke, ‡J. F. Dark, B. H. Dawson, A. Dowling, J. E. Drabble, C. L. Dubberley, Lucy M. Dunkerley, Mary E. Eagles, R. B. Fitzgerald, G. C. Fletcher, L. Freedman, R. L. Gadd, Margaret Hedley, F. Howarth, E. C. Hutchinson, F. B. Jackson, N. A. Law, Kathleen V. Lodge, K. Lowe, E. V. Mellor, T. Mooney, Kathleen, P. E. Mumford, †‡Sylvia N. Nabarro, H. Nussbaum, A. O. Osbaldeston, M. C. Pennington, ‡ A. H. C. Ratcliff, A. H. Rowson, M. H. Russell, E. P. Samuel, J. P. Smith, Margaret E. Tate, H. S. Trafford, J. G. Vause, A. G. Walker, Marie R. West, Alice R. E. Widdows, J. D. Willins, J. Wiseman, E. Wood. *Part I.—Forensic Medicine and Hygiene and Preventive Medicine:* Margaret E. Bailey, J. I. Bentley, P. Brooks, R. H. Broughton, W. B. Browne, B. N. Catchpole, D. A. Chadwick, C. P. Chivers, J. F. Cogan, H. S. Coulsting, J. K. Craig, Annie Cross, K. S. Daber, Elsie M. Dakin, A. M. Davies, Vera A. Dearden, O. G. Dodge, Jean B. Fletcher, C. J. Glancy, I. M. Gow, P. W. Harvey, A. B. Haward, H. G. Herrman, H. P. Hilditch, C. B. Hindley, D. A. N. Hoyte, E. V. Hulse, J. A. Jamieson, Elizabeth Jenkins. P. D. Kelsall, P. B. Lacy, B. H. Lees, T. K. J. Leese, E. Levy, E. S. Lomas, D. Longson, J. D. Lumsden, S. T. Lunt, Winifred M. McIlwrick, D. A. MacLeod, J. Marshall, Jessie Million, N. S. Moores, J. Needoff, M. Panikkar, I. W. Payne, N. W. Preston, E. Priestley, D. W. Purser, Aune R. Quinn, Kathleen Rampling, Margaret Rhodes, R. G. Rooney, K. A. Rowley, V. E. Sherburn, K. D. Stewart, Roberta A. Stewart, J. B. L. Taylor, Hilary M. Thompson, H. S. Trafford, F. N. Valdez, J. G. Vause, Lorinda Wallace.

* Awarded second-class honours. † Distinction in Medicine. ‡ Distinction in Surgery.

UNIVERSITY OF DURHAM

The honorary degree of D.Sc. of Durham University was conferred on July 11, at King's College, Newcastle, upon Sir Alexander Fleming, F.R.S., F.R.C.P., F.R.C.S., professor of bacteriology in the University of London, and director of the department of systematic bacteriology at St. Mary's Hospital Medical School.

UNIVERSITY OF EDINBURGH

At a graduation ceremony held on July 11 the following degrees were conferred:

M.D.—[1]J. F. Curr, [1] [2]Major R. B. Lucas, R.A.M.C., [2]Major A. Roberts R.A.M.C., R. V. Thomas, Surg.-Cmdr. D. C. Wilson, R.N.V.R.

D.PHIL.—[2]S. K. Basu, M.B.

M.B., CH.B.—J. D. Abbatt, Barbara M. Adams, R. N. Andrew, T. B. Anthony, A. D. Bain, W. L. Barton, A. D. R. Batchelor, S. H. B. Blaikie, Margaret H. G. Borrowman, M. Brown, A. D. Caird, Margaret A. Calder, Elspeth, S. K. Campbell, Mercédès D. Carvel, A. F. Catto, Gwen S. Clark, Lorna H. Cortis-Stanford, L. F. G. Cruickshank, A. Davies, Anne D. G. Davies, E. C. K. Douglas, G. K. Douglas, K. M. Douglas, Marie-Hélène D. Douglas, Helen N. Duke, D. Durie, Frances B. Early, D. J. Ellison, [3]Constance C. Forsyth, A. H. Fraser, F. C. Fraser, Doreen C. Gardner, D. F. Gibbs, E. Gilderdale, W. J. Gillies, J. C. Gould, J. T. Gray, Agnes I. Greig, N. D. Gunasekara, A. I. Gunn-Russell, [3]Hilary F. H. Hamilton, I. R. Henderson, E. B. Hendry, L. W. Hereward, C. Hyman, H. Innes, A. W. Irons, J. W. Jackson, W. C. Jamieson, Evelyn I. C. Jardine, G. P. Jeffrey, T. Joyce, J. Kirk, A. B. G. Laing, I. Lindsay, R. Ll. Lyon, Mary M'Donald, A. MacFarlane, Mary L. Macfarlane, G. M'L. M'Gillivray, J. M'Inally, A. B. M'Intosh, W. G. M'Intosh, D. G. Mackay, G. L. Mackay, J. R. G. Mackessack, Janet L. M'Laren, Margaret E. Macnair (*née* Cameron), R. S. M'William, A. Mather, Alison M. Matheson, J. D. Matthews, Nina A. Mellon, W. G. Merriman, Mary Y. I. Millar, Isobel L. Morrison, Margaret Munro, Isobel J. Murray, A. B. Ostrovsky, Katherine S. H. Pattullo (*née* M'Connell), J. M. U. Philip, [3]T. P. S. Powell, W. D. Rider, Jean A. Ritchie (*née* Wilson), W. A. T. Robb, M. Segal, D. Simpson, H. M. Sinclair, [3]I. S. R. Sinclair, Elizabeth B. Smith, A. R. Souyave, R. F. H. Spencer, W. J. Stedman, D. D. Stein, N. L. Stokoe, A. A. B. Swan, G. S. Taylor, Margaret H. F. Turnbull, I. A. Waldie, J. R. Walls, H. Watson, Josephine A. C. Weatherall (*née* Ogston), G. G. Wells, Beatrice M. Wilson.

[1]Commended for thesis. [2]*In absentia.* [3]With honours.

Degrees were also conferred by the Polish School of Medicine at Edinburgh.

The following prizes, etc., were presented:

Cameron Prizes in Practical Therapeutics: Sir Alexander Fleming, F.R.S., and Sir Howard W. Florey, F.R.S. *Ettles Scholarship and Leslie Medal, Buchanan Scholarship in Midwifery and Gynaecology, Royal Victoria Hospital Tuberculosis Trust Medal:* R. F. Robertson. *Scottish Association for Medical Education of Women Prize, Dorothy Gilfillan Memorial Prize, Keith Memorial Prize in Systematic Surgery, Murchison Memorial Scholarship in Clinical Medicine, Pattison Prize in Clinical Surgery:* Hilary F. H. Hamilton. *Mouat Scholarship in the Practice of Physics:* J. S. Robson. *James Scott Scholarship in Midwifery and Gynaecology:* A. D. Bethune. *Beaney Prize in Anatomy and Surgery:* I. S. R. Sinclair. *Annandale Medal in Clinical Surgery:* G. L. Mackay. *Murdoch Brown Medal in Clinical Medicine:* T. P. S. Powell. *Wightman Prize in Clinical Medicine:* W. A. T. Robb. *Lewis Cameron Postgraduate Prize:* G. Dempster. *Lewis Cameron Undergraduate Prize in Bacteriology:* H. A. F. Dudley. *Colonel Thomas Biggam Memorial Medal and Prize in Pathology:* Eileen V. M'William. *Maclagan Prize in Forensic Medicine:* J. Brown (Faculty of Medicine) and D. F. Macdonald (Faculty of Law). *Anderson Henry Prize in Botany:* S. F. Hayes and N. R. W. Taylor (equal). *Cunningham Memorial Medal and Prize in Anatomy:* J. Richmond; *prox. acc.*, J. L. Rennie. *Whiteside Bruce Bursary and Vans Dunlop Prize in Physics and Chemistry:* W. F. Coulson. *Vans Dunlop Prize in Botany and Zoology:* P. G. Aungle; *prox. acc.*, Constance M. Whitfield.

UNIVERSITY OF GLASGOW

At a ceremony of graduation, held on July 11, the following medical and surgical degrees were conferred:

M.D.—*A. Brown, †T. Semple.

CH.M.—*W. M. Borthwick.

M.B., CH.B.—‡Agnes W. Brown, †R. Fife, †J. T. Naismith, †Agnes S. Conway, †W. F. M. Fulton, †H. B. W. Greig, †A. C. Kennedy, †J. Stewart, Muriel S. Alexander, C. K. Allan, G. C. Arneil, K. W. Aron, A. C. Arthur, R. A. H. Bannatyne, G. T. D. Barr, J. S. Barr, Betty J. Barrow, R. W. Baxter, Grace F. M. Braid, Betsy Brown, F. O. Brown, J. K. Brown, J. A. Cameron, Katherine M. Cameron, A. Campbell, A. J. M. Campbell, J. L. Carson, J. K. Chisholm, Catherine W. Clark, Helen A. Clark, Mary D. Clark, I. Colvin, J. H. Cooper, Flora C. Cowan, J. W. Croall, G. Dale, Sheila P. Davidson, R. Dick, H. W. Donaldson, T. W. G. Donohoe, Margaret J. Dunn, Helen K. Edgar, Rhoda M. Emslie, J. K. Fleming, J. M. Fleming, Pearl E. Freeman, W. M. Fyfe, A. W. Gardner, Isabel Y. Gebbie, H. D. Gemmell, T. S. Gilfillan, Isobel C. Graham, J. C. Grant, J. Hacking, W. Hamilton, T. Harvey, J. Henderson, B. R. Hillis, Ruth Hoffman, J. T. Hutchinson, A. Kelly, A. R. Kerr, Katharin I. Kerr, R. Lannigan, W. McR. Laverie, J. Lawson, Sophia Levin, Jean B. Lindsay, Marguerite J. Lunn, D. Lyon, T. C. McAslan, A. G. McCloskey, W. R. MacCrossan, J. J. McElhone, Eileen A. MacGregor, R. J. McIlroy, A. L. MacKenzie, F. A. F. Mackenzie, Annie P. Mackinnon, Helen A. Mackinnon, R. S. Maclachlan, D. MacLeod, Margaret McG. McNicol, R. J. McWilliam, A. Marshall, J. S. Marshall, R. McC. Massey, J. Maxton, A. C. Melrose, J. H. Miller, J. Montgomery, W. Muir, Phoebe C. B. Neill, W. D. Nicoll, Margaret M. O'Hare, T. P. P. O'Hare, A. J. O'Hea, D. A. A. Parker, J. Paul, A. C. Pickles, A. C. Pinkerton, E. McC. W. Reid, Margaret S. S. Richard, Grace M. Ritchie, Sarah M. Robertson, Anne M. Robson, R. Rodger, J. B. Russell, W. McK. Sandeman, D. G. Scott, G. M. Short, J. Simpson, Agnes M. Stark, J. G. Stevenson, Nora M. Syme, W. A. Taylor, S. A. Thomson, T. J. Thomson, W. S. T. Thomson, G. A. Walker, R. M. L. Weir, W. G. Whyte, Margaret Wilson.

*With high commendation. †With commendation. ‡With honours.

Medical News

The annual general meeting of the Medical Society for the Study of Venereal Diseases will be held at 11, Chandos Street, W., on Saturday, July 28, at 2.30 p.m., when there will be a discussion on "The Optimum Methods of Treatment of Venereal Diseases by Penicillin," to be opened by Col. D. M. Pillsbury, U.S. Army, and Major J. Marshall, R.A.M.C.

Col. Walter Elliot, Miss Florence Horsbrugh, and Sir John Boyd Orr are among the visiting speakers who will address students attending the residential summer school which is to be run at St. Andrews University by the Scottish Council for Health Education from Aug. 18 to Sept. 1, with the general theme of "Teaching the Young How to Live." Courses in physiology, psychology, and social medicine have been prepared. This summer school in health education is the first full-scale venture of its kind to be held in Scotland. Full particulars may be had from the secretary, Scottish Council for Health Education, 3, Castle Street, Edinburgh, 2.

The annual luncheon of the Society of Medical Officers of Health will be held at the Holborn Restaurant on Friday, Sept. 21, at 12.30 for 1 p.m. The President (Prof. R. M. F. Picken) will take the chair, and he will be supported by a number of distinguished guests. As the attendance must be limited to 150, members of the society are asked to make early application for tickets, which will be allotted according to priority. Those who wish to bring private guests will receive notice later if seats will be available. The tickets (10s. 6d. including gratuities, but not wine) are obtainable from the acting executive secretary, Society of Medical Officers of Health, Tavistock House South, Tavistock Square, London, W.C.1. A meeting of the society's Council will be held before the luncheon on Sept. 21.

The Council of the Association of Anaesthetists of Great Britain and Ireland entertained Capt. and the Hon. Mrs. Leslie Gamage to lunch on July 5, when the president thanked them warmly for their gift of a Grant of Arms for the Association.

At a meeting of the court of governors of the Middlesex Hospital on July 11, the chairman, Col. J. J. Astor, announced that it was hoped that bicentenary celebrations might be held in July, 1946. The occasion should have been celebrated this year, but when arrangements were being discussed the flying bombs and rockets began to fall and the matter had to be deferred.

The Middlesex County Council has decided that the Staines County Hospital shall be known in future as the Ashford County Hospital, Middlesex, to avoid confusion with the neighbouring Staines Hospital.

In the recent Northern Ireland General Election Dr. G. Dougan (U.) was re-elected to the Northern Ireland House of Commons as the member for Central Armagh, and Dr. F. McSorley (Ind.) was elected as one of the representatives of Queen's University, Belfast.

Dr. David Adler, a well-known Brazilian plastic surgeon, has arrived in this country for a six-months visit, arranged by the British Council. Dr. Adler, who graduated in 1933 from the Faculty of Medicine, University of Rio de Janeiro, is the consulting plastic surgeon to the Air Force Hospital at Rio de Janeiro. During his visit here he will meet, and work with, British plastic surgeons—among them Sir Harold Gillies.

A meeting of the Medical Society of the L.C.C. Service will be held at Southern Hospital, Dartford, on Thursday, Aug. 2, at 2.30 p.m., and will be devoted to rehabilitation and clinical demonstrations.

Two inevitably belated reports on the health of the island in 1940 and 1941 from Dr. Rowan W. Revell, M.O.H., Guernsey, have reached this office. The sanitation in the island is regarded as being most unsatisfactory, with gross overcrowding taxing the sanitary accommodation far beyond its capacity. A general lowering of health was noted, also the widespread occurrence of certain deficiency diseases. Furunculosis and other septic infections were prevalent, probably due to vitamin A deficiency. Neuritis and degenerative changes in the nails were common and were often cured by vitamin B. The population of 23,901 had a death rate of 14.6 per 1,000 in 1940 and 16 per 1,000 the following year. There was little infectious disease in Guernsey.

EPIDEMIOLOGICAL NOTES

Discussion of Table

In *England and Wales* measles notifications fell by 622, and those for whooping-cough and acute pneumonia rose by 77 and 48 respectively.

The rise in whooping-cough was general throughout the country except in the east and south-west. The increase in acute pneumonia occurred mainly in Yorkshire and the south-west. The largest local variations in notifications of diphtheria were increases of 10 in Essex and in Yorks West Riding, and a fall of 18 in Durham. Measles was less prevalent almost everywhere. Southampton had 149 fewer cases, and Kent 128.

Dysentery notifications went up by 5. The largest returns were Lancashire 60, London 33, Nottinghamshire 27, Kent 17, Northumberland 15, Yorks West Riding 14, Somerset 13.

In *Scotland* falls were recorded in the notifications of infectious diseases as follows: measles 244, dysentery 39, scarlet fever 21, diphtheria 17. The totals for dysentery and diphtheria were the lowest in recent months.

In *Eire* the total of 55 for diarrhoea anad enteritis was the largest since the beginning of last year: 47 of the cases were notified in Dublin C.B.

Northern Ireland reported an increase of 11 in the notifications of whooping-cough.

Food-poisoning

One fatal case of food-poisoning from meat has been reported from Blackpool, and 3 fatal cases from Stoke-on-Trent. The latter outbreak, which has caused the serious illness of other persons, was traced to a cooked-meat shop at Longton. The food had been contaminated by mice and snails.

Vital Statistics for the First Six Months of 1945

The notifications of diphtheria in England and Wales during the first twenty-six weeks were the lowest yet recorded, but the notifications of dysentery were very high. The total for measles was the largest since notification began. The figures for the first half-year are:

	1940	1941	1942	1943	1944	1945
Scarlet fever	25,224	29,517	29,527	50,544	48,654	36,302
Whooping-cough ..	15,642	99,748	36,616	50,302	56,488	33,587
Diphtheria	18,221	26,147	20,569	19,154	15,978	12,032
Measles	137,718	363,307	100,497	347,687	52,622	412,823
Acute pneumonia ..	32,676	32,899	27,369	28,442	24,499	21,472
Cerebrospinal fever ..	9,193	7,767	4,271	2,203	1,851	1,691
Dysentery	1,085	3,167	3,400	3,002	5,669	10,006
Paratyphoid and typhoid	998	1,169	442	358	247	259

The returns for the great towns suggest that the death rate and infant mortality will exceed the rates for 1944, when infant mortality was the lowest ever recorded. There have been fewer live births. The returns are:

	Great Towns, first 26 weeks			
	1942	1943	1944	1945
Deaths	129,230	124,090	128,656	132,693
Live births	150,858	169,956	186,651	174,276
Infant mortality ..	62·6	59·5	54·0	58·5.

Week Ending July 7

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,312, whooping-cough 1,050, diphtheria 458, measles, 4,544, acute pneumonia 352, cerebrospinal fever 51, dysentery 210, paratyphoid 6, typhoid 11, poliomyelitis 15.

No. 26

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended June 30.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1945					1944 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever	52	6	33	4	1	44	3	25	2	2
Deaths		2	—				—	—		
Diphtheria	421	29	82	66	16	432	21	136	54	20
Deaths	2	—	—	—	—	8	—	—	1	—
Dysentery	292	33	58	3	—	135	11	95	1	—
Deaths				—	—				—	—
Encephalitis lethargica, acute	—	—	—	—	—	1	—	—	1	—
Deaths		—					—			
Erysipelas			44	5	2			36	8	1
Deaths		—					—			
Infective enteritis or diarrhoea under 2 years				55					19	
Deaths	43	8	5	6	5	34	7	6	3	1
Measles*	6,004	249	161	40	6	2,503	129	167	203	55
Deaths	3	—	—	—	—	2	—	2	—	—
Ophthalmia neonatorum	64	7	12	1	—	69	4	20	—	—
Deaths										
Paratyphoid fever ..	7	—	—	—	—	2	—	3 (B)	2 (B)	—
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenzal†	424	19	9	3	2	558	29	5	4	1
Deaths (from influenza)	1	—	—	1	—	13	—	1	—	—
Pneumonia, primary ..			202	10				183	13	
Deaths		12		8	12		29		13	9
Polio-encephalitis, acute	1	—				—	—			
Deaths		—					—			
Poliomyelitis, acute ..	8	1	2	—	1	6	—	7	—	—
Deaths		—					—			
Puerperal fever		5	11		—		1	8		—
Deaths										
Puerperal pyrexia‡ ..	133	11	18	2	—	154	8	19	—	3
Deaths		—					—			
Relapsing fever ..	—	—			—	—	—			—
Deaths										
Scarlet fever	1,255	62	186	25	26	1,437	66	187	27	45
Deaths	1	—	—	—	—	—	—	—	—	—
Smallpox	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Typhoid fever	5	—	2	6	—	10	—	4	4	3
Deaths	—	—	1	—	—	—	—	—	—	—
Typhus fever	1	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Whooping-cough* ..	1,194	60	46	24	19	2,382	178	110	60	11
Deaths	1	—	1	1	—	11	5	2	—	—
Deaths (0-1 year) ..	284	38	38	16	20	285	43	44	29	22
Infant mortality rate (per 1,000 live births)										
Deaths (excluding stillbirths)	3,777	550	539	173	107	4,660	1,105	497	186	124
Annual death rate (per 1,000 persons living)			12·2	11·2				11·4	12·1	
Live births	6,653	803	887	408	280	7,248	821	939	418	300
Annual rate per 1,000 persons living ..			17·7	26·3				19·1	—	
Stillbirths	185	18	22			212	22	31		
Rate per 1,000 total births (including stillborn)			24					32		

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* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

‡ Includes puerperal fever for England and Wales and Eire.

§ Owing to movements of population, birth and death rates for Northern Ireland are still not available.

Letters, Notes, and Answers

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: *Aitiology Westcent, London.* ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated.

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ANY QUESTIONS?

X Rays and Prostatic Hypertrophy

Q.—*Is there any evidence that the treatment of commencing prostatic hypertrophy by deep x rays, before total obstruction has occurred, has given either temporary or permanent benefit?*

A.—There is no evidence that either the symptoms or the gross pathological anatomy associated with benign prostatic hypertrophy is influenced by deep *x*-ray treatment.

Prolapsus Ani in a Child

Q.—*A child of 3 years has prolapsus ani. The prolapse, which does not occur every time the child has a stool, is, of course, of mucous membrane only, and is quite easily replaced. It is not increasing in size. There is no phimosis or anything to cause straining at stool. (1) What is the best treatment? (2) Up to what age can a natural cure be expected? (3) In what percentage of cases does a natural cure fail to occur?*

A.—There are certain points to realize about this condition.

1. It is not dangerous to life. I can find no case of a death due to it occurring at the Hospital for Sick Children, Great Ormond Street, in the last quarter of a century.

2. It is not painful. This is obvious to anyone who watches a child while the bowel is down.

3. It is, in the great majority of cases, an accomplishment rather than a disability. Anyone who has endeavoured to study the condition finds that when a child is admitted to hospital the prolapse almost invariably fails to occur, in spite of active exercise being permitted. When, however, the child finds the disciplinary gaze of the ward sister has changed to a worried and expectant home circle he once more takes the opportunity to become the centre of attention.

4. There is a strong tendency to spontaneous cure if the condition is treated with the minimum of notice.

5. It is often made worse by injudicious treatment.

6. It is associated much more with frequency of the bowels than with constipation.

No treatment of the efficiency of, for instance, Hamilton Russell's operation for inguinal hernia, is known. Below are listed most of the usual methods with comments.

1. *Administration of Paraffin, Other Purgatives, and Enemas.*—This common line of treatment comes from the idea that the prolapse is due to straining to pass a hard stool. This is not so; it is much more due to straining with an empty rectum; and such treatment only makes it worse

2. *Strapping the Buttocks Together.*—As a motion cannot be passed when the buttocks are strapped, and as the prolapse occurs only after the passage of a motion, I have never understood the reasoning behind this treatment. It is quite futile.

3. *Passing the Motions Lying Down.*—When the child can be persuaded to do this it is the best treatment of all, and almost invariably stops the prolapse occurring and allows the sphincter to recover normal tone. It is best done by placing the child on a piece of waterproof sheeting arranged at a slight slope. Usually, however, the relations between mother and child are not such as to permit of this.

4. *Linear Cauterization of the Mucosa.*—I have no experience of this, and the risks of disaster in going too deep in the thin bowel of a child are obvious.

5. *Peri-rectal Injections of Various Substances.*—These are given with the idea of promoting adhesions between the bowel-wall and the walls of the pelvis. Absolute alcohol is used, but 5% carbolic in olive oil is probably better, about 3 c.cm. being injected just outside the bowel wall laterally and posteriorly, the position of the needle being controlled by a finger in the rectum.

6. *Peri-anal Suture.*—This is probably the most reliable surgical treatment. A ring of No. 1 catgut (Ombrédanne, in the French fashion, used silver wire) is run round the anus in the external sphincter and tied round an assistant's finger, which gives a suitable diameter.

(It should be noted that in all these last three methods of treatment it is not easy to dissociate mechanical effects from those produced by making the process of prolapse moderately painful. An instructive experience was when, in a most obstinate case, a peri-anal suture was half inserted and then removed because of fouling of the area during operation. The result was a prompt and permanent cure.)

7. *Resection of the Prolapsed Bowel.*—I mention this as a curiosity of treatment which could occur only in the present stage of surgical practice. The result of the single case in which I have known it performed in a child was an intractable stenosis and a colostomy.

Bronzing under Sun-lamps

Q.—*Why is it that natural sunshine causes bronzing of the skin, while exposure to an ultra-violet lamp at home causes redness, peeling, and no bronzing?*

A.—It would not be correct to say that artificially produced ultra-violet rays cause redness and peeling but no bronzing. For ultra-violet radiations from the carbon-arc lamp are very similar in wave-length to those from the solar spectrum and can produce deep pigmentation of the skin. The question probably arises from the use of a quartz mercury-vapour burner, which produces more of the shorter ultra-violet rays. These readily cause erythema and peeling but do not cause deposition of pigment in the skin to the same extent as the longer rays. But repeated exposure to the rays from a mercury-vapour lamp can, nevertheless, produce pigmentation, though not to the same extent as exposure to the solar rays.

"Talbot's Iodine"

Q.—*What is the formula of a prescription used in the treatment of pyorrhoeic gums and called "Talbot's iodine"?*

A.—The formula for "Talbot's iodine" is: zinc iodide 15, water 10, iodine 25, and glycerin 50 parts.

Continued Frequency after Gonorrhoea

Q.—*Twenty years ago a patient had treatment for gonorrhoea, and after having been pronounced cured he married and produced 4 children. Three things he has never been free of since his cure are: (1) frequency and urgency of micturition, (2) nocturnal erections, relieved by passing water, and (3) soreness of the glans unless he washes it at least once a day; these are now no better and no worse than they were 20 years ago. For an almost microscopic amount of non-specific urethral discharge diuretics, sulphapyridine, and sulphathiazole have been tried without avail; would penicillin help? What this man complains of most is frequency ("Must my life be punctuated by urinals?"). Can anything be done for him?*

A.—One thing seems to be reasonably clear—that the patient was cured of his gonorrhoea. The frequency and urgency of micturition and the nocturnal erections quite possibly may be due to a residual non-gonococcal prostato-vesiculitis or to an enlarged prostate. A digital examination of the prostate and seminal vesicles and microscopical and cultural examinations of the expressed secretions are indicated. The soreness of the glans penis would not appear to be due to the same cause; in any case it is customary to wash the glans daily as a simple hygienic measure. Infestation with *Trichomonas vaginalis* should not be forgotten, and might account for all the symptoms; there is reason to believe that this condition is commoner than has been supposed hitherto. Another possible explanation is oxaluria. The diagnosis and exclusion of these are obvious.

Treatment will depend on diagnosis; the blind use of penicillin would be most unscientific; this antibiotic is indicated only when infection with a penicillin-sensitive organism is proved.

Pregnancy after Subtotal Hysterectomy

Q.—*A patient, aged about 37, had a subtotal hysterectomy for excessive menstrual bleeding which did not respond to hormone therapy or dilatation and curettage. Since then she has been well, and is now getting married. Is there any risk of pregnancy? The question may look foolish, but I presume it is possible that the proximal end of one or both tubes may canalize, and, supposing they were anywhere near the cervical stump, an ovum might escape. I seem to remember reading of a cervical pregnancy after a subtotal hysterectomy, though this must be a freak occurrence.*

A.—Pregnancy can occur after subtotal hysterectomy and may develop in the cervix, tube, or adjacent tissues. It is, however, extremely rare, and according to D. A. Connors and others (*Amer. J. Obstet. Gynec.*, 1943, **45**, 309) only six cases had been reported up to 1943. A seventh was described in November, 1944, by Margaret Stanley-Brown and Frances E. Shields (*Amer. J. Obstet. Gynec.*, 1944, **48**, 714), and there have also been a few reports of cases of doubtful authenticity. In Connors' case the cervix dilated and a premature baby weighing 896 grammes was delivered through the vagina and lived 33 hours. The pregnancy was said to have been tubal in site, but W. E. Studdiford (*Amer. J. Obstet. Gynec.*. 1945, **49**, 169), in reviewing this case, suggests that it was more likely to have been a cervical pregnancy.

In nearly every case described the divided ends of one or both tubes had been sutured to the cervical stump, so communication between the cervix and tube was the more easily established. In one case, however, both tubes and one ovary, in addition to the uterus, were removed, and the pregnancy occurred as a result of direct contact between the remaining ovary and the cervix. These rare instances, although of academic interest, should certainly be regarded as freaks, and the chances of any woman's becoming pregnant after subtotal hysterectomy are so remote as to be outside practical consideration.

Sodium Bismuthyl Tartrate for Arthritis

Q.—*Would any toxic effects be noted after the treatment of arthritis of many joints of two years' duration in a woman of 62, by injections of sodium bismuthyl tartrate?*

A.—In the writer's experience no toxic effects have followed the treatment of arthritis by injections of sodium bismuthyl tartrate, beyond a slight sense of fatigue and temporary increase of stiffness. A slight local reaction in the shape of tenderness round the site of the injection is often felt, but soon clears up. The initial dose should not exceed one grain, and in a patient of the age mentioned any further increase might be undesirable and the interval between doses should not be less than a fortnight and may be gradually increased to a month or six weeks.

Bleaching for Hirsutism

Q.—*Can you describe the best method of bleaching for a case of mild hirsutism? Peroxide and ammonia do not seem to be effective, but the method employed may be at fault.*

A.—The method described is usually an effective bleaching procedure; it is assumed that the solution has not been allowed to deteriorate by being kept too long before it is used.

"Trigger Finger" and "Snap Finger"

Q.—*What are the cause, pathology, and treatment of "trigger finger" and "snap finger"?*

A.—"Trigger finger," "snap finger," and "spring finger" are names given to that condition in which one of the fingers, commonly the right middle finger, cannot be fully extended until by special exertion or by external aid full extension is produced with a jerk which is sometimes accompanied by an audible snap or click. It is more often found in women. The condition results from a slight swelling of one of the flexor tendons which finds difficulty in passing through a relative narrowing of the fibrous tendon sheath. Rarely the condition is congenital. The acquired form may follow healing of a punctured wound of the tendon sheath; or it may result from subacute inflammation stated in some cases to be due to repeated external pressure over the affected site occurring in the course of the patient's occupation. Occasionally it may occur as the result of a small tumour of the tendon or tendon sheath. I cannot confirm the statement that rheumatism may be a causative factor.

A few cases are said to right themselves after a time. Mild cases due to indirect trauma may sometimes be cured by complete rest of the tendon, which can be procured only by adequate splinting for some weeks. In those cases in which palliative treatment does not cure and the patient experiences serious disability one must advise exploration of the tendon sheath. This operation must be carried out only by a competent surgeon with rigidly aseptic technique. The lesion is generally at the level of the metacarpo-phalangeal joint. Any small and localized lesion of the tendon should be removed; if there be a spindle-shaped enlargement of the tendon, it may be possible to reduce it to normal size by excising a narrow longitudinal strip. If this is considered inadvisable it may be sufficient to provide more room by omitting to suture the incision made into the fibrous sheath at the narrowed site; this will allow sufficient play for the tendon to move easily.

Nocturnal Cramp in the Elderly

Q.—*Can you suggest treatment for nocturnal cramp in a female patient aged 77? The attacks come on fairly regularly in the calves of both legs at about 3 a.m. General health and condition is excellent. Urine, blood pressure, arterial wall, etc., seem normal. Diet makes no difference.*

A.—Nocturnal cramp in the elderly is a mysterious phenomenon and the mechanism appears to be unexplained. It is obviously different from intermittent claudication, though similar treatments are often recommended. There is need for a controlled trial of remedies, as it is hardly credible that all those suggested are effective. In answers to similar questions on March 13 and 27, 1943, warm leg baths twice daily, particularly before retiring at night, nicotinic acid 50 mg. daily, and resting with the feet up were recommended. Dr. Lionel Picton suggested that calomel gr. 1/10 at night was a sovereign remedy, while others have praised copper sulphate gr. 1/10 to 1/6. Another line of treatment is to increase the fluid intake, giving a tumblerful of water half an hour before each meal and again before going to bed. Short courses of iodide of potassium have been recommended on theoretical grounds. Quinine and alcohol might be expected to be effective, but the former is now reserved for malaria, and the latter is almost as difficult to obtain.

D.D.T. for Pediculosis

Q.—*Can D.D.T. powder be applied neat in the treatment of human pediculosis? If not, what is the best easily available solvent?*

A.—D.D.T. is most easily used for pediculosis corporis in the form of a powder diluted to 10% in any inert dust. It should *not* be applied to the body in the form of a solution, as it is considerably more toxic to mammals in solution than when in crystal form. (See the annotation on toxicology of D.D.T. in this *Journal*, March 10, 1945, p. 338.)

Pregnancy after Amoebic Liver Abscess

Q.—*A woman aged 25 and two months pregnant was in July, 1944, severely ill with a liver abscess, which was opened and drained. About a gallon of pus was removed and was found to be due to the Entamoeba histolytica. She now appears to be in fairly good health. Is there any indication that the pregnancy should be terminated? She has had one normal confinement 5½ years ago, and while incubating her amoebic dysentery gave birth to a six-months anencephalic foetus.*

A.—Pregnancy in itself, after an amoebic liver abscess, cannot be regarded as inimical to the health of the individual. In this particular case, however, the liver abscess appears to have been very large, and the patient became severely debilitated during its course. The assessment of her condition and her fitness to continue pregnancy can be made only on general grounds; the mere previous existence of an amoebic liver abscess is not in itself a contraindication to pregnancy.

Injury from Mine Explosion

Q.—*A naval officer, in a ship blown up by a mine, was thrown into the air and landed back on his feet, sustaining severe impacted, comminuted fractures of the upper ends of both tibiae. The lower ends of the femora were undamaged. The question arose whether the damage to his tibiae was done by the explosion acting upwards through his legs, or from his body weight acting downwards when he landed. I believe the naval conception is that it is the upward thrust of the explosion which causes the damage, but to me this is strange, as, in spite of the upper end of the tibia being weaker, it would be the moving bone, and I would expect to see at least some damage to the lower end of the femur on the x-ray films.*

A.—The questioner seems to attach considerable importance to the undamaged condition of the lower ends of the femora. Presumably they were not inspected, and the absence of any evidence of damage in the *x*-ray film is evidence only of damage *re* the bone. One might cite a comparable injury—namely, fracture of the upper end of the radius. These are much more frequently treated by open operation within ten days of the injury, and I should have said that there is always some damage to the capitellum of the humerus when inspected, although the *x*-ray picture shows often no injury to the bone. The cartilage of the capitellum may be extensively compressed and injured severely.

On statistics, this officer should have fractured his os calcis rather than the upper ends of the tibiae. We must have seen dozens of fractured os calces from mine explosions under the ship or explosions between decks, when the deck comes up and strikes the patient above. The force of the explosion is terrific, and may easily be enough to throw a man some feet into the air. Several men have come down in the water with their fractured os calces, but an hour or two in the water, even swimming, does not seem to do any harm to the fractures. The force of the deck coming up against the patient must be very much greater, when measured in pounds to the square inch, than any force exerted by a patient falling from a height.

It is unusual for the upper end of the tibiae to give way in preference to the os calcis, but here one would point out that the os calcis is the moving bone, as the questioner puts it, but it is the bone that gives way. It might be that this officer was standing with his knees a bit flexed, so that the force of the tibia being driven upward drove the tuberosity against a more convex portion of the femoral condyle. This patient might have dislocated his hip or fractured his spine if these two latter had been in flexed positions

I can recall one bar-tender, who was standing on the floor with her elbows on the bar when a bomb exploded in the basement Both her os calces and her elbows were fractured. But I am supposed to deal with this problem from the point of view of a Nava surgeon.

INCOME TAX

Return to United Kingdom

J. B. resigned his appointment with a foreign Government and returned to the United Kingdom on April 25, 1945. His salary continued until the end of June when his appointment terminated. During his service abroad he paid 5% of his salary into an "Indemnity Fund," to which his employers paid equal amounts and the total amount accumulated will now be paid to him.

⁂ (*a*) J. B. is a British resident from 1945–6, and that portion of his salary which is paid to him in this country is liable to income tax—including, we think, the 5% deduction which reaches him through the Indemnity Fund. (*b*) The lump sum paid to him out of the Indemnity Fund does not appear to rank as "income" liable to assessment.

Preparation of Balance Sheets

J. M. has for many years had a complete balance sheet prepared for the Inland Revenue by his accountant—including the value of his furniture, etc. Ought his wife's furniture and jewellery to be included also?

⁂ A balance sheet prepared in connexion with a trade or profession does not ordinarily include assets which are not owned by the proprietor and used in the trade, etc. We see no reason why furniture, etc., belonging to J. M.'s wife should be included in a balance sheet prepared in connexion with his professional practice.

Cost of Maid's Board and Lodging

J. K. has for the past fifteen years been allowed a deduction of 1/3rd of £52 a year as representing the appropriate part of the cost of the domestic service employed on the professional part of the premises. His accountant has claimed an increase of the deduction to 1/3rd of £104, but the inspector of taxes has refused to admit that claim.

⁂ In this kind of claim so much depends on the actual facts of the case—wages paid, and cost of food, rent, etc.—that any general guidance is apt to prove dangerous. But a total charge of 6s. 8d. a week certainly appears to be very low nowadays. We suggest that in the first place careful estimates be made (*a*) of the total cost of the maid, including a proportion of rent, rates, and general expenses as well as of food and wages, and (*b*) of the proportion of her time spent on the professional side of the work. If, as seems likely, the figures point to an allowance materially in excess of 6s. 8d. per week, the claim should be pressed, and taken to general appeal if further discussion with the inspector proves fruitless.

Division of Partnership Liability

"E.M.S."—A and B. are in partnership. "B. is serving in the E.M.S. and his salary is included in the partnership assessment. Since April, 1944, tax has been deducted from his salary under P.A.Y.E." How should the liability be adjusted between the partners?

⁂ We suggest that in the first place the assessment on the partnership under Schedule D be reduced by excluding the E.M.S. salary—i.e., by the amount which has been included in the gross receipts. The firm's total liability will then be £x (assessed under Schedule D) plus £y (assessed on B. on the amount of his earnings for the current year). The aggregate sum (£x+ £y) should then be divided according to the partnership shares and each partner's share of the tax calculated on that basis. No doubt the inspector of taxes will assist if requested.

Change from Civilian Earnings to Army Pay

F. H. joined the Army in September, 1942. In 1941–2 he was a student and his earnings for that year were small. Can he claim to be assessed for his first year in the Army on the previous year's basis?

⁂ No. Where a radical change in employment occurs the subsequent earnings must be assessed on the basis that they are derived from a new source, and in such cases the first subsequent year's earnings are assessable on the basis of the actual year.

War Damage Contributions

J. R. inquires whether these payments are deductible for income-tax purposes, and if not, why not?

⁂ The deduction is forbidden by Section 113 of the War Damage Act, 1943. The reason is understood to be that the Government is pledged to contribute to the fund up to a maximum of the total amount of the contributions, and is not prepared in addition to face the additional financial loss which would result from the income-tax allowance of the individual's contributions. Premiums on policies to provide further insurance cover are allowable.

LETTERS, NOTES, ETC.

"Another Melancholy Example"

Dr. Esther Carling writes: In the small print of "Letters and Answers" in the *Journal* of July 14 (p. 74) is an Editorial comment which deserves the prominence of a general article. It deals with the Government's attitude to the safety of infant lives, describing it in the words at the head of this letter. That American troops in this country should receive a protection from unsafe milk which we do not accord to our own young children is surely a scandal that should be cried aloud.

Vulval and Pubic Boils

Dr. C. McCluskey (Dungannon) writes: Concerning the answer to the question about vulval and pubic boils (July 7, p. 34), surely in such a potentially moist flexural area one could not begin treatment without excluding the auto-inoculation of bacteria by scratching when a yeast is present. The isolation of this, and, if it is present, a benzoic salicylic acid ointment, will quickly resolve the condition.

Physiology and Psychology of Craving

Mr. Eric C. Wood (Chief Chemist, Virol Limited, Ealing, W.5) writes: Dr. H. C. Broadhurst states (July 7, p. 36) that "we have not in fact an instinctive liking for the right *kind* of food," and that "rats deprived of vitamin B possess no instinct which prompts them to select food containing this vitamin when a variety of foods is offered to them." His remarks are doubtless based on the work of L. J. Harris (*Vitamins in Theory and Practice*, 1938, pp. 199–206). But this is not the whole story. Dr. Magnus Pyke in a most interesting and suggestive article (*Nature*, 1944, **154**, 229) quotes the work of Prof. Richter at the Johns Hopkins University School of Medicine, in which rats provided with purified carbohydrate, fat, and protein, together with up to 20 tubes containing the essential mineral salts and vitamins each in a separate solution, chose for themselves a perfect diet, even though most of the solutions had neither taste nor smell. Moreover, when the pancreas, adrenals, or parathyroids were removed from certain animals, they adjusted their diets so as to compensate so far as possible for the consequent alterations in their metabolism. Pyke also quotes (from Richter) two experiments with human subjects. "The first concerns a three and a half year old boy with undiagnosed destruction of the adrenal cortex. This child kept himself alive for more than two years by eating handfuls of salt. When he was taken under control and fed a 'proper' hospital diet he died. The second experiment is of more general application. A graph was made of the percentage of children between the ages of 5 and 14 years who liked a test sample of cod-liver oil. In general the frequency decreased as the age increased and as the known physiological needs diminished." It would seem, therefore, that we cannot afford to be dogmatic on the question under discussion, and there is much need for further research.

Ascaris lumbricoides

Major F. H. Stewart writes: In the *Synopsis of Medicine* by Sir Henry Tidy, under the heading *Ascaris lumbricoides*, the life history of this worm is described and the authority quoted as Low. The work is, of course, mine, published in the *British Medical Journal* and *Parasitology* between the years 1916 and 1921, and confirmed by Ransom and others. Although Dr. George C. Low published several notes of helpful comment on my work in the *Journal* there is no record of research on *Ascaris* by anyone of this name. When this mistake in the 7th edition of the *Synopsis of Medicine* came to my notice I wrote to the author pointing it out and received the following answer: "I am much obliged for your note with regard to the life history of *Ascaris lumbricoides*. I will certainly take it into consideration if I am called upon for another edition." Another edition has been published this year, but the above erroneous statement remains uncorrected.

Sir Henry Tidy writes: Major Stewart is of course quite correct that the credit for this work is due to him. On looking through my correspondence I have found his letter dated Sept. 16, 1939. Matters were somewhat hectic at that time and the letter was placed by mistake in an old folder and was consequently overlooked when the seventh edition was revised. If a further edition is called for the correction will certainly be made. In the meantime I trust that Major Stewart will accept my apologies for the oversight.

Lead Palsy

Dr. W. W. Anderson (London, N.W.11) writes: In your answer in the *Journal* of May 26 on the subject of lead palsy, you say that the extensors of the wrist are affected in painters because those are the muscles "most used." How about my own father, a clergyman, who had a complete palsy the result of chronic lead poisoning caused by drinking water that had been stored in a lead-lined cistern. In his case, at any rate, the cause was not "fatigued muscles."

Hallux Valgus

Mr. W. **Sayle Creer** (Manchester) writes: Your consultant's reply in "Any Questions?" on the prognosis of arthroplasty for hallux valgus in a female aged 65 (June 2, p. 792) is so far from the common experience of a number of orthopaedic surgeons that it ought not to be allowed to pass without comment. Hallux valgus is not "*likely* to be but a part of a widespread foot disturbance" but is *certain* to be. Neither in palliative treatment, such as padding and strapping, nor in surgical treatment, such as an arthroplasty, does the experienced chiropodist or surgeon attempt to correct the disturbance. He sets out to relieve the symptoms which are present. In hallux valgus the symptoms are either pain or inflammation. Pain may be due to pressure of the metatarsal exostosis or an osteophyte which squeezes the skin and other soft tissues against the shoe; to arthritis of the metatarso-phalangeal joint; to incipient or actual ingrown toe-nail caused by the rotation of the hallux; to a callosity under one or more metatarsals; to the overlapping of the first by the second, or vice versa; or to dislocation of the second (rarely another) metatarso-phalangeal joint. Inflammation is due, commonly, to the squeezing of the bursa (bunion) between the metatarsal exostosis and the shoe.

It is quite true that efficiently and regularly applied pads will often relieve the pain due to pressure. But they won't relieve dislocated joints. And corrective strapping corrects for only a few minutes, because poorly shaped shoes quickly nullify its effects. It is a fact beyond dispute that a phalangeal arthroplasty plus an excision of the metatarsal exostosis and trimming of any osteophytes—i.e., reshaping of the metatarsal head—is the quickest and most certain way of relieving the majority of our patients. It is important not to overlook the necessary operation for an established ingrown toe-nail or the dislocation of any other metatarso-phalangeal joint. But it does improve the shape of the foot to an astonishing degree.

If careful tracings of skiagrams taken before and after such an operation are superimposed on one of the theoretical shape which correction of the varus first metatarsal would give, it will be found that the difference is almost negligible. (I would have omitted "almost" if I did not know that as a profession we dislike admitting that we are capable of obtaining excellent results.) In other words, a theoretically unsound operation will generally give a better result than it ought to do. And a theoretically more satisfactory operation is often disastrous. Of course, no patient can start hopping about in a few days. They ought not to be allowed to attempt to walk under three weeks. After another three weeks they will be walking well. After six months they will be singing their surgeon's praises far and wide, and the older ones recover more rapidly than the younger. Naturally—they have had pain for so long.

Local gangrene and delayed healing are not the result of operating on the elderly. They are the result of operating inexpertly. A tourniquet if a general anaesthetic; a small concentration of adrenaline if a local anaesthetic; cutting and not tearing of the tissues; keeping the fingers out of the wound; avoidance of "permanent" deep sutures; not longer than ten minutes per foot; the removal of plenty (almost of excessive amounts) of bone; post-operative rest in plaster-of-Paris for three weeks—there are the secrets of success. Age is of no importance, except that, as already stated, the elderly usually do better than the young. Three weeks in bed and three getting over it are, in the opinion of most patients, much less troublesome than the bother of months of regular visits to the chiropodist. It's over and done with at one go. Lastly, "psychological" treatment is important. Tell the patient the facts of the time it will involve; remember that convalescence is irksome because she is not "sick"; cheer her up; jolly her along; warn her of swelling and aches *before* she complains of them. The pessimistic surgeon commonly gets a bad result.

Ptyalism of Pregnancy

Dr. A. W. **Bauer** (Cambridge) writes: With reference to the question dealing with ptyalism in pregnancy in your issue of April 14 (p. 543) I should like to recommend another remedy: Put repeatedly very thin slices of lemon between the cheeks and the teeth of the patient. This application is not only simple but sensible, inasmuch as it combats the acidosis which in every pregnancy is easily apt to occur unless the diet is kept on basic lines providing the internal metabolism with sufficient indirect alkalis. For those who do not object on grounds of principles to employ homoeopathic remedies, I can suggest two other remedies: Mercurius D4 tablets, one tablet five times a day, or Jaborandi D6 tablets, one tablet three times a day, by mouth. These tablets can be obtained from any homoeopathic pharmacy. I have never refused to employ remedies the efficiency of which has been known to me by experience.

Pregnancy after Perineal Operations

Dr. T. G. **Robinson** (East Boldon, Co. Durham) writes: In the *Journal* of May 5 (p. 652) appears the following question: "A woman of 30, healthy and strong, who was confined a year ago, has just been operated on for cystocele, rectocele, and perineorrhaphy. What advice does one give on future confinements? How soon may she safely conceive, and are there any special precautions? Her only confinement, which took place a year ago, as above mentioned, was a non-instrumental delivery, but she had seven stitches. Before the operation she was fitted with a ring, but even a No. 12 dropped out when she stood up." The answer states, "She should wait at least six months, and preferably one year, from the time of the operation before embarking on another pregnancy." In my view such advice is unduly cautious, and I should be interested to hear the views of others. A properly carried out plastic repair which restores the parts as nearly as possible to normal should stand the stress of labour within a year provided an adequate episiotomy is performed as soon as the head begins to distend the perineum. Last year I operated on a patient whose last period had ended fourteen days previously; she was pregnant, but neither I nor she knew it. In the post-operative period it was noted that the wounds healed unusually rapidly, due, no doubt, to hyperaemia of the parts. The subsequent pregnancy and labour (episiotomy) were without incident. She went home on the sixteenth day of the puerperium and has not developed prolapse or stress incontinence subsequently. I feel that a rule of thumb should not be laid down in these cases. There may have been a few years of infertile marriage before the pregnancy which led to the injuries, and the baby may have been stillborn or died after birth. In such circumstances advice against embarking on another pregnancy may cause psychological upset, which will be accentuated if, after waiting for a year, a pregnancy does not materialize for another year or so. Conversely, if a pregnancy occurs before the "appointed day" distress may be caused to both husband and wife. Lastly I think the wording of the question is unfortunate. Perineorrhaphy is not a condition for which a patient can have an operation. Future advice would surely be given on future pregnancies, not confinements, and a description of the injuries sustained would be preferable to "she had seven stitches."

Sleep-walking

Dr. C. **Ismail** (Ceylon) writes: In the "Any Questions?" column on Jan. 27 last (p. 139) a question was asked as to what precaution could be taken to prevent a girl from sleep-walking. In my limited experience the best and simplest method is to keep a basin of cold water by the side of the bed at the spot where he or she is likely to put the foot down. The moment the bare foot touches the water she will wake up and thus prevent her from sleep-walking. Even if the foot touches the edge of the basin the water will be sprinkled and she will thus wake up.

Allergy to Fish in an Asthmatic

Dr. **Thomas Rees** (Warrington) writes: Mrs. L., aged 55, who is subject to asthmatic bronchitis, ate a portion of cod-fish for her tea. She was later seized with abdominal pains and vomited. A generalized urticaria developed and she vomited several times. Her lips began to swell and she experienced difficulty in breathing. At this point I was summoned, and on arrival found her lips oedematous and her tongue almost filling the oral cavity. She was an ashen colour with gasping respirations and stridor. I injected adrenaline hydrochloride 1–1000 slowly minim by minim, and after about 10 minutes the stridor subsided and her breathing became easier and her lips and tongue became less swollen. I continued the adrenaline until I had given her 15 minims. She then had a violent attack of vomiting. She said she felt cold and her pulse was of poor quality; I gave 1 c.cm. nikethamide and she was wrapped in warm blankets in front of the fire. Her condition then improved considerably. Her husband had also had some of the fish without evil effect, so it does not seem likely that it was infected. This is an unusually severe case of food allergy in a susceptible subject.

Toothbrushes and Good Teeth

Dr. G. **Arbour Stephens** (Swansea) writes: An *ex cathedra* statement such as appears on page 793 of your issue of June 2 needs to be considerably modified. My experience of a very large number of child examinations is that the teeth of children to-day are in a far finer condition than they were 20 years ago, but there is no evidence that the sale of toothbrushes has increased during that period. One knows, however, that the intake of milk by children has increased enormously during that period, and, speaking with some authority, I consider the good teeth of to-day to be due to that fact. The greater intake of milk means an increased consumption of lime salts in a very absorbable form.

Disclaimer

Dr. **Gertrude Jefferson** writes: I desire to disclaim any authority for the publication of my name as the authoress of some remarks on the ill effects on women of queueing, in the *Daily Express* of July 13. In it I am wrongly spoken of as neurologist to the Manchester Royal Infirmary. I am in fact acting psychiatrist.

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SCRUB TYPHUS AS A WAR DISEASE

BY

Major-General Sir JOHN W. D. MEGAW, K.C.I.E., D.Sc., M.B.

When a request was received for a short article on certain aspects of scrub typhus it occurred to me that an outline sketch of some of the chief features of the disease might be useful to medical officers serving in the East. The following notes consist largely of impressions resulting from a study of reports of a considerable number of outbreaks that have occurred during the present war; no mention is made of the names of the authors, partly because several of the reports have not been published, and partly because detailed references would be out of place in an article of so limited a scope.

Relationship of Scrub Typhus to the other Typhus Fevers

A clear mental picture of scrub typhus can most easily be obtained by looking first of all at its relationship to the other typhus fevers, which it closely resembles in aetiology, pathology, symptomatology, and treatment. In these respects all the typhus fevers conform so closely to the same basic pattern that those who know any one of the diseases need pay attention only to the few points in which they differ from each other. But while in the above aspects the typhus fevers form a unitary group, scrub typhus and flea-borne and tick-borne typhus differ so sharply from classical louse-borne typhus in the epidemiological conditions in which they are transmitted to man that they must be placed in a separate subgroup. Louse-borne typhus, being transmitted from man to man by human lice, is a purely human or "demic" disease, so that, in prevention, infected persons and the lice by which they are infested are the chief concern. Scrub typhus—better named "mite-borne typhus"—together with flea-borne and tick-borne typhus, is primarily a disease of lower animals, or a "zootic" disease, and infection is transmitted to man as a secondary incident, so that measures of control are directed against the infected animals and the arthropod vectors which habitually feed on them. For all practical purposes the possibility of transmission of the zootic typhus fevers from an infected person to a contact can be left out of account.

In its epidemiology scrub typhus is more closely related to tick-borne than to flea-borne typhus, whose animal reservoirs live in association with human habitations, whereas the reservoirs of the other two diseases exist chiefly in rural and sylvan areas away from human dwellings. The resemblances between the fevers of the group are suggested by the name "typhus"; so, also, the differences are associated with the arthropod vectors and can most suitably be suggested by a nomenclature based on the names of the vectors. Mite typhus would be a more suitable name than scrub typhus, which implies that the disease is restricted to scrub country and which might even suggest that mite-borne typhus is the only typhus fever likely to be encountered in scrub areas.

Some Special Features of Scrub Typhus

Synonyms and History.—Although the name scrub typhus is of recent origin the disease was described in the third century by a Chinese writer, who attributed it to the bite of a "small red insect," presumably a mite. The classical form of the disease—tsutsugamushi ("small insect") disease—has been well known in Japan for many years, but the widespread distribution of the fever in the East was not realized till a few years ago because in outbreaks outside Japanese territory the local lesion called the "eschar" was seldom present, and as this was described as an essential feature of tsutsugamushi disease these outbreaks were regarded as being due to "new" fevers, to which many different names were applied. The eschar is now known to be a fortuitous feature, and all the mite-borne typhus fevers are the same as tsutsugamushi disease.

Definition.—Scrub typhus is the fever of the typhus group that is transmitted to man by a mite.

Geographical Distribution.—The disease is suspected of occurring sporadically in the north-eastern parts of Africa, but its definitely known range of distribution is confined to southern and eastern Asia, northern Australia, the islands adjoining these regions, and the Pacific islands. There is therefore a remarkably close association between the distribution of the disease and the areas in the East concerned with the operations of the war against Japan. In India, Ceylon, and the whole eastern theatre of war the disease can be expected to occur; the most dangerous areas are in South-East Asia and the South-West Pacific, where epidemiological conditions are specially favourable for the existence of infection.

Importance of the Disease.—Up to the outbreak of the Japanese War scrub typhus was not of great importance except to labour forces in certain localities. Most of the affected areas were sparsely inhabited and the indigenous populations were largely immune owing to attacks in childhood, so that nearly all the observed cases in these places occurred among the few persons who entered them from outside. Military preparations and operations introduced new conditions: large bodies of troops began to enter the infected areas, and outbreaks, sometimes reaching epidemic proportions, began to occur. Scrub typhus is now regarded as one of the major risks to life and military efficiency in the greater part of the war zone, and it has been found necessary to take drastic steps for its control. In one case hundreds of troops became infected after military exercises lasting a few days in an area where the very existence of the disease had hardly been suspected; in another a large proportion of the staff of a freshly established military hospital were attacked within a short time. Apart from the fatality rate, which may be anything from 1 to 20%, the average period of invalidity is more than three months, so it is not surprising that the disease is being attacked with great energy.

The Cause.—This is *Rickettsia tsutsugamushi,* also called *R. orientalis,* which is closely related to the other typhus rickettsiae in its morphological and cultural characters as well as in the pathological effects produced in the body; the chief difference between the organism and the related rickettsiae consists in the absence of a high degree of cross-immunity after infection.

Transmission of Infection.—The vector is a microscopic larval trombiculid mite; *Trombicula akamushi, Tr. deliensis,* and several other species are known or believed to be capable of transmitting infection from animal to animal and from animal to man. These mites bite only once during their lifetime, in the larval stage, so that the same mite cannot both acquire and transmit infection. What happens is that a mite infected by a blood meal can transmit infection through the egg to its off-

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spring, which can introduce the rickettsiae into any animal or human being on which they feed. This peculiarity in the life history of the mites has an important bearing on the methods of controlling the disease. The destruction of rats or other reservoirs of infection cannot have much immediate influence in stamping out infection ; it may even increase the risk to human beings by depriving the larvae of access to their usual hosts. The mites and the animals from which they derive their infection are most plentiful in places where the ground is damp and covered with grass and other vegetation. Grass, which grows to a great height in the Tropics, is specially liable to infestation ; swampy ground, scrub land, and places in which palm trees grow often swarm with the mites. Such places are usually situated near the sea, rivers, streams, or lakes. In dry places and during dry periods of the year the mites are not so active. Infection is often restricted to well-defined areas, but unfortunately it is seldom possible to judge by inspection which places are safe and which are dangerous. Persons who enter mite-infested areas are not likely to be bitten so long as they keep on the move, but the moment they sit or lie down, or even stand still, the mites are attracted and seek out a suitable part of the skin on which to feed. Any part of the body may be bitten, but the favoured sites are those bathed in perspiration and protected from disturbance by friction caused by the clothing. Such parts as the groins, scrotum, axillae, and neck are especially liable to be bitten. The mites when undisturbed remain attached for about two days ; they seldom cause pain or irritation, and often the victim does not know that he has been attacked.

Reservoirs of Infection.—Rats and mice are the animals chiefly concerned in maintaining infection among the mites. The complete chain of transmission has only once been clearly demonstrated, but there is convincing circumstantial evidence to support the accepted view on this subject. Analogy with the closely related disease, tick-borne typhus, suggests that infection can persist among the mites for long periods with very occasional refreshing by biting infected animals.

Pathology.—The essential features of the pathology of all the typhus fevers are remarkably similar. Apart from the effects of circulating toxins, special damage is caused to the organs and tissues of the body by interference with their blood supply. The rickettsiae multiply chiefly in the vascular endothelial cells, which become swollen or even proliferated. The walls of the capillaries and small arteries become infiltrated by mononuclear cells, chiefly lymphocytes, and in the tissues immediately adjoining these vessels there are often collections of similar cells. The special nervous and circulatory manifestations that occur in the typhus fevers are believed to be caused chiefly by damage to the central nervous system resulting from obstruction to the blood supply. The heart and other organs doubtless suffer to some degree from similar damage, but the modern view is that the circulatory failure is caused mainly by injury to the vasomotor centres, and to a minor degree by myocarditis. After defervescence a slow but complete return to normal occurs in the great majority of cases ; permanent damage to the brain or heart is quite exceptional.

Immunity.—There is complete immunity for a variable period after an attack, and, although this gradually diminishes, second attacks are likely to be less severe. Relapses have not been mentioned in any of the descriptions of the disease.

Clinical Features

The general resemblance between scrub typhus and the other typhus fevers is very striking. Apart from the eschar and lymphadenitis, which are often absent, there is no sign or symptom that can be relied on for the differentiation of a case of scrub typhus from one of classical typhus. The resemblance to tick-borne typhus is even closer, because the local lesion and lymphadenitis occur in some types of that disease.

In making a comparison between scrub typhus and the other fevers of the typhus group account must be taken of the great variations that occur in the virulence of the infection in each fever and also in the age and previous health of the groups of patients concerned. Just as louse-borne typhus may be a relatively mild or a highly fatal disease, so also scrub typhus shows a wide range of severity. The variability of scrub typhus is so important a feature of the disease that it deserves to be emphasized by giving a few examples based on descriptions of recent outbreaks among troops.

Analysis based on Recent Reports of Scrub Typhus

No. of Cases	Usual Type of Onset	Percentage Incidence of Eschar	Usual Range of Leucocyte Count	Fatality Rate (%)
50	Sudden	6	9,000–12,000	Nil
85	Gradual	80	4,000–6,000	3
626	Rapid	59	3,100–12,000	9·7
756	„	85	Relative lymphocytosis	·1
36	„	17	Moderate leucopenia	3

The rash was seen in most of the white-skinned patients, but in very few of the dark-skinned. In the outbreak in which the fatality rate was 9.7% there was only one death among the first 100 patients, but there were 37 in the next 150, who had been greatly debilitated by previous hardship and disease.

The general clinical picture must be viewed in the light of the above statements. Except when otherwise stated, the details can be filled in from any good description of classical typhus occurring among corresponding groups of persons ; the average type of the fever, the rash, the symptoms, the complete freedom from relapses, and the convalescence, conform to the same pattern in both diseases.

The incubation period ranges from 7 to 21 days. When the eschar occurs it usually makes its appearance before the onset of the fever ; it begins as a papule and soon becomes a round or oval sore, 2–3 mm. in diameter, surrounded by a red raised zone of about the same width. Soon a scab forms at the centre ; later this drops away, leaving a punched-out ulcer surrounded by a bright-red zone of skin. There is neither pain nor irritation, so that the patient is seldom aware of the existence of the eschar. Any part of the body may be affected, and the regional lymphatic glands are usually enlarged and tender.

The onset of the fever is as a rule rapid, sometimes with chill, and nearly always with headache of the post-orbital type ; pains in the loins and the limbs are common ; the conjunctivae are injected, the eyelids swollen, and the face looks bloated. A rapid step-like rise in the temperature follows, and the maximum is reached in two or three days. By the fourth or fifth day there is often a moderate degree of generalized lymphadenitis. The rash appears on the fourth to the seventh day, first as discrete macules on the trunk ; soon these become somewhat papular and the rash extends to the limbs. In most of the reported outbreaks the hands, feet, and face are said to have been seldom involved. In pigmented skins the rash can rarely be detected.

The patient's condition steadily becomes worse, and by the end of the first week the same types of mental symptoms as occur in classical typhus are usually observed ; there may be excitement or delirium with nocturnal insomnia, or the patient may be lethargic or stuporous. There often is a dry unproductive cough, associated with redness of the throat and bronchitis. The spleen is frequently palpable. The blood pressure falls, and during the second week the systolic reading is often below 100 mm. Temporary deafness, usually partial, is frequently observed, and there is increasing prostration. The leucocyte count may show little change, but a progressive leucopenia with a total or relative lymphocytosis is a common feature in many outbreaks. Leucocytosis, even up to 21,000 total count, has exceptionally been observed, but high counts are usually associated with secondary infections.

On the average the onset is rather less rapid than in louse-borne typhus, and there is a greater average tendency to daily remissions in the temperature curve. Leucopenia and lymphocytosis also are more frequent than in louse-borne typhus, but all these features are so variable that they cannot be relied on to differentiate the two diseases. Scrub typhus is said by some observers to differ from classical typhus in having few haemorrhagic, thrombotic, and septic complications, but these manifestations are equally infrequent in many outbreaks of classical typhus among young and previously healthy men.

The termination of scrub typhus is usually by lysis, which tends to be more gradual than that commonly occurring in classical typhus. The duration and severity of the attacks show the same wide range of variation as occurs in louse-borne and tick-borne typhus; there is also the same tendency to circulatory failure associated with a fall in the blood pressure. With recovery the circulation is gradually restored, and often there is sudden diuresis. Traces of albumin usually appear in the urine, but nephritis is exceptional.

The Weil-Felix Test

Strangely enough, the commonly used laboratory test for scrub typhus is based on the development of serum agglutinins, whose presence is indicated by the agglutination of a bacillus which has nothing to do with causing the disease. This is *Proteus OXK*, a bacillus derived by chance mutation from a strain of *Proteus OX 19*. In classical and flea-borne typhus *OX 19* is agglutinated in rising titre, and the reaction with *OXK* is negative or weakly positive. In scrub typhus these responses are reversed: *OXK* is strongly agglutinated and *OX 19* hardly or not at all. These bacilli thus serve as indicators of the types of the disease, perhaps in a manner analogous to the indications given by various sugars in differentiating the bacilli of dysentery and other diseases.

Carefully selected strains of *OXK* must be used; this organism, itself a mutation strain, is liable to undergo unexplained variations in its agglutination responses, but when standardized suspensions are used the test is as reliable for scrub typhus as the agglutination of *OX 19* is for louse-borne and flea-borne typhus. The rise in titre usually begins about the end of the first week of the fever and reaches its maximum about the end of the second week. The test should be carried out as early as possible and repeated at intervals, because the rising titre is of special significance; an initial negative reaction followed by a titre as low as 1:50 is stronger evidence than a single late reaction of 1:100 or even 1:200. Occasionally the reaction does not become positive till convalescence has set in. In patients who die before the 14th day the reaction often remains negative till death, otherwise it becomes positive in a very high proportion of the cases. False positives are rare when reliable suspensions are used.

As happens in other typhus fevers, the Widal reaction is often positive in scrub-typhus patients who have been inoculated with T.A.B. vaccine.

Complications; Prognosis; Convalescence

Bronchitis is a common complication, but is probably only a manifestation of the disease resulting from the multiplication of the rickettsiae in the respiratory mucous membrane. Bronchopneumonia also is probably a severe rickettsial reaction rather than a secondary infection. Secondary infections with pneumococci and septic organisms are infrequent except among patients who have been debilitated before the onset. Malaria is very prevalent in most of the places where scrub typhus occurs, and must constantly be borne in mind. In all cases of doubt a course of mepacrine should be given.

The average fatality rate in scrub typhus is about 5%. In outbreaks of low virulence among previously healthy young men it may be less than 1%, but in outbreaks of a virulent type in debilitated troops it may be as much as 20%, and in these circumstances elderly patients are more likely to die than to survive. In one outbreak there were six deaths among 13 officer patients, and four of these deaths were in persons over 35 years of age. Most of the deaths occur between the 7th and 21st days.

Convalescence is prolonged after severe attacks, but is usually complete in the long run. The average period of disability is about three months; during this time the circulatory response to exercise is poor, and a return to full duty may have to be delayed much longer. Final invaliding is likely to be necessary only in elderly patients who have had severe attacks.

Diagnosis

Few diseases are easier to diagnose when suspicion has been aroused, yet the all-important first cases in outbreaks have often been missed, with the result that preventive measures have been delayed. Now that the disease has become so notorious the most likely mistake is to make the diagnosis of scrub typhus in attacks of malaria or dengue, or to overlook the coexistence of malarial infection and scrub typhus.

If the eschar is present the diagnosis can be made at the very onset of the fever; otherwise a consideration of the exposure to risk and the early symptoms will often point strongly to scrub typhus, but a confident diagnosis may not be possible till the rash appears or the characteristic agglutination reaction becomes positive. Dengue may be closely simulated in the first few days, but its onset is usually more sudden and the epidemiological conditions in which it occurs are different. Flea-borne typhus may occur almost everywhere in the area of distribution of scrub typhus, but the chief risk of infection is in towns and villages, and outbreaks of considerable size are not likely to arise. The agglutination reaction in the flea-borne disease is of the *OX 19* type; the eschar and lymphadenitis are not present, otherwise the symptoms are very similar to those of scrub typhus. Tick-borne typhus also occurs in many places in the East, but no outbreaks have been reported from the theatre of military operations; the agglutination response is rarely of the *OXK* type, and if cases were mistaken for scrub typhus little harm would be done, as treatment and prevention are on almost identical lines. Louse-borne typhus is remarkably uncommon in the Tropics, even among louse-infested communities, but the disease can be expected to occur in subtropical China, increasing in frequency in the colder parts of the country. In northern China louse-borne and flea-borne typhus may appear simultaneously in one locality and so give rise to difficulties in differential diagnosis because the symptoms and agglutination reactions are the same in these diseases.

Although knotty problems in differential diagnosis may occasionally arise, few mistakes will be made if the epidemiological conditions are considered and serological tests are carried out.

Treatment

Treatment is on exactly the same lines as in louse-borne typhus except that no precautions are needed to prevent the spread of infection from the patient. No drug has yet been found to have a favourable influence on the course of the disease, though para-amidobenzoic acid may turn out to be of value in view of its successful use in some cases of classical typhus. Convalescent serum has had no obvious effect in the few cases in which it has been tried, and the attendant risks in malarious countries deserve consideration.

Careful nursing, preferably in the Fowler position, a generous varied diet rich in vitamins, and an adequate intake of fluid are generally agreed to be essential. At least four pints of liquid should be taken daily; given by the mouth, or if necessary by a nasal tube kept *in situ*, there is little risk of fluid retention such as may occur with the intravenous administration of salines and glucose. Supportive intravenous treatment should be undertaken only when expert laboratory help is available, but plasma may be needed in exceptional cases. The urinary output must be maintained; it should be measured every eight hours in serious cases. Digitalis and adrenaline seem likely to do more harm than good. Oxygen should be given if cyanosis develops. For intense and persistent headache lumbar puncture should be carried out.

The psychological factor in treatment is important. The patient is greatly helped by the maintenance of a cheerful atmosphere; he must not be allowed to receive the impression that his illness is of a mysterious and deadly kind; and care is specially needed to avoid any suggestion that his heart is likely to be permanently damaged. These patients are often fractious, so they must be managed with a judicious combination of firmness and kindness such as is suitable for mental cases. The diet should be varied; "something to chew" is helpful in maintaining the hygiene of the mouth, and when the patient's condition allows he should sit up in bed for his meals. Frequent changes in position and a careful watch for oedema and threatened bed-sores are needed for lethargic and comatose patients. Sulphonamides have not been effective for bronchopneumonia, presumably because this is caused by the rickettsiae rather than by secondary infections. Although penicillin has been disappointing, it is said to have been helpful in one case with bronchopneumonia.

Transfers of patients involving a tiring journey should never be permitted after the first few days. The pathology of scrub typhus should be borne in mind in planning treatment; the disease is essentially a rickettsial vasculitis. The patient must be warned against exertion till his response to exercise becomes satisfactory.

Prevention

Prevention has to be considered from two points of view—the protection of camp sites and of troops compelled to enter mite-infested areas. When a choice of camp sites is possible a dry area should be chosen. The site should be thoroughly cleared of all grass and vegetation by cutting, oiling if possible, and burning. Indigenous labour should be employed when available. For important camps a bulldozer would be invaluable; the ideal to be aimed at is to obtain a surface covered with earth or sand and completely free from vegetation. When this is impracticable an effort should be made to provide such a surface for occupied quarters and paths, and to prohibit all straying from the prepared ground. The work should, if possible, be carried out under the supervision of an expert entomologist. The protection of troops compelled to expose themselves to risk is a troublesome problem, complicated by the difficulty of designing mite-proof clothing which would be tolerable in tropical conditions. The detailed measures now adopted cannot, for security reasons, be completely divulged, but it is known that mite repellents, such as dimethyl phthalate, have been applied to the skin and clothing, and that intensive study of the whole subject has been carried out by competent experts.

The control of rats and other animal reservoirs of infection must be undertaken with great circumspection, and only under expert guidance, for the reasons already given. Rats should certainly be discouraged from infesting the camp by keeping every scrap of food out of their reach and by seeing that no suitable nesting-places are available for them. The camp should be kept free from animals of every kind; to ensure this a high standard of tidiness is needed, especially in cookhouses and food stores. Rat and mouse holes can safely be treated by cyanide gas; trapping and poisoning may be risky.

Prevention by egg-yolk or animal-lung rickettsial vaccines has been the subject of close investigation by experts, but many difficulties are likely to be encountered in work of this kind. The instruction of all who are exposed to risk must form an important part in the campaign against scrub typhus; success can be achieved only by the intelligent co-operation of everyone. There is plenty of evidence that the disease is being taken very seriously by the Allied Forces in the East, and there are good grounds for hoping that the energetic measures of control now being adopted will reduce the scrub-typhus menace to negligible proportions.

SCRUB TYPHUS: A CLINICAL STUDY

BY

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During the period Nov., 1944, to Jan., 1945, 110 British patients suffering from scrub typhus were treated in a forward Indian general hospital. This paper is a summary of the clinical records of these cases and of impressions gained with regard to diagnosis, prognosis, and treatment. The patients were all drawn from units of a British formation which entered a small "typhus island" in N.E. Burma during the first week of November. The preventive measures now in force had not at that time been adopted, and the onset of symptoms in the first cases occurred on Nov. 17—that is, approximately two weeks after entry into the affected area.

The first group of patients were admitted to the general hospital on Nov. 27, and in the next three days the total number had reached 41 (1 officer and 40 B.O.R.s). In December there were 69 admissions (3 officers and 66 B.O.R.s), most of whom reached us during the first nine days of the month. After this date fresh cases were received only very occasionally, owing to more efficient prophylaxis and to the fact that the main body of the formation had driven beyond the endemic zone. At first, cases reached the general hospital on the fifth to tenth day of the illness. Later, as forward medical units became more "typhus conscious," the disease was recognized earlier, and patients were evacuated about the third or fourth day.

Clinical Features

The onset was usually sudden, with severe headache and fever, with or without a rigor. The *temperature* usually reached 103° within the first 48 hours, and was often slightly higher. Thereafter the fever was usually continuous, but a four-hourly chart sometimes showed an intermittent type, a sudden drop to normal or subnormal, accompanied by profuse sweating, taking place in the early hours of the morning. The average duration of fever was 15.7 days (extremes, 5 days and 29 days), the return to normal being by lysis. Twenty-five cases had fever of 10 days' duration or less. *Headache* was present in 100% of cases from the onset of the illness. It was often frontal or retro-orbital, and of such severity that it was not relieved by the usual analgesics. *Sore throat*, with injection of the fauces, was present in 54% of cases; it was so severe as to prevent swallowing in 4 cases (3.6%).

Primary Lesion or Eschar.—56% of cases showed typical eschars. The lesion was generally single, but 3 cases each had 2 eschars, and one case had 3. The eschar may be missed if the search is not thorough. In several cases the eschar was found on the scrotum, the perineum, or between the buttocks. The common sites, in order of frequency, were the axilla, the anterior aspect of the trunk, the forearm, the leg, and the back of the chest. The patients were rarely aware of the existence of the lesion, and in only two cases could the men recall having noticed it before the onset of general symptoms. These troops were so inured to jungle sores, however, that it is not surprising that they took little heed of an extra one.

Conjunctival injection and marked *flushing of the face* were common signs, being observed in 82% and 65% of cases respectively. They were of assistance in the early diagnosis of the disease, since they were present by about the third day.

Adenitis.—Of the cases 98% showed moderate enlargement of the lymph nodes in all areas. The glands were not visibly enlarged except in a small number, but were very readily palpable, discrete, rubbery, and sometimes tender in the first week or so. Enlargement was appreciable by the fourth day of the illness. Except in a few cases, the glands draining the eschar were not noticeably larger than those palpable elsewhere.

Rash.—In 64% of the cases there was a maculo-papular rash—more rarely purely macular—on the fifth or sixth day of the illness. It lasted three to four days and was distributed mainly on the trunk, the face, and the proximal portions of the limbs. One case presented unusual features, in that at the time of the maculo-papular rash, and healing as the latter faded, there were multiple superficial herpes-like erosions of the glans penis, similiar lesions of the buccal mucosa, and an oval sloughing ulcer of the lower lip. The Kahn reaction in this case was negative, which answered a suspicion that temporarily occurred to us, and the patient subsequently became the subject of typical typhus necropsy.

Mental State.—There was some definite alteration in 50% of the cases. This varied from a drowsy apathy with mental confusion, in average cases, to restlessness, delirium, and sometimes a "typhoid state" in grave cases. Mild cases showed no mental change other than that caused by the constant intense headache.

Respiratory Signs.—50% of cases had signs of a diffuse bronchitis, and they produced a variable amount of mucoid sputum which was occasionally blood-tinged or rusty. Unless the sputum became purulent or the total white cell count rose above 10,000 per c.mm., we regarded this as a rickettsial bronchitis or pneumonitis—part of the typhus syndrome, and not an indication for chemotherapy. Cyanosis and an increased respiratory rate were observed to be of grave prognostic significance. These signs did not often tally with the physical signs in the chest.

Hiccup was noted in 20% of cases, and was distressing to the medical and nursing staff as well as to the patients affected. It was a symptom of grave prognosis also. Six of our 9 fatal cases were thus affected. In some cases the symptom may be the result of enlarged mediastinal glands, though we considered it generally an indication of impending uraemia, the average blood urea in these cases being 80 mg. per 100 c.cm.

Chest Radiography.—A portable apparatus was not available; consequently cases were not *x*-rayed until the onset of convalescence. The first 8 cases at this stage showed completely normal chest films, after which the investigation was abandoned except when specially indicated.

Splenomegaly.—The spleen was palpable, sometimes easily so, in over 50% of cases. Since all patients were taking suppressive mepacrine, however, and 15 (13.6%) had demonstrable malaria parasites in the blood on admission, it was not possible to say to what extent typhus itself might have been the cause of the enlargement. We feel that, in an endemic malarious area, too much importance should not be attached to this sign.

Urinary System.—The urine, chemically and microscopically, was found to be normal. Neurological abnormalities—incontinence or retention—occurred in 15% of cases.

Cardiovascular Signs.—The pulse rate tended to be rather low in relation to the temperature in the first few days of the illness, but in the later stages of the acute phase it went up to 130 or more. Dilatation of the heart was not appreciable clinically. In downhill cases the blood pressure became progressively lower. The only positive sign, apart from tachycardia, occurred in 4 cases (3.6%) which manifested repeated extrasystoles. No bruits were heard. Tachycardia sometimes persisted well into convalescence.

Nerve Deafness.—This is probably a valuable sign, but one which we found difficult to assess owing to the profound apathy common in these patients and their slow cerebration. In general we found measured speech as well understood as a stentorian voice.

Neck rigidity and stiffness were noted in 6 cases (5.4%) in the early stages. The C.S.F. was clear and under normal pressure.

Blood Investigations.—The total red, total white, and differential white counts revealed no abnormality in the majority of cases. We attached significance to a total W.B.C. count exceeding 10,000 per c.mm. (see below).

Weil-Felix Reaction.—We took the agglutination of the Kinghbury strain of *B. proteus* (OXK) in dilutions of 1/125 or greater to be diagnostic. The average titre obtained on the 17th day of illness was 1/250, the greatest being 1/12,500 (19th day). We feel that the (OXK) titre is by no means indicative of the severity of the infection, and that a titre lower than 1/125 does not negative a clinical diagnosis. In our series 20 persistently gave positive results in titres lower than 1/125, but we have no doubt that they were cases of scrub typhus. In most instances the titre rose steadily during the first three weeks and then began to fall.

Complications

Lung Complications.—Bronchopneumonia (4 cases) and lobar pneumonia (3 cases) were observed. There were the usual clinical signs and a raised total white cell count, the increase being largely polymorphonuclear. Three of these cases developed empyema, two of them resolving after aspirations and local and parenteral penicillin, and one requiring rib resection. The pus aspirated revealed staphylococci and streptococci in one case and no growth in the second; in the third case, which failed to respond to penicillin, staphylococci were grown at first, but later *B. coli* (penicillin-resistant) was cultured.

Alimentary Complications.—Parotitis, 1 case; haematemesis, 1 case (fatal); diarrhoea, 3 cases.

Cardiovascular Complications.—Femoral thrombosis, 2 cases; unexpected myocardial failure during convalescence, 1 case.

Nervous Complications.—Transverse myelitis syndrome, 1 case; mild peripheral neuritis, 6 cases.

Bed-sores.—3 cases.

Concurrent Disease.—Malaria, M.T. or B.T., 15 cases (2 cerebral malaria); amoebic dysentery, 2 cases; dysentery, bacillary exudate, 2 cases.

Course and Prognosis; Morbid Anatomy

The fever usually lasted a little over two weeks. Recovery was rapid. Signs of ill omen were cyanosis, increased respiratory rate, hiccup, retention of urine, and gross mental changes. In our series 9 out of 110 patients died, giving a mortality rate of 8.2%.

One of our patients died unexpectedly four days after the temperature had reverted to normal. We found a flabby dilated heart with moderate fibrosis, and could point to no cause other than acute myocardial failure. One died after a haematemesis, and post-mortem examination revealed numerous submucous haemorrhages in the stomach and small intestine. The other seven deaths were attributable to toxaemia, and occurred between the 12th and 24th days of the illness. Enlargement of the mediastinal and mesenteric lymph glands was commonly found, with congestion of the liver, a soft enlarged spleen, and congestion of the lungs, sometimes with subpleural haemorrhages.

Diagnosis

Clinical diagnosis was easy owing to the presence of associated cases. A sudden onset with severe headache, followed by the combination of sustained pyrexia, enlarged rubbery lymph nodes, conjunctival injection, a maculo-papular rash, and an altered mental state—a combination which most cases presented by about the fourth or fifth day—will rarely be anything else even in the absence of an eschar. A typical eschar together with any of the above signs was considered diagnostic. The Weil-Felix reaction was of value as later confirmation, but reached significant levels too late to be of assistance in the early stages.

Differential diagnosis resolved itself into two phases—that before the lymph nodes enlarged, and that which pertained afterwards. In the first phase malaria and fevers of the dengue-sandfly group were likely to be confused. The onset in the case of enteric was usually not so abrupt. The cases which showed stiffness of the neck muscles gave rise to the suspicion of meningitis, which was excluded by lumbar puncture. Primary infections of the respiratory tract (streptococcal sore throat, acute bronchitis, bronchopneumonia, and lobar pneumonia) gave little trouble because of the correlation of other symptoms. In the second phase glandular fever, acute leukaemia, and agranulocytosis were excluded by a white cell count. In measles the first symptoms are coryzal, Koplik's spots will be present, and the temperature will fall before the rash appears. Secondary syphilis will very rarely be so severe, and the proportionate predominance of individual symptoms and signs will be different. Serum reactions will be positive.

Treatment

General.—In no disease is the physician less important except as a guiding force, and the nurse more essential. These particular patients were fortunate in having a ward sister who accepted this from the start and gave up practically all her "off-duty" time week after week. Nursing must be intensive and continuous, without which many patients who otherwise would live will inevitably die. An adequate diet was maintained—a minimum of 2,400 calories daily, including 100 g. of first-class proteins—and dehydration and salt depletion were combated. Most patients, with sufficient encouragement, took fluid and semi-solid nutriment by mouth. If not, the transnasal intragastric Ryle's tube was employed. Intravenous fluids tended to aggravate the respiratory symptoms, and in any case were of use only in a grave emergency. Vitamin concentrates of A, B, C, and D were available and were given to all patients as a routine. Since these patients came from a highly malarious area, a full course of mepacrine was given from the date of admission, followed by suppressive treatment. Pressure points and oral hygiene required constant attention. Rest in bed was enforced till the pulse rate settled to normal (usually 10 to 12 days after the temperature touched normal), and then patients were allowed to get up and move about gradually.

Symptomatic Treatment.—Insomnia, due usually to intense headache, was treated with potassium bromide, chloral hydrate, each 15 gr., and tr. opii. m. 15: or paraldehyde 6–8 c.cm. intramuscularly in severe cases. Paraldehyde by mouth was usually not tolerated. Hiccup was difficult to manage, and responded best, even though only temporarily, to inhalations of CO_2 and oxygen. Cyanosis and respiratory distress responded well to continuous oxygen administration, though this treatment had to be continued as long as three days in some cases. Patients with meningitic symptoms were lumbar-punctured, principally from the diagnostic point of view. Removal of cerebrospinal fluid did not appear to alleviate the symptoms.

Treatment of Complications and Concurrent Diseases

Lobar and lobular pneumonia due to secondary pyogenic infection were treated with sulphathiazole in the usual dosage. Of 7 cases so treated, 3 developed empyema. Treatment adopted for this was repeated aspiration followed by instillation of penicillin into the pleural cavity, combined with intramuscular penicillin in dosage of 100,000 Oxford units daily. This treatment led to resolution in two cases, but the third became contaminated with *B. coli,* and rib resection was necessary to complete the cure.

The case of parotitis cleared up without resort to surgery. The two cases of femoral thrombosis were treated along the usual lines, but recovery was marred by a residual oedema of the leg. Retention of urine called for twice-daily catheterization until bladder control was regained. Bacillary and amoebic dysentery were controlled with sulphaguanidine and emetine respectively.

Summary

A series of 110 cases of scrub typhus in British patients is described.

The disease generally presented a clear-cut symptomatology, and clinical diagnosis was not difficult.

The Weil-Felix reaction becomes positive in significant titre too late in the illness to be of much assistance in the early diagnosis.

The differential diagnosis and prognosis are discussed and the pathological findings in the fatal cases recorded.

We wish to thank Col. P. H. Addison, I.M.S., for permission to present this account.

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THE EFFECTS OF MECHANICAL STRESSES ON MAN*

BY

B. H. C. MATTHEWS, C.B.E., Sc.D., F.R.S.

LECTURE II

In aircraft man moves at very high speeds, but high speed in itself does not produce any physiological effect if the pilot is protected from high wind-pressures in a closed cockpit. However, when motion changes rapidly, either in direction or in magnitude, the pilot is subjected to very great mechanical stresses not ordinarily met with on the ground. The practical effects of these may be separated into two classes of phenomena: (1) those associated with change of speed such as occurs in catapult-launching or in crash-landing, where high acceleration or deceleration acts for a short time; and (2) those associated with change of direction of motion, which may be of long duration but of less magnitude, as when an aircraft executes a tight spiral. The physiological effects produced depend on the value, duration, and line of action of the force acting on the body and also the area over which the force acts on the body. The magnitude of the force acting on a body, owing to its inertia during change of motion, depends on the rate of change of velocity and the mass of the body. The numerical factor to be related to physiological effects is the change of velocity in feet/second/second. The acceleration due to gravity giving a body its normal weight is 32.2 ft./sec./sec., abbreviated in the sign "g," and it is convenient in physiological work to consider the rate of change of motion in terms of multiples of "g." This makes it possible to give the forces acting a numerical value. It must be emphasized that the acceleration communicated to one part of the body, if it acts only for a very short time, may not produce so great an acceleration on other parts of the body owing to transmission of the forces via parts of the body which yield. For example, if the chair in which a man is seated is given an upward acceleration of 5 g for only one-fiftieth second, the acceleration at the head will have a much lower value and act for a longer time owing to transmission of the force through yielding parts of the body.

If large forces act on a small area the commonest result is a penetrating injury. It is forces acting over a small area in this way which produce all common accident injuries, and to prevent these it is important in aircraft design to avoid projections in the cockpit with which the pilot may come into violent contact if the aircraft is suddenly decelerated, as in crash-landing. Injuries of this type are greatly reduced by the use of properly designed harness to prevent motion of the body relative to the cockpit. Here will be considered only those cases where a large force acts on the body over a considerable area and penetrating injury does not occur.

Physiological Disturbances

Fig. 1 gives in diagrammatic form the tolerance of the seated body to acceleration when it is adequately supported to meet the force. This is drawn as two separate lines, to distinguish between short-acting forces, which may result in mechanical failure of parts of the body, and long-acting forces of lesser magnitude, which produce physiological disturbances, particularly of the circulation, without permanent structural damage. The upper part of the curve is only a rough indication, and requires further definition of the exact support of the body, which makes a very great difference to the tolerable acceleration. In other postures the tolerable acceleration varies widely. Thus in a standing man fracture of the lower leg is a possibility at 3 g, and is very likely to occur at 7 g. A seated man accelerated forward can tolerate very high acceleration, probably over 25 g. For acceleration in the reverse direction, such as the deceleration in crash-landing, the body must be restrained by a harness, and unless the head is restrained (which is not often practicable) neck injury may occur at less than 25 g. Above this, evisceration may occur. Very high acceleration can be tolerated if it acts on a man supported spread-eagle on his back—probably at least 250 g (de Haven, 1942).

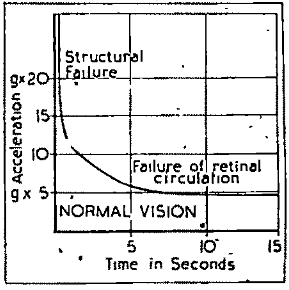

FIG. 1.—Acceleration tolerable to a seated man.

These figures must be regarded as a rough indication only, for unless conditions of support are exactly defined, wide variations may occur in practical cases. They are based on evidence from several sources—viz. (1) From experiment. Squad. Ldr. Stewart has carried out many catapult experiments with various postures, experiencing the accelerations which can be tolerated without injury. (2) From analysis of accidents, where it is often possible to reconstruct probable forces that have been in action. (3) From an analysis of unsuccessful suicide attempts which has been made by de Haven (1942).

The problem of concussion is too extensive to be considered here. The forces necessary to produce concussion, if penetrating injury does not take place, appear from de Haven's figures to be very high indeed, perhaps 300 to 400 g. Experiments by Denny-Brown and Russel (1941) also show that very high acceleration is required to produce unconsciousness in animals, though in practical rather than theoretical cases the work of Holbourn (1943) suggests that injury may result to the brain when the head receives a much lower acceleration if the force does not act through the centre of gravity of the head so that a sudden rotation is imparted to it. Damage to the brain may then result from its lagging behind the skull in rotation.

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* The second of two Oliver-Sharpey Lectures before the Royal College of Physicians of London, March, 1945.

It is clear that these factors, and their proper application to aircraft construction and procedure, can do much to save life, especially in crash-landing, and much work has been carried out for the R.A.F., especially by Squad. Ldr. Pekarek, to give suitable protection to the body.

During prolonged acceleration physiological disturbances occur from the effects on the hydrostatic columns of blood in the body. Much physiological research has been carried out in the past on the effect of normal gravity on the circulation and the readjustments in the circulation which take place with change of posture. But in flight far greater forces, which easily produce unconsciousness, come into play.

"Blacking-out"

In the Schneider Trophy races pilots found that during turns at very high speed they suffered visual failure, which was given the name of "blacking-out." Experimental studies were carried out by R.A.F. medical officers Livingston (1939), Rook and Dawson (1938), Corner, and Wallace. Before the war intensive work on this subject was carried out in Germany, particularly by Ruff, by von Diringshofen (1934), and by Strughold. A centrifuge to reproduce the conditions of rapid turns was built in Berlin in 1935. By 1939 it was established that blacking-out was due to failure of the circulation above the heart owing to the great increase in effective weight of the blood while subjected to high acceleration. The subjective sensations under these conditions are those of a great increase in weight of all parts of the body. An increase to three times gravity makes it impossible to walk about, and at about four to five times gravity when seated it is impossible to raise the feet off the floor of the cockpit (Stewart, 1945). The pilot feels forced into his seat, and at 5 g, were his seat supported by a spring balance, it would indicate an apparent weight five times his own, so that a 200-lb. pilot would record about half a ton on the balance. This apparent increase in weight causes sagging of the soft tissues of the face, illustrated in the photographs (Fig. 2) of a subject in straight and level flight and during a tight turn. A number of R.A.F. aircraft have been equipped for research under these conditions, and a great deal of work has been carried out, particularly by Squad. Ldrs. Stewart, Davidson, and Watt.

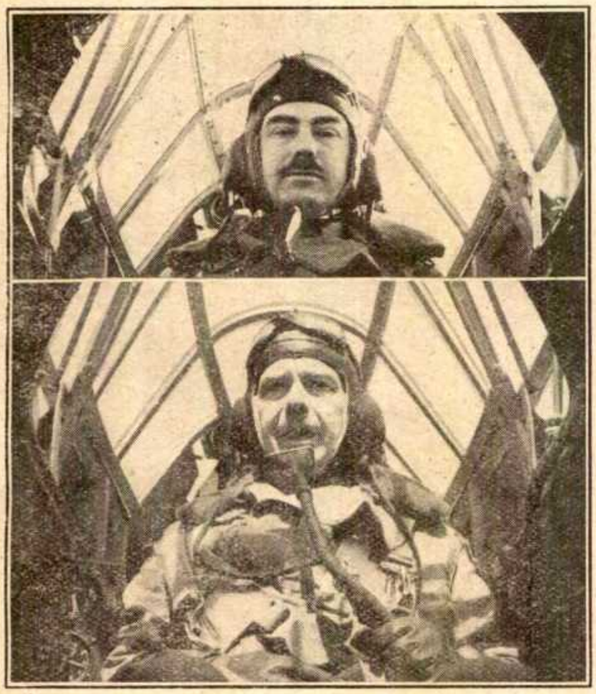

FIG. 2.—(i) Subject in straight and level flight. (ii) Subject at an acceleration of 4 g while turning. This illustrates the sagging of the soft tissues of the face owing to their virtual increase in weight.

A centrifuge operating on the ground can approximately reproduce these conditions without the added hazards of flight, although, owing to the rapid rotation necessary, other effects are brought into play. These are of secondary importance to the large centrifugal effects. Centrifuges to carry men have been built in Australia, Canada, and the U.S.A. The R.C.A.F. centrifuge (Franks *et al.*, 1945) at Toronto is shown in Fig. 3.

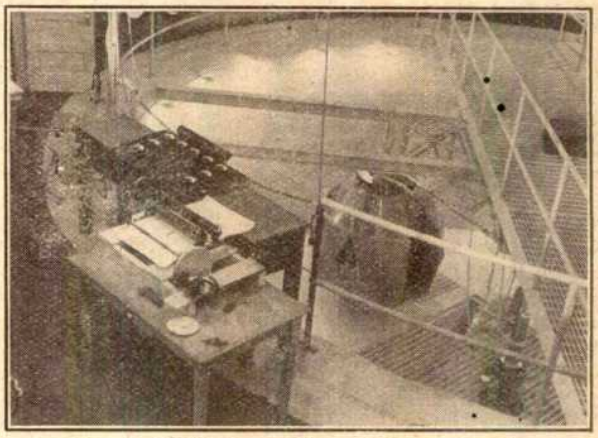

FIG. 3.—R.C.A.F. centrifuge, Toronto, Canada.

The effects of centrifugal force are primarily due to disturbance of the circulation. The blood virtually becomes the weight of iron at 7 g, and, if the circulation in the brain is to continue, a pressure of over 200 mm. must be maintained in the aorta to force it upwards against these forces. Moreover, the venous return from the lower half of the body falls and, unless inflow is maintained, clearly arterial pressure must also fall. In addition the normal circulatory reflexes are greatly disturbed when subjected to these conditions. The first symptom is loss of vision, and this is due to failure of the retinal circulation, which occurs before failure of cerebral circulation because the intraocular pressure is opposed to that circulation. This does not occur immediately the force is applied, but lags behind it some 5 to 8 seconds. This lag presumably represents the oxidative reserve available in the retinal cells themselves. Experiments by Craik and Stewart in 1941 showed that increasing the intraocular pressure by pressure applied to the eyeball produces blacking-out after about the same time interval as occurs while flying; and applying pressure to the eyeball while under acceleration in flight causes blacking-out to occur at values of "g" at which vision is unimpaired with normal intraocular pressure. With increasing acceleration when a pilot progressively tightens a turn, peripheral vision is lost and central vision becomes hazy before complete black-out. When just blacked-out, other cortical functions are less obviously impaired. Squad. Ldr. Stewart showed that hearing and smell are still functional; if the acceleration is still further increased unconsciousness results, with loss of muscular tone; as this occurs other neuro-muscular disturbances are seen. When the acceleration is removed consciousness returns rapidly, though after severe blacking-out convulsive movements of the limbs may be experienced, and the subject suffers retrograde amnesia and is disorientated (Franks *et al.*, 1945). The factors determining the severity of blacking-out are: (1) magnitude of the acceleration; (2) duration of the acceleration; (3) posture of the subject; (4) individual susceptibility.

So far a normal seated posture has been considered, and the average tolerance of acceleration under these conditions is roughly 5 to 6 g for five seconds.

Protection against Centrifugal Force

There are three practical methods of protecting the circulation against centrifugal force: (1) "Self"-protection: voluntarily increasing the tone by contracting muscles of the lower half of the body is found to increase by about 1 g the threshold at which blacking-out occurs. (2) Posture: by reducing the length of the columns of blood involved. This can enable a man to increase his tolerance of acceleration. Fig. 4 gives a diagrammatic summary of the effects of various postures on blacking-out thresholds. (3) Protection by the use of special garments.

In a normal sitting posture there are two processes leading to a failure of circulation in the head. The increasing weight of the blood requires increasing pressure in the aorta to maintain the circulation, and the venous side of the heart may be starved by pooling of the blood in vessels below that organ. This venous drainage may be reduced by surrounding the lower half of the body by a garment which applies equal pressure to the outside of the abdomen and lower limbs, to counter the outward pressure in the blood vessels while under acceleration.

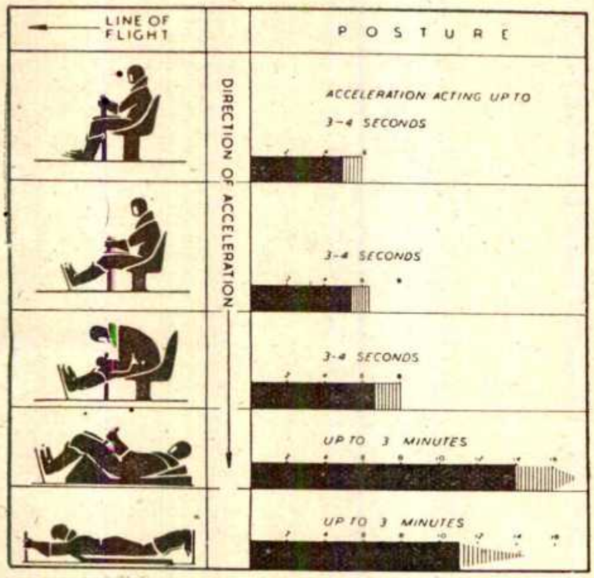

FIG. 4.—The effect of posture on the blacking-out threshold of a human subject (redrawn after Ruff).

The first scheme of this sort was that put forward by Marshall in 1933, using air bladders to compress the abdomen; the pressure being provided by the forward motion of the aircraft from a scoop which opened under the action of centrifugal force. An alternative scheme provided pressure automatically from a water-tank connected to the bladders at shoulder level. Flight tests showed that abdominal pressure alone was not entirely satisfactory, and much of the venous pooling occurred in the legs. A hydraulic suit to " pressurize " the thighs in addition to the abdomen, using water bladders within an inextensible suit, was worked out by Dr. Bourdillon in 1938, and submitted to the Air Ministry early in 1939.

In 1939 the late Sir Frederick Banting devoted much time and energy to organizing research in Canada on the development of anti-" g " garments, and Franks, working with him, constructed a number of suits on the hydraulic principle. After trials by the R.A.F. which established the effectiveness of this, a practical anti-" g " garment was produced from them by the research staff of the Dunlop Rubber Company, working with Wing Cmdr. Franks and Flying Officer Wilson. The Franks hydraulic suit was used in 1943 and 1944, but has now been discarded because, by the use of air pressure in place of water, effective protection can be achieved with a much less cumbersome garment.

Early in the war an air-pressure suit was developed in Australia by Dr. Cotton, working with the Australian Air Force, and using the centrifuge (McIntyre, 1945) which was set up there for the purpose. Since then the air principle has been very highly developed in America to give a comfortable and light garment which effectively pressurizes the lower limbs during turning in aircraft and enables the pilot to tolerate some 2 to 3 g beyond the point at which he normally blacks out. Development of air-pressure suits in the R.A.F. has followed on the principles worked out in America. The air-pressure suit is supplied from a pump on the aircraft engine via a valve operated by a weight acting against a spring, so that air is admitted only during positive acceleration in tight turns.

The blood below the heart is at a pressure which increases with the distance below the heart, and it was first thought necessary to apply a similar gradient in the external pressure applied to the surface of the body. The Franks hydraulic suit effected this automatically, as the gradient of pressure in the water is similar to that in the columns of blood in the limbs. The first air suits applied greater pressures to the lower parts of the legs than to the abdomen and thighs; but the advantages of this have not been found to be worth the added complications, and a single pressure applied to the body surface below the heart is very much simpler to achieve and will effectively maintain the circulation. The value of protection of the circulation during tight turns is that not only does it increase the manœuvres the pilot can carry out, which may be of value in " dog-fighting," but frequent application of acceleration insufficient to produce blacking-out is found to cause very marked fatigue, and this is avoided by the use of these garments.

It is at present undesirable to give pilots unlimited protection against acceleration. If this could be done many mechanical failures of aircraft would occur, for aircraft designers in the past have accepted strength limits based on the human tolerance of acceleration, and by making the man stronger than the aircraft in resisting " g " a new danger arises. There is also a physiological cause to avoid very high " g " until more perfect protection can be achieved; for with artificial maintenance of the venous inflow to the heart the great pressures required in the aorta to maintain upward circulation constitute a very great abnormal load on the heart and also raise problems of the structural strength of blood vessels at or below heart level. It is clear that if venous return is kept up and the acceleration increased still further, a point must ultimately be reached where myocardial and other damage will result. Animal experiments by Greenfield (1945) in England and Jasper and Cipriani (1945) in Montreal suggest that this limit is at about 12 g, and may well be lower in man. Fortunately, up to the present there has been no evidence of cardiac damage in the application of up to about 9 g; but it is clear that this is a very serious aspect of the problem, and if danger exists here it may not become apparent for a number of years after the conditions initiating it. It is therefore very desirable that, for the present, the loads placed on the heart in this way should be restricted.

The vascular system of the legs is able to tolerate very considerable increase in pressure during positive acceleration, though petechial haemorrhages are on rare occasions produced locally in the lower leg. However, the factor of safety for abnormally high pressures is very much less in the head. When an aircraft executes an outside loop so that the pilot's head is away from the centre of the circle, the blood is forced in the reverse direction from that already considered, and the pressure in blood vessels of the head may rise to a dangerously high value. An acceleration of about 3 g can be tolerated without danger, but a " redding out " of vision resulting from congestion of the retina may occur. Higher values of acceleration occasionally arise by accident, and haemorrhage in the conjunctiva is to be expected at 4 to 5 g. With higher values of acceleration there is a great danger of haemorrhage in the cerebral vessels, with serious and possible permanent damage to the brain, and for this reason manœuvres which would produce large centrifugal forces acting towards the head are avoided in aircraft.

Conclusion

In these lectures I have tried to give an outline of the two stresses to which large numbers of flying personnel are exposed. Our present knowledge on these problems has resulted from team-work not only on a national scale but, in the last few years, on an international scale between all the Allies. The extensive research organization that the Director-General of Medical Services, Sir Harold Whittingham, has set up for the R.A.F. is kept very fully occupied, and but for the great resources of our Allies and the Empire many of the problems could not have been studied in detail. In the R.A.F. the performance of men and machines has been stretched to the limit to outfly the enemy, but in civil flying the first aim must be to reduce stress on the passenger. While the stresses considered above should never arise in civil flying, knowledge from war research is applied to make civil aviation safer.

Perhaps it is not too much to hope that these researches carried out in the interests of war may prove of value outside aviation in peace. Our knowledge of normal function may often be increased by elucidation of function under abnormal stresses. One general truth is emphasized in this work—that is, the very great factor of safety in many physiological processes.

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PERIPHERAL ARTERIAL EMBOLECTOMY

BY

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The purpose of this paper is to review the literature on embolectomy, with special reference to the results; to stress the urgency of early diagnosis and prompt surgical treatment; and to describe a case in which a popliteal embolectomy was attended by success even though the time lapse between the occurrence of the embolism and the operation was greater than any other previously recorded.

Aetiology

The emboli we are concerned with are mainly derived from ante-mortem clot formed in the left side of the heart when stasis is present—chiefly in mitral stenosis. Occasionally the clot may be formed in the pulmonary or systemic veins; in the latter case the so-called "paradoxical embolus" occurs, being due to a persistent foramen ovale. But, nevertheless, cardiac dysfunction is the commonest cause: according to Danzis (1933) 60% of cases are due to cardiac disease, while of the 47 peripheral emboli recorded in Great Britain (in the available literature) 40 were of cardiac origin. Three of these occurred in thyrotoxic subjects with auricular fibrillation; the rest were in patients with mitral stenosis—the commonest single cause of embolism. Of the remaining 7, 6 were post-operative and one followed an accident which resulted in a fractured rib.

History of Arterial Embolectomy

Suabanejew, in 1895 (cited by Key, 1923), was the first to attempt "arteriotomy in order to remove a clot." He was unsuccessful, as were the next 11 surgeons who followed his example. Among these were Moynihan (1903; not recorded until 1907) and Handley (1907), in England; Stewart (1905; cited by Allen, 1929), Murphy (1909), and Carrel (1909; cited by Allen, 1929), in America; and Lejars (1902; Allen, 1929), in France.

The first recorded success was described by Mosney and Dumont (1911), when Georges Labey removed an embolus from the bifurcation of the left femoral artery six hours after its lodgment. The patient, a man of 38, had mitral stenosis, and made a good recovery. In the same year Gordon-Watson, in England, attempted to remove a post-operative embolus under similar conditions. The leg, however, had to be amputated later, but the patient survived.

Einar Key, of Stockholm, who was responsible for the second reported successful case, introduced the operation in Scandinavia, after Carrel's experimental work had made arterial surgery a practical proposition (Allen, 1929). By 1923 Key was able to report 12 further successes, mainly by Scandinavian surgeons. In 1923 Holst (Danzis, 1933) reported the first success in America, while it was not until 1925 that Jefferson described the first success in England. In 1928 Pemberton collected 216 cases of embolectomy, of which only 20 had been done in Canada and America, while 145 of them were Scandinavian. Twenty cases had been reported in England by Riddell (1935), but by this time there were 382 cases on record for Scandinavia alone. It is evident that the Scandinavian surgeons had accepted embolectomy as a useful operation, while the general practitioners in that country were co-operating by sending patients to hospital as soon as the diagnosis of peripheral embolism was suspected.

At the present time only 41 cases have been recorded in England; 47 emboli occurred in these, and embolectomy was carried out for 42 of them. The Registrar-General has, for the years 1941–3 alone, details of 34 deaths in which peripheral embolism played a part (personal communication), so there is no doubt that more than the 41 cases recorded have occurred in England since the time of Moynihan's first attempt.

Results

The main factor in the recovery rate of the *limb* in embolectomy is time—the time allowed to lapse between the lodgment of the embolus and the attempt to remove it. Pearse (1933) and Danzis (1933) have shown this to be true in their reviews of relatively large numbers of cases, which are expressed diagrammatically in Figs. 1 and 2.

The total successes reported in the past tend to give rather a gloomy impression (see Table), but on more careful examination it becomes apparent that if *all* cases could be treated within 4 to 6 hours of the impaction of the embolus in the artery, then the total number of recoveries might be very much greater. Dickson Wright (1933) in a postgraduate lecture stated that there is a 50% chance of recovery after embolectomy. Without operation the mortality rate in patients who have a peripheral embolus has been put as high as 87% (Danzis, 1933), with the majority of the remaining 13% having to undergo amputation of the affected limb.

Table showing Recovery Rates as found by Various Observers

Observer	Year	No. of Embolectomies	Successes	
			No.	%
Jefferson	1925	73	28	34·2
Danzis	1933	119	49	41·1
Pearse	1933	296	145	49·7
Key	1936	382	86	22·5
Hopkins	1945	42*	24	57·1

* This figure includes the 20 cases collected by Riddell (1935).

The ultimate prognosis, of course, is that of the causative disease.

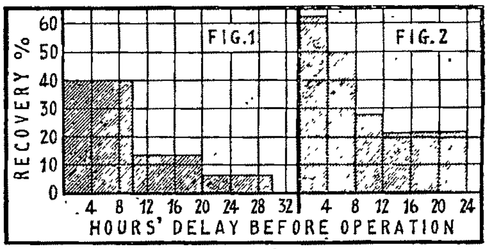

FIG. 1.—After Pearse (1933). 296 cases.
FIG. 2.—After Danzis (1933). 119 cases.

Successful cases have been reported in which more than 24 hours have elapsed between the embolism and the operation; the present case was not admitted to hospital until 39 hours' delay had occurred, and it is very interesting to note that a limb is capable of recovering even after this period of complete anoxia, provided that a good circulation can be restored. Holst (cited by Danzis, 1933) was successful with his case after 27 hours' delay, and Girdlestone's (1935) case recovered after 24 hours. It is apparent, therefore, that operation should be undertaken even when an unduly long delay has occurred, although it must still be emphasized that the optimum time for embolectomy is within 4 to 6 hours of the lodgment of the embolus. This consequently means that early diagnosis is essential.

Diagnosis

The leading factor in the diagnosis of peripheral embolism is that *something sudden happens in a limb.* Often a patien will liken his illness to a "stroke," and almost always he wi be able to give the exact time of its onset. The most commonl described symptoms are pain and paralysis in the affected lim but these are not constant. The pain may be agonizing; li a burning sensation; or merely be "pins and needles" or oth araesthesiae. A variety of symptoms can occur; the limb may eel "cold and numb," "as heavy as lead," "as though it were gripped in a vice," etc. Together with any of these there is often loss of voluntary movement. But, whatever the symptoms, they are of sudden onset in the majority of cases, and when they occur in patients known to be suffering from itral stenosis or other aetiological condition the diagnosis of mbolism should be made and the patient sent to hospital, or ther place where operative treatment can be undertaken.

Objectively the limb is cold from 1 to 2 in. below the site of lodgment of the embolus (see Fig. 3). Pallor or cyanosis may be evident, and there may be mottling or lividity below a line of demarcation. Arterial pulsation is absent distally, while pressure over the site of the embolus causes pain. Below it there may be loss of cutaneous sensation, and the deep reflexes may be absent.

The one other lesion which may really simulate embolism is n arteriospasm. This can be definitely excluded only by use of the Pachon oscillograph (Atlas, 1942), but this machine is seldom available. Graham (1937) has employed papaverine hydrochloride to relax vasospasm; but since this has no effect on embolism its value can only be in diagnosis, and it should not be used unless facilities for immediate operative treatment are at hand.

As stressed above, it is the time factor which is of the greatest importance, and this has been emphasized in all previous papers on the subject. Hamilton Bailey (1944) stresses that the occurrence of a peripheral embolus is as urgent a surgical condition as a perforated gastric ulcer.

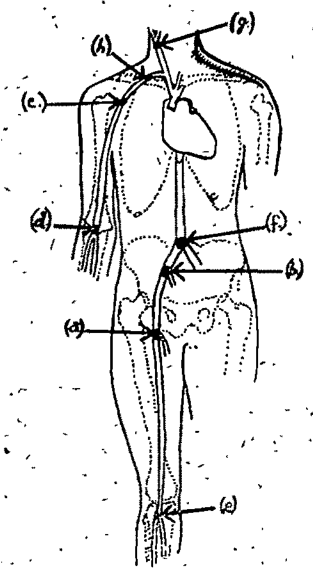

FIG. 3.—Usual sites of lodgment of peripheral emboli (after V. H. Riddell). 382 Swedish cases reviewed by Key, 1936.

(a) Femoral A. ..	54.4%	(18)
(b) Iliac A. ..	17.2%	(2)
(c) Axillary A. ..	11.8%	(1)
(d) Brachial A...		(12)
(e) Popliteal A...	11.3%	(5)
(f) Aorta	4.5%	(7)
(g) Carotid A.. ..	—	(1)
(h) Subclavian A.	—	(1)

(Figures in brackets represent the distribution of the 47 emboli recorded in Great Britain.)

Cases are very often sent to hospital too late for surgical intervention; Guthkelch (1943) mentions eight such cases seen at the Manchester Royal Infirmary. It would seem, therefore, with this and the Registrar-General's figures (see above) in mind, that many limbs—and lives—might be saved if early diagnosis and prompt surgical treatment could be instituted in these cases.

Case Report

On Jan. 2, 1945, a 43-year-old housewife awoke to find that both her legs felt numb. After some 30 minutes this wore off, and she remained comfortable until 10 a.m. on Jan. 4, when she experienced a "sudden agonizing pain in the left thigh" and noticed that her foot went "mauve." The pain continued, and by the next morning she felt as though her "thigh-bone was on fire" while her "flesh was numb like lead." On the evening of Jan. 5 she was admitted to hospital. The only relevant part of her history is the fact that she had had chorea at the age of 11, and that for some months before the present illness she had been getting more easily tired and out of breath, culminating in an attack of breathlessness and pain in the chest, which was taken to be coronary thrombosis, and for which she was being treated at home in bed, where she was when the pain in the leg started.

n examination she was found to have an advanced mitral nosis, with a regular rapid pulse; B.P. 85/60. The left leg was ite and cold from about 1 in. below the knee, with definite mottling of the skin of the foot. The femoral pulse was palpable on both sides at the groin, while the dorsalis pedis pulsation was palpable only on the right side. The left popliteal artery was tender to pressure and felt hard. Below the knee there was no cutaneous sensation, and the deep reflexes were absent.

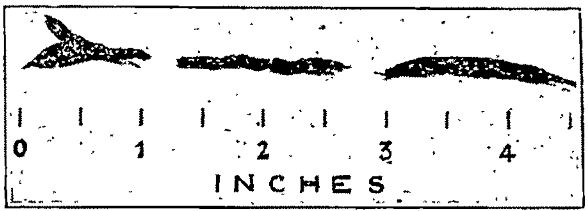

FIG. 4.—The embolus removed from the left popliteal artery. The first part, showing a bifurcation, was withdrawn from the distal end of the vessel.

Under local analgesia I exposed the popliteal artery, which was solid and in spasm. A small longitudinal incision was made in its lower part, and it was found to be filled with blood clot. Attempts to pick this up showed it to be friable. A fine rubber catheter, with its end cut off at an angle of 45°, was passed distally into the popliteal artery. A sucker was attached, and with the pressure at 76 cm. of water the catheter was slowly withdrawn, bringing with it the first part of the embolus, shown in Fig. 4. A flow of dark fluid blood followed. This was controlled with a tape passed around the vessel, and the above procedure was repeated in the proximal part of the popliteal artery. In this way the second portion of the embolus was delivered, but no bleeding followed. After several further unsuccessful attempts I decided to open the femoral artery, and this was done after dissecting it free in the lower end of Hunter's canal and closing the incision in the popliteal artery with a continuous suture of horsehair dipped in liquid paraffin. By means of the catheter as above the third part of the clot was removed, and this was followed by a torrential flow of bright red blood. While the flow was controlled by a tape the incision was closed, and on its release the vessel filled distally, but no pulsation was visible in the popliteal artery, which was found to be hard again. The first incision was reopened and fresh blood clot was removed and the artery resutured. This time it pulsated, and blood could be seen oozing through the needle punctures. Hot packs were applied, *and within five minutes the patient volunteered the statement that her foot was "tingling."* The wound was sutured and a drain was left in its lowest part. Twenty minutes later a good circulation was apparent by the rapid return of colour to the toes after blanching by digital pressure. In 24 hours the cutaneous sensation and deep reflexes had fully returned, and, apart from slight wound infection, convalescence was uneventful for three weeks. She then had started to get up and was able to walk a short distance. At this time she developed sudden abdominal pain. Apart from abdominal tenderness nothing was found on examination. There was good pulsation in both femoral arteries and also in both dorsalis pedis arteries. T. 101.2° F.; P. 98/min. regular. The possibility of a mesenteric embolism could not be excluded, and after several hours' observation without any improvement a laparotomy was carried out by a colleague, who found nothing abnormal. There was only slight pain the next day, and her convalescence continued to be uneventful. She was discharged home on Feb. 22, and is continuing her normal life so far as her cardiac condition will allow.

Treatment

As soon as peripheral embolism is diagnosed the limb should be lowered (not raised), and surrounded by ice-bags (not hot-water bottles), as the metabolism of the anoxic tissues must be reduced (Hamilton Bailey, 1944). Ideally, operative removal of the embolus should be carried out within 4 to 6 hours, but, as pointed out above, delay over this time need not preclude the possibility of recovery after embolectomy. No patient has been reported as having died owing to this operation, while the mortality rate in patients suffering from embolism of peripheral arteries has been put as high as 87% (Danzis, 1933) in those who have not been operated on.

Two other forms of treatment have been described: the first is conservative, and consists in the use of vasodilator substances (papaverine hydrochloride) and the application of alternating suction and pressure to the limb (Graham, 1937). Its value is dubious. The other method is surgical, and is arteriectomy. It was described first by Gosset *et al.* (1933); later Leriche *et al.* (1937) recorded 78 cases in which it was used, but although successful in some forms of arterial disease it was of little value in embolism.

The statistics for embolectomy, however, do show a reasonable chance of recovery in a person who is otherwise almost certain to lose a limb, and maybe his life. With this in mind it can be said that this form of treatment is the one that should be adopted in all cases of peripheral embolism, especially where the diagnosis is made early.

The recent advent of heparin (Murray and Best, 1938) may increase the chance of recovery still further, although a word of warning may be added here. For the first three days post-operatively the "specified dosage of 4,000 Toronto units" was injected intravenously daily, and at the end of this period the blood-clotting time was still only 3½ minutes at 37° C. As its further use did not seem to be indicated the heparin was discontinued. Its effect in this case was obviously unsatisfactory, and it seems that the dosage advocated will have to be increased, and in addition very careful laboratory control must be used. There is no doubt that this drug is valuable, however, as shown by MacFarlane's (1940) case, in which he performed four separate embolectomies in the same patient with complete success; similarly it had a marked effect on the clotting time of the blood in Hamilton Bailey's (1944) case.

Summary

A brief history of the use of the operation of embolectomy is given, together with the results obtained in the past; a special note about the British cases on record is included.

The aetiology, diagnosis, and treatment of peripheral embolism are discussed.

A further case is added to the records: successful popliteal and femoral embolectomies 39 hours after the lodgment of the emboli.

I would like to express my thanks to Mr. Harold Dodd, F.R.C.S., for permission to record this case.

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Each of the above authors has described one or more cases of peripheral arterial embolectomy in Great Britain.

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The report for 1944 of the Kashmir Medical Mission of the Church Missionary Society has been received from Srinagar. The year is noted as an "absolute record" for this hospital, which, for many years under the guidance of Dr. E. F. Neve, has been regarded as one of the foremost medical missionary institutions in India. Over 48,000 visits of patients were recorded in the out-patient department and 2,707 were admitted to the wards. Though the valley of Kashmir enjoys one of the best climates in the world, the insanitary habits of the Kashmiris have not changed in the passing centuries. Outbreaks of cholera, dysentery, and typhoid persist and make possible the devastating epidemics which from time to time occur. The report is a good record of how war difficulties have been overcome—shortage of staff as also of drugs and dressings.

HIGH-COLOUR-INDEX ANAEMIA DUE TO VITAMIN C DEFICIENCY

BY

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During the spring and summer of 1943 four severe cases of adult scurvy associated with a high-colour-index anaemia of varying severity were admitted to St. Alfege's Hospital. They were all males, aged 70–80, old-age pensioners who were living alone. The diet in each case was markedly deficient in vitamin C. The most severe case ended fatally from heart failure soon after admission, but the other three responded satisfactorily to ascorbic acid. Cases 1 and 3 had hydrochloric acid present in the gastric juice in normal amounts. In the other two the gastric juice was not examined. They all received a mixed hospital diet, but were not given haematinics such as liver, iron, or vitamin B complex; yet the anaemia responded satisfactorily to saturation with ascorbic acid.

Case Histories

Case 1.—A man aged 72 was admitted on Aug. 24, 1943, with extensive bruising and purpura on the backs of his lower limbs. The spontaneous bruising had appeared three weeks previously and was becoming more extensive. He was edentulous, and his gums were unaffected. His diet had consisted almost entirely of bread, margarine, a little jam, and stewed meat, but almost no potatoes or greens. He was anaemic, and the capillary fragility (Hess) was raised. The blood count on admission was: R.B.C., 2.4 millions; Hb (Haldane), 60%; C.I., 1.25; average diameter of R.B.C., 8 μ; reticulocytes, 0.8%; platelets, 144,000 per c.mm.; W.B.C., 5,000 (polymorphs 82%, lymphocytes 10%, monocytes 8%); bleeding and clotting times normal. Hydrochloric acid was present in the gastric juice in normal amounts. He was saturated with 11.2 g. of ascorbic acid intramuscularly in 16 days. The bruising and purpura began to fade in a few days, and rapid improvement resulted. The capillary fragility test became normal in three weeks. The anaemia responded satisfactorily, as shown:

24/8/43: R.B.C., 2,400,000; Hb, 60%; C.I., 1·25; W.B.C., 5,000
9/9/43: R.B.C., 3,250,000; Hb, 74%; C.I., 1·13; W.B.C., 5,600
17/9/43: R.B.C., 4,300,000; Hb, 86%; C.I., 1·0; W.B.C., 6,000

The maximum reticulocyte count was on 1/9/43, when it was 1.6%.

Case 2.—A man aged 79 was admitted on July 2, 1943, with severe bruising and purpura, especially of his gums and the left lower limb, the latter being also swollen. The papillae of his tongue were atrophied. He was markedly anaemic, and the capillary fragility was raised. His diet had been deficient in greens and potatoes, and had consisted almost entirely of bread, margarine, cheese, and meat pies. After saturation with 9.1 g. of ascorbic acid intramuscularly in 13 days, rapid improvement resulted. The capillary fragility test became normal after one month. He refused a gastric-juice examination. The anaemia responded satisfactorily, as shown:

3/7/43: R.B.C., 2,080,000; Hb, 54%: C.I., 1·2; W.B.C., 4,500
16/7/43: R.B.C., 3,500,000; Hb, 58%; C.I., 0·83; W.B.C., 3,800
23/7/43: R.B.C., 4,100,000; Hb, 72%; C.I., 0·88; W.B.C., 4,700
15/9/43: R.B.C., 5,650,000; Hb, 108%; C.I., 0·95; W.B.C., 9,000

Case 3.—A man aged 76 was admitted on May 29, 1943. Three weeks previously he noticed spontaneous bruising of his upper and lower limbs, which became more extensive and confluent. His gums were normal (he was edentulous), but he had numerous petechiae in the mucous membrane of his mouth. His diet had consisted almost entirely of bread, margarine, and cheese. He was markedly anaemic, and the capillary fragility was raised. He was saturated with 11.2 g. of ascorbic acid intramuscularly in 12 days. After a few days of this treatment the ecchymosis and purpura began to fade and rapid improvement took place. The capillary fragility test became normal in six weeks. Hydrochloric acid was present in his gastric juice in normal amounts. The anaemia responded satisfactorily, as shown:

31/5/43: R.B.C., 1,700,000; Hb, 38%; C.I., 1·11; W.B.C., 2,500
10/6/43: R.B.C., 2,540,000; Hb, 50%; C.I., 1·10; W.B.C., 2,180
5/7/43: R.B.C., 3,100,000; Hb, 74%; C.I., 1·20; W.B.C., 3,000
14/9/43: R.B.C., 3,870,000; Hb, 84%; C.I., 1·07; W.B.C., 4,500

He died as a result of myocardial degeneration and congestive heart failure on Oct. 30, 1943.

Case 4.—A man aged 79 was admitted on May 5, 1943, with a history of three months' spontaneous bruising of his upper and lower limbs. His diet had consisted almost entirely of bread, margarine, and cheese. On admission he was found to have extensive bruising and purpura of his upper and lower limbs. His gums were spongy and bruised, and they bled easily. The capillary fragility was markedly raised, and he was markedly anaemic. The blood count was: R.B.C., 1.35 millions; Hb, 28%; C.I., 1.04; W.B.C., 3,000. He died five days after admission as a result of congestive heart failure.

Comment

About 70% of cases of scurvy have an associated anaemia, according to Mettier *et al.* (1930). Although most cases described are normocytic, reports of cases of scurvy associated with macrocytic anaemia have been described previously by Parsons (1938)—two cases of infantile scurvy; Dunlop and Scarborough (1935), Nisenson and Cohen (1937), and Jennings and Glazebrook (1938)—one case each of adult scurvy. Perhaps the severity and duration of the clinical scurvy determine the nature of the anaemia. Thus a comparatively early and mild case would have a normocytic anaemia, and a more severe and long-standing case which may interfere with maturation of the red blood corpuscles at an earlier stage would have a macrocytic or even an aplastic anaemia. It is of interest in this respect to note that Wohlbach (1937) found the red bone marrow replaced by homogeneous amyloid-like material in guinea-pigs fed on a vitamin-C-deficient diet for a long time. The bone marrow was studied by Jennings and Glazebrook in their case, and they found the appearances to be similar to that of pernicious anaemia.

Mettier *et al.* (1930) proved conclusively that the anaemia of scurvy responded to orange juice with a maximum reticulocyte response on the fifth to eighth day. Moreover, in two of their cases iron and liver had no effect on the anaemia. Mettier and Chew (1932) cured the anaemia of scurvy in guinea-pigs by orange juice. Dunlop and Scarborough (1935) confirmed the specific effect of vitamin C on the anaemia of scurvy by giving their patients a diet similar to that which produced scurvy, and the anaemia responded satisfactorily to ascorbic acid. One of their patients had a high-colour-index anaemia.

Whether subclinical scurvy can produce anaemia or not is uncertain. Dyke *et al.* (1942) described three cases of "irresponsive" pernicious anaemia which improved when ascorbic acid as well as liver was given. They did not, however, give details of the diet of their patients. It would, however, seem reasonable to treat cases of macrocytic anaemia having a history of vitamin C deficiency with ascorbic acid, particularly if hydrochloric acid is present in the gastric juice, before a diagnosis of refractory anaemia is made.

In the group of cases described above vitamin C deficiency appears to have been responsible for the high-colour-index anaemia. It may be argued that some factor in the hospital diet could have been responsible for the improvement in the anaemia and not the ascorbic acid. I consider this unlikely, since the diet did not contain any liver; and iron and the vitamin B complex, the other recognized haematinics, were not present appreciably above minimal requirements.

Summary

Four cases of "bachelor scurvy" associated with a high-colour-index anaemia are described.

The scurvy, as well as the anaemia responded satisfactorily to ascorbic acid given intramuscularly and a mixed hospital diet in three cases, without the addition of haematinics such as liver, iron, and vitamin B complex. Vitamin C deficiency is considered to have been the cause of the anaemia.

It is suggested that ascorbic acid therapy should be tried in cases of macrocytic anaemia whose diets are deficient in vitamin C, particularly if hydrochloric acid is present in the gastric juice before a diagnosis of refractory anaemia is made.

My thanks are due to Dr. B. A. Young, medical superintendent, and the medical and nursing staff of St. Alfege's Hospital, especially Sister V. Sinclair, for their co-operation, and to Dr. E. N. Allott, of the Lewisham Group Laboratory, and Mr. J. Puxley, laboratory technician, St. Alfege's Hospital, for the pathological investigations.

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Medical Memoranda

Treatment of Human Cutaneous Anthrax with Penicillin

In view of the fact that few clinical reports of the treatment of human anthrax by penicillin have been published the following case may be of interest.

Case Record

An old, well-nourished, well-preserved ex-chief, a large cattle-owner, aged about 70, was admitted to hospital on May 4, 1945, with a history of a swelling in the neck of five days' duration. On examination there was a large fairly painful indurated swelling below the left jaw, covered by a black eschar about 3 by 1½ in.; much oedema and induration surrounded this area, spreading particularly round the front of the neck. A smear from the edge of the eschar showed anthrax bacilli, no other organisms being seen The patient was very ill; his temperature was 102.2° F., the pulse was poor, and he was mentally very confused; the lower margin of the spleen was at the level of the umbilicus, was moderately soft, and was painful on palpation. The blood slide was negative on two occasions for malaria parasites.

In spite of the fact that, in general, anthrax lesions in this part of the world respond well to N.A.B., it was decided, in view of his age and his very poor general condition, to give penicillin. This was accordingly started. 20,000 units of the sodium salt being given intramuscularly, followed by 10,000 units three-hourly by the same route, to a total of 200,000 units. Fluids at the rate of about 4 pints a day were given—at first by a gastric drip, and finally by mouth.

The clinical response was remarkable. Sixteen hours after administering penicillin the temperature was normal, induration and oedema surrounding the lesion were markedly less, the spleen had contracted slightly, and the general condition was much improved. The eschar appeared to be drier but slightly bigger. The penicillin was stopped 54 hours after its start. By this time the patient's general condition was very good, the induration and oedema of the neck had completely disappeared, the temperature had remained normal, and the spleen had contracted by about 1½ in.; smears from the lesion revealed no anthrax bacilli, and no other organisms were seen. Over the next two days the eschar separated, leaving a large ulcer about 4 by 1½ in. with a clean but deep granulating base; the spleen had contracted by 2 in. from its initial size. Unfortunately, on May 12 the patient developed a pneumonic consolidation of the base of the right lung, associated with a recrudescence in temperature and accompanied by severe hiccup; this responded rapidly to sulphathiazole, the hiccup being controlled by morphine. At the time of writing, May 21, the patient was convalescent, and the ulcer had nearly healed.

Comment

Both the malignant pustule and small outbreaks of intestinal anthrax, contracted from eating infected meat, are fairly often met with in this district. In general, the malignant pustule does not appear to have the same severity as cases encountered in England; and, as has already been said, these cases respond well to large doses of N.A.B. The infection in question, however, was of a particularly severe type in an old man, and the prognosis seemed to be very poor. In addition it appeared that the condition was becoming generalized, although no anthrax bacilli were seen in any of the blood slides. The patient lives in a hyperendemic malarial area, and it was known that he had had splenomegaly previous to the onset of the disease. His blood slide on five occasions within the first three days of admission was negative for malaria parasites, and it was thought that the changes in the size of the spleen were more likely to be due to an anthrax septicaemia than to a malarial relapse. He was given no antimalarial therapy.

The improvement shown after starting penicillin was dramatic. Since treating this case. I have read an extract describing the treatment of three cases of human cutaneous anthrax in the United States by Murphy *et al.* The American authors recommend that 200,000 to 400,000 units should be given at the rate of 100,000 units in 24 hours to the average adult, and they appeared to favour continuous intravenous infusion of the drug. In the case described above, 200,000 units, given over 54 hours by intramuscular injection every three hours, were quite sufficient to obtain a prompt and lasting response, the general condition of the patient and the local condition of the pustule being greatly improved after the first 100,000 units.

I would like to thank the Acting Director of Medical Services, Kenya, for permission to publish this note.

H. Stott, M.B., B.Ch.,
Colonial Medical Service.
Native Civil Hospital, Kerugoya, Kenya.

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Reviews

DIFFERENTIAL DIAGNOSIS

An Index of Differential Diagnosis of Main Symptoms, By Various Writers. Edited by Herbert French, M.D., F.R.C.P., assisted by Arthur H. Douthwaite, M.D., F.R.C.P. Sixth edition. (Pp. 1,128; 798 illustrations, of which 231 are coloured. £4 4s.) Bristol: John Wright and Sons.

The publishers are certainly to be congratulated on producing a sixth edition of French's *Differential Diagnosis* in wartime. The book is beautifully printed and easier to handle than pre-war editions. There are large numbers of photographs, radiographs, and coloured pictures, all of which are excellent reproductions, and there is a full index. The middle-aged critic cannot easily forget the fascination with which he first turned the pages of this book immediately after the last war, and he must wonder what will be the reaction to it of the present generation of students and housemen. It is not easy to keep up to date a work which first took form 33 years ago. Disease, it is true, remains much the same, but the background against which it is enacted and the methods by which it is viewed are very different. We are not now so passionately interested in the differential diagnosis of rare and incurable diseases, and the subtle distinction between a chylous and a chyliform effusion leaves most of us rather cold; the matter can rarely be of much individual or general importance. In 1912 it was still perhaps fashionable advice to leave physiology behind when one entered the wards and to adopt the outlook of the collector or, at best, the field naturalist. Nowadays we think in terms of altered physiological processes and biochemical tests, rather than the long lists of causes of symptoms which Dr. French and his collaborators have compiled. It would be possible for the student to read the section on ascites without appreciating the fundamental importance in diagnosis of trying to determine the systemic venous pressure, the portal pressure, and the serum proteins. Here, too, constrictive pericarditis is very incompletely displayed. Under lardaceous disease the value of the Congo-red test is not discussed, and under lymphadenopathy the impossibility of diagnosis without biopsy is inadequately stressed. The section on pigmentation of the mouth is a very sound bit of clinical writing, beautifully illustrated, but special tests for Addison's disease, such as *x*-ray examination of the lungs and suprarenal glands, or measurement of the ability to retain sodium, are omitted. Under acute yellow atrophy, on the other hand, tests for leucine and tyrosine in the urine are recommended, though the modern emphasis is on clinical features, such as persistent vomiting, nervous symptoms, and ascites, and examination of the urine is of little value. Homologous serum jaundice does not appear to be mentioned.

The technique of clinical diagnosis by personal observation reached its heyday in the age of therapeutic nihilism, when diagnosis seemed an end in itself. To-day, diagnosis is merely a means to an end, and this is why scientific precision, short cuts, and laboratory data are the rule of the day. We may lament the passing of the clinical diagnostician as of other craftsmen, but we have to remember that the modern patient with pneumonia expects to be nursed in hospital, and the modern houseman expects to be able to *x*-ray such a patient on the way to the ward and begin treatment at once with a sulphonamide drug. French's *Differential Diagnosis* contains much that is of immense professional interest and of undoubted value to the student, but it is doubtful whether it accurately reflects the diagnostic practice of the active physician of the present day.

NEUROLOGY

Diseases of the Nervous System Described for Practitioners and Students. By F. M. R. Walshe, M.D., D.Sc., F.R.C.P. Fourth edition. (Pp. 360; illustrated. 15s. plus 7d. postage.) Edinburgh: E. and S. Livingstone. 1945.

The fourth edition of Dr. Walshe's small textbook on nervous diseases has appeared when book production is in a most difficult period. The demand for it shows that the student and the practitioner have appreciated what a useful survey of a complicated subject has been given to them.

Dr. Walshe is distinguished for his sound if conservative common sense, and has always refused to be led away by new speculations and enthusiasms until they have stood the test of time. Especially is this the case with reference to the psychological approach. In this edition he refers to psychosomatic conditions but gives very little space to their consideration. For example, he still treats with scorn the psychological explanations of enuresis in children, saying that the syndrome points to a hypothalmic dysfusion, is therefore physiological, and the children are just made like that. He admits that treatment along physical lines is seldom successful, and hopes that the symptom will disappear at the age of twelve. He ignores the possibility that the hypothalamic dysfunction may be psychogenically determined and the fact that psychological treatment does very often remove the symptom.

New material has been added in the section on the peripheral nerves, and the relation of sciatica to rupture of the intervertebral disk is discussed. The author believes that a nucleus pulposus syndrome does exist, but very properly warns his readers against attributing all cases of sciatic pain to this lesion. Of the ultimate usefulness of such procedures as frontal leucotomy he is sceptical, and he deprecates newfangled terminology and the stressing of complicated and rare combinations of symptoms in neurology which serve more as a vehicle for the name of the physician who first described them than as a clarification of the mind of the practitioner who has to treat his patient.

This book has done and will continue to do much to bring the "mysteries" of neurology down to the general common-sense level of the rest of medicine, and is therefore much to be commended.

FOSTER HOMES FOR MENTAL PATIENTS

Foster Home Care for Mental Patients. By Hester B. Crutcher. (Pp. 199. $2.00 or 11s. 6d.) New York: Commonwealth Fund; London: Oxford University Press. 1944.

The use of foster homes for the care of various types of mental patients is by no means unknown in this country. The Lunacy Laws recognize the principle of single care supervised by the Board of Control. Mental defectives are boarded out, and the work of the foster home placement bureau of the National Association for Mental Health is well established. This activity has not, however, been developed by responsible authorities on any large scale, though such development may be required and demanded in the near future.

Hester Crutcher's book describes the methods and results of this work in America and especially in the State of New York, and it will be extremely useful to all those concerned with the project. Results are highly promising, as is shown by statistics of the returns to hospitals and release on parole of those placed in family care. The service is economically and administratively the responsibility of the hospital, but at least in some cases it is less expensive in terms of money than retention in hospital even of the non-recoverable quiet cases. The foster home is still more economical when regarded as a special form of treatment for recoverable cases, if it is compared with other treatments such as shock therapy.

The method of selection of patients and homes is carefully described, for on the success of this the whole service depends. The rival claims of the colony system, such as that of Gheel in Belgium and Dur-sur-Auron in France, and the district system, more favoured in the United States are discussed, and several illustrative case histories are given. Finally the forms and procedures used are illustrated.

Miss Crutcher is to be congratulated on giving a lucid, non-technical, and very readable account of the admirable service which she directs. This book should be on the reference shelves of all who are concerned with the mentally sick.

Notes on Books

Though this is not stated in a booklet called *Getting to Know your Baby*, by Dr. D. W. WINNICOTT (William Heinemann; 1s.), the six essays appear to have been broadcast talks. The author's particular views will not be accepted by everyone, but he has a quiet sincerity which demands respectful consideration.

Commended by Miss Florence Horsbrugh, the latest publication of the St. John Ambulance Association is *Child Welfare* (St. John's Gate, Clerkenwell, E.C.; 2s. 6d.), by Dr. HILDA M. DAVIS. In just over three hundred small pages she has packed a great deal of well-written and accurate information suitable for all those concerned with the care of children.

Preparations and Appliances

A TECHNIQUE OF DRILLING THE GLENOID IN BANKART'S OPERATION FOR RECURRENT DISLOCATION OF SHOULDER

Surg. Cmdr. P. B. **Moroney**, M.Ch.(Orth.), F.R.C.S., R.N.V.R., writes:

In 1923 for the first time Blundell Bankart described the displacement of the anterior rim of the fibro-cartilage, which enlarges the shallow glenoid cavity, as the essential anatomical lesion responsible for recurrent dislocation of the shoulder-joint. Again in 1938, reporting detailed operative technique and results of twenty-eight consecutive operations, he found no relapses and that full shoulder movements were retained.

For full service duties a secure shoulder is essential, and in the operative treatment of 27 patients, mainly sailors, Nicola's operation was abandoned following one early relapse. After changing to Bankart's exposure in the last eleven of these patients great difficulty in securing primary reposition of the capsule and cartilage flush with the anterior rim of the glenoid was experienced. This critical part of the operation requires the formation of two pairs of short, narrow canals in the bone margin and the introduction of two mattress sutures through them. Once accomplished, anchorage of the capsule to bone is easy. A sharp vulsellum worked through the bone, as described by Bankart, was not mechanically satisfactory in my experience; for the bone being remarkably hard the canal is apt to split by the rocking of the vulsellum forcing its passage, and there remains the difficulty of passing the suture through.

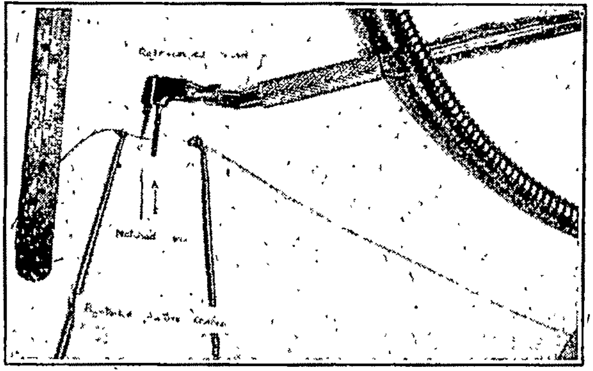

Fig. 1.—The assembled apparatus (motor not shown).

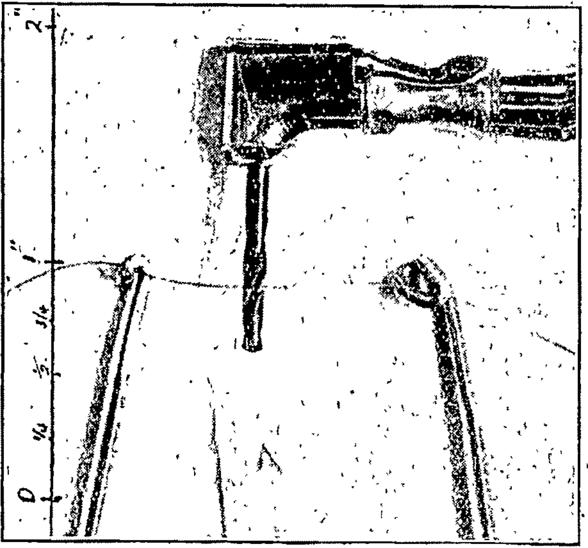

Fig. 2.—The slotted drill and pigtail guides. Scale of one inch as shown.

In the last seven operations the following apparatus has very considerably facilitated and hastened this part of the operation, which is performed after bony scarification. A right or contra-angled dental handpiece, coupled to the flexible driving cable of an electric motor, enables a short morse twist drill to be operated and directed in the depths of the wound (Fig. 1). The drill is made to the following specifications: when fitted to the handpiece its effective length is 3/4 in. and its bore 2/32 in. One quarter of an inch from the tip a slot, to a depth of a quarter of the circumference, is cut obliquely towards it at 45° inclination to the long axis of the drill (Fig. 2). A short, narrow canal is readily drilled, while an assistant, by strong outward leverage on the arm, clears the humeral head.

To engage a suture in the slot which on withdrawing the drill will pull it through, two guides are used, and make the operator independent of the direction of the face of the notch when the drill has come to rest. Pigtail-shaped, they are easily fashioned out of Kirschner wire. In use they render tense a very short length of suture material, which may then be depressed behind the drill and engagement in the slot follows. Pulling back (not rotating the drill) the handpiece takes the first suture end through a canal and with the other end the procedure is repeated (Fig. 3).

The cable has been autoclaved, but may be protected by a sterile calico sleeve. The remainder of the apparatus must be sterilized by heat, the dental handpiece being lubricated with sterile liquid paraffin before assembly. Unnecessary kinking of the flexible cable is avoided by placing the motor on its stand about 2 feet above the level of the operative field.

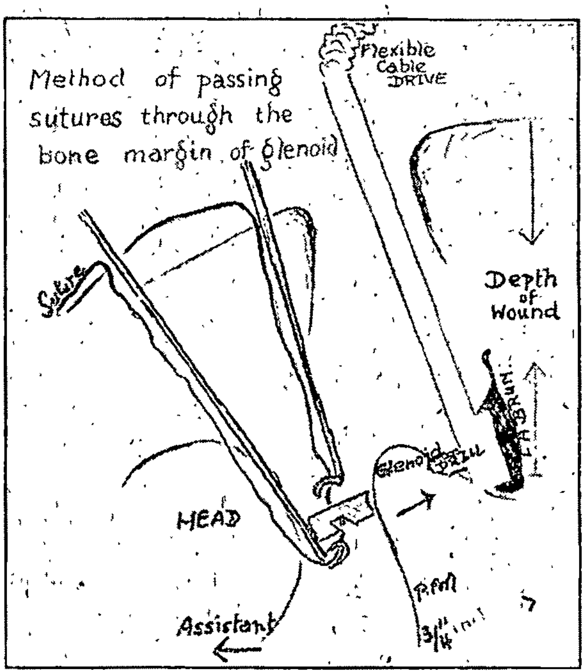

Fig. 3.—Juxta-articular bone has been scarified. A suture with the aid of guides is engaged in the slot and, using the drill as a carrier, is withdrawn mesially.

In all of the eleven cases the typical Bankart lesion was found, and in several a postero-lateral deformation of the humeral head could be visualized in the fuller exposure afforded by his arthrotomy.

The notched drills and pigtailed guides have been made for me by Messrs. Down Bros. Ltd. The remainder of the apparatus is standard equipment. I gratefully acknowledge the helpful suggestions of Surg. Rear-Adml. R. F. P. Cory, the practical advice on the dental coupling of Surg. Lieut.-Cmdr. J. Barnett Roberts, R.N.V.R., and the production of illustrative photographs by Sick Berth Petty Officers Lucy and Styles.

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Ashe Laboratories Ltd., 120, Victoria Street, Westminster, S.W.1, state that they are, for the first time in this country, now able to offer supplies of "biotin," in the form of ampoules containing 25 γ in 1 c.cm. of sterile distilled water.

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PROBLEMS OF AVIATION MEDICINE

The Oliver-Sharpey lectures by Dr. B. H. C. Matthews, printed in this and last week's *Journal*, on the physiological problems of flying are so clear and fascinating that we shall not attempt to make a précis or paraphrase; they should be read in their entirety. In general terms it can be said that men cannot fly above 20,000 feet without a supplementary supply of oxygen, or above 40,000 feet without a pressure suit or cabin. At 40,000 feet the pressure of the atmosphere is only one-fifth of that at sea-level. It might be thought that the flyer could overcome this disability by breathing 100% oxygen instead of the normal 21%, but matters are not so simple as this, owing to the presence of a constant pressure of water vapour and carbon dioxide in the lungs. In fact, at 50,000 feet water vapour and carbon dioxide will completely fill the lungs unless the aviator adopts the tactics of the submariner and surrounds himself with a pressure suit or a pressure cabin. The other limit to high flight is the occurrence of decompression sickness, or "bends," due to the formation of bubbles of gas in the body fluids and tissues when the atmospheric pressure is so greatly reduced. Finally, high flight is at all possible only if the body is protected from cold. At 40,000 feet the temperature of the air is −55° C., and destructive frost-bite occurs if the hands are exposed for more than a few seconds. The stratosphere airplane compresses the air to a pressure corresponding approximately to a height of 10,000 feet. It therefore corresponds with the pressure coil of a refrigerator and is a warm aircraft. The engineering difficulties are considerable, and the penalties of explosive decompression are obviously severe—sudden exposure to an atmosphere of lunar temperature and pressure.

There is no visible limit to the speed of flight, provided the airman is protected from the wind and the flight is level and sustained. Trouble comes only from rapid acceleration and deceleration, such as arise in catapulted take-offs, tight turns at speed or crash landings, or from rapid changes in the pressure in the middle ear when the aircraft is descending at speed. One of the most remarkable observations is the entire absence of symptoms when the body falls freely in space, as in delayed parachute jumps—i.e., jumps in which the parachutist allows himself to fall freely for a time before opening the parachute. The velocity ultimately reached is about 120 miles an hour. It had often been assumed in the past that a man falling from a considerable height became unconscious before he reached the ground; on the contrary, he is as comfortable physically as if he were resting in a hammock, and sensations of motion or air are curiously lacking.

Dr. Matthews's lectures are of special significance because they illustrate the value of co-operation between the physicist and the biologist. The physicist may calculate that an airman exposed to the centrifugal force of a tight turn may have an apparent weight of half a ton. It is for the biologist to visualize the effects of this pressure on the aorta and the vertebral column. The physicist has likewise illuminated our ideas about the mechanism of concussion of the brain and suggested better methods of prophylaxis. As man explores his environment in ever more fantastic ways, both through invention of mechanical devices and through the desire to work under every type of climatic condition, whether in deep mines or Arctic ice-fields or steaming jungles, it becomes more and more essential for the human physiologist to extend the range of his observations and to observe every aspect of the effects on the human organism of the extremes of heat, light, pressure, humidity, and so forth, and in this type of work the help of the physicist is indispensable. But many physicists would go further than this. They would say that the application of modern physical techniques to biological problems is likely to yield as rich a harvest as has already been reaped from the application of biochemistry to medicine. At present the application of physics to medicine is limited to radiology, the electrocardiograph, and the electro-encephalograph in diagnosis, and the somewhat empirical use of various forms of radiant energy in treatment; but it is highly unlikely that these represent more than a fraction of the contribution physics might make to human biology.

The value of co-operation between biologist and physicist may be mutual. A sports car has been defined as a car which combines the maximum of smell and noise with the minimum of comfort. A similar type of criticism can be applied to many of the inventions of the physicist and the engineer—that they leave the human element out of consideration. It is impossible, for example, to design a night-fighter aircraft or employ it to the best advantage without knowing something about the physiology and pathology of night vision. The idea is now generally accepted, but this has happened only recently, and there are many fields of applied physics and engineering to which it still does not apply. It must be constantly emphasized that any machine or apparatus which is to be used by men and women, whether in warfare or in industry, presents a biological problem which is at least as important as the problems of cost and mechanical efficiency—the applied physiologist must therefore be consulted through the various stages of design and application. Dr. Matthews also points out that the study of the physiological problems of the airman may yield knowledge of value in other fields. The clinical observer who has seen demonstrations of the effects on the human organism of abnormal tensions of the different atmospheric gases cannot have failed to be struck by the resemblance of the phenomena to those of mental disease. It does not seem unreasonable to suppose that morbid anxiety, depression, or elation may be due to variations in the concentrations of simple substances such as oxygen and carbon dioxide in the nerve cells, perhaps as a result of a metabolic defect or a break in a chain of fermentation reactions. In the past the study of brain chemistry has perforce had to be limited to isolated tissues or laboratory animals, but the experience which has been gained with the decompression chamber and the diving-bell suggests that similar techniques might prove fruitful in studying the psychological effects of changes in the metabolic condition of the human brain in health and disease.

During the war physiologists, clinical scientists, and psychologists have, by the urgency of the need, been drawn to work on the personnel problems of mechanized warfare. After the war this sense of urgency may diminish, and other problems may seem more attractive. The fine quality of the research carried out by teams such as Dr. Matthews's has been largely due to the fact that applied research was being performed by workers who had been trained in fundamental methods. The resultant acceleration in the advance of knowledge can be compared with the phenomenon of hybrid vigour; it is something that can happen only once in a generation. The research worker must return to his fundamental studies and his academic teaching to renew his strength. Yet it will be disastrous for this country if research on the problems of modern warfare peters out as it did in the decades between the two wars. There is little to suggest that the needs of civil aviation are sufficient to keep interest alive, any more than the needs of peacetime motoring are adequate for the study of the physiological problems of tank warfare. Interest in Service problems can be maintained only by emphasizing their dependence on fundamental issues and their link with work in other fields. For this reason it seems essential that the medical and physiological departments of the Services should maintain active communication with the civil research institutes, the universities, and the departments of industrial health research if they are not to take up hedgehog positions in the battleground of science, where mobile warfare should be the order of the day.

NUTRITION IN NEWFOUNDLAND

The high incidence of malnutrition in Newfoundland has long been a blot on our colonial administration. Presumably nutrition is nobody's business, and so little has been done to remedy the poor conditions in that island. The Government of Newfoundland has at last been moved to action by the Nutrition Council of the Newfoundland Medical Association, who recommended that a nutritional survey of the country be made. This was done last year, and the results have been recently published.[1] They make depressing reading. That the public health in Newfoundland is far from satisfactory is evident from the high infant mortality (107 per thousand live births) and the high prevalence of tuberculosis. Radiological evidence of active pulmonary tuberculosis was obtained in 7.2% of nearly 4,000 unselected individuals; calcified lesions were present in an additional 13.7%. While malnutrition is not the exclusive cause of these high figures, it undoubtedly plays a big part.

The diet consumed by the large majority of the inhabitants of Newfoundland is poor and monotonous, and the consumption of protective foods such as meat, eggs, milk, and vegetables is low. The only food that appears to be plentiful is fish. Assays of many of the foods eaten were made and the daily intake of essential nutrients calculated. These are given in the following table and compared with those recommended by the Food and Nutrition Board of the National Research Council, U.S.A. The latter figures have been adjusted to represent the requirements of the population as a whole.

Calories and Nutrient	Average Daily Consumption in Newfoundland	Daily Consumption Recommended by Nat. Res. Council, U.S.A. (adjusted)
Calories	3,000	2,544
Protein	94.4 g.	66.1 g.
Fat..	75.4 g.	—
Calcium	360 mg.	960 mg.
Iron	10 mg.	12 mg.
Vitamin A	1,146 I.U.	4,590 I.U.
Vitamin C	20 mg.	75 mg.
Vitamin B_1	0.96 mg.	1.45 mg.
Riboflavin	0.8 mg.	2.1 mg.
Nicotinic acid	14.6 mg.	14.5 mg.

With the exception of calories, protein, and nicotinic acid, all the figures fall short of the recommended intake suggested by the National Research Council.

All those included in the survey were examined clinically, with particular reference to scalp, hair, eyes, skin, lips, gums, tongue, and peripheral nervous system. The average person examined was somewhat slow mentally and lacking in initiative. This was particularly noticeable in the children, most of whom appeared apathetic and subdued, and in attitude and behaviour resembled little adult men and women. All subjects seemed older than their years. The skin of the children lacked elasticity and looked like that of adult men and women. "Staring" hair—i.e., dry, coarse, straight, and lustreless hair—was observed in 10% of the persons examined. The adults were, generally speaking, under weight, although the weight of the children did not differ appreciably from that of children of comparable ages in Canada and Britain. Muscular development was poor in both sexes at all ages, and prominent or winged scapulae were noted in many subjects. Minor stomach ailments and constipation were common. Dental caries was widespread, the condition in many of the subjects being indescribably bad. Anaemia, as judged by haemoglobin estimations, was present in approximately 20% of those examined. There was a close parallelism between the dietary inadequacies and clinical findings. Lesions characteristic of deficiency diseases were seen chiefly on the skin of the face, body, and limbs; on the lips, gums, and tongue; and in the eyes. Neurological signs, possibly due to deficiency of vitamin B_1 and riboflavin, were observed in 6.8% of the subjects examined. Of all the deficiency states noted, those associated with a lack of vitamin A, riboflavin, and vitamin C were the most frequently encountered. The principal manifestations of vitamin-A deficiency seen were xerosis, follicular keratosis, and xerosis conjunctivae. Frank scurvy was not seen, but the subscorbutic state, with swollen, bleeding, and unhealthy gums, was common. Dyssebacia, blepharitis, lacrimation, photophobia, angular stomatitis, cheilosis, and glossitis, all of which are stated to be diagnostic of ariboflavinosis, were observed in many of the subjects. Pathological tongue changes were present in over a third of the cases. These were not ascribed to nicotinic acid deficiency, for it was thought that the intake of nicotinic acid was adequate.

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[1] Adamson, J. D., *et al.*, *Canad. med. Ass. J.*, 1945, 52, 227.

The report ends: "The poor nutritional status of the people of Newfoundland may well be in large part responsible for their impaired health and efficiency." The climatic and agricultural conditions form perplexing difficulties in the way of improving the nutritional status of the population. The land is poor, transport is lacking, and most of the people are engaged entirely in the fishing industry. At one time a third of the population were on the "dole," as there was not enough work. Measures to improve the nutrition of the people of Newfoundland are under way, but it must be emphasized that nutrition is a many-sided problem that cannot be solved by any single line of approach. Without help from outside, improvement in the nutritional condition of the island is impossible.

FIFTY THOUSAND MEMBERS

The British Medical Association now has more than 50,000 members. The 50,000 mark was reached last week for the first time in the history of the Association. The 50 men who constituted the Provincial Medical and Surgical Association in its foundation year, 1832, were certainly men of vision, and if we, their successors, have feelings of pride in the position the Association has now reached, we should remember with gratitude and admiration the pioneer wisdom of Dr. (later Sir) Charles Hastings and his colleagues who propounded "objects of the Association" which have stood the test of time. It may be of interest at this moment to quote from the last number of the *Midland Reporter*—the full title of which was the *Midland Medical and Surgical Reporter and Topographical and Statistical Journal*—in which the formation of the Association was announced:

> "The present Number completes the third volume of *The Midland Reporter*, and with it the Work under the above name will terminate: as the Editors can now congratulate themselves and the Public upon having attained the great object which they contemplated at the commencement of their arduous undertaking. Their appeal to the public spirit, generous feelings, and pure love of Science, which so extensively pervade and dignify our noble profession, has not been made in vain. A wish has, in consequence, been warmly expressed and widely circulated, that the members of the profession residing in the Provinces should unite themselves into an association *friendly* and *scientific*; that this Association should have for its main object the diffusion and increase of Medical Knowledge in every department of science and practice, and that the valuable communications of its Members should, from time to time, appear in the shape of published Memoirs of the Society."

The *Reporter* gave way to the annual *Transactions* of the newly formed Association, but found its true periodical successor in the *Provincial Medical and Surgical Journal*, which appeared in 1840, the title of which was changed in 1853 to the *Association Medical Journal*, and again in 1857 to the *British Medical Journal*.

The Association was founded in the year which saw the passing of the first Reform Bill and the first of the four epidemics of Asiatic cholera which swept over this country during the nineteenth century. Of the five objects of the Association given in the prospectus of May, 1832, the first four can be summarized in these key phrases: (1) "Collection of useful information"; (2) "Increase of knowledge"; (3) "Investigation of . . . endemic and epidemic diseases"; (4) "Advancement of medico-legal science." The fifth embodied "the maintenance of the honour . . . of the profession . . . by promoting voluntary intercourse and free communication of its members, and by establishing the harmony and good feeling which ought ever to characterize a liberal profession."

The year 1946 may prove to be another great year of reform, which this time may vitally affect the medical profession. So long as the reform preserves the principles that "characterize a liberal profession," medical men and women will pursue their traditional aims and objects with "harmony and good feeling." The numerical strength of the B.M.A. is now such as to enable it to pursue its objects in full consciousness of its strength. How this strength has grown since the foundation of the Association is shown in the following table of membership.

1832	 50	1906	 20,993
1836	 500	1925	 30,524
1839	 1,010	Sept. 2, 1939	... 39,121
1873	 5,400	1942	 41,239
1883	 10,050	July, 1945	... 50,032
1895	 16,000		

HISTOPLASMOSIS

Histoplasmosis, described first by Darling in 1905, is a mycosis affecting primarily the cells of the reticulo-endothelial system. The parasite, *Histoplasma capsulatum* Darling 1906, a small capsulated yeast-like body, 3 to 4 μ in the longer diameter, occurs in great numbers within the reticulo-endothelial cells, which are stimulated to hyperplasia. The granuloma formed tends to undergo central necrosis and provoke a peripheral fibrotic reaction. During the 20 years after Darling's discovery[1] of the first three cases in Panama in 1905–6 no further record of the disease appeared until Riley and Watson[2] described a case in the United States in 1926, and their report was followed quickly by others. DeMonbreun,[3] in 1934, reported his success in cultivating the fungus, and, with this additional means of diagnosis and the developing interest in mycoses, the number of cases reported annually in the United States greatly increased, and the disease was found in Argentina, Austria, Brazil, Central America, England, Mexico, the Philippines, and Rhodesia; this increase seems to be attributable to greater accuracy in diagnosis rather than to an actual increase in incidence.

The disease occurs sporadically and attacks persons of all ages; about 18% of the patients have been infants under 1 year old, and one patient was aged 71. There is no apparent seasonal incidence and no known occupational predisposition. Nothing is known of the source of infection. The fungus has never been found vegetating saprophytically in nature, but the disease has been identified on four occasions in the dog, and yeast-like bodies resembling *Histoplasma* have been seen in the tissues of the mouse,[4] the rate,[5] and the ferret.[6] The mode of infection is unknown, but it is thought that the fungus may gain entry through the lungs, the alimentary canal, or the skin.

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[1] *J. Amer. med. Ass.*, 1906, **46**, 1283.

[2] *Amer. J. trop. Med.*, 1926, **6**, 271.

[3] Ibid., 1934, **14**, 93.

The disease may attack one or several organs or tissues of the body, and all have been involved in some case or another. The symptoms and clinical features depending upon the distribution of the lesions, there is no characteristic symptomatology. Ulcerative granulomatous lesions of the lips, tongue, and other mouth parts, nose, pharynx, larynx, and intestine, may simulate tuberculosis or even malignant disease. Local or general enlargement of the lymphatic glands and the spleen may suggest leukaemia or lymphadenoma. Involvement of the lungs, especially in the form of miliary granulomata, has frequently led to the diagnosis of tuberculosis, while histoplasmosis of the adrenals may be reflected, clinically, only in the signs of adrenal insufficiency, and involvement of the bone marrow in anaemia. Three cases are on record of vegetative endocarditis, affecting the auriculo-ventricular valves, caused by *H. capsulatum*. In the majority of cases irregular fever, sometimes with chills and rarely with night sweats, develops in the later stages of the disease. The diagnosis, therefore, cannot be based on symptomatology, but depends upon the identification of the parasite in culture or in microscopical preparations from the lesion. The most suitable material for this purpose is tissue taken by biopsy from lesions of the skin or mucous membranes or superficial lymph nodes. Smears of the peripheral blood in the final stages of the disease, or of the sternal bone marrow, may contain the parasite, free or in phagocytic cells; but its occurrence is not so frequent as to make these examinations alone of much value in diagnosis. The best stains for demonstrating the parasite in morbid material are haematoxylin, Giemsa's stain, the Claudius modification of Gram's stain, and Masson's trichrome stain. Isolation of the fungus in culture is not difficult, but the development is slow and may take from eight days to three weeks. The fungus, in saprophytic life, is dimorphic; cultures incubated at 37° C. on blood agar and certain other media vegetate as a simple yeast resembling the parasitic form, but at room temperature the fungus vegetables in a mycelial form with a profuse aerial growth bearing terminally on short branches the characteristic piriform to spherical chlamydospores measuring from 3 μ to 15 μ in diameter, and having on the surface numerous prominent tubercles or finger-like processes. If, because of gross contamination of the tissue, direct cultivation is impracticable, it may be isolated by inoculation of the material into a susceptible animal such as the mouse, rat, or guinea-pig. A possible aid to diagnosis may be developed in tests of dermal hypersensitivity to filtered extracts of cultures of the fungus.

The prognosis is bad, for the disease is almost inevitably fatal, the duration being reckoned in months or even weeks. All forms of treatment have given disappointing results, but radiotherapy and the use of some pentavalent antimony compounds may prove helpful in early and localized superficial infections. In assessing the value of treatment, however, the possibility of spontaneous improvement should not be overlooked; in the second English case the patient was alive and in apparently good health two years after conclusive diagnosis.

HELP FOR THE DEAF

As announced in our news columns this week, a deafness clinic has recently been set up at the National Hospital, Queen Square, where it is proposed to investigate and treat by means of hearing aids and other methods all forms of deafness, excluding those accompanied by active otitis media with ear discharge. The Otological Research Unit which is being established by the Medical Research Council at Queen Square will be under the direction of Dr. C. S. Hallpike, aural physician to the National Hospital and a member of the Medical Research Council's scientific staff and of its Electro-acoustics Committee.

Through its committee on the physiology of hearing the Medical Research Council has for some years been concerned with the problems of deafness, and in order to probe further into this distressing complaint it has recently formed three research committees—one to deal with the medical and surgical problems of deafness, the second to consider the design and performance of electro-acoustic equipment, and the third to look into the education of the deaf. Recent correspondence in this *Journal* has made it clear that the provision of a suitable deaf aid at a reasonable cost and with easy maintenance is an urgent need among those whose deafness could be relieved in this way. The clinic at Queen Square, under Dr. Hallpike, is to examine this very question as part of the work of the M.R.C.'s Electro-acoustic Committee, and for this purpose needs as many deaf subjects as the clinic can deal with. Patients so investigated will of course have the advantage of expert advice and treatment, and practitioners, therefore, will be helping both them and the clinic if they refer to it their patients who require relief. Those wishing to take advantage of this should write to the Director, the Otological Research Unit, National Hospital, Queen Square, London, W.C.1.

THE I.A.M.C. JOURNAL

A new medical journal is nowadays something of an event, and when it comes off those with designs of their own murmur sadly, "I wonder where they got the paper from." The first number of the first volume of the *I.A.M.C. Journal* which has just reached us is, however, not published in this country but from the headquarters of the Indian Army Medical Corps at Poona. It appears in a handsome maroon cover with the badge of the I.A.M.C. attractively displayed in the centre of the page. Our first envy of the paper is diminished on finding that there are to be only two issues yearly—an unusual frequency in medical journals. The present and first number appears with a note of inauguration from Lieut.-Gen. Gordon Wilson, Director of Medical Services in India. "For the first time," he writes, "in the history of military medical organization in India we have a Medical Corps in which officers, warrant officers, N.C.O.s, and men have become unified. This is a great achievement full of the highest promise. . . . It is fitting that this unification should be symbolized by a journal, and we wish the Editor, Colonel D. R. Thapar, all success."

The contents of the first number suggest that the *I.A.M.C. Journal* combines the virtues of a scientific with those of a well-produced hospital gazette. It has photographs of various members of the I.A.M.C., including one showing Lord Louis Mountbatten shaking hands with an Indian orderly. We note with interest a short article written in Basic English, and that a group of instructors in the Army Medical Training Centre have been learning this linguistic system, so as to be able to spread knowledge of the English language among their Indian colleagues.

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[4] *Indian J. med. Res.*, 1923, **10**, 908.
[5] *Patholigica*, 1922, **14**, 493.
[6] *Cornell Vet.*, 1938, **28**, 249.

A TROPICAL DIETARY

BY

W. E. McCULLOCH, M.D.

(*Kingston, Jamaica*)

The dietary below was drawn up by me and accepted by the Nutrition Committee of the B.M.A. in Jamaica as an immediate target at which to aim for the population of the country, which is essentially an agricultural labouring community. With the committee's permission it is now submitted for comment, as it is felt that a quantitative minimal basic dietary based on tropical foodstuffs should be worked out as a guide to medical personnel in these areas.

The Position in Jamaica

We have recently had the pleasure of a visit from Dr. Platt, who is the adviser on nutrition to the Secretary of State for the Colonies. It has proved a great stimulus to us, and his standards for an immediate aim in nutritional policy have been accepted. The standards are included at the bottom of the table. The committee was set up at the invitation of the Agricultural Policy Committee for Jamaica, which sits under the chairmanship of Mr. John Wakefield, the Inspector-General of Agriculture in the West Indies, and among the terms of reference was the question whether Jamaica can produce all the foodstuffs necessary for a balanced diet.

Item (Edible Portions)	Amount		Calories	Protein (g.)	Ca (mg.)	Fe. (mg.)	Vitamins				
	Oz.	Grammes					A (i.u.)	B_1 (mg.)	B_2 (mg.)	Niacin (mg.)	C (mg.)
Cereals:											
Wheat flour, 70%	4	125	439	12·5	20	2·5	0	0·07	0·06	1·25	0
Cornmeal (yellow), 98% ..	2	56	171	4·7	6	2·5	500	0·15	0·06	0·75	0
Rice (parboiled)	2	56	176	3·7	4	0·5	0	0·10	0 05	2 0	0
Starchy roots:											
Yams	16	450	450	9·0	45	2·2	0	0·22	0·27	3·2	?
Sweet potatoes (yellow) ..	8	120	150	2·5	25	0·8	5,000	0·12	0·07	0·6	25
Pulses:											
Beans	2	56	164	11·6	74	2·0	0	0·24	0·18	1·2	0
Peanuts	1	28	188	7·8	17	0·6	0	0·30	0·04	5 8	0
Meat or fish	2	56	106	10·2	6·8	2·0	22	0·06	0·14	2·8	0
Oils (dry)	2	56	510								
Sugar	1 lb. per week		280								
Molasses	½	14	27	0	35	8·0					
Vegetables:											
Citrus	3½	100	28	0·35	20	0·35	0	0·35	0	0·2	52·4
	one orange or half grapefruit										
Green leafy and yellow ..	4	112	48	4·6	156	2·6	10,000	0·16	0·28	0·64	15
Tomatoes, onions, fruit ..	1	28	9	0·3	8·5	0·1	57	0·01	0·03	0·03	4
Milk	4	112	76	3·6	138	0·3	760	0·20	0·20	?	0
Totals			2,822	70·85	555·3	24·45	16,339	1·98	1·38	18·47	96·4
Dr. Platt's standards			2,500	50–60	800	15	8–9,000	1·20	1·20	12–15	30

The main deficiencies in the Jamaican dietary at present, in the order of their importance, are protein, riboflavin, niacin, thiamine. It was found, using the Hot Springs Plan I as a yard-stick, that Jamaica would require over three million acres to feed herself on her present system of food production, even when half the cereal needs were met by importing wheat flour. The total cultivable land is given in the census as being about 700,000 acres.

It had to be borne in mind that the export crops must increase if Jamaica's economic position is to improve. The necessary corollary was the recommendation that there should be a complete revolution in the agricultural policy of the island and that the slopes of five-sixths of the country should be devoted to grass culture in the main, with a rapid expansion of the stall-fed dairy cow and small stock. Intensive mixed farming seems to be the only hope of the island.

During his visit to Jamaica Dr. Platt proposed a diet scale which would measure up to his standards by the addition of food yeast, calcium carbonate, and ferrous sulphate to the 70% wheat flour. I am still as much a believer in natural foodstuffs as ever, and accordingly the suggestion was not incorporated in the diet.

Comments on the Dietary

The following comments on the dietary are self-explanatory.

Cereals.—(*a*) Your committee considers that whole wheat should be imported and the milling done in Jamaica. Wheat offals are necessary for the production of small stock and milk. The recommendation of white flour is temporary. (*b*) We hope that the rice requirement will be met to the fullest possible extent by local production. (*c*) Only yellow maize should be grown, because it gives valuable vitamin A in large amounts. (*d*) The various sorghums are not mentioned. Their high digestibility is to be remembered. The "victory rice," which is a local sorghum product, was very popular with school-children, to whom one of us fed it for two school terms, and their general health improved. The development of these grains, especially dwarf guinea corn and pearl millet, should be pushed for both man and his animals.

Starchy Roots.—If there is not a constant supply throughout the year the calorific value of the diet will drop seriously. The large amount of vitamin A expected from yellow sweet potato is to be noted.

Pulses.—Beans, peas, peanuts, and soya beans can be regarded as the "poor man's meat" and must be pushed. An immediate improvement in the supply of first-rate protein is to be expected from these crops while meat production is being developed.

Meat or Fish.—Immediate improvement is to be looked for in the rapid development of small stock. We would stress the value of pork because of its quick production rate, high calorie (energy) content, and richness in vitamins B_1 and B_2.

Oils.—On the diet as submitted there is no necessity to have the oils and fats fortified with fat-soluble vitamins.

Sugar.—One pound a week is ample as a flavouring. The increased cereals and roots are the basic sources of carbohydrate energy.

Vegetables.—(*a*) *Green leafy and yellow* will not be eaten up to the ration without widest publicity. Although there is a good deal of "back-yard" cultivation, the total requirements will not be met by this method alone, and these vegetables must also be grown as field crops. (*b*) *Citrus:* One orange or half a grapefruit is a unit which can be handled easily. (*c*) *Other vegetables and fruits:* Our estimate is absolutely minimal. The large mango crop and the bananas and breadfruit are not calculated. They add considerably to the total, but their seasonal incidence precludes their inclusion in a daily ration. Bananas will be exported and not eaten (as before the war). The value of guavas, green peppers, pawpaw, and the avocado pear should be widely publicized.

Milk.—As an immediate target we recommend only one-fifth of the Hot Springs standard. The butter value of the milk is quite unnecessary in the present diet, and so we advocate the erection of creameries to extract the butter for export and the use of dried skimmed milk in the ration. No expansion of the manufacture of condensed milk should be permitted, as this island must find export crops, and butter would be no loss to the dietary of the people if it were manufactured and exported. In the first instance the skimmed milk should be used in giving children a midday drink, with two biscuits. One ounce of dried skimmed milk per child is recommended.

Molasses or Wet Sugar.—This is necessary for its iron content. In a tropical country which is full of parasitic diseases iron is probably the most important mineral constituent of the dietary, and the rich available iron in molasses should not go to waste. We recommend that the biscuit for the mid-morning snack should be made to contain at least one drachm of molasses. Expectant and nursing mothers should also be able to get these biscuits.

Calcium.—We are not afraid of the small amount in the dietary. In this country of sunshine there can be no lack of vitamin D, and so we assume maximal absorption of this element. As the diet supplies ample phosphates there will be the maximal utilization of these substances, and 100 mg. in excess of minimal maintenance requirements will be adequate.

EAST OF SUEZ*

BY

GEORGE R. McROBERT, C.I.E., M.D., F.R.C.P.

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[In his opening remarks the lecturer appealed to newcomers to the medical Services in India to readjust their mental outlook, to take a keen interest in the country, and to acquire a knowledge of its current problems. He stressed the importance of providing occupational or diversional therapy for soldiers who were in hospital, even if only for a few days, in a strange land without possibility of visits from friends and relatives. It would be found (he said) that the diseases of the temperate zones were all present there, practically always with protozoal, helminthic, and fungous infections superadded to make diagnosis and treatment more complicated and medical practice more interesting. Dietetic difficulties also played their part. It would be learnt, too, how very localized disease or strains of disease could be. The lecturer then proceeded to give an account of the most important diseases met with.]

Malaria

The most urgent essential for the newly arrived doctor in the Orient is to get a thorough understanding of the symptomatology and treatment of malaria. The principal fact to be grasped is that the parasite of "killing tropical malaria"—malignant tertian—does not sporulate in the blood circulating in the vessels at the surface of the body as do the other species of malaria parasites, but, instead, multiplies asexually in the capillaries of the vital organs in the depths of the body, producing glutinous agglomerations of pigmented masses of dividing protoplasm which act most effectively as multiple emboli, giving rise, in accordance with the locality of the sporulation, to symptoms which may simulate those of any acute disease, *febrile or afebrile*, of any vital organ. Thus, sudden coma, hemiplegia, precordial distress, "renal colic," appendicitis, and choleraic diarrhoea with severe collapse may all be attributable to sporulation of *Plasmodium falciparum*.

When, therefore, symptoms which may be ascribed to the action of that parasite present themselves, steps should be taken to examine a blood film and a thick drop; but even if parasites are not found, quinine or its equivalent should be given by an effective method if it is at all possible that malignant malaria is the cause of the symptoms. *Per contra*, it is also necessary to realize that the mere finding of malaria parasites in the blood does not complete the diagnosis if there are unusual symptoms, and one must constantly be on the watch for such conditions as meningococcal infections, which may occur along with malaria. A golden rule in connexion with cerebral or meningitic symptoms is, "When in doubt, perform a lumbar or cisternal puncture."

I shall not enter into controversial matters with regard to treatment except to say that, although the intramuscular route for the administration of quinine is grossly abused in India, it still has its uses in fat persons, women, and many children. Some experienced observers prefer the intramuscular route to the intravenous even in acute emergencies, fearing an unduly swift liberation of malaria toxins; yet I have seen nothing but benefit result from small doses of quinine given intravenously, very slowly and highly diluted. If quinine—or emetine, which has also a necrosing effect—is to be given intramuscularly, special precautions should be taken in sterilizing the skin and syringe. I myself never delegate such preparation to a nurse or technician.

Amoebiasis

Next to malaria the chief source of pitfalls for the unwary or uninstructed is that protozoal mole the *Entamoeba histolytica*, which spends the greater part of its life burrowing and nesting in the depths of the bowel wall, far down in the submucous tissue, where it produces a profuse gelatinous degeneration. Like a mole under a lawn, it comes to the surface here and there, piling up little hillocks of material from the summits of which it peeps forth; it emerges when there is no danger, but remains resolutely below when there is the slightest hint of unfavourable conditions on the surface. It is a tissue parasite, not a surface invader like the dysentery bacillus, and from its deep and tortuous lair it is difficult to eradicate. This protozoon readily wanders off into venous channels, forming embolic deposits in other parts of the body, notably the liver, lung, and brain.

The proper treatment of intestinal amoebiasis is time-consuming and tedious, but it is well worth while, in primary infections, to make your patient submit to a full course of treatment, which entails absence from duty for six weeks—the first three weeks strictly in bed.

In permanent inhabitants of the Tropics much temporary patching up has to be done, but a high proportion of success can be attained in primary cases from the type of long treatment recommended by Manson-Bahr (1943), in which every therapeutic weapon is used in turn, by mouth or injection, over a period of several weeks, combined with retention enemata of yatren or allied preparations after a morning colon washout with weak sodium bicarbonate solution. A relatively liberal diet may be given throughout the treatment, and the results should be checked by sigmoidoscopy. The absence of amoebae and cysts in a specimen is valueless as an indication of cure if any treatment has been given during the past 14 days, even sodium bicarbonate in moderate doses by mouth three times a day being sufficient to cause the amoebae to skulk in their burrows.

Chronic intestinal amoebiasis is a much more common cause of minor bowel disturbances and an "out of sorts" feeling than is generally realized. It does not necessarily produce frank blood and mucus in the stools; but, as Hamilton Fairley pointed out years ago, a mild latent amoebic infection may so upset haemopoiesis as seriously to interfere with the treatment of anaemia of some other origin. Do not forget to examine with the microscope the stools of patients who are below par for no apparent reason.

Our surgically minded friends require special warning. Never operate for appendicitis in the Tropics without eliminating the possibility of intestinal amoebiasis; a faecal fistula so often results from such an operation. Similarly, cancer of the colon and rectum and hypertrophic tuberculous disease of the caecum may be so closely simulated by enormous single amoebic lesions that the possibility of such a protozoal cause must be kept in mind. We who live and practise in the Tropics, on the other hand, need constant reminders that blood and mucus from the rectum do not necessarily indicate dysentery.

Amoebic liver abscess should not occur in military personnel, as we have the means of aborting it in the stage of pre-suppurative amoebic hepatitis, but when it does occur open operation is rarely required nowadays—aspiration by Potain's aspirator or three-way syringe, after injection of emetine intramuscularly on three successive days, giving the necessary relief of tension, which must be followed by a vigorous and complete anti-amoeba campaign. A number of sufferers from amoebic abscess of the liver deny a history of dysentery, and it is quite common to be unable to demonstrate the parasite in the motions of sufferers from amoebic abscess.

Any lump in the abdomen, movable or immovable, with or without pyrexia, and even in the absence of leucocytosis, may be a hepatic abscess. All lesions at the base of the lung, especially on the right side, with or without a history of dysentery or hepatic involvement, may be amoebic in origin; the effect of emetine in such cases is striking.

Emetine is a valuable therapeutic weapon, but is a cardiac poison and cumulative nerve poison. During its administration the patient should rest in bed, and if he proceeds to a hill station, as so many military patients do after emetine treatment is over, very strict instructions must be given with regard to the dangers of over-exercise at high altitudes. Above all, the subject of amoebic hepatitis and amoebic abscess must eschew the use of concentrated alcohol: short drinks, gin-and-bitters, etc., have a demonstrably bad effect on such subjects.

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* A summary of lectures delivered to E.C. officers of the R.A.M.C. and I.A.M.C. under the auspices of the Madras Branch of the B.M.A., 1942-4.

Very few women suffer from amoebic damage to the liver, and those who do are often found to be overfond of cocktails.

Bacillary Dysentery ; Simple Diarrhoea

Much has been written of late on the treatment of bacillary dysentery. A dose of castor-oil emulsion as soon as symptoms start, with a single 2-g. dose of a soluble sulphonamide, followed by regularly repeated doses of the relatively insoluble sulphaguanidine, gives satisfactory results. I myself continue to use collosol kaolin and belladonna along with the modern sulphonamide therapy. Serum therapy is reserved for highly toxic cases.

There are many causes of simple diarrhoea in India. The worst possible treatment is ordinary sedation by a derivative of opium. Finely divided kaolin forms one of our best remedies, and is generally included in the essential baggage of experienced touring officers. I am in hearty agreement with Hurst's suggestion that natural achlorhydrics should not be sent to the Tropics. It is too much to expect that in time of war every soldier should submit to a test meal before sailing, but the fact remains that achlorhydrics suffer from lack of the natural antiseptic barrier in the pyloric antrum, and that even those with low acid curves are particularly prone to intestinal complaints, especially in the hills.

Filariasis ; Lymphogranuloma Venereum ; Leishmaniasis

The new arrival usually has a very hazy notion of the effects of filarial infection. Gross manifestations of chronic filariasis are to be seen at every street corner, but elephantiasis occurs in a relatively small proportion of cases of infection. In many apparently healthy persons microfilariae are to be found in the blood at night, but in persons over 40 years of age an attack of filarial fever once or twice a year is not unusual. In a large hospital in which I have worked over 50% of the senior staff were absent at least once a year for a few days on account of filarial fever with lymphangitis. Even among healthy athletic young medical students here about 1 in 15 has a filarial hydrocele. Minor manifestations of filariasis should be no bar to recruitment, but the possibility of retro-abdominal lymphangitis and adenitis of filarial origin must be borne in mind in the case of personnel from filarial homes who are stricken with acute abdominal symptoms accompanied by high fever.

You ought to take the earliest opportunity of visiting a civil hospital and of seeing examples of lymphogranuloma venereum with its resultant ano-rectal syndrome and of that appalling condition, ulcerating granuloma of the pudendum with its spreading and corroding ulceration at the muco-cutaneous junctions.

Leishmaniasis, both dermal and visceral, is common in certain parts of India, though the two forms are never, so far as I know, together in the same place. The early diagnosis of the visceral variety (kala-azar) is by no means easy, and it is not unusual for several months to elapse before a diagnosis is made. Culture, on a special medium, of material obtained by sternal puncture is the best early method of certain diagnosis. The disease should be suspected in any case of apparently non-toxic fever with no physical signs after three weeks have elapsed without improvement. Leucopenia with a high relatively large mononuclear count often points the way to a diagnosis. The aldehyde and urea stibamine serum tests, which depend on gross alterations in the relative serum albumin and globulin ratios, are of value only after some months have elapsed since the onset of the initial fever.

Fevers

Typhoid fever you will meet everywhere. Every town and village acts as a reservoir of virulent strains of *B. typhosus*. Repeated inoculation is of great value as a preventive measure: it acts as a strengthening of the guard and not as an absolute defence against invasion by an overwhelming force. Do not, therefore, rule out the possibility of enteric fever because of recent inoculation. Remember that the earlier blood is taken for culture the more likely is the result to be positive; and, despite recent advances in technique in performing the Widal agglutination test with pure antigenic material, it is well to remember that the actual sight of a tiger is better proof of its presence than the mere demonstration of pug marks in the jungle. Always prefer cultural to agglutination methods for the diagnosis of typhoid.

I have had occasion to draw attention to the great importance of the administration of large quantities of fluid to patients suffering from fever in hot climates (McRobert, 1941). This applies to typhoid patients particularly, and every effort must be made, by continuous rectal drip if necessary, to ensure replacement of water lost by evaporation. You will find that care paid to the supply of an adequate amount of drinking-water will cut down the rate of sickness from heat exhaustion, and the addition of small quantities of common salt adds to its beneficial effects.

Attention must also be drawn to the wide prevalence of tropical typhus, carried by mite, tick, and flea. Its existence on an important scale over the whole of the Tropics has only recently been recognized. The hetero-agglutination reaction associated with the names of Wilson, Weil, and Felix, which we used for the diagnosis of louse typhus in the last war, has been suitably modified by the use of new strains of *B. proteus* for the detection of tropical variants of typhus.

Sandfly fever and dengue fever—the latter with its almost intolerable pains and morbilliform rash—are often looked upon as mere minor curses of India, as no one ever dies of them; but both are very exhausting and debilitating diseases, both give rise to states of severe depression—not infrequently with suicidal tendencies—and it is not unusual to find that the onset of some serious diseases such as pulmonary tuberculosis dates from an attack of dengue fever. Medical officers must take the greatest care to see that convalescents from these diseases are not returned to duty until they have fully recovered.

Helminthic Infection ; Taeniasis

Of the dangers of intestinal helminthic infection you have heard much. You are aware of the prevalence of hookworm disease and of the very satisfactory methods available for its treatment. You should note, however, that intestinal *Ascaris* infection may attain such a degree in some patients that symptoms of intestinal obstruction are produced.

You may not be aware of the grave danger to the carrier and his friends from infestation with *Taenia solium*. Somatic taeniasis is a terrible condition often leading to the mental hospital, and vigorous treatment after absolute starvation for three days is advisable in any intestinal infection with that worm. Avoid Indian pork and sausages like the very devil.

Conclusion

You who have come newly to India have much to learn; each of you has a glorious field of exploration ahead. You have the satisfaction of knowing that to a much greater extent than in the West the health and well-being of your men and the efficiency of the battalions depend on the keenness and ability of the medical officers. Those of you who go home again will have acquired a priceless familiarity with laboratory methods in the diagnosis of disease. Doubtless some of you will decide to remain, for having

> " 'eard the East a-callin' you won't never 'eed naught else."

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The Tata Memorial Hospital in Bombay for the treatment of cancer and allied diseases has issued its first triennial report, covering the years 1941-3. This hospital, which owes its genesis to the munificence of the late Sir Dorab Tata, of Bombay, is the last word in modern hospital construction. Originally visualized as a radium institute, its scope was enlarged to include treatment and facilities for research in cancer. The chief aim of the hospital, therefore, as its name implies, is the study of cancer along the channels of histopathological and biochemical investigation, and this can best be accomplished by the team work of specialists who are so actively and so constantly in contact with the disorder that the facts concerning it become more readily recognizable. The hospital was opened in February, 1941, and in this report, which covers the work done since then, there is evidence in the carefully compiled analyses of the first 5,000 cases that it will fulfil its purpose. While the plans for the hospital were maturing, Indian students and doctors were sent abroad for special training, and now hold appointments on the staff, which is manned entirely by Indians under the administrative superintendence of Col. Sir J. N. Duggan, I.M.S.

LONDON'S HOSPITAL PROBLEMS

A REPORT BY THE KING'S FUND

The promise of a further report, prepared jointly by King Edward's Hospital Fund and the Voluntary Hospitals Committee for London, on some post-war problems of the hospital services in London and the Home Counties was the chief item of news in the address by the chairman, Col. CLIFTON BROWN (Speaker of the House of Commons), at the annual meeting of the King's Fund last week. He said that the movement towards a comprehensive hospital service, already evident before the war, had taken on a new momentum with the White Paper issued by the Minister of Health and with the survey of hospital services in London and the Home Counties. The report would be primarily concerned with the part to be played by the voluntary hospitals, but it was hoped that in some respects it might prove not unhelpful to the L.C.C. and to the other local authorities upon whom fell such a heavy share of the hospital burden. Col. Clifton Brown referred to two reports recently issued by the Fund. The Committee on Hospital Diet, of which Sir Jack Drummond was chairman, had followed up its 1943 report by a more detailed and comprehensive one.* Over 60 hospitals, he said, had already taken advantage of the expert advisory service, and in many hospitals, both in London and elsewhere, the catering arrangements had been overhauled and brought into line with a more modern outlook on nutrition —so far, at least, as the prevailing shortage of dietitians, cooks, and other skilled staff permitted. The other report, on standards of staffing, gave guidance to hospitals on the number of nursing staff needed, and on the factors which had to be taken into account in arriving at this figure. It had been prepared by a subcommittee of the Distribution Committee under the chairmanship of Dr. Morley Fletcher. It sprang from a conviction that the shortage of nursing staff would never be overcome until the understaffing, which the subcommittee regards as affecting almost every hospital, had been remedied, and that a start could be made only by those hospitals which were in a position to attract enough recruits. More parents would encourage their daughters to become nurses were it not that the nurse's life was generally considered hard and exacting.

Dr. H. MORLEY FLETCHER, presenting the report of the Nursing Recruitment Committee, said that during 1944 it became increasingly evident that over the country as a whole the supply of recruits was gravely inadequate for the needs of the hospitals. The "wastage rate" of those who left without completing their training had risen steeply during the war and was now excessive. It was therefore more than ever important to supplement the recruitment work of the individual hospitals by centralized recruitment.

The report of the Emergency Bed Service Committee showed that in the first six months of last year 2,766 cases were dealt with, as against 1,874 for the corresponding months of 1943, but in June the flying-bomb attacks started and the abnormal conditions during the remaining months of the year resulted in a decrease of over 1,200 cases. There was a great variation in the extent to which doctors availed themselves of the service, and it was when there was a general shortage of beds that the service was busiest.

In moving the report of the Diet Committee, Sir HUGH LETT referred to the institution of refresher courses at the London Hospital for those concerned with hospital catering. There were a large number of applications for admission to these courses, but unfortunately the work was cut short by enemy action after two courses had been held. It was hoped, however, to resume them after the vacation.

The income of the Fund was well maintained during 1944. Legacies amounted to just over £50,000, and the receipt of £50,000 from Lord Nuffield's Trust for the Special Areas made it possible to transfer all but £1,800 of the receipts from legacies to the general funds. This year £75,000 has been received from the same source.

USE OF THE TITLE "NURSE"

After Oct. 15 it will be an offence to use the title "nurse" unless the person doing so is a State-registered nurse or an enrolled assistant nurse, and agencies supplying nurses must be licensed by local authorities and must supply only those who are State-registered nurses, enrolled assistant nurses, midwives, or members of other classes to be prescribed. The Minister of Health and the Secretary of State for Scotland have thus, by Orders issued last week, given practical effect to the intention of Parliament in the Nurses Acts of 1943 to restrict the use of the title "nurse" and to govern the licensing and control of agencies for nurses. There is to be an exception for children's nurses, who may use the term unless circumstances suggest that "they are something other than children's nurses," and other permitted usages are "trained nurse" by those on the general part of the nurses list, "maternity nurse" by midwives, and "student nurse" and "pupil assistant nurse" by those in training for State registration and for the Assistant Nurses' Roll. The object of these Orders is to protect the public against the use of the term "nurse" by persons having no nursing qualification and against the risk of being supplied without their knowledge with the services of unqualified persons at possibly high fees. Regulations also prescribe the form in which applications for licences for agencies are to be made, the fee to be paid—two guineas for a first application, one guinea for a renewal—and the form in which agencies must notify the nurse's qualification to the person employing her.

EVACUATION OF CASUALTIES BY AIR

On the invitation of the Director-General of Medical Services, Royal Air Force, a preview was given in the British Council theatre of a film illustrating the evacuation of casualties by air. The film, which lasts about half an hour, is intended primarily for the training of air-ambulance orderlies. The disposition in the aeroplane of stretcher cases and folding-chair cases is decided with a view to the attention which the more serious cases may require *en route* and to rapid exit on arrival. The film showed the extraordinary attention which is paid to the detail of stores and equipment—the provision for first aid, the penicillin drip, the oxygen equipment, the apparatus for giving morphine, as well as hot-water bottles, flasks for hot drinks, bed-pans, and so forth. Having landed and evacuated their casualties the orderlies must replace whatever has been taken out of store. The system of cards in triplicate whereby a record of each case is retained and transmitted was also shown. The film demonstrated the high level to which this transport of the wounded has been brought, and how comfortable, rapid, and safe it can be. "Speed without hurry" is the motto for the men and women orderlies employed. On one detail the film might give a wrong impression. It showed patients smoking cigarettes in the aircraft; this occurred during certain phases of the European campaign when the film was "shot," but regulations have since been made forbidding smoking in aircraft.

The report for 1945 of the British Association of Physical Medicine is signed by the president, Lord Horder. It records useful if not spectacular progress, chiefly in the field of education. Work in this important field comes under two headings. The first is to convince the medical profession as a whole of the value of physical methods in the treatment of a wide range of the morbid conditions arising in a modern civilized community. Under the second heading comes the task of seeing that there is stimulated the growth within the medical profession of a body of practitioners having a special knowledge of the application of physical medicine. The institution by the Royal Colleges last year of a Diploma in Physical Medicine was a good and progressive step towards this end. The Examination Board of the Royal Colleges, as a result of the opinions expressed by the representatives of the B.A.P.M., has now agreed that up to Dec. 31, 1945, candidates for the Diploma in Physical Medicine who produce evidence that they have been, for not less than five years, in charge of the physiotherapy department of a recognized undergraduate teaching hospital or of a recognized hospital, may, at the discretion of the Colleges, be exempted from Part 1 of the examination for the diploma. The three standing committees of the Council (scientific and technical, education and training, policy and public relations) have materially assisted by their investigations into a number of problems, and making recommendations thereon. The committees have considered the promotion of research work on physical medicine apparatus, relations with other scientific organizations, and the inclusion of physical medicine training in plans for postgraduate medical education.

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* Obtainable from George Barber and Son, Ltd., Furnival Street, London, E.C.4. (9d., post free.)

Reports of Societies

INFECTIOUS DISEASES IN CHILDREN

The Fever Group of the Society of Medical Officers of Health arranged a postgraduate day for some eighty maternity and child welfare officers at the North-Eastern (L.C.C.) Fever Hospital on June 30. In the morning Dr. E. H. R. HARRIES and the senior medical staff demonstrated the hospital buildings, contrasting the old type of open ward and the subdivided isolation units of the new wards. Other departments visited were the reception unit for typhus fever patients, the operating theatre and *x*-ray block, a receiving block with six separate reception rooms at the periphery for the different infectious diseases, and a central duty room. Dr. Harries said he always thought that modern fever hospitals with adequate structure, equipment, and staff could become complete children's hospitals, such ward blocks as were necessary being reserved for the treatment of infectious diseases. During the morning also, there was a laboratory demonstration, by Dr. R. CRUICKSHANK and a technical staff, of: (1) modern methods and selective culture media for the bacteriological diagnosis of intestinal infections, whooping-cough, and tuberculosis in childhood; (2) tests for measuring the penicillin and sulphonamide sensitivity of bacteria and for estimating the penicillin content of blood and urine of patients under treatment. Mrs. H. M. R. TOMLINSON showed the Warburg apparatus for estimating bacterial metabolism, and discussed the relation of toxic amines in the gut to the aetiology of infantile, particularly neonatal, diarrhoea.

Prophylaxis of Whooping-cough

In the afternoon Dr. R. CRUICKSHANK opened a discussion on whooping-cough. He said the best lines of attack on this major killing infection of childhood were: (*a*) improved diagnosis in the early stage, and (*b*) protection of susceptible children. Demonstration of lymphocytosis was an inferential diagnostic method applicable early in the disease, but absolute proof could be obtained only by recovering the organism. The "cough-plate" method of doing so had limitations, particularly in private practice and at clinics. The post-nasal swab was more easily taken and handled and gave comparable positive results. Penicillin was necessary in the culture medium to cut down the growth of other organisms. Release swabs for determining freedom from infection were not generally advisable, but could be used in selected cases, as when a child was returning to a highly susceptible community—e.g., a nursery school.

With regard to protection of susceptible children, it had been demonstrated by field trial that mass vaccination was a practical possibility. Standardization of whooping-cough antigens was needed, but there were technical difficulties, though antibody production could be used as a method of assay. Alum-precipitated vaccines probably gave the best results. No antigen afforded complete protection, but the attacks of whooping-cough in vaccinated children were usually mild. A high total dosage was required (100,000 million organisms), and best results were obtained by giving three injections at intervals of not less than three weeks. He had used pertussis antiserum (rabbit) with encouraging results to protect children exposed to whooping-cough in a nursery outbreak. Passive immunization of this type was preferable to vaccination of definite contacts, and he thought that pertussis antiserum might also be tried in the treatment of early cases of whooping-cough. Combined inoculations against whooping-cough and diphtheria were permissible, but diphtheria toxoid should not be mixed with *phenolized* pertussis vaccines, as the phenol damaged toxoid. However, the two antigens were not mutually inhibitory. He agreed that a boosting dose would have great value if given one to two years after primary vaccination.

Dr. N. D. BEGG thought the time would soon come to contemplate one campaign advocating combined protection of all children against whooping-cough and diphtheria at the age of 3 months. Whooping-cough vaccination could clearly not be deferred until the child was older without risking many lives, and there were disturbing indications that the child under 1 year was less safe from diphtheria than had been thought. Dr. E. H. R. HARRIES also considered that the shift in incidence of diphtheria had occurred not only to the older age groups but towards the first year of life. While agreeing on the need for early immunization, he said we must face the fact that young children were more difficult to immunize than older ones and that higher dosage, or more potent antigens, would be required.

Dysentery and Enteritis in Children

Dr. ROBERT SWYER, opening a discussion on the control of dysentery and enteritis in nurseries, said that the prevalent Sonne type of dysentery was often so mild as to escape notice, which was doubtless a cause of its widespread occurrence. Such complications as arose were usually in the upper respiratory tract, and included rhinitis, bronchitis, and otitis media. One child of 9 months had developed keratitis with a small ulcer and some iridocyclitis, and Sonne organisms were recovered from both faeces and conjunctival sac. A serious diagnostic error sometimes encountered was to mistake an intussusception for dysentery; the passage of blood and mucus without faecal matter per rectum should arouse suspicion of the graver condition. Bacteriological investigation might have to be repeated, but with the use of desoxycholate-citrate-agar medium positive results could be expected in over 90% of cases of Sonne dysentery. Serum agglutination might be helpful in convalescence, but a negative result did not rule out the diagnosis.

Patients treated symptomatically recovered rapidly as a rule, but a proportion continued to excrete Sonne organisms until the tenth to twelfth week of disease. Sulphapyridine had effected bacteriological clearance in an average of 5 days compared with 21 days in a control group. In a later investigation of the more insoluble sulphonamides, bacteriological clearance was achieved in 1.8 days with sulphabenzamide, 3.28 days with sulphamidobenzamide, and 2.4 days with succinyl-sulphathiazole. Bacteriological relapses occurred following all three preparations, but were much more frequent (34.6%) with succinylsulphathiazole. Dr. Swyer later demonstrated bacteriological relapses after the use of sulphapyridine. Early relapses probably indicated only intermittent excretion, but with later relapses the possibility of reinfection had to be considered.

Precautions against the spread of infection inside ward units had to be stringent. Apart from the usual barrier-nursing procedures, he favoured the use of destructible diapers, which were placed in a brown-paper bag in a closed bin and later burned in the destructor. All other soiled linen was put into antiseptic in a bin and later transferred to a large tank near the laundry. It was desirable also to separate sharply the nursing duties of feeding and changing children. The bacteriological criteria for determining freedom from infection were three consecutive negative stools or rectal swabs taken at two-day intervals. This had proved satisfactory in practice, and he felt that prolonged bacteriological testing was unjustifiable and would lead to great delay with its attendant risks of cross- and re-infection.

Preventing Epidemic Enteritis in Nurseries

Dr. HAMILTON HOGBEN, speaking of the administrative problems of dysentery and enteritis, particularly in wartime nurseries, which in his area accommodated some 730 young children, said that when these nurseries were set up in the early days of the war he had doubted the advisability of herding young children in unsuitable premises with makeshift equipment and staff inexperienced in the handling of healthy youngsters. Another drawback was that in wartime the children had to be cared for at nursersies for too many hours of the day, particularly during the winter months. He was amazed on looking back, however, to find how little justification there had been for his early fears of widespread infection. In his area there had been only six cases of dysentery and no serious outbreak of diarrhoea in all wartime day nurseries, but two residential nurseries in the country had not enjoyed the same freedom from infection. On the particular administrative problem of preventing epidemic enteritis in non-residential nurseries, he emphasized the need for uniform and efficient theoretical as well as practical training of the junior members of the staff. All the teaching of probationers had been centralized in two parallel courses held at the local technical college.

They had a good nucleus of peacetime nurseries and had insisted on prefabricated buildings when the time came to extend. Such premises, however temporary their construction, were at least designed for the purpose and were preferable to any "adapted" private houses or other buildings. Only in specially designed premises could they get class-rooms of a size that would ensure sufficient air space for each child, cross-ventilation, and floors which could be easily cleaned. Special measures for control of enteritis included adequate washing arrangements for the children, with individual towels and plenty of space between each towel and face-cloth; metal receptacles for soiled napkins; and enough chamber-pots to allow time for cleansing them before use by the next child. Ventilation, temperature, and lighting of the children's lavatories were important to maintain dry floors and reasonable comfort so that toilet could be carried out leisurely and thoroughly. The entrance to the kitchen should be as far away as possible from the lavatories, and all staff should wash their hands as a routine before entering the kitchen to prepare meals. Preparation of infants' feeds should be carried out in a special milk room away from the kitchen and by one member of the staff only. A refrigerator was desirable, if not essential, in every nursery. Food should be delivered daily, and the keeping of food left over—such as gravies, minced meat, etc.—should be avoided. It was preferable to do laundry work on the premises for all children, but in any case adequate facilities were required for washing and sterilizing soiled napkins. Close daily contact between parents and a responsible member of the staff was important in revealing diarrhoea at home, etc. Prompt notification of abnormal stools and immediate isolation of a suspect should be followed by adequate bacteriological investigation. Given these conditions, the dangers of enteritis were not such as to make him fear nursery provision in peacetime for children over 2 years of age. But he was convinced for other reasons that infants should be housed in separate premises, where the crèche could be combined with cot accommodation for healthy children requiring special supervision in feeding difficulties.

Dr. A. T. W. POWELL said he had had 100 cases of Sonne dysentery in his day nurseries, including outbreaks in prefabricated premises. He did not favour closure as a means of limiting spread of infection, but thought that all procedures in the w.c. and washing accommodation needed close supervision. The problem of infection would have to be overcome, as we had to contemplate continuing some daytime nurseries.

The Services

The main building of the Royal Victoria Hospital, Netley, which for 18 months has been occupied by the U.S. Army Medical Services, was returned to the British Army medical authorities on July 19. Brig.-Gen. Charles B. Spruit formally handed the hospital back to Lieut.-Gen. Sir Alexander Hood, Director-General, A.M.S., who in reply said: "We of the British Army Medical Services would like our American friends to have a tangible token to remind them of their stay here, and I therefore present to the United States Medical Services the key of the hospital. I hope it will remind them not only of Netley, but also of the fact that our Services, which have so long been mutually supporting one another, are for all time united."

The *London Gazette* has announced the appointment as M.B.E. (Military Division) of Fl. Lieut. FRANK WILSON LAURIE, R.A.F.V.R. The citation reads as follows:

> One night in December, 1944, in bad weather, a Lancaster aircraft crashed and caught fire outside an airfield boundary. Fl. Lieut. LAURIE, the station medical officer, went to the assistance of the injured crew. He arrived when the worst of the flames had subsided but there was some danger from the fire which was still burning. Working under appalling conditions among the wreckage, in rain and deep mud, he rendered first aid. The mud prevented ambulances approaching the crash and thus delayed the removal of the injured. Some of the crew undoubtedly owe their lives to this officer's prompt and skilful attention. After taking the injured to station sick quarters, Fl. Lieut. LAURIE, although very tired, tended them for a further 12 hours. In January, 1945, two Lancaster aircraft, both carrying long delay-action bombs, crashed at dawn within a few minutes of one another. Fl. Lieut. LAURIE assisted the crew from the first wrecked aircraft, which did not catch fire, rendering first aid as necessary and ignoring the potential danger of bombs exploding. He then turned his attention to the second aircraft. This had caught fire on hitting the ground and two explosions of bombs had already occurred. After seeing one survivor into an ambulance he went among the wreckage to search for other survivors. He was fully aware that there was a considerable danger that further bombs might explode while he was so engaged. Fl. Lieut. LAURIE has set a fine example of gallantry and devotion to duty and has done much to maintain the morale of air crews.

CASUALTIES IN THE MEDICAL SERVICES

Lost his life as a result of an air crash in East Africa.—Major John Andrew Farrell, R.A.M.C.

Wounded.—War Subs. Capts. S. F. M. Cressall and A. M. Gwynn, R.A.M.C.

Correspondence

Penicillin in Bacterial Endocarditis

SIR,—Since the announcement made in these columns on Feb. 17 (p. 232) of the formation of centres to investigate the therapeutic value of penicillin in bacterial endocarditis 81 patients have received one or more courses of treatment. The results indicate that penicillin can exert a remarkable influence on the course of this disease, but it is also clear that certain systems of dosage are not only ineffective but likely to be harmful.

The first series of patients was divided into three groups; all were given a total of 5 million units, but the duration of treatment was varied as shown in Table I.

TABLE I

	1 million Units a Day for 5 Days	0.5 million Units a Day for 10 Days	0.25 million Units a Day for 20 Days
No. of patients	19	15	12
Relapsed or died	95%	66%	33%
Average duration of "follow-up" of patients without relapse	123 days	110 days	83 days

These results show that even massive doses given for a comparatively short period are usually ineffective. Two other methods of treatment were therefore adopted. In one the daily dose varied from 0.1 to 0.5 million units according to the sensitivity of the infecting organism to penicillin, treatment being continued for 28 days; and in the second group all patients were given 0.5 million units a day for from 21 to 28 days. The results were as follows:

TABLE II

	Dose Regulated according to Sensitivity of Organism	0.5 million Units a Day for 21 to 28 Days
No. of patients	27	19
Relapsed or died	37%	26%
Average duration of "follow-up" of patients without relapse	72 days	75 days

These results do not indicate, as might be supposed, that the sensitivity of the infecting organism is of little significance; they only show that in some cases 0.5 million units a day gives better results than a smaller dose. It is hoped that the next series of patients to be investigated will indicate the significance of the sensitivity of the organism and the optimum daily dose.

The purpose of this letter is to encourage practitioners and consultants to refer patients as soon as a diagnosis is established to the centres listed below. Although the transfer of patients to these hospitals may be inconvenient, there are several reasons why it is desirable. Short courses of penicillin usually only result in harmful delay and may also increase the resistance of the organism to penicillin. These centres have become acquainted with the practical difficulties involved in the prolonged administration of penicillin. The results already obtained also show that conclusions drawn from the treatment of small numbers of patients suffering from this uncommon disease may be entirely fallacious: a co-ordinated effort is more likely to establish the effective dose and the value of such adjuvants as heparin.

The centres which have been established and the persons to whom patients should be referred are as follows:

Belfast.—The Secretary, Belfast Penicillin Clinical Trials Committee, Queen's University Institute of Pathology, Grosvenor Road, Belfast.

Birmingham.—Prof. K. D. Wilkinson, Queen Elizabeth Hospital, Edgbaston, Birmingham, 15.

Bristol.—Prof. C. Bruce Perry, Department of Medicine, Canynge Hall, Whatley Road, Bristol, 8.

Cardiff.—Prof. J. B. Duguid, The Welsh National School of Medicine, Cardiff.

Edinburgh.—Dr. A. R. Gilchrist, Royal Infirmary, Edinburgh.

Glasgow.—Prof. J. W. McNee, or Dr. W. R. Snodgrass, Western Infirmary, Glasgow.

Leeds.—Dr. J. R. H. Towers, 42, Park Square, Leeds, 1.
Liverpool.—Prof. Henry Cohen, Department of Medicine, The University, Liverpool, 3.
London.—(*a*) Sir Alexander Fleming, St. Mary's Hospital, London, W.2; (*b*) Resident Medical Officer, Middlesex Hospital, London, W.1.; (*c*) Prof. R. V. Christie, Hill End Hospital (St. Bartholomew's), St. Albans, Herts.
Manchester.—The Resident Medical Officer, Manchester Royal Infirmary, Manchester, 13.
Newcastle.—Prof. F. J. Nattrass, Royal Victoria Infirmary, Newcastle-upon-Tyne.
Sheffield.—Prof. E. J. Wayne, Royal Hospital, Sheffield, 1.

—I am, etc.,

RONALD V. CHRISTIE,
Secretary, Penicillin Clinical Trials Committee.

Masking Syphilis with Penicillin

SIR,—I was very interested in the letter by Brigadier T. E. Osmond (June 16, p. 853) on the effect of penicillin in delaying the appearance of a syphilitic sore. This probable effect had already been pointed out by Major F. L. Lydon, R.A.M.C., and myself in an article in the *Journal* of Jan. 27 last (p. 110). With the increasing use of penicillin in the treatment of gonorrhoea (both fresh and relapsed) more of these cases are coming to light, and our original plea for extended surveillance cannot be too strongly or too frequently emphasized. Major Lydon has recently informed me of one of his own cases with a delayed incubation period, and the following from my own records serves well to illustrate the point.

Pte. A. was admitted to a hospital in the Middle East on Nov. 2, 1944, with an infected irregular painful fraenal sore and associated right inguinal adenitis (clinical soft sore) and purulent urethral discharge showing many intracellular gonococci. The only exposure to infection was on Oct. 20, 1944. The fraenum was torn during coitus and treated with "a lotion and sulphonamide powder." Dark-ground examination of the sore was negative on the three days following admission. From Nov. 4 to Nov. 8, 28 g. of sulphathiazole was given. The sore was treated with eusol dressings. I saw this case on Nov. 14. Urethral smear still showed gonococci. The sore was healed and the adenitis subsided. On Nov. 16 penicillin was administered intramuscularly in doses of 20,000 units three-hourly to a total of 100,000 units. There was a rapid clinical cure of the gonorrhoea. On Dec. 19 the fraenal sore recurred in the same position; and dark-ground examination on the following day was positive to *Sp. pallida.* Blood Kahn was negative. Routine antisyphilitic treatment (arsenic and bismuth) was started on Dec. 20. No Herxheimer effect was noted. Treatment was completed by short-term penicillin therapy one week later. Blood Kahn was negative three months later.

The incubation period, then, was 60 days. Apart from the effect of penicillin in this case, it is important to note, too, that antiseptics were applied early to the original sore, thus encouraging rapid healing. It is reasonable to suppose that had antiseptics not been applied healing might have been delayed, allowing syphilis to be diagnosed before the institution of penicillin therapy (26 days after exposure).

Finally, I have recently noted a few cases of gonorrhoea treated with two or even three courses of 100,000 or 150,000 units of penicillin on account of relapse or fresh infection within a period of six weeks. It would appear, then, in view of what has already been said on the masking of syphilis, that such cases must be even more carefully assessed on completing their six-months period of surveillance.—I am, etc.,

W. R. SCOTT COWE,
Major, R.A.M.C.; Specialist in Venereology.

Saline, Sulphaguanidine, and the Amoeba

SIR,—We view with increasing alarm the frequency with which amoebiasis may remain undiagnosed in cases that have received treatment for presumed bacillary dysentery. In 1942, during the Burma retreat and its aftermath, many cases of "dysentery, clinical" were evacuated to Dinapore. These cases were mostly 10 to 14 days old and had been treated with salines. Repeated examination of the stools often failed to demonstrate amoebae, but routine sigmoidoscopy commonly revealed characteristic ulcers from which amoebae were sometimes recovered; in all cases the ulcers healed rapidly on emetine.

In 1943–4 in Assam it was usual to receive fresh cases, and the diagnosis of amoebiasis was so readily made by careful stool examination that instrumentation was rarely necessary. We are now stationed on Ramree Island. We draw our cases largely from the mainland and the 1942 position has recurred, the only difference being that patients have received sulphaguanidine in place of saline before admission. Once again we find that recourse to sigmoidoscopy has commonly to be made before the diagnosis of amoebiasis is established.

The comparative absence of flies during the monsoon, the high level of the subsoil water, and the consumption of tinned rations are all factors favouring amoebic rather than bacillary dysentery. The fact that symptoms may be controlled by sulphaguanidine treatment is to us a source of anxiety rather than satisfaction; we feel that, before we became aware of this danger, we returned to their units some men who undoubtedly had untreated amoebiasis. We believe that the majority of these cases represent not a double infection of bacillary and amoebic dysentery, but a pure amoebiasis in which the ulcers are secondarily infected with such organisms as the haemolytic streptococcus and Vincent's spirillum (Acton, H. W., and Knowles, R., *The Dysenteries of India,* Thacker Spink, Calcutta, 1928). This secondary infection is eliminated by sulphaguanidine, as is shown by a recent necropsy in which typical amoebic ulcers were perfectly clean, in striking contrast to the usual picture.

As the war moves further east we urge that this danger should be more widely appreciated, and that a serious attempt should be made wherever possible to recover amoebae from the stools before instituting empirical sulphaguanidine treatment. Where sulphaguanidine has perforce to be used, it must be realized that the apparent control of symptoms by no means excludes the presence of amoebiasis.—We are, etc.,

G. A. RANSOME,
Lieut.-Col., I.A.M.C.
J. F. STOKES,
Ramree Island. Lieut.-Col., R.A.M.C.

Excision of Patella

SIR,—The letter from Mr. H. A. T. Fairbank on excision of the patella (July 14, p. 62) is most timely, and many will agree with his warning concerning the readiness with which some surgeons take the easy way of removing the patella without giving a fair trial to more conservative methods. I am among those who consider that the theory that this bone can be removed with impunity and plays no indispensable part in the functioning of the knee-joint has been accepted too readily. Without long-term statistical evidence, that is so necessary and yet lacking, the wisdom of such a drastic step as removal cannot be definitely established.

If the human patella serves no useful purpose, common sense, quite apart from morphological argument, surely indicates that such a large and well-defined structure would have disappeared or would have been represented by some mere vestigial element millions of years ago. The patella is often dismissed in airy fashion as a mere sesamoid bone, but even the humblest sesamoid has a function to perform; hence its persistence through the ages. Could any structure look less like a useless vestigial remnant than the human patella, and can there be any doubt that it plays an important part in the complicated mechanism of the knee-joint?

In the experimental work that preceded my Hunterian lectures at the Royal College of Surgeons of England on osteoarthritis and loose bodies in joints, I was able to show that lack of cartilaginous apposition between the patella and trochlear surface of the femur actually caused disappearance of the articular cartilage over the trochlear surface. I append short notes of two experiments:

Expt. 13.—The knee of a rabbit was fully flexed and immobilized by staples driven on either side into the lower end of the femur and the upper end of the tibia, the joint being unopened. The animal was killed 6 weeks later and it was found that the articular cartilage had disappeared from the trochlear surface of the femur. Owing to full flexion of the joint, its cartilaginous surface had not been in contact with the cartilaginous surface of the patella.

Expt. 11.—The patella of a rabbit was completely dislocated to the outer side of the joint. After death 10 weeks later, the articular cartilage of the trochlear surface of the femur had almost completely disappeared, evidently through lack of cartilaginous apposition. The articular cartilage elsewhere was normal, and on the outer side of the femoral condyle, where the patella had articulated, a new articular surface had developed consisting of smooth connective tissue undergoing, in places, cartilaginous transformation.

These experiments were performed more than 20 years ago and duly published. They have evidently escaped Mr. Fairbank's notice, although he mentions recent experimental work on somewhat similar lines by Bruce and Walmsley (1942) and Colin (1944) and published in America. There is an obvious fallacy in applying experiments on animals to human beings, but the findings are certainly suggestive.

Redfern, many years ago, found also that the articular cartilage underwent degenerative changes after experimental amputations through joints. Specimens formerly in the R.C.S. Museum ((pre-war Nos. 440.1 and 442.2: I have been unable to check if these survived the holocaust due to enemy action) show the lower ends of the femora from cases of amputation through the knee-joint. In both cases, the articular cartilage is very thin and has in places degenerated. One sees examples of the same kind in old unreduced dislocations, both congenital and acquired, and in various deformities. All these facts show that when normal cartilaginous apposition ceases, degeneration of the articular cartilage occurs which is indistinguishable from that seen in the early stages of osteo-arthritis, and may be followed by the complete picture.

After these animadversions concerning removal of the patella, I hasten to observe that the operation is, in my experience, occasionally of value. In addition to the badly comminuted fracture of the patella, where the normal smooth articular surface cannot be reconstituted, it is occasionally of value in cases of osteo-arthritis of the knee, where the disease is concentrated in the patello-trochlear area and where pain due to friction is intolerable. It is an alternative to arthrodesis or excision which may preserve a useful range of movement. I have been pleased also with the results of excision of the patella in long-standing cases of recurrent dislocation, when painful and frequent attacks of dislocation occur in spite of previous plastic operations, and which are uncontrollable by an instrument.

It is worthy of observation that the aesthetic effect of excision of the patella is far from satisfactory: in fact, the knee looks like "nothing on earth," particularly on flexion. This is a point of no small importance to the young of both sexes and even to the not so young.—I am, etc.,

London, W.1. A. G. TIMBRELL FISHER.

March Fracture

SIR,—Stamping is still going on in the Army in spite of any order in the Drill Book. Drill sergeants are teaching recruits to stamp at their "turns," and men are being invalided in consequence of the injury it causes to their feet. I wonder whether Dr. Ian D. Kitchin's patients (July 14, p. 64) have been subjected to this ugly, ridiculous ritual. What are the medical officers doing about it?—I am, etc.,

Stanmore. G. LENTHAL CHEATLE.

Effort Syndrome in West African Soldiers

SIR,—I was interested in Major Goddard's article on effort syndrome in the West African soldier (June 30, p. 908), and without disputing his conclusion that "the influence of European civilization is an important factor in determining the incidence of effort syndrome in the West African," I do not agree that the facts recorded in his article lend any colour to this belief. It is clear from the article that the hospital where the cases were recorded did not serve even approximately a representative sample of Gold Coast soldiers of the R.W.A.F.F. The proportions of Christians in his 12 cases and in the 40 cases in the surgical ward are 100% and 50% respectively. These proportions would be strong evidence that effort syndrome occurs among Christians relatively more frequently than diseases requiring surgical treatment, if there were not reason to believe that the two groups are differently selected.

I have no figures readily available, but it may be taken that Northern Territory, Ashanti, and Colony soldiers will, relatively to each other, consist preponderantly of Mohammedans, pagans, and Christians. Without knowing the actual proportions of Christians and non-Christians, it is possible also to conclude by similar arguments from the figures quoted of the relative numbers enlisted in the three parts that Christians are more liable to disease requiring surgical treatment. The true answer is, of course, that Major Goddard's cases were taken from what is anything but a random sample, and conclusions drawn from study of the relative frequencies are useless.

I suggest that what has happened is this. The hospital in question was probably at Accra, Kumasi, or perhaps Takoradi (Accra and Kumasi are marked on his map; Takoradi is on the coast roughly south of Kumasi). These three stations have adequate communications. For the period in question the Gold Coast was surrounded by Vichy French territories, and most units with primarily combatant duties were presumably in distant stations like Tamale (also marked on his map). Such units would be predominantly pagan and Mohammedan. Even if the M.O. suspected a psychiatric disorder, the soldier would be much less likely to be sent on the long journey down to the south. The argument is supported by the fact that, though 53% of serving soldiers came from the N.T., 5 out of every 40 patients in the surgical ward were Mohammedans. Very likely, however, effort syndrome would not even be diagnosed. Speaking from experience as an infantry officer in the R.W.A.F.F., I can say that if one encouraged every man who complained that "my chest do humbug me" to go sick, one would seldom have a reasonable parade strength at all. Suppose, however, that effort syndrome cases reach a sympathetic R.M.O., he then has the same difficulty as Major Goddard, who "found the language difficulty a great hindrance in getting *en rapport* with these cases," and failure to diagnose the condition is more than possible. The argument is equally valid when applied to the Christian and non-Christan elements among the units near to the hospital.

The article shows exactly what one might expect: that effort syndrome cases reach a base hospital more easily when the sufferer is educated. What figures of this sort can never show is whether the disease is more frequent among educated than among uneducated Africans.—I am, etc.,

M. D. W. ELPHINSTONE,
Major, late R.W.A.F.F.

Re-employment of the Consumptive

SIR,—Those of us who, as tuberculosis officers, have to advise the consumptive about his employment, and who frequently have to issue certificates to help the patient to obtain work, are well aware of the difficulties with which he is faced and the anxiety that these difficulties cause. It is therefore most gratifying that the patient disabled by tuberculosis comes within the scope of the new Disablement and Rehabilitation Act.

There are, however, certain aspects of tuberculosis in regard to employment which are not widely enough recognized. First, the fresh-air fallacy should be exposed. It is extraordinary how widespread is the belief that fresh air is essential to the consumptive. No doubt this misconception is fostered by the simple observation that in sanatoria the gospel of fresh air is correctly and extensively both preached and practised. But in many cases both patient and public mistake this hygienic measure for a valuable therapeutic device, and so it is not uncommon to find that a patient seeks outdoor work, and perhaps thinks of throwing up a useful sedentary occupation, not realizing that it is the latter rather than the former which offers him the better opportunity to keep up that all-important measure—the regular rest-hour. Furthermore, the exposure to inclement weather and getting wet through may have unpleasant consequences if his home is not so well equipped for drying clothes as was his sanatorium.

I would suggest that a second fallacy is the dread of infection. At the present time the aetiology of consumption is not properly understood. Why is it that some persons become consumptives while others overcome a primary infection and thereafter experience no further trouble? There are advocates of the theory of "endogenous exacerbation," and there are advocates of the theory of "exogenous reinfection," but there is no agreement among the experts that the consumptive with a positive sputum can transmit the disease of consumption as distinct from transmitting tuberculosis. Surely, then, if there is no proof of this fact, but rather considerable debate about it, the public should not be encouraged to take the view that the sputum-positive patient is a menace to the health of his contacts at work. Especially is this the case if the patient has been to a sanatorium and has learnt the principles of hygiene there taught.

The type of work for which a consumptive is suitable depends on many factors, but these two especially: first, the nature of his previous job, and, secondly, whether his disease is quiescent or whether he is a "good chronic." At the one extreme, the man with a sedentary occupation and good hours and with quiescent disease should be encouraged and assisted to remain in his previous employment, and obstacles to this end overcome. At the other extreme, the man with active disease and a previously strenuous job is *par excellence* the patient requiring rehabilitation. It is grossly unfair to an individual that because of a positive sputum he should be debarred from earning a living if he so desires. It seems to me that for such cases rehabilitation should often be directed toward those crafts which the patient may have had the opportunity to learn by way of diversional therapy in a sanatorium, especially leather work, toy-making, fine embroidery, draughtsmanship, etc.

To the consumptive re-employment in society is a most vital problem. When the Disabled Persons (Employment) Act is functioning more extensively we must see to it that suitable jobs are kept for the tuberculous, whose problem is different from a surgical disablement, and a positive sputum must not become a sentence of permanent unemployment or ostracism to an outdoor, inclement, livelihood.—I am, etc.,

Reading. W. H. TATTERSALL.

Day Nurseries

SIR,—As circumstances prevented me from supporting the Archbishop of Westminster's criticisms at the present conference on maternity and child welfare may I ask the hospitality of your columns to do so?

Day nurseries mean that mothers with young children are going out to work for a living. What are the effects of this practice on the individuals most concerned?

1. *The Father.*—Father is generally forgotten or ignored in discussing this problem, but he is not unimportant. Part of his job (of bread-winning) is taken from him, and part of his own proper responsibility is also taken from him. In my experience he tends, lacking the stimulus of this responsibility, to relapse into illness or unemployment, or at best to stay content in the poor job with inadequate pay (and, incidentally, to encourage the bad employer to maintain low rates of wages). Moreover, a decent man does not like to see his wife doing what he knows he ought to be managing single-handed, and the consequent irritation, coupled with disgruntlement at having to get some of his own meals, does not tend to improve the family atmosphere.

2. *The Mother.*—One of the commonest problems in industrial general practice is the woman who comes in with a panel card and a wedding ring. She is not doing one job: she is doing two. She gets up early, does as much as she can in the house, rushes off to the day nursery, and then on to work. After she has done her "day's work" she comes back (via the day nursery) and starts again on her household duties. No wonder she is tired and irritable, and harassed by the threatening alternatives—"more money but more work," or "less work but less money." Moreover, such a woman cannot obviously have any more children if she is to remain at work. In these days of dangerously low birth rates is this an aspect of the problem which we can afford to neglect?

3. *The Child.*—What the young child needs above all else is mother's love and protection. But what does he feel? What would he say if he could express himself? "Mummy does not love me as she used to; she goes away all day and leaves me with those people in the nursery." And then, deprived of her society all day, what does he feel when he is taken home in the evening and finds her cross and irritable and too busy with the housework to have time to spare for him?

Sir, the day nursery may be one of the inevitable necessities of total war, but in peace every one of them is a blot on our civilization.—I am, etc.,

Wandsworth. F. GRAY.

Hydatid Disease of the Lung

SIR,—In the *Journal* of March 17 (p. 375) there appears an annotation, under the heading "Cave Canem," on a paper by Barrett and Thomas dealing with hydatid disease of the lung. Many of the points enumerated are not in accordance with my experience of hydatid extending over nearly forty years. Erosion of the ribs does not occur, but in large hydatids there is an associated bulging of the chest wall. Multiple hydatids of the lung are rare. The outline of hydatid is always sharply cut unless there has been a leakage or unless there is an associated pneumonitis or pleurisy. The crescent of air is only seen in leaking hydatid. I doubt whether hydatids disappear spontaneously; if they disappear it is because of rupture into a bronchus.

In regard to operation, the one of choice is "marsupialization"—i.e., the cyst is turned out, and if the hydatid is a large one it may be necessary to insert a drainage tube; otherwise the wound is closed.—I am, etc.,

Sydney. J. G. EDWARDS.

Human Creeping Myiasis

SIR,—I have read with interest the very full account by Dr. R. G. Turner (July 7, p. 11) of a case of human creeping myiasis, and would like to record an experience of mine three years ago.

A local doctor reported to me the case of a boy aged 16, who had been complaining of pains in the shoulders and in the muscles of the upper arms and in the intercostal muscles. He stated that a lump came on the left shoulder which he squeezed, and expressed "matter." The boy was a farmer's son from a remote mountainous area where bacon is a staple food, and the pigs eaten are often upwards of 2 years old and for a large portion of their lives are not sty-fed but run loose. In the circumstances trichinosis was suspected. This had not been uncommon in the district many years ago, though it has disappeared for about a generation. Together with Mr. J. O'Brien, veterinary surgeon, I investigated the matter. Practically all of the pig in question had been eaten and *Trichinella spiralis* could not be found in the small portion remaining. The boy was in good health but complained of wandering pains in the shoulders, chest, and arms. His temperature was normal and physical examination was negative. The boy and the premises were kept under observation, and a little later he reported to us with another swelling. This was on the left upper arm. It was small, red, and slightly tender, and was obviously about to discharge. On squeezing, a white maggot was expressed. This was immediately recognized by Mr. O'Brien as the larva of the warble-fly. About two weeks later a further larva was expressed, this time over the right scapula. This was the last of the larvae. During all this period the boy did not complain of illness other than the pains referred to.

—I am, etc.,

Castlebar, Co. Mayo. D. F. MCCARTHY.

The Training of the General Practitioner

SIR,—I endorse most of Dr. E. K. Mackenzie's remarks (*Journal*, June 9, p. 823) on obstetric specialism, but do not his observations apply with equal cogency to every specialism in medicine—namely, the need for wider experience and greater sense of perspective on the part of the young graduate before he is permitted to specialize? While a diploma may not be superfluous to the possessor of the M.R.C.P. or the F.R.C.S., surely it is no substitute for either. I need not stress the point further.

There is need, however, for a new diploma—one in general practice, a D.G.P. Whether the medical services of this country are to be administered by the profession or by the State, the standard of medical practice will depend on the competence of the general practitioner more than on anyone else. If with our teaching schools first things come first, their principal aim should be to turn out qualified competent practitioners; but the medical schools are turning out embryo specialists, of whom a few indeed become specialists while the majority become general practitioners.

It can scarcely be pretended that the young graduate has received the right kind of training for general practice, although by law he is permitted to engage in independent practice as soon as he has registered his qualification. To obviate this a diploma, after a searching examination not earlier than the end of the third year following graduation, would appear to be highly desirable. General practice, where it is efficient and sufficient, is of vastly greater value to the public than any specialism. Where the standard of practice is low the public suffers to an incalculable degree. To ensure the high standard that the public deserves and needs general practice should be regarded as the most important specialty in medicine, and the future G.P. should possess a diploma guaranteeing proficiency before he is permitted to embark on independent practice.

For the first two years after graduation the training of the young doctor, whether he aims at being a consultant, specialist, or G.P., should be on parallel lines—hospital appointments. Thereafter the aspirant to general practice should go as an assistant into general practice, and he should be permitted to take the diploma not earlier than the end of the third year after graduation. As soon as he finds it expedient (afterwards) he could embark on independent practice or become a partner. The examination should be on the lines of the M.R.C.P., the special section of which would be replaced by a section on general practice, including social aspects of medicine and citizenship.

There is no walk of life that gives more scope for personality and individuality than general practice, but until its prestige is sufficiently enhanced to attract some of the best brains (and it affords scope for the very best) the man in the street is not going to enjoy a better medical service. It is generally admitted that much of the training of the undergraduate would be better done by a teacher with a "general practice" outlook than by the pure specialist. With correct background of training an interchange of personnel between general practice and the teaching centres would come about naturally and smoothly to the advantage of both. With adequate hospital accommodation for the sick there should be enough house appointments for the proper training of G.P.s, specialists, and consultants.—I am, etc.,

Fraserburgh. J. Macleod.

*** A diploma in general practice was suggested by Dr. Frank Gray in an article on the general practitioner of the future, published in the *Supplement* of May 27, 1944, p. 121.—Ed., *B.M.J.*

Weight Reduction by Dieting

Sir,—The following observations conducted on myself may be of interest. I have often been asked by patients to put them on a reducing diet, and have consequently compiled a detailed regimen, of adequate calorie value, but largely excluding those substances with a high carbohydrate content. Provided there was strict observance by the patient of the rules laid down, the results were eminently satisfactory, a steady loss of 1 to 2 lb. a week being maintained over a long period.

Recently certain causes prompted me to consider adopting my own regimen for myself. They were: shortage of clothing coupons, excessive strain on various supporting buttons, notably of the trousers, and a hopeless prospect of ever insinuating my person into my pre-war civilian clothes. I accordingly started dieting, but being of an impatient nature I exercised a more strict control, and hence lost weight at an increased pace. The diet as laid down included one fast day a week; and on this day, as I felt so very well and suffered no ill effects, I decided to extend it, which I have done indefinitely, with what seem to me to be quite remarkable results.

For the last 28 days I have been fasting—details of which are as follows and strictly accurate:

(i) I have eaten no food of any sort whatsoever.
(ii) I have taken copious non-alcoholic fluids (some sweetened).
(iii) I have maintained an adequate daily vitamin dosage of A, B_1, B_2, C, and D (in tablet form).
(iv) I have taken no alcohol.
(v) I have taken an alkali mixture three times a day.

On the above-mentioned diet I have maintained very full and busy working days, including office work, long drives in a car, aeroplane trips, and in the light evenings plenty of exercise, including several sets of tennis, long walks, etc. During this period of 28 days I have lost 30 lb. in weight, felt extremely fit, slept well, had no headaches, lassitude, or feeling of weakness—and in fact never felt better in my life. My bowels have not been opened for the last 15 days. The mental strain on occasions was admittedly considerable, but my eye is bright, my skin clear, and my brain functions normally. Furthermore, as my clothes are now very comfortable, and I can see my genitalia from the upright position, I consider the experiment to be successfully concluded.

I was always taught as a student that there were several prerequisites of safe dieting, which included complete rest in bed, slow reduction over a long period, no complete starvation. While I would not consider putting a patient on so rigid a diet, I should be most interested to hear the views of others in this matter. Doubtless I shall be derided and criticized, but I shall at least have the satisfaction of being able to put my clothes on direct from the moth balls. For sartorial and gastronomic reasons I refrain from publication of my name and sign myself

"Apollonian."

Alien Doctors

Sir,—I was delighted to see Capt. J. Joseph's letter (July 14, p. 66), though somewhat guilty that I had not written earlier myself to challenge the recent evidences of a familiar reaction.

Of course, among the refugee doctors there are some unethical black sheep, but these are not unknown in our own British professional group. Since 1933 I have come across most of the refugees in my own field of medicine, and I have a high opinion of their skill, integrity, and professional spirit. In the early days of the war I was "plagued" by their anxiety to work in the national services. The Army had limitations on their employment; the E.M.S. found it difficult to use them, and, frustrated as our warm allies in this war, they had to turn to other forms of valuable work for the health of the country. An increasing number have recently been at work in the Services, where they have made a distinguished contribution.

The opinion has been expressed that the new health services should not be operated until there are enough doctors to make it possible. In psychiatry, at any rate, our shortage of well-trained men will be great, and, in my opinion, we urgently need the continued help of such refugee specialists as can be retained in this country.

Innuendo and undocumented criticism are poor weapons for a scientific profession. The B.M.A. would do an invaluable service by appointing a small impartial committee to receive and sift whatever evidence is available on this topic from all sources, so that advice on future policy may be given to the Home Office.—I am, etc.,

London, W.1. J. R. Rees.

Sir,—The letter of Majors L. T. Clarke and R. S. MacHardy (July 7, p. 30) cannot remain unanswered by refugee doctors. It is a misleading overstatement to speak of an inundation of the fields of British medical practice by alien doctors. So far as I know, there are 40-odd Austrian and 50-odd Czechoslovak "quota doctors" who have obtained British qualifications, are on the permanent *Medical Register,* and were granted the privilege of establishing themselves in medical practice. Apart from these there are roughly 300 doctors from Austria, Czechoslovakia, and Germany who, although mainly highly skilled medical men of middle age, are mostly engaged in assistantships and hospital work in junior capacities—and with junior salaries—and who are only on the temporary *Register* in order to comply with the law. A trifling handful of about 5 or 6 have obtained British qualifications and are duly registered but are not included in the quota. Inundation, indeed!

The alien doctors know, and are sorry for, the sacrifices of their British colleagues caused by their absence from their practices for nearly six years, but I think it would not be unfair to mention that so many practices have been saved and maintained by the efforts of assistants and locumtenents. Our sacrifice of pride and dignity which we suffered when we had to leave our former homelands is insignificant compared with the sacrifice of life and health by those who failed to get a sanctuary in this country. Do your correspondents know how few of us succeeded in joining the Allied Forces, and how many have applied in vain for appointments with U.N.R.R.A. and the Military Government? Certainly many refugee doctors would be glad to replace British doctors in liberated Europe, having been entrusted with the health and life of British people for so many years. But as to the privilege of "practising among one's own folk," I know at least two alien doctors who have tasted life in concentration camps and abhor the idea of practising among people who are their own folk no longer.—I am, etc.,

Penarth. MARCELL GANG.

⁂ This correspondence is now closed.—ED., *B.M.J.*

Newspaper Publicity

SIR,—A paper by me entitled "Return of Virility after Prefrontal Leucotomy" appeared in the *Lancet* on Sept. 9, 1944. The sole reason for publication was to draw attention to an unusual physical result of prefrontal leucotomy and discuss possible physiological implications. This paper has evidently been the subject of an article which appeared in the *Sunday Dispatch*, July 15, 1945, entitled "The Story of a Scientific Miracle. A Man had Worry Removed from his Brain." The article was so written that one would be justified in inferring that it was the result of a personal interview given by me. It is stated that I was one of the first two doctors in this country to put prefrontal leucotomy into practice. In point of fact I can claim no credit at all in its introduction into this country. Coupled with my name are those of the late Mr. Wilfred Willway and Dr. Max Reiss. There is also a quotation from the article which is textually incorrect, and reads as if it were a verbatim statement of mine. The newspaper article has been published without any reference to the source of the material, nor is there anything to suggest that it is based on a *Lancet* publication.

I desire to state that the newspaper article has been published without my knowledge or consent. The *Sunday Dispatch* is a paper that I see only occasionally, and I have never heard before of the author of the article, who signs himself Edward H. Spire.—I am, etc.,

Bristol Mental Hospital. R. E. HEMPHILL, M.D., D.P.M.

Medico-Legal

THE YOUNG OFFENDER

The committee of two which inquired into the provision and administration of remand homes by the London County Council touched on a problem far wider than the scope of its actual reference.[1] Mr. G. Russell Vick, K.C., and Miss Myra Curtis were appointed to clear up the controversy which was started when Mr. John Watson, chairman of the Tower Bridge Juvenile Court, and Mr. Henriques, chairman of the Toynbee Hall Juvenile Court, published severe criticisms of the council's conduct of remand homes for girls. The commissioners found that in the particular case of a child of seven which had focused attention on the home, Mr. Watson's statement that she was wrongly treated was inexact and misleading; that the child was properly received into the home at Marlesford Lodge and properly cared for while there. On the other hand, there was evidence of overcrowding in the council's remand homes in the past, partly due to war conditions. Marlesford Lodge, they found, needed further adaptation and improvement and its administration had lacked interest and enterprise. It was very much understaffed and needed, in the commissioner's opinion, better qualified and better paid workers. They found that thirty or forty girls passed their recreation time sitting in one room with nothing whatever to do, listless and conscious of frittering away their time. At Stamford House, a boys' remand home, the boys were by contrast actively and contentedly employed at all kinds of handwork. The committee thought that the L.C.C.'s resources are adequate to provide books and materials for needlework and handicraft, and also to avoid the shortage of clothing of which complaint was made.

The chief criticisms of the magistrates were, however, directed against what they thought to be faulty segregation of what may be called sexually delinquent from sexually innocent children. The statutory rules governing remand homes lay down only that care shall be taken to keep in separation any boy or girl who may be likely to exercise a bad influence over others. Mr. Watson strongly held the view that "innocent" girls should be kept out of the remand homes altogether and that girls sent there should be classified into two groups: those sent for misbehaviour and for sexual misbehaviour respectively. Committed girls should, he held, be kept apart from remanded girls, and the sexually immoral separated from the sexually moral. Mr. Henriques wished to divide girls over fourteen into three groups, to be kept entirely separate: ordinary delinquents, moral delinquents, and those awaiting a school. On the other hand, the Home Office view is that local authorities should apply the separation rule as each thinks best and that classification according to sexual experience is undesirable even if it is practicable. The commissioners thought the magistrates were wrong in charging the L.C.C. with grave dereliction of duty because it had not achieved a standard of segregation which had not been authoritatively laid down or even generally agreed. They did not regard the Marlesford Lodge arrangements as the scandal which the Press treatment of the controversy had suggested they were. On the other hand, they found that the L.C.C. had not worked out a definite segregation policy and would be well advised to do so. The committee's own view was that certain classes of children should be either removed from the remand home or housed in a separate part of it—viz., children under eight, girls suffering from venereal disease (who are already separated), children and young persons committed to approved schools, and those under punitive detention. They would house boys and girls over eight in separate homes, and keep the age group 8–12 apart from other children for most purposes. The remainder, they thought, need not be classified on any definite formula, but the superintendent, assisted by skilled supervisors, ought to have facilities for separating them. They also recommended that children should be fully occupied, that the Home Office in consultation with local authorities should review the pay, recruitment, and training of staffs, and that machinery should be established by the Home Office for easy and frequent consultation between the Home Office, the L.C.C., magistrates, probation officers, and superintendents.

The learned correspondent who dealt with the problem in a long article in the *Times* of March 15 doubted, however, whether such machinery would secure adequate co-ordination. Throughout the whole penal system, except for probation, judges and magistrates have no share in the management of corrective institutions. He thinks that a choice may have to be made between handing over remand homes and kindred institutions to a committee of magistrates, and setting up a special authority with the duty of prescribing and supervising treatment of defined classes of persons, particularly young persons, whom the courts would otherwise sentence to prison or Borstal. Before instituting such drastic reforms, the co-ordination of the judicial and executive authorities ought doubtless to be given a fair trial. What, however, seems to be most needed is a far more general sense that the problem of dealing creatively with young delinquents is really urgent and important, and that these children are not merely a nuisance but the raw material of our future as a nation.

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[1] H.M. Stationery Office, 1945. Cmd. 6594. (6d.)

With the 86th report of the Royal Eastern Counties' Institution for the Mentally Defective at Colchester is enclosed a printed tribute to Dr. F. Douglas Turner, C.B.E. Near the end of last year Dr. Turner approached the board saying that with advancing years he found that the burden of running this vast institution was getting beyond his powers and he felt he must retire. As he had wished to do so before the war but was persuaded to stay on, the request could not be refused, and Dr. Turner retired at the end of February, 1945, to be succeeded by Dr. E. Randal Hull. "To many of us Dr. Turner had been the R.E.C.I., and we cannot think of it without his wise, all-pervading, kindly influence. He came to the Institution in 1905 as medical officer, having started in general practice at Huddersfield, which he gave up after five years owing to eye trouble. On the death of his father, Mr. J. J. C. Turner, in 1914, he succeeded him as medical superintendent. At that time the number of beds in the Institution was 250; to-day the number of beds is 2,150. It has been under his direct supervision that this enormous expansion has occurred." The eulogy from which this brief passage is quoted has an accompanying portrait.

Obituary

SIR W. GIRLING BALL, F.R.C.S.

Surgeon to St. Bartholomew's Hospital

It had been known to his friends for some months that Sir Girling Ball's health was failing; he had had to give up the chairmanship of the Services Committee of the Central Medical War Committee, though remaining, at least nominally, a member. But he was not far advanced in the sixties, and until his breakdown he conveyed such an impression of robustness, both of mind and body, that many more years might have been predicted for him. His death on July 16 is a great loss to the branch of surgery he had made his own and to medical education.

With St. Bartholomew's Hospital, and the place it occupied in the City of London, William Girling Ball's whole career was bound up. He was not by birth a Londoner, but the home of his childhood was only ten miles away, at Barnet, in Hertfordshire, and it was to the City he went to school. As a boy of 13 he entered Merchant Taylors', then located just by the City wall, west of Aldersgate, and it was an extraordinary happiness to him, forty years later, owing to the removal of the school out into Middlesex, to be able to acquire for St. Bartholomew's Hospital College the almost sacred ground on which Merchant Taylors' had stood from the time when Charterhouse School left for Godalming.

Girling Ball remained at Merchant Taylors' until 1900, when he entered St. Bartholomew's, qualifying in 1905. He served as house-surgeon under Sir Anthony Bowlby. For four years, from 1907 to 1911, he was demonstrator of pathology at Bart's, and from 1911 to 1913 clinical assistant at St. Peter's Hospital for Stone. It may have been there that his interest was directed to urology. He was a general surgeon, but his special interest lay in genito-urinary work.

His appointment to the senior staff at Bart's was made in 1913, and he became residential warden of the College, a post long held in former years by the famous historian of the hospital, Sir Norman Moore. Ball retained this post until 1921; he was also sub-dean from 1920 to 1925. In 1930 he succeeded Dr. T. W. Shore as dean of the college. Dr. Shore had reigned in that position for twenty-four years. It was said of Augustus Caesar that he had found a city of brick and had left it a city of marble. Shore and Ball between them did a similar work for St. Bartholomew's. Forty years ago it had the reputation of being the dingiest and shabbiest of the London medical schools, though no exterior drab could dim the brilliance of the work that was done there nor the greatness of Bart's men. In Shore's time as dean great improvements were made, the library completed, a new dissecting room built, and modern operating theatres and pathological laboratories and a surgical block. Ball crowned his predecessor's work, and the consummation was reached in 1935, when, on the departure of Merchant Taylors' School, the pre-clinical departments were housed on the site in buildings opened by the Prince of Wales, afterwards Edward VIII. Here on a tranquil island, still within the confines of the City, only a few minutes' walk from the main hospital, was to be found an extraordinary blend of the mediaeval and the modern. Ball himself rejoiced especially in the college hall, with its hammer-beam roof, now sadly damaged by enemy bombs, and in the mellowed red brick of the Charterhouse buildings close by; but the equipment of the College in its new home was as up-to-date as any medical school could wish. Later the new department of anatomy was opened—as fine a department as can be found anywhere. Much of this was due to the drive and foresight of Girling Ball and the donations he was able to coax out of City and other purses. During that period, from 1936 to 1940, he was dean of the Faculty of Medicine of the University of London and member of the Senate.

During the first European war Girling Ball was medical officer in charge of the military wing at Bart's, and also, in 1917-18, surgeon specialist attached to the 53rd General Hospital (T.F.) of the British Expeditionary Force. When the second European war was threatening and the evacuation of London medical schools became necessary, it was a great satisfaction to him to have got the pre-clinical departments in working order at Cambridge by September, 1939, and part of the clinical school established at Hill End, St. Albans. He was made sector head of St. Bartholomew's and Royal Free Hospitals under the E.M.S. in March, 1939. He had also become, in September, 1938, surgical consultant to the Royal Air Force.

In spite of the absorbing claims of his own practice as a consulting surgeon and his work at Bart's he found time for other activities. He became a member of the council of the Royal College of Surgeons in 1934, and was made Vice-President of the College in 1943. He had taken its Fellowship at the age of 26, in 1909 he had gained the Jacksonian prize for a dissertation on the treatment of surgical affections by vaccines and antitoxins, and he had been Hunterian professor in 1912. In the Royal Society of Medicine he was most prominently identified with the Section of Urology, of which he eventually became president, but he also took part in the general affairs of the Society, becoming successively honorary secretary and treasurer, and in 1938-40 succeeding Sir John Parsons in the presidential chair. Girling Ball was also a leading spirit in the organization of international conferences, and was the key man in at least one large congress of the kind in London. He had abounding energy himself and also the gift, which does not always go with it, of stimulating other people to energetic action.

He became a member of the British Medical Association in 1910, but apart from the appearance of his name as honorary secretary of the Section of Surgery at the Annual Meeting at Newcastle in 1921 he did not become closely identified with its work until recent years. In 1938 he became a member of the Central Medical War Committee, and in 1943 a member of its executive. He gave active help on a number of other Association committees concerned with the war situation, such as the emergency hospital organization, and release and demobilization of practitioners. He was a valued member of the Medical Planning Commission, making many useful contributions to its interim report. He was also on the original Representative Committee which engaged in the early conversations with the Minister of Health on the projected National Health Service.

In addition to the hospital work already mentioned, he was surgeon to the East London Hospital for Children in 1910-12; in 1910 he became surgeon to the Alexandra Hospital for Hip Diseases, and in 1934 to the Royal Masonic Hospital. He was consulting surgeon to the City of London Truss Society, St. Luke's Hospital for Advanced Cases, and the Foundling Hospital. He was the author of only one book, *Diseases of the Kidney*, published in 1932, which was written in collaboration with Dr. Geoffrey Evans. He wrote numerous papers on pathological and genito-urinary subjects, and his "cases from the wards" were a noteworthy feature of *St. Bartholomew's Hospital Reports*. He held the post of joint lecturer on surgery for many years, and as a lecturer his direct, refreshing style, untrammelled by notes, was very popular with students.

Girling Ball received the honour of knighthood in 1938 on the completion of the great work of reconstruction of his College. Had he not, at the age of 19, found his way through the gates of St. Bartholomew's Hospital he might have gone elsewhere in the city of merchant princes and have built up a great business organization, for he had true business instinct and the vision of a master builder. He was a likeable man, all the more so because of his impetuosity and forthrightness—a man who said what he had to say in the directest possible speech. Until his breakdown he appeared to have an enormous store of energy. He was very proud to be president of the Bart's Rugby Football Club, though he had long since betaken himself for recreation to the golf course. He will be remembered affectionately, and his death will be keenly felt, by generations of Bart's men.

A memorial service was held in the Church of St. Bartholomew-the-Great, West Smithfield, London, E.C.1, on Wednesday.

PROFESSOR ACHARD

Prof. Emile Charles Achard, the news of whose death on August 7, 1944, was delayed by the war, was born on July 24, 1860, in Paris, where he received his medical education, being a fellow student with the eminent surgeon Prof. Hartmann, who is still with us. He qualified at the Paris Faculty of Medicine in 1887 with a thesis on hysterical apoplexy. In 1910 he was appointed professor of general pathology and therapeutics, and in 1919 professor of clinical medicine. He was successively attached to the Beaujon and Cochin Hospitals in Paris. He held many other appointments at home and abroad, of which the most important were member of the Institut, Commander of the Legion of Honour, and general secretary of the Académie de Médecine. In 1937 he was elected Honorary Foreign Fellow of the Royal Society of Medicine, having been elected honorary member of the Clinical Section in 1933. He was also member of the Royal Academy of Rome, and had conferred on him the Order of the Crown of Italy.

Achard was a prolific writer. Besides many articles in Brouardel and Gilbert's *System of Medicine,* he was the author of works on typhoid fever, encephalitis lethargica, and oedema in Bright's disease, which was translated into English, on diseases of the blood, nervous system, kidneys, and suprarenals. He was also co-editor of *Archives de Médecine Expérimentale et d'Anatomie Pathologique.*

Universities and Colleges

UNIVERSITY OF CAMBRIDGE

The Marmaduke Sheild Scholarships have been awarded to D. Bulmer, of Peterhouse, and R. P. Holmes, of Trinity College.

During the month of June titles of the degrees of M.B., B.Chir. were conferred by diploma on S. M. Martin, of Girton College.

UNIVERSITY OF LONDON

The title of Reader in Bacteriology in the University has been conferred on John Cecil Cruickshank, M.B., Ch.B.Ed., in respect of the post now held by him at the London School of Hygiene and Tropical Medicine.

The degree of D.Sc. has been conferred on A. C. Frazer, an internal student at St. Mary's Hospital Medical School.

UNIVERSITY OF SHEFFIELD

At a meeting held on July 13 the University Council received with regret the resignation of Dr. C. Gray Imrie, F.R.C.P., of the post of lecturer in physiology, and of Dr. J. MacA. Croll as lecturer in bacteriology, and accorded them its thanks for their services to the University.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

The Moynihan Lecture will be delivered at the College (Lincoln's Inn Fields, W.C.) by Prof. Willem Noordenbos, Hon. F.R.C.S., professor of surgery in the University of Amsterdam, on Wednesday, Aug. 1, at 5 p.m. Fellows and Members of the College are invited to attend. Students and others, who are not Fellows or Members of the College, will be admitted on presenting their private visiting cards. Tea will be served before the lecture.

At a meeting of the Council of the Royal College of Surgeons of England, held on July 12, Sir Alfred Webb-Johnson was re-elected President, and Mr. C. Max Page and Major-Gen. W. H. Ogilvie were elected Vice-Presidents.

Prof. W. E. Le Gros Clark, F.R.S., was elected a Hunterian Professor for 1945.

The following appointments were made for 1946:

Hunterian Professors.—Mr. Ivor Lewis, one lecture on the Surgical Treatment of Carcinoma of the Oesophagus with Special Reference to a New Operation for Growths of the Middle Third; Mr. D. Hamilton MacLeod, one lecture on Endometriosis—a Surgical Problem; Lieut.-Col. B. W. Rycroft, R.A.M.C., one lecture on War Wounds of the Eye and their Modern Treatment; Lieut.-Col. A. L. d'Abreu, O.B.E., R.A.M.C., one lecture on War Surgery of the Chest; Wing Cmdr. W. D. Coltart, A.A.F., one lecture on Fractures and Dislocations of the Astragalus; Lieut.-Col. D. S. P. Wilson, R.A.M.C., one lecture on Missile and Traumatic Injuries of the Urethra and their Treatment; Major C. H. Gray, R.A.M.C., one lecture on Sciatica; Mr. S. H. Wass, one lecture on the Odontomes and Other Affections of the Jaws: their Pathology, Diagnosis, and Treatment; Mr. J. D. Fergusson, one lecture on Original Observations on Carcinoma of the Prostate treated with Oestrogens, based on a Study of Serial Perurethral Biopsies performed over Periods of from Six Months to Two and a Half Years during Continued Oestrogen Therapy; Mr. John Charnley, one lecture on the Conservative Treatment of Fractures of the Femoral Shaft; Major P. W. Clarkson, R.A.M.C., one lecture on the Treatment of Face and Jaw Casualties; Capt. C. G. Rob, *M.C.,* R.A.M.C., one lecture on the Diagnosis of Abdominal Trauma in Warfare.

Arris and Gale Lectures.—Profs. O. G. Edholm and H. Barcroft, two lectures on the Circulation in Human Skeletal Muscle; Mr. Norman L. Capener, one lecture on Physiological Rest.

Erasmus Wilson Demonstrators.—Six demonstrations on the pathological contents of the Museum, one by Mr. L. E. C. Norbury, O.B.E., two by Col. R. Davies-Colley, C.M.G., A.M.S., and one by Mr. T. M. Tyrrell, with ophthalmic pathological material. There are two vacancies.

Arnott Demonstrator.—Prof. A. J. E. Cave, six demonstrations on the contents of the Museum, to be combined with professorial lectures.

Beginning in the autumn of this year there will be a lecture in the College every Thursday at 5 p.m.

Subject to a satisfactory scheme being submitted, it was decided to seek power by Charter at a future date to institute a special Final Fellowship examination in oto-laryngological subjects. It was also decided to hold an additional Primary Examination for the Fellowship in January, 1946.

Sir Frank Colyer was reappointed Honorary Curator of the Odontological Collection; Dr. F. S. Cooksey was elected an additional examiner for Part II of the Diploma in Physical Medicine during the current collegiate year; and Mrs. H. P. Herbert was reappointed a Leverhulme Research Scholar.

It was decided to recognize the post of resident surgical officer at the Royal Infirmary, Oldham, for the six-months surgical practice required of candidates for the Final Fellowship examination.

Diplomas of Membership were granted to R. B. Broughton, R. A. Green, R. Hierons, and H. M. Wotzilka.

Diplomas in Psychological Medicine and in Laryngology and Otology were granted jointly with the Royal College of Physicians of London to the following successful candidates:

DIPLOMA IN PSYCHOLOGICAL MEDICINE.—J. A. Ainslie, W. H. Craike, J. Ff. Edwards, M. C. Hood, J. B. Randell, W. W. Roberts, H. A. Thorner.

DIPLOMA IN LARYNGOLOGY AND OTOLOGY.—Géza Grünberger, J. L. Insley, A. A. MacGibbon, M. G. Marks, G. S. Midgley, G. H. Vawda, and H. Zalin.

Medical News

A deafness clinic has recently been established at the National Hospital, Queen Square, London, W.C.1. The work of this clinic will be devoted to the investigation and treatment by means of hearing aids and otherwise of deafness in all its forms, excluding those accompanied by active otitis media with ear discharge. Patients are seen, by appointment only, at 9 a.m. or 1.45 p.m. on Mondays, Tuesdays, and Wednesdays. All appointments should be made by application, telephone or letter, to the Deafness Clinic, The National Hospital, Queen Square, London, W.C.1. Terminus 7721.

In view of possible renewed negotiations with the Minister of Health, the Council of the Faculty of Homoeopathy feels that it is important to know the exact location of all physicians practising homoeopathy in the United Kingdom. Those not already in touch with the Faculty of Homoeopathy might contact the honorary secretary immediately at the London Homoeopathic Hospital, Queen Square, W.C.1.

A leave course for doctors of the U.S. and Dominions Forces, arranged by the Faculty of Medicine, University of Edinburgh, and the British Council, was held at Edinburgh from July 16 to 20. The programme included lectures by the professional staff and by Dr. Andrew Davidson, Chief Medical Officer, Department of Health for Scotland, and visits to medical institutions.

Negotiations have been completed between Lord Astor, the National Trust, the Bucks County Council, and various hospital authorities for converting to civilian use the Canadian military hospital on Lord Astor's estate at Cliveden. The hospital, which can accommodate over 700 patients, will be administered by the Bucks County Council. The Cliveden estate was given to the National Trust by Lord Astor in 1942, with an endowment for its upkeep.

At a meeting of the Hertfordshire County Council on July 23 reference was made to a proposal of the authorities of St. Bartholomew's Hospital to build a new hospital in the Watford area at a cost of about £1,000,000. The new hospital would probably have some 600 beds, and would include a medical school staffed by highly experienced consultant physicians and surgeons. The council appointed a committee to conduct negotiations with representatives of the hospital.

Capt. R. D. Mareth Timms, L.M.S.S.A., has been appointed Officer (Brother) in the Order of the Hospital of St. John of Jerusalem.

Dr. H. N. Ganguli, sub-assistant surgeon, Piphima, has been appointed M.B.E. (Civil Division) for services to the Forces in connexion with the Burma Campaign from May 16 to Aug. 15, 1944.

The Heberden Society, which was started at the British Red Cross Society's Clinic for Rheumatism, Peto Place, London, for the study of the rheumatic diseases, will in future admit as members physicians and surgeons actively interested in these diseases from any part of the country. Membership is limited to one hundred. Further particulars may be obtained from the hon. secretary, Dr. Kenneth Stone, 21, Wimpole Street, W.1. There will be a meeting extending over two days early in November to open the winter session.

A British Medical Exhibition arranged by the British Council was opened at the São Jose Hospital in Lisbon last month by the Portuguese Under-Secretary for Education. The exhibition included books and instruments, and British medical films have been shown. The Portuguese Minister of Education sent a message paying tribute to the work of the British Council and its Institutes in Portugal, and expressing the hope that more such exhibitions would be arranged. The British Minister, Mr. H. Ashley Clark, said that medical relations between the two countries were almost as old as the alliance itself, and that the exhibition showed that still more remained to be done in this field.

At a meeting of the directors of the Society for Relief of Widows and Orphans of Medical Men held on July 4, £2,047 10s. was voted for the payment of the half-yearly grants to the 55 widows in receipt of relief. A cheque was presented to Mr. Edward J. Blackett in recognition of his forty years' service as secretary. Membership of the society is open to any registered medical man who at the time of his election is residing within a twenty-mile radius of Charing Cross. Only widows and orphans of deceased members are eligible for relief. Full particulars and terms of subscription may be obtained from the secretary at 11, Chandos Street, Cavendish Square, W.1.

Owing to difficulties in dispensing, a demand has grown for the ready-packed sterile base suitable for preparing penicillin ointments. Arrangements have now been made by the Ministry of Supply, and three firms are able to offer a sterile ointment base in pots of about 1 oz. (i.e., 30 grammes) to which an appropriate quantity of penicillin solution can be added and readily incorporated. This is to meet hospital demands. The firms are: Boots Pure Drug Co. Ltd., Station Street, Nottingham; British Drug Houses Ltd., Graham Street, City Road, London, N.1; Burroughs Wellcome and Co., 12, Red Lion Square, London, W.C.1.

EPIDEMIOLOGICAL NOTES

Discussion of Table

In *England and Wales* measles notifications fell by 1,460, whooping-cough by 144, dysentery by 82, and acute pneumonia by 72; those for scarlet fever went up by 57, and for diphtheria by 37.

There was an increased incidence of scarlet fever in the counties round London, but little change elsewhere. The largest local variations in diphtheria were increases of 25 in Yorks West Riding, 23 in Durham, 13 in Warwickshire, and a fall of 14 in Lancashire; the rise in Durham was due mainly to an outbreak in Weardale R.D. 17. A fall in the incidence of measles was general throughout the country, although in Suffolk there was a rise of 47.

The incidence of dysentery, 210, was the lowest since December. The largest returns were those of Lancashire 49, London 38, Kent 14, Essex 11, Lincolnshire 11, Yorks West Riding 11.

In *Scotland* scarlet fever notifications went up by 38, and those of diphtheria by 14, but other infectious diseases fell by the following numbers: measles 84, acute primary pneumonia 37; whooping-cough 25, dysentery 14. The rise in diphtheria occurred in the east and south-east.

Typhus in Vienna

Typhus has been reported from Vienna. It has been stated by the Austrians that it has been impossible to remove garbage for some months, and large piles of refuse have accumulated everywhere.

Week Ending July 14

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,303, whooping-cough 1,098, diphtheria 422, measles 4,075, acute pneumonia 387, cerebrospinal fever 52, dysentery 206, paratyphoid 9, typhoid 10, poliomyelitis 12.

No. 27

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended July 7.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1945 (a)	1945 (b)	1945 (c)	1945 (d)	1945 (e)	1944 (Corresponding Week) (a)	1944 (b)	1944 (c)	1944 (d)	1944 (e)
Cerebrospinal fever	51	4	27	4	1	45	2	24	1	—
Deaths		1	1				1	1		
Diphtheria	458	21	96	66	16	425	12	91	62	13
Deaths	5	—	2	—	—	5	—	—	2	2
Dysentery	210	38	46	3	—	132	5	48	2	—
Deaths				—	—				—	—
Encephalitis lethargica, acute	4	—	—	—	—	1	—	1	—	—
Deaths		—					—			
Erysipelas			35	5	—			41	6	—
Deaths		—					—			
Infective enteritis or diarrhoea under 2 years				55					5	
Deaths	40	4	8	17	2	35	8	13	12	5
Measles*	4,544	220	77	40	13	2,571	130	77	210	29
Deaths	—	—	3	—	—	1	—	2	1	—
Ophthalmia neonatorum	61	4	14	1	—	56	—	13	—	—
Deaths										
Paratyphoid fever	6	—	—	—	—	8	—	9 (B)	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenzal†	352	19	5	3	1	539	45	11	2	1
Deaths (from influenza)	5	—	—	—	1	10	1	1	—	—
Pneumonia, primary			165	10				179	15	
Deaths		18		8	5		35		8	7
Polio-encephalitis, acute	1	—				1	—			
Deaths		—					—			
Poliomyelitis, acute	15	2	1	—	1	7	—	5	1	—
Deaths		—					—			
Puerperal fever		1	14		—		—	16		—
Deaths										
Puerperal pyrexia‡	120	12	11	2	1	164	11	14	—	1
Deaths		1					1			
Relapsing fever	—	—			—	—	—			—
Deaths										
Scarlet fever	1,312	55	224	25	40	1,390	87	164	19	52
Deaths	—	—	—	—	—	—	—	—	—	—
Smallpox	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Typhoid fever	11	2	1	6	—	3	—	4	5	2
Deaths	—	—	—	—	—	2	—	—	—	—
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Whooping-cough*	1,050	67	21	24	12	2,325	171	62	73	15
Deaths	2	2	—	2	—	16	3	5	1	2
Deaths (0–1 year)	296	36	33	37	11	312	48	63	31	16
Infant mortality rate (per 1,000 live births)										
Deaths (excluding stillbirths)	3,874	509	520	194	103	4,717	1217	585	196	142
Annual death rate (per 1,000 persons living)			11·8	12·5	§			13·4	12·7	§
Live births	6,796	788	889	466	254	7,579	914	935	411	285
Annual rate per 1,000 persons living			17·8	30·1	§			19·0	—	§
Stillbirths	181	20	38			194	20	36		
Rate per 1,000 total births (including stillborn)			41					37		

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* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

‡ Includes puerperal fever for England and Wales and Eire.

§ Owing to movements of population, birth and death rates for Northern Ireland are still not available.

Letters, Notes, and Answers

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ANY QUESTIONS?

Binocular and Monocular Vision

Q.—*In a recent course on mental deficiency it was stated that very few people have centralized binocular vision, the image being usually distorted towards one eye, thus making that eye dominant, and that sometimes in a child with a specific disability in learning to read there was a condition of cross-laterality (e.g., left-handed but right-eyed, or vice versa), although it was also stated that there was no scientific evidence that this cross-laterality is the cause of the specific disability in learning to read. Could some more information be supplied as to the correlation of cross-laterality, and a simple experiment to detect the condition be indicated—such as would be possible to apply in a special school for dull children?*

A.—It is difficult to understand what is meant by centralized binocular vision. The question seems to be whether the people have straight eyes, in which case about 80% will have normal binocular vision, since statistics show that a very small percentage of people can maintain their eyes in a normal position without good binocular vision. If this is not so, then a squint is present, and this would be the same whether the patient is mentally deficient or not.

When binocular vision has not been developed, the dominant eye would be decided primarily by the refraction of the eyes. There is no evidence that right- or left-handedness has any real influence, in spite of an occasional case of left-handedness with a left master eye.

The possibility that a child may have diplopia could increase the difficulty of learning to read, but diplopia usually gives way to suppression of the second image, so that the child uses monocular vision. As no stereoscopic vision is required for reading, monocular vision cannot be accepted as a factor in the child's disability to read or write. "The image usually distorted towards one eye, thus making that eye dominant," suggests that the other eye in these cases either is amblyopic or is not accurately corrected with spectacles. A very careful refraction is necessary in mentally defective children, since the subjective test is of little value.

Shock and Haematemesis

Q.—*Has shock ever caused gastric haemorrhage?*

A.—It is assumed that "shock" is used to mean traumatic shock or wound shock. This may cause multiple focal lesions in the gastro-intestinal tract which are attributed to anoxic tissue necrosis secondary to vasoconstriction and which may give rise to severe bleeding. Emotional shocks may also be followed by haematemesis, more particularly in the patient who already has a chronic ulcer. This is because strong emotions are accompanied by extreme congestion of the gastric mucosa, as demonstrated by Wolf and Wolff (1943). Alvarez describes the case of an inventor who had six haematemeses in three years, each one associated with setbacks in the invention on which he was working.

Diphtheria Inoculation of Allergic Subject

Q.—*I vaccinated a baby aged 7 months. A week later he suddenly developed a severe urticarial type of rash and appeared acutely ill. The site of vaccination was normal and the arm not particularly inflamed, and I had no further trouble. The mother had asthma during her childhood, and she has another boy, who suffers from slight eczema of the hands and feet. The parents are anxious for the child, now 14 months old, to be immunized against diphtheria and whooping-cough, but are afraid of the possible reaction. Is this likely to occur with A.P.T. or with pertussis vaccine?*

A.—Allergic rashes after primary vaccination occur in a small proportion of children, and the family history in this case suggests that the allergic predisposition has been inherited. It would, therefore, be hazardous and unwise to give this child an injection containing an appreciable amount of a foreign protein: for example, if he were to develop diphtheria an injection of antitoxin might provoke a serious reaction or even prove fatal. On the other hand, the amount of protein in diphtheria toxoid is very small and immunization with A.P.T. should be a safe procedure. As a precautionary measure a preliminary Schick test may be done, and if there is a definite pseudo-reaction—i.e., a zone of erythema not less than 1 cm. in diameter at the sites of injection of both test and control material—immunization should be carried out cautiously, preferably with small frequent doses of formol-toxoid. The child should be under observation for 1 to 2 hours after an injection, and a hypodermic syringe charged with adrenaline kept handy. Immunization against pertussis, although very desirable, is still not sufficiently reliable to justify its recommendation in a child in whom the injection of a concentrated bacterial vaccine might elicit a rather sharp reaction.

Colostomy for Carcinoma of Rectum

Q.—*In cases of inoperable carcinoma of the rectum without obstruction, does a colostomy really give relief or does it only add another worry to the distressed patient?*

A.—In course of time a carcinoma of the rectum has an almost inevitable tendency either to occlude the lumen of the gut or to become ulcerated; sometimes it does both. When ulceration occurs sepsis comes in its train, and as a rule this is followed by a more rapid spread of the cancer. The performance of a colostomy well above the growth will prevent the supervention of obstruction, avoid the irritation of the growth by the passage of faeces, and so lessen the risk of haemorrhage, ulceration, and sepsis; it also enables palliative operations (such as the removal of portions of papillary growths or the application of radium) to be carried out in a cleaner field and with a better prospect of benefit. In growths which are already ulcerated the performance of a colostomy will often cause a great improvement in the local condition.

To a very small minority of patients the very idea of a colostomy is so repellent that they prefer to tolerate greater rectal discomfort to avoid this operation; with such patients the only absolute indication for colostomy would be severe mechanical obstruction. To most patients, however, the benefit of a properly performed colostomy outweighs its disadvantages, for if it be well cared for the patient can continue the ordinary avocations of life without undue discomfort.

Parathyroids and Calcium

Q.—*In man the parathyroids control the output of calcium from the store in the bony skeleton and maintain the constant level of the blood calcium. Is this parathyroid control found in all animals with bony skeletons?*

A.—The statement made in the question is correct for all mammals, although some experimental evidence suggests that the primary action is on the blood phosphorus.

Fitting of Smith-Hodge Pessary

Q.—*In fitting a Smith-Hodge pessary, would it be advisable in some cases to bend the upper end in such a way as to fit it in front of the cervix instead of in the posterior fornix? Would such a position be likely to cause trouble during menstruation?*

A.—The essential features of the Hodge pessary are its two curves specially designed to fit the vagina and the adjacent pelvic structure, and the rounded upper end to exert an evenly distributed pressure in the *posterior* fornix. It is used mainly in the treatment of retroversion, and the upward and backward pressure of its upper end on the vaginal wall *behind* the cervix, and on the overlying utero-sacral ligaments, holds the cervix backwards and thereby ensures that the fundus of the uterus will stay forwards. Although it is correct to adjust the length and width of a pessary to suit individual vaginae, if the curves were altered, and particularly if the upper end were placed in front of the cervix, the whole principle of the pessary would be destroyed. The same comments apply to the Albert-Smith pessary. If the idea is to bend the upper end of the pessary acutely forwards to form a loop to fit in front of the cervix and thus hold it backwards, then it should not interfere with menstruation. However, it is not likely to be so efficient mechanically as the standard Hodge or Smith pessary; it might cause the patient discomfort, and the sharp angles projecting into the posterior fornix might cause ulceration of the vaginal wall.

A Swallowed Button

Q.—*A girl of 11 swallows a button, without informing anyone of the event until three weeks have passed and without any indication of anything being wrong. Should an x-ray film be taken to see if it is in the alimentary tract, and if it is, what should be done?*

A.—A swallowed button of any shape or size should be allowed to pursue its way through the alimentary tract without interference from the medical attendant. There is, of course, no harm in satisfying natural curiosity as to the presence or position of the button by taking an x-ray photograph or by screening the abdomen, but in general the less fuss made about it the better. No harm is at all likely to come of it.

Value of a Drug

Q.—*I have prescribed syrup. hypophosph. co. and syrup. glycerophosph. co. for years. A new edition of a well-known book on therapeutics and pharmacology says there is no evidence that these preparations are of any value. Do you agree—apart from the psychological value of any "tonic"?*

A.—The statement in the textbook is that "there is no *evidence* that these preparations are of any value." It is one thing to say that preparations have no value, and another to say that there is no evidence that preparations have value. Syrup. glycerophosph. co. contains about 1/30 grain strychnine in a 2-drachm dose, and this alone will have some effect in promoting gastric secretion. Recently an investigation was made of the value as expectorants of the individual constituents of tinct. opii camphorata. To the surprise of the investigator a true expectorant action (of varying extent) was found to be possessed by every ingredient. But until this work was done "there was no evidence" that many of these ingredients had any value.

Climate and Tuberculosis

Q.—*Is the climate of Birmingham and Stratford-on-Avon likely to be deleterious to a tuberculous person, aged 60, accustomed to sea air and high altitudes (Davos) during the last 35 years? The patient had a mild attack 30 years ago (haemoptysis, positive sputum); no activity since. Skiagrams show "snow-storm" lungs and fibrosis and calcification, about one-third of the parenchyma being destroyed. For the past 35 years he has lived on the south coast; 14 years in general practice, 5 years in pathological laboratories.*

A.—Advice on suitable climates is always difficult. Many factors are involved. One recalls an elderly consumptive with extensive but non-progressive pulmonary tuberculosis and much bronchitis and emphysema, who could not live on the south-west coast but flourished at Skegness.

But one may generalize in this case, considering (*a*) that the pulmonary tuberculosis, on history, is unlikely to reactivate; (*b*) that the main dangers will come from bronchitis and emphysema and secondary epidemic catarrhal infections; and (*c*) that he has done very well on our south coast. The ideal climate should be: temperature dry and with the minimum of atmospheric pollution, such as is provided by South Africa at an altitude of 3,000 to 4,000 feet.

The patient has, however, done well in normal working environment on the south coast, and therefore it would be unwise to disturb this excellent result by a move to the less clement climate of the Midlands, especially if the move is into urban conditions. If the move is unavoidable, if the patient is his own master, much can be done by common sense: i.e., confinement to a warm fireside or even to bed during bad weather; avoidance of crowded places such as shops and cinemas during periods of epidemic catarrh, not forgetting the inevitable end of May and of September epidemics. The use of an "air-conditioned" bed-sitting-room can also be considered. During the winter such a patient usually knows when he wakes whether it is a "good" day or a "bad" day, and can plan his day accordingly. Wide-open windows in the winter should be eschewed. Ventilation and not exposure is the aim.

To sum up, treat the inevitable bronchitis and emphysema, or tendency thereto, and more or less ignore the underlying pulmonary tuberculosis.

Intestinal Antiseptics

Q.—*In the annotation "Intestinal Antiseptics" (*JOURNAL*, Feb. 3, 1945, p. 158) it is stated that "preparations which are not readily absorbed—e.g., sulphaguanidine . . .—are preferable to others which, being absorbed, may have deleterious effects on the kidney." In the* JOURNAL *of April 22, 1944 (p. 557), it was stated about sulphaguanidine that "when given by mouth two-thirds is absorbed from the gut before reaching the ileo-caecal valve, and that poor concentrations in the blood are due to rapid elimination in the urine and not to poor absorption." It is improbable that both statements can be correct, and it would interest me to know which one is the more accurate.*

A.—When sulphaguanidine is given by mouth about two-thirds is usually absorbed from the intestine. Consequently it is fairly readily absorbed (although less readily than most other sulphonamides, which are almost completely absorbed in the intestine), and the amount of sulphaguanidine requiring excretion by the kidney is practically as great as that of the other sulphonamides. On the other hand, sulphaguanidine and its acetyl derivatives are more soluble at the usual *p*H of urine—e.g., *p*H 6.8 (solubility of sulphaguanidine, 220 mg. per 100 c.cm. at 37° C., and of acetyl sulphaguanidine, 81 mg. per 100 c.cm.)—than are sulphapyridine and acetyl sulphapyridine (solubility approximately 50 and 30 mg.), sulphathiazole and acetyl sulphathiazole (130 and 12 mg.), and sulphadiazine and acetyl sulphadiazine (42 and 92 mg.). (See *J. Pharmacol.*, 1944, **81**, 17.) Sulphadimethyl pyrimidine (sulphamezathine) and its acetyl derivatives are comparatively quite soluble. Renal complications due to blockage by sulphonamide crystals are much less likely to occur during treatment with sulphaguanidine than during treatment with sulphapyridine, sulphathiazole, or sulphadiazine; nevertheless they have occasionally been reported in severely dehydrated patients—e.g., men with dysentery in a hot climate. Accordingly it is correct to state that sulphaguanidine is less dangerous to the kidney than many other sulphonamides are; but this smaller danger is due to its greater solubility rather than to its lower tendency to be absorbed.

INCOME TAX

Assessment of Practice here while Serving Abroad

"Q. X." was called up in November, 1942, and landed in India in May, 1943. A locumtenent was left in charge of his practice. The net profits of the practice—reduced, of course, by the earnings of the locumtenent—have fallen and the operation of the previous year's basis has resulted in demands for tax which have approximated to the amount of the profits. Can any relief be claimed?

⁂ Section 11 of the Finance (No. 2) Act, 1939, as continued by subsequent Finance Acts, provides for an adjustment "to the profits of the actual year where the actual earned income . . . is not more than four-fifths of the actual earned income as assessed for that year." This particular case is complicated by the fact that in ordinary parlance the "actual earned income" includes income—i.e., Army pay in India—which does not suffer British income tax. On that point the definition of "actual earned income" in subsection 7 (*c*) of the Section referred to above is relevant. That expression means "the amount of earned income that would be assessed and charged . . . if the amount were in all cases computed by reference to the actual income for that year and not by reference to the income for any other year or period." It will be seen that the emphasis is on the difference in basis, and the definition does not appear to us to justify importing into the comparison between "assessed" and "actual" income any income which is not liable to British income tax. On that basis the Section should provide the relief appropriate in equity to such a case as this.

Taking on a Partner

L. P. is selling a half share in his (sole) practice; how does this affect the basis of his assessment? He raises a further question as to what liability (if any) attaches to the new partner for the first year of the partnership.

⁂ (1) The assessment for this year will be made on the basis of the profits of the practice for the previous year—i.e., the normal basis. But if the profits of this year should fall short of the amount assessed the partners can claim to have the practice regarded as a new one as from the date of sale. In that case the assessment for the part of the year affected would be on the basis of the profits of the actual period. It will be seen that whether such an adjustment would be advantageous will depend on whether the increase in the gross earnings of the practice due to the advent of a second proprietor will be greater or less than the professional expenses incurred by that partner. Usually the advantage lies in allowing the previous year's basis to remain in operation. It is presumably understood that as from the date of the partnership the tax on the assessment is divisible between the partners—which normally operates in favour of the former proprietor.

(2) The previous year's basis of calculating the assessment applies to the practice and not to the individual partners. Assuming, for instance, that the new partnership started as from April 5, 1945, and that the accounts of the practice have been made up to December 31, then the position for the financial year ending April 5, 1946, will be as follows. The assessment, say, £3,000, will be divisible between the two partners on the basis of their shares in the practice, say, 2/3rds and 1/3rd, and they will be liable to account for tax on £2,000 and £1,000 respectively. The incoming partner does not get a tax holiday for his first partnership year.

Allowance for Ground Rent and Repairs

J. C. left his house in London five years ago, and no income tax has been paid on it since. He has been paying a ground rent of £45 a year and has expended £400 (apart from war damage) on repairs and maintenance. Can he claim an allowance for these payments?

⁂ *Ground Rent.*—If this rent is payable under a "long lease"—i.e., a lease granted for a term exceeding fifty years—J. C. was entitled to deduct tax from the rent under Section 17 of the Finance Act, 1940. In that case he might be well advised to inquire of the lessor whether he will now refund the tax which could have been deducted. (As the lessor is apparently entitled to exemption from tax he may then be able to reclaim the tax from the Revenue.) There is no other means by which J. C. can get any relief in respect of these payments. *Repairs, etc.*—The income-tax allowances are given against the tax payable on the property, and as no such tax was paid no relief can be claimed.

Salaried Appointment: Hotel Expenses

"X.Y.Z." held for a short time an appointment for which the remuneration was £700 a year, without board and lodging. His wife and children were living in another part of the country. Can he claim an allowance for the cost of his hotel accommodation?

*** No; the £700 is chargeable to tax, and the Income Tax Acts contain no provision under which "X.Y.Z." could claim a deduction for the additional cost of living resulting from his domestic circumstances and locality of the employment.

Return from India

J. B. returned from service in India, leaving India on July 6, 1944, from which date he received British pay at 24s. 6d. a day, increased by 2s. 3d. a day as from Oct. 18. What tax is he liable for in this country for the year ended April 5, 1945? He was married in May, 1945.

*** The calculation on the figures given is as follows:

	£	s.	d.	£	s.	d.
Amount of income (Service pay)	386	0	0			
Deduct uniform allowance	30	0	0			
				356	0	0
Less personal allowance (single)				80	0	0
				276	0	0
Of which £165 taxable at 6s. 6d.				53	12	6
and £111 taxable at 10s.				55	10	0
				109	2	6
Life assurance allowance, £54 at 3s. 6d.				9	9	0
Net liability				£99	13	6

Changes in Employment and Service in 1944-5

J. G. qualified in December, 1943, but his earnings for 1943–4 were below the exemption limit. From April, 1944, to August he earned £239 as a locumtenent and tax was deducted under P.A.Y.E. From Oct. 7 to the end of February, 1945, he served in the R.A.M.C. and tax was deducted at £7 per month. At the end of February he came on to Indian rates of pay. No refund of tax has been made to him since leaving civil employment.

*** The deductions of £7 per month by the Army authorities were evidently intended to be approximate, and subject to final revision—a revision which has not yet been made. In view of the fact that J. G. was not earning from the end of August to Oct. 7, it is practically certain that some repayment is due to him. Unfortunately tax offices are apparently at present in arrear with their work, and J. G.'s transference to the Indian Command may have caused still further delay in settling his British liability. A letter addressed to the Chief Inspector (Departmental Claims Branch), The Hydro, Llandudno, may help to expedite the matter. Full particulars of past employment and service in the R.A.M.C. should be given.

LETTERS, NOTES, ETC.

Patulin et al.

Mr. F. **BERGEL** writes: I read with interest your annotation "Pharmacology of Patulin" (*Journal*, June 30, 1945, p. 915). May I draw attention to a small error which occurred in your article. You say: "It appears to be identical with claviformin,[2] clavatin, and clavacin.[3]" Footnote 3 quotes: Wiesner, B. P., *Nature*, 1942, **149**, 356. I am afraid that this quotation does not contain any information as to the identity of the three preparations, but that the identity of claviformin with clavatin and patulin was published for the first time in a letter to *Nature*, 1943, **152**, 750, of which I attach a reprint. It would therefore have been correct to write footnote 3 after clavatin and to quote the above-mentioned letter to *Nature* under footnote 3.

Epilepsy and Menstruation

Dr. **MURIEL KEYES** (Harrogate) writes: For 20 years I was able to observe, unusually closely, a female epileptic; and detailed daily records were kept the whole of this time, *re* fits, emotional behaviour, and general health. Attacks did occur at other times, but they were most frequent just before or at the actual onset of menstruation; this was recognized by the patient herself and her attendant, also that any annoyance or emotional upset might provoke a minor or major attack. She was allergic to grass and flower pollens and the "tan" litter" used at horse shows, etc., and I often wondered whether either some allergy to one of her own hormones, or a temporary waterlogging of the pituitary, etc. (upsetting the normal cerebral circulation at a certain stage of the menstrual cycle) was the precipitating factor in attacks. Later, several patients with pre-menstrual distress and menstrual headache benefiting by treatment with ammon. chlor., I hoped to try this on a menstrual epileptic. In the gynaecological clinic of Mr. Alfred Gough I was permitted to treat such a case. A young woman, 35 years, reported with epileptic attacks of 6 years' duration, occurring only at the time of menstruation (which was preceded by painful breasts and pain in head). She was given 0.6 gramme of ammon. chlor. three times a day, starting on the fourteenth day from onset of each loss; as her periods are irregular (5–7-week intervals) she has to carry on from fourteenth day up to the onset of next loss; at this time no domestic salt or soda bic. is allowed. Beyond one slight fit in the first treatment course she has been entirely free of all "attacks" for 12 months, and this week reported to ask whether she might consider marriage. I am indebted to Mr. Gough both for the opportunity of treating this patient and for permission to publish the case. (See "Any Questions?" March 17, 1945, p. 396; and notes on April 7, p. 504, and May 26, p. 758.)

Sterilizing Paraldehyde

Mr. T. D. **WHITTET** (pharmacist, Charing Cross Hospital) writes: In the reply to the question on the sterilizing of paraldehyde (June 9, p. 829) it is inferred that paraldehyde cannot be sterilized by autoclaving. In a paper by Marston and Allchin (*Pharm. J.*, Nov. 7, 1941, p. 152) the following points were established: (*a*) Whilst paraldehyde is strongly bactericidal to non-sporing organisms, its action against sporing organisms such as the *Clostridia* is very slow, and hence paraldehyde for parenteral injection should be sterilized. (*b*) Paraldehyde can be autoclaved at 130° C. for 30 minutes without appreciable decomposition. (*c*) Paraldehyde for injection should be issued in glass ampoules since it attacks rubber caps. I have prepared several batches of paraldehyde ampoules and have tested them by the *B.P.* methods after sterilization and confirm the results published in the above-mentioned paper.

Fate of a Threepenny Bit

Dr. **NORMAN FLOWER** (Yeovil) writes: This record of a complication following an emergency caecostomy may well be unique. At the operation the caecum could not be delivered in order to build up a satisfactory "bottle-neck." A de Pezzer catheter, with the terminal cone cut off, was introduced. Drainage was good for the first few days, but gradually deteriorated in spite of constant syringing, and there was also a tendency to leak alongside the tube. The catheter was troublesome to withdraw, but with steady traction it suddenly came away with a jerk. Examination of the catheter at once revealed the cause of the obstruction. Snugly fitted into the cup of the de Pezzer was a black and very corroded silver threepenny bit, which had been exerting a pronounced valvular action. The patient admitted that he well remembered occasions on which all the threepenny bits in the Christmas pudding had not been accounted for!

Management of Persistent Occipito-posterior Presentations

Dr. A. H. **MORLEY** (Mill Hill, N.W.7) writes: There can be no doubt that the best treatment of this most disconcerting complication of labour is manual rotation to an anterior position of the occiput, usually followed by the application of forceps, but this may fail or, on occasion, be impracticable. Is there any means of minimizing or preventing extensive perineal laceration caused by the arrival of a head "face to pubes"? I suggest that there is. One most noticeable feature of this type of case is the refusal of the head to remain "crowned." It slips back in an aggravating manner between the pains. If, when the head is nearly crowned, a pad is applied to the stretched rectum the head can be "held," and during the interval between the pains appropriate pressure forwards will slowly deliver the head. In a recent case so delivered there was no tear, external or internal, though the child weighed 7¾ lb. The point I wish to make is that it is an obstetrically sound procedure, as it promotes *flexion*, and consequently tends to produce a smaller diameter for the vulva, if one is dealing with an occipito-posterior position. Conversely, it is a procedure to be avoided in a normal delivery, as it encourages extension and a large diameter.

Treatment of Plantar Warts by Injection

Dr. H. N. **ROSE** (Ilford) writes: The present accepted methods of treatment of plantar warts are: (1) repeated applications of caustics or caustic plasters; (2) curettage; (3) carbon dioxide snow; (4) *x*-ray application. None of these is consistently successful. Repeated applications of caustics are tedious and often painful. Curettage and carbon dioxide snow may prevent walking for several days, and facilities for *x*-ray treatment are not always easily available. During the past eight years over 120 cases of plantar warts have been treated successfully by a simple method of injection, not, I believe, previously described. A solution of 5% phenol is injected by means of a dental anaesthetic syringe and needle. An ordinary hypodermic syringe and needle does not develop sufficient pressure on injection to overcome the resistance of the tissues. After cleansing the skin and wart with ether, the needle is inserted intradermally into healthy skin about 3 mm. from the edge of the wart and thence into the deep portion of the wart. A total of 3 to 15 minims of the solution is injected, dependent on the size of the wart. In a large wart it is beneficial to perform several circumferential injections. When seen after 7 days the wart has shrivelled in size and is of bluish-black colour. After 3 to 4 weeks it has completely disintegrated.' If too much solution is used some may infiltrate below the wart or escape externally. In the former case a blister develops. This may cause slight discomfort on walking but has no effect on the ultimate result. The pain which most patients experience on walking is usually abolished by the injection. This method has also been successfully employed in cases of warts on the hands and fingers, including the flat warts which occur on the skin at the sides of the finger-nails. The mode of action of the injection may be due to any or all the following factors: (1) tissue necrosis of the wart, caused by the local toxic effect of the solution; (2) tissue necrosis of the wart by the disruptive pressure of the injection; (3) thrombosis of the wart's vasculature; (4) destruction of the causative virus by the antiseptic action of the solution. The successful use of other solutions is matter for research.

Chloroform Anaesthesia

Col. G. S. **THOMSON**, I.M.S.(ret.), writes: As I have only recently returned as, *en route*, specialist surgeon in charge of 797 "priority" evacuees, I am reading back numbers of your valuable *Journal*. In the issue for Feb. 19, 1944 (p. 263), are two letters on anaesthesia misadventure incriminating chloroform. The writers are young enough to omit all reference to India's magnificent Nizam of Hyderabad's Commission of Inquiry thereon. At the request and by the suggestion of Major Percy Benson, I.M.S., resident surgeon and medical adviser to the Nizam, Sir Lauder Brunton was invited to Hyderabad as chief investigator. The "open method" was in use successfully there for years; it involved no elaborate apparatus or technique: just a cone of sterile, stiff cardboard paper, one inch in diameter, open at its apex, with a 2-oz. plug of cotton-wool secured in position with a safety-pin. The anaesthetist kept a tongue forceps in the left lapel of his clean, white gown, poured one drachm of chloroform on the plug of wool, told the patient to count up to twenty and take deep breaths. In my 37½ years in India with 2,500 midwifery deliveries under the "open method" I lost only one European mother 5 hours after delivery due to embolism; she was a primipara, aged 25, of good physique, at full-term and had been six hours in labour. Chloroform enabled me to perform 106 suprapubic stone extractions with only one death—the 106th.

Acupuncture

Dr. T. **STACEY WILSON** (Birmingham) writes: In the reply given in the *Journal* of July 7 (p. 34) to a question about acupuncture no reference is made to the value of this method of treatment in certain cases of sciatica. Fifty years ago, when I was one of the honorary physicians at the Birmingham General Hospital, acupuncture of the sciatic nerve where it is palpable at the back of the thigh was a recognized method of giving relief to certain cases of sciatica. When the sciatic nerve is not only abnormally tender but can also be felt to be somewhat swollen and hard, there is a probability that the nerve sheath is distended with inflammatory exudation. In such circumstances the transfixion of the nerve with a large-size round acupuncture needle will allow the fluid to escape and give relief from pain. It was usual to allow the needle to remain *in situ* for 15 or 20 minutes in order to lessen the rapidity with which the opening in the nerve sheath would close after the withdrawal of the needle. When an inch or more of the sciatic nerve was felt to be swollen and hard two needles could be inserted three-quarters of an inch apart instead of only one. The relief given was so definite that if the pain recurred within a day or two the patient would ask for a repetition of the treatment. This method of treating sciatica had the advantage of making clear a case of malingering, for such a patient would not run the risk of having a repetition of the treatment.

Resuscitation after Drowning

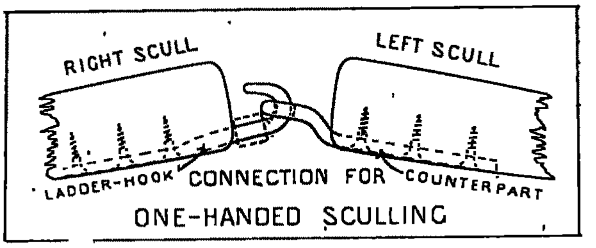
Dr. **JOHN YATES** (Cockfosters, Herts), writes: I have come across the following passage in *The Vicar of Morwenstow*, by S. Baring-Gould (published 1876). It describes the attempted resuscitation of a member of a shipwrecked crew. "We succeeded in getting hold of him at last, and brought him ashore. Unfortunately there was no doctor by, or any one who was experienced in dealing with cases of drowning. We did as best we knew, following the old usage of throwing him across a barrel." Is this a method of artificial respiration by rocking?

Relief of Tinnitus

Dr. G. C. **CATHCART** (London, W.1) writes: In the *Journal* of June 30 (p. 934) a correspondent asks a question concerning the treatment for relief of "noises in the head." The answer given was to try a course of short-wave diathermy coupled with the use of nicotinic acid and the usual sedatives. I have a short-wave diathermy machine and have given it a fair trial with no good results. I have also tried nicotinic acid and the usual sedatives with equally no good results. In the 2nd edition of my book, *The Treatment of Chronic Deafness by the Zünd-Burguet-Electrophonoide Method*, out of 665 cases of deafness there were 230 cases of tinnitus or "noises in the head," of whom 158, or 68.7%, improved after treatment. In 1934 I published an account (*Proc. roy. Soc. Med.*, **27,** 897) of 7 cases of deafness and tinnitus with relief of the deafness in every case and cessation of the tinnitus in 6 cases—a percentage of 85.

Sculling for One-armed Men

Dr. **PERCY TATCHELL** writes: Experiments on the Thames have shown that it is feasible for a man who has lost an arm to row two sculls. The plan adopted is to connect the scull handles together with a strong hook and eye (see diagram). The user rows one oar in the ordinary way, the other is a trailer, and dips and feathers in unison with the master oar. The leathers, well greased, draw in and out on the sills. Steering is effected by moving the hand to the side, thus lengthening one oar and shortening the other, the buttons having been removed. The eye should be on the sound side.



Ergot and Abortion

Dr. **ARTHUR J. AMBROSE** writes from Paignton: In the report on disciplinary inquiries made by the G.M.C., published in the *Supplement* of June 9 (p. 105), occurs the following statement: "He gave liquid extract of ergot and this failing he inserted an instrument." Years ago the late Dr. G. E. Herman, author of that classic *Difficult Labour*, also wrote a less-known work, *Diseases of Women*, in which he stated that ergot did not cause abortion. I attended many women in full-term labour who told me they had taken ergot in unsuccessful attempts to terminate pregnancy—so my experience coincides with Herman's. But apparently magistrates, coroners, expert pathologists, and the G.M.C. think differently, as I heard a London coroner and a distinguished pathologist concur in this opinion. Legally if anybody administers any drug with the intention of procuring abortion he is guilty of a felony; but if the drug be one that has been proved to be ineffective, surely it ought not to be included in the list of abortifacients, and I should like to hear the opinions of expert pharmacologists and gynaecologists on this subject. It is not generally known that salicylate of soda—although it has no action on the pregnant uterus—is extremely useful in cases of delayed menstruation, relieving the pain and anxiety of a patient who erroneously thinks she is pregnant by establishing the flow. Incidentally, sod. sal. relieves "after-pains."

Fluorine in Toothpaste

Capt. **LINDSAY H. WALKER**, S.A.M.C. (Transvaal), writes: In "Any Questions?" (March 10, p. 355) a question appeared under the heading "Fluorine in Toothpaste," which referred to a leading article on fluorine and dental caries (April 1, p. 461). The questioner queried the danger of mottled enamel appearing from excess fluorine, and the *Journal* commented on the fact that this does not occur after calcification of the teeth is complete. Surely the most important fact is that excessive fluorine after dental calcification is complete leads to precipitation of calcium salts in joints and tendons with eventual ankylosis, as has been demonstrated in this country among both European and Bantu subjects exposed to daily ingestion of fluorine in drinking-water. The article by L. Spira, "Some Epithelial Changes in Fluorosis" (*J. Hyg.*, Camb., 1944, **43,** 400), should surely cast some doubt on the advisability of adding fluorine to such an everyday article of "diet" as toothpaste, and perhaps also bring into question the proposal to add penicillin, or any other product (natural or otherwise) to toothpaste, throat tablets, etc.

Reviving the Newborn

Dr. A. P. **GREEN** (New Malden, Surrey) writes: When I was a student at University College Hospital some thirty years ago we had a most useful way of promoting breathing in newborn infants. The procedure was to dip the forefinger in brandy and insert it up the baby's rectum. The effect is quite dramatic.

Local Sulphonamide Therapy

Capt. P. K. **RENSHAW**, R.A.M.C., writes: With reference to your answer to a question on local sulphonamide therapy (June 9, p. 830), may I draw attention to the following articles which suggest methods of desensitization and prevention of sulphonamide sensitivity: Erskine, D., *Lancet*, 1942, **2,** 568; Tate, B. C., and Klorfajn, I., ibid., 1944, **2,** 553.

BRITISH MEDICAL JOURNAL

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PROBLEMS OF NAVAL WARFARE UNDER CLIMATIC EXTREMES*

BY

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PART I.—LECTURE I

In these lectures an attempt will be made to show how medical research, especially during this war, has assisted the Royal Navy in its function of engaging the enemy in every type of climate. My task is rendered difficult by the fact that for considerations of security one is debarred from referring to the very numerous and important researches which have been prosecuted since the war began. These lectures, therefore, stripped of the names and labours of the many research workers in Australia and the United States, as well as at home—especially in the Medical Research Council—will appear, for that reason, bald, discursive, and unscientific. The full story cannot yet be told.

Prevention of tropical and cold-weather disorders will not be discussed, for it is intended to concentrate on three climatic aspects of naval medicine—namely, (1) naval construction; (2) clothing; and (3) efficiency. Under the first heading will be discussed how naval architects enable a ship's company to tolerate both high and low temperatures. This section will also deal with such problems as the cooling of ships, ventilation, and, in short, general habitability. The second heading will concern the modern science of clothing as an ideal means of protection against environment—"ideal" when one is mindful of the Service restrictions imposed by considerations of appearance, ruggedness, and economy in bulk. Lastly, one will discuss the impairment of efficiency under unpropitious environmental conditions; the subtle ill effects which are attributed to long service in polar or tropical waters; the selection of those best fitted to stand up to Arctic or tropical service, and the early identification of those inherently unsuited for duty under such stresses.

On looking back over naval medical history, it is clear that the sea-surgeons of Great Britain during the eighteenth century were in many respects well ahead of their colleagues ashore and that their observations were pioneer efforts in preventive medicine. But in the nineteenth century the French marine was conspicuous not only in the early adoption of steam and of ironclads but by reason of its hygienists. One recalls the excellent work of Fonssagrives and of Méricourt in this connexion and their great interest in the increasing problems of ventilation. But, all along, naval medicine can be visualized as the closest approximation to what we now choose to call social medicine, for in the Service the total environment of our personnel comes under the closest study and care of the medical branch.

NAVAL CONSTRUCTION

Ventilation has always constituted a difficult problem in ship construction. In the early days seamen relied upon natural ventilation, which later was made to supply spaces below decks by means of wind-sails and scoops, down-take shafts or "aspiratories," to which was afterwards added a system of uptakes. Artificial ventilation eventually becomes imperative. While Desagulier's fans were being installed in the House of Commons in 1734, attention was drawn to the heavy sickness rate in the fleet at Spithead. To combat this it was suggested that the Desagulier system should be incorporated within one of the ships, but the idea was turned down by the Naval Surveyor.

About that time a Mr. Sutton became interested in marine ventilation, but could not secure the sympathy of the authorities. "*I particularly remember,*" he wrote, "*that being at a coffee-house near the Admiralty, I placed myself nigh some gentlemen of the Navy, and inquired of them, as I had before of others, as to the usefulness of a change of air; all, to a man, acknowledged it would be of the utmost service. I told them I could procure it; upon which one of the company went to another table and the rest followed him; and I heard him tell the others that he heartily pitied me, as being really mad and out of my senses.*" Within a few years, however, Hales's bellows ("ship's lungs") were used to circulate air throughout naval vessels. Various other mechanical systems were tried, including some which worked automatically with the roll of the ship. By 1873 the plenum principle had been introduced into monitors, and though reported upon unfavourably by Surgeon McCarthy, became adopted as the basic scheme for ventilation throughout ships of the Royal Navy.

It is obvious that both naval and civil engineers were preoccupied at that time with the question of odours from stagnant water in the bilges and vitiation of the air from animal exhalations and fumes and gases of various sorts. Later they spoke in terms of CO_2. Only to a lesser degree was humidity considered, while the temperature of the environment was rarely, if ever, discussed.

Ventilation

The 1910 conference on tuberculosis in the Royal Navy led to an Admiralty Committee on Ventilation, which submitted its final recommendations in 1914. A minimum supply of 3,000 cu. ft. of air per man per hour was required. As an index of adequacy of air supply it was enacted that samples of air from any living-space must always contain less than 0.12% CO_2. Cubic space should not be less than 20 cu. ft. per man in sleeping-spaces, with a gap of not less than 20 in. between hammocks. A temperature of 55 to 60° F. was aimed at for living-spaces in cold weather. But the inter-wartime period was one of great mechanical achievement, so that the expansion in both matériel and personnel always outpaced the adequacy of air supply. It was evident that some of the standards set could not in practice be attained. In 1937 it became necessary to appoint a further Ventilation Commission. As the desired 3,000 cu. ft./man/hr. had proved unattainable, they tried for a standard 2,000 cu. ft., insisting that the volume should never be less than 1,500 cu. ft./man/hr. (i.e., a change of air every five minutes). They found it impracticable to lay down a definite minimum cubic space per man in sleeping-quarters, but advised that there should be a distance of at least three feet between the mouths of the sleepers. This could be obtained in the case of hammocks by slinging alternately head to foot. The use of punkah louvres, which had gradually come about since 1912, was approved; but for cold weather (when the openings were often sealed), an additional relief vent, suitably baffled, was suggested. Mess-deck temperatures of between 60 and 65° F. were recommended for cold climates. The committee was concerned with the obvious inefficiency observed in cordite-handers under action conditions during the Mediterranean summer and the improvement when coolers were installed. The inference, however, was that cordite fumes were responsible, and coolers were advised only as an interim measure until some kind of non-porous containers for the cordite charges could be issued. Air-conditioning was discussed and was envisaged as beneficial, but, because of size, weight, and cost of the plant, was not regarded as an essential requirement.

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* Being the Croonian Lectures delivered to the Royal College of Physicians, July 10 and 12, 1945.

With the onset of this war the recommendations of the second committee became out of date. Conditions within living- and working-spaces changed for the worse. All ships now carry a complement far exceeding the original design, in some cases by as much as 60%. Ships remain at sea for inordinate periods, and operational needs dispatch them to regions where extremes of climate add to the discomforts, unlike the peacetime cruising practice. Darkening ship demands a sealing of all scuttles after nightfall. The menace of air attack necessitates additional high-angle armament and radar equipment, which all means more men. Dangers of fire led to the removal of woodwork, and hence the sacrifice of the lagging or insulating lining of the ship's sides. (This is a practice which has come and gone according to the fluctuating policies of the last 60 years at least.) Finally, the risk of losing the vessel from rapid flooding after enemy action has been met by an elaborate system of "damage control" whereby the ship, immediately action is joined, is divided into a large number of air-tight and water-tight compartments. As soon as a ship enters dangerous waters it is battened down and hermetically sealed, the personnel standing by at first or second degrees of readiness. Ventilation suffers drastically. Indeed, in some compartments, such as the magazines and shell-handing rooms, circulation of air ceases. A steady rise of temperature follows, which in the Tropics may attain potentially dangerous levels.

Hence there arises a clash between two conflicting policies. On the one hand there is the operational need for keeping a ship afloat even after severe underwater damage. To effect this, damage control aims at converting the ship into something like a honeycomb. On the other hand there is the hygienist's concern over the personnel and their discomforts, the menace to their health, and the toll on their fighting efficiency.

First among the defects of habitability that accrue from battle conditions during this war are the *high temperatures* below deck, especially in the Tropics. Even in cold climates mess spaces tend to develop a temperature well above that outside, and a man coming off watch on the bridge passes from extreme cold to an atmosphere of hot, moist, and stagnant air. In the Tropics the conditions are worse. With an ambient air temperature of 85 to 100° F. (dry-bulb) the compartments where men work, eat, or sleep reach temperatures around 85 to 95° F. (wet-bulb). Consequently men strip except for shorts and sandals. Sweating continuously and profusely, most of them develop prickly heat, and often superadded septic or fungous infections.

Even more significant than raised temperature is *high humidity*. This feature may be conspicuous even in the Arctic, where the internal warmth, contrasting with the icy-cold uninsulated ship's sides, causes water of condensation to stream down on to the deck. Added to this is the moisture from wet duffel coats and oilskins which hang up to dry in the mess-decks. The question of humidity has exercised the medical branch for years, for cleanliness demanded frequent washing and holystoning of the decks, and this by evaporation produced a high water content of the air. To-day the question mainly turns on the lack of drying-spaces, with the result that wet garments are constantly hanging in places where men sleep. In the Arctic it is the wet top gear which is at fault; in the Tropics the shorts and singlets, which require at least daily dhobying.

Overcrowding from expansion in ships' complements may be endurable in the Arctic, as the heat engendered helps to warm the air. But in the Tropics it is a serious matter, affecting comfort as well as health. The cubic capacity allotted to a man may be far below the old minimum standard of 200 cu. ft. As many as possible sleep on the weather-decks, but this is usually impracticable at sea. At action stations working-spaces are grossly congested, and gun turrets, radar and wireless cabinets, transmitter stations, and so on may be crowded with personnel on watch, standing by, or dozing.

In cold climates there is the problem of *exposure* of watch-keepers. Men on look-out, on the bridge, or in control tops may be unprotected against driving sleet, high winds, and temperatures far below zero. How to keep alive—let alone alert—is not an easy problem.

All these are medical considerations which tie up with inadequacies in ship construction. Though far from novel, most have been greatly increased by the changing trends in modern naval warfare. That is why no serious attempt has been made to correct these defects until recently.

To investigate the problems in the widest fashion, and to justify any sweeping changes which may seem called for in the construction or ventilation of fighting-ships, the Admiralty in 1943 requested the R.N. Personnel Research Committee to appoint a Habitability Subcommittee. At once gaps in our knowledge became evident. There is the question of whether efficiency falls as environmental temperature and humidity rise, and of whether any such change is a progressive one. It was actually quite difficult to furnish the required answers or to make recommendations. The wide ranges of climate mean that naval engineers would have to raise the interior temperatures considerably in the Arctic, and lower them—if possible—in the Tropics, in order to maintain the efficiency of the personnel. Too exacting requirements on the part of the medical branch run the risk of being rejected out of hand as unreasonable. Moreover, there was the question of what we should use as a yardstick to measure habitability: should we speak in terms of dry- and wet-bulb temperatures, atmospheric humidity, katathermometer cooling power, or effective temperature?

This last seemed most promising, for it accords with modern ventilation practice, and embraces both dry- and wet-bulb readings and measurements of air movement. There are certain weaknesses, however, in the conception of effective temperature. It does not allow for acclimatization. It does not cater for men engaged in physical work. It is an empirical standard drawn up from the work of a relatively small series of Americans, whose ideas of environmental comfort might not be ours. Its validity in the higher ranges of temperature and air velocities has been impugned. The chief drawback is that it is inapplicable when there are sources of radiant heat—which actually is a characteristic feature in warships.

On the advice of Dr. T. Bedford, the Habitability Subcommittee has provisionally adopted Vernon's "globe thermometer" for use in ships, as it can be employed for measuring the radiant heat from the surroundings. Globe-thermometer readings, therefore, replace dry-bulb readings in the effective temperature charts, and the result is spoken of as "corrected effective temperature" or (C.E.T.).* Air velocities are determined by means of the silvered (high-temperature) dry katathermometer.

To comply with the standards of the Habitability Subcommittee for ships serving in the Tropics considerable changes might be required in the methods of ventilation. In new ships, and ships still on the stocks, drastic changes might be feasible, but in those already commissioned, and especially in the older ones, it is more a question of "patching up," as operational requirements take precedence and the ships cannot immediately be spared for dockyard hands. Some of the changes in mind could be made immediately; others would have to wait until the opportunity arose for a refit; others were still for the future.

The terms "tropicalization" and "arcticization" of ships are sometimes applied to the measures adopted to render vessels habitable in extremes of heat or cold. Though the methods are of recent origin, the idea is an old one. For many years special ships have been constructed for polar expeditions. "Tropicalization" would seem to be a newer conception, but we find the project being undertaken as long ago as 1740, when Commodore Anson made structural alterations in a squadron for the Pacific; and in 1841, when Dr. David B. Reid and Captain H. D. Trotter built ships for the Niger River exploration with extra ventilation and the introduction of "medicators."

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* The effective temperature scale is referred to the standard conditions of still and saturated air, so that the effective temperature of an environment indicates the temperature of still air saturated with water vapour, in which an equivalent sensation of warmth was experienced in a long series of tests. When the reading of the globe thermometer is used to arrive at the corrected effective temperature (thus applying a more or less adequate correction for radiation) the standard of reference is an environment in which the air is still and saturated with water vapour, and in which the surrounding surfaces are at air temperature.

The *Victor Emmanuel* was the first hospital ship to be specially equipped for tropical service during the Ashanti War.

Air Conditioning

Chief among the items envisaged in modern tropicalization and arcticization are: the installation of air-conditioning plant; a return to the practice of lagging or sheathing; more extensive insulation of steam-pipes and other heat-producing machinery; reduction in C.E.T. by drying the air or by increasing air movement; the correction of the more obvious faults in the siting of intakes and exhausts (faults which had often resulted from structural alterations long after a ship's commissioning); and, finally, a general indoctrination of naval officers of all branches in matters pertaining to ventilation and habitability.

Air conditioning might appear at first sight to be the complete answer to all these problems, for incoming air is automatically cleansed, dried or moistened, warmed or cooled, as required. The problem bristles with difficulties, however. Air-conditioning plant is scarce, bulky, and heavy. Even were sufficient apparatus available for immediate installation, it would occupy so much space in a ship and add so much to the weight that fighting efficiency would suffer. Thus, to air condition a warship might require a great deal of extra weight and space—perhaps as much as a heavy gun and its turret—as well as several extra hands. This addition to an already congested ship means the sacrifice of some part of the existing offensive or defensive equipment. Whether such a policy is a business proposition which will pay dividends in the way of enhanced human efficiency is still a matter of conjecture rather than knowledge.

If one compromises by adopting air conditioning only in certain regions of a ship a fresh problem arises as to which spaces should be so equipped. Is it better to cool the working compartments (in order to ensure vigilance and accuracy) or the mess-decks (to afford a refreshing spell of sleep before the hands go on watch)?

There are other medical and paramedical problems. If air conditioning is to be the rule, what standards of temperature and humidity should be adopted with reference to the outer air? The phenomenon of "cold shock" is known to occur on passing abruptly from a tropical climate into a much cooler environment—as, for example, on entering a cold-storage room. An undue dryness of the inspired air is believed to produce an unhealthy state of the mucous membranes, as in the case of American railroad employees. Again, are ill effects to be expected from changing many times daily from one sort of environment to another? Thus, are upper respiratory infections facilitated by frequent changes from a hot humid to a relatively cool dry climate, or vice versa? What is the effect upon the process of acclimatization? Can it be that men conditioned to a tropical climate suffer as the result of a sojourn of some hours daily in an air-conditioned room?

Even more important is the risk that re-circulating air may increase the incidence of air-borne disease, quite apart from the possibility that an artificial climate may alter the virulence of droplet infections or the relative immunity of the occupants, or both. The use of chemical disinfectors or ultra-violet treatment of the incoming air needs careful thought.

Cooling or heating the incoming air may of course turn out not to be the ideal for naval purposes, and possibly the so-called "radiant reflective conditioning" might prove better. In this system the air is unaltered, but specially cooled (or heated) panels let into the bulkheads bring about the necessary thermal change in the occupants. This practice has not yet been tested in ships.

Some of these questions are, or will be, the subject of specific inquiry in our research laboratories in this country and those to be erected in the Tropics. Nevertheless we believe we have been justified in installing cooling plant in certain places in certain ships. As regards the temperatures at which they are maintained, we believe the tendency is to keep them too cool. It is rarely necessary, or indeed wise, to reduce them below an effective temperature of 78° F. (with a high outside temperature). An alternative ruling is to accept no more than 10° F. difference in temperature between the treated and the untreated air; or to adopt the Mayer-Fittz formula. The last word on this subject is still to be said.

Interim reports on air-conditioned compartments are most encouraging, though scientific data as to output and efficiency are not yet available.

Reducing the dry-bulb readings is only one way, of course, of lowering effective temperature, and something might be done in this direction either by decreasing the humidity or by increasing the movement of the air. The former can be brought about by means of various types of dehumidifiers or by silica gel desiccators. Both methods are used in the Service for the drying of certain compartments, and the practice has materially extended since the war. Both systems have drawbacks which prevent them from being adopted more generally, not the least being the fact that the act of withdrawing moisture from the air in itself generates heat.

Increasing the air movement is a much more practicable means of reducing effective temperature, and the improvement in comfort and efficiency is beyond what might be expected from the change in effective temperature. In H.M. Ships air movement is obtained below decks first by the blower system of ventilation and secondly by means of table, bracket, or punkah fans. In the blower system air is driven along trunks by means of electric fans and injected into the compartment by way of punkah louvres. This is in effect a miniature "spot-cooling" system, which on a larger scale proves so successful in making engine- and boiler-rooms tolerable despite the very high temperatures. In some locations—e.g., machinery spaces, galleys, heads—there is a forced-exhaust system, but elsewhere the peacetime practice was to rely upon natural means of exhaust—i.e., hatches and scuttles. Since this war, however, these natural vents are sealed.

The obvious way to improve habitability in ships under wartime conditions, especially in the Tropics, would be an increase of the air flow in volume and velocity. This would be an easier task than to cool the incoming tropical air to tolerable levels. Greater air movement could be obtained by increasing the size, the number, and the speed of fans in the trunkings; by providing more table, bracket, or punkah fans; and by installing exhaust fans in those compartments which used to rely on natural vents.

Other Methods of Increasing Habitability

Other methods of increasing the habitability of ships in climatic extremes may be mentioned briefly. The great sources of wild heat must be shut off from the rest of the ship by means of thermal insulation. The risk of fire precludes the use of wood except to a limited extent. Newer insulating materials have been introduced with various advantages. Hawkyns used a layer of tar and hair between two layers of wood—a practice which lasted till the end of the eighteenth century. The aluminium foil which is the most usual intermediate layer can now be replaced by far lighter plastics which are non-inflammable. These plastics still require an inner sheathing, however. A more extensive use of cork would combine the properties of thermal insulation with protection against the spread of fire. One of the most difficult regions of a ship to render habitable is a gun turret, which in the Arctic is bitterly cold, with its masses of steel and its water of condensation, and which in the Tropics is almost intolerable by reason of solar radiation. An attempt at a solution of the problem lies in the use of layers of cork inside the turret.

The sheathing of steam-pipes is being improved, especially where they traverse mess-decks. Steam leads, which add so much to the atmospheric humidity below decks, require stricter sealing.

The choice of appropriate colours in painting the hull and superstructure of ships is a problem of camouflage, but it has a medical bearing also. In the Tropics white paint reflects solar radiation best of all, while black absorbs most heat. Black pigments do not all behave alike, however, and radiation studies reveal that the composition of the paint may be as important as the colour as regards its reflection and absorption of infra-red radiation. Thus aluminium paints are the most efficient reflectors of the sun's rays.

Artificial lighting of the mess-decks contributes to the final temperature. Two 60-watt lamps produce rather more heat than one resting man. It is possible that fluorescent lighting might render a mess-deck cooler in the Tropics. Modern improvements do away with the disadvantage of the former feeling of the blue colour.

There is also the point whether the colour of the sides of the mess-deck has any effect upon the *feeling* of warmth or of coolness, even though this may operate through suggestion only. It has been the tradition to paint the interior of sick-bays a pale green in tropical-going ships. F. C. Houghton, H. T. Olson, and J. Suciu found no objective change in skin temperatures in different coloured environments, but they affirmed that occupants might experience a subjective sense of warmth or of coolness in the presence of this colour or that—which, from the human standpoint, is significant.

Body-cooling in hot atmospheres may be obtained by adequate draughts of cold water; in any event the need for drinking, over and above the call of thirst alone, is important for maintaining mental and physical efficiency in high temperatures. There is a rationale, therefore, for supplying cooled drinking-water in working- and living-spaces, though the American habit of iced water may not be a physiological ideal. Whether the water should contain salt or oatmeal needs closer investigation.

Lastly, the innovation of laundries in H.M. Ships has much to recommend it, not only because they promote cleanliness (and so avert skin infection) and avoid the wearing of sweaty garments (which aggravates prickly heat), but chiefly because they abolish wet garments from the mess-decks. There is the point, too, that sweat-soaked garments will not readily dry except in an atmosphere of extreme desiccation—a condition which does not obtain in the mess-decks.

(*These lectures will be continued in the issue of Aug. 11 and completed in that of Aug. 18*)

BACTERICIDAL EFFECT OF MIXTURES OF ETHYL ALCOHOL AND WATER

WITH SPECIAL REFERENCE TO STERILIZATION OF THE SKIN, AND A NOTE ON THE COMPARABLE EFFECTS OF ETHER

BY

G. T. L. ARCHER, M.B., B.Ch.
Lieut.-Col., R.A.M.C.

Although much work has been done by a number of observers on the antibacterial effects of alcohol on the one hand and on the value of various substances as sterilizing agents for use on the skin on the other, agreement would appear not to have been reached regarding the optimal dilution of alcohol for use on the skin before puncture or surgical incision. Precision on two points is necessary for a final assessment: first, percentages of alcohol in water should be accurately defined in respect of any observations made; and, secondly, the requirements of a fluid for use on the skin should be considered in terms of its physical properties as well as its bactericidal power. Further, due consideration must be given to the bacterial species which it is most necessary to eliminate.

Percentages of Alcohol

For scientific accuracy it is probably desirable that the strength of an alcohol mixture should be recorded as percentage by weight. On the other hand, under ordinary conditions the preparation of volumetric percentages can more readily be carried out. There are appreciable differences in the strength of mixtures produced by (*a*) making up a measured volume of alcohol to a total volume by the addition of water; (*b*) making up a measured volume of water to a total volume by the addition of alcohol; and (*c*) mixed measured volumes of the two fluids. These differences are due to concentration during admixture. The *first* is the correct percentage by volume. The following figures, calculated from tables given in *The Chemists' Year Book, 1942*, illustrate the differences in strength between solutions made up by the methods referred to:

(1) 76% by weight is approximately equal to 82% by volume, at 60° F.
(2) 70% " " " " 77% " " "
(3) A mixture made by making up 30 parts of water to 100 parts by the addition of alcohol is approximately equal to 73% by volume.
(4) A mixture made by the addition of 30 parts of water and 70 parts of alcohol is approximately equal to 72.5% by volume.

Physical Properties of Alcohol-and-Water Mixtures

From a practical point of view *surface tension* is probably among the most important variable characteristics of alcohol-and-water mixtures. It is likely that low surface tension is the factor mainly responsible for the improved spread (Bonney and Allen, 1944), penetration (Lovell, 1945), and complete wetting observed when alcohol is used on the skin. The variation in surface tension which occurs as alcohol is progressively diluted with water is illustrated by the following experiments. It was also apparent in some of the experiments on plates of solid media referred to later in this paper.

Experiment A

Mixtures of water and alcohol of 65 volumes of alcohol and 35 volumes of water, and of 30 volumes alcohol and 70 volumes of water respectively, were dropped from a Dreyer's pipette on to a porcelain tile which had been rubbed over with Congo-red powder. The diameters of the circles of spread of the alcohol were measured and the volume of the drops calculated by counting the drops in 0.5 c.cm. The mean diameter of the area wetted by the drop of the stronger mixture was 2.7 cm. (mean of 10 observations), while the mean volume of the drop was 16.6 c.mm. The figures for the weaker alcoholic mixture were 2.05 cm. (mean of 10 observations) and 19.23 c.mm. respectively.

Experiment B

A somewhat more careful observation, using absolute alcohol and a mixture of 65 volumes of alcohol and 35 volumes of water respectively, was made by tracing the outline of the wetted areas produced on a similarly prepared tile, measuring the areas enclosed, and calculating the diameter. The drop volumes were obtained by measuring the volume of 200 drops of each strength of alcohol. In this experiment the mean diameter of the area wetted by 16.375 c.mm. drops of absolute alcohol was 3.37 cm., while that of the area wetted by 17.625 c.mm. drops of "65%" alcohol was 2.85 cm.

Species of Pathogenic Bacteria Liable to be Found on the Skin

Bacteria encountered on the skin may be divided into "resident" and "transient" organisms. The former cannot be completely eliminated by any process which will not injure the tissues (Colebrook, 1941). Much of the "resident flora" is located in the pilonidal follicles; these are not penetrated by 70% alcohol or by acetone (Lovell, 1945). According to Colebrook (1941) *Str. pyogenes*, *Proteus*, and *Ps. pyocyanea* are among the transient flora, and *Staph. pyogenes* is difficult to place, being intermediate between the transient and resident flora. He quotes various workers as finding *Staph. aureus* (*pyogenes*) on the skin of from 5% to 30% of normal individuals. Martin (1942) reports the occurrence of *Staph. aureus* on the face, wrist, and chest respectively in 38%, 24%, and 14% of normal individuals, the corresponding figures of *Str. pyogenes* being 5%, 3%, and 1%. Miles *et al.* (1944) report the skin carriage of *Staph. aureus* in 18.4% of individuals. Cruickshank *et al.* (1942) quote Lockemann *et al.* (1941) as finding *Staph. aureus* more resistant to all strengths of alcohol than either *Bact. coli* or *Ps. pyocyanea*.

It would thus seem that the power to kill *Staph. aureus* may be considered as a suitable index of the value of alcohol in skin sterilization. It should be noted, however, that, owing to the alcohol-fast nature of the genus *Mycobacterium*, alcohol may be expected to be inefficient as a bactericidal fluid for *M. tuberculosis*. It is possible, though hardly probable, that failure in this respect led to an accident following which the use of alcohol for sterilizing syringes for the administration of parenteral injections was condemned by Bigger *et al.* (1940), though these workers also showed that alcohol failed to destroy streptococci in sputum used to contaminate syringes in certain of their experiments.

Recommendations by Previous Observers regarding Suitable Strength of Alcohol

Where contact may be prolonged weak mixtures are effective. Cruickshank *et al.* (1942) have shown that *Staph. aureus*, *Bact. coli*, and *Ps. pyocyanea* may be destroyed in from 0.5 to 24 hours by 25% alcohol. The length of time necessary to achieve sterility in certain of their experiments shows that 25% is obviously an ineffective strength for use in skin sterilization, where contact of the reagent with the skin is limited by the volatile nature of alcohol and by considerations of practical utility. These authors quote Minervini (1898), however, as having shown that the most germicidal concentration of alcohol is between 50% and 70%. Garrod and Keynes (1937) state that the optimum strength of alcohol is 70%. Bigger *et al.* (1940), while condemning the use of alcohol for sterilizing syringes as stated above, consider that a solution containing 70% alcohol has a much greater bactericidal action than the 95% spirit described as suitable by Lawrence (1940). The *British Medical Journal* (1940, **1**, 96) in a leading article quotes Regamey (1939) as finding that *Bact. coli* in broth culture was destroyed within 15 seconds by all concentrations of alcohol between 50% and 99%, and within one minute by 40%. *Silk threads* contaminated with *Bact. coli,* however, were sterilized in one minute only by concentrations of 50% and 60%; 70% took 3 minutes, 80% 15 minutes, while in 90% and 99% the organisms survived for 24 hours. Similar results were found with staphylococcus and streptococcus, except that the optimum concentration for staphylococcus was somewhat higher.

For use *on the skin* the following recommendations have been made from time to time:

95%: Hatfield and Lockwood (1943) found that the best results were obtained when 95% alcohol was used after *tincture of iodine,* but that consistently low counts were obtained after alcohol alone.

76% by weight: Colebrook (1941) reports the use of alcohol of this strength against streptococci on the skin—the streptococci were not completely eliminated.

70% by weight: Price (1939) is quoted by Colebrook as having shown that this is the most effective concentration of alcohol.

70% by volume: Has been recommended in certain official publications.

Various references to "70% spirit," "75% spirit," etc., may be found in the medical press and in commercial medical literature.

In the course of some unpublished work on skin disinfection (using *Staph. aureus* as an "indicator organism") carried out in 1941 by B. W. Lacey and myself, "industrial spirit" was used as a control in all experiments. This was very effective, but it was decided for the sake of completeness to carry out an *in vitro* test of the relative value of falling dilutions of alcohol. Method 1 of those given below was used, and results suggested that 65% was below the effective level for a period of exposure up to two minutes: 70% was not used.

Ether.—Ether is commonly applied to the skin as a part of the pre-operation toilet. It was found ineffective as a fluid for sterilizing syringes by Bigger *et al.* (1940), and its use as one of the reagents tested in the above-mentioned work by Lacey and myself suggested that its bactericidal effect when applied to the skin is inconsiderable.

Present Investigations

Purpose.—In view of the facts and considerations referred to above it was thought worth while to test yet again the *in vitro* effect of alcohol–water mixtures on *Staph. aureus* over a narrow time-range; to test the effect of such dilutions on the artificially contaminated skin; to compare the results obtained by different technical methods, and with different organisms; and to carry out a small series of parallel tests with ether. In all of the tests, unless otherwise stated, the dilutions used were made by mixing *measured volumes* of alcohol and water. They were thus slightly stronger than their nominal strength expressed as percentages by volume (see "Percentages of Alcohol" above).

Methods of Demonstrating Antibacterial Action Employed

1. *Glass Bead Method.*—Small unperforated glass beads as used in the "transfusion-giving set, hospital pattern," were placed in a thick suspension of organisms. They were then removed and dried. The dilutions of alcohol under test were poured on to sterile dishes, and a bead was placed in the mixture for a measured time; it was then transferred, with or without a preliminary washing in water, to sterile broth or to the surface of the agar in a Petri dish or covering one side of a 1-oz. screw-cap bottle. (When beads were transferred to the solid medium they were rolled freely about on the surface of the agar before incubation.) The media so inoculated were then incubated. A somewhat similar method—"Krönig and Paul's garnet method"—was employed by Hailer and Bockelberg (1939) in estimating the germicidal efficiency of the halogens on anthrax spores. In the course of the work it was found that washing of the alcohol-treated bead is necessary when it is to be used to inoculate a solid medium.

2. *Filter-paper Method.*—Small pieces of sterile filter-paper were immersed in a suspension of the organisms to be employed. After drying, these were placed in the spirit mixtures under test and after a noted interval transferred to bottles of broth, which were then incubated; or they were washed in water and placed on the surface of an agar plate, from which they were removed after a short time in the incubator, incubation of the plates being continued.

3. *Fluid Inoculum Method.*—A known volume of bacterial suspension was added to a known volume of the alcoholic mixtures under test. Drops of the resultant suspensions after shaking were then transferred, after an observed time of contact, to bottles of broth, which were subsequently plated and the plates incubated.

4. *Contaminated-finger Method.*—The fingers were contaminated by rubbing the tips over the surface of a plate culture. Individual fingers were then either (*a*) wiped with dry cotton-wool to spread the organisms further and remove excess, after which they were dipped for a moment in dilutions of alcohol; or (*b*) they were wiped with cotton-wool moistened with the alcohol dilutions. The fingers were then left until apparently dry, after which they were again wiped on fresh plates of a similar medium.

5. *Prevention of Growth on Inoculated Solid Media.*—Areas of plates of appropriate media were inoculated with the indicator organisms. When these areas were dry drops of the test dilutions of alcohol were delivered to the middle of each area with a Dreyer's pipette and the plates incubated when again dry. The use of blood-agar plates and *Str. pyogenes* as the test organism afforded an excellent "indicator" method, as the effective concentrations were made very obvious by the failure of haemolysis in the area of spread of the alcoholic drops. To exclude the possibility that failure of growth after the application of alcohol to an inoculated area might be due to destruction of the nutrient properties of the medium (Hayward and Miles, 1943; Cawston and Colebrook, 1943) rather than to death of the organisms, the following controls were incorporated in two of the experiments carried out on *Str. pyogenes* by this method.

Control A

The centres of the areas covered by the spread of the drops of various dilutions of alcohol used—from 100% to 40%—were reinoculated with the strain under test after the alcohol had dried. Growth occurred as a result of each such reinoculation.

Control B

Parts of the areas over which each alcoholic dilution had spread were cut out and placed, inoculated surface down, upon a fresh plate of blood agar. *Growth failed to occur* where contact was made between the fresh plate and the alcohol-treated part of the excised portion of medium. *Growth occurred* where the fresh plate was in contact with such an area of the cut-out piece as had not been covered by the alcohol.

Hence (*a*) the medium was not destroyed by such exposure to alcohol as the method entailed, (*b*) the organisms were killed by the alcohol in the strengths which led to failure of growth.

6. *Killing of a dried film of organisms on a slide by the application of drops of descending dilutions of alcohol;* as indicated by the failure of growth development when the treated slide is applied to the surface of a plate of medium and incubated.

Results

Method 1.—The results of four experiments using *Staph. pyogenes* showed that for periods of contact ranging from 5 seconds to 2 minutes 100% and 98% alcohol are highly ineffective and 95% is less bactericidal than mixtures containing more water. The effect of 50% alcohol is probably less than that of mixtures containing less water. The optimum range therefore would appear to be between 60% and 90%. Two experiments indicate that 60% and stronger mixtures of methyl alcohol are as effective as dilutions of ethyl alcohol in killing *Staph. pyogenes.* Single tests suggested that "industrial spirit" and methylated spirit (tinted violet) are effective against *Staph. pyogenes* in a range from full strength to 60% or weaker.

The results of these experiments do not confirm the failure to sterilize staphylococcus-contaminated beads by the use of 65% spirit found in the experiment carried out in 1941 and referred to above. The failure then observed may have been due to a technical error such as incorrect dilution of spirit or contamination during manipulation or to a fault inherent in the method, such as bubble formation or clumping of the organisms with fixation of the outer layer and lack of penetration to the middle of the clump. It is considered that bubble formation is a likely cause, since this would tend to become more frequent as surface tension rises with increasing dilutions of the alcohol. It was thought to be the cause of a completely irregular result when the method was tried with a watery disinfectant. Similar irregular results, though to a lesser degree, have occurred throughout the experiments here summarized. They rendered the method inaccurate, particularly in fluid media. It was therefore discontinued.

Method 2.—Two experiments were made using this method on *Staph. pyogenes*. The method was not found very satisfactory. The first experiment, in which the pieces of filter-paper were placed in broth alone, after 10 seconds' treatment in each case, produced only two sterile cultures—one after treatment with 95% alcohol, the other after 65% alcohol. With reference to the latter, however, it was realized at the time that, owing to a hitch, exposure had exceeded 10 seconds; the test with this dilution had been repeated, and in the second broth growth occurred. The second experiment indicated that absolute alcohol is inefficient, while 80% to 50% were all bactericidal in 30 seconds, as shown by sterile results of both fluid and plate culture. Culture after 10 seconds suggested that 80% was less effective than the weaker mixtures, of which 60% gave the best result.

Method 3.—Using *Staph. pyogenes* and *Str. pyogenes*, one experiment for each was carried out. In the case of the test on *Staph. pyogenes* there was no growth on subcultures from mixtures containing 95% to 47.5% of alcohol after one minute's contact. A heavy growth occurred on subculture of a mixture containing 30% of alcohol after a similar time, but this strength was bactericidal after 15 minutes' contact. *Str. pyogenes* subcultures from mixtures containing dilutions of alcohol from 95% to 38% showed no growth after 10, 30, and 60 seconds' contact.

In view of these findings it seemed desirable to make further observations on the artificially contaminated skin. Six such tests were made as shown under Method 4.

Method 4.—Four experiments using *Str. pyogenes* were carried out. Two of these were partially spoiled by contamination. The combined results, however, indicate that, though of considerable value, absolute alcohol, and probably 70% alcohol, are less effective than mixtures of intermediate strength, while 65% showed a definite comparative inefficiency. Two of these experiments were made with true volumetric percentage dilutions. Two similar series of tests, also using correct volumetric percentage mixtures, were made on fingers contaminated with *Staph. pyogenes*. 100% to 65% were apparently effective; 60% was not.

In view of the difference between the results obtained with Method 4 and those which followed the use of the first three methods it seemed desirable to compare these findings with the effects of similar strengths of alcohol on inoculated areas on a plate of solid medium—i.e., on a surface upon which, like the skin, a certain dilution effect due to absorbable water is liable to occur. (It should be mentioned that all this work was carried out in a tropical climate of high humidity. The skin was thus liable to be more moist than is normal in a temperate or cold climate.)

Method 5.—Three experiments on cultures of *Staph. pyogenes* (Oxford) were made. The third test was carried out in duplicate, and true percentage dilutions by volume were used. In all experiments the best result was observed with strengths above 80% (*including absolute alcohol*); deterioration in antibacterial effect was marked by the time a dilution of 65% was reached. Eight experiments were carried out on cultures of *Str. pyogenes*. In four experiments true volumetric dilutions were used. The results of these tests may be summarized as follows:

A complete failure of growth, though over a diminishing area, resulted when alcohol of strength varying from 100% to 70% was dropped on plates inoculated with *Str. pyogenes*. An almost equally good effect was generally produced by 65% alcohol: 50% alcohol and weaker mixtures were relatively ineffective. The following chance observation is of interest. In one experiment the streptococcal culture used as an inoculum became contaminated with an organism giving a lemon-yellow colony on agar. Colonies of this contaminant appeared in considerable numbers in areas inoculated for the test and, while in this test the use of both 60% and 50% alcohol prevented the development of streptococcal colonies, scanty lemon-yellow colonies appeared on the area treated with 60% alcohol and growth of the contaminant was abundant on that treated with 50% alcohol.

In general it would appear (though this was not apparent in experiments using Method 4) that streptococci are killed by somewhat weaker alcohol than is necessary to kill staphylococci under parallel test conditions. One experiment was carried out on a local strain of *Ps. pyocyanea*: 100% to 60% were effective, 50% was not.

Method 6.—The discrepancy between the effects of spirit dilutions on dried inocula on glass (Method 1) and on inocula on the skin or on solid culture media (Methods 4 and 5) is thus considerable. The similarity between the observations recorded of the effects produced on the skin and on inoculated plates is equally striking. A final series of experiments was made to determine the effect on dry contaminated glass slides of drops applied in the manner previously used for inoculated solid media. The test thus resembled that on media in that the exposure to the reagent was determined by the time taken for the spirit to evaporate (rather than any fixed time interval), but differed in that the reduction of the alcohol ratio by absorption of moisture is avoided. Two experiments with *Str. pyogenes* and one each with *Staph. pyogenes* and *Ps. pyocyanea* were made. The two tests on streptococcus showed an effective strength down to 50%, with a limited effect produced by 40%. The experiment with staphylococcus showed an effective strength down to 60%: 50% was only slightly less effective; 40% also produced a limited effect. The experiment with *Ps. pyocyanea* showed that 50% alcohol was effective; lower dilutions were not tested on this species.

The results therefore are more comparable with those found by Methods 1–3 than those following the use of Methods 4 and 5, *except that absolute alcohol appears to be effective when used as in Method 6*. This may be due to absorption of enough moisture from the damp air, contact with which is unavoidable in experiments carried out by this method, and hence absorption of moisture may not, in fact, be entirely eliminated.

Ether

In this series of tests Methods 3 (modified), 4, and 5 were used.

Ether Added to a Fluid Culture.—Single experiments on *Staph. pyogenes*, *Str. pyogenes*, and *Bact. typhosum* were made. Ether was added to broth cultures of staphylococci and *Bact. typhosum*: The cultures were shaken up with the ether, and one drop from a Dreyer's pipette was delivered on to a plate. The cultures were then left for approximately 5 minutes, re-mixed with ether by drawing up into the pipette and expelling again a few times, and again plated. Finally this was repeated after leaving the cultures for a further 15 minutes approximately. Control cultures before the addition of ether showed that both cultures produced a confluent growth on a plate, on the area where one drop from a Dreyer's pipette had spread. The results after treatment with ether were as follows:—*Staph. pyogenes:* First subculture after shaking with ether gave *confluent growth*. Subcultures after approximately 5 minutes gave an average of 14 colonies; there was no growth from the last subculture (approximately 20 minutes after first mixing with ether). There was no growth from *any* of the three subcultures of *Bact. typhosum*. A similar test with two local strains of *Str. pyogenes* showed no growth from subcultures carried out at once and after 5 minutes.

Method 4.—One experiment on *Staph. pyogenes* and one on *Str. pyogenes* were carried out. Ether was quite ineffective in destroying either staphylococcus or streptococcus on the skin.

Method 5.—The method was slightly modified by using increasing numbers of drops on a single spot on inoculated plates to observe if any poor result following single drops could be attributed to the very high rate of evaporation. Tests were made on cultures of *Staph. pyogenes*, *Str. pyogenes*, and *Bact. typhosum*, with the following results:—*Staphylococcus and streptococcus:* Drops of ether from 1 to 8 produced only a slight progressive thinning of growth in the area on which they fell. In an experiment on *Str. pyogenes* (Milne) accidental contamination again afforded interesting information. On this occasion a Gram-positive bacillus contained in the inoculum was absent from all areas where ether had fallen—though present on the surrounding inoculated area—in tests made with 1, 3, 6, and 8 drops of ether. *Bact. typhosum:* No growth of this organism occurred over areas covered by single or multiple drops of ether on an inoculated area on a plate.

Summary and Conclusions

Some 30 experiments, using six different methods, were carried out to test the effect of various dilutions of ethyl alcohol on bacteria, with special reference to the optimal dilution for use on the skin. Observations were mainly made on *Staph. pyogenes* (usually the Oxford strain) and *Str. pyogenes* (Milne strain and local strains), but two tests were performed using a strain of *Ps. pyocyanea*. Six experiments, employing three methods, were made to observe the effect of ether on bacteria.

The methods used are described, and the result of the employment of each is summarized.

The following conclusions were drawn:

1. *Effective Strength of Alcohol for Destruction of Bacteria after Short Exposure.*—(*a*) *On a dry surface*:—The effective range of strengths of alcohol for the killing of non-sporing bacteria is between 90% and 50%. 95% and above are partially ineffective, 100% being markedly so. The lower surface tension of stronger alcoholic mixtures suggests that the upper limits of this effective range may be preferable to the lower, though against this must be considered the more pronounced fixing effect of strong alcohol, which may cause the coagulation of an exudate and the consequent protection of living organisms within the coagulum so formed (Bigger *et al.*, 1940). (*b*) *On the skin*:—Since the normal skin is more or less moist the effective range of alcohol for use upon it is somewhat different. 100% is commonly effective—at least on moister skins and under tropical conditions of temperature and humidity; while under similar conditions 60% to 65% may show a certain loss of efficiency. The washing of the skin before the application of alcohol might be expected to exert a similar effect unless subsequent drying were thorough. Further, the value of a low surface tension may well be of importance in increasing spread and penetration, for skin sterilization. It is therefore considered that, as a general recommendation under all climatic conditions, *80% of alcohol by volume* is probably most suitable for skin sterilization, though this will not be more effective than any other non-persistent agent for dealing with deep-lying resident flora.

2. *Bactericidal Effect of Ether.*—Ether is quite ineffective as a sterilizing agent for the skin, since its effect is very slight on staphylococci and streptococci when applied to a surface—though it is effective against certain bacillary forms, both Gram-positive and Gram-negative.

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The report for 1944 of the St. John Ophthalmic Hospital at Jerusalem has been issued from the Chancery of the Order, St. John's Gate, London, E.C. The hospital was founded in 1883, and during the year under review Field-Marshal Viscount Gort, High Commissioner of Palestine and Transjordan, paid a visit as a compliment to the work of the Order of St. John in Palestine. All the difficulties of perpetual changes of personnel have continued. So far as the decline in the number of patients is concerned, the Warden, Dr. Norman Manson, states that it is due to the impossibility of getting nurses and ward maids. This shortage is so acute in Palestine that several hospitals are almost closed. The improvement in the military situation has not been followed by any relief on the economic front; the cost of living is at least as high now as it was when Palestine was packed with troops. The clinical work has been carried out almost entirely by two surgeons and by two British Sisters with the support of a staff nurse seconded by the Director of Medical Services. The number of new cases seen during the year was 21,776, of whom 17,700 were Moslems, 3,270 Christians, and 806 Jews. The total number of patients suffering from acute conjunctivitis was 7,507, and 850 of these were complicated by corneal ulceration, which went on to perforation in 176.

ESTIMATION OF SERUM PROTEINS

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During recent years interest has been focused on the concentration of proteins in serum, as it is possible that, besides the gross reduction that is found in cases of famine oedema, a less severe reduction of the average concentration of protein in serum may occur among a population whose protein intake is low. If such less severe reductions are to be detected, the methods of estimating serum proteins must be such as will give average results which do not deviate from the true values, or values as estimated by some standard method, by at most more than 2%. It appears that the copper sulphate method recently introduced by Phillips, van Slyke, *et al.* (1944, 1945) is accurate enough if proper precautions are taken and the correct formula is used in calculating the protein concentration from the observed specific gravity.

Chibnall, Rees, and Williams (1943) have pointed out that considerable laxity has crept into the technique of estimation of nitrogen by the Kjeldahl method; their main criticism was that the times allowed for digestion of the proteins were not sufficient to ensure the conversion of all the nitrogen to ammonia. Our attention in this matter was aroused when we tried the copper sulphate method of measuring specific gravity. The relation between the specific gravity found (S) and number of grammes in 100 ml. of serum (P) is expressed by Equation 1:

$$P = K (S - A),$$

where K and A are constants. Moore and van Slyke (1930) found that concentrations of protein in serum of patients suffering from nephritis could be calculated from the specific gravity found by weighing. The appropriate values for K and A in Equation 1 for such sera were 343 and 1.007. However, the results obtained by Moore and van Slyke with 9 sera from normal persons did not fit this equation. In the first report (1944) of the copper sulphate method the values of K and A appropriate for this method were again given as 343 and 1.007. It was stated by workers in this country that concentrations found by the method, using this formula, agreed with those deduced from nitrogen estimations by the Kjeldahl method. We, however, found that if A was taken as 1.007 the value of K, when the method was used in sera from women before and shortly after delivery, was in the neighbourhood of 380; and in the later edition of their report on this method Phillips *et al.* (1945) give the value as 377 for use with normal sera, and 360 for use with pathological sera. The apparent discrepancies between the results of Kjeldahl estimations led us to reconsider the method that we were using.

Prof. Chibnall kindly had the total nitrogen of 15 sera, on which we also were working, estimated in his laboratory, using the reagents as described in the paper quoted and digesting for 17 hours. On the average, the results obtained by the method which we were then using were approximately 2% too low. We have assumed that the nitrogen found by Prof. Chibnall's technique was 100% of the true value. Table I shows the results obtained on a series of sera with different amounts of compounds of selenium and different times of digestion; in all these we used 0.2 ml. of serum, 0.17 ml. of 30% solution of copper sulphate, and 1 ml. of sulphuric acid; after 10 minutes' digestion 1 g. of sodium sulphate was added. If selenium was used as catalyst 0.1 ml. of sodium selenate solution (0.85 g. per 100 ml.) or an equivalent amount of selenium dioxide was added after cooling. The results are given in Table I.

To test the method most commonly used in clinical laboratories, 10 sera were digested with sulphuric acid and copper sulphate, but only 0.3 to 0.5 g. of sodium sulphate, until straw yellow; 2 or 3 drops of hydrogen peroxide were then added and the mixture boiled for a further 3 minutes. This method returned 95.5% of the total. Even if the hydrogen peroxide was omitted the return was just under 95%.

As a routine we have digested with selenium dioxide for 3½ hours; in view of the above we can assume that the protein concentrations calculated from our Kjeldahl nitrogens are certainly not too high, and probably on the average are about 1% too low. If A in Equation 1 is assumed to be 1.007 the value of K that fits our results is 384—giving Equation 2:

TABLE I.—*Percentage of Nitrogen recovered in Kjeldahl Estimation (the amount obtained by 17 hours' digestion with selenate is taken as 100%)*

No. of Sera	Extra Catalyst Added	Time of Digestion	% Recovered
12	Selenium dioxide	3½ hrs.	99
21	Sodium selenate	50 mins.	99
17	Selenium dioxide	50 mins.	98·5
15	None	3½ hrs.	98
10	H_2O_2	3 mins.	95·5

$$P = 384\,(S - 1.007).$$

However, we found that the specific gravities of the drops formed in copper sulphate solutions by the method described by Phillips *et al.* are less than those obtained by weighing in a pyknometer; while, if the drops are formed in the copper sulphate solution instead of being allowed to fall into it from above, the resulting specific gravity is approximately the same as that found by weighing. It is possible that this change in specific gravity is due to air that is entrapped during the fall. The value 1.007 for A was chosen because this is the specific gravity of protein-free-ultrafiltrate from serum. If the difference in the specific gravities of drops formed inside and outside the copper sulphate solution is due to this entrapped air and not to a change in the serum protein it is reasonable to change the value of A and to retain a value of K which is appropriate for true specific gravities. We have found that Equation 3,

$$P = 366\,(S - 1.007),$$

fits our results obtained by weighing in a pyknometer. If this value of K is used the value of A obtained for normal sera is 1.0061. For convenience of calculation we propose Equation 4,

$$P = 364\,(S - 1.006).$$

The difference in the calculated results introduced by this change in K and A is negligible. A variety of equations, with different values of K and A, can be propounded that will fit the values of the apparent specific gravity as found in the copper sulphate method and of protein concentration found in normal sera, all containing between 6.5 and 7.8 g. of protein per 100 ml. To determine the two constants we need sera containing less or more protein. The obvious sera to use would be those of patients with nephritis and oedema. However, the figure given by Moore and van Slyke (1930) suggests that the constants suitable for such cases differ from those suitable for normal sera. As this method will probably be used to estimate proteins in sera of persons suffering from malnutrition, a form of the equation suitable for such sera will be appropriate. In the 6 sera with the lowest serum proteins obtained from returned prisoners of war we arrived at the results shown in Table II:

TABLE II.—*Protein Concentration in Sera of Returned Prisoners of War, calculated from the Specific Gravity by Equations 4 and 2 and from the Nitrogen, calculated by Kjeldahl's Method*

Case	Kjeldahl	Equation 4	Equation 2
3	6·14	6·08	6·03
15	5·27	5·17	5·07
11	5·97	5·93	5·88
18	5·51	5·39	5·30
5	5·88	6·01	5·95
16	6·02	6·19	6·14

In 4 out of the 6 the concentrations calculated by Equation 4 agree better with the Kjeldahl results than those calculated by Equation 2.

With 101 sera from "normals" (blood donors, laboratory technicians, and students), normal pregnant women, normal women after delivery, and returned prisoners of war, all of whom had lost much in body weight, we obtained the results shown in Table III.

TABLE III.—*Differences between Protein Concentration calculated from the Specific Gravity by Equation 4 and from Nitrogen Estimation*

Per cent.	Normals	Returned Prisoners of War	Ante-natal	Post-natal
+ 5·0 to + 5·9	0	0	0	1
+ 4·0 to + 4·9	1	0	0	2
+ 3·0 to + 3·9	0	2	1	6
+ 2·0 to + 2·9	0	5	1	4
+ 1·0 to + 1·9	3	2	4	3
− 0·9 to + 0·9	10	7	11	12
− 1·0 to − 1·9	4	2	5	2
− 2·0 to − 2·9	1	5	5	0
− 3·0 to − 3·9	1	1	4	1
− 4·0 to − 4·9	0	1	0	0
− 5·0 to − 5·9	0	0	1	0
Total number	20	25	32	31
Mean difference %	−0·2	−0·1	−1·0	+1·4
K calculated statistically ..	354	359	327	345
A „ „ ..	1·0054	1·0057	1·0037	1·0052
K calculated for A = 1·006 ..	365	364	368	359

It should be noted that Equation 4 is based primarily on the assumption with regard to the value of A. Statistical calculation of the equation that fitted the results would give lower values for A in Equation 1.

Phillips *et al.* (1945), in their second description of the method state that the equation suitable for pathological sera for A in Equation 1.

$$P = 360\,(S - 1.007):$$

We have, however, found that Equations 2 and 4 fit the pathological sera that we have examined. Phillips *et al.* also recommend that Equation 5 should be used generally for all sera. But this would result in a discrepancy of about 6% between estimations made by this method and those based on accurate estimations of the protein nitrogen.

Specific gravity methods have been criticized in the past because they have given results that disagreed with those derived from Kjeldahl estimations. It appears, however, that some of the Kjeldahl methods in use are liable to errors of at least 10%; the grosser discrepancies may be due to faults in the Kjeldahl methods used. The copper sulphate method is extremely simple and convenient. If a stock solution accurately made up or even a series of standard solutions were issued from a centre, gross discrepancies between the results of estimations of serum proteins would be avoided.

The drops should be allowed to fall into the fluid, as described by Phillips *et al.*; if formed in the fluid, a separate dropping pipette must be used for each drop and much of the convenience of the method is lost. In an established laboratory a gradient method as described by Jacobsen and Linderström-Lang (1940–1) may be quicker and more convenient; we propose to publish a paper on this method shortly. Both these methods have the advantage over other specific gravity methods that changes of temperature have little effect.

The specific gravity which we have considered is the ratio of the weight of a given volume of serum to the weight of an equal volume of water, both at 24° C. The difference in the specific gravity observed, if the measurement is made at a different temperature, is only about 0.00001 per degree, as the coefficient of expansion of serum differs little from those of the copper sulphate solutions. If, therefore, the specific gravity is measured at a temperature as low as 14° or as high as 34°, instead of 24°, the error in the calculated concentration of protein would amount to only about 0.04 g. per 100 ml.

As Phillips *et al.* point out, it is essential that, in preparing the standard solutions, the stock solution and water used for dilution should be at the same temperature. If this precaution is observed the specific gravities of a standard solution at 24° (that is, the ratio of the weight of a given volume of solution at 24° to that of the same volume of water also at 24°) will not vary by more than ±0.0001 if the dilution is done at any temperature between 10° and 40°. The stock solution should be prepared at 24°; but an error of not more than ±0.0001 in the specific gravities of the standards will be introduced if the solution is made up at any temperature between 14° and 34°. The volume of the drop of serum should be about 0.02 ml. The height from which it falls should be such that it forms a ring when it enters the fluid. If cups or umbrellas are formed the apparent specific gravities will be higher; if the pipette is not steady fluffy rings will be formed and the apparent specific gravity found will be less.

Summary

The copper sulphate method for measuring specific gravity of serum gives satisfactory and consistent estimates of the protein concentration.

The apparent specific gravities found by this method are less than the true specific gravity.

The equation recommended for calculating the protein concentration from the apparent specific gravity is $P = 364 (S - 1.006)$.

For satisfactory and consistent measurements of serum protein by the Kjeldahl method, selenium dioxide should be used as a catalyst and digestion should be continued for at least one hour, and preferably for 3½ hours.

We wish to express our thanks to Prof. Chibnall for his advice and assistance.

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FOUR CASES OF TYPHUS FEVER IN GREAT BRITAIN

BY

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Typhus fever is rare in Great Britain. From a review of the recent literature on its incidence it would appear that only one case occurring in 1944 has been recorded (Agnew and Kyles, 1944). As several cases of typhus fever are now under treatment in this country, it may prove of interest to report a small series of four patients who developed this disease while in hospital in Bradford. Three of these cases had been under constant medical supervision before the development of the disease, and it has thus been possible to follow the course of their illness from the day of onset.

The four patients referred to in the following report had been released from the same prisoner-of-war camp in Germany, in which, so far as can be ascertained, typhus fever was endemic. They were all disinfested by the routine procedure of insufflation of their clothing by dichlor-diphenyltrichlorethane (D.D.T.) powder on April 26, 1945. They arrived in England two days later and were immediately transferred to hospital, where on admission they were found to be free from lice.

Case I

A man aged 25. His general condition on admission was fairly satisfactory, his weight then being about 14 lb. below his normal. On May 3—i.e., seven days after disinfestation—there was an unexplained rise of temperature to 102° F., with a pulse rate of 124. Prodromal symptoms were entirely absent, apart from a feeling of "fatigue," which persisted throughout the illness. The pyrexia and tachycardia continued for 10 days and then fell by slow lysis over a period of four days. The total duration of the febrile period was 13 days, and while during this time the patient developed a fairly well marked degree of toxaemia, this at no time gave rise to any anxiety. His mental condition remained fairly normal throughout the illness, and although towards the end of the first and beginning of the second week there was definite mental confusion, there was neither violent delirium nor restlessness. Conjunctival suffusion was present at the start of his illness. The rash, which was reported to be macular in character, developed on the fourth day and showed the typical distribution over the trunk and limbs only. When seen by one of us eight days later it had entirely disappeared. There was no splenomegaly. On the 14th day of the disease there was clinical evidence of meningism, but lumbar puncture revealed a normal cerebrospinal fluid. The following pathological investigations were made:

5th day of disease:
  Widal reaction = Positive agglutination to 1 : 50 against *B. typhosus*
12th day of disease:
  Weil-Felix reaction: agglutination against OX 19 to 1 : 250
14th day of disease:
  Weil-Felix reaction: agglutination against OX 19 to 1 : 1000

The patient made an uninterrupted recovery.

Case II

A man aged 44. The general condition of this patient remained satisfactory until May 5—i.e., 9 days after disinfestation—when there was a rise in his temperature and pulse rate to 99° F. and 100 respectively. The next day his temperature had risen to 104° F. At this time the patient had a septic right thumb, which required incision and drainage. From this, the 4th day of his illness, his general condition deteriorated steadily, so that by the 10th day the typhoid state was well established. There was a low muttering delirium, and signs of cardiovascular failure soon became apparent. When seen by one of us on the 12th day he was *in extremis*, and died within 24 hours. On the 6th day a subcuticular mottling appeared over the trunk, together with a petechial rash, which was profuse on both trunk and limbs. On the 10th day the spleen was reported to be slightly enlarged. Conjunctival injection was marked.

Pathological reports included the following relevant findings:—On the 11th day of disease: White blood count, 16,000 per c.mm.—polymorphs, 64%; lymphocytes, 28%; Türck cells, 2%; mononuclear leucocytes, 6%; blood urea, 86 mg. per 100 c.cm. Urine: Albumin ++; a few granular and epithelial casts present. Weil-Felix reaction: Agglutination against OX 19 to 1: 10,000; against OX 2 to 1: 50.

At the necropsy all the organs showed evidence of passive congestion. The spleen was normal in size, with soft diffluent pulp. There was a diffuse rash over the body, merging with post-mortem lividity. Discrete small macules were present on the trunk, and were profuse on the legs and inner aspects of the arms. A few petechial haemorrhages were also present.

Report on the skin section: In the skin macule the small vessels showed marked congestion, with collections of inflammatory cells (mainly lymphocytes) in and around the adventitia.

Case III

A man aged 25. This patient was discharged home on leave four days after his arrival in England and was readmitted to hospital 12 days later. He stated that for the preceding six days he had been suffering from vomiting and diarrhoea with severe headache and backache, the illness beginning with a shivering attack. The illness commenced 11 days after disinfestation, assuming that the onset dated from this shivering attack. On admission his temperature was 100.6° F. and pulse rate 94. The pyrexia which followed was of an irregular character and reached 104.8° F. on the 9th day of the illness, and there was a tachycardia of 150 on the 11th day. The febrile period continued for 13 days and then fell by slow lysis over 4 days. The rash appeared on the 9th day, and consisted of petechiae, mainly present on the abdomen and legs, but this distribution soon involved the whole trunk and limbs. At this time there was a very well marked conjunctival suffusion. An enlarged spleen was easily palpated and was found to extend two fingerbreadths below the left costal margin. During his illness there was a mild toxaemia, accompanied by lethargy and a fine tremor of hands and feet. There was also some mental confusion, most marked at night, but no undue restlessness.

The pathological findings were:—On the 9th day of disease: Blood urea, 90 mg. per 100 c.cm. Urine: Hyaline and occasional granular casts present. Weil-Felix reaction: Agglutination against OX 19 to 1: 250. On the 16th day of disease the Weil-Felix reaction showed agglutination against OX 19 to 1: 1000. The patient had a rapid convalescence.

Case IV

A man aged 29. He was a contact of Case I, being a patient on the opposite side of the ward, but as he was ambulant during the early part of the latter's illness a closer contact may have occurred. On the 27th day after disinfestation the patient complained of nausea, fairly severe frontal and occipital headache, and malaise. His temperature and pulse rate in 12 hours rose from normal to 103.2° F. and 96. This rise was followed by a short febrile period of only 5 days, when the temperature was of an irregular character, as in the other three cases. Apart from a mild conjunctival injection, there were no other clinical signs during this man's illness.

Pathological Report.—2nd day of disease: Weil-Felix reaction—positive agglutination against OX 19 to 1: 50 and against OX K to 1: 25; 6th day of disease: Positive against OX 19 to 1: 1000. The patient's general condition remained excellent throughout, and his symptoms rapidly disappeared when his temperature had subsided.

Commentary

Case II suffered from a severe attack of typhus fever, the diagnosis of which appears obvious in retrospect but was rendered difficult at the time by the presence of the septic thumb, which dominated the clinical picture. The continued pyrexia was originally attributed to a septicaemia secondary to the septic focus together with a possible concomitant attack of malaria. That death occurred in this man, who was 44 years of age, confirms the recognized fact that the mortality rate from typhus fever increases with the age of the patient (Mackenzie, 1941).

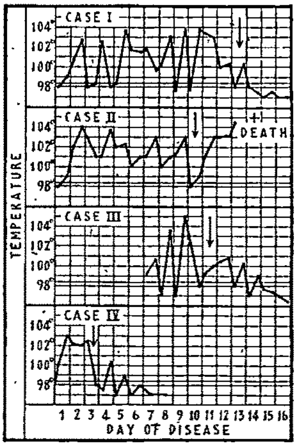
Cases I and III had fairly mild but typical attacks of typhus fever, although at no period of their illness was the toxaemia profound. These cases also differ from the classical description of typhus fever in that delirium was not pronounced and certainly was not of the dissociation or occupational type.

Case IV presents several interesting features: (*a*) The first sign of the disease developed 27 days after thorough disinfestation—i.e., 4 days longer than the recognized limit of the incubation period for this disease (Memo. on Louse-borne Typhus Fever, No. 252, 1941). As already stated, this patient was a fairly close contact of Case I throughout his illness. That Case IV was a secondary infection from Case I is the obvious explanation, but no other secondary cases have occurred either among other patients in the same ward or among the nursing or medical staff. There have been no secondary cases from Cases II and III, which were nursed in different wards from Case I. (*b*) The attack of typhus fever was of the abortive type, in that the total duration of the illness was only 5 days and in that the classical signs of the disease did not develop as in the other cases. Positive Weil-Felix reactions also occur in undulant fever in titres of 1 in 50 to 1 in 240, but the progressive rise in titre does not (Findlay, 1941). The Weil-Felix reaction in this patient showed a diagnostic rise in titre from 1 in 50 on the 2nd day of the illness to 1 in 1,000 four days later. (*c*) The early appearance of the positive Weil-Felix reaction on the 2nd day of the illness is uncommon (Felix, 1941). The patient was questioned as to the possibility of previous immunization against typhus fever. The last prophylactic injections he received were in July, 1942, but he is ignorant of their character, and it is impossible to determine this most important point. In the light of this case it is clearly of diagnostic importance to perform a serological examination at the earliest opportunity in any patient suspected of typhus fever. It is recognized that a titre of 1 in 80 to 1 in 100 is necessary before a clinical diagnosis can be confirmed.

Rash.—The typical exanthem occurred in three of these patients and appeared on the 4th, 6th, and 9th days of their illness. It showed the typical distribution of that of typhus fever in that, while absent on the face, it was profuse on the body and limbs, particularly in Cases II and III. The rash was definitely petechial in character, the size of each petechia varying between 1 and 2 mm. in diameter. The colour, originally a bright pink, changed to a dark bluish-red. It did not appear in crops, and persisted distinctly for 3 days in Case III before fading, when it was replaced by a brownish staining which gradually disappeared. The subcuticular mottling described in this disease was widespread on the trunk and limbs in Cases II and III, but this element of the rash faded more quickly than did the petechiae in Case III. Accompanying the rash there was conjunctival suffusion, which was well marked in the first three cases.

Type of Pyrexia.—As can be seen from reference to the accompanying temperature charts, the type of pyrexia is similar in all four cases. The temperature shows a well-marked intermittent and remittent character—a feature which is even more pronounced in the four-hourly charts. Disproportionate bradycardia, as is said to occur in some cases of typhus fever, was not observed in this small series of cases.

Penicillin Therapy.—Penicillin was administered to these patients for prophylaxis against the possible development of the secondary infections which are likely to occur during the course of this disease. Such conditions as bronchopneumonia, septic parotitis, and septic conditions of the skin have been common in the epidemics of typhus fever in Europe (Megaw, 1942). Penicillin was given by three-hourly intramuscular injections of 15,000 units to all four patients, but, as can be seen from the temperature charts, it was begun at different stages in these cases. In Case I penicillin therapy was started on the 13th day of the disease, when the temperature and pulse rate were already falling by lysis. In Case II the first dose of penicillin was given about 72 hours before death, when the patient was profoundly toxaemic. Case III received the first injection of penicillin on the 11th day of illness, and in Case IV it was first given on the 2nd day. No attempt is made in such a small series of cases to draw any conclusions on the effect of penicillin on this disease.



Temperature charts of the four cases of typhus fever. The arrows indicate the beginning of penicillin therapy.

Summary

Four cases of typhus fever imported into England by repatriated prisoners of war are described and the important clinical features of each case are briefly reviewed. One patient died, and a note on the post-mortem examination is included. Another of these patients had an abortive attack, the interesting features of which are described in some detail.

We wish to thank Drs. Weiner and Yang for the use of their clinical notes, and Drs. Kellett and Gartside for the various pathological examinations and reports.

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SORE FINGER-TIPS IN INDUSTRY

PROTECTION BY HYDROGEN PEROXIDE

BY

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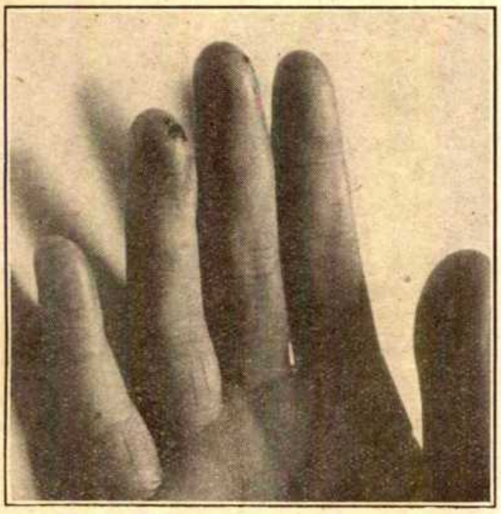
This is a record of an accidental discovery of a promising method for preventing injury to the skin of the finger-tips by constant friction against a rough surface.

Medway Paper Sacks Ltd., an associated company of Albert E. Reed and Co., paper makers, Aylesford, Kent, is engaged in making large sacks from strong brown paper (kraft). This paper has a rough surface, and the sacks are finished by passing either one end or both ends through a wire-stitching machine. The paper passes through this machine with a rapid jerky motion, and is guided by the operator's fingers. During the whole of an eight-hour day her fingers are rubbing over the rough dry surface of the paper. This amount of friction causes damage to the skin of the finger-tips, and until recently two-thirds of the women working on the stitching machines visited the surgery about once a fortnight for treatment. The remaining one-third were unaffected, although many of them had been on the same work for years. The reason for this has not been discovered; there is no difference in the method of handling the paper.

Treatment consisted in applying half-inch zinc oxide plaster so as to cover the finger-tip completely. This relieved the pain, and enabled the work to be continued. The adhesive plaster was kept on day and night, and was renewed every few days until the finger had healed. There is no evidence to show that this treatment slowed up production, but time was wasted in surgery attendances, and a good deal of discomfort was suffered. The lesion produced by so much friction on the finger-tips is shown in the photograph reproduced here.



Photograph of the right hand of Mrs. N. G.

The striking feature about the affected finger-tips was the absence of the horny layer of the skin. This is not well shown in the photograph, but the drops of blood exuding from the tips of the middle and ring fingers can be clearly seen. These two fingers were the ones usually most severely affected. The thumb nearly always escaped. There was often a general hypertrophy of the skin of the finger-tips, producing a bulbous appearance, which is seen in the photograph on the ring and little fingers.

Various measures had been tried to prevent this trouble. Industrial rubber gloves were useless, as the worker lost her sense of touch. Thick rubber finger-stalls were unsatisfactory for the same reason, and output was slowed up. Thin rubber finger-stalls wore out in a few hours. Trials were made of a hard-setting rubber solution painted on the finger-tips before starting work. This was satisfactory, but was discarded because the solution had to be reapplied every two or three hours.

Method

At this stage one of the workers volunteered the information that three weeks previously she had accidentally splashed a finger with 20-vol. hydrogen peroxide while dressing her child's hand. She noticed during the next few days on the machine that this finger-tip did not get sore like the others. She therefore tried applying peroxide to all her finger-tips. For the first week she did this at night and during the dinner hour. Her fingers were so much better that during the second week she applied the peroxide at night only. The number of applications was still further reduced to three or four during the third week. To her surprise she had had no sore finger-tips since using peroxide. For four years she had been working on stitching machines, and had often attended the surgery for treatment.

It was clear that this remedy was worth investigating. Six of the worst sufferers volunteered for a trial, and the result was so promising that arrangements were made to issue peroxide to all the workers (21 in number) who had been troubled with sore finger-tips. These 21 women were given 1-oz. wide-neck bottles three parts filled with 20-vol. hydrogen peroxide. These bottles had a bakelite screw cap and were labelled with the worker's name and clock number, and the date of issue. The women kept them in their handbags. Instructions were given to dip each finger-tip into the peroxide and to wave the hands in the air till the liquid dried. This was to be done three times a day—at night, on starting work in the morning, and during the dinner hour. Within a few weeks it was quite clear that this routine was producing a notable improvement in the fingers of all the women. By subsequent inspection it was found that in many cases the fingers could be fully protected by reducing the number of applications to three or four weekly.

The effect of the treatment is indicated in the table below, which compares over two periods of six months the surgery attendances of 12 of the 21 women who had been working under identical conditions both before and after treatment. No comparison has been made in the attendances of the remainder, whose work during the two periods is not exactly comparable. They had been doing other work at intervals, had been working with different sorts of paper, or had left during the period of the test.

Table showing Surgery Attendances for 12 Workers for the Treatment of Sore Finger-tips

Worker's Initials	Number of Visits to Surgery	
	During Six Months Before Using Peroxide	During Six Months After Using Peroxide
E. D.	17	2
C. F.	34	2
K. B.	24	5
B. T.	12	1
O. J.	19	3
G. T.	10	1
V. K.	11	2
E. H.	9	1
J. H.	14	1
K. B.	14	0
N. G.* ..	24	3
R. C.	4	0
Total visits ..	192	21

* See illustration.

Commentary

It is realized that this is by no means an ideal control, but an adequate control series would have required some interruption of the treatment after it had been begun, and the benefit to the workers was so clear that this course seemed unjustified. There is, however, no reason to suggest that the two periods are not comparable: the output per worker was approximately the same, the amount of absenteeism from all causes in the group was actually greater in the six months prior to the introduction of the peroxide (233 as against 147 days lost), and "surgery attendance" indicates a lesion of about equivalent severity in each period. The women themselves are in no doubt that the treatment has been beneficial, and it has been simple to administer. Their bottles of peroxide require filling every four to six weeks, and they come regularly to the surgery for this purpose.

In order to determine the deterioration in the strength of the peroxide after five weeks' use, analyses were carried out in the chemical laboratory of Albert E. Reed and Co. The stock bottle of 20-vol. H_2O_2 was found to contain 20.4 volumes of hydrogen peroxide. Samples were taken from the 1-oz. bottles of six workers at random after they had been in use about five weeks. These samples were analysed, and they showed practically no deterioration. The weakest was 19.5-vol. H_2O_2. This test was done in hot weather, and of course the stoppers of the bottles were frequently removed by the users.

Efforts have been made to find out exactly why peroxide should prevent sore finger-tips, but without success. Peroxide in this strength produces some coagulation the surface proteins in the skin, which appears usually as a number of small white pin-points. There is no reason to assume that there is any particular chemical substance in the paper against which peroxide is giving protection, and its action is presumably due to the effect of coagulation on increasing the resistance of the skin to friction. No ill effects have been caused by the use of 20-vol. hydrogen peroxide in the way described above.

Summary

An accidental observation by a wire-stitching machine operator in a paper-bag factory has led to the discovery of a method which largely protects the skin of the finger-tips from damage by the constant friction in this work. The operator is supplied with a small quantity of 20-vol. hydrogen peroxide, into which each finger is dipped. The necessary number of applications varies from three times a week to four times a day. All the workers have noted the considerable protection which this treatment affords. In a group of 12 women working under strictly comparable conditions for a

period of six months before and after treatment, the number of attendances at the surgery for the treatment of sore and bleeding finger-tips fell from 192 to 21. The result of this small series would appear to make further trials on a larger scale worth while.

My thanks are due to the management and staff of the Aylesford Paper Mills and Medway Paper Sacks Ltd. for their help in carrying out this investigation, and for their permission to publish this paper

A THERAPEUTIC TRIAL OF CHOLINE CHLORIDE IN INFECTIVE HEPATITIS

BY

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Choline is a powerful lipotropic agent (Best and Huntsman, 1932), and in experimental animals has been shown to have the effect of reducing the cirrhosis which follows the infiltration of the liver with fat after taking a high-fat diet (Daft, Sebrell, and Lillie, 1942; György and Goldblatt, 1942). It is considered to exert its lipotropic effect by promotion of lecithin (phospholipid) synthesis in the liver, as phospholipids are actively concerned with the transport of fat and cell structure.

The action of choline in preventing cirrhosis is different when methods other than dietetic are used for the production of fatty livers (McHenry and Patterson, 1944). It has no effect in preventing the accumulation of cholesterol esters in "cholesterol" fatty livers, and while in curative experiments it causes a rapid decrease in glycerides, the reduction of cholesterol esters is slow. The fatty liver produced by the ketogenic fraction of the anterior pituitary is not prevented by choline, and large doses are required to prevent damage in carbon tetrachloride poisoning or to increase the disappearance of fat from the liver in the recovery period of phosphorus poisoning.

Himsworth and Glynn (1944) have distinguished two distinct types of liver injury due to diet. One follows long-continued fatty infiltration of the liver due either to excessive intake of fat or to deficiency of lipotropic factors such as choline, and the second results from lack of amino-acids in sufficient amounts in the diet. The injury resulting from the amino-acid deficiency is characterized by necrosis, and against this choline has no beneficial effect—in fact, Himsworth and Glynn suggest that it tends to aggravate the hepatic necrosis by reducing the high fat content of the liver. It will be seen, therefore, that though choline prevents fatty infiltration and the consequent cirrhosis that results from the intake of an excessive amount of fat, there are various experimental conditions in which it is unlikely to have a beneficial effect on the liver.

The work that is recorded here was started at about the same time as Higgins and his associates began their investigations into the therapeutic effect of methionine in infective hepatitis at Oxford (Higgins *et al.*, 1945). There was, however, a distinct difference in the circumstances under which the trials were undertaken, as 21 of our cases were patients in a general hospital over-seas, and thus it was not possible to carry out the detailed biochemical study to which reference is made in their paper.

The Trial

No attempt was made to select cases so as to get those of comparable severity, but alternate patients were given choline chloride 1.5 g. a day for the first eight days following admission. All the patients were serving soldiers between 20 and 50 years of age, and their diets were similar except for the plentiful supply of fresh fruit for drinks that was available for those treated in Algeria. Both the treated and the control series received vitamins A and D (and K in 21 cases) as an addition to a low-fat high-carbohydrate diet. The amount of protein in the diet was left largely to the patient's preference, and under the conditions of the experiment it was not possible to determine the quantities each patient consumed.

Considerable care was taken to exclude liver disease fro other cause and the presence of any intercurrent infection— very important precaution in a hot climate. Special attentio was paid to the possibility of men having received an organi arsenical for any reason, and no case in which there was an doubt was included. The patients were treated in bed. Th decision as to when they should get up was recorded, as well a the length of stay in hospital, as a substantial reduction in eithe would be a very practical way of demonstrating therapeuti efficiency. The day on which their appetite returned was note for a similar reason, but the date of disappearance of jaundic was not, as discoloration of the conjunctivae persisted in severa cases after the patient was considered fit to leave hospital. Th only biochemical investigations that were undertaken wer repeated estimations of the serum bilirubin and examination o the urine for the presence of bile pigments.

Results

The level of the serum bilirubin was estimated on admissio This, coupled with the number of cases that had a rising seru bilirubin while under observation, was used as a means of asses ing the comparability of the treated and control series. Th number of days of malaise and the length of icteric perio before admission are shown for a similar reason in Table I.

TABLE I

	Subjects	
	Treated 16	Control 16
Duration of illness before admission, in days ..	8·3 (3–29)	8·1 (2–21)
Icteric period before admission, in days ..	1·4 (1–5)	1·7 (1–7)
Serum bilirubin on admission (mg./100 c.cm.)	4·7 (1·0–12·2)	6·1 (1·25–14)
Number of cases with rising serum bilirubin ..	5	6

The average number of days and the levels of serum bilirubin in milligramme re shown—the variations are in brackets.

In such a small series, when much larger numbers would b required to be statistically significant, the importance of findin means of showing that the cases were of comparable severity i obvious. It is thought that Table I shows this to be so, althoug it will be noted that the level of the serum bilirubin on admissio was lower in the treated than in the control cases.

The results of giving choline chloride can be seen in Table I and it may be mentioned here that they were closely similar i cases treated at home and those treated over-seas.

TABLE II

	Subjects	
	Treated 16	Control 16
Maximum serum bilirubin (mg./100 c.cm.) ..	6·0 (1·5–15)	7·9 (2·0–14·
First day of fall of bilirubin to 0·6 mg./100 c.cm.	25·1 (11–50)	30·1 (10–55)
First day urine bile-free	20 (10–29)	22·2 (10–42)
First day of return of appetite	15 (2–33)	14·4 (0–33)
First day allowed up	30 (13–54)	28·8 (13–46)
Duration of stay in hospital	35 (13–79)	40·7 (27–56)
Number of relapses known	4	5

Discussion

We were fortunate in getting our cases early on, in the perio of the disease that was accompanied by jaundice. The averag number of days that the urine was dark before admission t hospital was 1.4 in our cases, compared with 4.4 in the methionine-treated cases reported by Wilson, Pollock, and Harri (1945). The dose of choline chloride that we gave—1.5 g. dail —is approximately one-third of that of methionine used by th Oxford and Cambridge workers. This gives comparable dosag as regards methyl equivalents, and is probably adequate.

The figures shown in Table II for the first day on which th serum bilirubin fell to 0.6 mg. per 100 c.cm. and for the duration of stay in hospital are a little lower for the treated tha for the untreated cases. It is thought, however, that thes results, as a whole, must be taken to show that choline chloride under the conditions of the experiment, had no therapeuti value.

Summary

Alternate cases of infective hepatitis were given 1.5 g. of cholin chloride as a supplement to a low-fat high-carbohydrate diet wit the addition of vitamins. Sixteen cases were so treated, and n significant benefit over 16 control cases was noted.

Our thanks are due to Prof. L. J. Witts for suggesting the work and sending us the choline chloride, and for his generous advice and help. We also wish to thank Col. W. H. O'Riordan, *M.C.*, for permission to forward this paper for publication.

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Medical Memoranda

Palindromic Rheumatism

This syndrome was described by Hench and Rosenberg (1941) on the basis of their findings in 34 cases; of these 19 were males and 15 females. They recorded multiple afebrile attacks of acute arthritis, peri-arthritis, and sometimes also para-arthritis with pain, swelling, redness, and disability. The attacks appeared suddenly, developed rapidly, and lasted for a few hours up to about 24, and recurred at short or long irregularly spaced intervals. The blood sedimentation rate was normal between attacks, but rose to an average of 24 on the uncorrected Westergren scale. The history in these patients extended over periods varying from 1 to 25 years, with from [illegible] up to 250 attacks a year. The attacks lasted from 3 hours to 6 days, and successive attacks affected different joints. The authors recognized the similarity to the angio-neural arthrosis described by Solis-Cohen (1911, 1913, 1914) and to the allergic arthritis described by Kahlmeter (1939), but the syndromes reported by the latter authors show certain fundamental differences from that of Hench and Rosenberg. Intermittent hydrarthrosis, excellently described by Garrod (1907), also differs from palindromic rheumatism in that the attacks generally recur in the same joint and at mathematically regular intervals. Cain (1944) recorded a single case apparently conforming exactly to the picture of palindromic rheumatism. No other case reports appear to have been published.

The following case seems to conform to the typical description:

A Port official was admitted to the Seamen's Hospital on Sept. 1, 1943. He gave a history of flitting pains in the joints, first noticed in 1930 after he had fallen into the river. The joints became painful and repeatedly swollen, and the disability lasted from 1 to 2 days at the most. There was great variability in both the type and the situation of the pain and also in its duration, but almost every joint in the body had at one time or another been affected. He had no constant symptoms except excessive perspiration. On examination tachycardia was present, but there was no other evidence of systemic disease. Temperature was normal throughout his stay in hospital. On the second day after admission he had swelling of the right knee-joint with erythema and tenderness. On the following day the left ankle-joint was affected. At subsequent periods during a six-weeks stay in hospital almost every joint in the body was involved. Blood sedimentation tests gave the following readings at approximately weekly intervals: 75/200, 43/200, 47/200, 51/200, 82/200, 10/200, and 23/200. A careful search revealed no focal sepsis. Radiographs of the chest were within normal limits. Electrocardiograms and the urine were normal. The Wassermann reaction, Kahn test, and gonococcal C.F.T. were negative. The white blood count was 9,000 per c.mm. (polymorphs 52%, eosinophils 1%, large mononuclears 3%, large lymphocytes 2%, small lymphocytes 42%). The blood serum did not agglutinate *Brucella abortus*. *X*-ray examination of bones and joints showed no pathological changes.

Various lines of treatment were tried, including a prolonged course of sulphathiazole, intramuscular injections of contramine, and the salicylates. The condition showed no improvement, and during the months which succeeded his stay in hospital the attacks continued almost exactly as before.

This complete therapeutic failure conforms to the experience of the authors quoted, and when the patient was last seen in Jan., 1945, his condition was virtually unchanged.

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Reviews

NEUROLOGY, PSYCHIATRY, ENDOCRINOLOGY

The 1944 Year Book of Neurology, Psychiatry and Endocrinology. Neurology, edited by Hans H. Reese, M.D. Psychiatry, edited by Nolan D. C. Lewis, M.D. Endocrinology, edited by Elmer L. Sevringhaus, M.D. (Pp. 712; illustrated. 18s. 6d.) Chicago: The Year Book Publishers; London: H. K. Lewis and Co. 1945.

The mass of medical literature continually poured out makes the busy practitioner more and more dependent on critical summaries and reviews such as are provided by the *Year Book of Neurology, Psychiatry and Endocrinology*. The current volume maintains the standard of its predecessors. Choosing articles almost at random, we note that Dr. Denny-Brown has concluded that epilepsy is an infrequent complication of injury to the head in general, and that laceration of the brain is an essential factor, particularly if resulting in a cerebro-dural scar. Early convulsions within the first eight weeks must be distinguished from true epilepsy, which is of later onset. The electro-encephalogram naturally receives attention from various writers. Now that so much interest is taken in the scientific study of delinquency it is important to observe that the E.E.G. has not proved of value in diagnosing the criminal mentality. It is of course abnormal when the criminal has an organic disease of the brain, but the psychopath shows the same departure from normal, whether a criminal or not, while the non-psychopathic offender shows a normal rhythm. Post-mortem records bring to light a much larger number of abnormalities of endocrine glands and of new growths in paranoid than in non-paranoid psychotics. Dr. Nolan Lewis is very cautious in his assessment of the value of shock therapy. He agrees with the general experience that insulin is preferable for schizophrenics and electric shock for the manic-depressives. Psychoneurotics show questionable benefit. There is no good evidence that damage is done to the brain, and fractures and dislocations are not frequent enough to interdict the treatment in carefully selected cases. It now seems to be established that the muscular weakness of myasthenia gravis is due to a failure in the synthesis of acetylcholine. The serum of a myasthenic patient can inhibit this synthesis *in vitro* and can produce the curare phenomenon in the isolated muscle–nerve preparation from a frog. The action of thiouracil is the subject of several papers. If rats are injected with radio-active iodine the drug can be traced to the gland and the consequent inhibition by thiouracil of its synthesis into di-iodotyrosine and thyroxine observed. The production of thyroid hormone stops promptly and almost completely when thiouracil is given. Clinically it brings down the basal metabolic rate, though this response is delayed when iodine has been previously administered. These few examples will give some idea of the varied interest of the *Year Book* for 1944.

AMERICAN MEDICAL PRACTICE

American Medical Practice in the Perspectives of a Century. By Bernhard J. Stern, Ph.D. (Pp. 156. 8s. 6d.) New York: The Commonwealth Fund; London: Oxford Medical Press.

This is a preliminary statement made by a committee of the Council of the New York Academy of Medicine, instructed to review the nature, quality, and direction of the economic and social changes taking place and to be anticipated in the U.S.A., and to report what the medical profession can do about it. It included doctors, dentists, nurses, and laymen. The book is well documented and contains a valuable series of monographs designed, presumably, to serve as a basis for a later report and recommendations. The problems dealt with have a strong resemblance to those which face the medical profession everywhere. The development of medical practice in the U.S.A. and the gradual rise of the doctor in the public estimation are well told. The question of "specialism" receives much attention because it is largely responsible for the rise in the cost of medical care, and has influenced the distribution of the profession. Its growth is traced largely to the introduction of expensive diagnostic instruments needing special competence to handle. There are no fewer than 14 certifying boards for "specialism" in the United States, and in 1942 there were 49 "specialists" to every 51 general practitioners. As they require elaborate hospital facilities they are found mainly in the large and more wealthy centres of population. "Specialism has complicated medical care in manifold ways and increased the cost tremendously." But it has had a stimulating effect on the work of the general practitioner, whose standard of efficiency is steadily rising.

The gradual decline of the family doctor is noted with regret because "the standards of general practice determine the quality of medical care which the rural and lower income groups receive." A survey in New York shows that two-thirds of the lower income group had no family doctor. There is a tendency to more and more "office" consultations in buildings in which the doctors can share the "overheads," but this is making the doctor more remote from his patients. Much attention is given to the problem of distribution of the profession. In the poorer areas where the population is increasing through high birth rates little inducement is offered for building up a practice; the young men are therefore attracted more and more to the wealthy areas. The greatly increased cost of medical education is a significant factor in deciding the distribution of doctors. It is estimated that it costs a minimum of 5,000 dollars to cover the student's career, and then there is the steadily mounting cost of his equipment. Great stress is laid on the fact that where the sickness and death rates are high the proportion of doctors is low. The lower income groups need more medical care than the others, but they spend less on it and get less, even taking into account charitable services. The death rate of the population is also shown to be related to the means of its various groups. The most striking instance of this is to be found in the negro population, where the death rate for males is 75% higher than for the whites, and for females 74% higher. The negro has a lower expectation of life now than the whites had 40 years ago.

In the next instalment of this interesting inquiry the Committee will, no doubt, try to suggest means whereby some of these anomalies can be reconciled and every citizen given the medical services he must have if the general health of the community is to be improved. The little volume is full of information and suggestions for all interested in medical sociology.

PARENTAL RESPONSIBILITY

Home-Life and the Community. By Leslie George Housden, M.D. (Pp. 66. 3s. 6d.) London: Eyre and Spottiswoode (Publishers), Ltd.

As Dr. Housden points out in this small book, which is sponsored by the National Association of Maternity and Child Welfare Centres and for the Prevention of Infant Mortality, much has been written and said about the subject of juvenile delinquency, but all too little stress has been laid on parental responsibility for preventing the asocial behaviour of the young. The morality of the adult population is lamentably low, and almost everyone is much more concerned with what he can get out of the future than with what he can contribute towards it. Education is given in almost everything except in the general art of living, and for this lack both school and home are responsible. Returns of losses from trading concerns, railways, etc., show what an appalling amount of petty theft goes on every day. How then can the children be expected not to steal and lie with the continuous bad example of their elders and "betters" before them? Another important cause of delinquency is that many children find the days so dull that stealing or sexual adventures are the only spice in life. Parents ought to be more concerned to see that their children's lives are more full and satisfying. Similarly clubs should satisfy the needs of the children, including the asocial youngsters, and be less concerned with the suitability of the boy or girl for the club. If children are more valued, respected, and taken notice of in the home there will be less trouble in the street.

This is a valuable tract for the times, which should be read by every interested citizen.

Notes on Books

Manual of Nutrition (H.M. Stationery Office; 1s.) has been produced by the Ministry of Food with the purpose of setting out the elementary principles for the benefit of a growing number of people whose work involves the preparation and processing of food or the planning of meals. Just as a competent aircraft pilot must understand the principles of flight, so must a caterer, a supervisor of an institution, or a cook, whether in the home, school, hospital, or canteen, understand the principles of nutrition. Without a grounding in nutrition it is impossible to know whether diets are satisfactory or not. The manual is divided into twelve lessons. The first part of the lesson deals with the various types of nutrient (fats, carbohydrates, proteins, minerals, vitamins), their energy values, digestion, human nutritional requirements, the composition of various foodstuffs, cooking, and the planning of meals and diets. The second part of the lesson consists of practical work based on the first part. There are simple questions at the end and an appendix giving the composition of the commoner foodstuffs. The text is well written and set out, the style is crisp and lucid, and the manual should be easily understood by anyone of moderate educational attainments. If it reaches the right hands, it should do much to improve the nutritional value of meals and prevent good food being wasted by bad cooking. The Ministry of Food is to be congratulated on this excellent piece of work.

We have received from the International Labour Office (3480 University Street, Montreal) a copy of Provisional Bulletin No. 7 reporting transactions of the Inter-American Committee on Social Security. This includes a paper by Dr. Martha M. Elliott on the emergency maternity and infant-care programme in the United States.

Preparations and Appliances

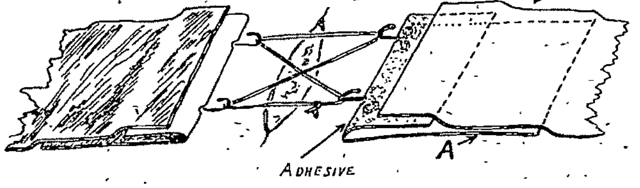
ADHESIVE CORSET DRESSING FOR GAPING WOUNDS

Dr. M. Lichtenstein writes from Glasgow:

One very annoying complication of operative and, especially abdominal surgery is the breaking down of a wound which had been stitched and considered healed. Often the starting-point of this breakdown is a ligature, sometimes a low-virulence infection of the subcutaneous fat, and occasionally excessive pressure from within the abdomen. Whatever the cause of the breakdown, it usually involves the thickness of the skin only.

The dressing of such a wound presents a complicated problem, using up great quantities of material and many reels of adhesive strapping, and taxing to the utmost the skill and resources of the nursing staff, often without achieving much progress.

The use of an adhesive "corset" dressing as described below simplifies dressing and, by relieving the tension on the skin lessens the gap between the two edges of the wound and thus accelerates healing. One important point, which cannot be stressed too much, is that the adhesive tape must be non-elastic, otherwise it would defeat its purpose. No authorship is claimed for the method, and it is being published only in the interest of those who might not have heard of it.



The Method

1. Four strips of non-elastic adhesive tape, 2 to 3 in. wide and 6 to 8 in. long, are cut.
2. Two of the strips (A) have their ends doubled back, adhesive side outwards, and with a pair of scissors two or three little holes are cut in the line of the bend, for the hooks, which are then inserted, the loops of the hooks being hidden inside the non-adhesive part of the tape, while the business ends protrude from the adhesive surface.
3. These two strips are now applied, the adhesive surface adhering to the skin all along except for the terminal 2 in., which are doubled back, reaching to within 3 to 4 in. of the edges of the wound, the hooks protruding through the holes.
4. Now the other two strips (B) are applied on top of the first ones, to cover the adhesive surface of the first from just behind the hooks and to continue along the non-adhesive surface and further beyond it.
5. A lint or gauze dressing, with or without waterproof or cotton-wool, is now applied to the wound.
6. A narrow tape or lace can now be passed over the projecting 4 or 6 hooks and drawn tight, thus approximating the edges of the wound and promoting early union.

To change the dressing one has only to unlace the narrow lace, apply a new dressing to the wound and re-lace. The whole procedure of changing a dressing is thus completed in a few minutes. The hooks should be rather big, not less than about half an inch, and can be easily procured in any haberdashery shop. Their ends have to be slightly separated to allow for the thickness of the tape.

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THE REPRESENTATIVE MEETING

It is another sign of the return to normal conditions that the Annual Representative Meeting (reported in this week's *Supplement*) should have got back to its old place in the calendar, at the end of July, although the peripatetic habit of the Association of holding its Annual Meetings in different towns cannot yet be restored. But the fact that the previous Annual Representative Meeting took place less than eight months ago naturally lessened the amount of business to be transacted last week, and there was some speculation whether the meeting could extend itself over the three days allotted to it. Moreover, the negotiations over the proposed National Health Service, which have been the great preoccupation of recent months, were dealt with at a Special Representative Meeting held as recently as May. The proceedings last week were described as dull, pedestrian, and domestic. They might be likened to a plain between two peaks, one of which—namely, the shaping of the Association's policy on the Government proposals—has already been scaled, while the other, of unknown height and contour, remains to be tackled. On the last day of the meeting, with the Election results announced from hour to hour, this further peak suddenly loomed out of the mists to assume a precipitous and somewhat forbidding aspect. At the very moment when it was announced that the country had given a firm mandate to a Labour Government the meeting was engaged in the only internal controversy which disturbed it. A motion was brought forward from one Division which implied a criticism of the "platform" for its alleged habit of instructing, instead of being instructed by, the floor. The motion found little or no support in the meeting, but it led to a plea from a familiar quarter to have done with such carping in view of the obvious need for a united front now that a Government was to be in power with a salaried State medical service as one of its objectives.

The debate on the National Health Service proposals, to which an afternoon was devoted, covered much ground already fought over, and from which the slain had scarcely been removed. The proposal of a corporate body for the control and administration of the new service again came forward. One of the features of a debating assembly is that a settled issue has only to appear in a new form for the subject to be reopened. In this way greater wisdom may come from fuller discussion. The motion for a corporate body was again rejected, as was a motion that the control of the service should be vested in some other quarter than the Ministry of Health. The other big debate was on a proposal by Belfast that all persons compulsorily insured in the new service should have a right to "opt out," and, moreover, should receive a financial grant towards their private contract. This motion was carried by a majority of forty. The ruling of the platform was that it was not considered a reversal of Association policy. Even had it been so considered it would just have failed to secure the necessary two-thirds majority. But in view of the upsetting of the chessboard owing to the new political situation these debates seemed a little unreal.

The question of the demobilization and return of doctors to their practices was very much in mind throughout the meeting. It was also the theme of Mr. H. S. Souttar's presidential address—the shortest and most succinct address ever made from the chair of the Association. He declared that the release of men from the Forces and their re-establishment in civil practice is the most important problem facing the profession at the present time. He also spoke of the inadequacy of the Government offer of refresher courses for such released officers; he hopes to see it made into something much bigger and the starting-point of a great future system of postgraduate education in which all will share. As for re-establishment in practice, Mr. Souttar did well to point out that, whilst some fortunate ones will come back to a place waiting for them, in partnership or otherwise, many others will experience financial difficulty in resettlement, and the giving of adequate and unstinted help to these men is no matter of charity at all but the payment of a general debt and the setting of a seal to the brotherhood of the profession.

A good deal of impatience was expressed by various speakers in the Representative Body at the tardiness of release from the Forces, and a resolution was passed, without dissent, recording dissatisfaction with the present demobilization scheme. More than one speaker pointed out that the civilian medical profession is ageing; it is tired and overworked; it has had no replacements; it has given up to the Services its most active and valuable men, those in early middle age. Col. Proctor told a sombre story of the estimated present demands of the Services for medical personnel, stressing the need of the Army for the Japanese War. The Chairman of Council gave a hint of the pressure which the Association was bringing to bear upon the Government to secure speedier release and a long-term programme. The position of Service medical officers, without information as to the probable date of their return to civilian practice, was intolerable. Better news might be forthcoming in the next few weeks.

The Representative Meeting bade farewell to Dr. Peter Macdonald, who had presided over six Representative Meetings, three annual and three special—a more crowded term than has fallen to any chairman since the introduction of National Health Insurance, when nine Representative Meetings were held within about two years. For the dignity, ability, and courtesy with which he has presided he richly deserved all the praise that was given to him. He is succeeded by Dr. J. B. Miller, of Bishopbriggs—not, as some newspapers called him, the first Scottish chairman, for the retiring chairman himself is a son of Aberdeen, but the first Scottish practitioner to take that office. He will have an excellent deputy in Dr. E. A. Gregg, who has gained his spurs in his long chairmanship of the Insurance Acts Committee.

MILK STILL UNSAFE

What was on the whole rather a dull Annual Representative Meeting was enlivened by Mr. Lawrence Abel's forthright onslaught on the Government for what the Chairman of Council described as its criminal negligence in allowing the public to consume contaminated milk. Mr. Abel was all for hanging on the nearest lamp-posts ex-Ministers of Health and their permanent officials—and by this effective device of exaggeration expressed the disgust of the medical profession at the callous inertia of officialdom. As Dr. Dain observed, you can be punished for adding water to milk, but not for infecting the unprotected consumer with it. A recent answer in the "Any Questions?" section of the *Journal* has brought to light a scandal that needs exposing.

In a White Paper two years ago the Government announced its intention of taking power to exercise closer control over the quality of milk as it reached the consumer.[1] The Minister of Food was by Regulation to make it an offence to sell milk in any area which he might schedule unless the milk was either heat-treated or from disease-free animals. The White Paper was followed by a Defence Regulation (55G) giving the Ministry power to specify the areas in which only such milks might be sold. But now, as the result of an inconspicuous question and answer in these columns, we have it disclosed by a senior medical officer of the Ministry of Health that no such areas have yet been specified, and that even if any areas are specified before the Regulation is annulled they will not cover the whole country. One is left wondering what secret history lies behind this extraordinary example of departmental bad faith.

In 1943 the Government seemed to be acutely alive to the dangers of milk. In February of that year Lord Woolton, then Minister of Food, received an important deputation, led by the British Medical Association, which pressed on him the need for pasteurization of milk as the only practicable safeguard without serious disadvantages.[2] The chief spokesman of the deputation, Prof. R. M. F. Picken, now President of the Society of Medical Officers of Health, declared that few questions in preventive medicine commanded the same unanimity of approval as pasteurization. Lord Woolton was obviously impressed. He said he found it difficult to resist the weight of scientific and professional evidence which had been assembled. He recognized fully the obligation of the Government to obtain a milk supply which could do no harm, or alternatively to issue instructions as to how people could obtain reasonable security. A few months later, in July, speaking in the House of Commons, Mr. Robert Hudson, then Minister of Agriculture, declared it to be the Government's intention to prohibit in areas to be scheduled the retail sale of milk which did not belong to one or other of the three categories: T.T. milk, "accredited" milk from a single herd, and milk rendered safe by means of heat treatment. In the House of Lords Lord Woolton was even more explicit. He said that within a year and a half the Government would be able to ensure a pasteurized supply to cover the whole country where rationalization schemes of milk delivery had been introduced. In other words, wherever bulked milk was sold it would be pasteurized. The eighteen months of Lord Woolton's prediction expired last January, and it is now August. But all these fine promises have come to nothing, and the medical man who sees his patient die from infected milk is sickened by this example of political callousness.

It is true that Parliament has shown reluctance to make pasteurization compulsory, and that there are milk-selling farmers who hold the view expressed by one of them that if Nature had intended milk to be pasteurized she would have arranged that it came pasteurized from the cow. They might as well have asked themselves whether Nature intended cow's milk to be drunk by any animal other than the calf. But a wartime Government has overridden many prejudices and obscurantism among its supporters in Parliament and in the country, and it certainly seemed from the attitude of Ministers in 1943 that the battle for pasteurization had been won, and that the only obstacle was the lack of adequate facilities in some areas. In the answer given in this *Journal* which elicited the revealing comment from the Ministry of Health it was stated that "legislation" had been passed which would make it compulsory for all milk, with the two exceptions already named, to be pasteurized. The word "legislation" was not strictly accurate if an Act of Parliament is meant, but with a Government virtually having dictatorial powers the undertaking of Ministers that a certain thing will be done within a given time, which undertaking was followed by a Defence Regulation to the same effect, is in these days "legislation" enough. The Defence Regulation was issued. On January 25 of last year Col. Llewellin, who in the meantime had become Minister of Food, told the House of Commons that the new Regulation imposed restrictions on the sale of raw milk in certain areas. But apparently the Regulation is just a scrap of paper. It named certain milks which alone might be sold in specified areas, but no area has ever been specified. It would have amounted to the same thing had it named certain areas in which only specified milks might be sold, and then had failed to designate the milks. This is surrealism at its most subconscious.

The matter is the more strange because every effort was to be made to enlist the co-operation of the trade. Pasteurization admittedly adds to the cost of milk—2d. a gallon, or over £10 million a year—though the cost is trifling compared with the preventive value of the procedure. Indeed, considered in a large way, pasteurization should be regarded as a great economy for the dairying industry, eliminating much of the unnecessary duplication of milk rounds which still exists in many places. In any case the dairyman and retailer were to receive the full remuneration guaranteed by the Government to milk producers and the full margin allowed to retailers. Not only so, but the local associations of dairymen and producers, who had already been requested to prepare plans for the rationalization of retail distribution, were to be asked further to submit plans for organizing in their districts the heat treatment of milk. If the trade could not make the necessary arrangements the local authority was to step in and install and operate pasteurizing plant, being treated as wholesalers for the purpose. All this was in the White Paper. How much has been done in these directions we do not know, but the fact remains that the compulsion plainly indicated in the Ministerial statements in 1943 has not—to use the official jargon—been implemented.

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[1] "Measures to Improve the Quality of the Nation's Milk Supply." Cmd. 6454. 1943.

[2] *British Medical Journal*, Feb. 27, 1943.

We are left to speculate what the drag on the wheel may be—departmental lethargy or the opposition of agricultural interests. The Ministry of Agriculture was never conspicuous for its zeal in the battle for clean and safe milk, but a prominent officer of the Ministry in a debate on the subject at the Royal Society of Medicine in the present year[3] said that if there were medical officers who thought there was opposition to pasteurization from the veterinary point of view they might be reassured. He left it to be inferred that in the view of his Ministry pasteurization was not an agricultural problem but a matter to be decided on medical grounds. Public health was the touchstone. Another dairying authority, Prof. H. D. Kay, director of the National Institute for Research in Dairying, has declared that the pasteurization bogy is now satisfactorily laid.[4] Careful scientific experiment extending over some years, he says, has shown that properly controlled commercial pasteurization causes practically no nutritional damage to milk. "In the near future"—this was in 1942—"it will almost certainly be a national requirement that all milk sold for liquid consumption shall either be effectively pasteurized or shall be from disease-free animals."

It is to be hoped that the new Parliament will have a quickened conscience in this matter. R. L. Stevenson said that politics is the only profession for which no preparation is thought necessary. If, as would happen in the ideal State, our new legislators underwent a period of intensive education, this should include a visit to an orthopaedic hospital or children's sanatorium. One-third of the deaths from tuberculosis in children under 5 years are due to the bovine organism—2,000 deaths a year, with, of course, a much larger incidence of invalidism and crippling. The American troops in this country have not been allowed to drink milk unless it was both from tuberculin-tested herds and had been pasteurized; yet, so far from insisting on the double protection, we do not even make universal the simpler of the two expedients. It is an amazing thing that, despite all the "safe milk" campaigns and all the apparatus of inspection and control, some part of the British public should still be exposed to the perils of raw milk. Is it too much to demand compulsory pasteurization in all areas, and, pending the availability of pasteurizing plant in any district, an official intimation to the public that milk must be boiled before its consumption is allowable?

LABOUR AND MEDICINE

We record elsewhere in this issue the successes and failures of the 37 doctors who stood as candidates in the recent Election. Of the 13 returned there are 9 Labour members, 2 Conservatives, and 1 Liberal National. Sir Ernest Graham-Little (Independent National) has been re-elected as the representative of London University. The Election results for the Combined Scottish Universities are to be announced after the *Journal* has gone to press.

Before it had been decided to hold an Election in July it was thought that negotiations with the Minister of Health on the White Paper had reached such a stage as to make the presentation of a Bill to Parliament a likelihood before the end of the recent session. There would have been one great advantage in this, and that is that the contents of the Bill would have been determined with a Government in which political forces were more or less evenly balanced. But now that the Labour Party is in power with a large majority we may find the results of prolonged and difficult negotiations "in the discard." The Labour Party's policy on a "National Service for Health" is set forth in a 24-page pamphlet published in 1943.[1] This pamphlet began with two questions: (1) "Do we need a State Medical Service?"; (2) "If so, on what lines should it be planned?" In the chapter purporting to give the reasons why a State Medical Service is necessary there are two sentences which crystallize the view of the Labour Party and provide an answer to the questions which must now be exercising the minds of all medical men in Great Britain. They are these:

> "(1) We said that the system must offer *a fair deal to doctor and patient* alike; but we found that only a system of whole-time, salaried, and pensionable doctoring would meet these requirements."
>
> "(2) Do you not agree with the Labour Party that the Medical Service should be developed, as rapidly as conditions permit, into a State Medical Service, as part of a comprehensive National Service for Health?"

It may, of course, happen that the new Government will instruct the new Minister of Health to continue negotiations at the point where Mr. Willink left off. But the antagonistic attitude of left-wing papers to the B.M.A. does not encourage this view. So our negotiators, who are all busy practising their profession at a time of acute shortage of doctors, are presumably to be faced with the prospect of going over the same ground again. According to its declared policy, the Labour Party is anxious to give a fair deal to the medical profession, and expresses the hope that "the Medical Service should be so organized as to enable the medical profession to pull its weight effectively in all those tasks of a democratic government which affect the nation's health." That doctors do want to make their weight effective was strikingly shown at last week's A.R.M. debate on the pasteurization of milk. The attitude and action of a Labour Minister of Health on this question will be for the profession a touchstone of the sincerity of the above statement of policy.

If the organized medical profession is to have a really effective voice in shaping a service which will be a potent force in preserving the health of the nation then it must be consulted at each stage of development, and must be adequately represented at all levels of administration. When we look at the Labour Party's plan of organization some things stand out on which there would be little disagreement—for example, the proposal to concentrate in one Health Ministry all those health services now controlled by other Government Departments, and to separate from the Ministry all those services which affect health only indirectly. But there is little in these proposals to suggest that the Labour Party really intends the medical man to pull his weight. He cannot do this if, for example, he is excluded from the proposed Regional Health Committees, and if he is suffered to act only in an advisory capacity at this and other levels of administration. Lastly, there are two points of policy which will be of concern and interest to both the general practitioner and the consultant. The first is a suggestion that it is not possible for it to meet the present situation by extending the National Health Insurance Scheme; the second is the statement that "before long the voluntary hospitals will come under the control of the local authorities, and [that] conditions of service and staff in all the hospitals will become standardized."

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[3] *British Medical Journal*, March 10, 1945.

[4] *Nature*, July 11, 1942.

[1] Transport House, Smith Square, London, S.W.1. Price 2d.

PSYCHOSIS DUE TO MEPACRINE

It is now common knowledge that the success of the Allied Forces in the Pacific in withstanding and then routing the Japanese invaders was greatly endangered in the earlier stages of the war by malaria, and that this danger has now been overcome mainly by the prophylactic use of mepacrine (atebrin). Mepacrine was first synthesized by the Germans in 1932, and its availability in 1942 (when the supply of quinine was cut off by the loss of Java) was an important factor in defeating Germany's ally. All powerful drugs have their disadvantages, and mepacrine is no exception: attention has been recently drawn again to the cerebral disturbances which occasionally follow its use.[1] These disturbances have been noted at intervals ever since mepacrine was first used, but they are not common. Thus Kingsbury[2] observed 12 cases of psychosis among thousands of Malayans who had been treated; and Hoops[2] had only one case of mental excitement among 1,207 cases of malaria treated. On the other hand, during the Ceylon malaria epidemic of 1935 Briercliffe[2] recorded that 15 cases of delirium developed among some hundred persons who took the drug by mouth. Bispham[3] in 1941 analysed the toxic effects seen when 49,000 cases of malaria had been treated with mepacrine; he noted that cephalalgia, mental depression, delirium, psychoses, and convulsions may occur, but the rate of incidence was very low. Field[4] estimated the occurrence of mepacrine psychosis as less than 0.1% of cases treated; the symptoms began just before or just after the end of treatment; the patients showed signs of excitement, confusion, or even mania, and the symptoms gradually subsided, after having lasted for approximately one week. Cerebral disturbances have occasionally occurred in the Australian Forces, but they have been rare and have usually appeared in men who had taken excessive amounts of mepacrine during self-medication.

The cases reported in a recent paper by Gaskill and Fitz-Hugh[1] of the American Army occurred on fairly low doses—namely, 2.1 g. given during about 6 days in the treatment of acute attacks of malaria. The symptoms, though interesting, were quite rare, affecting only 35 men out of 7,604 who were treated—i.e., only 0.4%. The onset took place between the third day after the beginning of treatment and the twelfth day after its end. There were two main types. In one there was an abrupt change of behaviour with an increase in motor and psychomotor activity; sometimes hallucinations, delusions, and disorientation occurred; the general impression was of euphoria and expansiveness. In the other type there was a gradual and insidious onset of retardation of the mind and confusion; there was a gradual clouding of the sensorium, with disorientation and loss of recent memory; the patients were withdrawn and seclusive; and the general picture was one of bewilderment and fearfulness. Laboratory tests showed nothing abnormal. Treatment was palliative. Thirty-three of the 35 patients recovered completely, the average time needed being 23 (8–85 days). When the return to normal behaviour began it was completed quickly in one to two days. Subsequently half of these patients were given the same course of mepacrine again, and no serious symptoms occurred. As regards diagnosis, the chief point is to exclude cerebral malaria, which should be suspected in all cases of peculiar mental reaction in the Tropics until disproved. In psychosis due to mepacrine it should be noted that the patients have recently received antimalarial treatment, that the slight initial fever which may be present in a few cases subsides in 12 to 24 hours, that the symptoms are all psychiatric, that the behaviour pattern remains constant, and that there is no objective neurological disturbance. The explanation of these cases is not clear. It is known that very large doses of mepacrine cause mental disturbances even in normal persons; but in the patients just described the dose was not abnormally high. Probably a combination of mepacrine, malaria, personal idiosyncrasy, and the hardships of warfare may be involved. Whatever the cause, it should be remembered that these toxic effects are rare and relatively unimportant compared with the damage which can be caused by malaria. It is interesting and useful to know that they can take place, but their possibility should never deter the confident use of this valuable prophylactic and therapeutic antimalarial compound.

CARE OF THE AGED

Realization that we are faced with the prospect of an increasing proportion of the aged in our population has had medical and social effects, which are naturally intertwined. The books reviewed in our columns show how much attention is being paid to the study of "geriatrics," while recent correspondence in the *Times* (July 7, 9, 11, 12, 14, 16, 17) gives an impressive idea of the efforts now being made to grapple with the social problems involved. Indeed, so many agencies seem to be at work that there may be some risk of overlapping, for there is little evidence of co-ordination in these beneficent enterprises. It is, however, clearly recognized that different types of homes are needed for the widely different classes to be catered for, varying from complete hospital facilities to provision for single persons or married couples. The Westminster Housing Association, for instance, prefers mixed communities to a segregated colony of aged people alone. There is a large class who long for the independence of their own room and latchkey, with their own "bits and pieces." Institutional life is not for them if they are to remain in any way content, and this other plan is the one favoured by the Church Army housing committee. Now that interest has been so thoroughly aroused and the importance of the subject realized one may fairly hope that funds will be forthcoming and that our national capacity for adapting means to ends will declare itself in this much-needed work.

The Central Medical War Committee is informed by the Director-General of Medical Services of the R.A.F. that under Class A of the reallocation scheme Groups 1 to 8 will be released by September, Groups 9 and 10 during September, Groups 11 and 12 in October, Groups 13 and 14 in November, and Group 15 in December. This is the minimum rate of release, and if the rate of general release in the Service is speeded up the rate of release of medical officers will be speeded up also.

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[1] Gaskill, H. S., and Fitz-Hugh, T., jun., *Bull. U.S. Army med. Dept.*, 1945, 86, 63.

[2] *Bull. Hlth. Org. L. o. N.*, 1937, 6, 895.

[3] *Amer. J. trop. Med.*, 1941, 21, 455.

[4] *Bull. Inst. med. Res. Fed. Malay States*, 1938, No. 2.

THE RETURN OF THE DOCTOR*

BY

H. S. SOUTTAR, C.B.E., M.Ch., F.R.C.S.
President of the British Medical Association

I am confident that I shall meet with general support if I say that the most important problem facing our profession at the present time is the return of medical men from the Forces. It presents two aspects—their release from the Forces and their establishment in practice—and as both these aspects have engaged the attention of the Association for many months I felt that they would form an appropriate subject for a short presidential address. Both aspects involve problems of the greatest complexity to which I can refer only in the briefest outline, but I hope to be able to convince you that these problems are being attacked with the whole power of the Association and that with the good will of all of us they will be solved.

Classes for Release

Release from the Forces must follow the plan laid down for demobilization in general and falls into two classes: Class A being the general routine, Class B dealing with special cases. So far as is possible releases should be in Class A, which depends entirely on age and length of service, for any departure from this means that men will be delayed from release in their proper category. Even, however, where a category is due for release, and particularly in the case of specialists, it may be impossible to effect this without substitution. For this reason it is imperative that the recruitment of young practitioners should continue, and that all the available specialists up to the age of 35, or in some cases even 40, who have not already served in the Forces should be prepared to take their turn.

In Class B release may be obtained for those who are urgently needed for work of national importance—in some cases for civilian needs of extreme urgency, in others for the teaching staffs required for the training of students, both undergraduate and postgraduate. These must, however, be jealously guarded, as a large number of releases out of turn in Class B means a delay in Class A. Released doctors will fall into three classes.

Class I consists of those who joined the Forces soon after qualification. In general these men have held a short hospital appointment, but before joining up they had only a very limited clinical experience, and they require further experience under supervision before engaging in practice. Others in this group were on their way to a university degree, but were prevented by recruitment from achieving it. It is the intention of the Government that for all these there should be available hospital appointments carrying a salary of £350 a year and all found, and with special family allowances for those who require it. Such an appointment held for six months, with its opportunities of clinical experience under skilled supervision, would be of inestimable value at such a critical moment in a young doctor's career. If he wishes to go into practice it will give him the opportunity of looking round and finding a congenial opening; if he wishes to take a higher degree it puts him well on the way towards this. It is estimated that the number of individuals in this class is now about 10,000, but, of course, they will only appear in limited numbers as demobilization proceeds.

Class II consists of those who were engaged in general practice before recruitment. Naturally their first anxiety will be to get back to their practices, and to this they will undoubtedly be urged by their overworked colleagues. Many of them will, however, feel the need for refresher courses so that they may regain their clinical touch in civilian work, which is so utterly different from work in the Army, and so that they may learn something of recent advances in medical science. The Government offers a completely inadequate period of two weeks, but they agree that the refresher course may be taken at any time within a year of release, that travelling and subsistence expenses will be paid, and that the cost of employing a locum will be provided if necessary. Whatever the views of the Government, we hope that the hospitals will see that adequate courses of at least a month are provided, and that these are so arranged as to meet in every way what is needed. The urgent need for our future medical service is to be efficient. One may indeed hope that such refresher courses may only be a starting-point of a great future system of postgraduate education in which all of us will share, and that they may initiate the close co-operation between our hospitals and general practice to which we look forward in the future.

Class III consists of those who are aiming at a specialist career and who wish to pursue it on their release. For them posts of the registrar type will be found, especially in the teaching hospitals, and they will be paid £550 a year with board and lodging. Arrangements for these appointments—and this applies also to Classes I and II—will be made through the universities, and it is already generally agreed that the experience which the candidate has already gained will be counted towards the requirements for entry to the higher examinations, and will receive consideration from those whose duty it is to conduct examinations.

Back to Practice

There still remains the problem of establishment in practice, and here the responsibility shifts from Government Departments and examining bodies, and must be accepted by ourselves. It is we who must make the path smooth for the returning doctor, and more especially for those who are entering general practice for the first time. Some fortunate men will return to a share in an established practice, where they will be welcomed with more than open arms. Some 10,000, however, will have to find openings, and without our help they may not find it too easy. Much careful study has been given to their problems, and they will find the Association ready with full information of the openings available and prepared to give not only advice but very substantial help. Assistantships can be arranged at once, and if these mature into a mutual desire for partnership provision can be made for the necessary finance. If, for example, a doctor without capital desires to purchase a practice arrangements can be made through the services of the Medical Insurance Agency by which he can obtain the whole sum required at a low rate of interest. Such an arrangement offers a double advantage, for not only does it benefit the young practitioner setting out on his career, but it also relieves the anxieties of the older man who has held the fort so magnificently against all the odds of age and overwork until the young man could return.

There will still remain difficult cases in which all the help that can be given from official sources must be quite inadequate. To meet such cases in the early days of the war we instituted a Medical War Relief Fund, which has reached the sum of £54,000, of which £24,000 has already been spent in relief. After what I have seen for myself of the amazing relief which has been brought to individual cases by this fund I would urge that now is the moment to raise it to an amount commensurate with the occasion, and that we should use this opportunity to prove to those who have given such great service to their country that we appreciate what they have done and will give them all the help that they have so fully earned.

Here is no question of charity; rather is it the payment of a debt that we owe; but most of all we should be setting our seal to the brotherhood of our profession and to our determination that those who have suffered through no fault of their own shall be able to turn for support to those of us who have been more fortunate. I should like to see the fund raised to such a sum as will ensure that we shall be able to give to all those who need it the adequate and unstinted help which I know we all desire. Ours is a great profession. Let us see to it that in the years to come it is a great brotherhood.

An educational lecture on oxygen therapy is available to medical superintendents, sister tutors, and other lecturers. It traces the history of oxygen therapy, the principles and applications, and the forms of apparatus in use to-day. The text is supplied in typescript written in a style suitable for presentation to doctors, nurses, and students, and takes about 40 to 45 minutes in all. A series of lantern slides accompanies the text and illustrates the manufacture of oxygen, the installation of oxygen in hospitals, and various types of apparatus used from the most primitive form to the latest design. Details of the lecture—which is loaned without charge—may be had from Oxygenaire Ltd., 8, Duke Street, Wigmore Street, London, W.1.

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* A brief address on his election to the Presidency of the Association at the Annual General Meeting on July 25.

THE GENERAL ELECTION

MEDICAL MEMBERS OF THE NEW PARLIAMENT

Of the 37 medical men and women who stood as candidates for Parliament at the recent General Election 13 were elected. Of these 9 are members of the Labour Party, 2 Conservatives, 1 Liberal National, and 1 Independent National. (The result of the Combined Scottish Universities Election had not been received at the time of going to press.)

The following 6 medical candidates, who were members of the last Parliament have been re-elected: Sir Ernest Graham-Little, Dr. L. Haden Guest, Dr. H. B. Morgan, Sir Henry Morris-Jones, Major B. Neven-Spence, and Dr. Edith Summerskill.

SUCCESSFUL CANDIDATES: POLLING FIGURES

WEST HAM (SILVERTOWN):	
Dr. L. Comyns (Lab.)	**9,358**
Squadron Leader E. Elverston (C.)	494
Capt. A. Davies (Ind.)	401
LONDON UNIVERSITY:	
Sir Ernest Graham-Little (Ind. Nat.)	**7,618**
Mrs. Mary Stocks (Ind. Prog.)	7,469
ISLINGTON (NORTH):	
Dr. L. Haden Guest (Lab.)	**23,234**
Capt. C. Rhys (C.)	11,240
BARKING:	
Dr. Somerville Hastings (Lab.)	**24,504**
K. E. B. Glenny (C.)	5,593
C. H. Willcock (L.)	4,674
ST. PANCRAS (SOUTH-EAST):	
Dr. S. W. Jeger (Lab.)	**10,030**
Sir A. Beit (C.)	5,320
Mrs. A. Blackman (L.)	1,474
ROCHDALE:	
Dr. H. B. Morgan (Lab.)	**22,047**
Wing Cmdr. E. M. Nicol (C.)	16,852
C. G. C. Harvey (L.)	10,211
DENBIGH:	
Sir Henry Morris-Jones (L. Nat.)	**17,023**
Wing Cmdr. G. Evans (L.)	12,101
Lieut.-Cmdr. W. L. M. Jones (Lab.)	11,702
ORKNEY AND SHETLAND:	
Major B. Neven-Spence (C.)	**6,304**
Major J. Grimond (L.)	5,975
P. J. L. Smith (Lab.)	5,208
PRESTON (2 seats):	
Squadron Leader S. Segal (Lab.)	**33,053**
J. W. Sunderland (Lab.)	32,889
Major R. Churchill (C.)	29,129
Capt. J. Amery (C.)	27,885
Flight Lieut. J. M. Toulmin (L.)	8,251
P. J. Devine (Comm.)	5,168
YORKSHIRE, WEST RIDING (PUDSEY AND OTLEY):	
Lieut.-Col. M. Stoddart-Scott (C.)	**22,755**
Major D. W. Healey (Lab.)	21,104
Brig. T. Clarke (L.)	8,592
STOKE-ON-TRENT (HANLEY):	
Dr. B. Stross (Lab.)	**21,915**
Capt. J. P. A. L. Doran (C.)	10,313
FULHAM (WEST):	
Dr. Edith Summerskill (Lab.)	**19,537**
Wing Cmdr. P. B. Lucas (C.)	12,016
HERTFORD (BARNET):	
Dr. S. J. L. Taylor (Lab.)	**17,764**
Brig. A. E. J. Clarke (C.)	17,082
Miss J. M. Henderson (L.)	4,495

Medical Candidates Not Elected

The following members of the medical profession were defeated at the polls. Several had previously represented or contested either the same or other constituencies. An asterisk denotes that a candidate sat in the last Parliament.

Surg. Lieut.-Cmdr. R. F. B. Bennett (C.), Woolwich (East).
Mr. L. Graham Brown (L. Nat.), Bedford (Luton).
Lieut.-Col. Leonard F. Browne (Lab.), Cumberland (Penrith and Cockermouth).
Flight Lieut. H. B. O. Cardew (Lab.), Somerset (Weston-super-Mare).
Dr. D. J. Cavanagh (Irish Nat.), Londonderry.
*Sir J. Douglas Cooke (C.), Hammersmith (South).
*The Rt. Hon. Walter E. Elliot (C.), Glasgow (Kelvingrove).
Major G. A. D. Gordon (L.), Richmond.
Dr. B. Guyster (L.), Leyton West.
Surg. Cmdr. J. J. Hayward (Nat.), Monmouth (Abertillery).
Dr. Charles Hill (Ind.), Cambridge University.
Dr. T. Rowland Hill (L.), Cornwall (Camborne).
Dr. Elizabeth Jacobs (Lab.), St. Marylebone.
Dr. E. F. St. J. Lyburn (Ind.), Kent (Tonbridge).
*Dr. R. D. MacIntyre (Scot. Nat.), Lanark (Motherwell).
Dr. G. C. Milner (Ind.), Kent (Orpington).
Dr. D. Stark Murray (Lab.), Richmond.
Dr. W. B. J. Pemberton (L. Nat.), Bermondsey (West).
Dr. Dorothy A. Sharpe (C.W.), Chelsea.
Major R. Scott Stevenson (L. Nat.), Fife (West).
*Dr. W. S. Russell Thomas (L. Nat.), Southampton.
Flight Lieut. R. N. Tronchin-James (L.), Reading.

BRITISH MEDICAL ASSOCIATION

Scholarships in Aid of Scientific Research

Scholarships

The Council of the British Medical Association is prepared to receive applications for research scholarships as follows: an Ernest Hart Memorial Scholarship of the value of £200 per annum, a Walter Dixon Scholarship of the value of £200 per annum, and four research scholarships, each of the value of £150 per annum. These scholarships are given to candidates whom the Science Committee of the Association recommends as qualified to undertake research in any subject (including State medicine) relating to the causation, prevention, or treatment of disease. Preference will be given, other things being equal, to members of the medical profession. The scholarships will be tenable for nine months in the first instance, commencing on Jan. 1, 1946. A scholar may be reappointed for not more than two additional terms of one year each. A scholar is not necessarily required to devote the whole of his or her time to the work of research, but may be a member of H.M. Forces, or hold a junior appointment at a university, medical school, or hospital, provided the duties of such appointment do not interfere with his or her work as a scholar.

Conditions of Award: Applications

Applications for scholarships must be made not later than Saturday, Dec. 1, 1945, on the prescribed form, a copy of which will be supplied on application to the Secretary of the Association, B.M.A. House, Tavistock Square, London, W.C.1. Applicants are required to furnish the names of three referees who are competent to speak as to their capacity for the research contemplated.

SOCIETY OF BRITISH NEUROLOGICAL SURGEONS

This society held its 33rd meeting in Edinburgh under the presidency of Mr. Norman Dott on June 1 and 2, 1945. It is proud of its record, having met at least once in each of the war years. Naturally, difficulties of travel prevented the usual round of visits which the society used to pay, and all its previous wartime sessions have been in London or in Oxford. The Edinburgh session was a great event, for not only were the papers of outstanding scientific interest but the feeling of tension and urgency that marked late occasions was abated. A few papers of special importance were Prof. D. K. Henderson's on the advantages of prefrontal leucotomy, Dr. Paterson's on psychiatry on an organic basis, the description by Mr. Alexander of the operation devised by Mr. Dott and himself for the relief of spinal compression in Pott's disease, and the account given by Mr. Dott and Dr. Blackwood of the clinical and pathological effects of too-heavy doses of *x* rays on the brain and of radiosensitivity of meningiomas. Since these and other papers of equal merit will be published eventually there is no need to enumerate them in full. By special request Lieut. Pudenz, of the U.S. Naval Medical Service, showed his fascinating colour film of brain movements during head trauma. The collaboration of the British Medical Research Council and the American Board of Scientific and Medical Research had made this visit possible. It was greatly valued by all who took part.

Correspondence

Toxic Properties of Sting-ray's Sting

SIR,—In a recent paper by Dr. E. W. Gudger entitled " Is the Sting-ray's Sting Poisonous ? A Résumé showing the Development of our Knowledge that it is Poisonous "[1] a full account of my work on the spine of *Trygone pastinaea* has been given, but the author concludes this description with the following remark: " While Evans made no experiments as to the poisoning nature of the spine and the products of the glandular tissue, he submits that the acute pain, inflammation, and paralysis are similar to the symptoms produced by the stings of other venomous fishes with which he experimented." Living trygones are rare on the East Coast fish markets and my material has been usually obtained from the South Coast and forwarded to me by the staff of the Ministry of Agriculture and Fisheries who live in those parts. This accounts for the omission of experimental evidence of the toxic properties of the stings.

Recently Fl. Lieut. J. Fawcitt, of R.A.F. India Command, has sent me some very valuable observations on the effects of wounds by the cordal spine of the sting-ray, prevalent in the Bay of Bengal. He has given me permission to publish his clinical notes on cases he has observed.

> " During the four months I was in charge of a sick-quarters on the shores of the Bay of Bengal I saw and treated a number of cases of sting-ray and jelly-fish stings. The cases described below are typical of those observed by other medical officers in the area, as well as by myself.
>
> While bathing thigh deep in the sea I was stung on the right ankle by a sting-ray. The weapon was not left in the wound. There was a stab incision just in front of the internal malleolus of the right ankle. There was practically no haemorrhage from the sting, and the edges of the wound looked bluish and bruised. The initial pain was severe and localized, though the whole limb felt numb. Three-quarters of an hour after the sting there was onset of pain on respiration, which rapidly increased in severity until even shallow breathing was extremely painful. This was followed in an hour and a half by intermittent spasms of the abdominal muscles, which rapidly increased in frequency until they became almost continuous. In addition there were extreme restlessness, nausea, tingling of the extremities, and slight dizziness.
>
> Within four hours the pain was so severe that morphine was necessary, and half a grain was given orally. This was followed by two attacks of vomiting, and the pain was so little relieved that a further third of a grain was given hypodermically. Following this a certain amount of restless sleep was obtained during the rest of the night. After fifteen hours intercostal pain on respiration and marked spasm of the abdominal muscles were still present, and did not disappear for three days. Constipation was an added discomfort.
>
> Though the site of the sting was never intensely painful except immediately after the initial stab, a chronic ulcer developed, which took 16 days to heal. Though it is difficult to view pain objectively in oneself, other victims have unanimously agreed with me that it was the most severe pain they had ever experienced."

The description of a case of a man stung severely by jelly-fish is also given in the same letter as follows:

> " An airman was stung on both thighs by a large jelly-fish, and was admitted to sick-quarters within twenty minutes. He described the sting as being like red-hot wires drawn across the front of his thighs. He was a man of poor physique; there was intense pain with a moderate degree of shock; temperature 99° F. ; pulse 100. On the anterior surface of his thighs there were large, reddened, oedematous patches, with cord-like raised areas where the tendrils of the jelly-fish had swept across them. There was already marked abdominal rigidity, respirations were shallow and rapid, and there was intense intercostal pain.
>
> For want of any other remedy spirit. ammon. aromat. was immediately applied to the stings, and this completely abolished the local pain though it did not affect the generalized symptoms. These were relieved by a third of a grain of morphine hypodermically, though a further injection was necessary six hours later. Eighteen hours after the sting acute intercostal and abdominal pain were still present; the patient had vomited twice during the night, and complained of nausea and restlessness. The symptoms gradually wore off, but did not finally disappear until the sixth day.
>
> There were two striking factors in this case that I found present in all severe cases of sting-ray and jelly-fish stings that I saw: (1) abdominal rigidity of a degree that is only normally seen in an acute abdominal catastrophe; (2) constipation that was so stubborn that an enema was necessary on several occasions."

These observations are very important, and they tend to show that the poison in both the sting-ray and jelly-fish are very similar in their clinical effects. It is known from the work of many investigators that there are two toxic substances in the sting of jelly-fish—namely, congestin and thallasin—which will be found fully described in the classic work by Marie Phisalix, *Les Animaux Venimeux et les Venins.*

It can be argued from this that, although the venom of the sting-ray has not been examined in the same way as that of the jelly-fish, it is probable that it is of the same nature. It also tends to disprove the contention of earlier observers that the sting of the ray was poisonous only on account of the introduction of the slimy mucus on the skin.—I am, etc.,

Beccles. H. MUIR EVANS.

Excision of Patella

SIR,—When Mr. H. A. T. Fairbank writes or speaks, those of us who are younger in years and experience read or listen with respect and affection, for his power of critical analysis blended with a long experience has always contributed to any argument in which he has joined.

Despite my training in the conservative Liverpool School of Orthopaedics, I cannot help feeling that his letter (July 14, p. 62) condemning excision of the patella is a little too sweeping. He concludes the letter by stating, " I am convinced that the best advice one could give a young surgeon would be to learn to suture the fragments of a fractured patella with accuracy and not to resort to excision of the bone in the hope of getting a rapid result." My commentary on this sentence is the following three cases.

In 1929, when I was his registrar, I assisted Mr. Watson-Jones, who is, as everyone knows, a very skilled operator, to suture a simple, transversely fractured patella in a man aged about 60. The immediate result of this operation delighted the patient, the surgeon, and his registrar. Three or four years later I happened to come across the patient while doing an evening surgery for his panel doctor. The man had much pain and crepitus. My disappointment was so great that the case has never left my thoughts whenever the subject of the treatment of a fractured patella has to be discussed.

The second case was a patient of Mr. Ollerenshaw's in 1939, who again had an accurately sutured transverse fracture of the patella. A few months after returning to the comparatively light work of a chauffeur-gardener he slipped and refractured the bone. This is the second disappointment, and although excision was then carried out the poor result cannot be blamed on the excision so much as the fact that he had two traumata and two operations.

The third disappointment was one of my own patients who in 1944 suffered a simple transverse fracture without any separation and was treated conservatively by plaster-of-Paris splintage. Some six months later he had pain and weakness, not due to limitation of movement, but due to arthritis. A skiagram revealed lipping of the articular surfaces of the patella in the line of fracture—i.e., the gliding surface was irregular despite the most perfect position that any surgeon could obtain.

These three cases would never enter into anybody's statistics of end-results because they are distributed among three surgeons, but they suggest that accurate suture of the fragments does not necessarily lead to a good result. These and many other cases force me to accept the fact that, after a patella has been fractured, only a very small number of patients regain a good, strong, fully movable, painless knee; and it is with this background that the results of all forms of treatment must be compared. This apparently pessimistic view will probably be contested. I suggest that it is not pessimistic, but accurate.

When considering whether excision or suture is better we must also realize that in the majority of cases a patient, though possessed of a symptomless knee prior to the fracture, is approaching or has attained the age when *x* rays reveal the bony changes known as osteo-arthritis. In these patients even a simple contusion of the knee without any fracture not infrequently leads to as much pain, weakness, swelling, and sometimes loss of movement as in cases of a fracture.

When a patella is excised for osteo-arthritis or rheumatoid arthritis the patients start off with an already painful, weak, and perhaps stiff knee, and although they know just as well as the critical surgeon that after the operation the knee is not perfect these patients are pleased because they have a good deal less pain. It is true that some knees are weaker than others after excision of the patella.

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[1] Reprinted from *Bull. Hist. Med.*, 1943, 14, No. 4.

I cannot agree with Mr. Fairbank that it is only essential to repair the hole left in the capsule. I regard it as imperative to make what I like to term a "false ligament" joining the lower end of the central portion of the quadriceps tendon and the upper end of the patellar ligament. This false ligament is made up of overlapped and rolled extensor aponeurosis plus silk or thread continuous suture. It is designed to glide over the patellar portion of the femur in order to replace the lost bony pulley, and the more carefully one constructs this ligament the more satisfactory is the voluntary extension of the knee afterwards.

Finally, remembering that the knee cannot ever be as powerful as the undamaged knee, it is important to explain to the patients that no matter what we do to the knee it can never be perfect, but that our treatment will give the best possible result. We must be careful to point out that this partial imperfection will include some weakness. Otherwise we shall have the same story as was told by the first patient whose patella I excised. I regret that I had not then realized the importance of warning the patient of what the future would hold for him. After he had recovered from the immediate injury and operation he went to his trade union's convalescent home at Llandudno for a fortnight, and on his return told with delight how he had been able to climb up the Great Orme. However, a few weeks later he returned, complaining of his inability to walk up and down a flight of stairs at his work. It is not fair to say that he was malingering; but he realized his knee was weak—just as I knew it would have been weak after suturing of the patella—and feeling the economic insecurity that makes life so difficult for all workmen he imagined himself much more disabled than he was in reality.—I am, etc.,

Manchester. W. SAYLE CREER.

SIR,—Mr. Fairbank's letter (July 14, p. 62) with its admirable exposition on the present position of excision of the patella is timely and welcome. I can confirm the results of Mr. Fairbank's experience where so many patients are now classified as *permanently partially disabled* as a result of the operation. The results of immobilization of the bone fragments by suture never produced the disabling results one so often sees following the excision method. I meet so many of the younger inexperienced generation of surgeons who are imbued with the conviction, acquired from textbooks and current literature, that excision of the patella following fracture is the *only* treatment worth considering, and they await with bated breath an opportunity of putting their belief into practice.

In a simple fracture by direct violence with stellate comminution of the patella the bone fragments are usually enclosed in the containing "sheath" limited by the boundaries of the periosteum and articular cartilage; if treated conservatively by rest a good functional result is usually obtained. In my experience it is seldom that bone fragments perforate the "sheath," but if they do so the knee-joint must be opened and the fragments removed.

With a transverse simple fracture caused by muscular violence it is not always appreciated that the aponeurosis fused with the periosteum, covering the subcutaneous surface of the patella, is ruptured at a much lower level than that of the bone fracture. The operation I have done over a long period of years has been the approximation of the fractured bone surfaces by two interrupted chromic catgut sutures of 20 days' absorption, care being taken not to encroach on the articular surface of the patella—i.e., *into* the knee-joint; even as important is the repair of the torn aponeurosis by interrupted catgut sutures. My results have been good. Few have had much limitation of knee-joint movement; in no case has there been a sequel of infective arthritis.

Most elderly doctors can testify to acute disappointments following the premature booming of some new method of treatment, medical or surgical, which subsequent events proved limited in value or worthless. I would make a plea for more restrained optimism where a new surgical operation is advocated without the justification of an ample test-time limit. To mention one such case:

A medical man suffering from a duodenal ulcer had a short-circuiting operation done by a well-known surgeon who had recently returned from a surgical tour in the U.S.A. During his travels the surgeon saw a new type of operation which so appealed to him that he abandoned his old well-tried and successful technique for the new method. The results were disastrous to the patient in question, who, for over 20 years until he died, expressed his disappointment forcibly in these words: "I am the victim of a fashion in surgery; if Mr. 'X.' had only done his ordinary operation and not the new method he saw in the U.S.A. I would not be in the plight I am now in." The surgeon soon returned to his old technique.

Surely it is reasonable to ask that surgical innovations should not be broadcast, and, in particular, not included in teaching textbooks until the operation has been evaluated by some time factor. This could be done under the aegis of a reputable surgical "society," which could refer it to a committee of inquiry; they could arrange for an adequate number of operations to be done, the results checked and finally reported upon after an adequate time has elapsed. Only upon confirmation of results should an account of the new operation be included in a teaching surgical textbook. Of course the surgical society concerned must take care that the originator of the innovation should, on confirmation, be accorded the full credit for the discovery. I have no hesitation in saying that had this procedure been followed in excision of the patella for fracture, a large number of patients—Service men and civilians—would have been spared a severe permanent disability.—I am, etc.,

R. J. WILLAN.

SIR,—Mr. Fairbank states a strong case for the adoption of a conservative, or at any rate a critical, attitude towards excision of the patella, partial or complete, for injury.

I should like strongly to support his conclusions. My reason for so doing is based on a fairly extensive experience of isolated cases and on my observations at a convalescent depot in East Anglia during the period 1942-3. At the latter, at from 2 to 12 months after operation I noted some 13 consecutive cases of complete excision of the patella for fractures. The operations had been carried out by various surgeons in the area. Of the 13 patients, three were returned to duty in Category A, two were boarded as unfit for further service, and the remainder suffered from varying degrees of disability. The disability was usually the result of imperfect control of the final degrees of full, firm extension. These failures may no doubt be attributed to faulty technique or to unsatisfactory after-treatment; the fact remains that it is difficult to assure a perfect result. It was noticeable that even in men with good function the thigh on the side of the excision remained appreciably smaller in circumference than that on the sound side.

In compound injuries, and in some instances of gross comminution, excision may be the best course. In most simple fractures it seems a confession of incompetence on the part of the surgeon to remove a useful bone because he is not mechanic enough so to fix the fragments that approximate restoration to the normal can take place. The application of the term "useful" to the patella may be justified on account of its service in the extensor control of the knee, its protective value, and its cosmetic significance.—I am, etc.,

Oxford. C. MAX PAGE.

Standardization of Instrument Fittings and Apparatus

SIR,—There was some discussion in your columns a short time ago about the advantages which British medicine would enjoy from the adoption of the metric system. Reform is also badly needed in another direction, and that is in the matter of standardization of surgical instrument fittings and apparatus. It is encouraging to note in a recent answer in "Any Questions?" that the standardization of needles and mounts is already on the way (June 30, p. 932). For such standardization to be of value, however, it must find general acceptance, and it is in this sort of thing that totalitarian countries enjoy an advantage. I understand that some years ago the manufacturers in this country were forced to make other sizes to meet foreign competition, having already agreed upon the S.I.M.A. fitting as a standard one. There should be little difficulty over standardization, however, once the profession has appreciated its convenience, or rather its lack of inconvenience.

At present the variety of fittings in use is bewildering, and confusion arises especially in the matter of syringes, cannulae, and needles, in the bayonet and other fittings for the injection of oily fluids and local anaesthetics, and in intravenous apparatus. An instrument catalogue may illustrate a long series of adaptors to make different sizes of mounts fit different sizes of needles. Such adaptors, moreover, result in clumsiness and an increased risk of leaks, and are very apt to be missing when wanted.

Intravenous infusions of various kinds are now given with great frequency, and with suitable apparatus are simple and safe. It is annoying, however, to find, after successfully inserting a needle into the more or less empty and collapsed vein of a shocked patient, that the available nozzle will not fit the needle, and that a connexion has to be made by threading rubber tubing over the needle. This often results in the needle being forced through or out of the vein, or the delay allows clotting to occur in the lumen of the needle. It may also be found that different types of apparatus are in use for the giving of blood, plasma, saline, and glucose. It is true that with a little ingenuity one type of apparatus may be connected up to another by such measures as inserting needles into tubing, and sometimes it is possible to transfer fluids from one container to another. All this, however, means increased risk, and some recent reports, such as those of fatal air embolism due to transfusion, or fatal sepsis due to the intravenous injection of penicillin, show the risks which already exist in intravenous therapy. All who have used the apparatus standardized by the transfusion services throughout the country since the war will agree that it is remarkably simple and satisfactory to use, and with the improved materials available in peacetime it would be a great convenience if all intravenous fluids could be given with a similar standardized apparatus.

It unfortunately often happens that the ingenuity of inventors and manufacturers produces apparatus which is an improvement on that previously available but which requires replacements and refills of non-standard size. Surely standardization need not curb commercial progress. The time seems suitable for an investigation of the whole problem. Once standard fittings have been introduced, adaptors could continue to be made till existing stocks of non-standard apparatus have been used up.—I am, etc.,

Birkenhead. **BRYAN WILLIAMS.**

Cerebral Fat Embolism after E.C.T.

SIR,—The case of cerebral fat embolism following electrical convulsion treatment reported by Drs. Meyer and Teare (July 14, p. 42) is of interest, since a somewhat analogous case was reported by A. Karlen (*Acta chir. scand.*, 1942, **87**). Karlen described pulmonary and cerebral fat and marrow embolism in a man of 25 years who had violent convulsions after an injection of "per-abrodil" (a non-oily fluid) into the sacral canal; the man died in a uraemic-like state. Necropsy revealed ruptures and haemorrhages in the abdominal wall muscles, the lumbar and psoas muscles, diaphragm, etc. The muscle ruptures occurred during the convulsions. No fractures were found, but the vertebrae were not examined in detail.

It is known that fractures of the vertebral bodies may occur during severe convulsions, and Karlen was careful to point this out and cited the relevant authorities. Karlen considered that the fat embolism arose from such fractures. Such vertebral fractures may not be evident on inspection; section of the vertebral bodies may be necessary for their detection. Violent convulsions, as in convulsion therapy, may actually cause compression fractures of the vertebrae (see case report by Stalker, *Lancet*, 1938, **2**, 1172). In a series of 51 cases of psychiatric disorders treated by convulsion therapy the incidence of compression fracture of the vertebrae was no less than 43% (Polatin *et al.*, *J. Amer. med. Ass.*, 1939, **112**, 1684).

The post-mortem examination notes of the case reported by Drs. Meyer and Teare state that a careful examination of the spine, etc., was made, but no fracture was detected. Unless the vertebral bodies were sawn through and examined the possibility that a fracture was overlooked cannot be ruled out. It would be of interest, therefore, to have more precise information on this. The point is of interest, since the view has long been held that concussion could give rise to fat embolism. The evidence is slender. In an extended series of investigations over a period of five years I was quite unable to substantiate this view. I have collected a large series of cases of fat embolism; fat embolism was never found without fracture or surgical trauma of bone or trauma of fatty tissues. It is hoped to publish this series of cases shortly.—I am, etc.,

R. DRUMMOND,
Late Assistant Lecturer, Department of Pathology,
Cardiff. Welsh National School of Medicine.

Treatment of Coma

SIR,—The paper on arsenical encephalopathy by Col. Ransome and Capts. Paterson and Gupta (May 12, p. 659) is very valuable. They profess great faith in the treatment of comatose patients by postural "decompression" and advocate it for cerebral malaria, the coma of hyperthermia, arsenical encephalopathy, and, perhaps lead encephalopathy. Also they direct that convulsions and restlessness should be "ruthlessly" suppressed. Many years ago I tried nursing cases of obstinate hyperthermic coma in the sitting position, with undoubted improvement as compared with other cases lying down, but with results less brilliant than shown by the authors. As with them the underlying idea was to prevent pulmonary oedema.

Not long ago it was suggested that patients developing anaesthetic convulsions should be treated by raising the head, and almost complete control of the fits was claimed for this method. The upright-sitting position certainly has no effect on the convulsions of hyperthermia, so perhaps they differ from anaesthetic convulsions in causation; but the two conditions have much in common nevertheless.

Ransome, Paterson, and Gupta recommend the use of soluble hexobarbitone for the control of convulsions in the cases of coma treated by them. No doubt this therapy is based on the recognized methods for combating anaesthetic convulsions. I would hesitate to use soluble hexobarbitone in these cases (encephalopathies), for I have seen prolonged coma, uninterrupted except by death, following minor operations in three cases after 1 to 3 grammes of the substance intravenously. I considered this too "ruthless." I have not seen any fatal results after the intravenous administration of evipan sodium, though this was a very popular anaesthetic at one time. In my opinion the inhalation of oxygen from a mask—Cowan and Mitchell type when available—is an invaluable adjunct to other forms of treatment, and the oxygen appears to have an anticonvulsant effect, but prolonged use may be necessary. Oxygen appeared to me to be kinder to the suffering encephalon.

The authors ask for reports from other people on the effect of their postural drainage, which is my excuse for this note. Much of the outstanding success justly claimed by the authors —as they admit—is due to the superb nursing skill enjoyed by their patients.—I am, etc.,

FRANK MARSH,
Pathologist, Anglo-Iranian Oil Company.

Abacterial Pyuria

SIR,—I read with great interest Mr. Hugh Donovan's article on abacterial pyuria (July 7, p. 12), as many cases of this nature presenting a urethral discharge attended my venereal clinics in the Middle East. The efficacy of 0.3 g. N.A.B. once weekly for a few weeks must be seen to be believed, since all other treatments are utterly useless. In my cases the provisional diagnosis was made on the smears obtained showing numerous pus cells and epithelial cells with complete absence of any bacteria combined with the two-glass test, both glasses showing a marked haziness due to pus. Frequency and urgency were often slight in some of my cases. Tuberculosis in my experience is never associated with a urethral discharge, especially in its early manifestations.

With regard to aetiology, I had the opportunity of having several slides stained and examined by experts in virus work, but with negative results. The similarity of some cases of early bilharzia infection and the response to an arsenical has suggested to me some submucous infection of the vesical and urethral mucous membrane. The cases of epididymitis referred to by Mr. Donovan have also in my experience showed no signs of urinary infection, the urine being crystal clear.

One last point I would like to stress is that the time has come when "urethritis," apart from the gonococcal variety, should be classified on a better basis than at present, if only to relieve the minds of our patients suffering from a persistent urethral discharge.—I am, etc.,

Orford, Woodbridge. **F. L. LYDON.**

Obituary

W. T. GORDON PUGH, M.D., F.R.C.S.

We regret to announce the death on July 22 of Dr. W. T. Gordon Pugh, Chief Medical Superintendent of Children's and Tuberculosis Services, London County Council, and formerly Medical Superintendent of Queen Mary's Hospital for Children at Carshalton.

William Thomas Gordon Pugh was born on April 9, 1872, the son of a civil servant. He was educated at the University College of Wales, and the Middlesex Hospital Medical School, where he gained an entrance scholarship, the Lyell Gold Medal and Scholarship, and the Senior Broderip Scholarship. He took the conjoint qualification of London in 1894, the M.B., B.S. in 1895, the M.D. in 1898, and the F.R.C.S.Eng. in 1935. After appointments as house-physician and house-surgeon at his own hospital he was R.M.O. at Hackney Road Children's Hospital. In 1897 he joined the fever service of the late M.A.B. at the North-Eastern Hospital, and in 1907 was promoted medical superintendent of what is now the Southern Hospital, Dartford. In 1909 he became the first medical superintendent of the newly opened Queen Mary's Hospital for Children, Carshalton, and here he found his life's work. He retired in 1937. Gordon Pugh was at one time president of the Orthopaedic Section of the Royal Society of Medicine, and he was a member of the British Orthopaedic Association. He published many reports and articles on the problems of surgical tuberculosis, and built up and sustained the reputation of Queen Mary's Hospital at Carshalton as one of the most important centres in the country for the treatment of this condition.

W. A. D. writes:

All who knew W. T. Gordon Pugh—and indeed many who did not—will be grieved at the news of his death on July 22. In his particular specialties "Pugh of Carshalton," as he was always known, had achieved international fame.

His great interest lay in the treatment and after-care of children suffering from non-pulmonary tuberculosis and in orthopaedics generally. Queen Mary's Hospital developed under his guidance into the largest children's hospital in the country. It contained 1,284 beds and gave ample opportunity for his unlimited energy. On his transfer to the service of the London County Council in 1930 he had even greater scope for his activities and was an invaluable member of many central committees, particularly that on hospital standards.

It is true to say that Gordon Pugh was beloved by all who came into contact with him—doctors, nurses, other staff, patients and their friends and relatives. His kindness, courtesy, and patience in all things were unfailing. Every year they hold an enormous children's fête at Carshalton. Whilst he was there Pugh was the life and soul of the party; and since his retirement he attended regularly these annual gatherings. At this year's—on July 30—his presence will be sorely missed. He took a great interest in the work of the school for the patients which is part of the hospital. He was the author of a popular book on nursing. He leaves a widow and two children. His son is in the medical service of the Navy, and his daughter is married to a doctor.

We regret to announce the sudden death at the age of 73 of Dr. **Edward Morris** of Donington, Lincs. He received his medical education at St. Bartholomew's Hospital and qualified L.S.A. in 1906 and M.R.C.S., L.R.C.P., a year later. After qualifying he held the posts of resident house-physician and resident house-surgeon at St. George's Hospital. He was also house-surgeon at the York Road Lying-in Hospital for Women. Dr. Morris went into general practice at Donington 36 years ago, and during this long period earned the affection and respect of a wide circle of friends and patients in the district. The son of a gentleman-farmer on the border of England and Wales, Dr. Morris had in his early days a great interest in ponies and horses, and when he first practised in Donington used to make his round on horseback. He was keen on and proficient in many branches of sport. Of his family of seven, his son, Dr. Patrick Morris, is practising in the same district.

A colleague writes the following appreciation of Dr. A. W. **Matthew**, whose obituary notice appeared in the *Journal* of July 21: On May 27 Arthur Matthew, senior anaesthetist to St. Mary's Hospital, died suddenly as he was saying good-bye to friends at the Royal National Orthopaedic Hospital. There had been no illness, no premonitory sign, no suggestion that he was not in normal good health. During the last few war years he had often complained of fatigue due to incessant work, which included a large number of night calls, but to those of us who worked with him in the theatre day after day there was no suggestion that he suffered from some mortal lesion. The news of his death came as a great shock to all who work at St. Mary's. Matthew was not only one who administered anaesthetics. He made a careful examination of all his patients before the operation, and also, by his insight into human nature, an accurate assessment of the mental and emotional state. Though the time of his association with his patients was necessarily brief, yet he came to know them and gain their confidence, which made the ordeal of operation something of a quiet, unanxious surrender. Matthew had less interest in the academic side of his work than in its practical application. He spoke and wrote little, but his merit was acknowledged by his colleagues when they elected him President of the Section of Anaesthetics of the Royal Society of Medicine in 1942. All who knew him recognized his professional merit. Those who were fortunate enough to be his friends also knew him as a great, loyal, delightful colleague and companion. The loss to St. Mary's is irreparable, not so much because we have lost a great anaesthetist as because the whole hospital, through all its ranks, has lost a lovable friend.

The Services

The President of the Czechoslovak Republic has conferred the Military Medal (1st Class) on Wing Cmdrs. J. C. Blair, R.A.F., and J. C. Scott, R.A.F.V.R., in recognition of valuable services rendered in connexion with the war.

Temp. Surg. Lieut. D. A. T. Farrar, R.N.V.R., has been mentioned in dispatches for bravery and skill, while serving in one of H.M. ships, in a successful engagement with enemy light forces.

Temp. Surg. Lieut. W. L. Leslie, R.C.N.V.R., has been mentioned in dispatches for courage, tenacity, and great devotion to duty in fire-fighting and rescue work under exceptionally hazardous conditions.

Capt. E. J. Jones, R.A.M.C., has been appointed M.B.E. (Military Division) in recognition of gallant conduct in carrying out hazardous work in a very brave manner.

The following have been mentioned in dispatches in recognition of gallant and distinguished services in Italy: Brig. (Temp.) E. M. Townsend, M.C., and Brig. (Acting) D. G. Cheyne, C.B.E., M.C., late R.A.M.C.; Cols. (Temp.) G. W. R. Bishop, O.B.E., T.D., J. M. Mackenzie, C.B.E., M.C., R. E. Rees, M.C., T.D., and J. T. Robinson; Lieut.-Cols (Temp.) T. M. R. Ahern, W. M. Capper, J. H. Croom, G. Y. Feggetter, R. T. Grant, K. McNeill, O.B.E., H. Mannington, J. S. Miller, T. P. P. Murphy, R. J. Niven, M.C., O. A. Savage, H. L. Sheehan, J. Trotter, O.B.E., R. L. Turner, O.B.E., and H. S. Ward, O.B.E.; Lieut.-Col. (Acting) H. W. L. Nichols, T.D.; Major E. Fowler; Majors (Temp.) D. W. Ashcroft, D. S. Austin, H. M. Barnard, D. Bell, H. Bridges, A. S. Bullough, W. A. Carey, H. J. Croghan, L. F. Dawes, F. H. Edwards, M.C., A. B. Evans, W. R. Everatt, H. K. Fidler, T. E. Field, M.B.E., M. C. K. Finlayson, A. M. Giles, E. H. C. Harper, L. Heasman, G. M. Hobbin, O. P. D. Lawson, W. M. Macleod, K. C. Mallen, R. J. B. McEwen, P. C. Mitchell, M.C., W. F. Nicholson, H. D. O'Brien, R. G. W. Ollerenshaw, P. L. O'Neill, J. D. O'Riordan, A. Orleck, M.B.E., D. L. Owen, M.B.E., J. H. Patterson, A. S. Ramsey, C. G. Rob, M.C., H. L. Settle, R. Thornley, R. A. R. Topping, D. J. D. Torrens, F. E. Wheeler, A. B. White, W. J. Wiles, W. Wilson, and J. Yofe; Major (Acting) P. K. Walker; Capts. J. R. Bennett, D. C. B. Bramwell, A. L. Brown, P. H. Davison, D. S. Dick, E. Greenwood, A. A. Guild, A. M. Gwynn, P. M. James, G. H. P. John, R. M. J. Keir, H. C. Kennedy, H. Levine, R. J. A. Macdonald, M.B.E., J. M. McInroy, L. C. Montgomery, H. B. Morris, H. Mowschenson, K. I. Peckitt, J. Pinching, J. J. Reeks, G. T. Robertson, A. F. Rodger, R. W. Ross, R. Shields, A. M. Stewart, G. B. Tait, V. N. Taylor, and H. D. S. Vellacott; Capts. (Temp.) J. P. Adlam, J. S. Brunton, L. Camrass, F. J. Downes, J. A. J. Hammond, H. G. McQuade, and N. C. Mond; and Lieuts. R. Frame, N. L. Loosmore, D. J. L. Rowland, and E. D. Waters, R.A.M.C. Col. (Temp.) R. L. Raymond, O.B.E.; Lieut.-Cols. (Temp.) V. D'A. Blackburn, A. N. Mackenzie, and T. K. White; Majors (Temp.) H. R. Anand, D. M. Iyer, and H. F. T. Macfetridge, D.S.O.; Capts. H. M. Archibald, S. R. N. Rao, R. Ramachandra, and S. Mukerii; and Lieuts. C. N. Le Tang and L. Siviah, I.A.M.C.

The following have been mentioned in dispatches in recognition of gallant and distinguished services in Burma: Brig. (Temp.) H. G. Winter, M.C., late R.A.M.C.; Brig. (Acting) D. F. Panton; Cols. (Temp.) J. H. Baird (Reserve of Officers), A. O. Bekenn, O.B.E., and J. R. Dawson; Col. (Acting) S. W. K. Arundell; Lieut.-Cols. (Temp.) F. Ayrey, D. H. D. Burbridge, A. Burns, H. Gass, G. B. Heugh, A. J. Martin, T. A. Pace, J. P. Raban, J. R. Steen, D. S. Valentine, and E. J. M. Wenyon; Lieut.-Col. (Acting) S. B. Dimson; Majors (Temp.) K. D. G. Abbott, D. G. Adamson, D. M. Baker, F. I. Evans, P. B. L. Nicholas, P. J. O'Connell, G. W. Pinder, C. I. Raeburn, and G. I. M. Ross; Majors (Acting) R. M. Campbell and J. F. Stokes; Capts. B. E. Camus, S. Citron, P. J. R. Davis, J. W. Doupe, H. W. W. Good, D. R. Gunn, H. L. Hart, J. C. Henry, A. B. J. Hill, L. P. Hodgson, J. C. Jeffrey, E. L. H. Jones, J. C. Leask, J. O'Hara, N. Pedersen, M.C., H. G. Stanton, D. B. Watson, B. G. Wells, and R. B. Wright; and Capt. (Temp.) D. Blacklee, R.A.M.C. Lieut.-Cols. (Temp.) J. H. Arthur, M.B.E., G. B. Jackson, M. L. A. Dewan, J. L. O'Neill, and A. D. Wilson; Majors (Temp.) L. M. Kelly, M.B.E., R. M. Nair, and S. F. Thomas; Major (Acting) S. K. Sen; Capts. J. Aitken, B. Ghosh, B. B. Dutta, C. S. Mendiratta, D. I. Gantzer, A. C. Greene, J. C. Sen, M. K. Akhtar, V. V. S. Mudaliah, E. B. Naug, R. K. Chakravarty, S. R. Ray, S. Sanyal, and S. K. Banerjee; and Lieut. S. C. Dutta, I.M.S. Capt. B. Singh; Lieuts. P. K. S. Chowdhury and T. D. Gera; Subadar D. Mohd, M.B.E., and Jemadar I. Singh, I.A.M.C. Capt. J. R. Audy, E.A.A.M.C.

CASUALTIES IN THE MEDICAL SERVICES

Wounded.—War Subs. Capts. D. R. Hughes, L. G. Kiloh, and F. H. Leckie, M.C., R.A.M.C.

Universities and Colleges

UNIVERSITY OF OXFORD

In Convocation on July 21 the honorary degree of D.Sc. was conferred on Prof. H. M. Turnbull, D.M., F.R.S., F.R.C.P., director of the Pathological Institute of London Hospital.

UNIVERSITY OF CAMBRIDGE

The Marmaduke Sheild Scholarships in human anatomy have been awarded to David Bulmer (Peterhouse) and Rodney Peter Holmes (Trinity College).

UNIVERSITY OF LONDON

The following scholarships, exhibitions, and prizes have been awarded at University College Hospital Medical School.

Goldsmid Entrance Scholarships, Miss J. D. Cross (University College, London), V. E. Amassian (Trinity College, Cambridge). *Goldsmid Entrance Exhibition,* I. W. Broomhead (St. John's College, Cambridge). *Filliter Entrance Scholarship in Pathology,* W. I. N. Kessel (Trinity College, Cambridge). *Atchiso* [illegible] *ship,* Miss M. E. Hughes. *Magrath Scholarshi* [illegible] Wade; *Midwifery,* G. F. Jolly; *Surg* [illegible] *Erichsen Prize,* T. H. Morgan. *Li* [illegible] C. J. Don. *Alexander Bruce* [illegible] *Cold* [illegible]

(Salisbury, S. Rhodesia), Dr. Robert Alexander Miller (Grantown-on-Spey), Dr. Alexander James Murray Drennan (Edinburgh), and Dr. Wm. Forbes (Edinburgh) were elected Fellows of the College.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH

At a meeting of the Royal College of Surgeons of Edinburgh, held on July 20, with Prof. R. W. Johnstone, President, in the chair, the following candidates, who have passed the requisite examinations, were admitted Fellows: Denis Charles Bodenham, Roy Theodore Scovel Goodchild, Thomas Labatt Lawson, Michael Lentin, Michael Joseph Murphy, John Alexander Vere Nicoll, John Archibald Simpson, John David Stenstrom, Kenneth Frank Wilsdon.

It was resolved that, to celebrate the victory in Europe, the Honorary Fellowship of the College be conferred upon the following members of the medical profession: Brig.-Gen. Elliott C. Cutler, U.S. Army Medical Service; Andrew Davidson, M.D., Chief Medical Officer, Department of Health for Scotland; Surg. Vice-Admiral Sir Sheldon F. Dudley, K.C.B., M.D., F.R.S., F.R.C.P., Medical Director-General of the Navy; Major-Gen. Paul R. Hawley, U.S. Army Medical Service; Mr. Eardley L. Holland, M.D., F.R.C.S., President, Royal College of Obstetricians and Gynaecologists; Dr. Johan Holst, Professor of Surgery in the University of Oslo; Sir Alfred Webb-Johnson, K.C.V.O., C.B.E., D.S.O., President of the Royal College of Surgeons of England; Sir Edward Mellanby, K.C.B., M.D., F.R.S., F.R.C.P., Secretary, Medical Research Council; and Air Marshal Sir Harold E. Whittingham, K.C.B., K.B.E., F.R.C.P., Director-General of Medical Services, Royal Air Force.

SOCIETY OF APOTHECARIES OF LONDON

At a recent meeting of the Court of Assistants, with the Master, Dr. J. P. Hedley, in the chair, the deaths of Sir Stanley Woodwark, Immediate Past Master, Sir Buckston Browne, Honorary Freeman and Diplomate, and Viscount Dawson of Penn, Honorary Freeman, were announced with regret.

The following were appointed to represent the Society on the bodies named: Dr. J. P. Hedley on the Central Midwives Board; Mr. L. Vernon Cargill on the Research Board for the Correlation of Medical Science and Physical Education; Surg. Rear-Admiral C. P. G. Wakeley on the British Postgraduate Medical School.

The following served on the Strickland Goodall Memorial Lecture Committee: The Master, Dr. J. P. Hedley, and Dr. Geoffrey Bourne; Prof. T. R. Elliott, nominated by the Royal Society; Dr. George Graham, nominated by the Royal College of Physicians of London; and Surg. Rear-Admiral G. Gordon-Taylor, President of the Royal Society of Medicine. Dwight Emary Harken, licentiate of the Society, was appointed as fourth lecturer and delivered a lecture entitled "Foreign Bodies in Relation to the Great Vessels and Heart" in the Hall on June 26.

Sir Wilson Jameson and Prof. W. D. Newcomb were reappointed adjudicators for the Gillson Scholarship in Pathology, which was awarded to John Llewellyn Penistan for 1945.

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Medical News

The British Medical Association is advertising for two Assistant Secretaries as well as for a Scottish Secretary. It is allowing a four-months period to intervene between the advertisement and the last day for applications in order that Service candidates at home or over-seas shall have opportunity to apply. The Scottish Secretary will take up his duties on Jan. 1, 1946, or on demobilization, and the Assistant Secretaries on Feb. 1, 1946, or on demobilization.

Mr. Justice Macnaghten, allowing an appeal by the Crown from a decision of the Commissioners for the Special Purposes of the Income Tax Acts, on July 27 decided that the National Anti-Vivisection Society were not entitled to exemption from income tax under Section 37 (1) of the Income Tax Act, 1918.

The announcement in this column last week (p. 139) regarding the future of the Canadian military hospital on Lord Astor's estate at Cliveden was based on information now stated to be inaccurate. Negotiations are now going on about the future of the hospital and its contents, but it seems unlikely that they will terminate in an arrangement such as our statement said had been completed.

Dr. John Chancellor McKenzie, O.B.E., retired last month from the post of Commissioner of Medical Services, Ministry of Pensions, Edinburgh, and was succeeded by Dr. John Wilson McCagie. On his retirement the staff of the Ministry entertained Dr. McKenzie, and a presentation was made to him by the Chief Regional Officer.

Mr. T. E. A. Stowell, M.D., F.R.C.S., member of the Council of the Industrial Welfare Society, has been elected First Vice-president of the International Association for Life-Saving and First Aid to the Injured.

Capt. R. D. Marett Tims, L.M.S.S.A., has been appointed Officer (Brother) in the Order of the Hospital of St. John of Jerusalem (*corrected announcement*).

EPIDEMIOLOGICAL NOTES

Discussion of Table

In *England and Wales* the only variations of any size were falls in measles (469) and diphtheria (36), and a rise in whooping-cough (48).

In Yorks West Riding the notifications of whooping-cough rose by 35, and of diphtheria fell by 21. In contrast to the general fall in measles, rises occurred in Essex (82) and Norfolk (51). A slight rise in measles was also recorded in the south-west, where the regional total increased by 32.

Dysentery notifications fell by 4. The chief centres of infection were London 47, Lancashire 32, Warwickshire 15, Essex 14, Middlesex 13.

In *Scotland* a general fall was reported in the incidence of infectious diseases. The largest decreases were scarlet fever [illegible]

No. 28

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended July 14.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1945					1944 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever ..	52	4	20	—	5	59	4	20	5	1
Deaths		—	2				1	—		
Diphtheria	422	24	86	71	5	491	24	89	74	8
Deaths	7	—	1	—	—	3	2	—	—	1
Dysentery	206	47	47	1	—	156	9	68	1	—
Deaths				—	—				—	—
Encephalitis lethargica, acute	4	—	—	—	—	4	—	—	—	—
Deaths		—					—			
Erysipelas			30	4	3			25	5	1
Deaths		—					1			
Infective enteritis or diarrhoea under 2 years				68					14	
Deaths	34	3	4	14	1	41	3	13	6	—
Measles*	4,075	207	46	33	—	2,536	130	61	130	35
Deaths	3	—	2	—	—	2	1	—	—	—
Ophthalmia neonatorum	51	4	8	—	—	65	3	11	—	—
Deaths										
Paratyphoid fever ..	9	—	2 (B)	—	—	7	—	3 (B)	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenzal†	387	23	9	5	3	437	25	4	—	2
Deaths (from influenza)	8	2	—	—	—	11	1	—	—	1
Pneumonia, primary ..			131	14				118	19	
Deaths		17		10	5		20		6	5
Polio-encephalitis, acute	1	—				3	—			
Deaths		—					—			
Poliomyelitis, acute ..	12	4	1	2	—	16	1	4	—	—
Deaths		—					—			
Puerperal fever		4	8		—		—	11		—
Deaths										
Puerperal pyrexia‡ ..	123	4	13	—	—	141	6	6	1	1
Deaths		—					1			
[illegible]	1	—			—	—	—			—
[illegible]	[illegible]	[illegible]	153	21	37	1,394	56	167	22	58
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	1	1	—	—	—

Letters, Notes, and Answers

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: *Aitiology Westcent, London.* ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated.

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B.M.A. SCOTTISH OFFICE: 7, Drumsheugh Gardens, Edinburgh.

ANY QUESTIONS?

Diphtheria Immunization in Asthmatic Child

Q.—*Two children, aged 7 and 9, were immunized 5 years ago with T.A.M. What would you advise as a boosting injection? One child is asthmatic. Is there any fear of undue reaction if A.P.T. is used? Would you advise combining with whooping-cough prophylactic vaccine?*

A.—Children aged 7 and 9 years should not be given a boosting dose of A.P.T. without a preliminary Schick test, to which they may give a pseudo-positive reaction indicative of an increased sensitivity to diphtheria toxoid. In such cases an injection of A.P.T., or indeed of any diphtheria antigen, may evoke a rather severe reaction. T.A.F. is often used for the immunization of older children and adults, but T.A.F. contains a small amount of a foreign protein and is therefore not to be recommended for use in an asthmatic child. If the Schick test is positive without any pseudo-reaction, a small dose (0.2 c.cm.) of A.P.T. should be used. If the test is pseudo-positive no further immunization should be attempted; instead, the Schick test should be repeated in 3 to 6 months' time, when it will often have become negative in pseudo-reactors. Immunization against pertussis in children of this age is scarcely advisable, since they are past the age of greatest susceptibility; besides, the large doses of pertussis vaccine usually recommended may produce undesirable reactions in an asthmatic child.

Sulphonamides for B. coli Infections

Q.—*Are any of the recent sulpha drugs, such as sulphamezathine, likely to prove effective against old-standing B. coli recurrent cystitis? Stock and autogenous vaccines have been tried and found useless. Mandelates after a number of courses over many years are losing their effect. Wash-outs and other urinary antiseptics have been of only temporary assistance.*

A.—It is not clear from the question whether treatment with any of the sulphonamides has yet been tried. If not, the instructions for the treatment of urinary-tract infections in *The Medical Use of Sulphonamides* (M.R.C. War Mem. No. 10) should be followed. It is almost impossible to say, without an actual *in vitro* test of the patient's own organism, which of the newer sulphonamide compounds is likely to be the most effective. Sulphathiazole is on the whole more active than sulphanilamide, and has been found to act well in quite small doses, such as 0.2 gramme 4 times a day. Sodium bicarbonate should be given in addition, in order to keep the *p*H of the urine slightly on the alkaline side of neutrality. An advantage of sulphamezathine is that owing to its greater solubility larger doses can be given without risk of crystalline deposition in the urinary tract; this drug might be tried in doses of 1 gramme 4 times a day if others fail.

Treatment of Asthma

Q.—*What is the most modern and best treatment for a patient during an asthmatic attack?*

A.—The patient should be sent to bed, preferably a bed with kapok pillows and rubber mattress and in a bedroom with as little as possible in the way of carpets, rugs, drapery, and other sources of dust. Encouragement and reassurance may greatly help the nervous patient. The physician should place his hands on the front of the chest and encourage the patient to empty the lungs, rather than strive vainly to expand them even further. An initial subcutaneous injection of 3 to 5 minims of 1 in 1,000 solution of adrenaline hydrochloride should be given. This may be repeated at half-hourly intervals, and if relief is still not obtained the syringe may be strapped in position and the adrenaline injected continuously at the rate of 1 minim a minute. Injection of adrenaline may be supplemented or replaced by inhalation of the drug; 1 in 100 solution is used for this purpose. The mouthpiece of the nebulizer is inserted in the mouth and one or two puffs are inhaled at the moment of deep inspiration. If adrenaline fails, the physician may try pituitary extract, 0.5 to 1.0 c.cm. intramuscularly; theophylline with ethylene diamine (aminophylline), 0.25 to 0.5 gramme in 10 c.cm. of water, very slowly intravenously; or pethidine hydrochloride, 100 mg. intramuscularly. It is possible that pethidine shares the disadvantages of morphine, and it should be used with care. Inhalation of oxygen, or oxygen and helium, may be of value if the attack is protracted.

In conclusion, there is nothing very modern about present-day therapy of the asthmatic paroxysm, for adrenaline has been used since the beginning of the century. The best treatment is early treatment; the longer treatment is delayed, the more likely the attack is to become prolonged and intractable. Finally, treatment should not be regarded as over when the paroxysm is relieved. It is, in fact, only just begun, and every effort must then be made to discover the factors which have excited the paroxysm and to remove or remedy them if possible.

Pituitary Extract for Herpes Zoster

Q.—*It has been stated that herpes zoster has been successfully treated by pituitary extract. Has this method of treatment been extensively tried, and with what result?*

A.—The reference in the *Extra Pharmacopoeia* (Martindale) is to a paper by S. H. Portnoy, "Some Experiences with Posterior Pituitary Solution in Herpes Zoster," published in the *J. Med. Cincinnati* (1938, **18**, 619). Files of this journal are apparently not available in this country. The treatment of herpes zoster by pituitrin was introduced by Vandel in 1923. In 1930 Sidlick (*Arch. Derm. Syph.*, Chicago, 1930, **22**, 91) reported favourable results in a series of 54 cases. The duration of the disease before treatment varied from 24 hours to 5 weeks. Many of the patients obtained relief of pain after one injection, but a number required three and one required six. There were apparently no failures, and Sidlick described the treatment as "most efficient." Niles (*N.Y. St. J. Med.*, 1932, **32**, 773) compared 16 cases of herpes zoster treated with pituitrin and an equal number of controls receiving other treatments. He concluded that the course of the illness was shortened and the severe pain usually accompanying it was generally rapidly relieved by pituitrin injections. Niles's series included one man aged 70 with post-herpetic neuralgia, and he was not relieved. Gillett, who reported in the *Lancet* (1934, **2**, 307) a group of 3 cases treated with pituitrin, concluded that it acted best when the pain was more intense, but that relief was uncertain and not infallible. The treatment is mentioned in more recent books and periodicals, but no other extensive trial has been found in the literature available.

Testosterone in Angina Pectoris

Q.—*Recent clinical trials suggest that testosterone propionate exerts a favourable effect on the symptoms, if not on the course, of angina pectoris. Is this so, and what is the scheme of dosage? What, if any, are the side-effects from the use of this drug, and is previous cardiac infarction a contraindication? One or two recent references would be appreciated.*

A.—Testosterone propionate has been used for the treatment of angina pectoris, and very favourable results have been recorded. The rationale of the treatment is by no means clear. Walker concludes that there is a direct vasodilator action, since this therapy was found by him to be effective in peripheral vascular disease. In animals testosterone produces hypertrophy of the heart muscle. It might also be argued that arterial degeneration occurs in later life when gonadal function is decreased, and that testosterone would tend to retard or reverse such effects. The dosage is 50 mg. injected intramuscularly twice or thrice weekly. There are unlikely to be any side-effects from this treatment. Recent cardiac infarction, however, should probably be regarded as a contraindication. The two references are: Walker, T. C., *J. clin. Endocrinol.*, 1942, **11**, 560; Lesser, M. A., *New Engl. J. Med.*, 1942, **226**, 51.

Fox-Fordyce Disease

Q.—*Is there any cure for Fox-Fordyce disease, and if not, what is the best remedy for the irritation?*

A.—Fox-Fordyce disease, characterized by an itchy eruption of small red or skin-coloured papules, is fortunately a rarity, because treatment often entirely fails. The primary changes are located in the apocrine glands, and therefore *x*-ray treatment may help by its selective action on them; the secondary lichenization is also beneficially affected by *x*-ray treatment.

Doctors' Expectation of Life

Q.—*What is the expectation of life of a medical man at the age of (a) 60 and (b) 65?*

A.—It is not possible to answer this question, as no life table has been compiled on the mortality of the medical profession. It is certain that the expectation of life would be less than that for all males, since the ratio of the death rate to that of all males, for ages 45–54, 55–64, 65–69, is 108, 111, 103. The standardized mortality ratio for medical men aged 20–65 is 106 and ranks in the 123rd position in a list of 200 occupations tabulated by the Registrar-General.

Splitting of Nail Edge

Q.—*What are the cause and treatment of frequent splitting of the nail edge parallel to the free border?*

A.—In a healthy person the nail grows continuously from its root at the rate of 1 mm. per week; the proximal half-inch is supported by the underlying tissues; but the extreme distal portion is unsupported and readily betrays any inherent weakness by breaking under slight trauma. Any condition which adversely affects those cells in the nail-bed which manufacture the nail-substance will lead to a weakness in the transverse section being made at that time, though it may be many weeks before that section will reach the end of the nail, where it will be more subject to trauma. A transverse ridge indicating the affected section will sometimes be seen (Beau's line).

Brittleness of the nail (onychorrhexis) may be a congenital defect, and has been known to occur in several consecutive generations. Most cases, however, are due to pathological conditions which affect the root of the nail. Any serious illness or injury may lead to the formation of a weak section of nail which will prove brittle when it reaches the termination of the nail. Constitutional disease such as gout is said to lead to the formation of brittle nails, and thyroid insufficiency may produce the same result. General skin diseases such as psoriasis, eczema, and lichen planus sometimes affect the nail and may make it brittle. In the case of ladies the repeated application of nail varnish, and its removal by solvents such as acetone, may make the nail more friable, and the same result may follow frequent washing of the hands in hot water, especially in a hot alkaline solution. Some have claimed that a deficiency of iron in the system may produce brittle nails.

Treatment depends upon the cause, which should be diagnosable after a consideration of the foregoing. If no cause can be found, the nail should be carefully and regularly trimmed, and trauma avoided. It has been recommended to paint the weak nails with collodion, but in bad cases it would probably be better to wear a protecting glove whenever possible.

Smallpox Vaccination

Q.—*Why is cowpox virus no longer used in this country for immunization against smallpox?*

A.—The use of cowpox virus in the prophylactic immunization against smallpox has been abandoned because we have a very suitable alternative agent for the purpose in vaccinia virus. Vaccinia virus is a fixed variant of smallpox virus made by adapting the latter virus to growth in the tissue of the calf. Direct variolization of the calf is usually unsuccessful, but the work of the Royal Commission on Vaccination (1889–97) showed how this could be done, and that the fixed variant of smallpox virus so produced—vaccinia virus—could be freed from contaminating bacteria kept in an active state by storage in glycerol. Glycerinated calf lymph came into general use for the purpose of vaccination against smallpox when this procedure was made compulsory in this country in 1898. Some people have assumed the identity of cowpox and vaccinia viruses, but the work of Downie has shown that although the two are closely allied they can be distinguished by serological and other means.

Frigidity in a Woman

Q.—*A young married woman since her marriage has not felt any sexual impulses, although her husband has normal relations with her. She is a sensible type of girl, very fond of him. No abnormality has been detected, although she had to have a plastic operation on the vulva performed by a specialist after her marriage. During coitus there has never been any vaginal secretion.*

A.—This is a big question, for there are so many causes of sexual frigidity, and these are sometimes obscure. We can only suggest some types.

Constitutional.—Some women are obviously more constitutionally highly sexed than others, depending largely on the endocrine secretions, and this in the absence of anything which may be called disease. If it is true that the pituitary is the initiator of sexual feeling, then one might look to the gonadotrophic secretion as the cause. The "lanky" subgonadal type is a case in point. There is the further fact, which we may regard as biological, that there are many apparently normal and happily married women who never have an orgasm, and the idea that women in general are just as highly sexed as men is, after all, probably a fallacy. They do, however, have a greater need of, and capacity for, love, since they themselves need protection whilst they protect the offspring.

Of *psychological* causes the possibility of a conditioned reflex has first to be considered. Many women, previously normally sexed, who after marriage have an incompletely ruptured hymen and suffer pain may thereafter cease to have any desire, although the cause of the pain is removed. One would like to know the reason for the operation on the vulva in this case, and whether there being "something wrong there" inhibited the free expression of libido. Another present-day cause is the relations with the husband. A woman with a previous romantic attachment to some other man may be "very fond" of her husband, but can never completely yield herself to him, as she is not fully in love with him; or she may be a mother to him. It may, however, be necessary to look for deeper and more unconscious causes. Though she is now "sensible" about sex, she may have inhibitions about sex due to early training or an infantile taboo regarding some sexual activity. Threats of punishment may lead to the inhibition of sex, producing a conscious guilt or fear of sex. Again, an early external masturbation, especially if it is continued over puberty, sometimes prevents the libido from passing into the vagina, in which case ordinary coitus will have no effect. But sometimes it may be merely a matter of posture, for we have known some women who have no sex feeling except with coitus *a posteriori*. A woman who as a child was given enemata may be so disposed; and this, after all, is the natural approach in animals. These are some of the causes of frigidity, from which it will be seen that the specific cause in any case may need sex investigation at the hands of an expert.

LETTERS, NOTES, ETC.

Speech Training

Dr. L. M. M. **Beadnell** writes: I would like to protest against the inaccuracy of the term "speech therapy" now coming into use. Shock therapy is not treatment of shock, but treatment of other conditions by means of shock; the same applies to malaria therapy, occupational therapy, etc. Surely the word intended is "speech *training*."

Spraying Enclosed Spaces

Mr. N. E. **Hickin**, Ph.D. (Bletchingley, Surrey) writes: In your issue of July 14 the question was asked, "Is paraffin or kerosene the best solvent for the spraying of enclosed spaces, such as mess-decks?"; and the answer is given that kerosene is about the most satisfactory carrier liquid for insecticides available at present. I wish to disagree most strongly with this contention. By far the best medium for conveying insecticides to enclosed spaces is water; and it would be agreed that this is even cheaper and more readily available, with even lower toxicity to man, than kerosene, and I have carried out numerous experiments on the insecticidal value of water-borne insecticides with the bed-bug and other infesting insects as the test insect. Several highly concentrated and officially recommended insecticides, such as the lethanes, are available in emulsified form which only require added water to dilute to the necessary strength for spraying, and it will be appreciated that these sprays are absolutely non-inflammable, and, so far as the bed-bug is concerned, equal in insecticidal value to the same concentration of lethane dissolved in kerosene.

⁂ We have submitted the above to the expert who gave the answer, and he writes: There are minor disadvantages in the use of water as a domestic insecticide base (effect of damp on wall-paper, etc., tendency to rust iron spray-guns) just as there are other objections to paraffin (smell and slight fire risk). But the major reason for advocating paraffin is that the majority of effective insecticides are soluble in oils and not in water. It is, of course, possible to emulsify them; but dilute emulsions are seldom stable, and there are obvious disadvantages in preparing dilutions before every use of a spray-gun. Emulsions, too, are usually more viscous and therefore more difficult to atomize. Finally, it is usually believed that kerosene has some slight insecticidal value of its own; and while it may be true that a certain insecticide applied as an emulsion is as toxic as the same concentration in kerosene solution, we know of little or no published evidence on the subject.—Ed., *B.M.J.*

Viper Antivenenes

Dr. J. E. J. **Palser** (Allen and Hanburys Ltd., London, E.2) writes: In his valuably informative paper on adder-bite in England and Wales (July 7, p. 13) Dr. C. W. Walker refers to the importance of the prognosis in view of a complete lack of all European viper antivenenes. We should like to mention that our branch at 7, Vere Street, London, W.1 (Tel. Mayfair 2216), has a stock, though very restricted, of snake-bite serum—*Sérum Antivenimeux E.R.* (Pasteur). This antivenene is prepared from horses which have been immunized against the venom of European snakes, and it is imported into this country because of its efficacy against the bite of the adder (*Vipera berus*). We supply it in vials of 10 c.cm.—i.e., one dose—at 10s. 6d. As, however, the stock is at present so limited, we should be much obliged if medical practitioners would order the serum for immediate use only, not for storage. On request, we should be pleased to send it by the quickest possible means.

BRITISH MEDICAL JOURNAL

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PROBLEMS OF NAVAL WARFARE UNDER CLIMATIC EXTREMES*

BY

MACDONALD CRITCHLEY, M.D., F.R.C.P.

Senior Neurologist, King's College Hospital; Physician to Out-patients. National Hospital, Queen Square

PART II.—LECTURE I (*continued*)

CLOTHING

The story of naval clothing can be told in four chapters. At first there was little or no control of what was worn, and pressed men came aboard clad in their filthy rags, which were replaced only when eventually disintegrated. This practice naturally favoured the spread of louse-borne disease, and especially the *febris nautica*, or typhus. Next came the period of medical reform at the close of the eighteenth century, when Lind, Blane, and Trotter in turn pleaded for a regulation sea-habit. At length, from the weight of medical pressure, it was made compulsory for all new entries to be stripped, scrubbed—their rags destroyed—and then re-clad in clean apparel supplied by Admiralty "slop ships." Since 1789, thanks to Middleton, the comptroller, special ships were set aside to accommodate new entries during the first few weeks of their Service career. The third chapter concerns the regularization of the quantity, cut, and pattern of the clothing issued—the story of naval uniform, in fact. Two factors brought this about: the institution of continuous service in 1852, and the Grog Committee of 1857, checking the practice of men going ashore and bartering their kit for rum. The Uniform Committee of 1858 followed the precedent of the French marine of two years before, and enacted that every seaman should have so many articles of naval dress, of standard quality and appearance. The Uniform Committee of 1890 reopened the subject and made more recommendations along the same lines. This stage of preoccupation with uniform design, badges of rank, buttons, and gold lace lasted until the outbreak of the present war.

Since 1939 we have embarked upon the fourth chapter, which deals with the organized science of clothing as a means of protection against climate, flash, bullets, insects, gas, and other nocuous influences. This novel subject of clothing physiology may be considered in greater detail.

Clothing for Cold Climates

In the Royal Navy special expeditions must have always demanded special clothing, and indeed the Service has for long played an important part in advising upon the appropriate dress for polar explorers. Their counsel must have largely been empirical, founded upon the experiences of generations of explorers and the usages of local inhabitants. The need for special cold-weather clothing in the Navy would seem obvious, and yet, judging by the complaints lodged by Blane and others, no adequate routine provision was made in the old days for the exigencies of the climate. Even as late as 1890 evidence was presented to the Uniform Committee that all was not well, for we read: "*It is often quite pitiable to see the men . . . although they have piled on so many articles of clothing under their serge frocks that they can hardly move, crouching under the lee of funnel-casing, etc., shivering and shaking all over. . . . The want of giving due importance to this subject has resulted, there can be no doubt, in our men being old and rheumatic when they ought to be in full vigour. . . . Had protective clothing been compulsory and not optional, the spectacle of men spending their leave on a bed of sickness would not have been such a commonplace.*"

The Arctic operations of this war have focused attention upon this problem and have also led to a vast improvement in the nature of the clothing issued. The Canadian cold-weather-clothing trials held during the winter of 1943–4 form a landmark in this study, and gave an opportunity for a field test of the comparative merits of the Navy, Army, and Air Force clothing used by the British, Canadians, and Americans.

Field tests show that cold-weather clothing must be flexible enough to suit a number of different circumstances. There are problems of dry cold *versus* wet cold; still air as opposed to high-velocity winds; sudden rises of temperature which, though occurring in the lower part of the scale, are as great a contrast as between a spring morning at home and a tropical midday. Lastly, there are the differences between men engaged in heavy work and those who stand inactive on look-out; and an important intermediate group whose exertions are interrupted by short stand-easies in the open.

The role of cold-weather clothing is one of heat regulation: it forms a protective insulation which retards heat exchange. This is brought about in various ways—partly by the thermal properties of the fabric itself, partly by bodily heat production caused by the heavy clothing, but mainly by the garments trapping insulating layers of warm air—the so-called "private climate." When clothes become wet, either from sweating or from outside, the insulatory action suffers enormously, for water has 240 times the thermal conductivity of air and 3,000 times its heat capacity.

A. P. Gagge, A. C. Burton, and H. C. Bazett have made an ingenious attempt to form a scientific vocabulary for discussing the thermo-regulatory function of clothing. They start by assuming that the sensation of environmental comfort depends upon the temperature of the skin, as suggested by the traditional table drawn up by Vincent. It is, of course, open to question whether this is not an over-simplification of the problem, by ignoring cortical mechanisms which participate in the feelings of warmth and of cold. Nevertheless, it may perhaps serve as a working hypothesis. They suggest that the optimal average skin temperature conducive to comfort is 92° F. (33° C.). A person seated at rest and in a state of thermal comfort has a metabolic activity of 50 calories per hour per square metre of the surface area. This unit they call a "*met.*" For a man of average size this is about the same thermal output as that of a 100-watt lamp. The same individual when standing has a heat production of 1.5 met (or 75 cal./m.^{2}/hr.), and walking fast on the level, 4 met (or 200 cal./m.^{2}/hr.). The amount of insulation (as afforded by clothing) required to keep such a sitting-resting subject comfortable in a normally ventilated room (air movement 20 ft./min. at a temperature of 70° F. (21° C.) and a humidity less than 50%) constitutes the unit measurement of insulation, which they call a "*clo.*" One clo equals the insulating value of everyday clothing, or the value of a heavy top-coat alone. In cold environments the additional clothing needed to maintain comfort may be reckoned in terms of 2 clo, 3 clo, and so on.

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* Being the Croonian Lectures delivered to the Royal College of Physicians, July 10 and 12, 1945.

Doriot says that 4 clo is the greatest thickness of clothing in which a soldier can work; and 8 clo is the maximum he can carry as sleeping-gear.

The conception of a clo unit is attractive by its very simplicity. It recalls the traditional Chinese description of cold weather in terms of a "one-coat" or a "two-coat" day. Perhaps it is too simple, and may vary and err like other biological measurements based on subjective sensations translated into speech. The factor of acclimatization is not catered for. For greater accuracy one must resort to the physical laboratory and compute the insulation values of a particular textile from the density, thickness, and thermal conductivity of the fabric.

Among the physical properties of clothing which matter in heat regulation there is the density of the textile, the looseness of the weave, the thermal conductivity, and the hygroscopic value of the fibres. These properties affect the permeability of the cloth to air, to water, and to water vapour, and its power of heat storage. Fabrics which are hygroscopic—e.g., wool, silk, rayon—are thereby minor sources of heat until equilibrium is reached between the garment, the body, and the environment. The age of a garment, its cleanliness, and its reaction to repeated wetting or washing, all affect thermal conductivity. Colour has a bearing upon the heat-absorbing powers. Consequently the value of a particular material as a protection against cold is influenced by a number of factors. For example, Siple has compared blanket cloth (15.1 oz.) with melton overcoating (22.8 oz.): though the former is 30% lighter than the latter it has 1.4 times more insulation value. But as it is 4 times more permeable to air its protection in moving air is low. If, however, a layer of poplin (8.9 oz.) is put outside the blanket the weight now becomes the same as the overcoating. In still air its insulation value is now double that of the overcoat material, while in moving air its resistance is nearly 3.75 times as great.

As a means of protection against cooling by radiation and conduction wool is both efficient and economical. Protection against cooling by moving air calls for a shell of a closely woven, light-weight, water-repellent cotton fabric—e.g., those known eponymously as Wordie, Grenfell, Fison, Byrd, or Shirley cloths.

Fur is the characteristic wear in polar climates. Eskimos use only two garments—the inner one of caribou with the hairs towards the skin, and the outer one with the hairs directed externally. Fur comprises in volume only 2% solid matter and 98% air. Its biophysical effects are analogous to wool and poplin juxtaposed, in that an insulating layer of warm air is imprisoned within the hairs while a wind-impermeable layer is formed by the hide. But for general purposes fur is much too heavy, and its scarcity would in any case preclude its use in the Service.

For those who must do hard physical work in environments of intense cold, and especially if intervals of inactivity recur, the Brynje (or Brun) system of clothing has much in its favour. It is the traditional clothing of the Norwegian ski-troops. The Brynje set of garments consists of a loosely woven string vest worn beneath a wind-proof jacket with wide sleeves, a zip-fastener opening, and a hood. Sometimes a lining of fine-mesh fishing-net is worn beneath trousers made of the same wind-proof material as the tunic. Mittens and a képi type of cap, also lined with fishing-net, complete the outfit. It is important that this system of clothing be adopted in its entirety, for there is no special virtue in wearing Brynje vests as compared with any other loose-meshed undergarment without the rest of the outfit. So long as the wearer is exerting himself and producing heat the hood is lowered and the zip-fastener undone. When at a standstill the hood should be raised and the tunic fastened tightly to the neck.

The advantages of such a system of clothing might be considerable in the case of naval landing parties and of Royal Marines operating ashore. The Brynje system is not likely to be of much value to personnel afloat, except perhaps the stoke branch.

It is believed that at −40° F. in still air 11 clo of insulation is required to conserve body heat. Watch-keepers in severe Arctic weather will therefore need a different system of clothing. The Navy has adopted and modernized the pattern of the anarak, or the traditional Eskimo garment. This comprises a long smock of duffel cloth furnished with a hood and covered with a layer of windproof material—e.g., Grenfell cloth. Long-haired fur—wolverine or musk-rat—edges the hood. Trousers of wind-proof fabric are worn over the ordinary serge trousers. Such a garment is especially useful in conditions of dry intense cold, and perhaps less suitable for the driving wind and wet of a North Atlantic gale. For this latter type of weather a one-piece suit would be desirable. One of the chief difficulties about winter clothing in ships is that bulkiness makes it difficult to clamber through hatchways. The same applies to tank crews operating in severe cold. There is a scope, therefore, for a one- or two-piece padded (or wadded) suit like the winter garments of the Chinese or Russians, but made of modern closely woven fabric, lined with a light-weight heat-insulating flock—e.g., kapok, aerogel, or bubbfil. Most difficulty is found in the choice of protection for the hands and feet. For walking through crisp snow there is much to be said for the Russian "valinki," or high boots of felt. Unfortunately they are unsuitable in the wet even when covered by a rubber galosh; hence their value in the Royal Navy is limited. Ordinary rubber and leather sea-boots are most inadequate in very cold weather. The foot-gear worn by Arctic dwellers is much better—e.g., moccasins, mukluks, finneskos, and kamliks. The last, made of untanned sealskin with the hair close-shorn and sewn with reindeer tendon, are almost ideal, though for shipboard wear they need wooden or leather soles. Kamliks are already in limited use in the Service, and were the supply problem simpler they might now be in general issue. The choice of gloves turns on the question whether the rating is called upon to carry out finger manipulations or not. If so, there is much to recommend a glove made of rayon or silk, worn beneath a fur mitt. According to Doriot, 2 clo is the most that can be worn on the hands and dexterity still be retained. Otherwise a duffel cloth mitt covered by a loosely fitting seal-leather outer one is most suitable. Separate "trigger-finger" compartments are not approved.

Eskimos make considerable use of the insulating properties of dry "senne-grass," which they stuff inside their gloves, boots, and pockets. This practice might be adopted and improved upon by using a more efficient light-weight plastic.

Electrically heated suits, as used in the R.A.F., have been seriously considered for naval wear. Watch-keepers in exposed positions, unable to move about to keep warm and too cramped to wear many layers of clothing, might be made comfortable and more efficient by such means. Director crews in the control tops, and perhaps look-outs upon an open bridge, are in mind. The various technical difficulties are not insurmountable. To the physiologist one of the problems concerns the correct placing of the heating elements within the suit—whether to warm the trunk, the extremities, or both. Overheating must be avoided, lest the wearer become somnolent.

Clothing in the Tropics

Let us now turn from Arctic to tropical clothing. In this connexion nothing is more striking than the contrast between the practice a generation or so ago and that which obtains to-day in ships on tropical service. During Victorian times, and even within the memory of many serving officers, it was usual in the Persian Gulf in the hottest season to wear high-necked uniform, thick underwear, topees, and spine-pads. The ratings' white ducks were heavy, cumbersome, and uncomfortable. Disciplinary action was taken against those who ventured on deck without sun-helmets. "*The best dress in a hot climate, for working, and in boats is a check shirt with collar over a flannel*": so wrote Admiral Commerell in 1889.

Admiralty Fleet Orders, and especially those issued from the East India Station, display the gradually changing opinion about correct tropical wear. In 1871, we read, officers must wear waistcoats if they elect to leave their frock-coats unbuttoned. We find that in 1893 the signal might be made in hot weather, "Off jumpers." In 1912 singlets instead of flannels were permitted on occasion in the Persian Gulf. In 1921 the sennet hat (i.e., the characteristic sailors' straw hat) was abolished. In 1925 shirts were allowed instead of tunics, and, at the discretion of the senior officer, ratings—but not duty men—might be excused jumpers. In 1932 officers' tropical rig comprised tunic, shorts, and black stockings.

To-day ratings afloat in the Tropics wear shorts and sandals, and usually nothing else, even on their heads. Officers may wear the same. In boiler-rooms, of course, light clothing is worn to protect the skin against the intense radiation of heat. Ashore, officers and ratings wear, as "tropical rig," cap, shirt, shorts, white stockings, and shoes. Sun-helmets and dark glasses are virtually never seen, and the spine-pad, which survived as an extra strip of material sewn into the rating's shirt, has gone by the board. Contrary to all prognostications, the health of the Navy has improved since this scanty rig became the custom, especially as regards prickly heat and boils.

What is the reason for such a change from overdress to comparative nudity? In the first place it is largely sociological. Sailors nowadays share with the rest of the community a high standard of living and of personal hygiene. Scanty comfortable wear is now a hall-mark of emancipation, social security, and enlightenment. In part, overdress in the Tropics was bound up with the idea of protection against chill and the "dry belly-ache." The high incidence of fever in the eighteenth-century Navy was at times ascribed to a drop in temperature after sundown, but it is obvious that unrecognized cases of malaria were chiefly at work. To protect against the perils of the miasmata, flannels and woollens were worn in the Tropics, especially by boat crews at night. Traces of this belief linger in the cult of the cholera belt as a protection against tropical infective enteritis.

Some of the blame must be laid on the naval executive, and on Admiral Lord St. Vincent in particular. Like many other high-ranking laymen, he held strong but peculiar views on medical matters. In a Fleet Order of Oct. 13, 1810, we read: "*Confident as the Commander-in-Chief is that many consumptive cases might be prevented and others mitigated by timely application of flannel next the skin in catarrhs, coughs, and common colds, he most seriously exhorts the captains of ships comprising the fleet under his command to inculcate this doctrine in the minds of their surgeons, who, from caprice and passive opposition to, every wholesome regulation, grossly neglect this important duty.*" Naval medicine suffered as the result of this lay interference; for the surgeons—startled into acquiescence—fell into line, and for a time actually became the chief exponents of this cult.

Thus, during the Committee stage of the 1890 Commission on Clothing, opinions were sought as to the most suitable rig for the Tropics. The staff surgeon in *H.M.S. Hercules* testified that "*cholera belts made of two thicknesses of best flannel, overlapping in front, and secured by strings, and well quilted; . . . would in my opinion prevent an enormous amount of diarrhoea, enteritis, and even dysentery . . . inboard ship, especially in the Tropics.*" Another offender was the then Medical Director-General, whose *ex-cathedra* recommendations for the Tropics comprised: flannel with sleeves reaching half-way to the wrists, and flannel underpants coming below the knee in order to protect the joints against rheumatism; and a modified sun-helmet on all occasions, to protect the nape of the neck—"a vital part of the nervous system."

The scanty dress worn nowadays at sea appears ideal from physiological and hygienic points of view, but there is a drawback—namely, the risk of severe burns during enemy action. There is a need, therefore, for some sort of garment which will cover all exposed areas of skin, including face and hands; in other words, an action rig which can be quickly donned when needed. This rig should be of the lightest possible weight, so as to impose the least physical load; it can, if necessary, be made of material impregnated against flash. The choice of fabric is a wide one, and there is much in favour of a loose cellular-weave cotton, so long as it is not worn ashore after nightfall. Of greater difficulty is the decision as to the appropriate design, and trials have been made of one-piece garments; shorts which can be lengthened to form trousers; and shirts, gauntlets, and hoods stowed close at hand to the ratings' action stations. Common sense enjoins that a certain risk must be run, for it would be intolerable to wear an action rig all day and every day at sea in the Tropics, whatever its virtues against flash.

But, in addition to this working dress which can be quickly transformed into an action rig, the sailor in the Tropics will need a shore-going uniform which is smart and cool. It might be required that such a uniform be worn by landing parties and sailors on combined operations. Here the chief consideration is not flash- but mosquito-permeability. The sailor who remains ashore after sundown, or whose ship ties up in a malarious district, requires that his uniform should not expose an undue area of skin, and that the textile should be impervious to mosquitoes. This is a property which can be readily tested in the laboratory. The cool cellular weaves are thereby ruled out. Thick twills are uncomfortably hot. The fabric of choice is therefore one of the tightly woven cottons, such as gaberdine, Byrd cloth, poplin, Shirley cloth, or else nylon or a nylon mixture. Here other but less important factors will decide—e.g., water repellency, ventility, ease of impregnation with anti-gas chemicals or insect repellents, colour, durability, tropic-proofness, and lastly, of course, availability.

With personnel working and fighting ashore, and especially in the jungle, lightness of weight assumes added importance. Jungle clothing, though primarily a military problem, also concerns Royal Marine detachments. Every ounce of unessential equipment, and any undue heaviness in uniform and accoutrement, increases the physiological burden. Considerable attention has therefore been given to the determination of the relative climatic efficiency of fabrics by studying their influence on "the index of physiological effect" (Robinson). Subjects are tested in a hot chamber of standard temperature and humidity, and walk for a specified time upon a treadmill working at a certain speed. The reactions of the subject as shown by pulse rate, skin and rectal temperatures, and rate of sweating are recorded under basic conditions—i.e., while wearing shorts and shoes only. The subjects are then studied while wearing experimental uniforms of different textiles. This affords a delicate measure of a fabric's suitability for tropical wear, and in general terms it can be said that the physiological load of a material varies directly with its weight.

In the case of seamen and mariners working ashore in the Far East it is highly important so to design the working rig that not only mosquitoes but also leeches, ticks, and mites are excluded. Because of their insinuative properties this is not an easy matter, but the control of such a military hazard as scrub typhus is largely bound up with adequate covering of the trunk and extremities, together with the use of repellents.

The colour of the garment is of some importance in the Tropics, especially when the sun's glare is intense. At one time the suggestion was made that the ideal tropical dress would comprise a white outer layer worn over black under-garments. But whites, though cool and smart in appearance, need frequent laundering. They may also render the wearer when ashore conspicuous to hostile aircraft. Hence the advantages of a blue-grey uniform, which is both light enough to be fairly heat-repellent and dark enough for purposes of camouflage.

Brynje vests of wool mixtures have been tested in the Tropics. They should be worn beneath another garment, and hence add to the physiological load of the wearer. These vests have two advantages, however: they keep the outer layers of clothing off the skin, so that clammy garments do not stick to it, while mosquito-bites are also thus avoided. Brynje vests are useful for wear beneath an officer's white tunic.

It is not suggested that physiological tests should be the sole criterion in the choice of fabrics. Suitability depends upon many additional factors. A particular textile might seem ideal for tropical wear, being insect-proof and cool, and yet prove to be uncomfortable, too flat and smooth, clammy and clinging when wet, friable, and subject to deterioration from moulds. Light weight is not the only source of coolness. For instance, a loose fit combined with a certain rigidity may be an advantage in creating a wider air space. The bellows action of a pair of slightly starched shorts may give a cooling effect beyond that due to weight alone. Even the "feel" of a textile is significant. Design is most important, and constriction of the body and limbs must be avoided not only in Arctic wear (to promote free circulation) but also in the Tropics (to avoid prickly heat).

The procedure in choosing an item of Service clothing for the Tropics, jungle, or Arctic should be something as follows: First a report as to the merits and demerits of the items at present in use. Next, the selection of textiles and design which are promising and which are available in bulk. These are made up. Some go to the physiologists for testing as to heat load, insulation value, flash-proofness, and so on. Next come mock field trials, whereby troops in this country wear the items under conditions which mimic to some extent the terrain or environment which will be encountered abroad. Full reports are made. At the same time samples are dispatched over-seas for testing under genuine Service conditions. Questionaries are compiled, and reports submitted by observers sent out specifically. Lastly, after a period of, say, six months, the experimental items are returned, and examined as to wear and tear, deterioration, and so on. Such is the modern and common-sense drill which replaces the fortuitous choice of Service uniform of earlier times.

LECTURE II

The Human Problem in Naval Warfare

The first lecture mainly concerned the material side of naval warfare under climatic extremes and those modifications of environment and dress which have been evolved to meet the contingencies. One now turns to the human side of the problem, a consideration often neglected. As the Fleet developed from sail, the personnel changed from simple men engaged upon simple tasks to a community of skilled technicians and specialists. Instruments and equipment became more and more elaborate and sensitive, and mechanical and engineering research was lavished upon their design, their upkeep, and their protection against rough usage. Perhaps attention was focused too narrowly upon the instrument and not enough upon the man, who, after all, may prove to be the weakest link in the chain of efficient function. There is nothing new in this discrepancy, for it has been a perpetual source of contention in the Service. Over 150 years ago Blane was grumbling that "*sailors . . . had not the attention paid to them which would have been due even to inanimate machines of equal utility, for there seemed to be much more anxiety about preserving arms from rusting and cordage from rotting than about maintaining men in an effective state of health.*"

Two questions may be asked: first, How do men fare who have to keep watch while exposed to intense cold or excessive heat?; and, secondly, How do personnel react after prolonged service in polar or tropical climates? The one largely deals with mental and physical efficiency and the other mainly concerns morale.

On the bridge or weather-deck, or in the control top of a ship in the Arctic, a watch-keeper may remain immobilized up to four hours, unable to keep warm by exercise. During this time he is required to keep alert at some responsible, if not vital, task, the temperature being well below zero. Impeded by many layers of clothing, he faces a wind of high velocity with driving sleet or snow. Gradually the bulky clothing proves tiring and burdensome. The high wind makes hearing difficult and handicaps intercommunication. Lacrimation and smarting of the eyes impair visual acuity. The northern twilight and the mist may combine with fatigue to produce visual illusions, so that a look-out may mistake a breaking top for a bow wave or the wake of a periscope. The pain of the intense cold produces a general sensation of distress, which, as it continues, more and more dominates consciousness. In this way attention becomes distracted; the victim becomes slow and inaccurate in perception and performance. A mood of depression may supervene, though irritability is the commonest effect. Finger movements become clumsy, either through numbness from cold or because of the cumbersome Arctic handwear. Lastly, somnolence is common, and may become overwhelming when the rating comes off watch and goes below to his warm mess-deck.

The contrasting picture is that of a rating in the Tropics, trying to maintain vigilance while crouched in some minute compartment, with a dry bulb standing at 95° F. (I have known it to be 110° F.) and a wet bulb at 85° F. There may possibly be some near-by electrical apparatus which itself is generating heat to the figure of some 1 to 1.5 kilowatts, which is almost equivalent to the amount of heat that would be given off by 15 men at rest. He may be naked except for shorts; his body is streaming with sweat, and in addition he is probably covered with the irritating rash of prickly heat, perhaps secondarily infected. Hot nights—precluding regular sound sleep—diarrhoea, toe-rot, otitis externa, and other maladies and discomforts have perhaps already left their mark, and he has to cope with an exacting, boring, but highly important task.

One may quote the description afforded us by Burdon, the medical officer of a Persian Gulf sloop:

> "In addition to monotony and strain, the fierce climate played a major part in producing neuroses. The summers of 1940 and 1941 were very humid and hot, with malaria in addition in 1941. In June, 1941, for example, the forenoon temperature in the sick-bay was about 110° F., although the deck above was wooden and kept wet. Sometimes it was midnight before the thermometer registered less than 100° F. The evening fall of temperature was offset by the relative increase in humidity, so that the only respite from sweating profusely came between midnight and morning. Even so, it was usual to wake up on a mattress sodden with sweat. . . . The wet bulb in the shade on deck showed maximum recordings of just over 100° F. on three occasions. It is usually regarded as impossible to work under these conditions, but work went on for weeks on end until the cooler weather arrived. The usual rig was a pair of shorts and sandals, and these were permanently wet where they touched the body. Sweat dripped from the elbows, fingers, nose, and chin, and ran in a rivulet down the spine. It was a difficult task to write a letter without smudging it. A copious fluid intake was of course a necessity, and everyone suffered from sweat rashes, often with sepsis. A journal referring to this period mentions the 'repeated and powerful mental irritation induced by humidity, heat, and flies.' Such conditions engendered in most subjects an irritable despair, which cannot adequately be described. . . . Nearly everybody lost weight, some as much as a stone. Physical illness was common, and during the worst period as many as 10% of the complement were off duty sick at one time. In the worst quarter 43% of the total complement had an illness lasting on an average 7 to 14 days. The main causes were malaria, septic infections, and heat exhaustion; all were related to the climate. Accident-proneness was also raised during the hot weather. . . . Mood was worst when the climate was worst."

To justify drastic improvement in habitability it is not enough merely to assert that inefficiency occurs; it must be demonstrated, measured, and, if possible, correlated with the thermometer scale. The problem must be put on the very firmest scientific basis. Three approaches are open: (1) a comparison with experiences in industry; (2) field studies—i.e., in ships; and (3) laboratory tests in environments of severe cold or heat.

Habitability: Comparison with Experiences in Industry

Industrial data are to some extent tied up with experimental studies. Comparisons are hindered by the non-uniformity of the environmental standards adopted. (i) Using *dry-bulb* readings, Huntington found the optimum temperature for factory workers to be 60 to 65° F. Bedford found that 15% more work is done at 68° than at 75° F. Cadman said that work in coal-mines was impossible at a saturated temperature of 86° F. McConnell, Houghton, and Taylor asserted that a saturated temperature of 90° was the upper limit for a man at rest, but Dreosti found that fit and acclimatized persons could do light work even at a saturated temperature of 95° F.—though he did not mention how long or how well they worked. (ii) Judging by isolated *wet-bulb* figures, Wyatt noted a falling off in the output of cotton-weavers above 73° F. The Cotton Cloth Factories Regulations (1929) required that artificial humidification must cease when the wet-bulb temperature exceeded 72.5° F., and enacted that all work must stop should the wet-bulb temperature be above 80° F. Caplan found that working efficiency dropped rapidly in gold-mines over 92° F. and that it virtually ceased at 97° F. (iii) Using the terminology of "*effective temperature*" Vernon and Bedford found a decreasing output in coal-mines as the figure exceeded 66° F. According to Yaglou, twice as much work was done at 70 as at 93°, and Liberson and Marques found the work capacity halved in changing from 91 to 97°. At 95° (Yaglou) mechanical efficiency suffered, especially for heavy work. (iv) Employing *dry- and wet-bulb katathermometry*, Orenstein and Ireland noted impaired efficiency in the Rand gold-mines when the cooling power was less than 6 (dry) or 16 (wet). At cooling powers of 1.5 and 5 respectively the production was only 55%. (v) *Air-conditioning* of offices has been noted many times as leading to better performance, but the enhanced efficiency has rarely been measured. Workmen building the Boulder Dam suffered severely from heat during the first year, with 15 deaths from heat-stroke. Next year, when their dormitories were air-conditioned, there was a marked improvement, with no deaths and only 5 cases of cramp. The output of a factory in Manila was increased by 28% by air-conditioning. (vi) Lastly, *increased air movement* has been shown to give results. In the gold-mines a small fan giving 2,000 cu. ft./min., placed 10 to 20 feet away, increased output by 46%. (Orenstein and Ireland). Lee, Reid, and others showed that the physical well-being of tank crews in the Tropics was improved by spot-cooling with ambient air, and more particularly with cooled air; and still further when air—especially cooled air—was introduced beneath the clothing by means of a hose. These industrial studies have the drawbacks of intangibility, the terms "light work" and "heavy work" not being always clearly defined, details of clothing and water consumption not being given, and environmental standards being ill established. The other defect is a paucity of data as to work in cold conditions. Indeed, almost the sole available information relates to an increased accident rate in munition workers in the last war, when their factories were kept at a low temperature. This was ascribed largely to loss of manual dexterity. Moreover, there is very little information as to mental work. Almost the only information comes from Huntington, who found that the scholastic performance of U.S. naval and military cadets was lowest during both the hottest and the coldest seasons, and highest in the spring and autumn. Kuno noted that mental work was especially tiring in very hot atmospheres—an observation which he ascribed to the known inhibitory effect of mental exertion on the sweating produced by high temperatures.

Field Studies (Ships)

That inefficiency occurs at sea in all these foregoing uncomfortable circumstances can scarcely be doubted, though to demonstrate the point may not be easy. It may be that in the excitement of action the shackles of apathy and lassitude are thrown off and performance returns to normal. The same temporary improvement may happen in a laboratory when a subject is given an actual psychometric task.

Wireless sending and receiving would be a good index of efficiency, for any deterioration would soon become obvious. Thus in transmitting messages the speed of sending might drop. More errors and corrupt signals might be expected to creep in, with a tendency to lengthen the dashes and to accentuate the dots. Wireless receivers would perhaps betray their inefficiency by their posture, their untidy penmanship, and a tendency to miss the first few words of the signal.

Engine-room ratings are noticed to be sleepy and lackadaisical in very hot weather, and when off watch they turn in rather than read, write, or play cards. In submarines, before the introduction of coolers, personnel sometimes made silly errors and omissions. Two medical officers taking records in a hot and stuffy shell-handing room found difficulty in making correct arithmetical calculations. The ship surgeon may find it difficult to embark on the writing-up of his quarterly report.

In the gunnery division there may be a premature flattening out, if not a decline, in the learning or working-up curve, which usually ascends steadily after a ship has commissioned. Men engaged in heavy tasks may flag in the heat to the extent of retarding the work of others. It may be necessary to open the hatches periodically while at action stations, and to detail hands to stand by to close them in an emergency. While ammunitioning ship minor accidents are not uncommon, and these occur more often in the Tropics.

The foregoing field observations relate to tropical conditions, but would largely apply also to the Arctic. Extremes of temperature produce psychological effects which are comparable, both being in great part due to the distracting influence of intense discomfort. In the cold the greatest effects would be on personnel who are immobilized and who are on the alert to pick up a chance visual or auditory stimulus (asdic, radar, look-out personnel). Men whose work entails physical exertion—e.g., shell-handers, stokers—will suffer far less than in the Tropics. H. G. Armstrong has described the sequence of events in airmen. Restlessness, discomfort, impaired tactile acuity, numbness, and clumsiness of movement are accompanied by distracted attention, mental distress, loss of morale, indifference, or distaste towards the operational mission, leading to a tendency to panic. Stupor and death would supervene in those extreme circumstances. M. C. Grow describes the mental symptoms of exposure to cold as beginning with disordered judgment, a distortion of the intellect, leading to incoherence, confusion, and eventually to a fatal coma. The author believes the cerebral symptoms in states of cold are due to anoxia, and not to the release of histamine-like toxins into the blood.

Laboratory Tests

To gather scientific evidence it has been necessary to carry out efficiency tests under laboratory conditions. Within a hot-chamber, wherein high levels of temperature can be attained, one studies the physiological reactions of naval ratings upon a treadmill adjusted so that their work reproduces the energy expended in any of their duties afloat. But nowadays most sailors might be classed as sedentary workers, and their jobs are skilled psychomotor and psychosensory activities rather than hard muscular work. Hence one installs in the hot room mock-up instruments which duplicate the principles of ordinary naval tasks in such a way that speed and accuracy can be recorded and inattentiveness and irritability noted. Such experiments are under way in the Department of Experimental Psychology, Cambridge, and will be carried out in a naval establishment in the Tropics; while the U.S. Navy are working along similar lines at Bethesda.

Again it is noteworthy that there is a dearth of experimental psychological study of performance in environments of severe cold.

It is not intended to deal here with the physiological effects of heavy work in hot atmospheres—a subject so thoroughly studied by workers in Boston, Philadelphia, Brisbane, Johannesburg, and the University of Indiana. For the Royal Navy there is the important work under way at the National Hospital, Queen Square, by Carmichael, McArdle, Weiner, and others. My own interests lie more in the researches into psychological efficiency of ratings under various test conditions. Examination first under average temperate environments measures the inefficiency due to fatigue, and determines the effect of correct seating, lighting, instrument display, and the influence of such factors as rest, water, salt, food, and such drugs as benzedrine and pregneninolone. The optimal duration of watches and tricks—a question hitherto treated empirically—can now be answered scientifically. Such experiments are then repeated in hot rooms where the effective temperature can be regulated and maintained as desired. The subjects can be kept continuously in these hot atmospheres, for a week or two if desired.

It is not yet permissible to describe the researches of the Cambridge school. The work of Prof. F. C. Bartlett and of the late Dr. Craik, Mackworth, and Cameron will not be revealed until the war ends, but already important Service applications have emerged. Some interim data may be quoted without indiscretion. Bartlett's study of fatigue accruing from elaborate and highly skilled work can serve as an index of what probably occurs in hot environments. He points out that there may be a progressive and unnoticed raising of the threshold range, an increasing inaccuracy of timed response, a dissociation of performance and of stimulus units. The subject's insight grows more and more defective. He becomes worried, irritable, and obsessed with his physical discomfort. "He is at once more optimistic about his performance and pessimistic about his state."

This unawareness of inefficiency is of extreme importance in naval warfare. Officers and ratings, without realizing it, may be losing efficiency and yet scorn the suggestion. Physiologists will recognize a similar unconscious impairment of performance both in states of anoxaemia and in CO_2 poisoning.

Efficiency in an individual may matter little, but when that person is a vital link in a chain then the small error may become highly significant. True, one can rouse oneself from the apathy engendered by heat to give an ultimate performance which may be adequate. But such a recourse to reserve capital cannot go on indefinitely, and toleration might lead to a dangerous complacency. The personal loss of efficiency during fatigue may be projected, and, as Bartlett showed, the individual may blame the instrument rather than himself. This process of exterojection may ultimately lead to a lack of the man's confidence in his machine, an increasing preoccupation with his physical discomfort, discontent, and eventually an impaired morale.

(These lectures will be concluded in next week's issue, which will contain a list of references.)

A CRITICISM OF THE BASSINI OPERATION AND ITS MODIFICATIONS

BY

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In 1883 Bassini published the description of his operation for the repair of inguinal hernia. It constituted a real advance in the surgical treatment of hernia at that time, and has since been in common practice. During the past 20 years many have inquired into the rationale and results of the operation, and there has been a tendency on the part of more and more people to criticize it adversely.

A school of thought has arisen following upon the work of Hamilton Russell (1906, 1922, 1925; Ogilvie, 1937) which teaches that, for those cases of indirect inguinal hernia in which the sac is congenital, the muscles of the canal powerful, and the muscular rings competent, it is better to perform a modified operation consisting of simple herniotomy and with as little disturbance to the integrity of the canal as possible. Where there is an indication for repair, preference is given to fascial sutures or a fascial graft. The exponents of this school of thought condemn the Bassini operation, and their views contrast strangely with those of many reputable surgeons who find it satisfactory. The exchange of correspondence in recent issues of the *Journal* has raised the old question of hernia repair again, and has prompted me to write this paper, in which the Bassini operation is discussed on the basis of the experiences of many workers that have been published during the past 62 years. The operation is here considered from the point of view of theoretical soundness and practical results. The statistics given have been taken from papers in which the authors' claims as to recurrence rates appear to be accurate, follow-up of the cases has been carried out, and the criteria of cure have been exacting.

In a paper published by Randall (1930), Deaver, professor of surgery, University of Pennsylvania; Harvey, chief surgeon in New Haven (Connecticut) Hospital; McGuire, professor of surgery, Vanderbilt University, Nashville, Tennessee; Phemster, professor of surgery, University of Chicago; White, surgeon to Washington University, Washington, D.C.; and Morgan, of Tahon Springs, Florida, all condemn the hernia operations of Bassini and his successors in letters to Randall which are quoted in his article, and admit to a 25% recurrence rate on the average. Cowell (1930) stated that "the Bassini operation is now obsolete and only of academic interest."

On the other hand, a great deal of confidence is reposed in the Bassini operation by many workers (Farr, 1927), and some even claim only 2 or 3% recurrences with it. A great gulf separates the two extremes of thought. Some idea of the value of the Bassini operation and its modifications to-day may be gained by an examination of the writings and experiences of the last half-century.

Multiplicity of Modifications

One of the most damaging pieces of evidence which can be laid against the Bassini operation is the fact that so many surgeons have adopted their own modifications. The reason for this surely must be that in their hands the results of the Bassini operation were unsatisfactory. Unfortunately, none of the modified operations give uniformly better results than the original (Turner, 1937). In an extensive survey of the literature I have found over 70 modifications of the original Bassini. Many of these are almost identical and have been claimed as original by their designers, unaware that others at an earlier date had tried the method and found it wanting. No useful purpose is gained by listing those many suggestions, but it may be said that they have concerned each and every possible anatomical structure in the region of the inguinal canal, and altered each structure in ways as ingenious as they are numerous. But most of the modifications have one common factor—an attempt at union between the conjoined tendon and Poupart's ligament. It is reasonable to believe that in that step may lie the reason for the indifferent results found by so many people.

Indications for Reinforcing the Posterior Canal Wall

In a small or moderate-sized indirect hernia, where the muscles are undamaged by distension and the rings are sound, the posterior wall of the canal is generally found at operation to be strong enough to fulfil its functions of support. Why, then, should any endeavour be made to strengthen it? In cases where the sac is of the congenital type, or where the history leads one to believe the condition is congenital, if the muscles are sound there is no need to strengthen them. Nature is better than man at guarding anatomical danger spots. In any case 75% of the recurrences after Bassini operations take place at the internal ring—the spot, or one of the spots, which the operation has been designed to protect (Turner, 1937). In many cases the precipitating cause of the hernia lies probably in some unexpected strain imposed on the internal ring taking the muscle sphincters unawares. If the congenital sac is removed in these cases, any tear of the fascia transversalis repaired, and the lateral pillars of the internal ring sutured to narrow the opening, the probability is that a good result will be obtained (Fallis, 1936).

Abnormalities of the Conjoined Tendon

Support requires to be given to the posterior wall in all cases of direct hernia, and in those in which the muscles are weak and stretching of the canal has followed. But in these circumstances the conjoined tendon is generally also atrophied to a greater or less degree, and is unsuitable as a medium for support to the weakened area. Moreover, it may not insert into the pubis, but may show an abnormal insertion into the rectus sheath some distance above the pubis. This type of abnormality has been discussed by Polya (1906, 1912), Foldes (1920), and Skillern (1922), and is more frequent than is commonly realized.

In a series of 100 consecutive operations by myself upon the inguinal canal for primary indirect inguinal hernia, the nature of the insertion of the conjoined tendon was noted. In 46 cases the structure could be observed attaching to the pubis and forming a stout posterior wall to the medial part of the canal. In 20 the tendon inserted into the rectus sheath at least 1 in. above its lower extremity, and in the remaining 34 the tendon was inserted to the rectus in its last inch. In 15 of these there was poor connexion, by atrophic fibres, to the pubic crest. Therefore, in only 46% of cases in that series were the correct anatomical findings, as described by Gray (1942), found to be present. In 20% the insertion of the conjoined tendon was abnormal, and in the remaining 34% abnormality to a greater or lesser degree existed.

It may be argued that, in the cases examined, abnormal anatomy was sure to be found owing to the presence of a hernial sac, and that this in effect produced the abnormality. As against that argument it may be stated that those cases which showed the abnormal insertion of the conjoined tendon were in eight instances associated with small sacs and that the operation performed was simple herniotomy. Six of the remaining 12 were associated with large herniae in which it was not possible to distinguish cause from effect, and the remaining six were classified as moderate in size. There a repair was performed, but it was considered that the presence of the hernia had not caused atrophy of the conjoined tendon, and that probably the abnormality described owed nothing of its origin to the hernia.

Thus, even where there is an indication for strengthening the posterior wall, the Bassini operation is unlikely to give a satisfactory result owing to the poor material at hand for use in repair. Where the posterior wall is reasonably normal, further support to it by a Bassini operation does not give the necessary added support to the internal ring or area lateral to the pubis (Turner, 1937), which are the fundamental weak spots and sites of the majority of recurrences.

Stein (1942) states that suture of the conjoined tendon to Poupart's ligament is wrong also, because of the fact that nowhere in human economy is muscle used as a buffer, as its functions are motion, locomotion, and stabilization.

Site of Recurrence

Three-quarters of the recurrences of Edwards's (1943) series took place after a Bassini repair. The most common sites of recurrence are: (*a*) the internal ring; (*b*) immediately lateral to the pubis; (*c*) through the posterior canal wall (Watson, 1925). Of these three, only the last is well protected by a Bassini type of repair. If the conjoined tendon is atrophied or abnormal in its insertion the medial part of the canal cannot be effectively guarded, as it is not possible to bring down the medial limit of the tendon to Poupart's ligament.

Recurrence Rate for the Bassini Operation

Study of recurrence statistics is interesting, but is confusing owing to the wide variations in results of different clinics over the world. This applies to statistics regarding any type of hernia repair. Very many variable and uncontrollable factors influence the statistical analysis. First, the question as to what constitutes a recurrence. To the critical eye a small bulge may be accepted as a failure, while a larger one may by others be considered as within normal limits (Grace and Johnston, 1937). Many cases which recur do not return to the same clinic for further treatment, and in the absence of an efficient follow-up system the recurrence figures for the clinic may be gratifyingly low. Certain people state that, this being so, any given clinic has its quota of recurrences arising from other places, and that these migrant recurrent cases cancel each other out from a statistical point of view. This is a beautiful thought but not sound deduction.

The question as to length of time after operation before re-examination is important. Randall (1930) takes the view that success can be based only upon the results of a five-year period or over. This is not the general opinion, and Taylor (1920), Patterson (1928), Fallis (1940), Joyce (1940), Gould (1940), Edwards (1943), and others consider that the vast majority, up to 80%, recur within the first year, while many believe that the majority recur within the first six months. This is the opinion of Coley (1924). My own view is that the recurrence rate rises slowly with every year after operation, but that for practical purposes the majority of recurrences take place within the first year. In my own experience most have recurred within six months.

Many follow-up statistics are based upon a written questionary sent to the patient and returned with his own findings. This method is apt to give a low recurrence rate, as a substantial number of people are unaware at first that they have a recurrence. Nevertheless, bearing in mind the many variable factors, there are published figures which appear to be as accurate as is possible, and for the Bassini operation and its modifications Table I contains representative figures taken from many different clinics. The figures are for oblique inguinals.

TABLE I.—*Recurrence Statistics for Indirect Inguinal Hernia treated by a Bassini Operation*

Surgeon	Operation	No. of Cases	Recurrence Rate (%)
Fallis (1940)	Halsted	1,386	8·6
Fallis (1940)	Modified Bassini	214	13·4
Oudard and Jean (1922)	Modified Bassini	French Navy	10·0
Coley (1924)	Classical Bassini	332	8·7
Massachusetts General Hospital (Andrews, 1924)	Modified Bassini		9·0
Bellevue, N.Y. (Andrews, 1924)	„ „		7·5
Johns Hopkins, Boston (Andrews, 1924)	„ „		10·9
Max Page (1943)	Bassini	London Police	20·2
Selinger (1927)	Classical Bassini	266	18·0
Erdman (1923)	Modified Bassini	1,093	6·67
Taylor (1920)	„ „	816	5·6
Average recurrence rate (%)			11·8

This figure, 11.8%, is the average culled from several sources, and corresponds closely with the general experience of recurrences for indirect herniae in adult males treated by the Bassini operation, classical or modified.

The technique of a Bassini is more likely in theory to afford support to the canal which is the site of a direct hernia. Table II gives an analysis of results with direct hernia from various clinics.

The figures of Gibson and Felter (1930), with those of Coley (1924), are remarkable for being so much better than those of other workers. The explanation for this is hard to seek, as it is improbable that they are technically superior to many others among their gifted colleagues. There is no evidence that Coley and Felter selected their cases, and, according to their account, they conduct a thorough follow-up examination at least one year after operation. Still, the results they submit for direct hernia are superior to those of most other workers. One feels that there must be a reason for this which has so far not been made clear. If their results are due to the excellence of their technique they have much whereon to congratulate themselves.

TABLE II.—*Recurrence Statistics for Direct Inguinal Hernia treated by the Bassini Operation*

Clinic or Author	No. of Cases	Recurrence Rate (%)
Erdman (1923)	—	16·1
Massachusetts General Hospital (Andrews, 1924)	—	1·5
Johns Hopkins Hospital (Andrews, (1924)	—	29·1
Taylor (1920)	77	22
Watson (1924)	—	20
Lyle (1928)	75	13
Fallis (1940)	154	11·6
Lameris	102	28·4
Bruenor	171	18
Taylor	265	18
Coley (1924)	280	5
Max Page	London Police	25·8
Gibson and Felter (1930)	427	6·5
Average recurrence rate (%)		17·6

From an impartial consideration of results from many reputable sources it is shown that the Bassini operation carries with it a recurrence rate, on the average, of 11.8% for indirect inguinal hernia and 17.6% for direct. These figures are too high to be satisfactory.

Union of Conjoined Tendon to Poupart's Ligament

It has been mentioned that all the Bassini operations have one step in common—union of muscle, usually the conjoined tendon, with the inguinal ligament. Therein may lie the source of failure, and extensive investigations have been conducted into the rationale of this step in the technique. Doubt has been expressed whether satisfactory union can be achieved by attempting to unite muscles with tendon. The subject must be approached from both the clinical and the experimental point of view. It should be noted that the structure described as conjoined tendon is tendinous only near its insertion and that in the main it is composed of muscle fibres. It extends from the internal ring medially to the pubic tubercle.

Clinically, Edwards (1943) noted at operation on 53 recurrences after Bassini operations that the internal oblique in most cases was a thin attenuated sheet of pale-brown muscle, and he considered it was unlikely that it could afford much protection to the internal ring or the posterior wall. The findings after recurrences for simple herniotomy showed healthy muscles. He concluded that the Bassini sutures lead to muscle atrophy and result in a weakening of the canal. The evidence of Max Page (1943) supports Edwards's opinion. Page contrasted his figures of 1934, with a 20.5% recurrence rate after Bassini repairs, with those for 1943, when he had improved his results to 12% failures as a result of adopting more conservative methods of treatment, and using herniotomy rather than hernioplasty in those early cases in which muscles were sound. Moreover, in his series there was no selection of cases, and the results are a fair comparison, showing improvement only because of the new method used in treatment. Turner and Eckhoff (1929) give a recurrence rate of 3% for 98 simple herniotomies. These compare very favourably indeed with the figures for the Bassini lists in Tables I and II.

It is not reasonable to blame the attempt at union of conjoined tendon to Poupart's ligament for the high incidence of failures unless experimental and pathological evidence confirms this. Seelig and Chouke (1923) attacked the problem experimentally, and found, when they sutured a flap of fascia lata in a dog to the underlying muscles, that the sutures were liable to cut out. Even where they did not cut out, union took place only by means of thin scar tissue which was easily stretched.

Burdick (1928) found that suturing fascia to muscle led to healing by means of delicate scar tissue, which developed from the areolar membrane investing the surfaces and from the loose connective-tissue stroma separating the bundles of fibres. He stated that the scar is not strong, and if subjected to strain slowly stretches. Where linen or silk was used instead of catgut the tendency to stretch was not so marked, but often the linen cut out and gave the same result as when catgut had been used. Scarification of the tissues before stitching increased the density and strength of the scar, but prolonged and unusual strain still resulted in its yielding. Side-to-side suturing, as when conjoined tendon is applied to Poupart's ligament, never resulted in permanent adhesions, but yielded after slight strain.

MacGregor (1930) has stated that in his opinion muscle will not act efficiently when sutured so as to alter the direction of its normal line of fibres. Fibrous degeneration, he says, follows at an early date. He also believes that firm union is possible only when fascia is stitched to fascia or muscle to muscle, but not when muscle is stitched to fascia. Koontz (1926) further investigated the problem, but failed to verify Seelig and Chouke's findings in their entirety. He showed in one series of experiments that muscle did unite to fascia, but only when the areolar tissue had been thoroughly removed before suturing. The strength of the resulting scar depended on the intimacy of contact between the two structures. If this union was not close enough, stretching took place at a later date. Rosenblatt and Meyers (1928) also succeeded in promoting union between muscle and fascia, verifying the work of Koontz, but suggested that the main factor in effecting it is tight tying of the sutures. This, they said, induces a fibrin reaction which is later transformed into connective tissue.

A further contribution by Rosenblatt and Cooksey (1927) described the findings in 21 operations on dogs wherein the internal oblique or rectus muscle was sutured to the inguinal ligament with silk gut. It was found 40, 60, and 70 days later that there was firm union between the muscle and fascia in all cases. The union did depend, however, on complete removal of all areolar tissue, and the strength of the scar also had a relation to the area of the surfaces in contact. They stated that to permit the areolar tissue to remain is to invite the situation which exists in a joint—that is, non-adherence of insulated structures. The union takes place when, by removal of all this areolar tissue, there is intimate contact between the muscle bundles and the adjacent fascia or tendon. The muscle bundles are surrounded by a sheath of white fibrous connective tissue, and each muscle fibre has its neighbour bound to it by the same element. The entire muscle or group of bundles is also held together by white fibrous tissue. The elements for a connective-tissue union therefore are present, and explain how union does take place. The muscle is united to the fascia or tendon by scar tissue. There is no conversion of muscle cell to fascia.

G. W. and K. Roberts (1925) agreed with Seelig and Cooksey, and stated that it is rarely possible to achieve sound union between elements which are of different structure. They, with Cowell (1930), stated that as Poupart's ligament is of white fibrous tissue, and conjoined tendon is of red muscle, union by firm scar tissue cannot take place. The experimental findings are somewhat conflicting, but the consensus of opinion is that union does occur, only under definite conditions which demand that all areolar tissue is removed from the areas to be approximated, and that the sutures be applied under tension. Union then takes place by scar tissue, which is apt to stretch under strain. On the practical side further evidence comes from the operating theatre. It is recognized that in many cases of repair Bassini sutures are applied to tissues which are reasonably well developed and that apparently a firm reinforcement of the entire posterior wall will be effected. Yet, when operating on the same cases again for recurrence, the lower part of the conjoined tendon is found to be atrophied, and recurrence has developed just lateral to the pubis. This can be considered only as a pressure atrophy due to necrosis at the site of the tight sutures. This observation has been made in the literature by several writers (Fantino, 1912; Fairfield, 1915; Burian, 1919), and my own experience confirms it.

It may be stated, after consideration of the practical and experimental evidence, that in this step common to all Bassini operations there may be one reason for their comparative failure in some hands. It is probable that areolar tissue is left in many cases and prevents firm union taking place between the conjoined tendon and Poupart's ligament. Secondly, the anchoring sutures may cause necrosis of the muscle, or, alternatively, they may not be tied tightly enough to maintain muscle and ligament in apposition.

The Bassini Operation and the Small Indirect Hernia

There still is one factor which may help to explain the failure of the Bassini: its application to cases which do not require plastic repair at all. It cannot be over-emphasized that if the muscles and rings are competent there can be no indication for plastic repair of any kind. Removal of the sac is sufficient in these cases (Russell, 1906, 1922, 1925; Ogilvie, 1937), and the performance of Bassini repairs is not only useless but actively harmful, predisposing to recurrence by causing atrophy of the lower fibres of the conjoined tendon.

Reasons for Failure of the Bassini Operation

The Bassini operation may fail for the following reasons:

1. Because it is applied to cases not requiring plastic repair.
2. Because when used—as, for example, in direct hernia—the conjoined tendon may be so atrophied that it is of but little value as a means of support.
3. Where it is used with normal muscles it predisposes to recurrence through causing pressure necrosis and atrophy of the lower fibres of the conjoined tendon.
4. Because even when used in cases worth repair it still fails to guard the medial portion of the posterior wall of the canal, and may also not guard the internal ring.
5. Because frequently the conjoined tendon is sutured to Poupart's ligament before all the areolar tissue over the parts has been removed with meticulous care, thus achieving poor union.
6. Because the sutures have been tied too slackly.

It follows from discussion of the available facts that the Bassini operation is found wanting from points of view of end-results, rationale, and technique—at any rate, in the opinion of a considerable number of workers. There are, of course, many other causes of recurrence, common to almost all operations for hernia, but the purpose of this paper is only to discuss the steps in repair which are peculiar to the Bassini operations. Therefore, failure to remove the sac completely or to ligate it properly, the missing of a second sac, and so on are not considered in this contribution.

In view of these considerations, some alternative method must be adopted for those cases requiring plastic repair, and before it can be claimed superior to the Bassini it must from every point of view be demonstrated to be of greater soundness.

It seems from the evidence to hand that, despite the satisfaction in the Bassini operation or its modifications expressed by many surgeons, the operation fails in its results when compared with those of other methods. Where repair is called for the results of living fascial sutures are superior. There is not space in this communication to give the case for fascia as opposed to the Bassini, but Andrews (1928), Lyle (1928), Cattell and Anderson (1931), Foster (1936), Robins (quoted by McClosky and Lehman, 1940), Gray (1940), Edwards (1943), and many others have found in fascia the answer to the problem.

Where the hernia is small and the muscles are sound Max Page (1943) and others have noted an improvement in their results by abandoning the Bassini operation in favour of a more conservative procedure.

Conclusions

The Bassini operation is criticized on the following grounds:

1. The conjoined tendon often inserts abnormally into the lower part of the lateral aspect of the rectus sheath rather than the pubis, and thus when stitched to Poupart's ligament leaves a deficiency medially in the canal through which the recurrence may take place as a direct hernia.
2. In large and in direct herniae the conjoined tendon is frequently atrophied to a greater or less degree and is unsuitable material for reinforcing the posterior wall of the canal.
3. Even where the conjoined tendon is suitable for repair, union with Poupart's ligament can take place only by means of scar tissue, and then only when all areolar tissue has been removed from the surfaces that are to be united. The scar tissue readily stretches.
4. In the small type of hernia and where the muscles of the area are sound, experience has demonstrated that better results are obtained by simple removal of the sac and, if necessary, by reinforcing the fascia transversalis.

5. The clinical results of the Bassini operation in repair of direct inguinal hernia are associated with a recurrence rate which is too high for satisfaction and which is higher than the recurrence rate associated with fascial repair.

6. The clinical results for indirect inguinal herniae which need repair are associated with a recurrence rate again too high for satisfaction, and higher than that associated with fascial repair.

The fact remains that many workers maintain that the Bassini operation or one of its modifications gives good results in their hands. This contrasts with the experience of many sound surgeons and of important teaching centres where the operation has been tried and found wanting. The reason for this conflict of thought is obscure and probably insoluble.

It may be said that no expression of opinion in regard to the efficiency of an operation is of value unless supported by careful follow-up examination not only for recurrence but for late post-operative morbidity. Papers have been published describing the late morbidity after operations for the repair of hernia by several methods, and again the conclusions in regard to the Bassini are somewhat less satisfactory than those for fascia (Bloodgood, 1899; Erdman, 1923; Russell, 1925; Lyle, 1928; Patterson, 1928; Gibson and Felter, 1930; Foster, 1936; Fallis, 1940).

Although opinions differ in regard to the treatment of hernia there is agreement, at any rate, about one thing—that the treatment of hernia is highly controversial, has been for many years, and is likely to remain so for many more. Such a state of affairs can arise only where the results of treatment fail to reach the highest levels of satisfaction; and until some advance is made which will conclusively and universally solve the choice of operation for hernial repair controversy is likely to rage.

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E. J. Donovan and T. V. Santulle (*Amer. J. Dis. Child.*, 1945, **69**, 176), who record ten cases, state that, though gastric and duodenal ulceration are rare in infancy and childhood, the diagnosis would probably be made much more frequently if it were realized that it may occur at this age. Haemorrhage, which is the commonest complication, was found in six out of the ten cases. Perforation and pyloric stenosis were also observed. Malignant disease was not encountered.

BASSINI'S OPERATION FOR INGUINAL HERNIA

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During the last few years the value of Bassini's operation for inguinal hernia has been deprecated, and many alternative procedures have been recommended. In my view there is, however, still a wide field of usefulness for Bassini's method, and, provided the technique is skilfully applied, the results are as good as, if not better than, most of the other procedures. Naturally, this operation is not indicated in every case of hernial repair, and its choice in any particular instance can as a rule be definitely decided only when the canal is exposed. In the young or even in the middle-aged, with good musculature and a well-formed inner ring, usually no more is required than a thorough removal of the sac, but in patients with poor musculature, a weak transversalis fascia, and a large internal ring Bassini's operation gives very satisfactory results. The following is the procedure usually adopted.

Technique

After the usual skin toilet an inguinal incision is made, 3 to 4 in. long, in the line of the inguinal canal; a good length of incision is advisable for proper exposure. Haemostasis must be complete throughout and, where possible, vessels are picked up before division; this prevents staining of the tissues and allows clearer differentiation of the various structures. The external oblique aponeurosis is then divided by making a small incision 2 in. from the external ring and, with a pair of scissors, cutting from this incision along the line of the fascia to the centre point of the external ring and upwards as far as the level of the internal ring. Both upper and lower margins of the fascia are picked up by two pairs of pressure forceps. Traction through these forceps is now applied to the upper layer, and with a gauze swab it is freed from the underlying internal oblique and rectus abdominis, as far as this can be carried out without undue force. The lower layer is pulled down and the upper surface of the inguinal ligament is well exposed by gauze dissection of the areolar tissues. At this point two nerves are noted—the ilio-hypogastric and ilio-inguinal; the latter, lying along the cord usually on its anterior surface but occasionally on its lower and posterior, is picked up, divided, and ligatured at both ends, as there is usually an accompanying vessel; the ilio-hypogastric, running superior to the cord below the external oblique aponeurosis, may have to be treated in a similar fashion if it is so low that it might be included when suturing this later.

The cremasteric muscle is divided along the line of the cord and the latter is lifted from its bed, two small gauze swabs being passed below it to allow light traction. Below the cord, where it lies over the pubis, the areolar tissue is cleared, either by gauze or scissor dissection, depending on its thickness, until the inner end of the inguinal ligament, the pubic spine, and the approximating area of the pubis are clearly exposed. Dissection of the cord in the usual manner is carried out until the sac has been well separated, and this is ligatured as high above the neck as possible, the internal oblique being retracted to enable this to be done satisfactorily. It is possible that retraction of the epigastric vessels may also have to be carried out to give good exposure for this procedure.

The cremasteric muscle and fascia are now dealt with. This muscle is very variable, sometimes being exceedingly thick and tending to interfere with proper repair. In some cases it is not necessary to remove it, but in the majority it is better to do so completely, as this allows closer approximation of the internal oblique to the inguinal ligament. If the remaining part of the cord is still very thick or contains a large mass of veins, portions of these should be removed to allow more accurate closure of the external ring. For obvious reasons care should be taken not to remove too much of the pampiniform plexus. Running over the transversalis fascia are some veins which, at times, may be very large and closely adherent to the cord at the level of the external ring, and it is as well to ligature these in two places, removing the intervening portion and leaving the bed of the canal clear.

One is now ready to carry out the repair. Using No. 1 or No. 2 chromic 20-day catgut, interrupted sutures are inserted at 1/2 in. intervals. The first of these takes in the lower portion of the rectus, the conjoint tendon, and the periosteum of the pubis close to the pubic spine. The next includes the conjoint tendon and inguinal ligament, and the remainder the internal oblique, transversus abdominis, and inguinal ligament; with each a good bite of the muscle is taken, the needle being inserted 1/2 to 3/4 in. from its lower border. The last suture closes the internal ring until only the tip of the forefinger can be inserted comfortably; occasionally, if the ring is very large, an extra suture is put in on the outer side of the cord. A continuous suture of No. 0000 chromic 20-day catgut is inserted over the interrupted sutures, picking up the muscular margin and the inguinal ligament. When inserting the needle into the inguinal ligament, for both the interrupted and the continuous sutures, slightly different levels are taken to prevent splitting of the fibres. The remains of the cord are now laid back in this bed and the external oblique aponeurosis is sutured with No. 0 chromic catgut till the external ring admits the tip of the forefinger. The deep fascia is sutured with No. 0000 chromic catgut and the skin wound closed with interrupted silkworm sutures. After dressing, a firm spica bandage is applied.

After-care.—The stitches are removed on the 8th to 10th day and the patient is kept three weeks in bed, and a further two months must elapse before he starts heavy work. For the first week patients are nursed so far as is possible in the extended position, as it has been found that in some cases in which a knee pillow has been used or they have been allowed to sit up there is a complaint of slight discomfort in the groin of a dragging nature for a few months after the operation. After the first week, however, they can move about the bed as much as they care to do, although no special exercises are performed, but, when lying, the leg on the affected side should be kept extended. After leaving hospital the only instructions given are, for a period of three months, to lift no heavy weights which would necessitate their having to hold the breath to do so, as when the diaphragm is fixed in this manner a very considerable strain is put on the inguinal regions.

Points regarding the Operation

The *transversalis fascia* varies considerably in its strength. In some it is a good solid structure which could be used for repairing the posterior wall of the canal, but in the great majority it is thin, and by itself would be unlikely to stand up to much stress, particularly in cases of direct hernia. Bassini himself, however, used to divide the fascia and overlap it as well as bringing down the internal oblique muscle. This fascia is closely adherent to the under-surface of the internal oblique, and when this muscle is brought down there is bound to be a degree of plication and ultimate contraction. In cases in which the inner ring may be on the wide side and this fascia is of good quality there does not appear to be any reason why it should not be used for narrowing the ring, and in cases of direct hernia a wedge should be removed, after which the edges are sutured and the usual repair then done.

Internal Oblique.—When this muscle is brought down to the inguinal ligament before separating it from the external oblique there is often considerable tension, but once this manipulation is carried out remarkably little tension occurs in the great majority of cases. It has been contended that the margin of the muscle is destroyed and that its valvular function is diminished. This, however, is quite definitely not the case when the operation has been performed satisfactorily. The margin of the muscle does become stretched, attenuated, and fibrosed; but it forms a very excellent posterior wall to the inguinal canal, and if, in these cases, a finger is put into the internal ring and the abdominal muscles are contracted it is quite obvious that there has been no loss of function in the musculature of this region.

Occasionally at the inner angle considerable tension on the suture is present, and in these cases a flap from the anterior sheath of the lower rectus can be turned over to cover this defect, or a vertical relieving suture in the fascia can be made. In only one of the series quoted below was the latter procedure required.

Inguinal Nerve.—In all the cases cited below the ilio-inguinal nerve has been removed without any complaint afterwards of numbness or other symptoms. It is advisable to remove this nerve, for if it becomes incorporated in any fibrous tissue a very acute ilio-inguinal neuritis can be set up, and the canal has to be reopened and the nerve removed. Recently a patient had to be operated on for this complication after a Bassini operation had been performed elsewhere. As well as finding that the nerve had been incorporated in the external oblique sutures, it was noted how well the posterior wall of the canal and the internal ring were supported by the attenuated muscular bed.

Results

This paper is a review of 143 cases, submitted to Bassini's operation since 1936, by either Mr. A. J. Hutton or myself, in Mr. Hutton's wards in the Western Infirmary. They included all types of hernia, both simple and strangulated, and all ages. In the whole series there were two deaths, both of these in patients over 70 operated on for strangulated hernia.

A questionary was sent to all survivors, and 118 replies were received. Of these, eight had since died from some other cause than the hernia, which apparently was quite satisfactory at the time of their death, but they are not included in this list. In 10 cases the letters were returned "Not found," leaving 100 cases suitable for analysis. In the 100 cases 107 herniotomies were performed. These were subdivided as follows: bilateral, 7; right direct hernia, 8; left direct hernia, 6; right indirect hernia, 47; left indirect hernia, 32. Of this series 5 were recurrent and 11 strangulated. The age groups were: 10–20 years, 4; 20–30, 11; 30–40, 19; 40–50, 20; 50–60, 27; 60–70, 16; 70–80, 2; 80–90, 1.

Altogether there were three recurrences: the first of these was in a man 48 years of age, with a direct hernia and exceedingly poor musculature, and not really very suitable for this type of operation; the second, in a man of 65 who had had a bilateral operation nine years previously and had developed a recurrence with strangulation, also of the direct type of hernia, and with very poor musculature. The third of these patients, a man aged 62, returned to his work very shortly after operation and slipped while lifting a heavy weight, after which his hernia recurred.

The average time before resuming work was eight weeks, varying from three weeks to six months, and all returned to their normal occupations except four who were over 60, and of these two retired and two returned to lighter work.

Bassini's series of cases, numbering 216 simple herniae between 1884 and 1889, showed a recurrence rate of 3% and a suppuration rate of 5%. In the cases quoted above, beyond slight reddening of the skin round the silkworm sutures in a few cases, no further evidence of sepsis was found. At the Pio Istituto Bassini at Milan, where this operation is the method of choice, in a series of 10,000 cases, they state that the recurrence rate is between 1 and 2% for simple herniae.

Although figures can be very misleading they do give a fair indication when assessing results, and those quoted compare favourably with any given previously. This operation should therefore be considered as a standard operation and especially indicated in the middle-aged and old where a fairly satisfactory musculature is present. It must, however, be meticulously carried out to obtain satisfactory results. In fact, the tissues —both muscular and fascial—have to be exceedingly poor before the operation is contraindicated. The technique is easily acquired, and there is much less scope for error than in many of the procedures in common use to-day.

RELATION BETWEEN GASTRIC ACIDITY AND THE ANTERIOR-PITUITARY-LIKE HORMONE CONTENT OF URINE IN PREGNANT WOMEN

BY

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The earliest observations on gastric acidity in pregnancy were made in 1925 by Nakai, who showed that there was a striking diminution in both the free and the total acid content of gastric juice in response to a test meal. This was confirmed by Artz (1930) and Anderson (1932), both of whom drew attention to the fact that the lowest secretion of free acid coincides with the period of pregnancy when nausea and vomiting are common. Strauss and Castle (1932), investigating anaemia in pregnant women, confirmed that secretion is diminished, and further showed that there is a rise in secretion of free acid in the last month of pregnancy and a very great rise immediately after delivery. They also showed that the gastric response to histamine was greatly diminished.

In 1938, during a statistical investigation into the incidence of hyperemesis gravidarum, I noticed an extraordinarily high incidence of this disorder in patients who were suffering from hydatidiform mole. Since hydatidiform mole is associated with the presence in the urine of large amounts of anterior-pituitary-like hormone it appeared to me that this hormone might be responsible for the low secretion of acid in the gastric juice.

Soon after this work was started an important piece of experimental evidence was published by Culmer, Atkinson, and Ivy (1939). They showed that in dogs with Pavlov pouches the secretion of free and total acid could be very greatly diminished, even after histamine, by the injection of fairly large amounts (1,000 to 5,000 rat units) of anterior-pituitary-like hormone. They were unable to produce this effect with any other hormone known to be secreted in excess during pregnancy.

It is well known that the secretion of anterior-pituitary-like hormone rises rapidly after the 28th day of pregnancy and reaches its maximum between the 56th and 84th days, when there may be as much as 50,000 rat units per litre in the serum, and the secretion in the urine may be as high as 150,000 rat units in 24 hours. Then there is a falling off, and at full term the amounts, although greater than in the non-pregnant, are comparatively small.

Method of Investigation

For the purpose of this investigation it was decided to correlate the secretion of free and total acid in response to a test meal with the secretion of anterior-pituitary-like hormone in the urine. Wartime conditions prevented estimations in units per 24 hours being made, so samples from 24-hourly specimens were taken and Aschheim-Zondek reactions performed on undiluted samples, and samples diluted 1 in 5, 1 in 10, and, in half the cases, 1 in 100. Since this high dilution gave almost consistently negative results it was abandoned. The technique of the test meal was that described by Dodds and Whitby (1931). Histamine was not used. Investigation was made of 63 patients, who gave no history of gastric disorders. Twenty-two were between the 35th and 40th weeks of pregnancy; 20 between the 20th and 29th weeks, and 21 between the 8th and 16th weeks. In addition four other patients were studied. One of these had a missed abortion and one a dead foetus at full term; one had a hydatidiform mole and one a chorion-epithelioma. Seven were studied at different stages of pregnancy and 12 before and after delivery or termination of pregnancy.

Results

Chart I shows the average secretion of free HCl, in three groups of patients, according to the period of pregnancy.

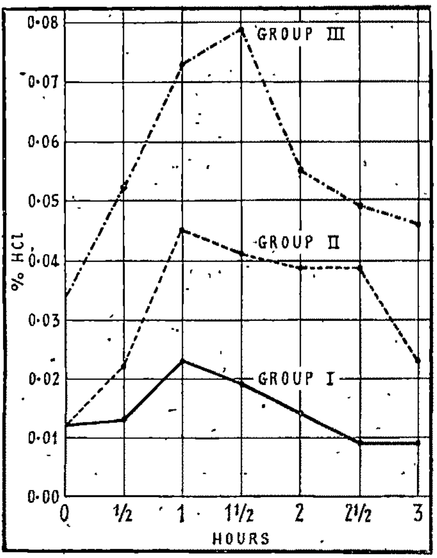

Chart I, showing average secretion of free HCl in three groups of patients according to period of pregnancy.

Group I (8–16 weeks) showed a maximum secretion of 0.023% HCl
Group II (20–29 weeks) „ „ „ 0.045% HCl
Group III (35–40 weeks) „ „ „ 0.079% HCl

Two normal pregnancies gave a positive Aschheim-Zondek reaction at 1 in 100; 28 were positive 1 in 10; 15 were positive 1 in 5, negative 1 in 10; and 18 were positive but negative in dilution. These cases form Groups A, B, and C in Chart II, which shows the average secretion of free HCl according to the degree of dilution in which the Aschheim-Zondek reaction was positive. Two cases positive 1 in 100 are included in Group A.

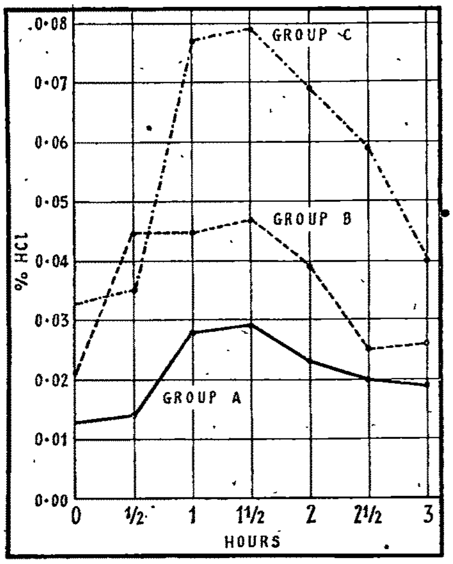

Chart II, showing average secretion of free HCl according to degree of dilution in which the A.-Z. reaction was positive.

Group A—positive 1 in 10—shows a maximum secretion of 0.029% HCl

Group B—positive 1 in 5, negative 1 in 10—shows a maximum secretion of 0.044% HCl

Group C—positive, but negative in dilution—shows a maximum secretion of 0.079% HCl

In all three groups the maximum secretion occurred at 1½ hours.

Chart III shows the average secretion of free hydrochloric acid in 12 cases immediately before delivery or termination of

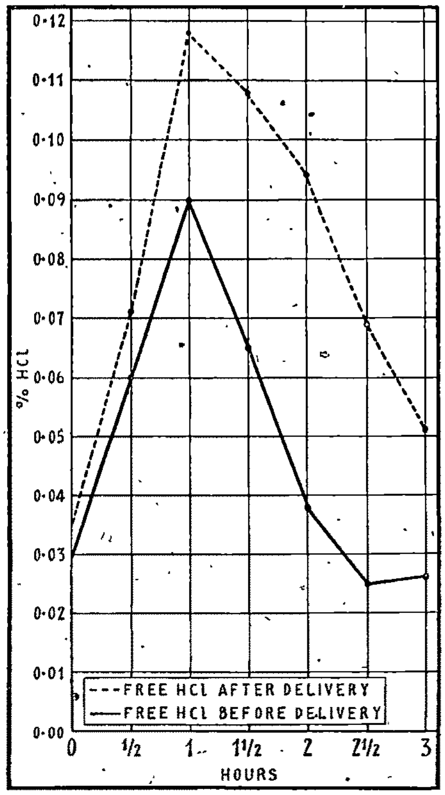

Chart III, showing average secretion of free HCl in 12 cases immediately before delivery or termination of pregnancy and average secretion of same 12 patients one week after delivery.

pregnancy (maximum secretion 0.09% HCl) and the average secretion of the same 12 patients one week after delivery (maximum secretion 0.118% HCl). In these patients the Aschheim-Zondek reaction was completely negative on the second occasion.

The case with the dead foetus at full term and the missed abortion at 12 weeks both showed a normal response and had negative Aschheim-Zondek reactions. The chorion-epithelioma followed a hydatidiform mole. The patient was first seen three days after aborting the mole; the Aschheim-Zondek was weakly positive, but negative in dilution, and the maximum secretion 0.02% HCl. Six weeks later, when she had a large malignant mass in the uterus, there was complete achlorhydria, and the Aschheim-Zondek was positive up to a dilution of 1 in 100. Hysterectomy was performed, but the patient died after operation and no further studies were possible. The patient with the hydatidiform mole was not studied while the mole was present. When seen six months later the Aschheim-Zondek was positive up to 1 in 10 and the maximum secretion 0.124% HCl. No evidence of chorion-epithelioma could be detected at this time. Four months later the Aschheim-Zondek was only weakly positive and the maximum secretion 0.302% HCl.

The seven patients who were studied more than once in pregnancy showed a low secretion of acid (average 0.036%) when the Aschheim-Zondek was strongly positive in early pregnancy and a much higher secretion (average 0.078%) towards term, when the prolan secretion was very much lower. The total acidity ran a course very similar to the free acid, with the exception that it was depressed to a less extent and that the difference between the curves for high and low prolan concentrations was less than in the case of free acid.

Comment

The hypochlorhydria of pregnancy has been ascribed to the neutralizing effects of regurgitated duodenal contents. Bile appeared in fewer than 3% of my specimens, and some of these contained large quantities of free acid. Strauss and Castle (1932) also found but few bile-stained specimens, and are of the opinion that duodenal regurgitation is not the cause of hypochlorhydria.

Evidence is brought forward here to show that in human pregnancy there appears to be some relation between the free and total acid in the gastric juice and the amounts of anterior-pituitary-like hormone secreted in the urine, and that it seems to be inversely proportional. Further studies are being made.

I wish to thank the members of the staff of the Princess Mary Maternity Hospital, Newcastle-upon-Tyne, for allowing me access to cases under their care; my friend Dr. Frank Dickens for his advice and constant encouragement; Dr. Ruth Dearing and Dr. E. Wilkinson for their invaluable help in collecting specimens; and, last but not least, the 67 patients who so willingly submitted to these investigations.

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The 93rd annual report of the Board of Management of the Hospital for Sick Children, Great Ormond Street, says that during the period of the flying-bomb and rocket attacks as many children as possible were accommodated for safety in the various wartime country branches, but all the beds that could be made available in London were fully occupied. The hospital fortunately suffered only minor damage as a result of the attacks, and the casualty department gave service to many injured adults and children from outside. The report pays tribute to the late Sir Thomas Barlow, who was a member of the medical staff in various capacities for not less than 70 years, and continued to take a personal interest in the work long after his retirement from the active list. In the history of Great Ormond Street Sir Thomas held a unique position, for he was the last personal link with the founder of the hospital, Dr. Charles West, under whom he served in his earliest years. Another distinguished physician and very good friend was lost by the death of Dr. Hugh Thursfield, for 36 years an active, and afterwards consulting, member of the staff.

DIARRHOEA DUE TO GIARDIA LAMBLIA

BY

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It had long been considered that the flagellate *Giardia lamblia* (which name is adopted here instead of *G. intestinalis* or *G. enterica*, as it is in more common use) was non-pathogenic, and Napier (1944) states that until recently he had questioned its pathogenicity except in children; but in the last few years, since the introduction of a specific treatment by Brumpt (1937) and Martin (1937), all his doubts have been dispelled. Manson-Bahr (1943), too, states that all authorities are by no means agreed as to the pathogenicity of *G. lamblia*. In 1942 a report was made to the Medical Research Council (Ormiston *et al.*, 1942) concerning an outbreak of enteritis due to *G. lamblia* in a nursery for evacuees.

The present series have been studied in the medical division of a British general hospital in India over a period of 18 months. During this period there were admitted 872 cases of diarrhoeal diseases; these were differentiated into the following classes:

1. Bacillary dysentery (Flexner, Sonne, Shiga, Schmitz, and Bayd) (4 of these had associated *G. lamblia*)	237
2. Clinical dysentery (Cases with an indefinite exudate, blood and mucus in the stool, but no isolated pathogenic organisms and no *Entamoeba histolytica*)	184
3. Amoebic dysentery (4 of these had associated *G. lamblia*)	158
4. Diarrhoea with no demonstrable organisms	272
5. Giardiasis	21

The proportion of cases in which *G. lamblia* was present was 3.32%. Napier (1944) records that in Calcutta, between 1935 and 1938, of 20,000 stools examined 6.27% contained *G. lamblia*. He does not state in how many cases the flagellate was associated with other diseases, but his series includes the stools of children, in whom *G. lamblia* occurs more commonly than in adults. The present analysis is confined to the cases in which no other cause was found to account for the diarrhoea. The total number of cases of giardiasis in this series was 21.

Symptomatology

Diarrhoea.—All cases had diarrhoea on admission, the number of stools varying from 3 to 12 in 24 hours.

Pain.—Six cases had no pain. In 15 pain of a colicky nature was complained of, with an urgent desire to go to stool. Evacuation of bowels relieved the pain. In only one case was tenesmus complained of.

Flatulence.—This was not a marked feature except in 2 cases.

General Malaise.—This was usual, but not so prominent as in cases of true dysentery of the same severity.

Fever.—Two cases had a mild pyrexia (100° F.), but in only one did this persist, and then for but four days.

Loss of Appetite.—This was noted only in cases which had been ill for a few days.

Vomiting.—None complained of vomiting.

The average duration of symptoms before admission was 5.5 days; limits, 1 to 35 days. The case lasting 35 days—that of a British officer—was exceptional, as most of the B.O.R.s were admitted on the first or second day of diarrhoea. The only system affected was the gastro-intestinal. The tongue was generally coated. In the abdomen no physical abnormality was detected in 10 cases. Sites of tenderness in the others were located as follows: Generalized, 2; R.I.F., 2; L.I.F., 1; in epigastrium and right hypochondrium, 6—the liver was palpable in two of these cases. In all but two cases the stools were watery faecal, rather paler than normal, but not approaching the colour or consistency of the stool of sprue. Generally they appeared greasy, but no fat estimations were done. In two blood and mucus were present, and in one mucus only. In two cases with a long history of continuous diarrhoea—35 days and 28 days—the stools were bulky, resembling those of sprue in consistency but not in colour.

In eight cases there was no history of diarrhoea previous to the present attack. The others gave a history of repeated attacks of diarrhoea for some weeks, and three reported alternating constipation and diarrhoea. In only one case was there a history of bacillary dysentery.

Treatment

All cases were given a five-day course of mepacrine 0.1 g. t.d.s. The stools were examined on three successive days after completion of treatment, and on all but two *G. lamblia* had disappeared. After a second course both were found to be clear. All cases were given a generous diet as soon as the diagnosis was established, and symptoms disappeared by the third day of treatment. The duration of stay in hospital was 14 days; limits, 9 to 41. The 41-day case was that of the officer mentioned previously. He had lost a great deal of weight and required building up. One other case, which had furunculosis as well as giardiasis, was in hospital for 31 days. Owing to the rapidly changing personnel of the station it was possible to follow up only two cases. One had recurrence of diarrhoea after nine months, but on this occasion the cause was bacillary dysentery, and no *G. lamblia* was found. The second had had recurrent diarrhoea for some months, but has been free for three months since his treatment.

Comment

With the exception of two cases all were admitted to hospital when the fly season was at its height. In 1944 seven cases came from one camp and seven from another. A large number of flies from the traps were examined, but no *G. lamblia* cysts or flagellate forms were detected.

It will also be noted that the description of the stools differs somewhat from that of Manson-Bahr (1943), except in two cases with long histories. It is possible that in the Army one gets the cases into hospital at an earlier stage than in civil practice, and this may explain the difference.

Summary

Twenty-one cases of diarrhoea believed to be due to infestation with *G. lamblia* are described. The percentage in relation to other diarrhoeal diseases is stated. Symptoms, physical signs, and treatment are discussed. Two cases have been followed up for a short period.

We wish to thank Major J. L. Dales, R.A.M.C., and Major M. Joseph, R.A.M.C., pathologists, for their examination of the stools; and Col. F. Cook for permission to publish this paper.

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Medical Memoranda

Giardiasis associated with Recurrent Rectal Haemorrhages

It may be of interest to record a case of giardiasis associated with the passage of large amounts of blood. Infestation with *Giardia lamblia* is common in Fiji, often symptomless, and in no other case have I found it associated with the passage of blood per rectum.

Case History

The patient was a female child, 4 years old, of mixed Fijian and European descent. She first entered the Colonial War Memorial Hospital on March 13, 1944, with a history of fever, constipation, and weakness, and the passage of blood with the stools. She appeared a normal well-developed child, and general physical examination revealed no abnormality. At subsequent examinations there was a vague abdominal tenderness but no guarding. She remained in hospital till May 6, during which time the stools were persistently accompanied by the passage of blood. At times the blood was clotted, at times bright red, and mucus was often present. The stools were soft and pale, and frequently there was diarrhoea. Investigations made during the period March 13 to May 6 included five stools which were negative for worms and ova and cysts, and for bacillary dysentery. On April 12 the haemoglobin was 80% and the red cell count 3,100,000. Sigmoidoscopy revealed no abnormality. The haemorrhages became less, her general condition improved, and she was discharged to the out-patient department.

She was readmitted on May 12 with a recurrence of blood-stained stools for three days before admission. Physical examination was again negative. Further investigations of the stools revealed the presence of *Trichuris* on May 18, and on May 27 heavy infestation with *Giardia lamblia*. Eight further stools submitted subsequent to treatment of the *Giardia* infection were negative for that parasite, though hookworm and *Trichuris* were afterwards found and treated. The Widal test was negative for *E. typhosa* on May 27, and barium enema and radiographs of the chest showed no abnormality of the large bowel or lungs. The anaemia was at its worst on June 1, with haemoglobin 60% and red cells 2,800,000. Apart from treatment of the anaemia the patient was given 3/4 grain of mepacrine hydrochloride three times a day for 5 days following the discovery of *Giardia* on May 27. This course was repeated after 10 days' interval. After the first course of mepacrine no blood was observed with the stools, and eight further stools were negative for *Giardia*.

The patient was discharged on June 22, 1944, her general condition having gradually improved since the course of mepacrine.

My acknowledgments are due to Dr. V. W. T. McGusty, C.M.G., O.B.E., Director of Medical Services, Fiji, for permission to publish this case.

George R. Hemming, M.B., B.S.,
Suva, Fiji. Medical Officer, Colonial War Memorial Hospital.

Spontaneous Lobectomy

The description of a case of spontaneous lobectomy associated with *Bacillus friedländeri* infection by J. W. Taylor (*B.M.J.*, 1944, **2**, 500) has prompted me to put on record two further cases of this uncommon condition.

Case I

A man aged 41 was admitted to Queen Elizabeth Hospital, Birmingham, on Feb. 3, 1942, under the care of Dr. A. Brian Taylor. He gave a history of two weeks' illness, beginning with a rigor and continuing with pain in the right side of the chest, cough with blood-stained sputum, dyspnoea, and pyrexia. He had been treated with sulphapyridine. On admission he was thin, dyspnoeic, looked ill, and had a temperature of 100°. Clinical examination suggested a moderately large right pleural effusion, more posterior than anterior. This was confirmed by radiographs, a lateral view showing a convex anterior border to the shadow. Aspiration produced thick brown foul-smelling pus, which on culture yielded a heavy pure growth of *B. friedländeri*. The sputum was purulent, and contained a heavy mixed bacterial flora with a marked preponderance of *B. friedländeri*. On Feb. 5 drainage of the empyema was performed under local analgesia, a portion of the 9th rib being resected. The cavity extended upwards and forwards and was limited below by necrotic tissue. Closed drainage was instituted for 12 days, and then open drainage, and pleural wash-outs were started. On the 18th day after aspiration, while a pleural wash-out was being performed, the patient had a fit of coughing, and through the sinus he coughed a piece of tissue corresponding in size to a large portion of the lower lobe. Although necrotic, its pulmonary structure was quite recognizable. Progress henceforward was satisfactory, and although the sinus continued to discharge for a few months it eventually healed and has remained dry. The patient is now back at work.

Case II

A man aged 49 was admitted to this hospital on Jan. 25, 1944, under the care of Dr. A. Brian Taylor. He gave a history of "influenza" two months previously, followed by cough, high temperature, and delirium. He was treated with sulphapyridine and improved. Since then he had continued to cough, bringing up purulent sputum and complaining of pain in the left chest.

On admission he was thin and had a temperature of 101°. The percussion note was impaired over the left upper thorax, with diminished bronchial breath sounds. *X*-ray examination showed a fluid level in the left chest, rather anterior, at the level of the third costal cartilage. Paracentesis in the fourth space in the anterior axillary line produced creamy odourless pus which yielded a moderately heavy pure growth of *B. friedländeri*.

On Feb. 3 operation was performed under local analgesia. A portion of the 5th rib was resected in the anterior axilla, and foul thin pus was found and withdrawn. During this procedure a slough of necrotic upper lobe measuring about 10 by 8 by 3 in. came out, and a persistent bronchial fistula was left. Open drainage was instituted; 48 hours later a violent secondary haemorrhage occurred into the pleura and through the tube, and was accompanied by haemoptysis. A blood transfusion of two pints was given, and his condition improved. Some bleeding occurred at intervals for nearly two weeks.

The patient became afebrile and his condition gradually improved, although his cough continued for a time. Three weeks after drainage, radiographs showed in the opposite upper lobe an abscess cavity which had not previously been present, and sputum yielded a heavy nearly pure growth of *B. friedländeri*. This right-sided cavity became smaller and disappeared without any surgical intervention. The patient is now about and feels well, but still has a large sinus with a bronchial fistula. Pleurograms show an anterior apical cavity with several bronchial openings, probably into the pectoral and ventral branches of the upper-lobe bronchus, the axillary-apical bronchus appearing intact.

Comment

Two cases of spontaneous partial lobectomy are described, both associated with pure *B. friedländeri*, pneumonia, and empyema. One was in a lower lobe, and has proceeded to a satisfactory recovery. The other was an upper-lobe lesion, was followed by a violent secondary haemorrhage and by a transient abscess in the opposite upper lobe, and has recovered with a residual broncho-cutaneous fistula.

B. friedländeri appears to have some special ability to cause sloughing of the lung, perhaps through thrombosis of the pulmonary vessels.

I am indebted to Dr. A. Brian Taylor for permission to record these two cases.

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A Case of Third-generation Syphilis

The following report of a case recently encountered may be found of interest.

Case History

The patient, a boy aged 14, was brought to hospital by his mother to see whether anything could be done to improve his gait. He had previously attended another hospital, where a W.R. was done but no lumbar puncture performed. The mother was then told that the boy was a congenital idiot, and should be sent to a mental home. No reference at all had been made to syphilis, and no further advice tendered to her.

The boy is the middle of three children, having an elder sister and a younger brother. His was a precipitate delivery, and he had been a weakling since birth. He was completely disinterested in life, and could read and write only with great effort. He could not dress himself, nor could he carry out his toilet unaided. He had never been able to walk properly.

Examination showed that the boy walked with a typically tabetic gait, due to spasticity of the lower limbs. There was slight sensory loss in both feet. The right pupil was dilated and did not react to light, while the left was normal and reacted to light. Both fundi were normal. There were no other signs of syphilis. The blood W.R. was positive. The C.S.F. findings were as follows: W.R., + + +; Lange, 5553210000; cells, 20 per c.mm.; total protein, 30 mg. per 100 c.cm.; globulin, increased.

Diagnosis.—The diagnosis was quite obviously that of congenital taboparesis. On investigating the rest of the family—the two other children, the father, and the mother—the only one who showed a positive W.R. was the mother. She avowed that she had never had syphilis, nor any treatment; but that both her parents had died as a result of the disease. This would indicate that she is herself a congenital syphilitic, even though she shows no signs, apart from that complacent facies which is so often seen. The father had been a blood donor for more than 25 years; it is therefore reasonable to assume that his blood W.R. has been negative all that time, and certainly during the 20 years he has known the mother. Both the daughter, aged 17, and the younger son, aged 12, show no signs of the disease, and are brilliant scholars. It can thus be stated that these three members of the family are, and always have been, free from syphilis; and should the mother have acquired it at all it would have been manifest in one or all of them. The evidence therefore shows that the mother is a congenital syphilitic who has given birth to a third-generation congenital syphilitic.

Comment

Third- and fourth-generation syphilis appears to be rare, and very difficult to prove. It is also evident that congenital neurosyphilis responds well to treatment, provided that the patient does not suffer from fits (see Nabarro, 1934). This is borne out by the progress of the patient, who after his first course of 10 weekly injections of 2 g. of tryparsamide and 0.2 g. of bismuth, showed the following C.S.F. changes: W.R., +; Lange, 0111000000; cells, 2 per c.mm.; total protein, 20 mg. per 100 c.cm.; globulin, slight increase. In addition to these changes, his general condition has improved dramatically. He can now dress himself, bath himself, and goes to school daily. He takes a general interest in life, and is always asking if he may go to the cinema or to see friends—things he had never done before. He asks questions about his treatment, whereas a few months ago he did not care.

The lesson to be learnt from such cases is that those which appear to be the most hopeless may be benefited by treatment. This of course raises the question whether they could be avoided by the administration of arsenic to all congenital syphilitics during pregnancy. Closer investigation into the histories of congenital syphilitics might show the disease to be commoner than is supposed.

Putney Hospital. C. J. V. Helliwell, M.R.C.S., L.R.C.P.

Reference

Nabarro, D. N. (1934). *Proc. roy. Soc. Med.*, 28, 169.

Reviews

ANNUAL REVIEW OF PHYSIOLOGY

Annual Review of Physiology. Vol. VII. Editor, James Murray Luck; Associate Editor, Victor E. Hall. (Pp. 774. $5.00 or 30s.) California: American Physiological Society and Annual Reviews Inc.; London: H. K. Lewis and Co. 1945.

The appearance of Volume VII of this *Review* almost coincidently with the end of European hostilities will evoke from physiologists and those who wish to keep abreast with physiological literature an expression of gratitude for the boon this publication has been through the war years. The sense of misgiving for introducing a new publication into a world already burdened with scientific literature, to which the editors confessed in the preface to the first volume in 1939, must, indeed, have changed to one of duty as they became responsible each year for presenting their survey of physiological advances. The present volume, the largest yet published, contains 26 articles, compared with 19 in 1944, in which are reviewed almost 4,500 publications representing the work of over 4,000 investigators. It is clear that physiological work has not been at a standstill during the war years, although many of the reviewers in the introductions to their articles stress the diversion of interest from "pure" to "applied" physiology. The lifting to some extent of the security bans on publication during the past 18 months has permitted some of this applied work to be revealed. As an example of this tendency the review of "Applied Physiology" (J. H. Comroe and R. D. Dripps) is devoted to aviation medicine, fitness and performance, and resuscitation; and references to the various effects of anoxia appear in many reviews. Some of the excellent work on the effects of environmental conditions, such as heat and cold and the adaptation to, or protection against, them, is referred to in articles on "Water Metabolism" (I. McQuarrie) and the "Physiological Effects of Heat and Cold" (Allan Hemingway).

Apart from the emergence of war research the *Review* follows lines which have now become familiar. The advances in what may be regarded as the main divisions of physiology—e.g., respiration, digestive system, heart, blood, kidney, energy metabolism, endocrine regulation of metabolism and reproduction—during the past year are surveyed. But the choice of a fresh reviewer makes for an alteration in perspective from year to year—though here might be entered a caveat against the tendency, which shows in more than one instance, to revert to the "card index" type of review. The articles in the early volumes of the series were distinguished by their critical appraisal of the contemporary field and the adoption of a definite point of view by the reviewer. The four articles on neurophysiology—"Electrical Activity of the Brain" (F. A. Gibbs), "Conduction and Synaptic Transmission in the Nervous System" (G. P. McCouch), "Somatic Functions of the Nervous System" (M. A. Kennard), and "Special Senses" (J. M. D. Olmsted)—make a useful symposium despite the unavoidable absence of a fifth review on visceral functions of the nervous system.

Among articles on topics which are not reviewed annually the one on "Peripheral Circulation" (E. M. Landis) is likely to be of interest to clinicians for its sections on capillary permeability and vascular reactions to haemorrhage; while those on "Permeability" (S. C. Brooks) and "Physical Properties of Protoplasm" (W. Seifriz) signify the important role of the physical chemist in elucidating problems of cell physiology. "Exercise" (C. L. Taylor), while covering ground dealt with in some other articles, has a useful survey of "fitness tests."

It is impossible to do more than give an indication of the articles in this *Review* and their trend. To the physiologist who finds it impossible by his own reading to keep pace with the publication of individual papers in every section of the subject, or to the clinician who wishes to keep abreast with the latest advances in physiological knowledge and thought, this compilation is obviously indispensable.

ARTERIAL HYPERTENSION

Arterial Hypertension. Its Diagnosis and Treatment. By Irvine H. Page, M.D., and Arthur Curtis Corcoran, M.D. (Pp. 352; illustrated. $3.75 or 22s. 6d.) Chicago: The Year Book Publishers; London: H. K. Lewis and Co.

This book on hypertension is by authors whose names are well known for their investigations into experimental hypertension in animals. It is regrettable that the expectations thus aroused are hardly realized, for its quality is decidedly uneven. There is to start with an aetiological classification, but the range of this is so wide that it has no practical value; angina pectoris should hardly find a place. "Neurogenic hypertension" is then described, with an account of a diencephalic syndrome which is unfamiliar. The early stages of essential hypertension are considered to be mainly due to psychoneurosis. Then follow apparently the structural changes; but no very clear line of thought is put forward. The section on physical examination omits any reference to the state of the peripheral arteries, the heart sounds, and the apex beat. The cold pressor test receives a good deal of discussion, which rather outweighs its practical value. Great stress is laid on the retinal examination, and quite rightly, but it is doubtful whether any but the expert ophthalmologist can distinguish the minute differences described. The section on pathology is superficial and the description of arterial diseases obscure; calcification, for instance, is not mentioned. The section on psychotherapy contains a lot of good common-sense advice, but also a good deal of superficial statement. There are considerable chapters on angina pectoris and coronary thrombosis which have little direct bearing on the subject; and the special relevance to hypertension they might have is not brought out. Congestive heart failure is hardly approached in a modern way, for the characteristics of left ventricular failure which are such a feature of hypertension are not given. Alternation of the pulse is not mentioned at all, and the reference to gallop rhythm is inadequate; the description of it as a "cry for help" is surely a misquotation which should refer to alternation. The electrocardiograms are few and appear to be incorrectly described.

The best section, as one might expect, is that on the kidneys, and here is something very well worth reading. All the latest information is clearly set forth in the light of the most recent views of renal physiology. There are some good illustrations. The part played by the kidneys in the later phases of hypertension and the vicious circles set up are described in an interesting and intelligible manner. There follow chapters on treatment, with some discussion of sympathectomy and thiocyanate therapy, but here there is as yet little scope. In their renal experimental work the authors are good, but most of the rest is off the point and unlikely to be of much use to the practitioners for whom the book was written.

ORTHOPAEDICS FOR AUXILIARIES

Fractures and Orthopaedic Surgery for Nurses and Masseuses. By Arthur Naylor, Ch.M., F.R.C.S. With a foreword by Ernest Finch, M.S., F.R.C.S. (Pp. 288; fully illustrated. 16s. plus 7d. postage.) Edinburgh: E. and S. Livingstone. 1945.

This book is written by an examiner in surgery of the General Nursing Council, and may therefore be taken to fill a need in the training of nurses, at any rate from the academic standpoint. It is a short and concise manual of orthopaedic surgery and deviates little from accepted lines, while the text is clear and reading not laborious. Apart from one or two illustrations which are incomplete or inaccurate though qualified in the legends, and one or two which are difficult to understand, the pictures are useful and informative. On the whole the book is up to date, and its main value lies in its brevity, which results from a careful elimination of the rarer orthopaedic conditions and from compression of much that is included.

The set-up is on lines familiar to medical men, but one gains the impression that, from a practical aspect, masseuses and nurses will not find much to help them in their day-to-day handling of patients. Practical points are relatively few and, where elaborated, often more of interest to the house-surgeon than the nurse: for instance, descriptions of methods of plaster application are given, but the more important nursing details of how to observe and treat a patient in plaster receive few lines and little emphasis.

The possession of this book will certainly help the student nurse working in the orthopaedic wards to understand the rationale of the treatment accorded to her patients, and should be of value to her when she comes to face the examiners. By then, no doubt, she will also have learned the practical side of the work from the other members of the orthopaedic team and, in particular, the ward sister.

Notes on Books

Dr. BRUCE WILLIAMSON has revised his little volume, *A Handbook on Diseases of Children*, for a fourth edition (E. and S. Livingstone; 12s. 6d., plus 6d. postage), and recent advances have been included. The quality is "patchy"; sections on the heart, for example, are good, whereas dietetics and nutritional disorders are poorly done. There is a frequent reference to "Grade A milk," and an absence of familiarity with current views on the treatment of such disorders as rickets and scurvy.

The number of diabetic cookery books is legion, but *The Cookery Book for Diabetics* compiled by the Diabetic Association (H. K. Lewis and Co.; 4s.) is rather a special one. In the first place it is compiled by diabetics themselves and with an eye to wartime difficulties and dull food. It is more than a mere collection of recipes, and can claim to be the diabetic's "guide to good living." The first 6 pages give simple but adequate lessons in food values, brightly illustrated with a delightful imp. The bulk of the book is occupied by practical, attractive, and accurate recipes. Indeed they have almost made Prof. Mottram, who writes a foreword, long to be a diabetic. The book contains other practical information and includes Lawrence's 5-gramme food tables. The book in no way encroaches on the physician's province by prescribing diets, but enables any prescription to be followed in an attractive and varied way. All diabetics intelligently interested in their diets—and there are thousands in the country—will find this book very helpful.

Preparations and Appliances

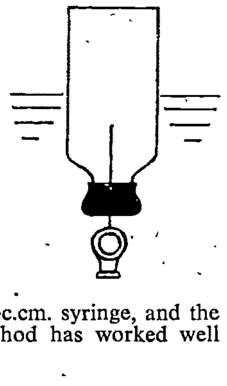
"STERILE" WATER: AN OUT-PATIENT AND SURGERY TECHNIQUE

Dr. ALEX COMFORT writes from the Royal Waterloo Hospital, London, S.E.:

Modern ideas of bacteriology and contemporary nursing training have increased the demand in out-patient clinics for "sterile" water without increasing proportionately the bacteriological criticism to which such water is subjected. The pathogen-sterility of water derived from a corked Winchester, however often it may be renewed, is as a rule experimentally inferior to that of tap water. Water adequately sterilized in flasks for surgically clean procedures such as the washing of syringes and the solution of drugs is usually of limited availability both in surgeries and in small out-patient clinics, because of the wastage brought about by rejecting each flask as it is opened. The amount required in such minor procedures rarely exceeds 5 c.cm., and if each operation involves the opening of a 100-c.cm. flask the space devoted to sterilization must necessarily be large.

The following procedure for the preparation of small quantities of bacteriologically sterile water, without apparatus and in a portable form, may be of interest to those who have to deal with bulk injections under surgery conditions.

A suitable number of ordinary insulin bottles are cleaned, the rubber caps removed, washed, and replaced; each cap is transfixed with a small-bore intradermal needle, and the bottles are immersed at the beginning of the day's work in a bowl of boiling distilled water. They remain there for five minutes, when the bowl is removed and allowed to cool. Filling is automatic and almost complete. The needles are removed, and the cold bottles of sterile water are transferred to the injection tray or to the medical bag. The bottles float inverted if a needle with a sufficiently heavy sleeve is used. The rubber caps seem to resist boiling well, and a single bottle will withstand some dozens of refills. The amount in each bottle suffices for washing and filling a 2-c.cm. syringe, and the entire batch is reboiled daily. The method has worked well in practice.



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Rh INCOMPATIBILITY AS A CAUSE OF MENTAL DEFICIENCY

It has long been known that in a small proportion of infants dying of erythroblastosis foetalis cerebral changes are to be found. To these the name "kernicterus" was given by Schmorl,[1] who found 6 instances in 120 cases of jaundice of the newborn coming to necropsy. Although the staining and damage may be widely spread throughout the cerebral and cerebellar cortexes it is the basal ganglia which tend to be specially affected. Accordingly it was not surprising that it should be discovered that among children who survived were to be found occasional instances of severe mental defect associated particularly with extrapyramidal rigidity and athetosis. The relationship to the pathological entity "kernicterus" was confirmed by Zimmerman and Yannet[2] in a detailed study on a child who died at the age of 3. Thus it may be anticipated that among mental defectives there will occasionally be found individuals who have a history of severe jaundice at birth, who are Rh-positive, and who present evidence of involvement of the basal ganglia. It is, however, a very rare picture. Yannet and Lieberman[3] found only a single instance among 1,200 admissions to a colony for mental defectives.

If this were all, the practical importance of Rh incompatibility as a cause of mental deficiency would be slight indeed. But Yannet and Lieberman are able to show that this is far from being the complete story. Zimmerman and Yannet[2 4] had previously observed that among their own families, and in those reported in the literature, were to be found instances of severe mental retardation without evidence of the involvement of the basal ganglia. In the second place certain children identified post mortem as cases of kernicterus had suffered from so slight a jaundice that it had been considered physiological. Accordingly Yannet and Lieberman set out to discover whether there was any evidence to show that Rh incompatibility might be responsible for a proportion of ordinary low-grade mental deficiency. They determined the Rh blood group of 109 idiot and imbecile children, together with that of their mothers: 53 of the children fell into various special groups (mongols, 23; spastic diplegia, 13; post-natal infection, 8; birth trauma, 4; cranial anomalies, 3; cerebellar ataxia, 1; amaurotic idiocy, 1). Of these, only 4 proved to be Rh-positive with Rh-negative mothers, which is close to the expectation in a random sample of the general population. On the other hand, the 56 undifferentiated idiots and imbeciles included no fewer than 11 who were Rh-positive with Rh-negative mothers. If we were to draw a random sample of 56 mothers and children from the general population, the expected number, accepting the proportion of Rh-negative persons as 15%, would be 5.15—less than half the number observed. So large a discrepancy would not occur by chance oftener than once in about 75 trials. This calculation, moreover, does not take into account the fact that the deviation from expectation is in the direction demanded by hypothesis. This finding is the first indication, and a very strong one, that a far from negligible proportion of low-grade defectives owe their condition to Rh incompatibility. Taken in conjunction with a hypothesis firmly grounded on pathological and clinical observations, it seems out of the question that the excess could be anything other than an indication of cause and effect. Some children, therefore, who recover from their pernicious jaundice, or who may not display pernicious jaundice at all, become mental defectives of ordinary undifferentiated type because of damage to their brains owing to development of anti-Rh factors in their mother's blood. These observations have been speedily repeated by Snyder, Schonfeld and Offerman.[5] They confirm Yannet and Lieberman's findings, for 11 out of 68 similar undifferentiated defectives proved to be Rh-positive with Rh-negative mothers. Adding the two series together, the number is 22 out of 124. The expected number in a random sample of 124 is 11.40. The odds against so big a difference as this arising by the accidents of sampling are nearly 600 to 1, again without allowing for the fact that the deviation is in the expected direction. The evidence in favour of the hypothesis is thus very strong, but the figures are not yet sufficient to allow any close estimate to be made as to how much mental deficiency is due to this cause. Should further work reveal a figure similar to that indicated in these first series, then Rh incompatibility would be about half as important numerically as mongolism as a cause of mental deficiency among institutional defectives.

Before this new discovery was made Haldane, in a paper discussed in an annotation in these columns,[6] pointed out that erythroblastosis foetalis is responsible for more deaths than is any other inherited condition—perhaps for more than all of them put together. Rh incompatibility therefore raises a problem in negative eugenics second to no other. We suggested in our annotation that this eugenic problem might be evaded in the future by timely recognition followed by prompt treatment of the newborn child. Prof. Leonard Parsons[7] suggested we were unduly optimistic. He pointed out that much damage may perhaps occur before birth, instancing particularly kernicterus. The present findings among mental defectives add notably to the known evil effects of Rh incompatibility and emphasize the doubt whether successful treatment at birth may not sometimes merely substitute a living idiot for a dead baby, and this apart from the fact that even more frequently there may be no severe jaundice at all. It seems futile to suggest that the 15% of Rh-negative women should have 85% of the male population barred to them; yet the dangers are relatively great. It is clear that more research is urgently called for along a number of different lines. In particular, it is much to be hoped that Yannet and

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[1] *Verhandl. deutsch. path. Ges.*, 1904, **6**, 109.
[2] *Amer. J. Dis. Child.*, 1935, **49**, 418.
[3] *Amer. J. ment. Def.*, 1944, **49**, 133.
[4] *Amer. J. Dis. Child.*, 1933, **45**, 740.
[5] *J. Heredity*, 1945, **36**, 9.
[6] *British Medical Journal*, 1944, **1**, 262.
[7] Ibid., p. 371.

Lieberman's work will be followed up on a large scale. It could then be determined how much low-grade mental deficiency is due to Rh incompatibility. Intensive work could be done on mothers and defective children when the former proved to be Rh-negative and the latter Rh-positive; such studies would include family investigations and inquiries regarding previous pregnancies; the attempt could be made to distinguish clinically those defectives who owe their mental state to maternal anti-Rh immune bodies. The problems are urgent, while the resources of a single colony are insufficient to provide enough material within a reasonable time. Clearly there is need for co-operative research by many such institutions, in collaboration with the experts of a serological laboratory, and we are pleased to record in this week's correspondence columns an offer to collaborate from Drs. R. R. Race and A. E. Mourant, of the Galton Laboratory Serum Unit at Cambridge.

EPIDEMIC DIARRHOEA

Although "summer diarrhoea" has ceased to occur in great epidemic waves and the annual deaths from diarrhoea in children under 2 years of age have fallen in half a century from 40,000 to 3,000, yet more young children die of this disease to-day than from any other infection except pneumonia. It is accordingly a cause of considerable anxiety to those concerned with the public health, the more so as there is evidence of an increased incidence during the war years, and large-scale epidemics have recently broken out in at least two cities. Epidemiologically, infantile gastro-enteritis is characterized by its preponderance among artificially fed infants in poor-class urban areas; aetiologically, no bacterium or virus has yet been discovered which can be accepted as the specific cause of the infection. Indeed, many expert observers regard infantile enteritis as a non-specific disease secondary to parenteral, and particularly upper respiratory, infection. Others believe that the primary agent is a virus which has its entry into the oropharynx, predisposing, like the viruses of measles and influenza, to secondary complications such as otitis media; others, again, hold that otitis media is the primary infection leading to secondary diarrhoea and vomiting.

Among recent contributions to the solution of this complex problem is the report by Buddingh and Dodd[1] of a virus isolated from the mouths of young children with stomatitis and diarrhoea. The first symptoms in this syndrome, which appears most commonly in infants under 6 months of age, are a sore mouth, refusal of feeds, fretfulness, but no fever. The lips and anterior margin and under surface of the tongue are fiery red, and fine vesicles may be noted on the affected areas and on the gums. Later the mucous membrane of the tongue desquamates and leaves a raw ulcerated surface. Diarrhoea but not vomiting occurred in about one-third of the cases; stools were frequent and contained large quantities of mucus, sometimes flecked with fresh blood. The disease is infectious, with an incubation period of 2 to 3 days and a rather mild course of 3 to 10 days; there may be relapses. Aetiologically it is distinct from herpetic stomatitis; specific antibodies appeared in the blood of affected children.

It may be noted that an epidemic form of nausea, diarrhoea, and vomiting among adults, often diagnosed as "gastric flu," has in recent years been observed both here and in the U.S.A. Reimann and his colleagues[2] have given a detailed account of this type of infection, which they believe may be due to an air-borne enterotropic virus. Most commonly the first complaint is of epigastric discomfort and nausea (like sea-sickness), followed in a few hours by vomiting. Diarrhoea, if it occurs, is characterized by considerable abdominal discomfort. There is only slight fever or none at all, and the symptoms clear up in 1 to 2 days. Very few patients feel ill enough to go to bed or to call in a doctor. The syndrome is similar to that described in this *Journal* two years ago by Bradley,[3] except that diarrhoea was not prominent in the outbreaks he recorded. Hyperaemic tongue papillae and injected fauces, like the early stages of a streptococcal throat infection, were, however, commonly noted among his cases. Although there is apparently no special seasonal incidence for this infection, many of the recorded outbreaks occurred in late autumn. Attempts to isolate a specific bacterium or virus have failed, but Reimann and his colleagues reported some success in the transfer of infection to human volunteers who inhaled the sprayed filtered nasopharyngeal washings or stools of affected patients.

Claims that the much more serious gastro-enteritis of infants is due to infection by some abnormal member of the coliform family are made from time to time, and Sevitt[4] in a recent investigation of some 400 cases in Dublin has been impressed with the frequency of both *proteus* and paracolon bacilli in the faeces of affected infants compared with normal control cases. Feeding experiments in kittens with paracolon strains resulted in entero-colitis in a high proportion of the animals. These studies, correlated with the recent summer outbreaks and the greater prevalence of flies, point again to a primary intestinal food-borne infection, and, although evidence of acute inflammatory reaction in the gut is usually absent, the frequency of liver damage in cases of infantile enteritis suggests absorption of toxic substances from the bowel. Another point in favour of an intestinal aetiology in one form of the infection is the apparently beneficial effect of sulphaguanidine in neonatal diarrhoea, as originally claimed by Henderson[5] and lately corroborated by Campbell[6] in outbreaks in maternity units in Melbourne. The newer intestinal antiseptics deserve a more extensive and controlled trial in the enteritis of older infants.

Careful bacteriological examination of the faeces or rectal swab on modern selective media should always be carried out in cases of infantile enteritis, and the stools of children over 1 year of age should be examined directly for *Giardia*, which has been incriminated as a cause of subacute diarrhoeal attacks.[7] Yet American findings agree with experience in this country that specific bacterial pathogens are rarely found among cases of infantile diarrhoea in temperate climates. Thus, while Hardy and Watt[8] found dysentery organisms in 63% of the severe cases and in 33% of mild disorders among infants up to 6 months of age in New Mexico and Georgia, only 7% of affected infants of the same age group in New York gave positive findings. But if the aetiology of this non-specific enteritis is still obscure its prophylaxis is possible if ways and means can be found for working-class mothers to breast-feed their babies for the first six months of life. An adequate diet during pregnancy and lactation together with helpful advice and education will largely solve this problem. Fortunately, the Government is beginning to realize that the "nutrition of the pregnant and lactating poor should be a first charge on the resources of a Christian State."

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[1] *J. Pediat.*, 1944, **25**, 105.

[2] *J. Amer. med. Ass.*, 1945, **127**, 1.

[3] *British Medical Journal*, 1943, **1**, 309.

[4] *J. Hyg.*, Camb., 1945, **44**, 37.

[5] *British Medical Journal*, 1943, **1**, 410.

[6] *Med. J. Austral.*, 1945, **1**, 79.

[7] *Publ. Hlth. Rep. Wash.*, 1945, **60**, 57.

GRAFTING FOR BURNS OF THE EYE

The use of buccal mucous membrane grafts for the treatment of cicatricial conditions affecting the conjunctival sac is well known, but their use for more acute conditions of burns of the conjunctiva is not so widely appreciated. Denig[9] in 1920 advocated the principle, to which he had referred in 1912, of providing an epithelial covering for granulating burnt conjunctiva rather than allowing it to heal without surgical intervention. Again in 1929[10] he discussed the use of circumcorneal buccal mucous membrane grafts in extensive conjunctival burns, and in all cases of ammonia burns of the eye, claiming that in many it prevented the severe complications that would normally follow such injury. The technique was to employ two or more grafts suitably shaped to replace the burnt conjunctiva around the cornea, secured to the sclera by interrupted catgut sutures, which were removed in 10 to 12 days. O'Connor[11] in 1933 emphasized the seriousness of burns due to ammonia, and mentioned the delayed effect which becomes evident in a week or ten days. He claimed that early grafting diminished scar-tissue formation, prevented symblepharon, and had a beneficial effect on corneal nutrition. For burns of the palpebral conjunctiva he placed the graft on a small thin stent mould and sutured it in place, care being taken that the stent should not be in contact with the cornea; if that was not possible he sutured the graft in place without using a mould. Circumcorneal grafts were used for burns affecting the bulbar conjunctiva. There were many technical difficulties and failures, but there was also the possibility of great benefit for many severe burns of the eye. In 1938 Denig[12] described the impairment of the limbal circulation in ocular burns which led to the formation of a secondary opacity in the cornea, and showed how this was preceded by infiltration of the sclera, which in experimental work was shown to be quite apparent in 48 hours and advanced in 5 or 6 days. This damage could be prevented if grafting was performed very early—say, one hour after the injury. It was also considerably less than it would otherwise have been if the grafting was done in 24 hours. He found that the effect of an alkali was greater than that of an acid, and that ammonia was particularly damaging. If because of the severity of the burn or too much delay the sclera is necrosed the graft will not take. In general it was found best to operate within six hours of the injury, but even if delayed longer than this it was better than not to operate at all. Localized damaged patches of bulbar conjunctiva could be removed and replaced by a graft sutured to the sclera, and more extensive transplants according to the extent of the damage. He quoted 82% success by operating in this way and a higher percentage in those operated on within six hours. It was found that blindness was three times more frequent after conservative treatment than after operation. He stated that all cases with corneal damage accompanying a conjunctival burn should be operated on, and that conservative treatment should be confined to first-degree burns without corneal damage unless they were caused by alkali or liquid gas or halogens.

Siegel[13] has classified conjunctival burns as follows: (1) simple conjunctivitis; (2) with profuse exudate; (3) with necrosis, emphasizing the potential danger to the cornea caused by blockage of the perilimbal blood vessels and lymphatics. Particularly grave are those cases in which the sclera is of a porcelain-white appearance. He advocated early grafting in all cases in which damage to the perilimbal circulation might be suspected, and the destruction of vascular supply to a part or the whole of the cornea was his criterion for grafting. Various grafts have been tried. Probably the best, when available, is autogenous conjunctiva, labial mucous membrane being the next best. Buccal or labial mucous membrane retains its rosy colour and thickness, but at a later stage the cosmetic result can be improved to some extent by operation if required. The graft can be removed by means of a cataract knife, and very fine silk or catgut is used to suture it in place, the silk sutures being removed in a week; until then the eye is kept closed with a pad and sterile petrolatum applied.

The results seem to show that treatment of this kind improves the chances of retaining a useful eye after severe conjunctival burns, and that less severe cases are benefited by such treatment. It is only too well known that disasters can befall an eye after chemical burns, and it is disheartening to watch such a case and see the conjunctiva shrink up and the cornea become cloudy and ulcerated in course of time—resulting in a useless eye, or an eye with extensively adherent eyelids which render the eye useless. If some mitigation of these ill effects is possible by any form of treatment then it should be given a trial, and the experience of those who have tried early grafting with buccal mucous membrane after removal of damaged conjunctiva indicates that this is a line of treatment that should be more widely recognized. The practical application of these principles is by no means easy, and there are technical difficulties. The operation may have to be carried out when the patient is still in much pain; swelling of the lids may be considerable and will interfere with facility of operation. There is, however, so much at stake that a patient should be given whatever chance there is of retaining useful vision and of diminishing the seriousness of ensuing complications. The method of treatment by early grafting of buccal mucous membrane promises to be of benefit in this way.

SULPHONAMIDE CHEMOPROPHYLAXIS IN WOUNDS

During a period which began rather before the war and extended well into it sulphonamides were regarded as the mainstay, apart from adequate surgical treatment, in preventing wound infection. Armies provided their soldiers with packets of sulphanilamide to shake into their wounds, and even with tablets to swallow thereafter. Proflavine and then penicillin came in in the later stages of the war, and we shall probably never know how much good was really done by the earlier method; for many reasons this war has been a less fertile opportunity of studying wound infections than the last. Meanwhile a group of investigators in the U.S.A., officially instructed to ascertain the truth in this matter for the benefit of further casualties, have analysed the results of sulphonamide prophylaxis in a large series of civilian wounds. The report on this investigation by F. L. Meleney[1] deals with a total of 2,191 cases, of which 926 were wounds of soft parts, 674 compound fractures, and 591 burns. They were treated at nine different centres, where records were kept in a uniform manner for subsequent analysis as a whole. No uniform system of sulphonamide treatment was apparently adopted, the cases being divided into those which received it in any form, whether local or general, and those which did not. The number of control cases was about equal to the treated among burns, but only one-third in the two other categories; and some difficulty seems to have been found in providing adequate controls, particularly at centres dealing with serious industrial accidents where sulphonamide prophylaxis had come to be regarded as a necessity. There is also evidence that the treated cases were rather more severe, exhibiting in a higher percentage those features tending to the establishment of infection. It is nevertheless thought that the controls form a satisfactory basis for comparison. These extensive data are analysed and cross-tabulated in almost every possible way in a total of forty-six tables. From this analysis the dependence of the frequency of infection on such factors as the extent of tissue damage and of contamination emerges clearly. On the other hand, it affords no evidence whatever that sulphonamide treatment reduced the frequency of infection; the controls on the whole fared somewhat better from this point of view. This conclusion was evidently unexpected, and has been accepted with regret. It is fully recognized that sulphonamides may prevent so extensive a spread of infection as to endanger life: the actual mortality from sepsis in this series was very low, thanks presumably to the initial administration in the treated cases, and to subsequent administration for definite indications in the controls. What sulphonamides will not do, according to these results, is to reduce liability to either trivial or serious infection of the wound itself. Routine prophylactic administration is therefore wasteful, and, owing to the toxic reactions that sometimes follow, positively harmful.

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[8] *British Medical Journal*, 1942, **2**, 151.

[9] *Amer. J. Ophthal.*, 1920, 3 s., **3**, 256.

[10] *Arch. Ophthal.*, Chicago, 1929, **1**, 351.

[11] Ibid., 1933, **9**, 48.

[12] *Med. Rec.*, 1938, **148**, 395.

[13] *Arch. Ophthal.*, Chicago, 1944, **32**, 104.

The wheel has certainly turned full circle since the high hopes of five years ago. Perhaps the last word on the subject has not been said; there are certain objections to this method of arriving at the truth. Great numbers do not compensate for lack of uniformity in material, and those who have the opportunity should repeat this comparison under more closely controlled conditions. There is, after all, clear experimental evidence that sulphonamides will check the activities at least of certain bacteria in wounds, and, if corresponding results are not observed in the clinical field, there must be reasons for it which have now to be ascertained.

THE PHYSIOLOGY OF EMOTION

Emotion is thought to have an emergency value. Its physiological effects are generally held, according to the views of W. B. Cannon, to be such as to put the body into a state to deal efficiently with a situation. In fear and rage the best conditions are provided for supreme muscular effort, in part, by the secretion of adrenaline. Cannon's views have now been criticized by M. B. Arnold.[2] She points out that the results of fear and of adrenaline injections in animals are frequently to produce a state of frozen immobility, and occasionally prostration. Adrenaline is supposed to cause an increase in muscular contraction, in blood flow to the limbs, and in the rate of the heart-beat, lysis of liver glycogen, contraction of the spleen, and a relative polycythaemia. Arnold gives evidence for denying some of these effects, for regarding others as secondary parasympathetic reactions, and for reinterpreting the experiments from which they have been deduced. The effect of a stimulus on the organism has to be distinguished from the organism's reaction to that effect. The classical theory of reciprocal innervation does not hold entirely good, and must be replaced by a theory of action and reaction between the sympathetic and parasympathetic systems. The effects of fear and rage are opposite: in the one somatic activity is regularly reduced, in the other increased. Fear may be useful to the organism not because it prepares for action but because it enjoins caution.

Arnold believes that there are at least three different physiological states corresponding to three different emotions: fear, with predominantly sympathetic excitation; anger, with strong parasympathetic excitation; and excitement, or elation, with moderate parasympathetic activity. The startle reaction and explosive, or epileptoid, behaviour are different again, and correspond to a "functional decortication"; in them an immediate response is obtained via the cholinergic mechanism, without conscious evaluation. Neither anger nor fear has an emergency function; the optimal state of the organism is in a moderate degree of activity of the cholinergic mechanism.

Some of Arnold's arguments have a polemic ring; and it is difficult to believe that the immediate response of the organism to an emergency situation is not controlled by physiological mechanisms which in the past have been adaptive and had a survival value. Nevertheless she makes it clear that many current and accepted views on the physiology of the emotions are over-simplified and may need reconsideration. Whatever the evolutionary value of fear and rage in our brutish ancestors, they have little survival value in such emergency situations as arise in warfare to-day. The cool head stands the best chance in both aggressive and evasive action.

THE NEW MINISTER OF HEALTH

Among the elderly men whom Mr. Attlee has chosen for his Administration the new Minister of Health, Mr. Aneurin Bevan, stands out by reason of his age: he was described by one newspaper as "the baby of the Cabinet." He has represented the Ebbw Vale Division of Monmouthshire since 1929, and during this time has built up a reputation as a back-bench critic with a formidable tongue and destructive wit, qualities also used to effect in the paper with which he has recently been associated—the *Tribune*. The son of a coal-miner, Mr. Bevan himself went into the mines after leaving school at the age of 13. He was prominent in the councils of the South Wales Miners' Federation, and was miners' disputes agent in 1926. Since 1928 he has been a county councillor for Monmouthshire. He was expelled from the Labour Party in 1939 because he associated himself with the "Popular Front" movement, but nine months after this expulsion was readmitted to membership. Now, at the age of 47, he becomes the fifth Minister of Health this country has had since the beginning of the war.

Mr. Attlee has appointed Viscount Addison to be Secretary for the Dominions, and he also becomes Leader of the House of Lords. Dr. Edith Summerskill is to be Parliamentary Secretary to the Ministry of Food.

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[1] *Surg. Gynec. Obstet.*, 1945, **80**, 263.
[2] *Psychol. Rev.*, 1945, **52**, 35.

THE RETURN OF ODYSSEUS

THE PROBLEM OF MARITAL INFIDELITY FOR THE REPATRIATE

BY

ALFRED TORRIE, M.B.

Lieut.-Col., R.A.M.C.; Army Psychiatrist

The returning soldier from a prisoner-of-war camp or from an oversea theatre of war may have many difficulties to solve, and often the greatest of these is the problem of marital infidelity. Most repatriates are able to adjust satisfactorily, but some require help.

It will be remembered that Homer described very accurately the hopes and fears of a soldier, Odysseus, who was both a prisoner of war and a repatriate. The epic poems telling his story are symbolically true and eternally applicable. Odysseus (Ulysses) when he was abroad on his campaigns had doubts of his wife's fidelity and visualized her surrounded by many suitors. His fears were counteracted by his wish that she would defer continually her yielding to their persistence. This she contrived by the trick of promising her favour when her tapestry reached completion; but each night she undid the work of the day. On his return to his own country he was in doubt whether he would be accepted and acceptable, and so he made himself known to devoted servants of whose loyalty there was no question. In order to observe without declaring his identity he dressed himself in the garments of a peasant, and when he was sure of his ground assumed his proper raiment and wooed and won his wife again.

The moral to be drawn from this is that the returning soldier may be full of fears and hopes and that his main concern is to be both loved and lovable.

The Problem of Marital Infidelity

Of 100 repatriates from prisoner-of-war camps in Germany and Italy treated in a psychiatric unit at home 24 had as the main precipitating factor in their neurosis marital disharmony. Their symptoms were those usually found in reactive anxiety states: depression, sleeplessness, irritability, restlessness, somatic disturbances of various kinds, outbursts of aggressiveness, attacks of weeping, and a feeling of inadequacy and inferiority alternating with a paranoid attitude towards their wives. This latter attitude in many instances began during their imprisonment, often as a result of infrequency of letters and sometimes following the receipt of news by a fellow prisoner that his wife was seeking a divorce. The communal gloom that occurred in a camp when such a letter was received was graphically described by one intelligent and observant patient. The opposite feeling is well pictured by P. H. Newman (1944) in his article on the prisoner-of-war mentality. This writer describes a lecture delivered by a recently captured R.A.F. officer who, after giving a picture of wartime life in England, added: "And, boys, the girls still love you." He adds that this comment evoked an immediate and marked response in the audience, in contrast to their apathy during the lecture.

I have recently seen an officer patient who had to deal with many welfare problems arising from marital infidelity, and this work had such an effect on him that he began to construe the most innocent remarks in his wife's letters as evidence of the diversion of her affection elsewhere.

Aetiological Factors in Marital Disharmony.—These were elicited by interviewing the wives of most of the patients in addition to making a detailed psychiatric investigation of the repatriate.

The Problem of Penelope

It seems to me that war and its attendant destructiveness are fundamentally foreign to the creative aspect of a woman's personality. Not only may it remove the presence and support of the husband, but at the same time she is exposed to unusual dangers, difficulties, and responsibilities. The long absence of her husband may in time cause her to accept the offer of sympathy, understanding, and support readily given in many instances by a soldier or civilian who has a complementary need to care for and protect. This may be the innocent beginning of a situation which ends in infidelity. Some wives had been evacuated from danger to new environments in safe areas, with the new danger of boredom, while others remained at home in an atmosphere of heightened emotional tension during enemy activity. New ties were formed in an atmosphere either of common danger or of boredom. The repatriate cannot enter into this new way of life, even in retrospect; nor can the wife fully appreciate the nature of prison-camp life. Few repatriates realize the many difficulties their wives have had as a result of wartime restrictions. In addition there is the need for male control and guidance in homes where there are children. The total management of the home causes to devolve on the woman many tasks formerly undertaken by the husband. The advent of a helpful male friend may initiate a train of events perhaps ending in marital infidelity, which may be excused by the common belief held by many women that, anyway, men are unfaithful. It need hardly be said that the sudden cessation of regular sex life for a woman with no adequate sublimatory channels may lead to difficulties. A further obvious factor is that the husband may have always been inadequate from the physical and other points of view, and a more satisfying partner may appear during his absence. Homosexual regression in some cases is a factor that may be found in either wife or husband. What is most difficult for the husband to understand is that the physical infidelity of his wife may not constitute a supplanting of him in her affection.

The Problem of Ulysses

Many prisoners of war fear that their experiences may have caused both physical and mental deterioration. They have fears of loss of potency, and these fears may indeed bring it about. Impotence may also occur as a result of the guilt engendered by the fusion of sexuality with aggressiveness. There may be feelings of guilt, inadequacy, and inferiority due to homosexual regression and as a reaction to capture. In the camp the prisoner has highly coloured fantasies of his return home and of his reception. All these factors are difficult for the wife to understand, as is the whole picture of his life in camp. The dream of beginning all over again and securing a home is often rudely shattered by the many difficulties besetting the path of young married couples to-day. The sense of inadequacy is increased by these frustrations. Guilt over capture leads to a feeling that, being no longer a fighting soldier and therefore an unheroic figure in his own eyes, he may be less lovable in the eyes of his wife and family. In parenthesis it may be said that the problem of explaining the capture of the father to children whose games are all of battle must be a very difficult one for the wife. In the neurotic repatriate, paranoid feelings towards all and sundry are often quite strong. He may feel that his capture is due to bad leadership in the field and at home, and that he is the innocent victim of this. His attitude towards his wife is coloured by these feelings, and often also by poison-pen letters, and he is less willing to understand any wartime friendship. On his return he adopts the attitude of Othello, and disharmony quickly follows. His neurotic dependency may have been increased by his experiences, and he is unable on his return to give to his wife the care and support which she rightly expects. Lack of confidence in ability to regain previous skill at work further diminishes their feeling of adequacy as husbands and breadwinners.

Treatment

It must be said at the outset that separation and divorce should be the last solution, especially where there are children. The patient's neurosis is treated on ordinary lines until he is in a fit state mentally to face the problem of his marital unhappiness. In most cases I sent for the wives and interviewed them. In only a few did I discover that the wife no longer wished to live with her husband. These marriages were based on very inadequate foundations, and generally after a brief acquaintance. In most of these cases there were no children, and reconciliation was impossible. In the majority, however, the wives wished to start again, and were convinced that they wanted only their husbands. This knowledge was the most effective weapon in treatment, and once the patient was convinced of its truth reconciliation was possible. After the wife had been interviewed the patient was brought in and every aspect of the problem discussed fully and frankly by all three of us. The tendency on the part of the husband to use the past as a weapon in any later disagreement should be pointed out. Any physical marital difficulties must be rectified.

Summary

Out of 100 repatriates in a psychiatric unit at home 24 had a neurosis largely precipitated by marital infidelity.

The factors leading to this are discussed from the woman's point of view.

The attitude of mind of the repatriate is described.

Treatment must include an adequate interview with the wife and a conference between the married couple and the psychiatrist.

REFERENCE

Newman, P. H. (1944). *British Medical Journal*, **1**, 8.

CONFERENCE ON PUBLIC HEALTH

The County Borough Group of the Society of Medical Officers of Health held its annual meeting from July 13 to 15 at Wadham College, Oxford, under the presidency of Dr. A. Massey. Among the members present were Sir Wilson Jameson and Dr. J. A. Charles of the Ministry of Health, and the guests at the inaugural dinner held in the Hall at Wadham included the Mayor of Oxford (Councillor R. P. Capel), Sir Farquhar Buzzard, and Prof. J. A. Ryle. On July 14 the Mayor gave an official reception for members at the town hall. There was a special demonstration by Mr. H. Cotton of the statistical methods and machines in use at the Institute of Social Medicine, Oxford. Dr. R. H. H. Jolly was elected president of the Group for the coming year, while the secretary is Dr. J. Greenwood Wilson.

Among the addresses given at the conference was one by Prof. J. A. RYLE, on problems and prospects of the Institute of Social Medicine. He emphasized the importance of close association between an academic department such as that under his direction and those more practically concerned with public health. He compared the technique of the specific social medical survey with that of more orthodox clinical studies and stressed the need for social experiments in varying communities. He called attention particularly to the work of the Bureau of Health and Sickness Records set up in Oxford with the financial aid of the Nuffield Provincial Hospitals Trust.

Dr. ROBERT SUTHERLAND, in a paper on the work of the Central Council for Health Education, said its task was to make the community dissatisfied with everything except the best in communal and individual health. This meant not only spreading knowledge but teaching the community how to behave so as to reduce the impact of forces unfavourable to health. Health education was not simply a question of propaganda but a way of living. The Central Council's long-term policy was to influence the individual not only to make the best of his environment but to modify it to his advantage.

Dr. J. GREENWOOD WILSON, discussing post-war housing, said that in this country there was no single co-ordinating influence over the many groups of persons interested in housing problems. There were between forty and fifty study committees of the different Ministries, and the Government's Building Research Station had an honourable record of research into the structural efficiency of building materials. In fact, however, little had been done to publish the results of housing research. It was time to fill some of the gaps in our knowledge of desirable housing arrangements. Exhibitions of the right kind should be a routine part of the national programme of health education, and it was his object to incite the medical officer of health to a new interest in housing and to approach the problem from the point of view of a biologist, studying the effects of housing conditions on the health of humanity. Dr. G. C. WILLIAMS, M.O.H. for Oxford, referring to the application of the new Education Act, said routine school medical inspection had been described as the cornerstone of the school medical service, but the shortage of doctors had shaken it. Intermediate inspections, at any rate, might well be done by the best type of school nurse. On the question of finance he pointed out that if the local education authority had to accept financial responsibility for every child treated in hospital his city would be involved in an additional rate of 2d. in the pound. In the discussion which followed it was suggested that hospital contributory schemes would, as one result of the new Act, repudiate liability for children's hospital costs, and this would necessitate a financial agreement between health and educational committees.

LA PRESSE MEDICALE

A FRANCO-GERMAN INCIDENT

We are already beginning to get a glimpse of what our French colleagues had to suffer during German occupation. One example of what they had to endure is shown in the following note which the Editor of *La Presse Médicale* had to publish in the issue of March 13, 1943, which has just reached us:

> *En exécution des mesures de Concentration Industrielle ordonnées par le chef du Gruppe-Presse de la Propaganda-Abteilung-Militaerbefehlshaber in Frankreich, notre journal doit changer d'Imprimerie. Nous nous excusons auprès de nos abonnés si certains retards se produisent dans l'envoi des numéros.*

Having been forced by the German propaganda department to change the printer, *La Presse Médicale* nine months later had to reduce its issues to two monthly. This was "*Conformément aux décisions prises par la Corporation nationale de la Presse française, en accord avec le Chef du Gruppe-Presse, Propaganda Abteilung in Frankreich. . . .*"

Nine months after this, on the cover of the issue of Nov. 11, 1944, the Editor was able to announce its deliverance from its German press masters in the following message:

> *La Presse Médicale reparaît après une interruption de près de trois mois; elle désire saluer, dès ce premier numéro, la libération de Paris et celle de la presque totalité de la France.*
>
> *Tous les autres événements pâlissent à côté de cette simple mention et notre journal n'accepterait pas de reprendre sa vie normale sans que soit dite d'abord dans ses colonnes la reconnaissance de tous les fils de France aux rénovateurs de sa liberté.*
>
> *Notre première pensée se dirige vers ceux qui ont donné ou qui donnent encore leur vie à la Patrie, soit au delà des mers, soit sur le sol natal,—vers ceux qui, obscurément, prisonniers, déportés, ou les armes à la main, ont souffert et lutté,—vers ceux des membres du corps médical qui ont, dans une résistance déclarée ou occulte, aidé nos combattants et avec eux risqué ou sacrifie leur existence.*
>
> *Et dans ce jour où, après la libération, la victoire se dessine, nous voulons affirmer notre communion avec eux tous et notre foi dans la patrie.*

As a footnote to this incident in the history of medical journalism we would add one comment: Vive *La Presse Médicale*!

BEIT MEMORIAL FELLOWSHIPS

The Trustees of the Beit Memorial Fellowships for Medical Research in their annual report for the year 1944–5 record with regret the death of Lord Onslow, who had served as a Trustee since 1928. They also record the great loss that they and the whole of medicine have suffered in the death of Sir Thomas Lewis, F.R.S., who was the first person to be elected a Beit Fellow when the Fellowships were instituted in 1910, and was a member of the Advisory Board at the time of his death. The resignations from the Advisory Board of Sir Henry Dale, P.R.S., and Sir John Ledingham, F.R.S. (who has since died), were accepted with regret, and Dr. C. H. Andrewes, F.R.S., Prof. J. H. Gaddum, F.R.S., and Prof. H. Himsworth, F.R.C.P., have been elected to fill the vacancies. The Trustees note with pleasure the election this year of Dr. H. D. Kay (Fellow 1922–8) and Miss M. Stephenson (Fellow 1914 and 1920–2) to the Fellowship of the Royal Society.

The following elections have been made:

Fourth-year Fellowship (£500 a year).—F. W. Landgrebe, D.Sc.: to continue the study of the physiology of melanophore hormone and the nutritional factor responsible for the lethal effect of thiourea in rats; at the Materia Medica Department, Aberdeen.

Junior Fellowships (£400 a year).—J. F. A. McManus, M.D. (Canada): to study the topography of lipine distribution in normal and pathological tissues; at the Department of Zoology and Comparative Anatomy, Oxford. O. L. Thomas, M.B., Ch.B., M.P.S. (New Zealand): to study thyroid activity, the pituitary phenomena found experimentally in thyro-activated animals, and the problem of neurosecretion; at the Anatomy Department, Oxford.

Reports of Societies

CLINICAL PATHOLOGISTS IN SESSION

The Association of Clinical Pathologists held its summer meeting at the School of Hygiene and Tropical Medicine on July 20 and 21. Dr. W. H. **Grace** opened the proceedings on the first day with a paper on "The Dead Infant," in which he discussed the pathologist's difficulties when post-mortem signs were limited. Dr. G. R. **Osborn**, in a paper on the action of thiouracil on goitres, demonstrated the changes seen in goitres removed after treatment with this drug, and pointed out the dangers of mistaking for malignant changes the hyperchromatic cells and the dense, hard, nodular areas of the goitre. He agreed that thiouracil was now the best pre-operative treatment for diffuse toxic goitre. Dr. M. O. **Skelton** described a case of fatal tracheo-bronchial diphtheria in an infant of 5 weeks, and stressed the difficulty of isolating the organism, especially in the presence of a heavy overgrowth of *Staph. aureus*. Dr. E. N. **Davey**'s paper on the allergic state, in which he described the findings in 120 allergic children, was followed by a good discussion on the value of skin tests. Dr. **Gardner** completed the day's session with a paper on the laboratory diagnosis of Weil's disease, with special reference to agglutination tests. He had investigated 900 cases of suspected Weil's disease and had found 150 cases positive. From his records it was clear that jaundice was not always present, and that the prognosis was probably better in the non-icteric case. Mortality differed with age; in a series of cases 50% were fatal in old people and only 5% in young people, with an over-all mortality of 12%. He hoped that, since penicillin showed such promise in the treatment of the disease, the diagnosis would be more readily made, using standard formalized suspensions.

Saturday morning's session began with a paper by Squad. Ldr. E. M. **Darmady** on the traumatic uraemia syndrome, Dr. **Allott** and Dr. **Joan Ross**, who referred to cases she had collected from the battle areas, speaking in the subsequent discussion. Prof. J. H. **Dible**'s subject was the pathology of infective hepatitis with special reference to hepatic biopsy, while Major C. E. **van Rooyen** discussed viruses and described rickettsial agglutination tests in the diagnosis of epidemic and murine typhus. Dr. K. B. **Rogers** demonstrated a new technique for controlling temperature in the sedimentation test, and showed the discrepancies which occurred as a result of temperature variations. Other papers were by Dr. R. E. O. **Williams** on the value of preliminary fluid culture for the isolation of pyogenic cocci when a larger yield was desired, and by Dr. **Sladden** on the routine examination for diphtheria, using a tellurite Loeffler medium, which, he claimed, was a simple and effective substitute for the elaborate media now in use. The meeting ended with a contribution from Dr. H. N. **Stafford**, coroner for West London, on "The Corpse, the Pathologist, and the Coroner," in which he discussed the duties and limitations of the pathologist in regard to the coroner. There were a number of demonstrations during the two days, which were well attended.

An interesting series of meetings has been organized in Germany by Lieut.-Col. M. Markowe, R.A.M.C., and Major W. C. Harvey, R.A.M.C (in peacetime assistant M.Os.H. for Ipswich and Southgate, respectively) for Army Hygiene Officers attached to 1 Corps District. The morning session of each was devoted to a review of local problems as they affect military hygiene officers and Military Government public health officers, and the afternoon to discussion of general public health problems, including the latest developments in civil legislation and procedure. At the last conference a paper on the school medical service was read by Major Grundy, R.A.M.C. (M.O.H. for Southall), and a discussion followed which was as varied as it was vigorous. Most of the hygiene officers who attended are members of the Society of Medical Officers of Health, and it is felt that these meetings if continued will, through the contact thus established, keep them in touch with their peacetime duties, and serve to remind them of the group meetings of their Society, to which they look forward when their work in Germany is done.

P. Hogg and C. D. Bradley (*J. Pediat.*, 1945, **26**, 407) record a case of pneumococcal meningitis with recovery in a female newborn infant who was given sulphadiazine. This is the third case with recovery which has been recorded.

Correspondence

Rh Factor and Mental Deficiency

Sir,—It has been established beyond doubt that Rh blood group incompatibility is responsible for a considerable proportion of low-grade mental deficiency. To determine the extent of this responsibility, which is a matter of importance, it will be necessary to know the Rh groups of a larger series of mental defectives and their mothers than has been examined in the pioneer work of Yannet and Lieberman, and of Snyder, Schonfeld, and Offerman.

Lest any such project should break down through lack of facilities for Rh grouping we would be pleased to offer the services of our unit for this part of the work.—We are, etc.,

R. R. Race.
A. E. Mourant.

Galton Laboratory Serum Unit (Medical Research Council) at Department of Pathology, University of Cambridge.

Prognosis of Coal-miners

Sir,—At a recent meeting of the Pathological Society of Great Britain and Ireland a statement was made to the effect that a belief has arisen in certain quarters in the coal field that "coal" dust is harmless when breathed into the lungs. The implication is that, unless there is at the same time exposure to rock dust, men working in a coal-dusty atmosphere run no special danger; there is therefore no need to control the concentration of dust in the air of coal-mines, etc. As the alleged basis for this belief is in the findings of the Medical Research Council's Committee on Industrial Pulmonary Disease, and as we have been associated with the investigation of pneumoconiosis in South Wales sponsored by this committee, we should like to clarify certain points.

In the M.R.C.'s First Report on Chronic Pulmonary Disease in South Wales Coalminers (Spec. Rep. Ser. No. 243, 1942) the view is put forward that "coal" (i.e., the organic, carbonaceous, combustible matter as distinct from its contained mineral matter or ash) is probably not the constituent of the dust breathed by the miners which is responsible for their pneumoconiosis. Evidence was presented to show that the siliceous matter which always accompanies the coal in the air-borne dusts and in the lungs of deceased miners is more likely to prove to be the pathogenic material. High concentrations of siliceous dust were demonstrated in all the coal-containing lesions of the lungs studied; and it was pointed out that their presence is often missed because of the masking effect of the coal, which imparts a dense black quality to the gross and microscopical appearance of the lungs.

In the latest report of this investigation (No. 3, Experimental Studies, in the press) further evidence is brought to indicate that the coal substance itself plays only a minor part in the production of the pulmonary abnormalities which have formed the basis of the pathological study. Chemical and mineralogical determinations have revealed abnormal concentrations of siliceous dust in all lungs studied, and statistical treatment of the results appears to indicate a positive correlation of severity of disease with siliceous content rather than with coal. And of the siliceous components of the dust, quartz and mica seem to be incriminated rather than kaolin, with the balance of evidence in favour of quartz as the most active pathogen. Animal experiments with purified coal (i.e., coal whose ash had been reduced to a minimum—considerably less than 1%) resulted in minimal reactions to the dust in the lungs; whereas air-borne dusts from coal-mines produced variable reactions, approximating in some cases to those obtained with highly siliceous powdered strata and dusts. These positive responses are attributed to the siliceous matter contained in the coal dust and not to the coal substance itself.

These facts lead us to reaffirm the belief that it is the siliceous matter in the inhaled coal dust which is primarily responsible for the pulmonary abnormalities to be found among workers in the coal industry. Nevertheless, many facts of this complex aetiology remain obscure. Thus, while quartz is probably the most noxious constituent, the other silicates may prove to be important; physico-chemical interaction between the combustible coal and its associated silicates may give adjuvant or inhibitory effects, differing with the class of coal; the very mixed character of the mineral fraction of the inhaled dust, including aluminous and other possibly antidotal substances, may mean that the pathogenic action of the dust is the resultant of the effects of a number of its constituents; and the knowledge of the part played by infection in pneumoconiosis is far from complete. Much further research will be required to elucidate these matters, and it is hoped that information will come from medical and scientific workers in South Wales and elsewhere, as well as from the M.R.C.'s Pneumokoniosis Research Unit, in process of formation in Cardiff.

The practical outcome of even our limited present knowledge is that the control of the more dangerous components of inhalable dust in coal-mines must depend upon control of the whole of the dust. We can say with assurance that, while sandstone-rich strata are the most potent sources of dangerous dust, harmful siliceous matter is also intimately associated with the coal seams themselves as they are worked, and indeed is contained within the interstices of the coal itself.

It is regrettable if statements in the M.R.C. Reports as to the apparent non-pathogenicity of the pure coal substance are being interpreted as meaning that "coal dust" is not dangerous to breathe. The reverse is certainly the case, and for this reason it is necessary to regard all dust generated within the coal industry as a potential hazard, and all available means should be employed to control and suppress its concentration in the air inhaled by the workers.—We are, etc.,

E. J. KING,
British Postgraduate Medical School.
F. D'ARCY HART,
Medical Research Council.

Pneumoconiosis of Graphite Workers

SIR,—Perhaps you will permit me to comment on the annotation (June 30, p. 916) on a paper of mine dealing with pulmonary disease in graphite workers.

1. The absence of clinical symptoms in the graphite workers concerned suggests, according to the annotation, that the lesions inferred from the skiagrams may be accumulations of graphite similar to the nodules found in iron arc welders, which at necropsy were found to be collections of iron particles. Such a point of view is not justified for the following reasons:

(*a*) Absence of symptoms does not prove that the lesions in the lung are mere accumulations. There are cases of silicosis in which the workers feel perfectly well and fit for work. Are we therefore to conclude that in these cases we are dealing merely with "deposits" of silica?

(*b*) It is important to distinguish between the terms "nodule" and "lesion" as applied to *x*-ray findings. Nodules may be either just an accumulation of dust or the reaction of the lung tissue to the presence of the dust. Lesions, on the other hand—e.g., fibrosis, dense opacities, patchy infiltrations, etc., such as are to be seen in the films of my cases—always imply a tissue reaction—that is, a pathological process. The fact that in one occupational group the nodules have been found at post-mortem examination to be mere accumulations of the inhaled dust does not allow of the conclusion that the nodules found in a different group are also accumulations. Moreover, it is not permissible to compare "nodules" with "lesions" in trying to ascertain the nature of the lesions. If it is impossible to draw conclusions from one type of nodule to another, it is even more impossible to do so from a "nodule" to a "lesion." Nothing but facts—that is, post-mortem findings on lungs, together with chemical analyses—can enlighten our knowledge of the nature of the radiological findings, to show whether they are merely deposits of, or reaction of the lung to, the dust.

2. The *x*-ray photographs of my cases unequivocally show pulmonary reactions (*vide* above). They are therefore cases of pneumoconiosis and not "suspected" pneumoconiosis, as they were labelled in the annotation.

3. Although the workmen concerned stated that they had been dealing exclusively with pure graphite and had not had any other dusty job previously, I emphasized in my paper that these statements might be perhaps incorrect. Your annotation regards the occupational histories given in my paper as insufficient. You may rest assured that the men were closely questioned as to any other possible chance for inhalation of dust. How could a negative history be given in detail?—I am, etc.,

Kingston-upon-Hull Tuberculosis Dispensary. LASAR DUNNER.

Excision of Patella

SIR,—In reviewing the subject of excision of the patella (July 14, p. 62) Mr. Fairbank acknowledges that "an excellent result may follow a properly conducted operation" and that the operation "is a sound procedure in badly comminuted fractures," but nevertheless he leaves a general impression that the results are "anything but perfect," that there is often "stumbling on rough ground," "insecurity on stairs," "gross chronic swelling and thickening, marked limitation of both flexion and extension, and varying degrees of insecurity or unreliability," with gross arthritic changes which "are not only probable but inevitable." In short he concludes that the average result varies from "disastrous" to "less disastrous."

My own impressions were completely at variance with these conclusions, but in order to be certain that I was relying on facts and not impressions, I have this week reviewed 29 patients whose patella I excised *more than five years ago.* In the course of a short letter it is not possible to analyse the difficult cases of patello-femoral ankylosis, infected fracture of the patella, patello-femoral arthritis and osteochondritis, fracture of the patella with fracture of the femoral condyle, and fracture of the patella with fracture of the shaft of the same femur, in which the range of movement after excision of the bone varied from 60° to 110° and there was residual disability due to the associated injury. But of the cases in which the patella was excised for uncomplicated, linear, or comminuted fracture there was not one single patient with chronic swelling or thickening. Not one patient had any limitation of active extension; not one had less than 140° of flexion, and most of them could touch the buttock with the heel. Not one patient complained of insecurity or instability; not one had the slightest difficulty in standing on one leg and slowly flexing and extending the knee, nor, while thus engaged, in maintaining balance when I suddenly and unexpectedly applied a powerful thrust behind the joint. Not one single patient showed "gross arthritic change"; not one who had arthritis at the time of operation showed any aggravation of it; not even patients whose patella was excised eight years ago showed radiographic evidence of disturbance in the articular cartilage of the femoral condyles which could be attributed to the operation. No matter what experimental evidence has been secured in rabbits by Timbrell Fisher and by Bruce and Walmesly there appears to be no confirmation of it in human beings.

None of these patients regarded themselves as being incapacitated in any way. On the contrary their observations varied from: "It is marvellous," "my knee is as good as ever," "I can do everything," and "it looks the same and feels the same"; to even more encouraging comments such as: "I wish the other knee was as good" (the other knee never having been injured) and "For anyone to say this is a bad operation is most unfair." One old gentleman, whose previously sutured patella had given much trouble and who subsequently refractured it, has, after excision of the bone and repair of the quadriceps tendon, been engaged for the last five years as a railwayman, jumping in and out of moving goods trains in the shunting yard. A younger man said that he had some difficulty in carrying weights up and down stairs; but I found that what he meant was that whereas he could carry 288-lb. hinds of beef on the flat he regarded 200 lb. (14 stones) as the limit of weight he could carry up and down stairs.

It is to be noted that in many cases where the five-year result is quite perfect, an extensor lag was noted three or four months after operation, and loss of the terminal degrees of active extension was sometimes evident at the follow-up review twelve months after operation. At this stage there may well be some insecurity and instability, but if the operation has been done properly it disappears; the final result is not to be judged until a year or two has elapsed. It is, however, of great importance to emphasize Mr. Fairbank's warning that it is not enough to remove the bone subperiosteally and allow the gap to remain, and I much regret that on one page of a textbook I have unintentionally quoted the work of Ralph Brooke and Hey Groves in such a way as to permit this interpretation. The gap must be closed; it must be closed by tightly "bunching up" the quadriceps tendon, lateral expansions, and ligamentum patellae; no matter how firmly the gap is closed there will be no difficulty in regaining full flexion movement if active exercises are started within three or four weeks of operation. The test of a successful result is that in the extended position the knee-joint looks quite normal, and that even in the flexed position there is no more than slight flattening of contour. Any knee which, in the words of Mr. A. G. Timbrell Fisher (July 28, p. 133), "looks like nothing on earth" has been the victim of a bad operation, or of bad after-treatment by which the sutures have torn out, and the result will, of course, be unsatisfactory. The essential feature of the operation is not simply to remove the patella, but to replace it by a firm, strong mass of fibrous tissue.

Finally I would disclaim the recommendation which I am told by Surgeon Rear-Admiral Willan has been attributed to me—namely, that excision should be the routine treatment for every fracture of the patella. In the textbook to which I have referred I do write: "If we also believe that the knee-joint suffers no loss through excision of the patella, the operation is indicated as the routine treatment for all fractures" (thus quoting the views of Brooke). But I go on to say: "If, on the other hand, we believe that the patella is necessary for protection . . . suture of the bone should be performed for fractures in young adults, and excision reserved for fractures in middle-aged and elderly patients and for severely comminuted fractures in patients of all ages." This is the view which I hoped the reader would accept, and it is the view which I still hold.—I am, etc.,

London, W.1. REGINALD WATSON-JONES.

Sweating Sickness and Picardy Sweat

SIR,—Your reply (June 2, p. 792) to the request for information regarding the sweating sickness has already been criticized by Sir Henry Tidy (July 14, p. 63), and although I do not feel qualified to discuss whether the sweats were identical with influenza, I feel that there are a number of interesting points about the strange disease which invaded this country in 1485, 1507, 1517, 1527, and lastly in 1551 which might be of interest to the inquirer.

It has been stated that Henry VII's army suffered from the "sweats," but Creighton cannot find any definite statement that this disease occurred in Henry's army of French mercenaries and Welsh adherents. There is evidence that the disease started in London. Forestier—according to Creighton—states that "the Sweat first unfurled its banners in England on 19th September, 1485," which is about three weeks after Henry's entrance to London following his success at Bosworth. Other dates of its first appearance are quoted by Creighton, but they are all later than the date quoted by Forestier. There is ample evidence that the disease took a particularly heavy toll of the well-to-do, the first outbreak in London killing two Lord Mayors and four aldermen in a week (*The Parish Register,* Charles Cox). Forestier comments upon the suddenness with which the disease attacked and killed in this first epidemic. Most observers agree that the disease attacked with great suddenness and that death could occur within six hours, although the fatality of the later outbreaks varied enormously. Creighton is convinced that the poor suffer less than the rich, and this peculiarity of the disease not only was found in England but is noted in Lübeck and Bremen. The first three outbreaks appear to have been localized in England, except for the possible occurrence of the disease in Calais and Germany in 1517. The outbreak of 1528 spread over the Continent, apparently attacked Germany, the Netherlands, Denmark, Sweden, Livonia, Lithuania, Russia, and Poland, but France seemed to have escaped. The outbreak of 1551 is interesting in that it is the only one of the five outbreaks to occur after Thomas Cromwell decided in 1538 that parish registers were to be kept. There is an entry in the register of Loughborough, Leicester, in the year 1551 as follows: "The swat called New Acquaintance, alias Stoupe ! Knave and know thy Master, began 24th June." This outbreak appears to have commenced in Shrewsbury and was confined to England.

Hirsh (*Handbook of Geographical and Historical Pathology*) discusses the further outbreaks of this disease and considers that it is the same disease as the Picardy sweat. Although no further epidemics of the "sweat" occurred in England, he has compiled a list of the outbreaks of Picardy sweat in France from 1718 to 1874, in which period there were 194 epidemics. Many of these were small and confined to single villages or communities. A review of these outbreaks, which are listed in detail by Hirsh, shows that they were almost confined to the north-west area of France, especially in the Seine-et-Oise, Bas Rhin, and Oise districts. The Picardy sweat seems to have been a disease of short duration and the epidemics were short-lived, but a large number of people were involved. The rate of sickness was 25 to 30% of the population, but there were great variations in the death rates. There is a great similarity between the two diseases—the English and the Picardy sweats. There are two interesting facts about the disease: it appeared in England on five occasions and then disappeared.

Another interesting fact is that although in 1528 the disease spread all over Europe it did not attack France, and that the French soldiery of Henry VII were immune but carried the disease into this country is an obvious suggestion.—I am, etc.,

Swindon. LLYWELYN ROBERTS.

Women in Labour

SIR,—The April 7, May 12, May 26, and June 9 issues of the *Journal* have carried reports in your correspondence section concerning the management and control of pain of women in labour. Since our own work has been discussed in all this correspondence I feel obligated to clarify, for the British medical profession, certain misunderstandings.

Caudal analgesia was originated simultaneously and independently by two French urologists—M. A. Sicard and M. F. Cathelin of Paris. It was first used in obstetrics in 1901. It was first used in obstetrics for relief of pain in terminal labour by von Stoeckel of Germany. By 1920, 4,000 cases of caudal analgesia in surgery and obstetrics had been reported.

Investigators throughout the world have modified and extended this method of analgesia into other fields. Invariably it has been abandoned from time to time for the following reasons: (1) Anatomic variations in the region of the sacrum. (2) Technical difficulties concerned with the administration of anaesthetic solutions into this area. (3) The prolonged induction time of 20 to 30 minutes necessary to provide total sensory nerve block. (4) Systemic complications which have resulted from misapplication of the technique through occult subarachnoid injection, intravascular injection either through vein, capillary plexus, or direct bone-marrow injection into the cancellous corpora of the sacrum. (5) Lack of knowledge concerning the anatomy and volumetrics of the peridural space which produces a wide range of dosage in even average cases. We are aware of all these problems. We have altered the technique in such a manner that continuous caudal analgesia, through controlled, intermittent injection, provides the patient with greater safety and permits the operator to eliminate technical difficulties and to make adjustment for anatomic variations. There can be no question concerning the fact that properly managed continuous caudal analgesia provides the parturient with greater pain relief during both labour and delivery than has been achieved by any other method. This fact has been substantiated by the observations in more than 100 American clinics, who have contributed 166 scientific papers to the medical literature.

In our own clinic at the Philadelphia Lying-In Hospital we have managed more than 3,000 labours and deliveries with this technique in the past two and a half years; Major James M. Siever, at Fort Sam Houston, Texas, in the United States Army Brooke General Hospital, has managed more than 2,800 such cases; Dr. Francis R. Irving, professor of clinical obstetrics at Syracuse University, Syracuse, New York, has managed 2,000 cases; Dr. Roy E. Nicodemus, of the Geisinger Memorial Hospital, Danville, Pennsylvania, more than 1,000 cases; Major Franklin D. Sinclair, in the United States Army Kennedy General Hospital, Memphis, Tennessee, 850; Dr. William Levine, Beth-El Hospital, Brooklyn, New York, more than 1,000; Dr. W. Royce Hodges of Cumberland, Maryland, 756; Dr. Waldo B. Edwards, United States Marine Hospital, Staten Island, New York, 700; Dr. Norman H. Miller, of the University Hospital, Ann Arbor, Michigan, 450; Dr. Julian Mines, more than 1,000; Dr. R. W. Alles, Detroit, Michigan, 400; Drs. Ellis and Sheffery, of Washington, D.C., 500. The group at Stanford University in San Francisco, California, have managed more than 1,000 cases.

From the combined reports in the American literature we find that more than 100,000 women in North America and an impressive number in South America and Central America have been managed by this technique, which is not too difficult for the average physician to master. All the reports from these clinics indicate a reduced maternal and foetal mortality and morbidity, more complete relief of pain, and a uniformly decreased third-stage blood loss compared with those seen in any general anaesthetic management.

Prof. F. J. Browne, who presented (May 26, p. 746) the dangers of caudal analgesia, quoted clinics who had, at the time of their reports, very little experience with the technique. He called attention to the delivery of the abnormal foetus in an Indianapolis clinic. He inferred that caudal analgesia was the cause of this central nervous system abnormality. He did not report that the baby was delivered twenty-four hours after caudal analgesia was abandoned under open-drop ether anaesthesia. He did not review the reports of physicians who had had success with this method because they had made an effort to master the difficulties listed above.

I should like to endorse the rational assessment of caudal analgesia presented by Mr. J. H. Peel and Dr. A. H. Galley (June 9, p. 821). Grantly Dick Read of England in his book *Revelation of Childbirth* has stated:

> "The great intensifier of stimulus interpretation is fear. This emotion, like pain, is protective and produces through the sympathetic nervous system a state of tension within the body. Thus we have the three great evils: Pain, Fear, and Tension. It is this syndrome which is responsible for the pain of labour. My contention is that the pain of labour is the result of an assault upon a primitive function which is intended to be painless. The attack is made by forces against which no protective apparatus has been developed, because the forces have not been understood and, which is probably more important, the method by which the attack is made has not been recognized. If there is any truth in this theory, it should be possible to demonstrate in practice how and where this vicious circle may be broken through. Modern science has laid the smokescreen of anaesthesia in order to hide its own lack of perception. It appears, however, that a more rational method of approach to this problem would be to discover the most vulnerable point at which to make a counter-attack, not only to resist this dangerous invader which we call fear, but also to set up an efficient protective mechanism so that the primitive function of painless childbirth may be recognized by civilized women for all time as both natural and normal. . . .
>
> The perfect painless labour will be attained, but not by the administration of drugs and agents to destroy consciousness. By careful and patient investigation of the phenomena of labour, observations will be made from different aspects. Chemical, neurological, psychological, mechanical, electrical, and even metaphysical facets to this physiological gem will flash some new message to those who care to look, and in time these varied observations will be correlated and sifted until the truth of natural painless labour is obvious to all."

Those of us who are seeking to provide more comfortable labours for all women believe that continuous caudal analgesia is a natural step along the road toward the conquest of pain. It is being made more safe; it has been used in sufficient cases for an early evaluation. We respectfully request that English physicians join us in this evaluation by verifying the reports of the experienced observers with this method.—I am, etc.,

ROBERT A. HINGSON,
Surgeon, U.S. Public Health Service.
Philadelphia.

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Hydatid Disease of the Lung

SIR,—In the *Journal* of July 28 (p. 135) you published a letter from Dr. J. G. Edwards upon the subject of hydatid disease. Dr. Edwards commented upon an annotation which appeared under the heading of "Cave Canem," which annotation dealt with a review of a paper by us upon the subject of hydatid disease of the lung. In his letter Dr. Edwards attributes to us certain statements, some of which were never made in the original article, although they may have been suggested by the annotation. We would ask your permission to comment briefly on these points.

1. "Erosion of the ribs does not occur." We have post-mortem evidence that erosion of the vertebral column can occur, and we assume that the ribs may be similarly affected. The pathology is presumably comparable to erosion which occurs as a result of an aneurysm. We agree that, in general, large pulmonary hydatids cause bulging of the chest wall, and that actual erosion of bone is late.

2. "Multiple pulmonary hydatids are rare." We do not doubt that this is true in Australia if Dr. Edwards says so, but it is not true in the series of cases which have come to our notice in England. This point may be verified by referring to our case histories. We would add that at the moment there are three cases of pulmonary hydatid disease in Sully Hospital, and all have multiple cysts in the lungs.

3. "The outline of hydatid is always sharply cut unless there has been a leakage or unless there is an associated pneumonitis or pleurisy." We were at pains to make the same point in our article, and added that pneumonitis, pulmonary suppuration, emphysema, etc., often confused the diagnosis.

4. "The crescent of air is only seen in leaking hydatid." We made no statement which could be regarded as being at variance with Dr. Edwards's view.—We are, etc.,

N. R. BARRETT.
DILLWYN THOMAS.
The King Edward VII Welsh National Memorial Association, Sully Hospital, Glam.

Drilling the Glenoid

SIR,—I am glad that Surg. Cmdr. P. B. Moroney (July 28, p. 122) has found the solution of the only difficult part of the operation for recurrent dislocation of the shoulder. I have been using the dental drill with a right-angled hand-piece for the last six years, my only regret being that I did not discover it until just after my paper (*Brit. J. Surg.*, 1938, **26**, 23) was published. I obtained the hand-piece, the flexible drive, and the short twist drills from the Amalgamated Dental Co. Ltd. Messrs. Down Bros. made a fitting to attach the flexible drive to my Albee motor. They also made a little wire cage with which to hang the motor from an irrigator stand.

It is nearly always possible to pass the silkworm-gut directly through one of the holes towards the joint. Sometimes it is possible to pass it directly back through the other hole, but this is more difficult. To meet this difficulty I broke off an inch of the eye end of an ordinary straight needle, and holding this in long Spencer Wells forceps I passed it through the second hole, threaded the silkworm-gut into it, and withdrew it through the hole. Finding this quite a useful tip, I got Messrs. Down Bros. to mount the eye end of a needle at right-angles on a long handle. It is set so that when the eye faces the surgeon the handle is deflected 45° to the right and is out of the way.

Another most useful, if not essential, instrument is Ollerenshaw's modification of Murphy's hip "skid," which has been further modified for me in that it is thinner and much lighter in construction, the groove is shallower so as to fit the contour of the head of the humerus, and the handle is sharply bent back at an angle of 45° so as to get the assistant's hand out of the way. This is passed right through to the back of the joint, and it is used as a lever to hold the head of the humerus away from the glenoid cavity, thus giving a clear view of the anterior margin and room to work upon it.

I notice from Surg. Cmdr. Moroney's diagram that he passes the drill from within the joint outwards. But I have never been able to do this, because I have not liked to drag the head of the humerus so far away from the glenoid cavity. My shortest twist drills project just over half an inch from the head of the hand-piece, which itself is exactly half an inch deep, so that a working space of over an inch must be obtained before the drill can be used in this way. Incidentally, if it is safe to retract the head to that extent it should be quite easy to pass the silkworm-gut directly back through the second hole without the use of any special gadget.—I am, etc.,

London, W.1. A. S. BLUNDELL BANKART.

Day Nurseries

SIR,—It is surprising and disappointing to read such a letter as that of Dr. F. Gray (July 28, p. 135) on the above subject. If Dr. Gray had been at the Conference on Maternity and Child Welfare he would have found that the critical observations of the Archbishop, some of which were published, were shown by other speakers of his own faith to be based on a misunderstanding of the real function of nurseries and of the motives of those who advocate and support them.

It is common ground that no mothers of young children should be compelled for economic reasons to go out to work to maintain them, and no one advocates day nurseries as a means of encouraging this practice. We have not yet, however, attained such a realization of community responsibility as to make it unnecessary for any mother to go out to work. Widows with children, wives with invalid husbands, and mothers of illegitimate children may have to go out to work, and day nurseries make it possible for them to give something of the mother's love and protection which Dr. Gray rightly deems necessary for the child. Without the day nurseries, many of these children would have to go to institutions.

If the father described by Dr. Gray is unable fully to provide for his family, the denial of a day nursery to enable his wife to supplement his earnings is not likely to help the home atmosphere. And bad employers who pay low wages require rather more comprehensive treatment than the closing of all the day nurseries in the neighbourhood of their works, just as the poor harassed mother "doing two jobs" requires for her emancipation a greater realization by Parliament and people of the supreme importance of motherhood.

Supposing, however, that by an adequate endowment of motherhood, and adequate scales of sickness benefit for ailing or disabled husbands, no mother was compelled for economic reasons to go out to work, and that, indeed, no mother did so. What then? Would day and residential nurseries be unnecessary? Not so. While housing and domestic conditions are as they are, day nurseries should be regarded as an extension of the home and its amenities and not as a substitute for them. It is an extraordinary evidence of human inconsistency that many of the loud protestations of those who would have the mother shut in with her children for 24 hours a day come from individuals who have themselves been brought up by "nannies" and domestics and feel none the worse for it.

High ecclesiastics and other patriotic citizens who desire a high birth rate and happy home life must be made to realize that these cannot be attained in the modern world by the continuance of the domestic servitude which motherhood has hitherto involved in millions of working-class homes. Women are beginning to see that this servitude is not necessary, that it prevents the mother being the effective inspiration and leader of the household, and that her children respect her more naturally if her status is high and her leisure and privacy of life safeguarded.

While, therefore, conditions and domestic help are what they are and as they are likely to be for a good many years, day nurseries take the place of the nursery, which should be in every home, but is not. It is all wrong, as medical officers of health have testified, to say that it is the careless and improvident who use the nurseries most. On the contrary, it is the careful mother with a high sense of responsibility who refuses to take her own leisure unless assured that her children are safe and in skilled hands. The others do not mind leaving their children unattended or at the mercy of neighbours.

Those keen on maintaining the tone and spirit of home life should meditate on the fact that often the first break in married happiness comes with the first child. Always going out together, hitherto, only one can now get out at a time, common interests are diminished, and a drift often sets in. Day nurseries can help to keep this link of common interests and of delight in each other's society. The value of the residential nursery, too, in the case of illness or the coming of another baby needs no emphasis. Training in motherhood, also, is recognized as desirable for senior adolescent girls; day nurseries have a great part to play in this.

Home helps and a mobile nursery staff or "nannie" service (as tried out by the County Public Health Department of Lanark) may help to solve this problem in days to come. In the meantime, I hope Dr. Gray will agree that we must keep an adequate number of day nurseries.—I am, etc.,

T. DRUMMOND SHIELS.

SIR,—It is unfortunate that Dr. F. Gray (July 28, p. 135) relied upon half-truths to support his adverse criticisms. Of a peacetime day nursery (described by him as "a blot on our civilization") I submit the following is a much more accurate picture:

1. *The Father.*—He might be disabled through illness from earning a living, or because of an industrial slump be out of work or "on short time." He might have deserted his wife or be serving a prison sentence. He might own a one-man business and have to depend on his wife's help in it. In none of the above circumstances could he justly complain to be "generally forgotten or ignored."

2. *The Mother.*—Her "home," because of her straitened circumstances, would more often than not consist of lodgings, one room, so that her "household duties" would be the least exacting part of her daily toil.

3. *The Child.*—I wonder if your correspondent has seen the normal happy children who are regular attendants in a well-run nursery. They must be exceedingly clever actors if they cherish feelings such as he describes. Has he ever witnessed the reunion of the mother and child when she fetches it after work, the little one eager to tell her of the day's happenings and she so glad to listen? Nothing "cross and irritable" about her, but a display of love all the more affectionate and ardent because of the temporary separation.

Far from being a blot on our civilization, the day nursery takes its place with the school and the hospital in the service it can provide for the parent and the child when the mother is unfortunately faced with the economic necessity to go out to work.—I am, etc.,

London, N.W.11. L. STUART WOOLF.

Sensitivity to Lanette Wax

SIR,—Certain cases of sycosis and other infective dermatoses are found to become worse after the application of penicillin cream, in spite of the fact that they have previously been proved bacteriologically to be due to organisms sensitive to penicillin. Positive results have been obtained by us in such cases from patch-testing with lanette wax, and the lesion may then respond to penicillin in saline. It would appear, therefore, that the lanette wax base is the cause of the aggravation of these cases, and that the widespread use of lanette wax as a base is not without its dangers, especially on skins sensitized from the use of a succession of irritating agents.

In this connexion, the large-scale production for sale of a lanette wax base appears open to criticism, and, although it may be necessary as an immediate measure to help the practitioner when penicillin comes on the open market, the supply departments of the manufacturing chemists should spare no efforts to ensure the future production of a more stable and less irritating base.—We are, etc.,

ARTHUR BURROWS.
London Hospital, E.1. B. RUSSELL.

Sensitization to Synthetic Resins

SIR,—In their article on sensitization to nickel spectacle frames Taylor and Fergusson (July 14, p. 40) refer to the notes of Thistlethwaite (1943) and Gray (1943) on sensitization to artificial-shell spectacle frames, and describe the lesion in both as being related to dye. Thistlethwaite, in fact, does not mention dye as an aetiological agent, while Gray, although stating that the patient was sensitive to brown and black dyes, does not say whether the peccant frame was dyed or clear. Since Berkoff (1938) seems to have shown that the plasticizer (tricresyl phosphate) used in some synthetic resins may act as an allergen, it would be unfortunate if the view were now accepted that the clear type of artificial resin was necessarily safer than the dyed.

It will be interesting to hear if cases of sensitization occur among the troops now anointing themselves with the other well-known plasticizers—dibutyl and dimethyl phthalate—recently discovered to be insect repellents.—I am, etc.,

The University, Glasgow. A. C. Lendrum.

References

Berkoff, H. S. (1938). *Arch. Derm. Syph.*, Chicago, **38**, 746.
Gray, W. M. (1943). *British Medical Journal*, **1**, 648.
Thistlethwaite, H. (1943). Ibid., **1**, 493.

Penicillin Injection Apparatus

Sir,—The apparatus described by Mr. Ronald Edwards (July 21, p. 86) for injecting penicillin appears to be unnecessarily complicated. I feel that the following is simpler and can be set up in a few minutes from materials available at most hospitals.

A standard intravenous drip set is used. The glass drip connexion is removed, and a two-way tap, such as is used for chest aspiration, substituted. Attached to this is a syringe of suitable size according to the volume of penicillin solution to be given. The syringe may be fixed to the drip stand. A sterile rubber-glove finger should be placed over the handle of the piston of the syringe and over the end of its barrel to keep the inside of the syringe sterile while it is exposed to the air when the piston is fully depressed. The whole apparatus is filled with penicillin to drive out the air before the needle is inserted into the muscle. The needle should be firmly strapped in place.

To give an injection the two-way tap is turned so that the penicillin is drawn from the reservoir into the syringe. The handle is then turned so that the contents of the syringe can be injected down the distal tubing into the patient. It is advisable with the present-day rather poor rubber tubing to tie the tubing to the metal with thread to withstand the pressure of the injection. An old two-way tap may leak, but a little vaseline applied to the outside will prevent this.—I am, etc.,

Swallowfield, Nr. Reading. F. R. M. Elgood.

Cinematograph Films of Aviation Physiology

Sir,—We note in the *Journal* of July 21 (p. 75) the paper by Dr. B. H. C. Matthews based on the first of his Oliver-Sharpey lectures. You may like to draw the attention of your readers to the following films which exist on aviation physiology:

	Running Time
(1) Use of Oxygen in High Altitude Flying	22 min.
(2) Effect of Centrifugal Force in Air Crews	19 „

They are held by the Air Ministry (Dept. T. Films), Alexandra House, Kingsway, London, W.C.2, who are prepared to lend them for showing to selected audiences if early application is made for them. The films are available in 35 and 16 mm. and are talkies. As they are designed for teaching air crews the approach is elementary, but nevertheless interesting to the ordinary practitioner who has no special knowledge of the subject.—I am, etc.,

Ronald MacKeith,
Chairman, Medical Committee,
Scientific Film Association.

Recommendations of the Goodenough Report

Sir,—Medical graduates of the Universities of Oxford, Cambridge, and London have a very particular interest in certain recommendations of the Goodenough Report on Medical Schools (Stationery Office, May, 1944). These universities have been singled out for criticism by the Goodenough Committee, appointed in March, 1942, by the then Minister of Health. London University is the most vitally concerned as the university training approximately one-half of the medical students south of the Tweed and furnishing thirteen out of the twenty-one teaching hospitals in England and Wales.

The system of Final Examinations adopted in Oxford, Cambridge, and London is specifically attacked. It is contended that "any student who has followed his course of study to the satisfaction of his teachers should be able to obtain a degree mainly for the work he has done during his course, checked by a reasonable examination." This "reform" (?) is called "internalization" by the committee. London receives the brunt of hostile criticism in the following statement:

> "Instead of recognizing that every student, who has successfully negotiated the earlier examination fences and has carried out a satisfactory clinical course, could reasonably be given his degree with the minimum of examination, the University still insists on setting him a stiff 'external' examination reminiscent of the days when the University was only an examining body and when its chief claim to fame was in the severity of its examinations" (p. 209).

It may be pertinent here to remark that of the ten members of the Goodenough Committee only one is a graduate of London University, and he had taken a leading part seven years ago in an agitation to bring about some measure of amalgamation of the final qualifying examinations of the English Conjoint Board with the London M.B., B.S. degree—an agitation defeated with complete finality in 1938. This "internalization" would be wholly impossible for Oxford and Cambridge to effect since their final examinations are based upon training given in London medical schools and in this sense are consequently exclusively external.

Another surprising recommendation made by the committee is set out as follows:

> "A drastic overhaul of the medical curriculum is an urgent necessity, and its accomplishment might be made a condition to be satisfied before any increase is made in Exchequer grant in aid of undergraduate medical education. It is recommended that the General Medical Council should take the initiative in this matter without delay" (p. 31).

These two proposals call for comment.

1. The attempt to attach to Exchequer grants conditions as to the content and duration of the medical curriculum (for the "overhaul" involved reduction of training from 7 years to 4½) is a new and sinister feature. In the House of Commons on January 18 the Minister of Health announced the "decision" of the Government to accept this financial enforcement of educational policy upon the universities, notwithstanding that the recommendation had no authority other than that of an "interdepartmental committee" whose proposals had not been submitted to Parliament.

2. The selection of the General Medical Council as the body which should "take the initiative" in moulding the medical curriculum of the universities betrays a singular ignorance on the part of the committee, both of the functions and of the traditions of the G.M.C. The G.M.C. is not concerned, and has never been concerned, with teaching; that it should be regarded as the proper arbiter of the teaching of medicine in all our universities seems to me fantastic. I have been favoured with a copy of the Memorandum of Evidence given to the committee by the G.M.C., and one's impression of that evidence is that that body shows a commendable prudence in its reception of the proposal. In a correspondence which lies before me with one of the most famous Presidents of the G.M.C. in our generation, the late Sir Norman Walker, he lays down the policy regarding the medical curriculum which he said the G.M.C. had pursued for eighty years and had no wish to alter. This policy is set out in detail in the Memorandum of Evidence. The Council is content to leave to the teaching institutions the initiative in determining curricula, reserving to the Council the duty laid upon it by statute—namely, "to maintain a standard of efficiency at qualifying examinations sufficient to guarantee the possession of the knowledge and skill requisite for the efficient practice of medicine, of surgery, and of midwifery."—I am, etc.,

The Athenaeum, S.W.1. E. Graham-Little.

The Germans were responsible for a complete breakdown in the programme of malaria control in Italy; the results were particularly serious in the province of Latina, which includes the Pontine Marshes. Plans are now being prepared by U.N.R.R.A. for the allocation of D.D.T. sufficient to spray 1,200 houses in the mined and flooded areas of the province. U.N.R.R.A. staff, under Lieut.-Col. V. B. Lamoureux, engineering consultant to the Epidemic Control, are in constant touch with operations, and three young Italian engineers are being trained to supervise the work of malaria control units anywhere in Italy. Vehicles, bicycles, and funds to provide labour and to meet the increased cost of living have also been provided.

Obituary

W. ALDREN TURNER, C.B., M.D., F.R.C.P.

Dr. William Aldren Turner, consulting physician and senior neurologist to King's College Hospital, and the National Hospital, Queen Square, died at the age of 81 on July 29. Born in 1864, he was the eldest son of the late Sir William Turner, K.C.B., F.R.S., Principal of the University of Edinburgh from 1903–16, and was educated at Fettes and Edinburgh University. After qualifying M.B., C.M. in 1887 he became house-physician at the Edinburgh Royal Infirmary. He took the Edinburgh M.D. with gold medal in 1892, and the M.R.C.P.Lond. in 1899; he was elected a Fellow in 1896.

Aldren Turner went to King's College in 1892 as assistant to Dr. (later Sir) David Ferrier in the neuropathological laboratory. He was subsequently appointed demonstrator and then lecturer in neuropathology. In 1899 he was appointed assistant physician to King's, and 9 years later physician in charge of neurological cases and lecturer in neurology in the medical school. Aldren Turner was on the medical staff of the West London Hospital, and from 1900–7 physician to the National Hospital, Queen Square. He delivered the Morison Lecture at the Royal College of Physicians of Edinburgh in 1910, and the Bradshaw Lecture at the Royal College of Physicians of London in 1918, when his subject was "Neuroses and Psychoses of War." When he retired from the active staff of King's in 1928 he was appointed consulting physician to the hospital and Emeritus Lecturer on Neurology in the medical school. It was mainly through his efforts that the Ferrier Prize in Neurology was established at King's in 1929.

He published a large number of papers on neurological subjects, *Epilepsy, a Clinical Study*, in 1907; and, jointly with Dr. Grainger Stewart, *Textbook of Nervous Diseases* in 1910. During the war of 1914–18 Aldren Turner made a special study of nervous and mental shock and was gazetted a temporary colonel in the Army Medical Service, for special duties in France. He was also neurologist to the Forces at home from 1915–19, and to the War Office Medical Board from 1919–40. He was at one time president of the Neurological and Psychiatric Section, Royal Society of Medicine, and was a member of the War Office Committee on Shell Shock from 1920–1. He joined the B.M.A. in 1895 and was vice-president of the Section of Psychology at the Ipswich Meeting in 1900.

SIR W. GIRLING BALL, F.R.C.S.

Surg.-Lieut. J. B. GURNEY SMITH, R.N.V.R., writes: As one of the vast number of students who trained at Bart's during the brilliant deanship of Sir Girling Ball, may I pay my brief tribute to a great man. His work for the new medical school will be his lasting memorial, and was an enterprise needing special enthusiasm and drive, which he so manifestly possessed. He was a dynamic teacher of surgery, as those who attended his lectures and ward rounds can easily testify; his lectures on "waterworks" will always live in one's memory. As dean he had the affairs of his students much at heart. I can well recall his saying on the platform in the Great Hall of Bart's on one occasion: "I will do anything for my boys and my boys will do anything for me"; which remark drew forth much acclamation. He liked to think of us as his "boys." His "John Bull" heartiness was one of his most marked characteristics. Another great Bart's figure has gone and has left behind work of imperishable glory.

The death of Dr. P. F. MCFARLAN of Stirling has brought to a close a period of over forty years' service to the community not only in Stirling but in a wider area in Stirlingshire and the neighbouring counties. A native of Dumfriesshire, Patrick Frederick McFarlan graduated M.B., Ch.B. at Edinburgh University in 1901, and after resident appointments in Edinburgh Infirmary and other hospitals he settled in general practice in Stirling, which he continued until his death. In 1905 he took his F.R.C.S.Ed., and some years later was appointed surgeon to Stirling Royal Infirmary, which was then little more than a cottage hospital. He held this appointment until 1938, and during that time steadily raised the quality of the surgery and the prestige of the hospital. He always maintained that the most comprehensive hospital service should be provided locally, and it became obvious that this was not possible in the cramped and old-fashioned building in the old town. Overcoming opposition he was the prime mover in securing a magnificent site on the outskirts of the town, and in raising funds for building the 120-bed hospital which was opened in 1928. Continuing as senior surgeon he fulfilled the duties of medical superintendent, and Stirling Infirmary became one of the leading provincial hospitals in Scotland. For his services he was awarded the O.B.E. and appointed as chairman of the hospital, an office he still held when he died. Mr. McFarlan was a confirmed believer in the co-operation of voluntary hospitals with local authorities, and he was instrumental in forming the Divisional Council for Hospital Services for Stirlingshire, Clackmannanshire, and West Perthshire. For many years he was a member of the Branch Council of the B.M.A., and was president of the Branch for two periods; he was also a co-opted member of the Hospitals Subcommittee of the Scottish Committee of the B.M.A. "Paddy" McFarlan will be remembered by his colleagues as a sound, practical surgeon and a very helpful general consultant, as an outstanding hospital administrator, and as a very lovable man. He leaves a widow and four children, of whom a son and a daughter are members of the medical profession.

We regret to announce the death on July 19 of Dr. NORMAN BLACK, O.B.E., *M.C.*, at the age of 63. He was born at Greenock in 1881, the youngest son of the late John Robert Black, M.D., and was educated at King William's College, Isle of Man, and at the University of Edinburgh, where he studied medicine from 1900 to 1905, qualifying M.B., Ch.B. After leaving the university he held medical appointments in Dublin before going to Singapore as lecturer in obstetrics at King Edward VII Medical School. He was granted a commission in the Singapore Volunteer Corps, attaining the rank of major, and was officer commanding the Singapore Volunteer Field Ambulance. Dr. Black returned home in 1914 to enter the R.A.M.C. in the war of 1914–18; he served in France and was twice wounded; he was awarded the *M.C.* In 1917 he was appointed senior medical officer to the Straits Settlements, and in the following year received the O.B.E. Ill-health obliged him to retire from Singapore in 1921 and he settled in practice at Waddesdon, Bucks, where he became medical officer and examiner to the county council. At the outbreak of war in September, 1939, Dr. Black organized a first-aid party at Waddesdon and later became medical officer to the local Home Guard unit. He retired from practice as recently as June 30 and went to live at Quainton. Dr. Black was an all-round sportsman and shone particularly at Rugby football, representing the Isle of Man when only 16 years of age; he was captain of the Singapore Scottish Rugby XV. He was a keen angler. Dr. Black had unbroken membership of the British Medical Association from 1906. His death came as a great shock to the people of the Waddesdon area, where he was held in great esteem, especially by the many old people to whom he showed much kindness, and the general feeling was clearly demonstrated by the attendance at the funeral service on July 24.

The following well-known medical men have died abroad: Dr. PIERRE ABRAMI, a leading Paris physician, aged 66; Dr. FRANCISCO MURILLO PALACIOS, the Spanish epidemiologist who was one of the founders of sanitary organization in Spain; Dr. JUAN SANCHEZ COVISA, member of the National Academy of Madrid, emeritus professor of the Madrid Faculty of Medicine and an eminent dermatologist.

The Services

Col. M. S. Joshi, I.M.S., has been appointed Honorary Surgeon to the King in succession to Major-Gen. J. S. S. Martin, C.S.I., I.M.S., retired.

Lieuts. A. O. Harries and G. Ollerenshaw, M.B.E., R.A.M.C., have been awarded the M.C., and Lieut.-Col. (Temp.) G. M. Denning, R.A.M.C., has been mentioned in dispatches in recognition of gallant and distinguished services in North-West Europe.

CASUALTIES IN THE MEDICAL SERVICES

Died.—Lieut. John Evans, R.A.M.C.

Universities and Colleges

UNIVERSITY OF LONDON

Westminster Hospital Medical School

At the opening of the new academic session at Westminster Hospital Medical School the inaugural address will be delivered by His Grace the Archbishop of Canterbury in the Sir Edward Meyerstein Lecture Theatre on Monday, Oct. 1, at 3 p.m.

The following candidates have been approved at the examination indicated:

M.D.—*Branch I (Medicine)*: W. R. S. Doll, D. B. Jelliffe, Monica K. McAllen, G. Watkinson. *Branch II (Pathology)*: L. E. Glynn, B. Levin. *Branch V* (*Hygiene*): E. R. Bennion.

UNIVERSITY OF MANCHESTER

Sydney Thomas Crowther, M.R.C.S., L.R.C.P., has been appointed Lecturer in Bacteriology; Ralph Cocker, M.B., Ch.B., L.D.S., Lecturer in Parodontia; and Eugen Pollak, M.D., Lecturer in Neuropathology.

UNIVERSITY OF DURHAM

The Court of the University of Durham has recently approved the appointment of Lieut.-Col. Frederic Herbert Bentley, F.R.C.S., to the Chair of Surgery in the Medical School of the University.

UNIVERSITY OF WALES

The following candidates in the Welsh National School of Medicine have been approved at the examinations indicated:

M.B., B.Ch.—*Surgery*: A. H. Beynon, G. E. Davies, G. R. Davies, E. D. Edwards, P. Griffiths, J. C. Ham (with distinction), J. M. Hughes, I. D. Jacobs, S. T. James, Mary Lawrence, Bernice G. Lewis, R. Medlicott, Isobel F. A. Mitchell, Goronwy Owen, Barbara M. Parker, Enid A. Reed, Beryl P. Roberts, Jean T. Smith, D. V. Thomas, D. M. Watkins. *Medicine*: W. H. Beasley, G. K. Davies, Mair Ll. Edwards, J. H. Edworthy, Hannah P. Evans, Myrddin Evans, P. Griffiths, W. J. Jenkins, D. O. Lewis, D. R. Lewis, W. T. Lloyd, Joy A. MacGregor, Barbara D. S. Marshall, J. Matthews, D. B. Price, Olwen V. Rees, Amelia Rowles, Gwladys M. Sewart, D. Tooms, L. L. R. White, Catrin M. Williams, D. M. Williams, Roberta Williams, W. O. Williams. *Pathology and Bacteriology*: Nora C. Curran, Margaret E. Davies, Clare G. M. Dillon, O. W. James.

ROYAL COLLEGE OF PHYSICIANS OF LONDON

At a quarterly Comitia of the College, held on July 26, with the President, Lord Moran, in the chair, the following were elected officers for the ensuing year: Censors, C. M. Hinds Howell, G. Graham, W. H. Wynn, D. Hunter; Treasurer, W. G. Barnard; Registrar, H. E. A. Boldero; Assistant Registrar, A. A. Moncrieff.

The Registrar announced that Hilary F. H. Hamilton had been awarded the Murchison Scholarship for 1945. The Baly Medal was awarded to Prof. S. A. S. Krogh for his outstanding contributions to the knowledge of the capillaries and of related physiological problems in cellular nutrition and respiration; the Moxon Medal to Sir Alexander Fleming, F.R.S., for his work on penicillin; and the Weber-Parkes Prize to Dr. E. L. Opie for his work on the pathogenesis of tuberculosis.

Dr. Geoffrey Bourne was elected the representative of the College on the Central Council for District Nursing in place of the late Sir Stanley Woodwark.

Sir Maurice Cassidy was appointed Harveian Orator and Brig. D. Evan Bedford Bradshaw Lecturer, both for 1946. The following lecturers for 1946 were also appointed: Goulstonian, Lieut.-Col. W. R. M. Drew; Lumleian, Dr. J. M. H. Campbell; Oliver-Sharpey, Dr. R. D. Lawrence; FitzPatrick, Sir Arthur MacNalty; Abrahams, Prof. C. A. Lovatt Evans, F.R.S.; Charles West, Prof. J. C. Spence. Brig. E. R. Boland was appointed Croonian Lecturer for 1947.

Sir Hans Sloane's Statue

Dr. J. D. Rolleston, representing the College on the Committee of Management of the Chelsea Physic Garden, stated in his annual report that in September, 1939, steps were taken to protect the marble statue by Michael Rysbrach (1733) of Sir Hans Sloane from damage by enemy action. The wooden casing surrounding the statue was renewed from time to time and lately showed signs of collapse owing to the settlement of the sand and ballast fillings. As the risk of air-raid damage was considered to be over at the end of hostilities in Europe, Sir William Collins, chairman of the Physic Garden Committee, gave authority for the statue to be uncovered and inspected. The right arm was then found lying on the ground, probably as the result of the raids, and was replaced.

The buildings chiefly damaged by enemy action were the laboratory building, including the large plant house, the greenhouse adjoining the laboratory, and the sheds on the south-east side of the Garden and the sunk pits.

The following, having satisfied the Censors' Board, were elected to the Membership of the College:

M. Anderson, M.D., Major A. W. Bagnall, M.D., R.C.A.M.C., Capt. J. R. Bolton, M.B., R.A.M.C., P. T. Bray, M.B., E. F. B. Cadman, M.B., K. D. Crow, M.B., T. B. Staveley Dick, M.B., Capt. F. L. Dyson, M.B., R.A.M.C., Surg. Lieut. I. G. Fergusson, M.B., R.N.V.R., A. C. Frazer, M.D., S. A. M. Garibian, M.B., W. S. L. Gilchrist, M.D., I. R. Gray, M.D., I. T. Twistington Higgins, L.R.C.P., L. Hornung, M.D., R. F. Jennison, M.B., D. E. R. Kelsey, M.B., A. G. Leatham, M.B., D. McCracken, M.B., F. G. W. Marson, M.B., R. B. Meyer, M.B., A. Muir, M.B., S. Pickford, M.B., P. K. Robinson, M.B., Daisy M. Smith, M.B., Squad. Ldr. W. M. L. Turner, M.B., R.A.F.V.R., D. Verel, M.B., W. D. Wylie, M.B.

Licences to practise were conferred upon 130 candidates (including 21 women) who had passed the Final Examination in Medicine, Surgery, and Midwifery of the Conjoint Board and have complied with the necessary by-laws:

A. F. Alvarez, G. S. Andrew, R. C. B. Arthur, P. W. Arundell, Margaret W. Barbour, R. Bellamy, N. J. Blockey, H. Bourne, R. P. Bradshaw, J. L. Braithwaite, D. G. Breeze, R. G. Britt, Mary Brooks, R. B. Broughton, Joyce B. Burke, E. H. W. Burt, R. E. Church, C. J. M. Clark, K. S. Clarkson, W. D. Clarkson-Webb, H. F. Clay, G. Clayton, J. M. Cliff, E. Cluer, E. de M. Connell, T. M. Cullingworth, W. P. Dallas Ross, D. G. H. Davies, G. R. Davies, I. N. Davies, J. A. R. Debenham, Phyllis Denman, Margaret L. Dennis, Phyllis M. De Saram, J. McG. Dutton, A. B. Eastwood, W. T. Edwards, J. G. R. Ellis, D. P. F. Embleton, A. S. Falconer, D. L. B. Farley, Alice Faulkner, W. S. R. Fenton, J. W. Ferguson, R. H. Freeman, Viola M. Frymann, D. H. Gawith, A. Gilani, A. W. Gilks, A. M. Goldstein, R. A. Green, A. Guedatarian, R. G. Hall, R. H. Hansell, W. T. Harrett, W. J. Ll. Harries, Margaret Hedley, R. Hierons, K. P. Higgs, G. L. G. Hine, Pamela M. Horne, R. D. Howell, G. A. Humphreys, A. M. Huntley, R. Hyde, E. M. James, J. T. W. Jones, R. J. T. Jones, P. K. S. Joynson, N. D. Kapur, J. Keeling, Barbara D. King, P. F. King, G. D. Lees, F. A. Lennan, L. F. Levy, W. A. S. Llewellyn, Agnes M. MacLaren, Nancy S. Mason, P. W. Meakin, E. Mellor, A. G. Milbourne, Beatrice E. Moore, P. H. Moore, K. S. Murray, B. J. Nathan, Elizabeth Newton-Clare, G. S. Ostlere, N. MacI. Panton, Dorothy M. Parkin, A. J. Pearce, J. G. Piccaver, Rachel Pinney, S. D. F. Readdie, G. H. Rees, P. Ll. Rhodes, R. D. Rogers, M. J. Roper-Hall, C. F. Rycroft, R. H. Sage, W. H. Scrase, J. S. T. Searle, D. N. Seaton, R. A. Shaddick, S. R. Shaw, R. P. Shields, C. N. Smith, J. L. Stafford, S. D. K. Stride, P. A. Taylor, S. W. Thomson, Petrie M. Townshend, P. H. Tribe, D. Q. Trounce, J. Upsdell, M. Usiskin, D. Verel, P. H. Walker, J. D. Wallace, J. M. Ward, J. L. K. Watkinson, D. A. Watson, A. D. Weatherhead, B. W. Webb, R. H. Whitworth, Jean M. Wilson, Aviva Wiseman, J. Wiseman, H. M. Wotzilka, R. Youngman.

Diplomas

Diplomas in Anaesthetics were granted, jointly with the Royal College of Surgeons of England, to the 35 candidates whose names were printed in the report of the meeting of the Royal College of Surgeons of England in the *Journal* of June 30 (p. 928), and in Laryngology and Otology and in Psychological Medicine to the candidates whose names appeared in the report of the meeting of the Royal College of Surgeons of England in the *Journal* of July 28 (p. 139).

Diplomas in Public Health were granted, jointly with the Royal College of Surgeons of England, to Mary E. Budding, Joan F. Heffernan, A. C. Knight, Rosie Morris, and W. N. Taylor.

Medical News

The result of the Scottish Universities election was announced on Aug. 2 and the three representatives in the last Parliament were all re-elected. Sir John Anderson and Sir John Boyd Orr were returned at the first count and their surplus votes secured the re-election of Sir John Graham Kerr. The final figures were as follows: Sir John Anderson (Nat.), 16,011; Sir John Boyd Orr (Ind.), 10,685; Sir John Graham Kerr (C.), 8,999; Dr. Halliday G. Sutherland (Lab.), 4,075; and Col. R. S. Weir (L.), 3,319.

U.N.R.R.A. announces that Dr. Andrew Topping has been promoted to be assistant deputy director general operations, and will have, among other duties, administrative supervision of the Health and Welfare Divisions. His place as director of the Health Division is to be taken by Dr. Neville Goodman, and the senior deputy director is Lieut.-Col. Hugh R. Leavell, United States Public Health Service. Among other appointments are that of Dr. A. P. Meiklejohn as adviser in nutrition (through the courtesy of the Rockefeller Foundation); Major-Gen. Sir Ernest Cowell as principal medical officer, Greece, in place of Dr. I. Balfour Kirk, who becomes medical adviser to the U.N.R.R.A. headquarters, Germany; and Col. A. Campbell Macrae, late I.M.S., principal medical officer of the U.N.R.R.A. personnel operating in the British Zone, Austria. Sir Raphael Cilento, Director-General of Health and Medical Services, Queensland, Australia, has taken up duty as principal medical officer attached to the 21st Army Group.

Dr. M. D. C. Taylor has been appointed Governor of Holloway Prison. She is the first woman to hold the position and the youngest Governor ever appointed in the Prison Service. Dr. Taylor qualified M.R.C.S., L.R.C.P. in 1937 from the London School of Medicine for Women, and after house posts at the Royal Free and the Elizabeth Garrett Anderson Hospitals was appointed a part-time assistant medical officer at Holloway Prison in 1942, becoming a whole-time medical officer there in April, 1944.

The Volunteer Car Pool for the transport of hospital cases ceased on July 31; but a voluntary car service for sitting patients who need special transport to hospitals or clinics is being organized jointly by the St. John Ambulance Brigade, British Red Cross, and W.V.S. This will be known as the Hospital Car Service, and hospitals wishing to use it should apply to the local representative of one of these organizations.

Dr. Edith Gilchrist has been appointed to the Research Fellowship of the Association of Anaesthetists of Great Britain and Ireland, which she is holding at the Royal Free Hospital from Aug. 1.

The names of two more medical candidates at the General Election have been brought to our notice. Dr. Donald McIntosh Johnson and Lieut.-Col. Eric Townsend, *M.C.*, R.A.M.C., both Liberals, stood for Wiltshire (Chippenham) and Yorkshire, West Riding (Skipton) respectively, but were unsuccessful, a Conservative in each case being returned.

Restrictions on the conditions for which injectable extract of liver may be used are removed in a new Order—the Liver Extract (Regulation of Use) Order, 1945—just issued. The use of oral preparations of liver (including proteolysed liver and desiccated liver) is permitted on the prescription of a registered medical practitioner for the treatment only of pernicious and other megalocytic anaemias. The Order prohibits the use for oral administration of any preparation containing liver extract combined with any other active ingredient, except stomach extract.

Headquarters of Sector V of the Emergency Hospital Service moved on Aug. 1 from Stanmore to the Middlesex Hospital, London, W.1 (Tel.: Museum 7138).

The mass radiography unit from St. James's Hospital, Leeds, started a month's survey at York on July 9. The unit has been lent to various local authorities, and York is the first town after Leeds to make use of it.

The address of the central office of both the Nuffield Foundation and the Nuffield Provincial Hospitals Trust is 12–13, Mecklenburgh Square, London, W.C.1.

EPIDEMIOLOGICAL NOTES

Discussion of Table

In *England and Wales* notifications of infectious diseases were higher than last week by the following figures: whooping-cough 60, dysentery 43, diphtheria 22; there were 600 fewer notifications of measles, and 49 fewer of scarlet fever.

No fresh outbreaks of diphtheria of any size were reported; the increase was due to isolated cases scattered throughout the country. The region chiefly affected was Wales, where there was an increase of 14. The incidence of whooping-cough fell in most areas of the country, but there were relatively large rises in a few counties: Lancashire reported 48 more cases than last week, Cornwall 36, and Middlesex 27. Measles notifications are still on the decline, though Buckinghamshire reported 40 more cases than last week, and Sussex 24. In Middlesex notifications of dysentery rose from 13 to 45 (Heston and Isleworth M.B. 19, Tottenham M.B. 11); and in Buckinghamshire from 4 to 24 (Amersham R.D. 23). The other large returns were from London 41, Lancashire 24, Warwickshire 18, Essex 15, and Surrey 10.

In *Scotland* notifications of scarlet fever, measles, and diphtheria rose by 38, 35, and 29 respectively. There were only 44 cases of dysentery—the lowest total for the past eleven months. The increase in diphtheria was mainly in the west; in Glasgow notifications rose from 23 to 40.

In *Eire* notifications of whooping-cough fell by 31, 19 of the 20 cases being notified in Dublin C.B. The incidence of infantile diarrhoea fell by 10 but remained high, 49 cases being reported in Dublin C.B.

In *Northern Ireland* a rise of 12 in the notifications of diphtheria brought the total to the level of the previous three months. The total for scarlet fever was halved by a decrease of 18.

Week Ending July 28

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,223, whooping-cough 1,092, diphtheria 370, measles 2,581, acute pneumonia 322, cerebrospinal fever 42, dysentery 226, paratyphoid 7, typhoid 11, poliomyelitis 22.

No. 29

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vita Statistics in the British Isles during the week ended July 21

Figures of Principal Notifiable Diseases for the week and those for the corre sponding week last year, for: (a) England and Wales (London included). (b London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland

Figures of Births and Deaths, and of Deaths recorded under each infectious disease are for: (a) The 126 great towns in England and Wales (including London) (b) London (administrative county). (c) The 16 principal towns in Scotland. (d The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1945					1944 (Corresponding Week				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever	45	2	16	1	1	46	3	20	3	2
Deaths		—	—				—	—		
Diphtheria	444	30	115	76	17	471	23	132	74	14
Deaths	9	1	—	—	—	4	1	—	1	[illegible]
Dysentery	249	41	44	—	—	151	7	91	—	—
Deaths				—	—				—	—
Encephalitis lethargica, acute	5	—	—	—	—	3	—	—	—	—
Deaths		—					—			
Erysipelas			36	5	—			36	5	[illegible]
Deaths		—					—			
Infective enteritis or diarrhoea under 2 years				58					14	
Deaths	59	11	4	14	3	40	7	17	4	—
Measles*	3,475	153	81	32	2	2,401	90	58	135	20
Deaths	3	—	1	—	—	1	—	1	—	—
Ophthalmia neonatorum	65	3	18	—	—	82	7	12	—	—
Deaths										
Paratyphoid fever	9	—				4	—	1(B)	—	—
Deaths	—	—				—	—	—	—	—
Pneumonia, influenzal†	350	21	4	1	2	374	18	—	—	
Deaths (from influenza)	5	—	—	—	—	13	1	—	1	—
Pneumonia, primary			134	11				159	18	
Deaths		12		11	8		25		4	2
Polio-encephalitis, acute	1	—				2	—			
Deaths		—					—			
Poliomyelitis, acute	16	—	—	2	1	6	—	3	—	—
Deaths		—					—			
Puerperal fever		4	13		—		2	13		—
Deaths										
Puerperal pyrexia‡	133	8	14	4	3	143	7	9	2	2
Deaths		—					—			
Relapsing fever	—	—			—	1	—			—
Deaths										
Scarlet fever	1,254	74	191	14	19	1,461	56	178	24	54
Deaths	1	—	—	—	—	—	—	—	—	—
Smallpox	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Typhoid fever	9	1				21	1	3	14	—
Deaths	—	1				1	—	—	—	—
Typhus fever	—	—	—	—	—	—	—	—	1	—
Deaths				—	—				—	—
Whooping-cough*	1,158	49	21	20	8	2,157	139	38	50	8
Deaths	8	—	—	1	1	13	—	1	—	—
Deaths (0–1 year)	295	38	35	24	16	269	31	64	24	15
Infant mortality rate (per 1,000 live births)										
Deaths (excluding stillbirths)	3,878	531	510	149	117	3,971	756	606	161	110
Annual death rate (per 1,000 persons living)			11·6	9·6	§			13·9	10·4	§
Live births	7,055	835	907	456	321	7,500	768	956	390	289
Annual rate per 1,000 persons living			18·1	29·4	§			19·4	25·3	§
Stillbirths	209	12	33			212	17	35		
Rate per 1,000 total births (including stillborn)			35					35		

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

‡ Includes puerperal fever for England and Wales and Eire.

§ Owing to movements of population, birth and death rates for Northern Ireland are still not available.

Letters, Notes, and Answers

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: *Aitiology Westcent, London.* ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated.

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ANY QUESTIONS?

Paronychia of Toe

Q.—*A patient aged 72 has been plagued with recurring paronychia of the great toe. He has to go on working, but often in misery and fear of chance blows, etc. Suggestions short of surgical procedure would be welcomed.*

A.—The first thing to do is to exclude or to detect any constitutional disorder. Test the urine for sugar, make sure there is no chronic renal lesion, and examine the peripheral arteries, for there is a possibility of a deficient circulation to the toes.

If constitutional disease can be excluded, the symptoms point to a paronychia constantly recurring owing to the irritation of the edge of the nail—the rather badly termed "ingrowing toe-nail"; in such cases there is a chronic infection of the sulcus between the nail and its fleshy surroundings. Unless this infection be eradicated recurrence of the paronychia is certain. Since the questioner excludes surgical measures, one must place reliance on the application of substances which combat the infection. Great benefit may follow the local application of tincture of iodine once a day. Insufflating the part with sulphanilamide powder, or with a powder made up of a mixture of sulphonamide and penicillin, will certainly offer a good chance of cure. Fomentations should not be applied. It is relevant to add that the certain cure of the condition may be brought about by the minor operation of removal of half the nail together with the underlying nail-bed under local analgesia. This operation if done expertly causes no shock and very little discomfort.

Contraceptive Methods

Q.—*Being about to return home after six years in the Army, I would like guidance on contraceptive methods. In my previous experience a condom is unsatisfactory, and a chemical contraceptive not very safe. A "Dutch cap" must presumably be fitted by an expert. If the latter is used, should the woman douche the vagina after 8 hours before removing the cervical cap? I shall be grateful for advice.*

A.—The only safe contraceptive method consists of barrier plus chemical. No cap or chemical used by itself is safe. The combination, however, gives a very high degree of safety—probably about 98%. The woman must use the method, which must be provided by a doctor understanding contraceptive technique. Such advice can be obtained from a doctor specializing in these matters, or from a clinic. A list of all the clinics in the country can be obtained from the Family Planning Association, 69, Eccleston Square, London, S.W.1, who also are frequently able to suggest the name of a doctor known to be knowledgeable in these matters and residing in an area where there may be no clinic. As a last resort, the F.P.A. endeavours to give help by post, but this usually consists in recommending the use of a condom, together with a suitable soluble, or occasionally the use of a sponge and condom, or even sponge and chemical. These latter methods, however, all have aesthetic objections and are liable to fail. It is also difficult to assess the relative size of sponge needed by the woman. The condom does certainly interfere with the satisfactory performance of the act and is one of the causes of inability to obtain orgasm, and, indeed, in some cases prevents effective erection on the part of the man. There is no soluble pessary effective enough to be used by itself. All have a failure rate. If a woman is using a cap and a soluble, it should remain in position for 8 hours and then be removed. Douching is contraindicated.

Those medical officers consulted by men who are returning from abroad after a long absence, and who are concerned about their marriage problems, would be well advised to refer these men to the Marriage Guidance Council, 78, Duke Street, London, W.1. The Council has expert advisers who can deal practically with the various problems of marital adjustment, including, where necessary, effective contraceptive advice.

Hyperhidrosis of the Palms

Q.—*A case of severe hyperhidrosis affecting the palms of the hands has not responded to astringent lotions, x-ray treatment, and calcium injections. What more can be done?*

A.—Hyperhidrosis of palms is the result of an emotional disturbance and calls for investigation along those lines. As a palliative, puddling in a 10% solution of sodium hexametaphosphate night and morning or the free use of the following dusting powder is helpful:

Acid. salicyl. 2%.
Sod. hexametaphosphat. 5%.
Zinc. oxid. }
Talc. } āā ad 100.
Acid. bor. }
Ft. pulv.

Protection of X-ray Workers

Q.—*What are the Home Office regulations regarding the protection of x-ray workers in industry? A local firm is using an x-ray plant for inspection purposes, and I understand that periodic blood counts and examinations are required. Is a plain blood and leucocyte count sufficient, or is a differential count necessary?*

A.—There are no formal Home Office rules governing the protection of *x*-ray workers in industry. The general precautions to be adopted by all *x*-ray workers with regard both to protection of the equipment and that to be embodied in the rooms housing the equipment, also the general rules governing the safety of personnel, are covered by the recommendations of the International *X*-ray and Radium Committee, copies of which can be obtained on application to the General Secretary, British Institute of Radiology, 32, Welbeck Street, London, W.1.

On the other hand, the Chief Inspector of Factories exercises rigorous supervision over *x*-ray laboratories in industrial organizations, and his recommendation is that workers shall carry small pieces of film in the course of their work; these are to be forwarded to the National Physical Laboratory at regular intervals for assessment of the amount of radiation received by each individual worker. The films and conditions governing their use may be obtained by application to the Director, National Physical Laboratory, Teddington, Middlesex. Differential blood counts are necessary in the case of all workers in radiological industrial laboratories, and they should be carried out at least twice a year. Most industrial firms using *x*-ray methods of inspection employ a consultant to advise them with regard to suitability of equipment and general questions of protection.

(See also questions and answers in Sept. 23, 1944, p. 422, and April 1, 1944, p. 480.)

Hepatitis Mortality Rates

Q.—*What are the mortality rates of infective hepatitis and homologous serum jaundice?*

A.—Mortality rates in epidemics of infective hepatitis have ranged from 0.13 to 0.44%. In the outbreak of homologous serum hepatitis in the American Army the mortality rate was 0.24%. In some small epidemics of infective hepatitis and of homologous serum hepatitis the mortality rate has appeared to be somewhat higher. The rates given should be considered as approximations owing to the difficulties of ascertaining the true number of deaths and of cases. It should also be noted that no allowance is made for differences of age and sex distributions in the deaths or cases.

Penicillin Inhalation

Q.—*A patient aged 51 has daily attacks of asthma. He spits a large quantity of sputum. Tubercle bacilli not present, but streptococci and other cocci numerous. Culture yields Str. viridans in abundance, haemolytic streptococci, non-haemolytic streptococci, Staph. aureus, all in moderate quantity. Would penicillin be useful in this case?*

A.—There are two necessary conditions which must be fulfilled before penicillin treatment of any infection is likely to be successful. They are: (1) the organisms causing the disease must be penicillin-sensitive; (2) there must be adequate concentration of penicillin at the site of infection. Although the organisms mentioned as being present in the sputum of the case described above are likely to be penicillin-sensitive, this must first be confirmed, and this is especially important in the case of the non-haemolytic streptococci, many strains of which are resistant. The second condition would be very difficult to fulfil in the treatment of the case described. Intramuscular penicillin in such cases has proved very disappointing. If a bronchogram demonstrated the existence of a localized bronchiectasis, penicillin solution 10,000 units per c.cm. instilled daily into the trachea, as for a lipiodol examination, might be of value. If no localized bronchiectasis is present, a bactericidal mist containing penicillin as described by Mutch and Rewell (*Lancet*, 1945, **1**, 650), and breathed by the patient, would be the most hopeful line in penicillin therapy. Benefit, however, would probably be only temporary, and the technique is still in the experimental stage.

Sclerosing Solution for Inguinal Hernia

Q.—*What is the technique of treatment of inguinal hernia with sclerosing solutions? What complications occur, especially in the male? What is the relapse rate? Following failed treatment by injection, is operation made any more difficult?*

A.—Many solutions are recommended. As good as any is:

Butyn, 8 grains
Quinine and urea hydrochloride, 4 drachms
Sol. methylene blue 2%, 5 minims
Distilled water to 4 ounces.

Two c.cm. are used at a time and injected into the inguinal canal, starting at the internal ring. With the index finger of the left hand invaginating the scrotum lying in the inguinal canal, the needle can be directed with the right hand into the various parts of the canal. Injections take place every week for 12 weeks or even longer. At no time during treatment should the hernia be allowed to come down, as this would tear open the scar tissue built up by the injections. A waterproof truss should be worn day and night and even while bathing. The percentage of cures is claimed by Ignat Meyer, who originated the treatment in America, at practically 100. In spite of this the method is very slow to be adopted, probably because of the length of treatment. Subsequent operation is naturally more difficult, but not insuperably so. The main complication is an accidental injection into the sac or peritoneal cavity, with a brisk chemical peritonitis. Testicular atrophy is not recorded, but is a possibility. Infection of the injected area is very uncommon.

An alternative solution is that in general use for sclerosing haemorrhoids—5% of phenol in almond oil in 2-c.cm. doses.

Emulsifying Bases

Q.—*What is the formula of Halden's emulsifying base? Is the unguentum aquosum (B.P.) an emulsifying base, and, if so, can liquids be added to it? What is eucerin? Please suggest a useful all-round emulsifying agent, especially for scalp ointments.*

A.—Halden's emulsifying base (H.E.B. simplex) contains liquid paraffin, petroleum jelly, higher fatty alcohols, and their phosphated esters. It is freely miscible with water, and is recommended as an ointment base for all purposes. As it also mixes with exudates it is a suitable application for moist surfaces. Eucerin, a lanolin derivative, forms a stable emulsion with aqueous solutions up to 200%. Because of its hydrophilic nature it provides a suitable base for ointments used, for example, on moist mucous surfaces. Unguentum aquosum is a combination of the ointment of wool alcohols and water in equal parts (*B.P.*, Sixth Addendum) and is an alternative to petroleum jelly. The needs of the individual case decide the kind of ointment base or emulsifying agent required, and as these vary in accordance with differing circumstances no all-round emulsifying agent can be suggested.

Relative Infertility in Female

Q.—*What are the latest treatment and lines of investigation for relative sterility? A woman 39 years old has been married some 8 years, had a miscarriage at a few months 4 years ago, and since then has not conceived.*

A.—As a result of recent work on sterility, the investigation and treatment of such cases have become extremely complicated. The following routine is carried out in most clinics in this country. The fertility and potency of the husband are first established, and it is discovered if coitus is normal. A general examination of the wife is then made, to determine if there is any obvious general disturbance of the endocrine system. This is followed by a pelvic examination to exclude gross pelvic lesions, and examination of the cervix with a speculum to exclude any cervicitis; this is treated, if present, by cauterization. Next, the patency of the Fallopian tubes is tested by insufflation with carbon dioxide gas or iodized oil, the latter being followed by an *x*-ray examination of the pelvic organs. This test should be performed about 10 days after the onset of the menstrual period. If the tubes are patent a biopsy of the endometrium is taken with a suction curette, and without anaesthesia, a day or two before the expected onset of menstruation or on the first day of the period. Examination of the section thus obtained will provide evidence of ovulation.

If facilities for these tests are not available two possible lines of treatment may be suggested. Coitus should be timed so as to take place during the most fertile period in the menstrual cycle—that is, about the time of ovulation. This time may be estimated roughly by assuming that ovulation takes place about 15 days before the onset of the next menstrual period. It has recently been suggested that the time of ovulation may be estimated more accurately b taking the body temperature daily. It has been claimed that a brie fall of body temperature, followed by a rise, occurs at this tim It is recommended that the body temperature be taken per rectu (though some say that mouth readings are equally satisfactory before rising or taking any food or drink, in the morning. A similar, though sharper, fall of temperature precedes the onset o menstruation, but this does not take place if conception has occurre

Endocrine products are now widely used in the treatment o sterility, and the following scheme of treatment may be recommended. In a patient with a relatively regular 28-day cycle, follicle stimulating hormone from the anterior pituitary (usually derive from the serum of pregnant mares) may be given on the 8th, 10th and 12th days of the cycle, or a preparation containing a combination of follicle-stimulating and luteinizing hormone may be use and is claimed by some to be more effective. In addition, corpu luteum hormone (progesterone) may be given in doses of 5 mg. o the 19th, 22nd, and 25th days. If conception occurs, this may b continued twice weekly or oftener for the first three or four month of pregnancy.

LETTERS, NOTES, ETC.

Piling Pelion upon Ossa

Mr. W. **BARCLAY** (Huddersfield) writes: The series "Letters, Note and Answers" is usually interesting and instructive. The questio and answer on injury from mine explosion (*Journal*, July 21, p. 106 are certainly in the former category, and possibly in the latter, thoug not in the way intended by the respondent. I suggest that in futur you obtain answers to such questions from a member of the profession who (1) knows that "os calces" is not the plural of "o calcis," (2) has some knowledge of Newton's law that action an reaction are equal and opposite, (3) can stick to the point. I, ala can make little claim to learning, but, seriously, a reply such a this one is a reflection on the preliminary education of the write (and of the subeditor who passed it) and strengthens the opinio of the many (both inside and outside the profession) that the profession of medicine no longer deserves the title "learned."

⁂ H. W. Fowler defines pedantry "as the saying of things i language so learned or so demonstratively accurate as to imply slur upon the generality, who are not capable or not desirous of suc displays." To describe the heel bones as "ossa calcium" would we believe, be misleading as well as pedantic; and to escape thi verbal dilemma by writing "ossa calcis" would lead us int anatomical ambiguities. "Os calces" is an indefensible compromis which nevertheless has the attraction of simplicity and is likely t convey to the generality just what is meant. "Piling Pelion upo Ossa" was the Greek equivalent for "laying it on thick," Oss being a mountain in Thessaly between Pelion and Olympus.—ED *B.M.J.*

The Acquisition of Language by Infants

Dr. J. **WALKER TOMB** (Sydney) writes: In the *British Journal o Psychology*, July, 1925, I published a short article on the innat capacity of infants to understand spoken language. In that articl I endeavoured to establish that, in order that an infant may acquir the faculty of language, four things are essential: (1) It must b able to hear. (2) It must possess the gift of auditory memory t be able to recall the speech sounds used in its hearing. (3) It mus possess the necessary organs of articulation to enable it to reproduce the remembered sounds. (The development of the organs o articulation is normally a protracted process extending over sever years; *vide* Sheridan, *Journal*, May 19, p. 707.) (4) It must posses the innate capacity (which is a function of the subconscious intelligence) to attach the *intended* meanings to the spoken sounds. Th first three of these essentials (hearing, memory, and the organs o articulation) are possessed by parrots, which nevertheless neve acquire the faculty of language, because they lack the fourth essential—i.e., the capacity to attach the intended meanings to spoke sounds.

Types of Syringe Needles

Mr. S. J. **EVERETT** (Thornton Heath) writes: I have had my attention drawn to the extract printed in the *Journal* of June 30 (p. 932 answering a query from one of your readers. I am writing to yo as chairman of the committee sitting under the auspices of th British Standards Institution, who are considering the standardization of hypodermic equipment generally. The answer to the quer is a little ambiguous, as it is rather inclined to suggest that th committee have agreed the range of needles reproduced in th answer to the query. It also mentions Record, Luer, and S.I.M.A as being the standard cones. I think attention should be drawn t the fact that, whilst this part of the answer gives the present mos widely used standard, this has no relation whatsoever to the recommendations put forward to the British Standards Institution, whos findings have not yet been made public.

BRITISH MEDICAL JOURNAL

LONDON SATURDAY AUGUST 18 1945

TRIAL OF WHOOPING-COUGH VACCINE IN CITY AND RESIDENTIAL NURSERY GROUPS

A REPORT TO THE MEDICAL RESEARCH COUNCIL

BY

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(Emergency Public Health Laboratory, Oxford)

AND

MARY FISHER, M.R.C.S., D.C.H., B.Sc.
(Public Health Department, Oxford)

During the years 1942 to 1944 an attempt was made to assess the prophylactic value of a pertussis vaccine by comparing the fate of inoculated children with that of control children. In Oxford City the trial was run in conjunction with the Public Health Department; it comprised 327 inoculated and 305 control children, who were followed up for over a year after their last inoculation. During this time only sporadic cases of whooping-cough occurred. From Nov., 1942, onwards small but similar groups of inoculated and control children were observed in eight residential nurseries for evacuees. In four of these nurseries (Nos. 1, 2, 5, and 8) an epidemic of whooping-cough occurred some time after the inoculations were completed, enabling the experience of the two groups to be compared. The outbreak at one of these nurseries (No. 1) has already been reported (McFarlan and Topley, 1943), but for the sake of completeness it is included with three other outbreaks at Nurseries 2, 5, and 8, to be described now. The present report summarizes the evidence obtained using a total (English) dosage of 40,000 million organisms in Oxford City and two residential nurseries (Nos. 1 and 2), and a higher dosage at two other residential nurseries (Nos. 5 and 8). The investigation was carried out under the direction of the Whooping-cough Subcommittee of the Infectious Diseases Committee of the Medical Research Council.

The vaccine was prepared by Messrs. Burroughs Wellcome and Co. For the vaccine used in Oxford City and residential Nurseries 1 and 2 a mixture of three strains of *H. pertussis* in Phase I was employed, each of which had been grown for 3 days at 37° C. on a Bordet-Gengou medium containing 33% of horse blood. The growth was suspended in 0.5% phenolized distilled water, the function of the water being to lyse the horse-blood corpuscles in the vaccine. The suspension was filtered through muslin and allowed to stand for 7 days at 4° C. The haemolysed supernatant fluid was then discarded and the deposit washed once in 0.5% phenolized saline. The vaccine was suspended finally in 0.5% phenolized saline and standardized by Brown's opacity tubes to a calculated strength of 20,000 million organisms per ml. No heat was applied to the vaccine at any stage of the preparation; the organisms were both killed and preserved with 0.5% phenol. In the vaccine used at residential Nurseries 5 and 8 the organisms were killed and preserved with 1:10,000 merthiolate; in all other respects the preparation of the vaccine was the same as for the earlier batches.

It is important to point out that the methods used for the standardization of vaccines in this country and the United States yield grossly discrepant results. The reason for this need not be discussed here. It is sufficient to draw attention to the difference, which is clearly of importance in assessing the results of comparative trials in the two countries. Observations made at the Wellcome Physiological Research Laboratories (for an account of which we are indebted to Dr. H. J. Parish) showed that the Wellcome vaccine, stated on the label to contain a given number of organisms, was about four times as turbid as that of a Parke Davis vaccine from Detroit having the same labelled strength. Prof. G. S. Wilson (personal communication), who, in this laboratory, compared a number of batches of the Wellcome vaccine with batches of the Parke Davis vaccine, using both turbidity estimations and direct enumeration of the organisms in a Helber chamber under dark-ground illumination, found that by both methods the Wellcome vaccine was over three times as strong as the Parke Davis vaccine.

TABLE I.—*Methods of Inoculation and Time Relation to Whooping-cough Cases*

Place of Trial	Method of Killing and Preserving the Vaccine	Volume given at Inoculation				Time Interval between Inoculations	Total Dosage in Millions of Organisms*	Date of Last Inoculation	Time of Onset of First and Last Cases of Pertussis	Time Interval: Last Inoculation to Onset of First Case in Epidemic
		Inoculation Number								
		1	2	3	4					
Oxford	Phenol	1 ml.	1 ml.	0	0	4 weeks	40,000	Jan.–March, 1943	Cases observed Mar., 1943, to July, 1944	No epidemic
Nursery 1	„	1 ml.	1 ml.	0	0	„	40,000	Dec. 21, 1942	April 4, 1943, to end of May	4 months
„ 2	„	1 ml.	1 ml.	0	0	„	40,000	Jan. 1, 1943	Oct. 16, 1943, to end of Nov.	9 „
„ 5	Merthiolate	1 ml.	1 ml.	1 ml.	2 ml.	1 week between 1st, 2nd, and 3rd; 4 weeks between 3rd and 4th	100,000	Dec. 30, 1943	April 22, 1944, to middle of July	4 „
„ 8	„	0·5 ml.	0·75 ml.	1 ml.	0·75 ml.		60,000	March 15, 1944	March 28, 1944, to June 6	2 weeks

* As pointed out in the text, the figures given in this column would have been about three times as large if the vaccine had been standardized in the United States.

The vaccine was injected intramuscularly into one or other arm. If A.P.T. was given at the same time it was injected at another site. The volumes inoculated and the time intervals between the inoculations are shown in Table I. The total dosage of about 40,000 to 100,000 million organisms would probably correspond to an American dosage of about 120,000 to 300,000 million.

Although the time interval between the last inoculation and the first exposure of the children to whooping-cough ranged from 2 weeks to 9 months, and although in Oxford City 1 to 6 children in the investigation developed whooping-cough every month up to 18 months after the last inoculation, the number of cases was too small to justify any attempt at correlation between this interval and the incidence of whooping-cough among the two groups. It was not possible to obtain sera from the children for either complement-fixation or agglutination tests.

Reactions to the Pertussis Vaccine.—No severe reactions occurred in the children in Oxford City and residential Nurseries 1, 2, 3, and 4, where a total dosage of 40,000 million organisms was given. It was found impracticable in Oxford itself to get reliable information from the homes, but at each nursery a careful record was kept. At Nursery 1, for example, 10 out of the 12 children inoculated were reported to have had local reactions after their first but not after their second inoculation; only one was at all marked. There were no general reactions. On the other hand, the experience at Nurseries 5, 6, and 7, where another batch of vaccine was given in a total dosage of 100,000 million organisms, was disturbing. The general reactions were so severe as to condemn the further use of the vaccine in this dosage. Each of the 17 children inoculated developed a febrile reaction after the first inoculation. In two children the highest temperature recorded was 104° F. and 104.8° F. respectively, and the pyrexia lasted 7 to 10 days. The remaining children had temperatures of 99.4 to 101° F., which returned to normal in from 1 to 3 days. Pyrexial reactions (99 to 102° F.) followed each subsequent inoculation in all but one of the 14 children who received the full course. At the site of the inoculation the area of redness never exceeded 3 in. in diameter, and was generally less than this; but the local reactions did appear to disturb the children. For this reason when Nursery 8 was visited the dosage of vaccine inoculated was reduced to 60,000 millions; the reactions, however, both general and local, were enough to make the widespread use of this dosage undesirable.

The methods of selection of the inoculated and control groups, the evidence of their similarity, and the experiences of these groups are perhaps best described separately for Oxford City and for the residential nurseries.

The Oxford City Trial

The two series of children were chosen from those who were more than 6 months and less than 3 years of age on Jan. 1, 1943, who normally attended the infant welfare clinics or wartime day nurseries of the Public Health Department, and who had no history of whooping-cough or of inoculation against it. The majority of children had their consent forms signed and the first inoculation given at the same time as a normal visit to the clinic, and often at the same session as an A.P.T. inoculation against diphtheria. The propaganda was carried out not only at the clinics but also by the health visitors, who during their routine home visits persuaded the mothers to bring their children up to the clinics for whooping-cough inoculations. It therefore needed very little effort on the mother's part to have her child inoculated. The control children were chosen from the clinic record cards, which at each clinic were filed in order of the date of first attendance. For every child inoculated, a card was picked at random from the cluster of cards about the same place in the file as that of the inoculated child. The first card picked of a child of the same sex, approximately the same age, and with no history of whooping-cough or inoculation against it, was marked "Whooping-cough Investigation" and the child's name was included in the control group. The inclusion of a child in this group was not determined in any way by the circumstance that its mother had refused permission for inoculation.

The children attending wartime day nurseries were chosen separately. Those eligible in each nursery were divided according to age and sex into inoculated and control groups, using the same methods as described for the residential nurseries. When a child left Oxford or was inoculated against whooping-cough by a general practitioner it was excluded from the investigation. At the end of the period of observation there were 305 control and 327 inoculated children in the series. The nursery population had altered greatly.

Evidence of Similarity.—Some of the characteristics that might affect the incidence of whooping-cough were recorded in the two groups. χ^2 and χ_c tests (Fisher and Yates, 1943) were applied to the data to determine how far the differences in incidence might be considered to be the result of sampling variation. The differences in distribution of (1) number of children in family, (2) number of other susceptible children in family, (3) number attending day nurseries or nursery classes, (4) number suffering from measles before or during the investigation, were in no instance greater than could be accounted for readily by sampling variation. However, the frequency of prior inoculation with A.P.T. was significantly less ($P < 0.005$) in the control group than in the inoculated group (49% in the control group and 73% in the inoculated group had at the beginning of the experiment a history of A.P.T. inoculation). Fifty-one per cent. of the children in the control group and 89% of the children in the inoculated group, who had not received A.P.T. at the beginning, received it in the course of the investigation. Thus the frequency with which inoculated children were brought for A.P.T. remained consistently higher than that in the control group.

Since this difference between the two groups might have a bearing, as an index of maternal care, on the incidence of exposure to pertussis, the effect on pertussis incidence has been carefully investigated. There is a difficulty, in that all but 6 of the 89 inoculated children who had not received A.P.T. at the start of the investigation had received it at the end. In the control group 154 (50%) had not received A.P.T. at the beginning of the investigation, and 76 (25%) had still not received it at the end. Thus it is unlikely that any A.P.T. effect could be established in the inoculated group, and, in fact, the differences in incidence are well within sampling variation. In the control group, in which an A.P.T. effect might have been observed, there is an even smaller difference in relative frequency of the incidence of pertussis. No evidence was obtained that the A.P.T. distribution was relevant to the experiment.

So far as it is possible to judge, it appears that the two series of inoculated and control children were fair random samples of the susceptible Oxford clinic children between 6 months and 3 years of age.

Follow-up Observations.—These children were observed for 12 to 18 months, starting Jan. to March, 1943, and ending March to July, 1944. Observation of the inoculated children was begun 3 to 28 days after their last inoculation. The control children were selected and visited during the inoculation period, and their beginning of observation was made to correspond with that of the inoculated children. The date of the last observation was the date of the last visit to the home. A chart was compiled to show the number of inoculated and control children, and the number of cases of whooping-cough among them, for every month from Jan., 1943, to July, 1944. In no month was there any significant difference in the proportion of inoculated and control children. It follows that the average length of observation per child was the same in the two groups. Owing to shortage of staff it proved impossible to pay regular visits to the home of each vaccinated and control child in the series. Cases or contacts were visited by one of us (A. M. M. and later E. T.) as soon as possible after they were notified to the Public Health Department by the medical practitioners or by the health visitors. The notifications were necessarily often made late in the disease or even weeks later. In only 28 instances was it considered worth while taking a nasopharyngeal swab from a child in the investigation or from a member of its family who had definite whooping-cough. In only six of these cases was *H. pertussis* isolated. During the spring of 1944 each health visitor reviewed the history of every child on her list who was in the investigation, and in the majority of instances made the final visit herself. However, if there was a history of a suspicious cough or of whooping-cough or of contact with whooping-cough, or a special visit was required for further information, one of us made the final visit. In May, 1944, a list was compiled of every school or nursery that was attended by a child in the investigation and from which one or more cases of whooping-cough had been notified to the

Public Health Department. Each of these was visited once, and the teacher or matron told us which children in the investigation had been in the same class or room as a case of whooping-cough, and whether they had developed pertussis. In a few cases notified for the first time a home visit was made.

The evidence obtained by this method of follow-up is summarized in Tables II and III.

TABLE II.—*Incidence of Whooping-cough among Children exposed to a Case in the Same Room of a Day Nursery or Nursery Class in Oxford City*

	Inoculated Children	Control Children
Number of children exposed	29	25
Number of children developing definite whooping-cough after exposure	5	6
Proportion developing definite whooping-cough after exposure	17%	24%

Statistical analysis of these data shows that there are between 5 and 7 chances out of 10 of obtaining greater differences in the observed frequency of whooping-cough in two similar samples drawn from such a uniform population.

Evidence of Exposure to Whooping-cough.—The monthly record of cases showed no evidence of an epidemic during the investigation. A history of exposure to whooping-cough was obtained more frequently from the mothers of inoculated children than of control children. Thus it appeared from the home-visit data that 27 inoculated and 20 control children had been exposed to whooping-cough in the same house for more than one day. A history of less intimate exposure was obtained from the parents of 36 inoculated and only 14 control children. In the nursery classes of schools and in day nurseries (Table II) there was no significant difference in the frequency of exposure. The evidence from mothers whose children had been inoculated might well be more reliable than that of the mothers of the control children, who did not understand their connexion with the investigation. In the nursery classes and nurseries the same teacher or matron observed a large number of children. The teacher generally knew nothing of the difference between inoculated and control children, whereas the matrons had assisted in the original planning of the experiment and understood clearly the importance of treating them alike. For this reason we should be disposed to pay considerably more attention to the data obtained from the nurseries and schools than from the mothers.

TABLE III.—*Incidence of Whooping-cough, Regardless of History of Exposure, Among All Children in the Investigation*

	Oxford City		Residential Nurseries	
	Inoculated Children	Control Children	Inoculated Children	Control Children
Number of children observed	327	305	33	30
Number of cases of definite whooping-cough	41 (30)*	43 (29)*	18 (15)*	19 (19)*
Number of cases of doubtful whooping-cough	10	6	5	3
Proportion of children with definite whooping-cough	12·5%	14·1%	54·6%	63·3%

* The figures in brackets represent the numbers of definite cases of whooping-cough which both whooped and vomited.

Statistical analysis shows that the probabilities of obtaining more widely different frequencies in two samples from the same population are 0.5–0.7 for the Oxford City samples and 0.3–0.5 for the residential nursery samples.

Evidence of Incidence of Whooping-cough.—This evidence is clinical, not bacteriological. Its only claim to uniformity is that the diagnosis was decided by home visits made by the same person, who used the same method of approach to inoculated and control children. The original notifications were, as stated above, made by general practitioners and health visitors. Each health visitor had approximately equal numbers of inoculated and control children on her lists, and appreciated the importance of treating them alike. It can be seen from Table III that the frequency of clinically definite cases of whooping-cough was similar in the inoculated and control groups of children. It is more difficult to assess accurately the incidence of whooping-cough among children with a history of exposure to the disease. We have reason (see above) to doubt whether the mothers of inoculated children gave reports comparable with those from mothers of the controls. For this reason Table II presents the evidence for the incidence of cases among children exposed in nursery classes or day nurseries only. The differences in incidence of whooping-cough—first, between all the inoculated and all the control children, and, secondly, between the small numbers of inoculated and control children known to be exposed to whooping-cough in day nurseries or nursery classes—can be accounted for entirely on the basis of sampling variation.

Although in each case a note was made of the maximum number of whoops per day and the presence or absence of vomiting, the results depended on the, often distant, memory of a wide variety of mothers and cannot be regarded as reliable. Most cases were mild. Only four were complicated by pneumonia—two in inoculated and two in control children.

The Residential Nurseries

The methods of selecting the inoculated and the control groups, the evidence for their similarity, and the experience of these groups will be discussed for all four nurseries together. These nurseries, all in the home counties, are housed in mansions used temporarily for the care of evacuee children. Each is an isolated community cared for by a residential staff. some times aided by daily helpers.

In each nursery every child from 6 months to 3 years of age who had no history of whooping-cough or of inoculation against it was included in the trial. At Nurseries 5 and 8 the upper age limit was raised to 4 years in an attempt to get larger groups of children. The eligible children were divided into two groups of almost equal age and sex distribution. In Nurseries 5 and 8 it also proved necessary to ensure an even distribution of the two groups in the same room or unit—in Nursery 5 because of a suspected case of whooping-cough at the time of the first inoculation, and in Nursery 8 because of the greater degree of segregation. If the mother of a child selected for inoculation refused to give her consent the child was placed in the control group and a corresponding "control" child selected for inoculation instead. In each residential nursery the two groups of children were similar in every respect except inoculation. For months or years they were cared for and fed by the same staff and exposed to the same risks of infection.

When whooping-cough was reported in a residential nursery it was visited at once, and thereafter at weekly to monthly intervals throughout the epidemic.

The evidence of equal and definite exposure to whooping cough was very much more reliable than is possible among children living at home. In each outbreak *H. pertussis* was isolated from at least one child with clinical whooping-cough. At every visit the matron told us of the dates that any child had been moved from one room to another. It was clear that in each of the four nurseries all the selected children had been exposed to a whooping-cough case that had lived and slept in the same room while in the catarrhal and paroxysmal stages of the disease.

The evidence for the occurrence of whooping-cough was also more reliable than is possible among children living at home. The children were observed throughout by the same staff and by the matron, who, each time we visited the nursery, gave us the clinical details which she had collected for all the children in the investigation. The findings are summarized in Table III. The cases were nearly all mild. Two cases in Nursery 8 and one case in Nursery 2 were considered more severe by the matrons. These were control children. The evidence obtained on the maximum number of whoops per day was necessarily less reliable and showed nothing significant. Only one child showed marked loss of weight during the illness. This was a control child who developed a dubious pneumonia. No other complications occurred.

These facts, together with the data in Table III, emphasize the smallness of the figures on which any conclusion from the nursery material must be based. All that can be said is that the difference in the incidence of whooping-cough in the inoculated and control groups can be accounted for entirely on the basis of sampling variation. No satisfactory evidence was obtained that the vaccine was of any value in modifying the course of the disease.

Discussion

The Oxford City evidence has the advantages and disadvantages of a city field trial. These have already been discussed. The results show that the pertussis vaccine in a total (English) dosage of at least 40,000 million organisms did not significantly affect the incidence of whooping-cough. In the residential nursery trials the groups were almost identical in constitution and risk of exposure to infection, and the clinical data were more reliable, but the number of children under observation was necessarily much smaller. The results, however, bear out the findings in Oxford City that the vaccine was of no value in preventing whooping-cough.

Doull and his colleagues (1939) have already recorded results almost as disappointing as our own; but the majority of the reports from the United States and Canada suggest that vaccination against pertussis is effective. Although it is possible to find faults with points in the planning or statistical analysis of some of the trials it is difficult to avoid the conclusion that vaccination conferred some protection. It is noteworthy that most of these trials were carried out in clinic populations in which it is extremely difficult to obtain perfect equalization of the inoculated and control groups, particularly in regard to exposure to infection. In one of the few trials conducted in residential institutions, where a far greater degree of similarity can be attained between the two groups, little or no success was claimed (Siegel and Goldberger, 1937).

Our own results may be criticized on the ground that the vaccine was of insufficient antigenic potency or that the dosage employed was too low. Examination of the data recorded by different observers who have apparently been successful in whooping-cough prophylaxis shows that a wide variety of vaccines has been used, and there is little to suggest that any one method of vaccine preparation is greatly superior to any other. In respect of dosage, we have already pointed out that there is a gross discrepancy between the results yielded by the methods of vaccine standardization in this country and the United States, and that if our vaccine had been prepared in an American laboratory its strength would have been estimated at about 60,000 millions instead of 20,000 millions per ml. It is probable, therefore, that our total dosage was higher than that used in any of the investigations recorded in Canada or the United States. This is borne out by the severity of the reactions that we obtained after inoculation of the larger doses of vaccine.

Since the possibility could not be excluded that the Wellcome vaccine used in our investigations differed in some material way from vaccines prepared in the United States and Canada, it was decided by the Whooping-cough Subcommittee of the Preventive Medicine Committee of the Medical Research Council to carry out a fresh investigation in which a vaccine of American origin was used. Such a trial is now being undertaken in Oxford, under carefully controlled conditions, using a vaccine manufactured by Messrs. Parke Davis of Detroit to the formula of Dr. Sauer, of Evanston, Ill. The results of this inquiry will, it is hoped, be published in due course.

Summary and Conclusions

Over 600 susceptible children of 6 months to 3 years of age attending welfare clinics and wartime day nurseries in Oxford City, and 110 evacuee children of 6 months to 3 or 4 years of age distributed in eight residential nurseries in Oxfordshire, Berkshire, and Buckinghamshire, were divided into "inoculated" and "control" groups by methods designed to render the two groups similar in every respect other than inoculation.

The inoculated children were given either two doses of pertussis vaccine at a 4-weeks interval, or four doses at intervals of 1, 1, and 4 weeks. The total dosage ranged from 40,000 to 100,000 million organisms, corresponding to an American dosage of about 120,000 to 300,000 millions.

Whooping-cough occurred sporadically in Oxford City during the succeeding 18 months, and broke out in four of the residential nurseries 2 weeks to 9 months after the last inoculation.

No significant difference was observed in the incidence or severity of whooping-cough between the inoculated and the control children. In Oxford City 12.5% of 327 inoculated and 14.1% of 305 control children developed definite whooping-cough. In the residential nurseries the corresponding figures were 55% of 33 inoculated and 63% of 30 control children.

The evidence obtained from this investigation lends no support to the view that pertussis vaccine is of value in the prophylaxis of whooping-cough; and it is suggested that the use of this vaccine should be discontinued till some positive evidence of its value is obtained in further carefully controlled trials.

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PROBLEMS OF NAVAL WARFARE UNDER CLIMATIC EXTREMES*

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PART III.—LECTURE II (*continued*)

Psychological Effects of Long Service in the Tropics

A common opinion in the Tropics is that after about a year there is a noticeable deterioration in drive, alertness, keenness, memory, the capacity and speed of thought, and power of making decisions. These symptoms may be accompanied by an obvious lassitude, procrastination, irritability, sometimes bibulousness, and slovenliness in personal appearance. The better-educated are conscious of their own declining efficiency, and they note the same change in others; that is to say, the phenomena are both subjective and objective. The symptoms are popularly ascribed to the climate, whether hot and humid or hot and dry, and the point of view is freely ventilated that one to two years should be the maximum tenure in uncongenial tropical regions.

Since we are waging a naval campaign in equatorial waters, the problem has many important bearings. Medical advice is needed on several points. Do, in fact, changes in intellect or personality follow long tropical residence? If so, what is their nature?; how can they be prevented or alleviated?; what is the optimum duration of tour in the Tropics?

A new-comer may be struck by certain personality traits in some who have served for a time on a tropical station—traits made up of undue irritability, alcoholic indulgence, mild hypochondriacal preoccupation, and a tendency towards paranoid feelings of resentment. Castellani applied the term "cacophoria tropicalis" to a state of lassitude and mild general malaise. Whether actual falling off in performance and intellectual capacity exists we do not know for certain, but we suspect it. To determine the nature of this clinical picture is important. Superficially, the syndrome might strike one as representing a mild dementia with some personality deterioration were it not for the victim's clear insight and the fact that the condition is apparently "cured" after leave at home. More probably it belongs to the realm of the neuroses, with hysterical features motivated by a strong if thinly veiled desire to return home: in other words, a nostalgic reaction.

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One must not assume that hot climate is the sole cause of this picture. The total situation must be visualized. Service factors such as boredom, isolation, lack of amenities including beer and familiar diet, home worries—financial or marital—all these occur and may outweigh the hazards of enemy action. Add the stresses and strains of disordered sleep, fatigue, bodily discomfort (perpetual sweating, skin irritations, diarrhoea, flies); and also the constant association with coloured folk and a growing intolerance of their inexplicable habits.

From a Service standpoint it is important to decide how much of this "tropical neurosis" is due to these auxiliary factors, some of which could perhaps be alleviated, and how much is due directly to climate. Though the literature upon this subject is growing, it is inadequate. Many tropical practitioners who have written upon the matter have not been psychiatrists, while the psychiatrists have not always had tropical experience. Of late there has been a tendency to decry the tropical neuroses and to minimize the part played by climate, as opposed to the many auxiliary factors.

The climatic factor would be supported if one could demonstrate: (1) that the same psychiatric features occur in tropical civilians whose homes and families are on the spot, having elected freely to take up a career in hot climates; (2) that nervous and mental symptoms do not occur when individuals live in artificially cooled quarters in the Tropics or when they have frequent spells up-country; (3) that the characteristics of the clinical picture are unlike those in neurotics at home; (4) that meteorological and clinical fluctuations run parallel; and (5) that the efficiency and the personality of tropical indigenes alter when they emigrate to a cool country. How far are these things possible?

1. It is difficult to escape the conclusion that neurotic symptoms are commoner in the Tropics than at home, though the incidence may be less in civilian than in Service personnel. There is agreement that loss of efficiency does gradually develop in the Tropics with time, that it is improved by leave in hill stations or in the United Kingdom, and that the civilian psychiatric picture resembles that seen in the Forces. That efficiency deteriorates is shown by the practice of the Colonial Office, and various banks and trading concerns, who have found that it pays to make compulsory long and frequent spells of leave at home.

Statistics reveal a high incidence of nervous or mental breakdown among civil servants in East and West Africa. Thus, psychiatric disorder was responsible for one out of every three invalidings from East Africa, and one out of every 2.7 from West Africa. Alcoholism was responsible for one out of every 24 and 30 respectively. (Tropical disease proper accounted for 1 out of 9 and 1 out of 10 respectively.) Of the deaths, 1 in 6 and 1 in 3.8 were directly due to tropical affections in East and West Africa, while 1 in 11 and 1 in 13 were suicides (see Table). These high figures, be it noted, apply to carefully selected Europeans who had chosen a career within the Tropics.

	East Africa							West Africa						
	Invalidings				Deaths			Invalidings				Deaths		
	Total	Trop. Dis.	N.P. Dis.	Alcohol	Total	Trop. Dis.	Suicide	Total	Trop. Dis.	N.P. Dis.	Alcohol	Total	Trop. Dis.	Suicide
1930	25	6	6	1	23	6	2	50	7	21	—	23	5	1
1931	29	3	15	1	24	6	1	48	2	21	4	37	15	3
1932	22	2	7	—	16	5	2	31	2	9	1	13	2	1
1933	23	2	4	—	18	1	3	40	5	12	1	15	6	1
1934	27	2	8	1	16	3	—	41	6	17	1	20	6	3
1935	16	2	3	1	19	6	2	37	4	14	1	15	2	2
1936	24	4	11	2	24	1	1	36	3	12	2	27	5	1
1937	26	2	8	1	22	3	4	45	3	15	1	18	5	1
1938	20	1	7	1	21	1	2	62	5	22	2	29	6	2
1939	18	2	5	1	16	2	—							
1940	11	—	6	1	25	4	3							
Total ..	241	26	80	10	224	38	20	390	37	143	13	197	52	15

N.B.—The cases of alcoholism are included within the totals for neuropsychiatric (N.P.) disorders.

Of 166 psychotic American soldiers in 1901, 120 were stationed in the Philippines and the rest in the United States; the following year the number was 114 out of 186. In 1903 the suicide rate for the U.S. Army at home was 7 per 100,000 and in the Philippines 16 per 100,000 (C. E. Woodruff).

2. No figures are yet available as to the incidence of neurosis before and after the air conditioning of homes and offices in the Tropics, though it has been shown that the output of work is considerably speeded up after the installation of cooling plants.

3. In some respects the tropical syndrome differs from the usual neurotic pattern. The earliest and prominent features of the tropical neuroses are intense irritability, poor memory, and mental and physical lassitude, while the characteristic anxiety and depression so common in our experience at home are much rarer and appear later. Then again, the frank psychoses of the Tropics show a certain bizarrerie in their picture. Nothing like the Malayan *latah* and *amok* can be found in our mental hospitals, though the cause may be racial rather than environmental. The same applies to the *koro* of the Celebes islanders and the *uas-uas* of the Tripolitanian Arabs. But among white troops in the East special clinical entities are sometimes described—the amoebiasis psychoneurosis, the depression of the rubber plantations, the mepacrine psychoses—though in all cases the suggested aetiology is dubious and the status of the syndrome insecure. Queer explosive and violent outbursts with confusion and subsequent amnesia occur on occasion among European troops in the Tropics, but they are not so much attributable to the climate as to the taking of native spirits—*arak, zebib, lagbi,* or *buha.*

4. In tropical and subtropical areas spells of inclement weather may cause great discomfort and exaggerate whatever psychiatric features already exist. This is illustrated by the hot dry winds of high velocity. Dexter noted that Denver school-children were more unruly when strong southerly winds were blowing. The *mistral* of the South of France is said to produce a curious irritable state—*le cafard.* In Libya and the Levant there is the *khamsin,* in West Africa the *harmattan,* and in Malta the *xirocco*—all of which are climatic phenomena directly associated with psychiatric anomalies.

5. When Indians, Chinese, and negroes take up residence in a cooler part of the world their capacity for efficient mental work probably improves. This idea is supported by M. MacKinnon, who has studied the intellectual growth of European children born or reared in Kenya. At first they developed a mental alertness far superior to that of children at home, but after the age of 10 or so a gradual mental exhaustion and deterioration was the rule. These phenomena were in his opinion due to climate—to the stimulating effect of sunshine followed by the ill effects of undue heat. The circumstances were complicated, however, by the high altitude at which the children were living.

Psychological Effect of Long Service in Polar Regions

Naval ratings usually fare better in the extreme north than in the Tropics. Likewise, Scott's Antarctic team found the passage out through hot humid weather more trying than the cold climate which came later. We can, however, descry psychiatric features in the Arctic as in the Tropics, though possibly to a lesser extent. There are affective disorders which one associates with the solitude, darkness, and icy cold of the long polar winters. According to Burton, melancholy might result from lying "in stoves and caves half a year together in Iceland, Muscovy, or under the Pole itself." Explorers have noted these manifestations. We recall the "barrack-fever" of the German Forces occupying the most northerly part of Norway. The Finns speak of a Värtrotthet, or "spring-tiredness," which comes on towards the end of the winter season. Then there is the "light hunger" described in Russia by Katz and the "sun-thirst" of Goethe. It is interesting that depression is the dominant symptom in these Arctic disorders rather than irritability or forgetfulness as in the tropical neuroses. Similarly the incidence of manic-depressive psychosis among the insane population of Iceland far outnumbers that of schizophrenia; the reverse is true of Norway, where the racial stock is similar but the climate different. Mental disorders of the Tropics are reflected in the extreme north by a number of strange psychotic states. Thus we have the *piblokto* of the Greenlanders, with its impulsive features; the Siberian *mirvachet,* with its coprolalia and mimetic symptoms, so similar to the Malayan *latah*; and the Labrador *wihtiko,* with its cannibalistic urges.

Again, we find in the Arctic the same explosive alcoholic episodes which are encountered in the Tropics. Bouts of berserker violence may follow sudden intemperance among the inhabitants of such "dry" countries as Iceland. As regards personality, the indigenous elements of the Arctic regions display apathy, slowness, and inefficiency just as in the Tropics. But the Eskimos and the northern Siberians are said to improve considerably in activity when transferred to a more habitable climate, as in the United States.

The conclusion would seem to be that climate *per se* can at times be held responsible for personality changes, and that it may precipitate neurotic or even psychotic breakdown in certain predilected individuals; that it influences the pattern of the resulting clinical picture; and that it may, as Montesquieu taught, be one of the factors in determining the characteristics of the native population.

From a Service point of view there are certain practical lessons which will serve to avert breakdown of mental health in climatic extremes. These comprise the principles of (1) selection of the suitable and rejection of the unsuitable candidates for Arctic and tropical service; (2) determination of the most desirable limits of stay in such regions; (3) periodic leave periods in equable and agreeable environments; and (4) a complete welfare service in the fullest sense of the term, to maintain the comfort, spirits, interests, and morale of Forces serving in these exceptional circumstances.

Selection of Personnel Best Fitted for Tropical or Arctic Service

Artificial acclimatization has the incidental merit of directing attention to those who are unlikely to endure climatic extremes. Service requirements demand that the question of selection and rejection should be considered more fully. It must be realized that this practice does not yet stand upon the firm basis of an exact science. Further work in this direction is sorely needed not only for Service purposes but also for post-war Colonial development.

Some of the circumstances which cause an examiner to look askance at a candidate for foreign service are more significant than others. The contraindications for tropical and Arctic service may be regarded as either relative or absolute.

Contraindications

State of Physical Health.—Nothing is gained by listing the diseases which would afterwards preclude service in the Tropics or the Arctic, nor those minor and chronic maladies which are apt to flare up and become troublesome under extremes of temperature. This aspect of the problem is fairly well established.

Age.—The elderly do not tolerate heat or extreme cold as well as younger persons, especially if submitted to such a climate for the first time. Many would like to enforce an upper age limit of 35, or even of 30, upon those to be drafted to the Tropics or the Arctic. This may be too drastic, for the older sailor may have endured a hardening process in climates of another sort which may prove a good training for the immediate task. Scott's Antarctic expedition illustrates how well the rather older subjects can fare. His final Polar party consisted of five men, their ages ranging from 28 to 43. In his last letter Scott wrote: "*I want to tell you I was not too old for this job.* [He was 43.] *It was the younger men that went under first.*"

Body Build.—Tropical exigencies are less well tolerated by those of pyknic habitus than by the spare or by the tall lean types. When working in humid atmospheres a big man is perhaps at a disadvantage compared with a small one, for both will produce heat in proportion to their weight and dissipate it according to the ratio of body weight to surface area. Such was the case in S. Robinson's comparison of two subjects, but J. Weiner's analysis of over 200 miners showed only a slight correlation between heat tolerance and surface area. A poor musculature is not a handicap. In the case of cold climates, a generous amount of subcutaneous fat is of benefit, short of a pathological obesity with its attendant circulatory strain. Apart from the factor of fat-insulation, big persons on the whole tend to endure cold better than the small, just as the larger mammals are the ones to survive in the Arctic. Exceptions occur, of course, as in Scott's party, where they found "strength of will" more significant than physical constitution.

Physical efficiency tests might be most helpful if standardized. A step test has proved useful in the selection of recruits, and correlates well with subsequent performance in the heat. The virtues of any selection procedure which reproduces closely the actual conditions of work are obvious, and should be developed further.

Pigment.—There is some relationship between the pigmentation of an individual and his tolerance towards tropical life, though few would go all the way with Woodruff, who said that recruits for tropical Service should be limited to brunettes of short stature—the Mediterranean type, in fact. This same author tried to demonstrate a predominance of the blond in cooler climates and of the dark-skinned in the heat. Regarding sailors as essentially encompassed by a low-temperature environment (which of course is not the case), Woodruff has written: "*The blond type of man is now and always has been the best sailor. He takes to water like a duck . . . he is the yachtsman of the world, the boat-builder, and rules the sea at the present time.*" For Arctic service, cutaneous pigment is unlikely to influence the selection test, despite Woodruff's beliefs.

But certainly tropical Service is not for those who have such congenital defects of pigment as leucodermia. Albinos fare very badly in hot climates, and those rare cases of albinism in coloured people seldom attain adult age. Vitiligo, if sufficiently extensive, is a handicap. Persons who are of excessive or "platinum" blondness, especially if showing a tigroid fundus on ophthalmoscopical examination, are doubtful candidates for the Tropics.

Even the red-heads are suspect by virtue of their cutaneous intolerance towards the sun's rays. It has been said that the French Foreign Legion used to debar such candidates, but considerations other than photosensitivity might have been in mind.

Possible Biochemical Factors.—Experience both in the Tropics and in the far north shows that there are certain rare persons who are conspicuously intolerant of the heat, and others of the cold. Such heat-sensitive and cold-sensitive subjects are not conspicuous to ordinary medical tests; nor do they stand out by virtue of any feature of age, build, or colouring. It would be a convenience, at the very least, if it were possible to devise some test or criterion whereby these rare cases could be identified at home. No such hall-mark is known as yet, though a close physiological study is projected of all naval ratings who are invalided from the Tropics to the United Kingdom as being heat-sensitive. Alterations in the blood lipoid–phosphorus level and in the suspension stability test have been suspected, but not demonstrated, in such cases. It is possible that some inherent dysfunction of the sweat glands or of chloride metabolism, or both, may be a feature of the heat-sensitive. A fairly wide variation in the chloride content of the sweat is known to occur, but no serious attempt has yet been made to correlate the biochemical with the clinical data. The proportion of eccrine to apocrine glands may be significant in this connexion, as suggested by the known racial differences. Still more likely is a link between the total number and distribution of eccrine glands and heat tolerance. Unreadiness to sweat in hot atmospheres may be a factor in determining heat sensitivity. Thus Borchardt closed up 15 subjects for two to three hours in a hot room at 33° C. (91.4° F.), with a relative humidity of 90%. Seven of them sweated much less than the others, and these developed various distressful symptoms, their body temperatures rising considerably. Kuno regards those hypohidrotic persons as probably unsuited for tropical residence.

There are several possible causes of constitutional deficient sweating; there may be a relative insensitivity of the sweat centres in the hypothalamus, the medulla, or the spinal cord; or the sweat glands themselves may be abnormally sluggish in action or too few in number. With regard to the last point, it is important to note that those very rare persons with congenital absence of sweat glands should be absolutely precluded from the Tropics.

Sensitivity towards high temperatures may increase as the result of a previous attack of heat-stroke. For this reason, firms usually transfer an employee to the United Kingdom permanently on his recovery from such an illness.

The phenomenon of cold sensitivity exists in a small proportion of the population. Such display considerable distress and even syncope when exposed to low temperatures which would not incommode the average. B. T. Horton and G. M. Roth believe they can detect such cases in the laboratory. Five minutes' soaking of the hands in water at 8 to 10° C. (46.4 to 50° F.) will bring about flushing of the face, rapid pulse, and a fall in blood pressure. They believe that such can be desensitized in either of two ways: (1) by immersing the hands in water at 10° C. (50° F.) for one to two minutes twice a day for three or four weeks; or (2) by the subcutaneous injection of 0.1 mg. of histamine twice a day for two to three weeks.

An acquired sensitivity to cold may develop in those surviving severe exposure—as, for example, sailors who have been immersed for long periods in the sea or who have been adrift in waterlogged boats. A local hypersensitivity to cold is, of course, one of the characteristic sequelae of immersion-foot.

Psychological Factors.—It is certain that both tropical and Arctic regimes impose a psychological burden which may prove too heavy for some. On the whole, one would prefer the volunteer to the impressed man, though there may of course be a psychopathological motive for electing to serve in adverse climates. The psychopath and the unstable do not withstand the hardships of foreign service so well as those of placid and equable disposition. Those of poor intelligence or educational resource do not tolerate the boredom of some isolated tropical and Arctic appointments. Ratings with a bad crime record either in the Service or in civil life are most unsuited. The older practice of transferring the persistent offender to some remote and uncongenial station in the Tropics has proved intolerable. A previous severe neurotic breakdown is a relative disqualification, while any alcoholic tendencies should be regarded as an absolute contraindication both to tropical and to Arctic service.

Peacetime Implications

Warfare in hostile climatic conditions has compelled scientists to direct their attention towards protecting personnel against the exigencies. The lessons of war medicine hold out considerable promise for the post-war period. One has in mind the enormous expanses of our Empire which are at present underpopulated. The extension of air routes over the North Pole, the mineral resources of northern Canada and the Antarctic, the development of desert Australia and of the West Coast of Africa are problems for the future.

Tropical and Arctic disease are capable of control, and the way is open for further advances along these well-trodden paths. But there still remain the hazards and discomforts of extreme cold and heat. If men must fight in such environments it should be made possible for them to live and work there and raise families without the fear of swelling the "poor white" community.

Of the polar wastes we have the opinion of the explorer, Cherry-Garrard, that the Antarctic "is not half as bad a place for public service as the worst military stations on the Equator." But serious doubt has been expressed as to how far the Tropics can be developed. Balfour has said that under existing circumstances the white man in the Tropics is never more than a wayfarer or a sojourner. The Tropics, according to Carthew, are peopled by only three classes of European—the adventurer, the missionary, and the beachcomber—of which only the last makes the grade. While Dill believes that man can be made to thrive in desert wastes, the hot humid regions near the Equator have been suspected by such writers as Castellani, Huntington, Anderson, and Balfour as being wholly unsuited for European occupation in the present circumstances. Contrary views have been expressed by Cilento, Rohrbaugh, Gorgas, and others. The last believes that if malaria and sleeping sickness were stamped out, then the Congo could be colonized by the white race. The significant phrase is "in the present circumstances," because the eradication of disease, the new insecticides and repellents, air conditioning, and the free use of refrigeration have quite altered the problem of tropical habitability.

We can discern the need for a central Academy of Geomedicine or Climatology, wherein all research—medical and scientific—could be undertaken concerning both extremes of temperature. The fighting Services, colonization, geographical survey, agriculture, industry, communications, housing, would all be concerned. The first function would not be a study of disease states but of the physiology and psychology of performance, growth and fertility, vital statistics, textile research, protection of material against tropical and Arctic deterioration, and a fuller inquiry into ventilation, with a study of the influence of air conditioning upon human oecology. The Admiralty has under consideration the formation of a Tropical Research Unit, which could be regarded as the first move in this direction.

Conclusion

Let us conclude with two quotations as to the possible future development of unpropitious regions. Johnson in 1813, believing that man is better adapted than any other animal for migration from a northern to a tropical region, or the reverse, wrote: "*For this boasted prerogative, man is perhaps more indebted to the ingenuity of his mind than the pliability of his body. . . . Man, by the exertion of his mental faculties, can raise up a thousand barriers round him, to obviate the deleterious effects of climate on his constitution.*" The second quotation is from the geographer, Huntington: "*I want to know beyond question whether white man can live permanently in a tropical country, conquer the diseases, and make progress, without the help or hindrance of any coloured race. . . . I do not doubt the ultimate triumph of the white man over the Tropics, and much less do I despair of a white Australia. The process of selection for climate has never been really tested. All that has happened thus far has been purely fortuitous. The hope of the future, I believe, lies in an orderly and far-sighted selection of the right types of people, as well as in the further development of tropical medicine and hygiene.*"

To these ideas we would now also add the elaboration of an artificial climate in which to live and work.

My thanks are due to the Medical Director-General of the Royal Navy, Surgeon Vice-Admiral Sir Sheldon F. Dudley, for kind permission to publish these Lectures; and to Sir Edward Mellanby, chairman of the Royal Naval Personnel Research Committee, a body to which the Service owes so much, but whose activities cannot as yet be told in full.

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PRESERVATION OF HUMAN SPERMATOZOA AT LOW TEMPERATURES

BY

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Several experiments have been carried out, in the last few years, on the preservation of spermatozoa at low temperatures. This work is clearly in its early stages, but already very significant observations have been made on human as well as on avian and amphibian material. Luyet and Hodapp (1938) reported that a large percentage of frog spermatozoa showed motility after being partially dehydrated in 2 M-sucrose, spread in a thin film on a mica slip, immersed in liquid air, and thawed rapidly by plunging into medium warmed to 20° C. The technique of these authors was similar to one which had been successful with plant tissues, and was based on the assumption that the essential condition for survival of the spermatozoa was instantaneous freezing, to secure vitrification rather than crystallization of the water, and instantaneous thawing. Partial dehydration, by the addition of laevulose, was also used by Shaffner, Henderson, and Card (1941), who found that about one-third of fowl spermatozoa could be revived after freezing at −79° C. Duration of freezing, up to 14 months, was not an important factor in survival rate. Spermatozoa revived after one hour at −79° C. were capable of effecting fertilization; but there was very early embryonic death (Shaffner, 1942).

In view of these results the discrepant experiments recorded in the literature dealing with human spermatozoa are of great interest. As long ago as 1897 Davenport recorded that human spermatozoa would survive freezing at −17° C. This interesting observation received little attention for many years, but in 1938 Jahnel found that a proportion of human spermatozoa could be revived after freezing in glass tubes for 40 days at −79° C., or for shorter periods at −196° C. and −269° C. Jahnel does not state the diameter of the tubes used, but he did not apparently take any special precautions to ensure the utmost rapidity of freezing and thawing. Shettles (1940) froze human semen in glass capillary tubes 0.2 mm. in diameter, and obtained a low percentage revival of the spermatozoa from −79° C., −196° C., and −269° C. A few spermatozoa revived after 70 days at −79° C. Shettles emphasizes the importance of the freshness of the specimen. Hoagland and Pincus (1942), following up the premises of Luyet and Hodapp and using liquid nitrogen, tried an elaborate series of devices to facilitate the instantaneous vitrification and thawing of human semen. However, except in one or two isolated experiments, the revival rate was very poor. No spermatozoa could be revived after vitrification in fine capillary tubes.

The results of Hoagland and Pincus are in strange contrast to those of Jahnel, whose work is not cited by the American authors, and the discrepancy shows that other factors than mere rate of vitrification and thawing have to be considered. From a practical point of view, the question is of some importance. Jahnel's results suggested that the prolonged storage of human semen at low temperatures might be possible; the results of Hoagland and Pincus, on the other hand, offered no such prospect. The experiments described below were therefore carried out on the low-temperature preservation of human spermatozoa.

Technique

Semen was obtained from several different donors; all specimens were rated normal by the usual seminological examination. No marked difference in resistance to freezing was noted between the different samples. The semen was allowed to liquefy before being used, and was not diluted. In experiments with capillary tubes the semen was allowed to rise in the tube and the end was then sealed. Unless otherwise stated, immersion in the freezing medium was always for one minute, thawing being done by transferring the film, tube, or ampoule as rapidly as possible to medium or water at 37° C. Freezing fluids, other than liquid nitrogen (−195.8° C.), were made by cooling ethyl alcohol with solid CO_2. Quart-size vacuum flasks were used as containers.

Results

In a preliminary experiment a comparison was made by immersing semen in liquid nitrogen (*a*) as a thin film in a platinum loop, (*b*) in a very fine capillary tube (internal diameter approximately 0.15 mm.), (*c*) in a coarse capillary tube (internal diameter approximately 0.5 mm.), (*d*) in thin glass tubing (internal diameter approximately 1 mm.). After thawing, no motile spermatozoa were seen in the semen from (*a*) or (*b*); they were abundant in that from (*c*) and (*d*). A repeat experiment gave similar results. It seemed, therefore, that the results both of Jahnel and of Hoagland and Pincus were reproducible, and considerable doubt was cast on the idea that speed of freezing and thawing was the primary factor in the survival of human spermatozoa. A more extended experiment was carried out in which the temperature of freezing as well as the bore of the container was varied. The results are given in the accompanying Table. Although survival at −20° C. was not prolonged, these results give little support to the view of Luyet that freezing under conditions leading to the formation of ice crystals is incompatible with the survival of the spermatozoa, but they confirm the previous result that some inimical factor is associated with freezing in a very fine capillary tube. The nature of this factor is not clear, though a surface effect of some kind seems to be indicated. Pressure as such is not likely to be involved, since Marsland and Rugh (1940) showed that spermatozoa are unaffected by hydrostatic pressure.

Table showing Revival of Human Spermatozoa After Exposure to Low Temperature for 1 Minute or 5 Hours

Temperature	Freezing for 1 Minute in Capillary Tubes of Diameter of			Freezing for 5 Hours in Capillary Tube of Diameter of 1 mm.
	0·15 mm.	0·5 mm.	1 mm.	
− 20° C.	0	+	+	0
− 79° C.	0	+	++	++
− 196° C.	0	++	++	++

0 = No revival. + = Some spermatozoa revived. ++ = Abundant spermatozoa revived.

In view of the successful results obtained with comparatively wide tubing attention was turned to the use of ampoules, and 1 c.cm. of semen was frozen at −196° C. in an ordinary 5-c.cm. pyrex ampoule. On thawing out, numerous active spermatozoa were seen in the sample.

Consideration was then given to more prolonged storage of the vitrified material. Maintenance at −196° C. for any lengthy period was clearly impracticable with the apparatus available. The results given in the Table, however, do not suggest that when 1-mm. tubes are used there is any advantage in vitrifying at −196° C. as compared with −79° C. An experiment extended this conclusion for larger containers, and further showed that transference from −196° C. to −79° C.

had no adverse effect. Ampoules containing 1 c.cm. of semen were therefore vitrified at −196° C. or −79° C. and maintained at the latter temperature for 2 days and 8 days. In each case thawing out showed that an abundance of spermatozoa had survived. A long-term experiment has now been set up, but in view of the work of Jahnel and of Shettles it is fairly certain that under optimum conditions large numbers of human spermatozoa will survive prolonged vitrification.

A much more important and doubtful point is whether vitrification affects the power of the spermatozoon to fertilize and activate the egg and induce normal embryonic development. In the experiments on fowl spermatozoa, quoted above, normal development was not induced after freezing for 1 hour at −79° C., but the partial dehydration before vitrification may have affected their genetic properties. The question is of great interest. Artificial insemination of humans will no doubt become increasingly common, and the elaboration of a method permitting of prolonged storage and transport of the semen without affecting the genetic properties of the spermatozoa would open up remarkable possibilities. It is not obvious how the problem of genetic modification is to be investigated with human material, and it is unfortunate that the spermatozoa of laboratory mammals, including those of the Rhesus monkey, are killed by vitrification under any conditions so far investigated.

Summary

A large proportion of human spermatozoa survive for long periods in semen frozen in bulk at −196° C. or −79°C.

Spermatozoa do not survive when minute amounts of semen are frozen as films or in fine capillary tubes.

The rate of freezing and thawing is not the primary factor in the survival of human spermatozoa exposed to low temperatures.

I am much indebted to Dr. P. M. F. Bishop, Guy's Hospital, for making arrangements with the donors.

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HAEMOLYTIC STREPTOCOCCAL THROAT INFECTIONS: THEIR COMPLICATIONS AND SEQUELS

WITH SPECIAL REFERENCE TO PENICILLIN TREATMENT

BY

P. ROBINSON, M.D.

The British garrison in a small Italian harbour town has recently had a very high incidence of carriers of haemolytic streptococci. No systematic survey had been attempted, but a throat swab from any unselected person not showing in the culture at least a few colonies of haemolytic streptococci was an unusual occurrence. Accordingly the number of admissions for haemolytic streptococcal tonsillitis was considerable—79 cases, including 11 peritonsillar abscesses, in 6 months. A few complications such as pneumonia and scarlet fever also occurred. Along with the streptococcal infection ran a high incidence of erythema nodosum and acute rheumatism—some of the cases developing under our very eyes.

The material may be divided in two groups: the first covers the period Nov., 1944, to Jan., 1945, and comprises 34 cases of tonsillitis, including two peritonsillar abscesses, 3 cases of pneumonia, 1 of scarlet fever, 4 of erythema nodosum, and 6 of acute rheumatism; the second group of patients, treated in Feb.–April, 1945, consists of 43 cases of tonsillitis—including 9 peritonsillar abscesses, 7 cases of erythema nodosum, and 11 cases of acute rheumatism.

Acute Tonsillitis

No special attention at first had been paid to the mild cases. If the temperature did not rise above 102° for more than two days no treatment was given. The throat swabs remained positive in almost every case. An attempt to sterilize the throats in a number of cases through frequent spraying with sulphathiazole powder or calcium penicillin powder failed completely. Cases with pyrexia in the first group were given 20 to 30 g. of sulphathiazole, but the results were no better. Six of the 32 cases returned with a recurrence of their symptoms.

Encouraged by the favourable results achieved by MacGregor and Long (1944) with penicillin pastilles, we introduced them as a routine treatment at the end of January. In preparing the pastilles we followed the technique described by these authors, and gave 10 pastilles daily, 1½-hourly, until the throat became clear. A throat swab was taken on admission, and treatment started at once. Anything between 18 and 46 pastilles was given. On completion of treatment a throat swab was taken again, and the patient was discharged from hospital if it was sterile. No recurrence of symptoms and no complications occurred in this group. The clinical and bacteriological results are summarized in Table I.

Table I.—*Haemolytic Streptococcal Tonsillitis*

	Mild Cases (Temperature not above 102° for more than Two Days)				Moderate and Severe Cases (Temperature above 102° for Two or More Days)			
	No Treatment	Sulphathiazole Spray 4-hourly	Calcium Penicillin Spray 4-hourly	Penicillin Pastilles	Sulphathiazole 20–30 g.	Sulphathiazole 20–30 g. and Calc. Penicillin Spray	Sulphathiazole 20–30 g. and Penicillin Pastilles	Penicillin Pastilles only
No. of cases ..	6	6	6	18	7	7	8	8
Clinical cure in days	4–11	5–10	6–11	3–5	5–21	6–22	3–7	2–9
Average	(7)	(6)	(8)	(3½)	(14)	(13)	(5)	(6)
Days in hospital ..	7–14	7–16	8–14	5–10	8–33	8–30	5–10	4–14
Average	(10)	(11)	(11)	(18)	(17)	(16)	(8)	(8)
No. of patients with positive cultures before discharge ..	5	6	5	0	5	7	0	1

No claim of a permanent sterilization can be made. In two cases of chronic tonsillitis throat swabs remained positive after 88 and 126 pastilles.

Peritonsillar Abscesses

The two patients with peritonsillar abscesses in the first group were given 30 g. of sulphathiazole and inhalations. One recovered in 12 days, but his general condition did not allow discharge from hospital until the 28th day. Repeated throat swabs showed pure growths of haemolytic streptococci. The second was very seriously ill for 3 days and a tracheotomy was considered; he recovered slowly, and left hospital after 26 days. The throat swab before discharge still showed a good growth of haemolytic streptococci.

The results in the nine cases of the second group are summarized in Table II.

Table II.—*Cases of Haemolytic Streptococcal Peritonsillar Abscesses Treated with Penicillin Pastilles*

Patient No.	No. of Penicillin Pastilles Given	Subjective Relief (Days)	Clinical Cure (Days)	Discharge from Hospital After (Days)	Throat Swab on Discharge
1	22	1	3	8	Sterile
2	18	1	2	8	,,
3	40	2	4	9	,,
4	28	2	3	10	A few colonies of haemolytic streptococci
5	32	1	3	8	Sterile
6	36	1	4	7	,,
7	20	1	2	6	,,
8	38	2	4	11	,,
9	42	1	4	9	,,

Erythema Nodosum

The four cases of erythema nodosum in the first group occurred in Jan., 1945, all in patients with mild haemolytic streptococcal tonsillitis—two untreated and two treated with sulphathiazole spray. In one of each group acute rheumatism followed. The rash faded after 8 to 11 days, during which period throat swabs constantly showed a growth of haemolytic streptococci. The erythrocyte sedimentation rate was, and remained, high in the two cases followed by acute rheumatism; and became gradually normal within three weeks in the other two. Five more cases of untreated haemolytic streptococcal tonsillitis developed erythema nodosum at the end of Jan., 1945, when treatment with penicillin pastilles was introduced; they had been given the pastilles as soon as the rash became evident. Two more cases were admitted with a history of erythema nodosum of 1 to 2 days' duration; they also were given penicillin pastilles. In one of them acute rheumatism followed very soon. In all those instances in which penicillin pastilles were given the rash faded and disappeared in 1 to 3 days, and the erythrocyte sedimentation rate dropped from values ranging between 23 and 54 mm. per hour to less than 10 mm. per hour on the fifth day at the latest, with the exception of the one followed by rheumatic fever. All throat swabs became negative within 4 days. All the 11 cases of erythema nodosum had a thorough clinical and radiological examination to exclude tuberculosis.

On two occasions "erythema nodosum" appeared in patients with lobar pneumonia under sulphathiazole treatment. The E.S.R. was 10 and 14 mm. per hour. Sulphathiazole was discontinued, and the rash disappeared within 24 hours. Not a single patient suffering from haemolytic streptococcal tonsillitis and treated with penicillin pastilles developed erythema nodosum.

Acute Rheumatism

Six of our tonsillitis cases of the first group developed rheumatic fever while in hospital; two of them—as mentioned—have also had erythema nodosum. None of the patients treated with penicillin pastilles showed any signs of acute rheumatism. From those admitted with already evident symptoms, 6 were fresh cases and 4 relapses. All but one gave a history of recent tonsillitis, and all throat swabs showed a growth of haemolytic streptococci.

The first six patients were treated with intramuscular penicillin injections. In all but one case pyrexia did not last for more than two days, and the E.S.R. returned to normal at the 14th day at the latest. The swelling remained confined to the primarily affected joints, and subsided in 3 to 10 days. Only one had a clinical course which, though mild, could not be regarded as affected by treatment. Of the patients who were admitted with already developed rheumatic symptoms, 3 fresh and 2 relapsing cases were given penicillin treatment; the rest had the customary doses of sodium salicylate. Two of the primary and one of the relapsing penicillin-treated cases showed the course described above. All the others presented the well-known clinical picture of this disease.

The maximum amount of penicillin given was half a million units. It is noteworthy that three of those patients whose course of illness seemed to have been affected by the penicillin treatment liked the tiresome three-hourly injections immensely and begged us not to discontinue them.

Comment

The superiority of penicillin to sulphonamides in treatment of haemolytic streptococcal infections had been sufficiently stressed by the American National Research Council (1943) and Herrel (1944). The results achieved by Plummer *et al.* (1945) in throat infections with systemic penicillin treatment are better than ours—"Improvement in 8 to 12 hours, fever normal in 24 hours, and all throat swabs negative in 48 hours"—but relapses and complications were frequent unless the treatment was carried through for six days. MacGregor and Long (1944) had good results with penicillin pastilles, but found the treatment of carriers disappointing. The longer duration of illness in our patients as compared with those of Plummer *et al.* may be considered partly counterbalanced by the absence of recurrences and complications and the cheapness and simplicity of the treatment. Our results with peritonsillar abscesses can safely be described as striking; on several occasions the abscesses "melted away."

The relatively frequent occurrence of erythema nodosum is of some theoretical interest. Though there is a tendency to minimize the importance of the "rheumatic" origin as compared with the tuberculous, experimental work has shown that streptococcal nucleoprotein can cause the typical eruptions (Collis, 1932; Coburn and Moore, 1936). Lymphopathia venerea and sulphonamides may also cause "erythema nodo sum." It seems feasible that just as discontinuation of sulphonamides is followed by disappearance of the eruption, s sterilization of the throat with penicillin pastilles may abo or even prevent the development of erythema nodosum.

Though acute rheumatism may follow different infection (Copeman, 1944), the connexion with haemolytic streptococc is certainly common, as shown only lately for the Canadia Army (Feasby, 1944). We are unable to explain by coincidenc alone the benign course of several of our cases treated wit penicillin. This is in contradiction to the conclusions c Watson *et al.* (1944), Herrel and Kennedy (1944), and Foste *et al.* (1944); the last-named author believes even in a deleter ous effect of penicillin. The number of cases reported by thes authors seems to us too small for a definite conclusion.

Summary

Acute haemolytic streptococcal tonsillitis and peritonsillar absce respond well to treatment with penicillin pastilles.

Erythema nodosum following haemolytic streptococcal tonsillit may be aborted, and possibly prevented, by penicillin pastilles.

Some cases of rheumatic fever seem to respond to system penicillin treatment.

I wish to thank Lieut.-Col. J. Pyle, C.O. of the hospital, for pe mission to publish this paper; and Sister K. Keogh, Q.A.I.M.N.S for her valuable assistance in observation and treatment of tl patients.

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TWO UNUSUAL STRESS FRACTURES

BY

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AND

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Stress fracture, as represented by spontaneous fracture of metatarsal, usually the second, was common enough duri the war of 1914–18, but stress fractures of other bones we not recognized as such at that time, and very little was hea on the subject until Roberts and Vogt, in 1939, published cases of "pseudo-fracture of the tibia." Since then stress fra ture—to use the most popular name—has been recognized a variety of sites. That it is a true spontaneous fracture a not a "pseudo" was first demonstrated in one of Hartle (1942) cases, although fracture with displacement did occur one case of Roberts and Vogt's, but there trauma could r be altogether excluded. Now stress fractures have been ported as occurring in metatarsals, fibula, tibia, femur—sh and neck—pubis, vertebrae, and first rib.

In two of the early series of cases published, where the bo involved was the tibia, the average age of the patients w just over 10 years. In all series those affected are alm entirely adolescent or in the early twenties and involved strenuous exertion; though in 1940 Jackson Burrows report a case of spontaneous fracture of the lower third of the fib in a lady of 61 years who had been leading an energetic li It is this almost invariable history of early age and strenu exertion in cases of stress fracture which has prompted us describe in detail the following two cases.

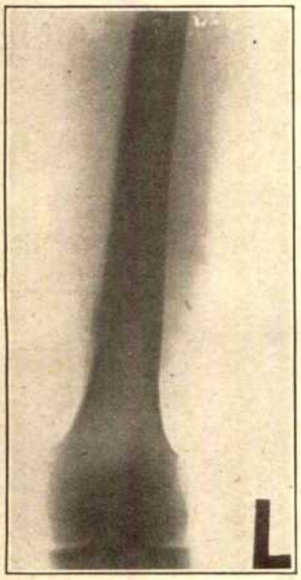
Case I

Miss C., aged 64, housekeeper. She was first seen by one of on Oct. 6, 1944, when she complained of pain in the upper th of the right tibia of one month's duration. There was no hist of injury; her work was not hard and her duties had not va for a number of years. The pain was described as gnawing character, and, strangely enough, was most severe at night, be sufficiently so to keep her awake. On Sept. 27 she had been radiographed at the request of her own doctor, but no lesion was found. Clinically the only positive finding was slight thickening and pitting at the site of pain, and marked osteo-arthritic grating of both knees. *X*-ray examination at this stage showed the early stages of what later proved to be a typical stress fracture. Films taken at intervals revealed all the features of stress fracture, both in its incipient stage and in its progress. The nick in the cortex followed by a clear infraction, with later the typical transverse zone almost right across the shaft, was clearly demonstrated.

The second case is most interesting from the point of view of differential diagnosis, for at one stage the *x*-ray films were so suggestive of sarcoma that a biopsy was performed.

Case II

Pte. T., aged 18. After a strenuous infantry exercise the patient complained of pain in the left knee. There was no history of injury. The pain had been present for some weeks before he was sent to hospital. When seen there it was referred to the knee-joint generally, but more especially to the medial side of the lower end of the femur, where a tender bony-hard swelling could be felt. Full range of knee movement was present. Radiologically (Fig. 1) the swelling was seen to be due to a heaping up of poorly calcified bone in a low broad-based pyramid, and extending along the femoral shaft in both directions from its base was a thin layer of similar new bone. This layer was seen on the medial, anterior, and posterior surfaces, extending practically to mid-shaft. Underlying the pyramid was a region of endosteal new bone extending nearly halfway across the shaft. A cortical nick could be clearly seen in the negative. A tentative diagnosis of stress fracture was made at this stage. The onion-skin layering of the new bone extending along the shaft, however, gave rise to some anxiety. Control films of the opposite femur failed to show any similar changes. The Wassermann reaction was negative, and at no time was there any sign of local inflammation. Ewing's tumour and osteogenic sarcoma were considered, but it was decided to watch the progress of the swelling and take frequent control radiographs.



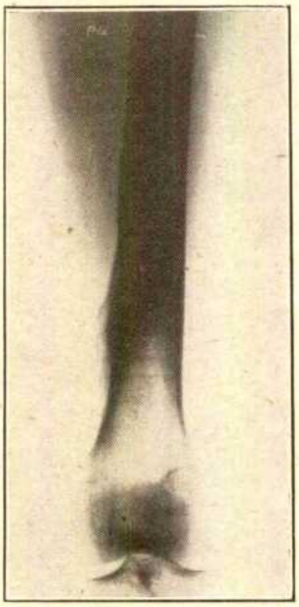


FIG. 1.—Case II. The broad-based pyramid is clearly seen and layering of the periosteum can be made out.
FIG. 2.—Case II. The layering is more clearly seen.

With rest in bed the tenderness and pain diminished, and at the end of three weeks the swelling had not increased in size. Films at this stage showed that the new bone was more densely calcified and better defined. At the end of another three weeks the clinical condition was unchanged, and a radiograph (Fig. 2) showed a further increase in density of the new bone mass, and its outline was smoother.

We now felt that the diminution of pain and tenderness, taken in conjunction with the radiological findings, indicated a healing lesion and almost confirmed our earlier diagnosis of stress fracture; but we were still uneasy about the earlier periosteal changes, and so a biopsy was performed. When the swelling was exposed (D. A. R.)—and this was done easily, there being no infiltration of the surrounding tissues—the pyramid was found to be hard, smooth, and rounded, and it easily scaled off the underlying bone, leaving a smooth normal-looking cortex. A portion of the cortex and underlying cancellous bone was removed. Macroscopically this could not be distinguished from normal bone.

The specimens were examined microscopically by Dr. J. Carr Brundret, who reported the presence of subacute and chronic osteitis compatible with the clinical diagnosis of stress fracture. There was no evidence of Ewing's tumour or sarcoma.

Still later films showed a more calcified new bone which was gradually merging into the normal cortex, and four months after the onset of symptoms the man was discharged to his unit.

Comment

Of these two cases the second is the more unusual, and both clinically and radiologically the more important. The first presents four unusual features—the relatively advanced age of the patient, the nocturnal pain, the absence of a history of strenuous exertion, and the presence of well-established osteo-arthritis; but, apart from that, the behaviour of the case was that of a typical stress fracture, and the diagnosis was never in doubt. Diagnosis was much more difficult in the second case, for while the changes seen radiologically to be taking place within the cortex were those usually associated with stress fractures, the much more widespread subperiosteal changes were very suggestive of sarcoma.

We wish to thank Dr. R. Fawcitt and Dr. J. Blair Hartley for their criticism and help with the films.

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TUBERCULIN TESTING IN CHILDREN

A COMPARISON OF METHODS

BY

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The investigation here reported has been carried out with a view to comparing the sensitivity of children to three forms of the tuberculin skin test: first, the Mantoux intradermal test; second, the Vollmer patch test; third, the diagnostic tuberculin jelly test.

In all, 380 children were tested, of whom 200 did not react to any of the tests. It is with the remaining 180 children that we are concerned. These 180 are made up of two groups of children: first, cases in a sanatorium, diagnosed on clinical, radiological, or bacteriological grounds as cases of active tuberculosis, the lesions being pulmonary, glandular, or in the bones or joints; second, cases attending a children's hospital that were found to be suffering from unexplained cough or glandular enlargement or showed other signs or symptoms giving rise to a suspicion of tuberculosis, or children who gave a history of contact with open tuberculosis.

Technique.—The Mantoux test was performed by the injection of 0.1 c.cm. of 1/10,000 old tuberculin into the skin on the flexor aspect of the forearm, and was read 48 hours after injection. Where this reaction was negative the test was immediately repeated, using 1/1,000 old tuberculin and reading again after 48 hours. The Vollmer patch and the jelly tests were both applied on the back between the shoulder-blades after the skin had been cleaned with aether meth. The jelly was applied in the shape of the letter V, each arm of the V about 1/2 in. long. The jelly was immediately covered by a large patch of elastoplast, about 3 in. by 2 in., extending well beyond the area of skin covered by the jelly; in this way any skin reactions to the elastoplast could be distinguished from reactions to the jelly; in fact, no such reactions were encountered.

The patches used in all the cases here recorded were fresh and from one source. Both patch and jelly tests were read after 48 hours.

Interpretation of Tests.—A positive Vollmer patch test was recorded if the reaction was positive either to human or to bovine tuberculin, or to both. A positive Mantoux was recorded if, after 48 hours, there was a palpable wheal not less than 3/4 cm. in diameter with an area of surrounding erythema. A positive jelly test was recorded where either limb of the V showed wheal formation with surrounding erythema.

Results

The results of the tests on these 180 children are set out in the tables below.

TABLE I.—*Sanatorium Series*

Mantoux Tub. 1/10,000	Vollmer Patch	Tub. Jelly	No.
+	−	−	3
−	−	+	0
+	+	+	31
+	−	+	24
+	+	−	0
−	+	+	0
−	+	−	0
58	31	55 (94·8%)	58

TABLE II.—*Hospital Series*

Mantoux Tub. 1/10,000	Vollmer Patch	Tub. Jelly	No.
+	−	−	54
+	+	−	0
+	+	+	31
+	−	+	16
−	+	+	0
−	+	−	0
−	−	+	1*
101	31	48 (47%)	102

TABLE III

Mantoux Tub. 1/1,000	Vollmer Patch	Tub. Jelly	No.
+	+	+	0
+	+	−	0
+	−	+	1*
+	−	−	20
−	+	+	0
−	+	−	0
−	−	+	0
21	0	1 (4.8%)	21

* The same case.

These figures show that the chance that the results shown in Table III could have been obtained by random sampling of the same population (the same, that is to say, in the degree of correspondence between positive Mantoux tests and positive jelly tests) as that from which those in Table II were drawn is so low as to be negligible. In fact, the cases in Table III were all those which, by not reacting to the Mantoux at 1/10,000, failed to qualify for inclusion in Table II. One child, who is recorded as reacting only to the jelly test in Table II, reappears as a reactor to the Mantoux at 1/1,000 in Table III.

In respect of frequency of positive jelly tests among the positive reactors to Mantoux 1/10,000, the hospital series (Table II) gives a significantly lower figure than the sanatorium series (Table I)—47% as contrasted with 94.8%.

Now, the hospital series as a whole (Tables II and III) might be considered as a mixture of subjects with *developing* tuberculin sensitivity, whereas the sanatorium subjects (Table I) were, by selection, a sample of *developed* tuberculin sensitivity. It is therefore possible that the sensitivity of the subjects recorded in Table I was, on the average, greater than that of the subjects recorded in Table II. On this view the difference in frequency of positive jelly tests in Tables I and II would be interpreted as meaning that a high degree of correspondence between the two tests could be expected only in subjects who showed a positive reaction to the Mantoux test at a considerably higher dilution than 1/10,000.

Discussion

In a communication by Donald Paterson (*Journal*, April 15, 1944, p. 531) an account was given of the testing by Vollmer patch, Mantoux test, and tuberculin jelly of 100 selected children, of whom 32, 35, and 35 were found to be positive reactors to these tests respectively. It was not stated whether the 35 subjects who gave positive jelly reactions were the same as the 35 who gave positive Mantoux reactions, or whether they included the 32 giving positive patch tests, but this is to be inferred from the conclusion that "it would appear that in this series tuberculin jelly was a more accurate method of performing the skin test than the Vollmer patch." With this conclusion the results here presented are in agreement. But Paterson does not state explicitly what strength of old tuberculin was used in the Mantoux tests which he records. Writing of the reaction of the tuberculin jelly, he states that "experience has shown that . . . the reaction is equivalent to that of 0.1 c.cm. 1/100 old tuberculin (intracutaneous Mantoux test)." In the series here recorded we have not used intracutaneous old tuberculin in greater doses than 0.1 c.cm. of 1/1,000, but a comparison of the two tables showing Mantoux tests at 1/10,000 and 1/1,000 would suggest that a series of children who reacted only to 0.1 c.cm. of 1/100 would give a still lower figure of correspondence between the jelly and the Mantoux tests.

Clinical Notes.—Though it is no part of the purpose of this communication to discuss the significance of these reactions to tuberculin, certain points of interest relating to the clinical condition of these children may be noted. As has been said, the positive reactors in the sanatorium series were children who had all been diagnosed as cases of active tuberculosis. Among the children given us to test six were found who did not react to any form of tuberculin. Subsequent reference to the notes on these cases showed that on clinical and radiological grounds they had already been diagnosed as suffering from "non-tuberculous lesions." In the hospital series of 122 positive reactors 24 were diagnosed as cases of active tuberculosis. In 8 of these cases the tubercle bacillus was recovered by gastric lavage; the others showed either typical radiological appearances or pyrexia, loss of weight, chronic cough, enlarged glands of neck, inflamed joint, or gave a history of contact with open tuberculosis. In this hospital series were three cases of miliary tuberculosis with meningitis, confirmed at necropsy. It is interesting to note that all three gave a positive reaction to the Mantoux test at 1/10,000. Only one gave a positive reaction to jelly and none gave a positive patch test. It may be noted that all these 24 cases diagnosed on clinical and radiological grounds as suffering from active tuberculosis reacted to the Mantoux 1/10,000, and in this sense are comparable with the children in the sanatorium series.

Summary

As compared with the Mantoux test, the Vollmer patches used in this investigation appear to be unreliable to the point of being valueless.

The reaction to the diagnostic tuberculin jelly varies markedly in the two series: in the hospital series 47% of positive reactors to 1/10,000 Mantoux reacted to jelly, whereas in the sanatorium series 94.8% reacted. Of the 21 cases that reacted to the Mantoux test only when performed with 1/1,000, one gave a positive reaction to the jelly, and none to the Vollmer patch test. It seems clear that the jelly is a less sensitive test than the Mantoux in the dilutions used here, and is found to be positive only in those cases with a relatively high degree of allergy to tuberculin.

We wish to thank Dr. W. A. Bullough, county medical officer, school medical officer, and chief tuberculosis officer, Essex County Council, and Dr. M. C. Wilkinson, medical superintendent of Black Notley Sanatorium, for allowing us to apply these tests to their patients; and Dr. R. B. Fisher for advice on the statistical aspects of the results.

The annual report of the Professional Classes Aid Council for 1944–5 was presented by the president, Viscount Hailsham, at the annual general meeting held on July 5. The Council was founded in 1914 to meet the needs of professional men and women among whom the outbreak of the last war had caused distress. It was reconstituted in 1921 because of the need for a comprehensive and permanent system of relief for members of the professional classes and their dependants who had suffered seriously from that war and post-war conditions. It is composed of representatives of most of the benevolent funds of the professional associations, and its work is carried on in close co-operation with them. Lord Moran, P.R.C.P., succeeds Lord Dawson of Penn as Patron for the medical profession, and the British Medical Association and the Royal Medical Benevolent Fund are represented by Dr. Henry Robinson and Dr. W. P. S. Branson. The present war has put a heavy strain upon the funds of the Council, with the result that there has been a mounting deficit at the end of each year. The office is at 20, Campden Hill Square, London, W.8.

POST-OPERATIVE VOMITING IN RELATION TO ANAESTHETIC TIME

BY

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General anaesthesia is a temporary pathological state, but with the improvements in methods of administration of the last few decades there is a tendency for light general anaesthesia to be regarded as harmless. On the whole it may be true that no lasting harm accrues from prolonged anaesthesia, but it would appear, from observations made over a period of 18 months on the incidence of post-operative vomiting, that the duration of anaesthesia is a definite factor in the amount of constitutional upset and post-operative discomfort in the patient.

Adult Cases

The cases from which these figures have been drawn were largely (90%) patients undergoing plastic surgical procedures, mostly in the head and neck regions and requiring endotracheal anaesthesia. In a large number operations were performed in and around the mouth and nose, and a few of these patients inevitably swallowed small quantities of blood post-operatively. All the cases in this series had premedication by omnopon gr. 1/3 and scopolamine gr. 1/150 about an hour before operation. Atropine gr. 1/100 was substituted for scopolamine in patients over 50 years of age, and in occasional cases the dose of omnopon and scopolamine was reduced on account of debility or low body weight.

Anaesthesia was induced in every case by pentothal sodium and maintained by nitrous oxide and oxygen. If 75 to 80% nitrous oxide proved insufficient to maintain adequate anaesthesia, supplementary pentothal, ether, or cyclopropane was employed. A 2% amethocaine jelly was used as lubricant for the endotracheal tubes. Anaesthesia was confined to the first plane except in a few instances where bone or cartilage grafts were taken from the ilium or costal margin. Neither of these procedures, however, requires the depth of anaesthesia needed for relaxation in even a lower laparotomy.

No attempt was made to distinguish between degrees of vomiting, nor was nausea taken into account, conclusions being based on the presence or absence of actual vomiting. In some cases observations were complicated by sulphonamide therapy, and in these any vomiting which occurred later than 12 hours after operation was disregarded.

Duration of operation is divided, as conveniently set out in the perforated anaesthetic record cards introduced by Nosworthy (1943), into four classes: (1) less than 1/2 hour; (2) less than one hour; (3) less than two hours; (4) longer periods. Total cases showed a progressive rise in the incidence of vomiting with the duration of anaesthesia (Table I):

TABLE I.—*Time in Hours*

	Under 1/2	Under 1	Under 2	Over 2
Total cases ..	151	349	459	104
Vomited ..	41 (27%)	98 (28%)	199 (43%)	55 (53%)

Divided into sex groups (Table II) the incidence shows an even more marked progressive increase with the duration of anaesthesia; this table also demonstrates a considerable predominance of vomiting among women, as reported by Davies (1941).

TABLE II.—*Sex Incidence*

Hours:	Under 1/2		Under 1		Under 2		Over 2	
	Men	Women	Men	Women	Men	Women	Men	Women
Total cases ..	67	84	229	120	277	182	69	35
Vomited	8	33	34	64	84	115	22	33
„ Men ..	12%	—	15%	—	30%	—	32%	—
„ Women ..	—	38%	—	53%	—	63%	—	94%

In many cases no supplement to the nitrous oxide was required for maintenance; in the others so small a quantity of the additional agent was used that one would expect very little alteration in the figures for the different supplementary agents (Table III). This does not appear to be the case, but the totals on which the percentages are based are perhaps too small to offer satisfactory evidence. They suggest, however, that both ether and, to a lesser extent, cyclopropane increase the incidence of vomiting. The variation with duration is still largely upheld.

TABLE III.—*Vomiting with Use of Supplementary Agents*

Hours:	Under 1/2		Under 1		Under 2		Over 2	
	Men	Women	Men	Women	Men	Women	Men	Women
Pentothal, nitrous oxide, oxygen								
Total cases ..	43	41	116	67	138	76	26	12
Vomited	6	11	15	30	31	45	8	11
„ Men ..	14%	—	14%	—	22%	—	31%	—
„ Women ..	—	27%	—	45%	—	59%	—	92%
Pentothal, nitrous oxide, oxygen, cyclopropane								
Total cases ..	5	6	33	16	46	27	17	20
Vomited	1	3	6	10	12	18	2	19
„ Men ..	20%	—	18%	—	26%	—	12%	—
„ Women ..	—	50%	—	62%	—	67%	—	95%
Pentothal, nitrous oxide, oxygen, ether								
Total cases ..	19	37	80	37	93	79	26	20
Vomited	1	19	13	24	41	52	12	19
„ Men ..	5%	—	15%	—	44%	—	46%	—
„ Women ..	—	51%	—	65%	—	66%	—	95%

It might be argued that the increase in vomiting with increase in duration of anaesthesia is due to the production of slight degrees of anoxia by surgical shock. This may very well be true; but, generally speaking, plastic operative procedures rarely cause any demonstrable degree of shock unless associated with considerable haemorrhage. Care was taken at all times to avoid anoxia, and an adjuvant agent was added or increased in preference to "pushing" the nitrous oxide. Where any factor predisposing to anoxia was suspected the oxygen percentage was increased considerably, and in certain cases, which do not appear in this series, nitrous oxide was omitted altogether.

Child Cases

A most striking contrast to the above is provided by a separate series of 230 endotracheal anaesthesias in children under 10 years of age. The operative procedures, in these cases also, required the lightest of anaesthesia. Premedication consisted of atropine, and children over 2 years of age were given oral seconal or rectal pentothal for basal narcosis. Anaesthesia was maintained with nitrous oxide, oxygen, and minimal ether, delivered to a short side-feed catheter-mount to which was connected a length of corrugated tubing, thus employing Ayres's "T"-tube principle. Vinesthene or cyclopropane was used in most cases to achieve a smooth and rapid induction to a depth desirable for intubation. A high proportion of these patients vomited in the theatre immediately on withdrawal of the anaesthetic, but the figures (Table IV) are based on whether they vomited or not after return to the ward.

Judged on the numbers available, the incidence of vomiting in children does not appear to be significantly altered by the duration of anaesthesia within the range of the periods studied.

TABLE IV.—*Vomiting in Children*

Hours:	Under 1/2	Under 1	Under 2	Over 2
Total cases ..	10	61	143	20
Vomited . ..	2 (20%)	22 (36%)	35 (25%)	6 (30%)

These observations immediately suggest a psychological factor in adult vomiting, but it is difficult to conceive how this can be correlated with the duration of operation. The patient cannot know, unless told, how long the operation lasted, and in plastic surgery cases the amount of after-pain would be a most deceptive guide to the length of anaesthesia.

Summary

A series of over 1,000 cases is examined, and evidence is presented which strongly suggests that the incidence of vomiting after light anaesthesia is materially affected by the duration of anaesthesia in adults, but that this does not appear to be true in children.

I should like to express my thanks to the Director-General of the Ministry of Pensions for allowing this publication; and to Prof. Kilner, Director of the Plastic Surgery Unit, for continual encouragement and advice.

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Medical Memoranda

A Case of Blast Injury

An account of this case is placed on record because of its complex clinical character and its significance in relation to other similar cases which may arise.

Blast injuries have been extensively recognized since the Spanish War, and are due to exposure of the effects of big explosions at close range. The clinical findings are well known and require no recapitulation. A more recently recognized type is that met with in sailors who, while in the water, receive the effect of depth charges. Here the lesions are multiple abdominal injuries varying in severity from subserous haemorrhage to rupture of the bowel. The injuries are associated with severe shock and may present the classical signs of a perforated abdominal viscus. The mortality in cases subjected to surgical treatment is exceedingly high, but this in part may be due to the relatively primitive conditions under which after-treatment must be carried out immediately after a naval action. Similar injuries may be met with during landing operations.

The following report of a blast injury presents several very unusual features—in particular a neurological complication which may be the first of its type recorded.

Case Record

The patient was close to a Japanese grenade when it exploded, and he received part of the force of it. He was picked up unconscious, in which condition he remained for about an hour afterwards. On admission to an M.D.S. he was conscious though drowsy. There were several small wounds on the left arm and leg and the left side of the chest, none of which appeared to be in any way serious. They were in fact the "peppered" small lesions very commonly seen. There was in addition a very profound degree of shock, which did not respond to vigorous treatment to any perceptible degree. This was in no manner accounted for by the visible lesions. Nine hours after injury twitching of the shoulder and neck muscles began. It was severe and persistent, but did not spread. Apart from one vomit described as projectile, no new features developed. When seen 24 hours after injury the patient was still profoundly shocked and not complaining of pain in any part of the body. Examination of the nervous system showed no abnormal signs so far as could be ascertained, except the presence of epileptiform attacks of a Jacksonian type. Lumbar puncture gave absolutely clear fluid at 150 mm. pressure.

The immediate problem was to combat shock and stop the epilepsy. Barbiturates very largely achieved the latter, but the former remained, and death occurred about 72 hours after injury. It may be noted that there was no indication for operation on the head, there being no signs of a space-occupying lesion and careful examination of the shaved head revealing no penetrating injury.

The necropsy findings were as follows: *Brain and meninges* :—Careful search revealed no macroscopic abnormality. Attention was paid particularly to the Rolandic area, and neither haemorrhage nor thrombosis could be seen. The C.S.F. was clear and the ventricular system normal. *Abdomen* :—On opening the peritoneum an area of central peritonitis was seen. This was largely walled off by lymph of recent origin. There was a little pus in the central part and some in the right kidney pouch. The cause was sharply localized gangrene of three sections of the terminal loops of the ileum, each about 3 in. long and matted together. There was no perforation of any of this area, but in places all the coats but the mucosa were split. The state of affairs very closely resembled a mesenteric thrombosis, but the vessels were normal. There was no wound on the abdominal wall or any other pathological condition in the abdomen. All other organs were normal, and there was only minimal sepsis around the wound.

Commentary

The diagnosis was obscure from the beginning, and the injury which gave rise to the symptoms did not present a macroscopic lesion at necropsy, while that which was apparent at necropsy and was the immediate cause of death showed no direct signs or symptoms.

When the patient was seen the diagnosis made was multiple grenade injuries and a cerebral blast injury. The profound shock was considered to be the summation of the original shock plus exhaustion caused by the muscular twitching, though on mature consideration these factors did not appear to be sufficient to produce the degree seen, which was remarkable in itself. The further unsuspected abdominal lesion completed the picture. The aetiology of the abdominal injury was undoubtedly blast. The picture is very similar to that seen in naval cases; the affected portions of the gut were in the central part of the abdominal cavity, most exposed to the effects of blast, and there was no penetration of the abdominal or gut wall. The latter feature explains the lack of abdominal symptoms, for peritonitis would develop only as infection penetrated the bowel wall—a fairly gradual process. The fact that no cerebral lesion was demonstrable is not considered to invalidate the diagnosis: the smallest necessary irritative lesion need be no larger than the few Betz cells involved.

The lessons to be learnt from this case are that blast injuries may arise from relatively small explosions, they may be associated with minimal external wounds, and the effects may be multiple. They should be considered when a patient is shocked beyond the degree expected from the superficial injuries, but full and repeated examinations are necessary—an admittedly difficult ideal in battle conditions. This patient was never fit for operative treatment, but similar lesions are by no means beyond the possible scope of the surgeon.

In conclusion a note might be made that a probable abdominal mortar-blast injury was seen by me. Here the patient was very shocked, though with no external injury. Resuscitation was successful, but for four days he had persistent abdominal pain and distension and persistent tachycardia. Recovery took place after four days, during which time he was in a very much poorer condition than the signs appeared to justify.

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Poisoning by Accidental Drinking of Trichlorethylene

Although poisoning by trichlorethylene fumes is not uncommon it is rarely that one meets a case in which the accidental drinking of this industrial solvent takes places. Two cases are reported below.

Case I

Mrs. H., housewife, aged 29, had had a cold for a few days. At about 6.45 p.m. on Sept. 25, 1944, a neighbour (Mr. M.) suggested she should take a dose of his medicine (℞ Pot. iodid. gr. 2½, ammon. carb. gr. 2½, chloroform water to 1/2 fl. oz.). She drank about half an ounce.

At 7.20 p.m. I visited Mrs. H. in response to a telephone call. She lay on a couch in a coma. Apparently, immediately she had taken the dose of medicine she spluttered. She complained that the smell of the medicine had "gone to her nose," and she had an acute lacrimation. She was given some water, which she vomited, and sneezed about a dozen times. Her legs had gone weak and she had had to sit down, and there was a hammering in the head. The condition quickly passed into unconsciousness. Just previous to the unconsciousness some whisky had been given to her, but was returned in the vomit.

Physical examination showed her colour to be good, there was shallow breathing, and the pulse was of good volume. The heart sounds appeared normal. The pupils were widely dilated and did not respond to light. The limbs were completely flaccid. Reflexes were equal. At 8.15 p.m. the patient roused a little, vomited, and recognized those around her. The odour of her breath was mainly that of whisky, and she complained of frontal headache. She lapsed into a state of drowsiness again, and remained so on and off all night. She herself subsequently did not remember anything of her rousing, and only at midnight did she realize where she was. Progress continued slowly, the main symptom being a frontal headache, which persisted till Sept. 29. Next day she complained of abdominal pain and heaviness in the right subcostal region. Examination showed that there was slight tenderness over the liver, but no enlargement was discernible. Bowels were open normally and the urine was negative in albumin, sugar, and bile. She recovered completely in 10 days.

Case II

This patient, Mr. M., is a fireclay miner aged 47. At about 6.45 p.m. on Sept. 25, 1944, he took a tablespoonful of his medicine out of the same bottle as he handed to Mrs. H. This left about two doses in the bottle, and he had another "taste," which left the bottle nearly empty. He did not feel any ill effects until about 8.40 p.m., although it was observed, without at the time any particular notice being taken of it, that he stumbled a little when approaching my car at the time Mrs. H. was being visited.

At 8.40 p.m. he complained that he felt drunk, and almost immediately vomited copiously. He was found later by his son some time after 9 p.m. in a dazed, helpless condition, and this was taken to be a bout of alcoholic excess. However, the son on smelling the vomit detected the odour of trichlorethylene. He gave his father salt and water, which produced further vomiting. Mr. M. himself remembered nothing until next morning. He was not seen by me until Sept. 26, when he reported that he still felt "swimmy" in the head and weak in the legs. He had a very dry tongue, but there had been no further sickness. He recovered completely in five days.

Comment

It transpired later that the son of Mr. M. had a 10-oz. bottle, containing trichlorethylene for cleaning purposes, similar to that in which the cough mixture was kept, in the same cupboard, the only difference being that the cough medicine had a label giving the directions for taking it and the trichlorethylene bottle had none. This latter bottle was found to be nearly empty. Both contained at the time of the above events about three or four tablespoonfuls of fluid. It was obvious that Mrs. H. and Mr. M. had between them consumed trichlorethylene in place of the medicine. It is possible that the delayed effect in the case of Mr. M. was related to his accustomed daily consumption of alcohol. He drinks on an average about four pints of beer a day. The bottles, in addition to being of the same size, contained a similar colourless fluid with a similar smell.

Kirkburton, Huddersfield. J. A. STEPHENS, M.R.C.S., L.R.C.P.

A Sporadic Case of Trichiniasis

During the war at least three outbreaks of trichiniasis have been described (Sheldon, 1941; Lee, 1941; Garrod and Maclean, 1941; Davis and Allott, 1941; Bacon, 1941), the cause being traced to eating raw or undercooked sausages. The sporadic case now recorded is interesting in its full clinical and epidemiological features, and also in showing a positive intradermal reaction; for the diagnosis of trichiniasis in man can sometimes be tedious and uncertain, especially in an isolated case.

CASE HISTORY

Mrs. A., aged 36, an evacuee from London, was admitted to hospital on March 9, 1945; the illness started on March 5 as a cold with general aching in the body, and with headache, sweating, and shivering attacks. It was thought to be influenza.

On admission she had pronounced oedema of the face and eyelids, the tongue was furred, the throat clear, but there was generalized tenderness of the muscles. Temperature was 103°, pulse 100, and respiration 24. In the chest and abdomen nothing abnormal was detected, and there was no rigidity of the neck. A scalding and burning sensation was felt on micturition, and menstruation had been irregular. She felt thirsty, but had no appetite, and was very drowsy and mentally confused.

Course of the Illness.—The temperature continued at 100–103° for six days after admission; it then fell by lysis: the oedema of the face and eyelids was severe for three or four days and then gradually cleared. Headache in the occipital and bitemporal regions was marked with buzzing in the head, these symptoms disappearing just before the temperature began to fall; the muscular tenderness also remained for several days. Subungual splinter haemorrhages, often characteristic, were not seen. On March 17 the temperature was normal, there were no symptoms, and appetite was returning; and on March 21 she was discharged to a convalescent home. On March 10 her blood urea was 26 mg. per 100 c.cm. A blood count showed a leucocytosis of 15,000 per c.mm., with eosinophilia of 38%. Urinalysis: Sp. gr. 1018; *p*H 5.0; albumin, trace; sugar or acetone, *nil;* centrifuged deposit, a few leucocytes and an occasional red blood corpuscle; no casts or crystals; culture sterile.

Intradermal Test.—Through the courtesy of the Emergency Public Health Laboratory Service Dr. W. D. H. Stevenson, C.I.E., of the Ministry of Health Government Lymph Establishment, kindly sent two ampoules (0.1 c.cm.) of trichina antigen 1:8000; an intradermal test on March 21 (16th day of illness) was negative. The test was repeated on April 17 (43 days after the illness began), a positive reaction being obtained. Almost immediately after the intradermal injection a wheal came up with definite pseudopodia which looked rather like a small starfish, and within about 10 to 15 minutes a zone of erythema surrounded the wheal; the erythema disappeared after a short time, but the wheal remained for several hours; it was about 10 mm. across. The control showed no reaction.

EPIDEMIOLOGICAL NOTE

Mrs. A. ate sausages twice a week—every Tuesday and Thursday; she herself took them uncooked, spread on bread, while her husband and three children ate them well cooked in the usual way. It appears that her mother was told by a doctor years ago to give her underdone meat because she was delicate, and she says she takes other meat rather underdone. The sausages were bought from a small general store which obtained its supplies from a large firm in the South-West; there had been no other complaints, and it was not possible to incriminate any of the pork or any particular batch of sausages. Thus the incubation period could not be obtained, although it is usually stated to be within 7 to 12 days (Beeson, 1941).

My thanks are due to Dr. G. T. Allerton, honorary physician, Torbay Hospital, for permission to publish these notes; to Dr. J. V. A. Simpson, M.O.H., Torquay, for his help and advice; and to Dr. J. Quinlan for pathological investigations.

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Reviews

THE SCIENCE OF NUTRITION

The Science of Nutrition. By Henry C. Sherman, Mitchill Professor of Chemistry, Columbia University. (Pp. 253. 15s.) London: Oxford University Press. 1944.

This book aims at giving a summary and evaluation of the present status of the science of nutrition and its social importance, with the minimum of technical terms and without any demand for a specific training in science on the part of the reader. At the same time it demands curiosity, and is suited to those who appreciate that science is a changing and expanding structure, based on evidence, and does not consist of a series of *ex cathedra* pronouncements such as are common in many elementary books on nutrition. On the whole the book is highly successful. The author stresses how progress depends on carefully controlled experiments and how it moves from qualitative to quantitative knowledge and thence to further advances. Enough history of the discoveries is given to illustrate the nature and the difficulties of this progress.

If the knowledge that has been gained is to be used for assessing and improving human nutrition we need to know the contributions that various foodstuffs make towards meeting the requirements for various nutrients. This is done in a well-balanced account which gives proper recognition to the value of cereals. Having concluded that the main change needed in American diets is to increase the amounts of fruit and milk, the author discusses different methods by which the public can be educated to make these changes and the national nutrition policy involved in making such changes possible.

The one criticism that can be made of the book is that the outlook throughout is that expressed in the last sentence: "The question, What particular thing does such nutritional improvement do? hardly admits of a more specific answer than that it offers us the option of a more liberal term of years of more efficient life with which to do what we will." Abundant evidence is adduced to show that improved nutrition does offer this prospect to rats. But several studies made during recent years have appeared to show that adult human beings are less susceptible to the ill effects of a defective diet than might be expected from animal experiments. It has proved more difficult than was anticipated to demonstrate, in adults, the chronic suboptimal states (as distinguished from the early stages of gross deficiency) that were looked for. Undoubtedly health improves with improvement of the food supply; but in most cases other relevant factors besides food vary with it. Even experimental improvements of the diet of children whose basic diet was not grossly deficient have not had the effects that were hoped for. Doubtless these experiments have been carried out over too short a fraction of human life to show conspicuous results. But the position is difficult, and ambitious promises, made now to peoples in Britain and the U.S.A. as a whole, may lead to disappointment and scepticism later. There remains, however, no doubt that the poorer sections of the population in these countries—and the population of a great part of the world—would benefit enormously if their diet were improved, and it is on this certain improvement that we should concentrate our energies.

DERMATOLOGY AND SYPHILOLOGY

The 1944 Year Book of Dermatology and Syphilology. Edited by Marion B. Sulzberger, M.D. Assistant Editor, Rudolf L. Baer, M.D. (Pp. 544; illustrated. 18s. 6d.) Chicago: The Year Book Publishers; London: H. K. Lewis and Co.

An atmosphere of bellicosity is not supposed to be favourable to the development of medical science, but the editors of this yearbook are of the opinion that military life and the problems of military medicine have given an unusual stimulus to dermatology. There is no doubt of the importance of dermatology in military medicine, for in certain theatres of war skin diseases account for as many as 74% of all men reporting sick, and sometimes as much as 14% of all military ineffectiveness is found to be due to skin disease. As usual the yearbook finds space to mention all the chief items of dermatological progress and observation which have come to light during the year under review, and the utility of the volume is much enhanced by the "jacket-quiz" printed, as the word implies, on the paper jacket but which would perhaps be better included in the permanent volume. It forms a very searching questionary, and there is no doubt that any dermatologist who can pass the examination paper consisting of the twenty questions included in it may consider himself as extremely well read in the literature of the specialty. The next best thing is for him to study the yearbook with due care.

One of the features of this annual is a special article at the beginning by the editors. This year it is on "scratch tests"—an important method of investigation but very difficult to use with accuracy. This article forms an excellent guide to the subject, which is likely to become of increasing importance. In America it is beginning to be used industrially to test the purity of manufactured articles. For example, in the manufacture of certain paper towels formaldehyde is used. This substance may cause dermatitis. In order to make sure that it has been effectually eliminated from the finished article individuals known to be allergic to it are patch-tested with the towels. Proved free from formaldehyde by this means, this brand of paper towels has been used by millions with impunity over several years.

A very interesting subject well discussed in this volume is the treatment of syphilis by means of penicillin. The editors are of the opinion that this drug is going to revolutionize the therapy of syphilis when the disease is treated in its earlier stages, and that it is of great use in neurosyphilis and congenital syphilis, although they very properly enter a caveat against unrestrained optimism, pointing out that penicillin has not yet been long enough available for the formation of final judgment on its antisyphilitic capabilities.

The 1944 volume of the yearbook is well up to the standard set by its predecessors and should be in every dermatologist's library.

TRAUMA AS A CAUSE OF DISEASE

Trauma in Internal Diseases. With Consideration of Experimental Pathology and Medico-Legal Aspects. By Rudolf A. Stern, M.D. Foreword by Francis Carter Wood, M.D. (Pp. 575. $6.75.) New York: Grune and Stratton.

It falls to the lot of almost every doctor at some time to give legal evidence in a case in which the agency of trauma as a cause of subsequent disease is disputed. Anyone perplexed by this duty will find ample guidance in the work entitled *Trauma in Internal Diseases*, by Rudolf A. Stern of New York, which is based not only on the author's evidently large experience of compensation cases but on a thorough study of the literature: the concluding bibliography contains 2,110 references. Illustrative cases are freely quoted; indeed they occupy more space than the arguments based on them. After a chapter on the general principles by which judgment on traumatic aetiology should be guided, and one on "infectious" diseases, the subject is dealt with regionally; diseases of the circulatory system occupy 164 pages, of the respiratory system 160, and of the alimentary 109. The other principal sections, each rather shorter, are devoted to the kidney, metabolic diseases, the endocrines, and the blood and lymphatic system. Cancer is dismissed briefly, the reader being referred to other extensive reviews of this thorny subject.

To those who have not considered the matter before it will seem astonishing that some of the conditions mentioned—such, for example, as acute yellow atrophy of the liver or Hodgkin's disease—could ever have been supposed to be due to trauma. The author is commended in a preface by Francis Carter Wood for not being dogmatic. He has indeed an open mind, but with a bias in favour of the claimant in the sense that he is reluctant to deny any possibility, however improbable. Merely to base judgment on observation is to place oneself at the mercy of coincidence, and possibly of imperfections in the observation itself. The author accepts published records without question, but among the hundreds which he quotes from all manner of sources there are many about which the sceptic will reserve judgment in the absence of further information. Among the least convincing sections is that dealing with pulmonary tuberculosis, since proof of the non-existence of the disease before injury is plainly impossible. That tooth extraction should not be mentioned as a traumatic cause of subacute bacterial endocarditis is surprising, and the author has old-fashioned ideas about the nature of "surgical" scarlet fever and the source of infection in actinomycosis. He rightly observes that to assess the possible significance of trauma is all the more difficult if the aetiology of the disease itself is unknown: there are 100 recorded cases of supposedly traumatic leukaemia.

Whether the reader regards the deliberate credulity of this book as a fault or not, he will find it an invaluable compendium of information on which to base his own judgment. It is also a textbook of a branch of pathology of great interest, particularly in the more matter-of-fact aspects of its subject, such as the extraordinary nature and diversity of internal injuries which may result from violence without penetration.

SINGING AND BREATHING

The Singing of John Braham. By John Mewburn Levien. (Pp. 40; illustrated. 7s. 6d.) London: Novello and Co.

Mr. J. M. Levien, a distinguished teacher of singing, has written a short account of John Braham (1774–1856), who during the first half of the nineteenth century was the leading tenor singer, in which position he preceded Sims Reeves. He made his first appearance at Covent Garden in 1787, and had become famous already before the end of the eighteenth century. His name is now little known to the public, though for many years he kept the position which he had attained so early, and it is evident that as a singer he was unique and without a serious rival. It is recorded that he possessed a compass of twenty notes, and had such a command of *portamento* that he could pass through the whole range by semitones with great rapidity, each note and the joining thread of tone being perfect, so that no break was perceptible when he passed from tenor to falsetto. It is of interest to remark here that the slow-motion film of the cords made by the Bell Telephone Company for Dr. Pressman shows how different is the mechanism of the shortened cords in the falsetto from the movements in the tenor, the difference being clearly defined by the slowing down on the great scale of 1–250—a belated tribute to the power and capacity of Braham.

Mr. Levien has included in this memoir a chapter by Dr. George Cathcart entitled "A Scientific Justification of the Historic Method of Voice Production." In this Dr. Cathcart extols the Italian method of voice production, and challenges the modern fashion of abdominal breathing. He remains a confirmed and unrepentant advocate of thoracic breathing and the art of *bel canto*. The fact is that great singers breathe as Nature prompts them and are not influenced by any deliberate system of breathing; but the considerations which Dr. Cathcart enumerates have a sound physiological basis, though apparently they are not acceptable to most modern teachers. Braham, at all events, was a conspicuously successful exponent of thoracic breathing. The memoir is embellished by several most pleasing illustrations.

Notes on Books

Virtus Diseases in Man; Animal and Plant, by Gustav Seiffert, is an attempt to give an interim survey of the status of virus investigation covering the major research work done since 1933. It is translated by Marion Lee Taylor, Ph.D., and published at the price of $5.00 by the Philosophical Library, 15, East 40th Street, New York, under the auspices of the National Research Council of the U.S.A. The author's aim was to guide those who need closer acquaintance with the literature on the virus problem. His purpose being to provide an introduction to the subject as well as a key to published reports, a chapter on working methods of investigation has been added. The bibliographical references appear seriatim as footnotes to the pages. which number 332, including a brief index.

The Lady Gowrie Child Centres were planned by the Commonwealth Department of Health in Australia to study the health, growth, and development of groups of pre-school children. In six large cities a uniform programme of investigation was carried out, and although it was to some extent interrupted by the war, it has been possible to collect and analyse much of the routine data on such matters as physical defects, nutritional states, posture, and causes of absenteeism. Dr. F. W. Clements and Miss Margaret Macpherson, of the Australian Institute of Anatomy, are responsible for *The Health Record* issued at Canberra by the Commonwealth Government Printer, and this is a publication of great value for all workers in the field of child health.

BRITISH MEDICAL JOURNAL

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FROM WAR TO PEACE

The tremendous happenings of the past week or two call for little commentary in a professional journal whose readers must be full-fed with the news and its implications, both by what they see in the lay newspapers and by what they hear from their radio sets. British medicine has played its part with courage and endurance and has achieved much in many fields of war work. Our profession now shares the general feeling of relief and gratitude, but knows well that the end of hostilities can bring no respite from the task of succouring a torn and distracted world. The months and years ahead call for renewed efforts and for clear thinking by medical men and women, upon whose energy of mind and body the war has levied incessant toll. Hard-pressed as they are, they will rise to this demand in the spirit that has actuated them since 1938. Our profession has suffered many losses in the service of the country, and only a part of these is visible in the official casualty lists. British medicine looks backwards over the seven years with pride for what it has done, and forwards into an unpredictable future with sober determination.

On Nov. 16, 1918, there appeared in these columns, under the heading "The End Crowns All," a leader written on Armistice Day by a master hand. It expressed, in a few words well fitted to the occasion, a number of ideas that were latent in the minds of thoughtful people who had watched that war through medical eyes. It foresaw the heavy tasks that lay ahead but not the ruin of our hopes of lasting peace. Disillusionment came slowly. Within 21 years we were engulfed in another and a far worse "war to end war" which has stretched our profession to the utmost of its powers. Let us pray now in quiet mood that *Finis coronat opus* will prove a truer epitaph this time, and that peace on earth has come to stay for more than a generation. Publicists are saying day by day that if the atomic bomb does not abolish war it will bring civilization down in ashes.

SYRINGES AND SPIRIT

"Supposedly sterile syringes," as they were referred to in an editorial in this *Journal* some years ago, used for the injection of medicaments or immunizing agents, have on many occasions transmitted more or less serious infections. When such disasters occur they are usually attributable to faults in the technique of sterilizing or handling the syringe, and it is well known that methods in common use, although they rarely lead to any serious trouble, are imperfect and involve an element of danger, however slight. There is also much doubt and misconception about the efficacy of different methods of sterilizing syringes. A committee of the Medical Research Council has now produced a memorandum[1] on this subject entitled "The Sterilization, Use, and Care of Syringes." As its title implies, the treatment of the subject is comprehensive: measures to ensure sterility are the principal theme, but there are also sections on the choice of syringes and needles, the care and sharpening of needles, a method of testing syringes for leakage, the organization of a clinic for mass inoculations, and the precautions necessary in employing syringes for certain special purposes, such as tuberculin tests, the withdrawal of blood for antitoxin estimations, and mass intravenous injections.

The first and most emphatic injunction is that syringes used for aspirating septic material or any possibly infected body fluid must never be diverted to an aseptic purpose, such as the injection of a sterile medicament. This is an elementary precaution, the neglect of which caused one of the notorious disasters of recent years. The clue to the efficient use of syringes is to have enough of them, and to have separate ones for these different jobs is the duty of every practitioner. It is then urged that, as there is no known method which can absolutely be depended on to sterilize a syringe except autoclaving or exposure to a temperature of 160° C. in a dry oven, one of these methods should preferably be employed. This is to sound the death-knell of the Record syringe, since the cement at the glass–metal junctions is liable to melt at these temperatures. The memorandum does in fact strongly advocate the universal substitution for the glass–metal syringe of a two-piece all-glass syringe, and refers to a British Standard Specification for such a syringe [B.S. 1263 (1945)] which is now available. The all-glass syringe has another important advantage in being much more easily cleaned; it should have no obscure crevices in which traces of its previous contents may lurk. The ideal policy is undoubtedly to have plenty of such syringes, to encase them in glass tubes, and sterilize them by dry heat. Under the heading of "A Syringe Service for a Hospital" it is advocated that in a large hospital a single department should have the care of all the syringes, cleaning, sterilizing them by this method, and re-issuing them to all wards and other users; it is mentioned that this service has existed in one hospital for some years and worked well. Boiling is given as a second-best alternative; it will not kill sporogenous bacteria unless sodium carbonate is added to the water, "but this practice is not recommended because the resulting alkalinity of the syringe may affect drugs or biological products to be injected." Admittedly the risk of infection by sporogenous bacteria is remote compared with that by pyogenic cocci, but it exists; and both for this reason and because a dry syringe is preferable to a wet one the method is not ideal. The hot-oil method was tested and found to be ineffective.

In order to decide whether any chemical method of sterilizing a syringe is feasible members of the committee found it necessary to supplement existing knowledge by performing *ad hoc* experiments. Their findings are that hypochlorites, phenols, chlorophenols, quaternary ammonium salts, and detergents are "ineffective as disinfectants for syringes, and may damage the material to be injected." The main reason for their inefficacy is evidently that "they cannot be guaranteed to penetrate into the crevices and corners of a syringe in which bacteria may lodge," for the only chemical disinfectant receiving even a qualified recommendation is 70–75% V/V alcohol; and, although this sterilized a two-piece all-glass syringe when it was taken apart, it did not sterilize a glass–metal (Record) syringe under any conditions. It is therefore recommended that the disinfection by spirit should be confined to syringes employed for and by a single patient for the injection of insulin or adrenaline. Many experiments, briefly described in an appendix, were made with spirit, syringes themselves and various other infected test objects being used before this conclusion was reached. This appendix also gives a concise but comprehensive review of what is known about the disinfectant action of alcohol, and of infections caused by injections made with syringes which spirit had failed to sterilize: these include numerous reports, mainly Continental, of cases of gas gangrene. Reference to this appendix should provide the answer to many questions which have been asked about the suitability of spirit for various types of disinfection. The salient points are that alcohol acts best in a concentration of 75% by volume in water, and scarcely at all when undiluted; that it acts only on vegetative bacteria; that it has little power of penetration; and that in general it is a better disinfectant than most for skin but an unreliable one where absolute sterility is necessary, as for instruments.

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[1] M.R.C. War Memo. No. 15. H.M. Stationery Office, 1945. Price 4d.

Further original observations on the disinfectant action of alcohol were reported in the Aug. 4 issue by G. T. L. Archer, with particular reference to its use on the skin. His findings, with six different methods, conform in general to those of previous workers. One interesting point well brought out here which should not be overlooked is that when the skin is moist—and this applies particularly to use in hot climates—undiluted alcohol is effective, and the concentration used should be not less than 80%, owing to dilution with sweat. Archer also studied the disinfectant action of ether on the skin, and found it ineffective, presumably owing partly to the rapidity of its evaporation. Ether is apparently also more active against bacilli of some species than against cocci. There is perhaps something yet to be learned even about the commonest of all everyday acts of disinfection—that of the normal skin preparatory to an injection.

VACCINATION AGAINST WHOOPING-COUGH

The protective effect of bacterial vaccines is notoriously difficult to assess. There is not one of which we can say with confidence that under such and such conditions it will have a given effect on the morbidity or mortality rate. On the whole it looks as if inoculation was of greater value against diseases, like enteric fever and plague, in which there is an invasion of the body tissues affecting particularly the reticulo-endothelial system, than against those, like dysentery and cholera, in which the organisms remain confined to a mucous surface. If this is true of the intestinal diseases it is still more so of the bacterial infections of the respiratory tract. Several attempts on a big scale to vaccinate against pneumonia and meningococcal infection have proved a failure or have yielded inconclusive results. The single exception for which success has been claimed is whooping-cough, and it is therefore all the more necessary to look with care into the credentials of pertussis vaccine.

The early attempts, from 1915 onwards, to vaccinate against whooping-cough were reported on very favourably. When, however, they were repeated, with the inclusion of a non-vaccinated control group, serious doubt arose as to the value of the method, deepening with further trials into almost complete scepticism. Leslie and Gardner's discovery[1] of the phasic variation of *H. pertussis*, and their insistence on the use of Phase 1 organisms alone for preparing vaccine, provided a plausible explanation for the failure of vaccines that had hitherto been made from old rough strains, and pointed the way to a more hopeful approach in the future. Reports on the success of the new vaccine were not long in forthcoming. Madsen,[2] Sauer,[3] Kendrick,[4] and Bell,[5] among others, each carried out large-scale trials which seemed to show that the attack rate was greatly lowered, and that when the disease was not prevented it was rendered very much milder. With such testimonials behind it, pertussis vaccine was accepted with acclamation and took its place, along with diphtheria prophylactic, in the routine preventive measures employed in clinics and children's institutions. Are we really confident, however, about its value? Have the conditions of the apparently successful trials been above criticism? And is there complete unanimity on the fact, if not on the degree, of protection? These are questions that must be answered before pertussis vaccine, like diphtheria alum-precipitated toxoid, receives the full sanction of the Ministry of Health and is issued free to all. Let us take the last question first. There have been reports, both in this country and in the United States, of complete or almost complete failure to protect against whooping-cough by use of the vaccine. Two of the most striking are those by Doull and his colleagues[6] in Cleveland, Ohio, and by Siegel and Goldberger[7] in New York. Doull, whose observations were made at child health centres, took particular care to avoid the numerous pitfalls that attend trials carried out in a clinic population; and Siegel and Goldberger avoided them almost completely by working in an institution where the children were living under similar conditions and were exposed to similar risks of infection. The same cannot be said of many of the apparently successful trials. The great difficulty in clinic investigation is to secure virtually identical conditions in all important respects of the inoculated and the control groups. Special attention has to be paid to the general intelligence and co-operativeness of the mothers; the housing and social conditions under which the children live; the size of the family; the occurrence of previous cases in the family; the frequency, degree, and time of exposure to the risk of infection; and the care with which the children are followed up. None of the four observers we have mentioned who reported favourably on pertussis vaccine appears to have conformed entirely to the necessary requirements. Sauer never had a proper control group; Madsen says practically nothing about his two groups except that they were unselected and were comparable in respect of age, time of epidemic, and surrounding conditions; Kendrick's groups differed in the average size of the family, in the frequency of exposure to infection, and in previous history of whooping-cough; and Bell's observations on his two groups were apparently not started at the same time. That misleading results may follow neglect of these factors is brought out clearly by the experience of B.C.G. vaccination in New York. When vaccine was given to the infants of mothers who accepted the offer, and the infants of mothers who refused were treated as controls, the results of vaccination were favourable. When, however, the element of selection was eliminated by vaccinating infants in alternate rotation, no difference between the vaccinated and control groups was observed.[8]

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[1] Leslie, P. H., and Gardner, A. D., *J. Hyg.*, Camb., 1931, **31**, 423.
[2] Madsen, T., *J. Amer. med. Ass.*, 1933, **101**, 187.
[3] Sauer, L. W., *Amer. J. publ. Hlth.*, 1935, **11**, 1226.
[4] Kendrick, P. L., *Amer. J. Hyg.*, 1943, **38**, 193.
[5] Bell, J. A., *Publ. Hlth. Rep. Wash.*, 1941, **56**, 1535.
[6] Doull, J. A., Shibley, G. S., Haskin, G. E., Bancroft, H., McClelland, J. E., and Hoelscher, H., *Amer. J. Dis. Child.*, 1939, **58**, 691.
[7] Siegel, M., and Goldberger, E. W., *J. Amer. med. Ass.*, 1937, **109**, 1088.

The paper on page 205 by Drs. McFarlan, Topley, and Fisher raises once again the issue of pertussis vaccine. In their earlier investigation McFarlan and Topley[9] restricted their observations to children in residential nurseries, where almost perfect equalization between the two groups could be assured. In their present investigation they included a clinic population as well, taking care to avoid so far as possible the errors to which we have just alluded. In neither investigation did they obtain evidence that pertussis vaccine had any effect on the attack rate or on the severity of the disease. What is the explanation of these results? Their first investigation was criticized on the ground that the dose they were using was too small, but a comparative study has since shown that, as the English vaccine contains approximately three times as many organisms as American vaccine of the same labelled strength, this objection cannot be upheld. Another criticism that might be made is the same as that which was levelled against Doull's work—namely, that the vaccine used was prepared from washed organisms, the toxin of which had been removed. It is doubtful how much force there is in this objection. Considering that the toxin of *H. pertussis* is very labile and is apparently absent from Sauer's vaccine; that there appears to be no cross-immunity between whooping-cough due to *H. pertussis* and that due to *H. parapertussis*, which share the same toxin but which differ antigenically; and that the toxin is said by Flosdorf, Bondi, and Dozois[10] to be non-antigenic in human beings—it may well be questioned whether the protective effect of pertussis vaccine can be related to its toxin content. One thing is clear: before steps are taken officially or unofficially to extend the practice of vaccination against whooping-cough further observations must be carried out under the most carefully controlled conditions to determine the value of this procedure. It is comforting to learn that an investigation is at present in progress at Oxford in which Sauer's vaccine, obtained directly from the United States, is being submitted to trial. Unless the results are more favourable than those hitherto obtained with vaccines of British manufacture it will be all the more necessary to pause before countenancing a practice which, when once established, will take many years to abolish.

LYMPHOCYTES AND ANTIBODIES

Some interesting evidence has recently been obtained suggesting that the lymphocyte is intimately concerned in antibody formation. W. E. Ehrich and T. N. Harris[11] showed that when an antigen is injected into the pad of a rabbit's foot antibody appears in the efferent lymphatic draining the popliteal lymph node; this node undergoes marked hyperplasia, increasing five times or more in size, and the lymph from it contains large numbers of lymphocytes. That these cells actually form the antibody seems to have been proved beyond doubt by T. N. Harris, Grimm, E. Mertens, and W. E. Ehrich,[12] using the same elegant and delicate technique. They collected lymph from the efferent lymphatic five to seven days after the injection of foreign red cells or typhoid vaccine into the foot, separated the cells from the plasma, extracted the former by freezing, and compared the antibody content of plasma and cell extract. The result of this difficult proceeding—difficult owing to the very small quantities of material available—was to show that the cells usually contained from four to eight times as much antibody by volume as the plasma. To verify the proposition that these lymphocytes had formed the antibody it had to be shown that they do not absorb it. Lymphocytes containing sheep's cell agglutinin were therefore suspended for 24 hours in plasma containing typhoid agglutinin. When plasma and an extract of the cells were tested later it was found that the cells had given up some of their antibody to the plasma but absorbed none of the different antibody contained in this, nor had the titre of the plasma antibody fallen. In order to clinch this argument by substituting *in vivo* for *in vitro* conditions anti-erythrocyte serum was injected into a popliteal lymph node previously immunized with typhoid bacilli, the efferent lymphatic being ligatured in order to prevent its escape. Five hours later lymph was obtained from it and tested as before; the injected antibody was found in high concentration in the plasma only, the amount in the cell extract being usually much lower, and only such as would be expected from the traces of plasma in the cell deposit from which the extract was made.

That lymphocytes liberate antibodies appears to have been shown by another type of experiment, which incidentally throws light on another phenomenon—the anamnestic reaction. T. F. Dougherty, Jeanne H. Chase, and A. White[13] claim to have shown previously that increased adrenal cortical secretion accelerates the release of antibody from the lymphoid tissue of immunized rabbits, and that this result is due to the dissolution of lymphocytes, of which there is evidence, both histological and in the form of a lymphopenia. Further to support this proposition, they immunized rabbits and mice against sheep's red cells, waited some months until antibody was no longer demonstrable in their serum, and then gave a single dose of adrenal cortical extract or pituitary adrenotrophic hormone. Within a few hours a high titre of antibody to sheep's cells was reached in the blood. In adrenalectomized mice this effect was not produced. This anamnestic reaction also followed injections of potassium arsenite or benzene—substances which, according to these authors, also stimulate the adrenal cortex and cause lymphocyte dissolution and lymphopenia. The subject has been approached from another point of view by E. H. Kass,[14] using human material. Arguing that if lymphocytes are a source of antibody globulins they should normally contain γ globulin, he devised a method of determining whether this is so. An antibody to pure human γ globulin was obtained by immunizing rabbits, and tested against an extract of normal human lymphocytes obtained from mesenteric lymph nodes and freed entirely by washing from serum proteins. Not only did these react, but the cell extract absorbed antibody from the serum, and extracts of other tissues did not react with it. All these interesting studies point conclusively to the lymphocyte as the source of antibody, but it should be remembered that some years ago Florence Sabin,[15] using a most ingenious and striking method of observation, obtained evidence that antibody is formed by macrophages, or "clasmatocytes" as they were once called from their habit of shedding fragments of cytoplasm—this being the process by which, according to Sabin, antibody is released.

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[8] Levine, M. I., Vogel, P., and Rosenberg, H. A., *Amer. Rev. Tuberc.*, 1938, **38**, 632.

[9] McFarlan, A. M., and Topley, E., *Mon. Bull. Min. Hlth., Lond.*, 1943, **2**, 122.

[10] Flosdorf, E. W., Bondi, A., and Dozois, T. F., *J. Immunol.*, 1941, **42**, 133.

[11] *J. exp. Med.*, 1942, **76**, 335.

[12] Ibid., 1945, **81**, 73.

[13] *Proc. Soc. exp. Biol.*, N.Y., 1945, **58**, 135.

[14] *Science*, 1945, **101**, 337.

SALICYLATE AND PANTOTHENATE

Much has been heard during recent years of the antagonism between sulphanilamide and its analogue *p*-aminobenzoic acid, and of the similar one between pantothenate and the related compound pantoyltaurine. It has generally been considered that the drug (sulphanilamide) blocks combination of an enzyme with *p*-aminobenzoic acid, and that pantoyltaurine blocks a combination of the same type with pantothenate. Attention has been drawn by Ivánovics[16] to a superficially similar antagonism between pantothenate and salicylic acid. Briefly, he has found that salicylate, even in dilution as high as M/1,000, will prevent the growth of bacteria which synthesize pantothenate—e.g., *Staph. aureus* and *Bact. coli*. If pantothenate is added to the cultures the antibacterial action of the salicylate is destroyed, there being a rough quantitative relation between the concentrations of the two compounds concerned in the reaction. When salicylate is added to cultures of some organism which does not produce pantothenate—e.g., *Proteus morgani*—salicylate does not prevent growth (until the concentration is as high as M/40), and the addition of pantothenic acid causes no increase of growth. It is concluded that salicylate interrupts some vital chain of chemical reactions which eventually leads in staphylococci and in *Bact. coli* to the synthesis of pantothenate. This antagonism is accordingly somewhat different from the classical antagonism between sulphanilamide and *p*-aminobenzoic acid.

The main interest of this investigation concerns the biochemist, but the clinician may well consider it in case it provides an explanation to the vexed question of how and why salicylate allays the swelling of the joints and other symptoms which appear in acute rheumatic fever. At present there is no evidence on this subject, nor is it easy to propound a plausible hypothesis to explain this problem of rheumatic fever. The best way of studying it would be to undertake a small clinical experiment. Two groups of patients suffering from acute rheumatic fever would be formed by selecting alternate patients. One group (the control group) would receive the standard course of treatment with salicylate. The other group would be given the same course of salicylate plus large regular doses of pantothenate. If the antagonism between salicylate and pantothenate which occurs with bacteria occurs also in man, it would be expected that the pantothenate would abolish the therapeutic action of salicylate. Such a demonstration would have no immediate clinical application, but it might prove an important starting-point for the further investigation of rheumatic fever. If pantothenate had no effect on the therapeutic action of salicylate, then one would have to conclude that pantothenate played no significant part in the production of the signs and symptoms of acute rheumatic fever.

VITAMIN K IN URTICARIA

Urticaria is the result of a sudden extravasation of fluid from the capillaries, and it may result from diverse causes. In Becker and Obermayer's[1] classification the first group comprises localized urticaria caused by external irritants such as the sting of insects or the nettle after which the disease is named. The second group comprises urticaria produced locally in response to the action of heat, light, or cold, or as a result of trauma. The third group comprises urticaria of internal origin produced by substances which reach the skin via the blood stream, such as foods, medicaments, inhaled allergens, or bacterial products from septic foci. The final and largest group is ascribed to "nervous exhaustion" or emotional upsets. The emotional urticarias are closely related to the second group or physical allergies, in which the patient is hypersusceptible to physical agencies such as cold. Some of the phenomena in urticaria have been closely studied by Sir Thomas Lewis and his pupils,[2] who have related the wheals to the stimulation of cholinergic nerves and the release of H-substance. Treatment has hitherto been mainly concerned with the removal or neutralization of the mental or physical stimuli believed to provoke the attacks.

A quite different approach has been made by Black,[3] who was stimulated by Howell's[4] suggestion that prothrombin and fibrinogen are constantly being formed and consumed in the blood, probably forming fibrin which in some way provides nourishment or protection for the cells of the capillary walls. Black was thus led to study the prothrombin content of the blood in urticaria and the therapeutic action of vitamin K. The study was confined to 156 patients in whom the disease was chronic and who had not obtained relief from trial diets, search for infections and allergens, or avoidance of drugs. These chronic cases represented just over half of all the patients with urticaria seen during the period of study. A diminished level of prothrombin was found in 65% of the patients. In some instances the diminution was notable, as the prothrombin times were twice as long as normal. It is a pity that the results were not presented in statistical form. Treatment was carried out with vitamin K by mouth, in the form of menaphthone, *B.P.*, 2 mg. thrice daily before meals. The addition of bile salts was found to be unnecessary. Relief was obtained in more than 60% of cases. It occurred most frequently in those patients in whom the coagulation time was prolonged. The duration of treatment varied from one to four weeks, and in many instances lesions ceased to appear after two days of treatment. Relapses occurred in about one-third of the patients, but the patients were again relieved by administration of the vitamin. These are considerable claims to make for a new and simple treatment for chronic urticaria, and it will be interesting to discover whether others have the same success as Black.

The Central Medical War Committee is informed by the Director-General, Army Medical Services, that instructions have now been issued for the release of medical officers in Groups 12 to 16 to be effected before the middle of October.

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[15] *J. exp. Med.*, 1939, **70**, 67.
[16] *Hoppe-Seyl. Z.*, 1942, **265**, 33.

[1] *Modern Dermatology and Syphilology*, 1943, Philadelphia.
[2] *Clin. Sci.*, 1942, **4**, 365; 1944, **5**, 5.
[3] *J. Allergy*, 1945, **16**, 83.
[4] *J. Amer. med. Ass.*, 1941, **117**, 1059.

"ORTHOPAEDIC" REHABILITATION

BY

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Function in the human body is dependent on use. If a limb is not used it withers. By immobilizing a part of the body in the treatment of a skeletal injury we are inviting it to wither. We now realize that loss of function during immobilization can be minimized and ultimate recovery speeded to completion by supervised active exercise. The first objective therefore is *maintenance.* Muscle-wasting and loss of blood supply in immobilized joints must be kept to a minimum during the fixation period by regular active muscular exercise. The second objective, which emerges when fixation is removed, is *restoration of function* by redeveloping power, mobility, and co-ordination in the injured part. Experience has shown that, generally speaking, the redevelopment of muscular power is the most important of the three. Muscle fibres obey the "all or none law"; to ensure, therefore, that every fibre is brought into play exercises should be performed with the maximum of effort, well sustained, and followed by a period of relaxation. Thus with a leg in plaster light movements of the toes are a waste of time. The toes must regularly be tightly flexed and vigorously extended.

For the patient in bed the simplest exercises suffice; but they must be supervised. The responsibility for seeing that they are carried out rests with the ward sister, but it has been found satisfactory to train a nurse in each ward to teach and supervise the exercises and see that they are carried out regularly. Five minutes every hour, at the hour, is the ideal. In the ambulant stage, when function is more advanced and the exercises become more complex, they can best be supervised by a P. and R.T. instructor, particularly as much of the work is done in groups or classes.

The physiotherapist is also concerned principally with active exercises, and his roles are "facilitation" and "re-education." "Facilitation" implies the treatment of the inhibitory factors of pain and stiffness. In this connexion the paraffin-wax bath has been found very satisfactory. "Re-education" embraces the treatment of weak muscles in all types of disability, from the flicker of recovery after paralysis to temporary inhibition by operation. Special apparatus is not essential for this, but some form of frame for the suspension of the affected limb in slings is useful; for, in a limb so suspended, gravity and the muscles needed to counter it are eliminated, allowing even the weakest muscles to produce movement (Guthrie-Smith, 1944). The exercises *must* be progressively graded up in power and duration as the muscle recovers, to ensure that the patient doesn't get the chance to use sling suspension as a convenient form of rest cure. The frame is also useful for the attachment of helical springs for resisted exercises.

Occupation is the ideal method of restoring mobility and co-ordination, and is especially applicable to wrist and hand injuries, but in spite of ingenious adaptations (Colson, 1944) its contribution to the redevelopment of muscular power is not comparable to that of active exercises. The diversional forms of occupation are invaluable for maintaining the patient's interest and morale, particularly when he is in bed. After he gets up, and before he is fit for a full day's rehabilitation programme, the remedial forms of occupational therapy can well be interspersed between prescribed exercise periods.

The following notes are based on experience at a Royal Naval hospital and its annexed orthopaedic rehabilitation centre.

The Shoulder and Upper Limbs

For the *shoulder,* mobility is as important as power. Full elevation is almost impossible in the absence of external rotation. The patient's active efforts in this direction (the elbow being flexed), both with the arm at the side and with it abducted, are necessary throughout treatment. While the arm is still in a sling, exercises are confined to deltoid bracing and easy external rotation movements. When the sling is first discarded, the resistance of gravity is diminished by doing rotary and swinging exercises in a stooping position and by exercising in sling suspension. Resistance is gradually introduced—in the former by increasing the amplitude of movement, and in the latter by varying the point of suspension and using springs. Once the arm can be abducted to the right-angle against gravity, special apparatus can be dispensed with, and nothing more complex than balls and broomsticks is needed to lend variety to the exercise routines. The good arm, which should be exercised with the injured one from the start, is used both to assist the movement of the latter and to redevelop power by resisting it. As function improves, increasing attention is paid to overhead work in exercises and in games. Most such games are the fruit of the instructor's invention, but volley-ball is both remedial and popular. The tendency to spare the injured arm is countered by employing two-handed games whenever possible. Heavy bouncing balls provide excellent shoulder exercise, particularly in the later stages, for they encourage increased mobility by "impulsive action," as advocated by Mr. Ernest Griffiths (1943). Rhythmic arm-swinging exercises have a place in the early treatment of stiff shoulders, but later are mainly used as a form of respite between spells of hard muscular work.

The *elbow-joint* is very slow to recover its mobility. Mobility is achieved by *active* movement only—i.e., by the contractions of biceps and brachialis or triceps. These efforts must be purposeful, and be persisted in at frequent intervals throughout the day. Any attempt at passive stretching sets up a vicious circle of strain, tissue-effusion, and organization, resulting in diminution of elbow mobility. Mobility at the radio-ulnar joints is achieved by good orthopaedics rather than by late rehabilitation. In the treatment of stiff elbows the aim is so to develop muscular power as to minimize the risk of further elbow strain, and to return the patient to duty, with the encouragement that, if he works at it *actively,* mobility will continue to improve slowly even over many months. Power is developed first by the active efforts to regain mobility and later by resisted exercises within the existing range of mobility. The best resistance is the patient's other hand, but press-ups and pull-ups, starting with the body nearly vertical and the arms horizontal, using any convenient furniture, can be performed under supervision provided that the elbow is *never* strained beyond its existing range by the resisting force. Rotation of the forearm can be resisted by the patient's other hand, but Mennell's "wrist roller" is a useful adjunct.

In the absence of muscle or tendon adhesions in the forearm, gripping exercises, small-ball games, and simple manual work are usually sufficient to restore function in a stiff *wrist,* but the painful wrist taxes the skill and patience of the physiotherapist to the utmost. Broadly speaking, the treatment consists in supervised active movements by each muscle or muscle group in turn, combined with palliation, in the form of heat, for the pain.

Stiff *fingers* are very slow to regain mobility, but the stiffness does respond to active exercises, and contractures may often be reduced by elastic traction. These conditions are easier to prevent than to cure, and the problem is therefore one of orthopaedics rather than rehabilitation. Any fingers that do not have to be fixed should be not only moved but *used.* For exercises each stiff joint must be isolated in turn by an assistant or by the patient's other hand, and the maximum effort made to flex and extend it. These exercises should be preceded by a soaking in very hot water, or, better, in a paraffin-wax bath, though caution must be observed with anaesthetic hands. For the thumb, opposition is the most important movement, and persistent attempts must be made by the patient to oppose it to each finger-tip in turn. Simple games with a tennis-ball, such as spinning and bouncing it against a wall, help to mobilize stiff hands. (The uninjured hand should not be used.) Occupation is the ideal treatment provided the hand be kept warm. Occupational therapy provides a wide variety of graded movements for stiff hands and finds in them its best application, but there is a tendency among occupational therapists to expect too skilful work of stiff hands, and in the earlier stages simple manual work is the best treatment, tool-handles being padded if necessary.

The Lower Limbs

A strong and mobile *foot* is essential to full recovery in any lower-limb injury. If foot exercises are neglected the results are not immediately apparent, but at a later stage of recovery some trivial injury is apt to set up a condition of foot-strain, necessitating a slowing down of activity at the very moment when it should be stepped up to the maximum. Foot exercises, particularly inversion and toe flexion, must be performed regularly and with maximum effort throughout the recumbent and early weight-bearing stages of treatment. Only the latter can be done in plaster, but the effort of inversion should still be made. If these exercises, dull though they be, are well performed the subsequent recovery of ankle movement and control of oedema are greatly accelerated.

Some degree of stiffness and weakness of the *ankle* is inevitable after the use of leg plasters. Oedema is the most potent cause of their persistence. This requires complete control from the start, and crêpe bandaging is rarely adequate. A bandage of Unna's type is needed. This must extend from the toes to the tibial tubercle and exert firm pressure below the malleoli. Formal ankle exercises have a place in the early mobilization stage, but as soon as limited weight-bearing is allowed they are replaced by any exercises that the instructor can devise to redevelop the feeling of spring in the foot and ankle. Backward springing is easier than forward, as less ankle movement is required, and this should be attempted first: it should be combined with backward bracing of the knee. Springy walking is next introduced, using the arms freely for extra momentum in the spring. Other suitable exercises that can be worked in are "shadow-boxing" and "running starts" against the wall. Activity is the keynote of the later stages. Games such as volley-ball can be introduced early, and cycling is also of great value provided the toe and not the heel is placed on the pedal. Ballroom dancing is another good exercise, and does much to restore the patient's confidence in his leg. The timing of progress is very important in these cases and can only be learnt from experience. It does not pay to get them on to a routine of unrestricted weight-bearing too soon, but if the foundations of a strong and mobile foot are well laid any remaining ankle stiffness and weakness usually recover quickly in the later, "activity" stages of treatment.

The shape of the articular surfaces of the *knee* makes no contribution to its stability, and the ligaments, though very strong, are insufficient to resist even the normal strains of activity; the stability of the knee therefore depends on the power of the thigh muscles. The hamstrings probably make some contribution, but it is principally the quadriceps femoris that embraces and stabilizes the knee-joint. Wasting occurs in this muscle after injury to the joint, and the component that is first to waste and last to recover is the vastus internus. The muscle fibres of this extend almost down to the knee-joint, and it comes fully into play only in the last 10° of extension. Some degree of disuse-wasting after above-knee plasters is therefore inevitable. Quadriceps exercises are essential to recovery from any knee injury or operation. Some patients experience difficulty in bracing the quadriceps of even a normal knee, and if meniscectomy is contemplated the knack of quadriceps bracing must be learnt *before* operation. After operation or injury quadriceps exercises are started as soon as possible, even on the same evening, and are continued hourly throughout the ensuing days. The power of active contraction usually returns quickly, though the vastus internus rarely recovers within 48 hours. The best way to bring it into action is to brace the knee back at the same time as the foot is strongly dorsiflexed and inverted. Straight leg-raising is a good exercise, provided the leg is held absolutely straight by quadriceps bracing, but it is painful in the early stages, and there need be no hurry to start it provided bracing is well performed. The recently operated knee is intolerant of weight-bearing, and the 14th day is quite soon enough for the average patient to start getting up, knee flexion having been permitted for the previous two days. Three weeks is early enough to start deliberate knee flexion and hamstring exercises, though static cycles with light resistance may be used sooner. When the patient is able to get up all day the hourly exercise routine becomes impracticable, but exercises can be performed for longer periods at less frequent intervals (20 minutes, 3 or 4 times a day). These are at first done sitting or lying down, but as muscle power returns light weight-bearing exercises are begun under a P. and R.T. instructor, though the emphasis is still on quadriceps exercises. Finally the patient progresses to an active P.T. class, in which he learns to run and jump. In the majority of cases full confidence is regained by the sixth week, though it takes some two or three months for the knee to feel quite normal again.

The stiff "femur knee" is a different problem. Here we are dealing with a "quiet" joint which will tolerate a fair amount of passive straining provided that the strain is applied only by the patient's own efforts. At the same time it is almost invariable to find the patella bound down to the femur. The patella normally mobilizes slowly with daily passive manipulation after heat treatment. Manipulation of the knee under anaesthesia may be needed in selected cases. The static cycles with adjustable pedals are particularly useful in this type of case. Here again quadriceps maintenance and redevelopment are of prime importance. Two useful indices of adequate quadriceps recovery are the ability to maintain a straight knee against a pull of 40 lb., measured by a spring balance applied at the ankle, and the ability to run a zig-zag or figure-of-eight course without pain in the knee.

The *hip-joint* is occasionally involved by direct or adjacent injury, but more commonly its muscular control is weakened after treatment in abduction by plaster or traction for fractures of the femur. Stiffness responds to simple exercises and, in any case, apart from loss of extension, causes only minor disability. Muscular weakness, however, is a major factor in the persistence of the "calliper gait." Power is restored by regular resisted exercises, using sandbags or a simple weight-and-pulley mechanism, and also by suitably graded active P.T., games, and rambles.

The action of *normal walking* requires mobile toes, at least 10° dorsiflexion at the ankle, 70° flexion of the knee, and a small but adequately controlled range of movement at the hip. The basis of normal walking is correct placing of the foot. Any deviation in direction and position of the foot as compared with the normal limb throws the mechanism out of gear and results in a limp. The weight of the body is not transferred direct from heel to toes, but passes along the outer border of the foot and thence across to the ball of the great toe, producing a rolling action. This action can be taught as a dissected movement as early as the non-weight-bearing, sitting stage as advocated by Mennell (1940), but, provided the power of inversion of the foot and the control of the toes are restored, the normal rolling action is recovered naturally. If the foot is placed outside the line of march the trunk has to bend over it to maintain balance, hence the typical "calliper gait." Even if the foot is correctly placed the glutei may be too weak to maintain the hip in a position outside the line of the foot, though this failing is more commonly due to the muscles having lost the "feel" of the normal gait. Before normal walking can be expected the patient must learn to stand on the injured leg alone without deviation of the body, and he must then learn to keep this position as the good leg swings forward. Walking with a stiff knee is often a residual habit, and is usually countered by bringing the injured leg forward with a slight kicking action. These fundamentals of walking should be taught at the restricted weight-bearing stage, when the patient is taking part of his weight on his arms, using a chair, wall-bars, etc. At the full weight-bearing stage it should not be necessary to do more than redevelop the spring from the foot and ankle, and correct minor deviations with the aid of a full-length mirror and a painted line on the floor.

Re-education in *running* can be begun at the partial weight-bearing stage. With part of the body weight supported by the hands and the body inclined a little forward, the patient is taught to mark time with a running action, getting a slight bounce off the balls of his feet but keeping his toes on the floor. The movement must be symmetrical, the good leg gearing down to the strength of the injured one. The amplitude is gradually increased till the toes leave the floor without breaking the rhythm and without a deliberate attempt to lift them. At the full weight-bearing stage the exercise is repeated without support, the arms swinging close to the chest as in running, and progressing to standing running, backward running, normal running, and sprinting. An even rhythm must be maintained; if the rhythm is broken the exercise must be restarted at an earlier stage and worked up again.

The Trunk

An uncomplicated case of compression fracture of the *spine* is fit for advanced activity almost as soon as the patient has become accustomed to his plaster jacket. Exercises are directed to the maintenance and further development of the erector spinae group and abdominal muscles, to progress from single to two-leg raising, and in trunk-raising, first with the hands clasped behind the back and then successively with arms at the sides, hips firm, "neck rest," held above the head, and finally holding increasing weights above the head. These exercises are further performed lying with the thighs across a stool, the legs being held by an assistant; and they are supplemented by very strong backward bracing. It is of the utmost importance that the back muscles should be very strongly developed *while the back is still immobilized in plaster.* After removal of the jacket the patient requires about 48 hours of light informal mobilizing exercises (swimming is suitable) before returning to the routine of the "spine group." Apart from "unrolling," specific flexion exercises are best avoided for the next two weeks. After hyperextension plasters, posture always requires attention, and the exaggerated lordosis should be corrected by abdominal contractions combined with tensing of the buttocks. Progressively active games, including the use of heavy medicine balls, are good for mobilization and for the re-creation of confidence, and the routine should progress to include really heavy manual work for increasing time periods, the best of which is the use of axes, sledge-hammers, and cross-cut saws. Suitably treated, these cases carry an excellent prognosis (rather less favourable in the comminuted than in the "concertina" types of fracture); but, in spite of strong mobile spines, minor symptoms, particularly low back pain on prolonged sitting, sometimes persist for some months, though these rarely render a man unfit to carry out his duties.

Cases of *"sciatica" and low back pain* are troublesome to treat, particularly as many are of long standing and tend to develop a considerable functional overlay. They are rarely suitable subjects for the active routine of the rehabilitation centre, but they do benefit from extensor and abdominal exercises, so far as these can be performed. The increase in muscle power and activity helps to eliminate some of the psychological disability. Many such cases are treated in plaster jackets applied with head suspension, and this often gives complete relief from symptoms. They can then be treated in a class with the fractured spines in plaster and, the inhibitory factor of pain being eliminated, muscular development and general well-being can be more rapidly re-established.

Conclusion

Prescription, both in quality and in dosage, is as important in rehabilitation as medicine, and just as each dose is duly measured by the sister, so should the exercises be supervised. The personal interest of one individual in the person and progress of the patient means a great deal to him. This individual need be no more exalted than the nurse or instructor detailed to supervise the exercises. The doctor's active interest in the patient's progress, backed by regular accurate measurements, is essential, and he should ensure that the exercises are being done according to his instructions. The organization of the hospital, and the rehabilitation centre, are ideal for the purpose, but this treatment is no less important in domiciliary practice. In the absence of adequate supervision such exercises can embody only the bare essentials.

The Rehabilitation Workshop Scheme organized in Birmingham (Colson, 1944) is a vital contribution to rehabilitation in industry. The methods employed are clearly not applicable to the household, but suitably chosen manual occupation has its place in domiciliary practice, and the little extra trouble involved is likely to pay good dividends.

Summary

Orthopaedic rehabilitation is largely a matter of *maintaining* the existing power and activity of muscles.

The roles of ward sister, P.T. instructor, physiotherapist, and occupational therapist are discussed.

Rehabilitation methods based on experience at a Royal Naval hospital and its annexed orthopaedic rehabilitation centre are described.

The importance of prescription and of personal interest in the individual patient is emphasized, and a plea is put forward for the inclusion of active rehabilitation in the treatment of injuries in domiciliary practice.

I wish to thank Surg. Lieut. A. McKelvie, R.N.V.R., for his assistance in the final draft, and to acknowledge with gratitude the encouragement and advice of Dr. H. E. Moore, Consultant in Rehabilitation to the Royal Navy, many of whose ideas are embodied in this paper. I also wish to thank Surg. Rear-Adml. R. F. P. Cory for permission to offer this paper for publication.

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INTERNATIONAL SOCIETY OF SURGERY

The activities of the International Society of Surgery have necessarily been largely in abeyance during the war, but now that hostilities in Europe have come to an end there are promising signs of resuscitation. During the meeting of the Association of Surgeons at the Royal College of Surgeons in May there was an informal gathering of those Brtitish members of the International Society who happened to be in London then. They were very glad to welcome Dr. Leopold Mayer, of Brussels, the president-elect of the International Society of Surgery, and other Belgian and American members who were guests at the meeting. The steps taken by the American committee to hold the Society together in that country during the war years were explained, and it was recognized that these were only a temporary war measure designed to keep the Society alive and its interests revived. A meeting of the International Committee is to be held as soon as this can be arranged, and there is some hope that the full meeting of the Society, which was originally planned to take place in Stockholm in 1941, may be held in that city in 1947. Meanwhile, the surviving officers who were elected at the Congress held in Brussels in 1938 will continue to act and conduct the affairs of the Society strictly according to the constitution. Prof. Grey Turner is the British delegate on the International Committee.

ROCKEFELLER FELLOWSHIPS IN PREVENTIVE MEDICINE

The Rockefeller Foundation is prepared to award a small number of Fellowships to enable medical men and women wishing to take up public health as a career to engage in special studies for this purpose. The Fellowships, which will be open to British-born subjects holding a university degree in medicine registrable in the United Kingdom, will normally be awarded for two years, and the annual value will be between £450 and £800, travelling expenses being paid during residence abroad. Candidates should have had some general clinical experience since registration, and service with the Forces will be taken into account.

The conditions of tenure provide that normally a Fellow will be required to study preventive medicine for not less than one year at the London School of Hygiene and Tropical Medicine, taking part in teaching and demonstration and devoting himself to some special investigation approved by the committee of award. He will be given an opportunity of taking the D.P.H. For part of his tenure he will be expected to study at suitable institutions abroad, and arrangements will be made by the Rockefeller Foundation for this purpose. He will be required to keep a daily record of his work for submission as requested by the committee of award, which will have power to terminate his Fellowship if obligations under it are neglected. No other award may be held, and no other work, paid or unpaid, may be undertaken at the same time as the Fellowship without permission. Candidates should write informally to the Dean, London School of Hygiene and Tropical Medicine, Keppel Street, London, W.C.1, giving date and place of birth, full details of school and university education, including qualifications and present and past appointments, and full particulars about themselves, their work during the war, and plans for the future. The names of two referees should also be given. Medical officers with the Forces may apply now for Fellowships tenable on demobilization.

ARGENTINE–BRITISH MEDICAL CENTRE IN BUENOS AIRES

An Argentine–British Medical Centre has been established in Buenos Aires, with the assistance of the British Council, to promote closer relations and to facilitate the exchange of information between the British and Argentine medical professions. The Centre has a Committee of Honour, the twenty-two Argentinian members of which include Prof. José Arce, Prof. Pedro Escudero, Prof. B. A. Houssay, and Prof. Alfredo Sordelli; British representatives of various branches of medicine have been invited to join this committee. On the executive committee are the President of the Centre (Dr. Mariano R. Castex), the director (Dr. Antonio Egües), the secretary (Dr. R. Castro O'Connor), an assistant secretary, three ordinary members, and two representatives of the British Hospital in Buenos Aires.

The Centre's library contains a selection of the most important British medical journals and up-to-date textbooks. When an inquiry cannot be answered on the spot the Centre obtains information, articles, and books (or photostat copies) from Britain through the British Council. Among the activities are distribution of the *British Medical Bulletin* (Spanish edition), supply of medical films, translations from English into Spanish and Spanish into English, and certain facilities for members wishing to subscribe to British medical journals or buy British medical books. Members of the Centre pay an annual subscription, and additional charges are made for such special services as the provision of photostat copies. The facilities are available to doctors in the interior of Argentina, who, since they are not in a position to borrow original books and articles, are supplied with photostat copies. English classes, in which the emphasis is on conversation and the reading of medical books, are an important and very popular feature.

BRITISH ASSOCIATION OF UROLOGICAL SURGEONS

At the first annual general meeting of the British Association of Urological Surgeons, which was held at the Royal College of Surgeons, London, on June 29, it was announced that the following had accepted honorary membership: Sir C. A. K. Ball, Surg. Rear-Admiral G. Gordon-Taylor, Sir Hugh Lett, Mr. Cyril Nitch, Mr. A. Ralph Thompson, Prof. G. Grey Turner, Mr. Henry Wade, Sir Alfred Webb-Johnson, P.R.C.S., and Surg. Rear-Admiral R. J. Willan. Seventy Home Foundation Members had been elected, and names were accepted of five honorary members, forty-eight full members, and ten associate members from over-seas. The constitution of the association was confirmed and the rules were approved. Prof. Fey, professor of clinical urology in the University of Paris, was welcomed as a visitor, and was elected an honorary member. In the afternoon, by kind permission of Major-Gen. H. H. Blake, the members went to the Spinal Injury Centre, Stoke Mandeville Hospital. After a brief discussion on the work of the centre, the party visited the wards, the physiotherapy and occupational therapy departments, and the gymnasium, where there were demonstrations of selected cases.

Nova et Vetera

A PORTRAIT OF CHARCOT

Charcot, who was a friend of Alphonse Daudet, was one of Léon Daudet's sponsors when he entered the Paris school of medicine. Léon Daudet[1] describes Charcot as resembling a stout Napoleon, who tyrannized over those about him and spoke to them in imperious and often ironical tones. Daudet, as have many others, speaks of his genius as a clinical diagnostician. But his patients were to him little more than puppets, who were the convenient objects of an intellectual exercise. Daudet describes him as "pitiless" towards human beings but sentimental towards animals—a familiar combination—and as treating his many dogs as if they were children. His knowledge of the great poets, of the philosophers, and of European painting was extensive, and he brought to bear upon his own subject the same detached and analytic intellect, disdaining therapeutic intervention. His views on religion were those of an agnostic, for which, together with his inflexible faith in democracy and the benefits of the Revolution, he earns Daudet's censure. He is said to have declared that only one titled person had ever had any intelligence—a Dr. de Sinety, the author of "a remarkable work on the liver in nursing mothers."

One of Charcot's greatest weaknesses was his intolerance of contradiction or criticism, which he countered by ferocity or by sustained campaigns of petty persecution. He was a tireless worker, and would sometimes spend most of the night preparing a diagram or illustrative figure. Stupidity exasperated him, and yet his fear of competition caused him to gather round him professional mediocrities. In compensation, he found much pleasure in the society of the writers and artists who were constant visitors to his house. He was a devoted and tolerant father, and allowed his sons and daughters to make the house resound with their noisy games and laughter, often to the discomfiture of the nervous wrecks who waited to consult him in a drawing-room equipped with stained-glass windows and pseudo-mediaeval furniture. Daudet, perhaps with picturesque exaggeration, describes patients from the far corners of the earth writhing about on strangely shaped prayer-stools, or sitting with their atrophied limbs stretched on chairs decorated with gargoyles—waiting to receive their prescription for nux vomica or bromide from the Master.

In his dealings with patients Charcot did not hesitate to give expression to a savage, and often deliberately obscene, sense of humour. He is said to have told a neurasthenic: "You are like a man sitting on a dung heap with a sword suspended over his head; you must either get under the manure or lose your life." Charcot read English, German, Spanish, and Italian, and his library contained, in addition to a large literature of mental disease, many works on magic and demonology. The presence of works in the latter category gives an additional key to Charcot's character. It is clear that in an age when science was invested with a romantic popular interest he was victim to the idea of himself as a maker of magic—as one able to predict the workings of the hidden forces of Nature and influence the behaviour and fate of other men. He had a paranoid disposition. At his famous clinic at the Salpêtrière Charcot was brusque to staff, students, distinguished visitors, and patients alike. His clinical demonstrations were stage-productions, spiced with literary and artistic allusions. Daudet says that Germans bored him, but that he showed a liking for English and Russian visitors. In 1890 he was at the height of fame and influence, and it was in this year, during a gay Christmas Eve party, that he was seized with an attack of acute precordial pain. Daudet, who was present, ran across the road to fetch Prof. Potain. It was two o'clock in the morning, and Potain answered the summons in his night-shirt. Slipping on trousers and a fur coat, he came to the aid of his distinguished colleague, spending fifteen minutes alone with him. On emerging from Charcot's room Potain pronounced the trouble to be of gastric origin, but as the young Daudet walked back with him, he said: "I had to reassure him, he thought it was angina pectoris"; adding after a pause, "He was not wrong." Deeply distressed, Daudet asked: "How long will it be, sir?" Potain replied: "Two years, two years and a half at the most." On the following day Charcot had recovered, but in 1893 Potain's prognosis was fulfilled.

N. H. J.

THOMAS BILL, M.D.: PHYSICIAN TO HENRY VIII AND EDWARD VI

The following details about this physician, in addition to those recorded by Munk in the *Roll of the Royal College of Physicians*, may be of interest.

Munk states that he was of Bedfordshire and that he took his M.D. from Pavia, but Venn, in *Alumni Cantabrigienses*, gives him as the son of John Bill, of Ashwell, Herts, and as M.D. of Padua. He also states that a pedigree of the family is in Cussaus's *History of Herts*. I have not seen this, but can state that there is no mention of Thomas Bill in either Sir Henry Chauncy's or in Clutterbuck's History of the County. Among other monastic plunder he obtained in 1542, as we learn from the State Papers of the period, the rights over certain fisheries in the Trent and in the pool called Depedraught, beside the Monastery of Burton-upon-Trent, formerly reserved to the Monastery. There was also a tenement within the close of St. Bartholomewe beside Smithfield, lately the property of Bart's, which he secured in June of the same year. In the next year he had a grant of St. Sepulchre's Rectory, London, late the property of Bart's.

In 1548 we get the letter, referred to by Munk, from Princess Elizabeth (afterwards Queen Elizabeth) to Somerset, thanking him for his care and for sending Dr. Bill to her in her sickness. Bill died in 1551, and is entered as Phisition to the King's Majesty on the Probate Books. The following is an abstract of his will:

(*P.C.C. Powell 7.*) Soul to God. Body in church or churchyard where I may die. To the poor at my buriall, £4. The Parson of Sacam, Co. Herts, 3/4. The Poor there, 6/8. Poor of great St. Barts, 6/8. Servants 10/- each. To my mother, 20/-. Brother John Bill, and his wife, brother Samuel, and his wife, Brother Gosnolde, and his wife, 6/8 each. Brother William Bill, D.D. my prebend called Mylton in Oxon, belonging to the church of Lincoln. To wife, Agnes, my house and garden in great St. Barts for life, then to my daughter, Margaret and her heirs. To wife, woods, etc., called Rowney Lands in Herts, then to daughter, Margaret: lease of grayne, corne in Cropthorne and Everbury, Co. Worcester, late of the Priory of Worcester held for 21 years of the Court of Augmentations, now let to Raffe Parsones for 19 years. Lease of the farm at Sacam to wife for life then to daughter, Margaret. Manors of Higham and Lelychurche in Kent leased me by St. John's College, Cambridge. To Margaret 1/3rd of plate and household stuff, etc. Wife Agnes, Brother John Bill, and Brother-in-law Richard Tebolde of Kemsynge, executors. 4 witnesses.

Bill's wife was Agnes, sister of Richard Tebolde, of Kemsing, Kent. Brother Gosnolde was his brother-in-law, Thomas Gosnold, of London, grocer. Munk hints that William Bill was his younger brother and that the college granted him the manor of Higham when William Bill was Master of St. John's. William certainly was the brother of the physician; he had a distinguished career in the Church, ending up as Dean of Westminster, where he is buried in the Abbey.

R. R. J.

AN ACADEMY OF MEDICINE

Although medical societies flourished in Paris before the Revolution and, under Bonaparte, an Academy of Medicine was constituted it did not long survive; the existing Academy of Medicine was created by ordinance of Louis XVIII on Dec. 20, 1820, and in 1920 its centenary was celebrated. The proceedings are recorded in a handsome volume,[1] and, in view of recent correspondence in the medical and lay press, it may be interesting to refer to some points in the history of the Academy of Medicine.

The primary duty of the Academy, prescribed in the ordinance of 1820, was "to answer questions of the Government on all matters relating to Public Health, especially on epidemics, diseases peculiar to particular countries, epizootics, questions of legal medicine, the distribution of vaccine, the investigation of new remedies and secret remedies, internal and external, mineral waters, natural and artificial, etc." The Academy was also charged with the continuation of the researches of a former Royal Society of Medicine and of a former Royal Academy of Surgery in the whole field of the healing art. The administrative details prescribed in the original constitution were varied from time to time, but the number of ordinary members, fixed at 100 by an *arrêté* of 1835, has not been changed. The membership of a society may be limited either directly, in this way, or indirectly, by admitting a fixed number of new members at regular intervals. The former method has not been much used in learned societies in this country; the other method is adopted by the Royal Society of London; it will not, of course, ensure an absolute constancy of the number of members, but, unless the death rate rises or falls continuously, the society will, after initial fluctuations, keep a fairly steady level of population.

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[1] *Memoirs of Léon Daudet*, edited and translated by A. K. Griggs. London, 1926.

[1] *Centenaire de l'Académie de Médecine, 1820-1920.* Paris: Masson, 1921, pp. 277.

The fixed population of the Paris Academy of Medicine is a very small fraction of the population of the medical and allied professions in France, and in the nature of things so small a body must tend to be an order of merit; it will therefore consist of men of established reputations not usually young. The Academy of Medicine, however, is not simply an order of merit; it is assigned definite responsibilities. In the centenary addresses of Vaillard (mainly concerned with public health, bacteriology, and epidemiology), of Chauffard (on general medicine), and of Delorme (on general surgery) we have a heartening account of French contributions to the science and art of medicine. How far the Academy, as such, initiated these is not easy to say. Indeed a reader may sometimes have doubts. In speaking of vaccinal syphilis Vaillard remarks: "Indeed the Academy was sometimes too slow in sanctioning new truths applicable to the protection of the public health." Elder statesmen do move rather slowly; perhaps wisely. One might expect that an order of merit would rarely be very insistent advocates of drastic reforms.

Reports of Societies

MANAGEMENT OF THE PERMANENT COLOSTOMY

A meeting of the Section of Proctology of the Royal Society of Medicine was held on July 18 for a discussion on the management of the permanent colostomy. Mr. F. McG. **LOUGHNANE**, who presided, said that the establishment of a colostomy was looked upon by the average patient as a tragedy. Moreover, many surgeons performed colostomies but by no means all gave their patients adequate guidance as to their management; hence the present discussion.

Mr. **ERNEST MILES** said that very few doctors appreciated the value of a daily wash-out of the colon for regulating bowel movement. Consequently when the patient was discharged from hospital he was left very much to his own devices, and it was small wonder that he got into trouble. Bowel action after colostomy could be controlled by a daily plain water wash-out at a temperature not exceeding 80° F. A higher temperature reduced the muscular tone of the colon, and caused part of the wash-out to be retained, with a sudden gush of fluid some hours later. He emphasized the necessity for absence of tension; everything should be easy and comfortable. The patient's belt should only be dispensed with at night when he was recumbent. The stump of the colostomy should be prevented from becoming stenosed by systematic dilatation.

Sir **CHARLES GORDON-WATSON** said that the management of colostomy had been much neglected. In the old days of lumbar colostomy its bad reputation might be understood, but he had operated on patients in every walk of life, and many of them had carried on their work in reasonable comfort and with only slight inconvenience. There were differences of opinion as to where a colostomy should be made. He liked to make it through the rectus muscle. The spur should be kept outside the abdominal wall for at least three weeks. Another point was not to make the opening too big; he always made it so that one could get one finger on either side of the glass rod. Sometimes the skin began to contract round the colostomy opening, and there was a tendency for the spur to be pushed back, so that faecal matter got into the cul-de-sac. Sufficient skin should be removed at the time of the primary incision to ensure that it did not get too close to the margin of the colostomy. If there was no obstruction he thought it wise not to open the colostomy before about the fifth day. Sometimes the opening through the rectus muscle stretched and the colostomy area herniated. This might be overcome by using a bigger disk on the colostomy belt; he never used cups. With regard to the wash-out, he liked to have a big tube, which should be passed very carefully and slowly. It was necessary to find out how much fluid the colon would hold. The amount varied very greatly; he had known as much as 5 pints go into the colon.

Danger of Perforation

Dr. W. B. **GABRIEL** drew attention to the seriousness of the risk of perforation of the colon in the wash-out region. After a colostomy had been satisfactorily established, whether terminal or loop, it must be decided whether the bowel was to be allowed to act naturally or a wash-out regime adopted. He had collected from St. Mark's Hospital the records of eight cases of perforation—six in males and two in females. One case occurred while the patient was still in hospital; the others were admitted as emergencies at different times after discharge varying from two days to 2¾ years. The case occurring two days after discharge was in a man aged 64 in whom some force had been used at a wash-out, the patient immediately complaining of severe pain. The doctor subsequently diagnosed peritonitis and sent him to hospital, where he was moribund on admission and died an hour later. Post-mortem examination revealed general peritonitis and a small perforation on the mesenteric border of the colon. Perforation usually occurred 2 in. to 2½ in. above the colostomy, and if the peritoneal cavity was entered gross contamination would result. Various causes might be held responsible for the perforation, such as the use of a large heavy tube or a tube made of hard inelastic rubber, and the possibility of inexperienced handling or injudicious force applied in passing the tube should always be borne in mind. There might also be local predisposing causes. In some cases the colon had an unduly thin wall and possibly diverticuli were present; the point of the tube or catheter might be lodged in the thin-walled sac and a very slight force would cause perforation. One point of interest was that all the patients concerned were over 60 years of age. The characteristic symptom was severe abdominal pain during or just after the wash-out and a rapidly developing peritonitis. Out of a total of nine such cases eight proved fatal.

Mr. E. T. C. **MILLIGAN** showed a number of lantern slides illustrating the linings in a colostomy, and spoke also of the time, patience, and team work needed in order to obtain the desired rhythm of one bowel action daily.

Technique of the Wash-out

Mr. **LAWRENCE ABEL** said that surgeons had been too hesitant in emphasizing to both patients and their doctors that the patient with a colostomy could obtain easy and perfect control. The secret of the control of the colostomy was the daily wash-out. The wash-out should start two or three days after the operation was performed, and the patient should be trained as to the quantity of plain water necessary to cause a proper colonic reflex. The question of breakfast needed a little consideration. When the patient woke up and drank a cup of tea he had a slight gastro-colonic impulse; he should be instructed to get out of bed and have his breakfast—preferably a square meal—immediately. That would result in a good flush down to the colon. There were cases which did not need a daily wash-out and could get the bowels regular without such an expedient, but it could not be known in advance which patients these would be, and every patient should start by having his morning wash-out after breaking his fast. The wash-out should if possible take place in a combined bathroom and w.c., and the patient be comfortable in a lounge chair. A soft rubber tube must be used. In over a thousand cases he had never seen a perforation with a peacetime rubber tube, but he had seen three cases with wartime rubber. It did not matter how cold the water was; cold water from the tap was best. The average patient should be in and out of the bathroom in half an hour. If the colostomy was an old-fashioned one it must be supported by a belt; if it was a modern colostomy a belt was not needed. The patient should have a lint pad, but the soft side must be used and greased with a little vaseline or zinc oxide ointment. If there was a cul-de-sac left it would accommodate faecal matter and should be washed out once a week. The patient should also be instructed to see the surgeon at regular intervals.

Mr. A. **Dickson Wright** said that breakfast in bed was a very good way of making a colostomy work. Some speakers had minimized the discomfort of a colostomy, but he had never found a patient other than delighted to say farewell to it. He described one man who had had a colostomy performed 15 years previously and had developed a hernia which was larger than the whole of his abdomen. He excised the affected gut and joined the descending colon on to the rectum, and the patient made an uninterrupted recovery. The hernia was quite manageable and the patient's whole existence was transformed.

Mr. H. J. **McCurrich** said that the cases of perforation which had been mentioned occurred apparently when the wash-out was done by a nurse or relative. If the patient was well trained, was perforation likely to occur if he did the wash-out himself? Dr. S. W. **Patterson** said that a number of patients did not need a wash-out and were able to get a steady and firm action of the bowel, though at certain times of the year, when fresh fruit and vegetables came in, they had to be particularly careful. In diverticulitis, where much more of the bowel was involved, it was sometimes necessary to make a transverse colostomy. Patients must not be allowed to think themselves social pariahs.

In some further discussion Dr. G. **Vilvandré** spoke in disapproval of transverse colostomy, and also emphasized the need for teaching young surgeons and radiologists the dangers which might attend passing the cathether into the gut. Mr. **Michael Smyth** mentioned the ease with which a colostomy might be closed.

MEETING ON SEMINOLOGY

A meeting of workers interested in seminology and other aspects of infertility was arranged by the Family Planning Association and held on July 14 and 15, by courtesy of the University authorities and of Dr. J. Hammond and Dr. A. Walton, at the School of Agriculture in Cambridge. The animal research workers opened the conference with some interesting papers and demonstrations on the metabolism of semen, on fertilization, and on early death of the fertilized ovum, and on the respiration of spermatozoa. Aspects of human seminology and the investigation of infertility were discussed by various medical workers.

Dr. **Margaret Hadley Jackson** gave a brief report of some of the work done at the Exeter F.P.A. clinic on semen analysis, and suggested a method which might be of value to clinicians in grading male fertility. She also discussed the post-coital test (including examination of the vaginal pool and cervical mucus), and stressed both its value in the investigation of cases of infertility and the ease with which it could be carried out. Between 600 and 700 such tests had been done at the clinic on most days in the cycle, and at times after coitus varying from half an hour to 12 days in both fertile and infertile wives. It was usually possible to find sperm, provided the test was repeated often enough within 12 to 15 hours after coitus, even when the husband had a sperm density as low as 2 or 3 millions per c.cm. Those cases in which the early post-coital test remained persistently and completely negative were rare, even in infertile couples, and Dr. Jackson produced evidence suggesting that tests done at longer intervals (40 hours or more after coitus) might provide a more valuable measure of adequate fertility.

Mrs. **Clare Harvey**, of Exeter University, in a paper on the interpretation of morphological abnormalities in human spermatozoa, suggested that most, if not all, abnormal types might be produced by degenerative changes in sperms which had been morphologically normal when first detached from the germinal epithelium. Evidence suggested that most morphologically abnormal spermatozoa were, in fact, aged spermatozoa. Most specimens produced a week or more after the previous ejaculation showed a higher abnormal count than those produced at shorter intervals. The average age of sperm population at ejaculation might be increased by delay in the journey from the testis through the epididymis and vas. There appeared to be a close relationship between the motility of the spermatozoa and their age. Figures from 130 recent semen analyses showed that in at least 75% of cases a high motility and good morphology of sperms were combined, and also low motility and poor morphology.

It is hoped that in 1946 the meeting may be held in London.

Correspondence

Education in Safe Milk

Sir,—The vigorous speeches at the recent Representative Meeting and your own impressive leader (Aug. 4, p. 160) may well be welcomed by senior members of the profession who for a number of years have endeavoured to secure for the community a milk supply safe from the risks of tuberculosis and other infections. In this respect the British Medical Association, together with other organizations, has met the responsibility which falls on the profession as guardian of the public health. Nevertheless, it has to be admitted that successive Governments have not been impressed, not at least to the point of action, and that the public generally is largely uninformed and unalarmed. May it not be well to supplement corporate votes and resolutions by the teaching influences of the individual doctor? Given, say, 20,000 doctors each using his opportunities to impress upon his patients, and especially on the parents and guardians of children, the dangers of raw milk and the protective values of pasteurization, there might reasonably be expected a demand for safe milk which the commercial interests concerned would find it profitable to supply. Such an educational policy would be an exercise in the practice of preventive medicine and a further contribution to the discharge of an admitted responsibility. There are interests actively opposed to the pasteurization of milk, and to meet these the Government needs not only the opinions of experts but also the support of public opinion. And in the development of that support the individual doctor has his opportunity.—I am, etc.,

Hove. C. O. **Hawthorne.**

Milk Still Unsafe

Sir,—"We are left to speculate what the drag on the wheel may be—departmental lethargy or the opposition of agricultural interests." To this quotation from your leading article (Aug. 4, p. 160) might have been added the lack of pressure and determination of the medical profession to see this job through when it had started on it. It is "the little more" that is needed, and I venture to hope that Mr. Lawrence Abel's renewal of the attack and the prominence given to it in your able leader are an earnest that the scandal of our impure milk supply will be ended by the adequate pasteurization of all milk intended for human consumption. Personally I doubt the wisdom of exempting T.T. milk or "accredited" milk from a single herd. Typhoid and many other infective elements don't spare either, and the conditions of "watering" animals on some of our farms leave much to be desired.

The opposition of wontedly harassed and hard-pressed "agricultural interests" may or may not be understandable, but it is undoubtedly real. Some of these "interests" sit on the milk committees of our county councils and county borough councils, and, whilst zealots for "pure milk," are not backward in indicating opposition to what they regard as "further burdens on the industry." I remember once addressing the members of one of these committees, of which I myself was a member, about the importance of an abundant and pure water supply for cattle on our farms, and the necessity for fencing off all muddy and contaminated sources from ditches and swamps to which cattle often has ready access. I was giving them a lurid example close by in their own area, where a little streamlet draining down from the hills through village and hamlet was dammed up here and there adjoining fields where cattle was grazing. It was no unknown sight to see the housewife emptying an occasional pail into this stream as it passed her door, and into the dammed-up pools the cows would stray to water, and "stale," and stamp the whole filthy area into a grim and revolting quagmire. I was suggesting that these "cesspools" (for they were nothing else) should be fenced off from cattle access and the "possibilities" arising therefrom through drinking and the soiling of pendulous and rarely washed udders. I expect, however, I was manifesting my innocence and ignorance of the practical problems affecting the safe milk campaign, for just as I was winding up my remarks a smile broke over the faces of members at some interjected witticism which I had evidently evoked but was unable to catch. I resumed my seat in an atmosphere of hilarity and mirth. So far as I am aware, however, *nothing has been done.*

My own limited experience leads me to believe that it would be unwise to make any exception to a general pasteurization order except in the case of supplies intended for "processing" at high temperatures. If I may be permitted I should like to reiterate and emphasize your own remarks on America's attitude to this important question: "American troops in this country have not been allowed to drink milk unless it was *both from tuberculin-tested herds and had been pasteurized*; yet, so far from insisting on the double protection, we do not even make universal the simpler of the two expedients." I commend America's realism and thoroughness and your comment. The medical profession must maintain a crescendo of pressure and determination to get pasteurization established. But the order must be a general one and emanate from central authority.—I am, etc.,

Bournemouth. J. ROSS MACMAHON.

SIR,—Having just spent a fortnight on a farm which runs a herd of tuberculin-tested Jerseys I am acutely conscious of the delight of pure milk as compared with pasteurized milk. You say in your leading article (Aug. 4, p. 160) that it would cost £10 million a year to pasteurize all milk and deprive us for ever of the joy of tasting pure milk. £10 million annually is the equivalent of £400 million at 2½%. Would it not be more economical to pay £400 million once so as to enjoy pure milk in perpetuity, than to spend £10 million annually so as to suffer from pasteurized milk in perpetuity?—I am, etc.,

Petersfield. RICHARD HOPE.

Weight Reduction by Dieting

SIR,—The letter on weight reduction by dieting by "Apollonian" (July 28, p. 136) interested me very much. Hitherto we have, as a profession, taken little note of the effect of diet on the general well-being of our patients. One only requires to study the diets given in hospitals all over the country to find proof of that. In the past we have been too ready to rely on some specific medicine which would affect the organ or particular part of the body showing signs of disease, rather than consider the body as a whole. "Apollonian" opens up a new field for study and research. It would be interesting to know what changes take place in the human body during a prolonged fast. Does it alter the *p*H of the blood and the urine, and what changes take place in the intestinal flora? I have heard it stated that at the end of the long winter period the hibernating bear has sterile intestinal content, and that its flesh is sweeter to taste. Does this mean that a cleansing process has been going on during the fasting period?

I have watched many patients undergoing fasts for short periods of a few days to longer periods of 30 and 40 days. In no instance were there any adverse signs or symptoms during the fasting period other than a slight feeling of lassitude or a headache and loss of weight. Usually as the fast continued the feeling of well-being increased. Like "Apollonian" I have often experimented on myself, but regret that I had not the time and facilities to check up all the changes taking place in my body during the fasting period. Just recently I completed an 8-days fast while continuing my usual activities, which are not less than most doctors'. Here are a few changes that took place.

	Before Fast	After 8-days Fast
Weight (naked)	10st. 7 lb.	9 st. 11 lb.
Chest	36 in.	35 in.
Waist	33 in.	31 in.
At umbilicus	37 in.	33½ in.
Thigh	22 in.	20 in.
Calf	14 in.	13½ in.
Biceps	11 in.	10 in.

I may say it had a wonderfully rejuvenating effect on me and cleared up a few odd pains that I had. "Apollonian" says he took certain vitamins in tablet form, also an alkaline mixture three times daily and some sweetened non-alcoholic drinks. I took no vitamins or alkaline mixtures during my fast and only an occasional sip of water. My bowel moved at the beginning, but once or twice during the fast I had a colonic lavage. This may not have been necessary. It is well known that our seamen who have had to take to the boats after a shipwreck have no bowel movement even when 2 or 3 weeks on the open sea.

Scientific dieting may not be the most pleasant medicine, but in a few stubborn cases it is very effective. The patient may be put on an absolute fast for days or given fruit or vegetable juices, or drinks mixed with fruit juice and milk. If carefully watched there is never any danger.—I am, etc.,

Bishopbriggs, Glasgow. JOHN WINNING.

SIR,—I read "Apollonian's" letter on weight reduction by dieting with great interest, as I have myself fasted, but not with the same happy result.

After six days of fasting and working I was delighted to find that I had lost 16 lb., as I was over-weight. On the seventh day I developed acute gout in my left ankle. I found out too late that if one fasts, while it is not necessary to go to bed, it is essential that one should not work and should have a definite routine of mild exercise and plenty of rest. It is also essential that if one fasts one should also eliminate, as when the liver finds that it is not necessary to do its normal work it proceeds to rid itself of accumulated waste products. In "Apollonian's" case he relied on taking copious fluids, thus putting the chief work of elimination on the renal system. He should have had an enema on alternate days and a Plombières treatment at least once a week, sweat baths on alternate days, and massage on alternate days to assist elimination. In my own case I think that any waste products went to my left ankle, which was an old football injury, but which had given me no trouble for many years. I think it is much wiser for patients who wish to reduce their weight by fasting to go into a clinic which specializes in these things or at any rate to a spa where they can have eliminative treatment. I am all in favour of scientific fasting, not only for reduction of weight but for other diseases in which a septic focus cannot be found, but it must be scientific.

I was so ashamed of my obstinacy in thinking that I could fast and work, contrary to the advice of my friends, so I continued to work instead of going into a nursing home to rehabilitate myself. As a result I have had chronic rheumatism ever since. I have never put on weight again, and it would seem that my diet, which previously over-nourished me, now turns to uric acid, and it would also seem that once one's chemistry has been upset it is impossible to put it right again.

It would be interesting if "Apollonian" would write again and tell us how he is a month after his fast, and what type of diet he took to begin with before he returned to a normal diet, and when his bowels commenced to function again. I think he should have signed himself "Hercules" and not "Apollonian."—I am, etc.,

"CASSIUS."

Aspiration Test in Diagnosis of Breast Tumours

SIR,—I would be grateful for a little space in your *Journal* to emphasize the value of the aspiration test in the diagnosis of breast tumours. It is now generally agreed that every breast tumour must be regarded as a carcinoma until it is proved innocent, and it is because of this accepted view that an ever-increasing number of cases are being seen for early diagnosis.

A tense cyst situated in an area of chronic mastitis so closely simulates a carcinoma that one is often tempted to advise radical mastectomy without a preliminary incision of the tumour. Few surgeons would not confess to having performed a carefully planned radical mammectomy for an apparently obvious carcinoma, which upon subsequent incision and section proved to be an innocent cyst. A tense cyst is easily palpable with the flat of the hand, and as it finds its origin in an area of mastitis it imparts an impression of undue fixation in the surrounding breast tissue. When other confirmatory signs are lacking, one is justified in attempting to aspirate the swelling with a fine-bore needle. This simple procedure in a few seconds can banish any element of doubt concerning a lump in the breast. A few c.cm. of turbid fluid are withdrawn, the tumour vanishes, and only a depression remains in an area of mastitis, which can no longer be appreciated with the flat of the hand. Should the tumour be solid, the needle is felt to pass through it with increased resistance, whereas it pierces a cyst wall with characteristic ease and suddenness. The patient is therefore saved the inconvenience of a biopsy, and can be kept under regular observation.

It can be argued that the trauma of needling may cause a carcinoma to "metastasize" more readily. This cannot be denied, but the degree of tissue disturbance must be minimal, and therefore probably is no more harmful than a series of determined palpations which a mammary tumour of doubtful identity usually suffers.—I am, etc.,

Chelmsford. M. D. SHEPPARD.

March Fracture

SIR,—Mr. Ian D. Kitchin (July 14, p. 64) has commented on the frequency of march fractures and their treatment. I am in entire agreement with him that these fractures should be relieved from weight-bearing in their acute phase. It is, however, worth mentioning that the acuteness varies considerably and the length of treatment can be modified accordingly. Radiological confirmation also depends on the severity of the lesion. The most severe cases do not show any signs of periosteal involvement under 5 to 7 days, and in the less acute cases this may be prolonged to 10 or even 14 days. Extremely mild cases are sometimes seen which have never been reported to the M.O. Such a case would give a history of slight pain in the foot a few weeks previously which gradually disappeared. Although this is not common, it shows that resolution may occur without any interruption of training. This is of interest, because the length and type of treatment can depend on the severity of each individual case. Over 200 cases have been observed, and at one time every case was put into a walking plaster for a month. This was discontinued when it was found that treatment was being unnecessarily prolonged. After a month in plaster, at least two additional weeks are required to mobilize and strengthen the foot muscles before full training can be recommended. Plasters may be required for the most acute cases, but the treatment of a case of average severity can be shortened by the use of a felt metatarsal pad. It is necessary to insist that Army boots are worn, because the thick and unbending sole forms a most effective splint. After one week most men are able to walk about in boots with comfort. Non-weight-bearing exercises are then commenced and training is very gradually introduced. Jumping and running should be forbidden for a month, and at the end of this time full training can be resumed. This method has advantages so long as it is used with discretion, and it certainly shortens the period of inactivity. It is, however, useless to keep a man on infantry training while he still has a painful foot, and march fractures should always be given a period of rest to allow the acute phase to subside.

Although the second or third metatarsals are the most commonly affected, fractures do occur less frequently in the fourth and fifth. It is possible for two metatarsals to be involved at the same time, and rarely three metatarsals may show march fractures. The aetiology is still obscure. Blair Hartly believes that they are analogous to the stress fractures of metals. It is possible that some interference with calcium metabolism predisposes to this condition.

In an article now in the medical press I have shown that these fractures are very frequently found in men who have adolescent kyphosis or signs of old rickets.—I am, etc.,

Lisburn, Co. Antrim. R. W. WINDLE, Major, R.A.M.C.

Emergency Treatment of Fractured Femur with Shortening

SIR,—I have just received the *Journal* of July 7 and am amazed at Fl. Lieut. J. Noel-Jackson's article on a case of fractured femur (p. 16). Evidently pride in the ingenious products of his blacksmith has blinded him to the gross faults in surgical technique which he displays. Even without the assistance of *x* rays he should have been able to tell from local tenderness, bruising, etc., that the fracture was in the neighbourhood of the great trochanter, and therefore the correct first-aid treatment was abduction in a plaster spica. If, however, he believed the fracture to be in the mid-shaft his first effort with a Thomas splint and skin traction was correct. This proved uncomfortable, probably through errors in applying the strapping, so he manufactures that abomination an ice-tong calliper. Under the conditions of lack of asepsis that no doubt prevailed, this implement is as dangerous as a Steinmann pin would have been and much less efficient. Then Fl. Lieut. Noel-Jackson finds that he is unable to use his callipers with a Thomas splint, so his patient blacksmith has to make a Braun frame, and with it all hope of immobilizing a pertrochanteric fracture disappears.

It was then decided to apply a plaster, so a board with a perineal post is slipped under the unfortunate patient, and the whole paraphernalia hoisted up on the delightful machine which is illustrated. I note that when the Braun frame was removed the knee became extended, thus displacing the fracture. Then plaster was applied. If your correspondent means a plaster spica I cannot see how he passed the bandage between the patient's back and the board; while if it extended only to the groin he might just as well have put plaster on the penis for all the effect it had on the fracture. I am not surprised that union was poor a few weeks later. I am surprised there was any union at all.

Fl. Lieut. Noel-Jackson is now entitled to ask me, "Well, what would you have done?" Here is my suggestion: a roller towel or domette bandage round the perineum and fastened to a hook behind the patient's head; a pudding bowl under his sacrum; pentothal anaesthesia if available, and failing this a full dose of morphine. The surgeon applies manual traction to the fractured limb for 5 minutes, abducting and internally rotating it, while an assistant pulls on the sound leg. When shortening is corrected a second assistant takes over the limb and maintains the position while the surgeon applies a plaster spica extending from the lower ribs of the opposite side to at least below the knee of the fractured leg and preferably to the sole of the foot. In this state a patient can lie comfortably till the snow has been cleared and he can be transported to hospital. Such a plaster if left on for months might cause hypostatic pneumonia, but for a few days it is quite safe. The final treatment in hospital would probably be nailing or Roger Anderson's "well-leg" traction. I have recently used the above method with perfect success, although I had access to pins, wires, Braun splints, and all the other ironmongery of the trade.—I am, etc.,

Messina. J. S. JOLY, Surg. Lieut., R.N.V.R.

Hereditary Transmission of Dupuytren's Contracture

SIR,—In the copy of the *Journal* of May 26, just arrived, there is on page 741 an annotation on clinical effects of vibrating tools, wherein your annotator tells us that "Dupuytren's contracture and ulnar paresis can undoubtedly result from the pressure of these tools on the palm of the hand." A few months ago the writer of an answer in your "Any Questions ?" column (March 10, p. 354), with just as little hesitation, assumed that Dupuytren's contracture was due to trauma.

Now that is what Dupuytren imagined when he wrote about the condition in 1831. It is said that he observed it in his coachman, and he thought it developed through wielding the whip. With this authority to start it, the explanation was copied into the textbooks one after another, and this has gone on for the past 114 years or thereabouts. Mouldy and outdated, it is still there. Some angry person has said that it takes 30 years to get anything into the textbooks and 100 years to get it out, but, of course, people exaggerate. When this particular bit of misleading authoritarianism will fade out of our textbooks it would be rash to anticipate, but the contributors to our periodical literature could be usefully employed in getting on a little faster than the textbooks.

Since 1900, when Mendel's work became known, those who have studied such matters have seen reason to be extremely sceptical or, rather, to deny categorically that acquired characters are passed on by inheritance. Also, since Dupuytren's time there have appeared many papers about the condition bearing his name, some of them in the *British Medical Journal*, and many of them have recorded examples of its hereditary transmission. I confess that I have written about it myself. Your readers may not have easy access to a file of the *Medical Journal of Australia*. There, in the issue of Aug. 19, 1944 (pp. 177–82) they could find a large array of familial cases, included in 8 families. I quoted one family record, contributed by E. S. Stokes, which presented one line in which the condition was passed on through an unaffected daughter from grandfather to grandson. In a second line from the same family stock it was passed on from a great-grandfather through an unaffected daughter, and then through her unaffected son, to a great-grandson. In the issue of the same *Journal* of Oct. 21, 1944 (p. 442), Marie Brown added a case in which it passed from a grandfather through his unaffected daughter to a grandson.

And now may I be allowed to quote from the summary of my paper.

> "The still current view that Dupuytren's contracture is due to trauma or toxaemia is criticized. Such theories are found to depend on conjecture, a tacitly assumed major premiss, without attempt at proof. This assumption is that the condition present is an ordinary chronic fibrositis, and that, as such, it can be caused by agencies such as trauma or toxaemia. It is pointed out that if Dupuytren's contracture can be caused in this way, it provides an instance of the origination of a condition which is passed on to descendants, preserving its pattern. This presents a dilemma which is intolerable, and the theory is decisively rejected.' The more likely alternative is that all cases of Dupuytren's contracture are familial, and would always be found so if the descent and complete family history were accurately known. It is suggested that the great preponderance of males, which extends to all cases, familial or supposedly non-familial, is capable of a Mendelian explanation."

—I am, etc.,

Sydney, N.S.W. C. E. CORLETTE.

Effects of Tobacco Smoking on Health

SIR,—I read Dr. Lennox Johnston's letter (July 21, p. 98) on the effects of tobacco smoking on health with the greatest interest, and with relief. At last tobaccoism, this tacitly accepted disease, with its many symptoms and serious effect on mortality, has been challenged. Dr. Johnston exposes the "tobacco taboo," which has such a stranglehold on the situation. Why have we tolerated this? Is there a real lack of moral courage in the medical profession to-day? Is it a question of "Physisian, heal thyself"?

As a psychiatrist most of my patients are depressed, many suffering from various forms of anxiety neurosis. In far too many cases I have been told: "My doctor told me to smoke; he said it would soothe my nerves." The reverse has generally resulted; and the patient has become still more depressed and "nervy."

Of course the heavy smoker's cough is a universal symptom that we all meet with. I know one heavy smoker who, whenever he gets even a trifling cold in the head, develops a violent cough which lasts at least a couple of months. On the last occasion his wife said she was kept awake every night, once until 3 a.m., by her husband's "terrible cough." This must happen in thousands of homes, with consequent loss of sleep and efficiency. A lady who has had pneumonia several times is a chain smoker. She has frequent paroxysms of coughing that are distressing to witness. I was told that even in her sleep she wakes her family through this. Yet she maintains that her doctor has never even asked her to smoke less, or suggested that she should give it up.

You have only to request young men or women not to smoke in a non-smoking railway compartment (most older people will courteously comply) to receive the most vitriolic insults. Last week I was told by two soldiers that they only wished they had me in Germany with a tommy-gun, merely because I asked them not to smoke in a non-smoking compartment on a journey of just over an hour. The idea that cigarettes are an absolute necessity for all the Forces all the time shows how ingrained tobaccoism has become in the nation.

What is the cause of all this? In my opinion two separate fears and "big business." (1) Fear—i.e., lack of moral courage —of not being thought "modern." Considering that the modern world has exceeded all previous records in cruelty, beastliness, and destruction the actual achievements of modern life are, to say the least, doubtful. (2) Fear of having to face and deal with life without the dulling (so-called soothing) effect of smoking. (3) Immense financial interests are involved, and the sale of tobacco is pushed with all the skill and subtlety of psychology applied to business. I consider this mass suggestion in advertising one of the great evils of our time; its constant pressure in direct and indirect ways has a huge cumulative effect; and we must remember that with the end of the war in Europe it will increase. The result of this in the sale of patent medicines is bad enough (especially to my patients), but the harm done by advertisements of alcohol and tobacco is far more widespread and serious.

Smoking has immensely increased during the war—by 34% between 1937 and 1944, as Dr. Johnston points out—especially among women. We can only discover later the full effect of this, especially on the newborn child, on small children as well as older ones, and on the home. But I believe that smoking, this "means of administering a drug of addiction," is one of the causes of the increase in nervous illness. Our nation is numerically small, yet our position in the world is vital and we have an amazingly important mission to fulfil in the future. It is our duty to protect and promote the health of this nation in every way. The medical profession has done a very great deal to improve it, even during the difficult years of war. Is it not now time to consider honestly this insidious and increasing disease of tobacco smoking, and take courageous and energetic steps to overcome it?—I am, etc.,

London, S.W.1. SYBIL TREMELLEN.

Identification of Gas Cylinders

SIR,—Dr. A. Owen-Flood (April 14, p. 535) states that on the Coxeter-Mushin apparatus fitted with "Romac clips" it is not possible to connect the nitrous oxide or carbon dioxide cylinders to the oxygen flowmeter. There also appears to be a popular idea that the couplings used on this apparatus and on the new Boyle's table are non-interchangeable and foolproof. It is necessary to offer a warning against this supposition. In actual fact it may be possible to apply any of these clips to a smaller-sized outlet than the one for which they are designed, a perfectly satisfactory and gas-tight attachment being obtained by depressing the fastening lever in the reverse direction to the usual. This is a method of obtaining a tighter fit from the clip which we have been using on our high-pressure pipe-line for the past two years whenever the clips became worn.

On a new Coxeter-Mushin table which was placed in my charge recently direct from the manufacturers not all the clips are loose enough to stand misplacement; but it is possible to couple the nitrous oxide tubing to the oxygen cylinder, the oxygen tubing to the carbon dioxide cylinder, the nitrous oxide tubing to the oxygen or the carbon dioxide flowmeters, and the oxygen tubing to the carbon dioxide flowmeter. It is not possible to connect the clips to fittings larger than those for which they are intended; this leaves a safeguard in that a misplaced clip leaves its proper fitting uncovered and the attendant may notice this—except on machines equipped for a pipe-line where one of the two additional clips might be utilized or when the machine is not carrying its full complement of cylinders. A simpler, cheaper, safer, and more satisfactory method is to wire the rubber tubing, which lasts quite a long time, to the reducing valves, flowmeters, and any other connexions contained in the system.

I have worked both with the system where the anaesthetist does all the servicing of the machine and where he merely uses an apparatus already prepared, taking the responsibility for any mistake. I am convinced that the more or less skilled attendant employed in the latter case is not in the least likely to be deterred either by the improbability or by the difficulty of the mistake he is able to make. There appear to be only two solutions to the problem of avoiding such accidents as the fatal administration of nitrous oxide in the place of oxygen, as reported in the daily press recently. The first, the servicing and use of machines only by skilled anaesthetists, is reliable in theory. The second, the use of nothing but truly non-interchangeable connexions, either of the screw or of the male and female type, involves considerable problems, since it entails the modification of every machine and cylinder in the country.

In the meanwhile it seems a pity that the modern anaesthetic machines show so little advance in design. The introduction of permanent piping, for instance, would allow of the use of only one reducing valve of each type, and result in the reduction of the number of connexions by two-thirds. Let us hope that the improvement in the war situation and the activities of the committee now sitting on the subject will soon give us machines which will prevent this needless loss of life.—I am, etc.,

Worcester. E. F. GLEADOW.

Death Certificates

SIR,—What a profusion of literature we now receive all with the theme: "Now that the war in Europe is ended and we are no longer threatened by deaths from bombs and rockets, death from disease (heart disease kills 126,000 annually) is still with us"! Deaths from various forms of heart disease—126,000 are killed every year: how inaccurate this statement is! Practitioners know full well that with probably half the certificates they sign, giving heart disease as the cause, the actual reason for the exit was "old age," "worn out," or "B.T.S." (born too soon). But what happens if one is unwise enough to put "old age," "worn out," or "B.T.S." on the certificate? It is, of course, returned to us pointing out that these are "undesirable terms." The result is that one has to rack one's brains to think of some other cause. One probably argues with oneself that if a person has died of old age there was probably some form of "myocarditis"—hence "heart disease kills 126,000 in England and Wales in a year."—I am, etc.,

M. F. McDONNELL,
Medical Officer of Health.

Northfleet, Kent.

Hypoglycaemic Fatigue

SIR,—I have read with great interest the annotation on hypoglycaemic fatigue (June 23, p. 881). It stresses the importance of a "physiological basis of many neurotic symptoms"—functional neurotic symptoms which are often vague, not connected with any one organ. I am thinking of patients with fatigue, tremor, effort syndrome, hunger pain, giddiness and faintness, or signs of an anxiety state without a personal cause. They have in common the sweat of the palms and the axillae, tachycardia, and on clinical examination no abnormality can be detected, but on laboratory examination the following abnormalities are found: (1) phosphaturia, (2) relative or absolute hypoglycaemia, (3) changes in the electro-encephalogram.

The phosphaturia was known to exist in so-called nervous or functional patients, some of whom were found to have hypoglycaemia, and when they had the hypoglycaemia they had phosphaturia. It seems to me as if there is a direct connexion or metabolic disorder similar to the acetonuria in diabetes mellitus. The hypoglycaemia appears to be time-bound, occurring, when it occurs, almost invariably at the same time of the day or night. Whatever its cause it is a psychosomatic syndrome, which must be approached by somatic treatment. Normal fasting blood sugars do not exclude hypoglycaemia after meals; but hypoglycaemia detected once only by a reliable and efficient observer demands investigations. That the so-called neurotic element is due to an organic foundation can easily be understood from the changes seen in the E.E.G.; further from the pathological findings as published by Lawrence, Meyer, and Nevin (*Quart. J. Med.*, 1942, **11**, 181). However, these vascular changes are not specifically cerebral. They can occur anywhere in the body, producing a thrombosis or necrosis—e.g., a case of coronary thrombosis in a hypoglycaemic attack was observed by me about ten years ago in a patient aged 38.

Hypoglycaemia or glycopenia or glycogenaemia is a typical instance of an apparently functional disturbance, but really caused by an organic abnormality, and if not recognized as such may lead to serious disability where there is no need for one. Untreated the functional disturbance may lead to: (1) that a person is labelled "functional," suffering from effort syndrome, functional dyspepsia, etc., and therefore disabled and unfit for certain occupations; and (2) that he may receive psychiatric or psychological treatment where organic treatment is simple and a primary necessity—a point which is easily forgotten. Lastly, I would like to point out that in some of these cases as in many chronic diseases disability only occurs at times of stress, and is not due to or connected with these chronic diseases, which independently need medical or surgical attention.

The following are among cases of hypoglycaemia seen by me which I believe are worth mentioning; the blood sugars are given fasting, and 30, 60, 90, 120, 180, 240, and 300 minutes after 30 g. of glucose.

(1) Carcinoma of oesophagus, no secondaries, in a male: blood sugar 50 mg. per 100 c.cm. blood; then after the intervals stated above 130, 126, 52, 41, 78, 63, and 67 mg. per 100 c.cm.

(2) Malignant pyloric obstruction, no secondaries, in a female, aged 58: blood sugar 72 mg. per 100 c.cm. blood; then 62, 62, 51, 71, 67, 44, and 40 mg. per 100 c.cm.

(3) Pituitary cachexia (Simmonds's disease; see *Lancet*, 1935, **1**, 1502): blood sugar 62 mg. per 100 c.cm. blood; then 130, 80, 70, 100, 78, 60, 60 mg. per c.cm.

In a fourth case—that of a man aged 31 with inner-ear deafness and macular retinitis—the blood sugar was 83 mg. per 100 c.cm. blood, and after 30 mins. 140 mg. per 100 c.cm., after 60 mins. 120, after 90 mins. 85, after 120 mins. 90, and after 180 mins. 65. This case is of special interest as all his symptoms and signs practically cleared up on thyroid treatment—a happy result, if a somewhat unusual and unexpected one.

The treatment in most of the cases consisted in frequent feeds and plenty of carbohydrates, and atropine grain 1/100 t.d.s. by mouth seemed to be of great value to the patient, who thus found relief from his unpleasant symptoms. Barbiturates like luminal apparently aggravate the symptoms and increase the frequency of the attacks.—I am, etc.,

Highgate, N.6.

L. RAU.

"Under the Influence"

SIR,—Twenty years ago, when I began the duties of a police surgeon, defendants in such cases were willing to be tried in a Magistrates' Court, but nowadays they have become wise as to the possibility of being acquitted if the case is tried by a jury, either at the Assizes or Quarter Sessions, and in nearly every case they now elect to be tried in such a manner. In consequence the lot of police surgeons in such cases has become intolerable. The hanging about at these courts, only to have the case dismissed by a jury after cross-examinations and evidence of some witnesses who do not appear to realize what evidence on oath means, is exasperating, to say the least of it.

It has recently been my experience to certify as "under the influence of alcoholic liquor" two motor-car drivers who elected to be tried by a jury and who were in my opinion both undoubtedly intoxicated at the time of examination. In both cases the accused were defended by very well known King's Counsel, who cross-examined me very closely. In each case I was in the witness-box for nearly one hour after waiting all day to be called, in spite of my asking to have my evidence taken first. In one case defending counsel objected to my being called first, saying that he wished to call witnesses in the correct sequence of events leading up to the arrest. I was called last out of a considerable number of witnesses, in consequence of which that day's medical visits had to be carried out hurriedly and somewhat indifferently later that evening, some cases not being seen till the next day or even later. The accused obtained an acquittal in spite of the medical and general evidence of all witnesses, and in one case in spite of the fact that the judge summed up against the accused.

The crux of the matter appears to be the clause in the report of the Committee, appointed in October, 1925, by the B.M.A., on Tests for Drunkenness. This clause states: "There is no single symptom due to the consumption of alcoholic liquor which may not also be a sign of some other pathological condition." In each of the above-mentioned cases defending counsel quoted this clause word for word and put the question to me as to its validity, to which I had to admit agreement. In fact, in one case after being questioned I was politely informed, "Well, Doctor, we have reached test fifteen and he is still sober." Truly, legal jugglers can make black appear to be white.

In the *Practitioner* for April, 1945, Prof. Sydney Smith, in an article "Alcohol and Road Accidents," aptly states "that if the definition of a number of States in the U.S.A. were adopted in this country, namely: 'If the ability of a driver has been lessened in any degree by the use of intoxicating liquors, then the driver is assumed to be under the influence of intoxicating liquor'—then the problem of suitably dealing with the drinking driver would be greatly simplified." The enormous waste of time and nervous energy in attempting to help the police in such cases is utterly futile. At present the law is defeating its own ends, so far as protecting the public is concerned, for even if an individual is practically insensible from drink, I believe that under the present ruling he will still obtain an acquittal.

I have informed the chief constable of the county in which I practise that I cannot in future undertake the examination of persons so charged, and I doubt very much whether he will obtain the services of any other doctor to undertake these examinations under existing circumstances. Blood and urine examinations to ascertain the percentage of alcohol in the blood and urine respectively might be used, but these are of only relative importance, and before taking such specimens the consent of the individual must be obtained, which in all probability would not be given. The whole procedure is becoming a farce, especially in view of the enormous increase in motor traffic which may be confidently anticipated when petrol rationing comes to an end.—I am, etc.,

Alresford, Hants. C. E. MERYON.

Doctors and the Social Trend

SIR,—It may be remembered that on more than one occasion in the past I have endeavoured to emphasize the very wide nature of the present social impulse that is making itself felt in the medical profession. We, like many another institution, had for some time toyed with a plan of reform, and possibly one day such plans might have culminated in a few quite desirable changes of procedure. But to-day the motive force is not provided by a few restless consciences within our ranks. It is, as I have pointed out previously, nothing less than a world force; and the world, this country, and its medical profession require men who can direct its energy rather than spend their strength against it.

Unfortunately the life of a medical man is often much too detailed and specialized to permit a dynamic sense of his position. Many doctors (e.g., Dr. Guy Bousfield, *Supplement,* July 28, p. 18) still seem to cherish the idea that reform of the health services should be designed primarily to meet the wishes of the medical profession, and that the demands of any wider democracy upon their services should be resisted by a sort of medical "junta." And that rather unrealistic and short-sighted attitude is by no means confined to the rank and file. It would appear likely that much of our heritage has been irretrievably frittered away by those of our leaders who failed to recognize the weight of the present social avalanche. The chance to compromise with the more moderate elements has now gone, and we must face the prospect of a far more rapid evolution at the hands of a Government that cannot be expected to feel at all sympathetic with our professional interests.

At the General Election thousands of people like myself voted Conservative in the hope of preserving a stable and wise leadership at home and abroad which might smooth the action of the social upheaval on this country. It is a measure of the force of that social upheaval that such votes were nevertheless completely swamped by its influence on the poll. The electorate is no longer content with a Conservative filtrate of Socialist doctrine. The bulk of our patients now require a health service organized 100% in their interest, and no doubt will refuse to tolerate any sectional obstruction to the mandate that has been given to their leaders for this purpose. That is not to say that the design of the new health services has been removed entirely out of our hands. On the contrary, it is obvious that our co-operation will still be sought and valued. But it will have to be co-operation now and avoid all appearance of being a sort of rearguard action to enable the main body to escape with the valuables.

Obstructionist talk and writing are highly detrimental to our interests, and much public sympathy has already been forfeit in this way. The medical profession is the servant of the public in fact as well as ethical theory, and suggestions that the wishes of a majority of doctors in or out of the Services should be paramount are most harmful. Our leaders must be prepared to co-operate and sympathize with the aspirations of this Government or be prepared to give place to others who will do so. Defiance of a democratic Government by a small minority is not practical politics. The only course, therefore, is to exhibit a co-operative spirit and make a genuine endeavour to give the public the best possible chance of trying out the type of health service it elects to institute. If this Government was convinced that it had to deal with medical men imbued with that spirit it would in turn feel a much greater readiness to sympathize with their views. We may even have to face a salaried service now, but an adequate salary would go a long way towards making that supportable to its most vehement opponents. The average patient is not averse to the payment of his doctor, and may be expected to support reasonable demands for compensation or payment for any service he requires. Such things as that are not to be sacrificed lightly, and indeed any mutually constructed service will almost certainly prove to be a better thing for everyone than anything that could result from the unconditional surrender of the medical profession after a tussle with the country as a whole.

No one can now fail to discern the signs of the times. The country is possessed by an idea for the realization of which it has repudiated its greatest hero in the hour of his triumph over our enemies. The ablest leaders must march ahead of opinion. Let no one therefore suppose that by lagging behind he can obstruct the course of events, or that the medical profession can any longer defy a force that has swept Mr. Churchill aside.—I am, etc.,

Eye, Suffolk. J. SHACKLETON BAILEY.

The Special Treatment Centre

SIR,—I have read in the Parliamentary notes in the *Journal* of June 23 (p. 890) the report made by the Minister of Health upon the arrangement and working of the medical services in England in the weeks following D-Day. There is no doubt that great things were achieved and that a remarkable nation-wide organization showed that it could work well when it was required.

One of the points made by the Minister was to the effect that the opportunity was taken to put into operation a scheme to classify different types of injury, and to send those suffering from them to prearranged centres, established up and down the country, for treatment. Apparently in the conditions present at the time the arrangements proved satisfactory, and it seems certain that many of the planners in our midst will take this as an argument in favour of setting up special centres in widely separated parts of the country in peacetime for the treatment and diagnosis of certain diseases. This is a letter from one who has had the opportunity of seeing some of the effects of this form of regionalization and has suffered under it himself; it is a plea that much thought should be given to the matter before any action is taken.

Of first importance is the fact that all regionalization of medical services in the above sense must, of necessity, be largely for the convenience of the organization and not for that of the patient, no matter what safeguards are introduced. The patient would always rather be treated in his home town or home area if he cannot be left at home. If he has to go far afield to a special centre he will go unwillingly in most cases, and will want to know why the service cannot come to him. The only answer he can have is that it is more convenient for the organization. This feeling would not, of course, apply to men wounded in France for whom anywhere in England is home only later when they may find themselves retained in a special centre in a strange part of the country does their idea of "home" contract to "home town."

In the Services regionalization of this sort is running away with itself; special centres for various complaints and injuries have been instituted, and patients have often to be sent great distances to them when there are facilities for the proper treatment on the spot and the only thing lacking is the "specialist." I, myself, fractured my skull in Holyhead, my home town, and though there were adequate facilities for treatment there it was decided that I must go to Bristol, which happens to be the Naval centre for head injuries. This move was made in spite of my protests, and finally resulted in my travelling to and fro between Bristol and Holyhead to the extent of 1,300 miles in the following six weeks. I am not suggesting that I suffered any harm from this variation of the "absolute rest" treatment which I was ordered by the eminent surgeon who saw me, and who assured me that Bristol was the only place I should get it. In fact my injury was fairly trivial and I had "got away with it" before he saw me. But I do suggest that this is an instance of the organization being put before the patient, and that it showed both how bound the surgeon was by the Service, and how little he could have known of the effect his advice would have on the life of his patient within that Service. In addition I should mention that there was also the expense, which was not negligible, and the separation from my family, which, though I am normally used to that, seemed at the time to be particularly distasteful; these factors were just not considered. All these things

I foresaw and used in argument when it was proposed to send me away, but to no effect; and if I, a doctor, could not save myself, what chance, I thought, could a lay patient have?

Our latest form of regionalization has now taken continents into its scope; cases of tuberculosis arising in the Eastern Theatre are now discharged to South Africa with the excuse that the climate there is beneficial. I was under the impression that the general view held was that the English climate was as good for the Englishman suffering from phthisis as anywhere, and I fancy the real reason for this latest effort is the lack of beds and staff at home. This lack could, however, be overcome very easily if the Services undertook the treatment of their own cases instead of handing them over to others. The Services, with their powers of direction and the appeal which they have to female staff, would have little difficulty in providing for the treatment of all the patients arising within them. But, no doubt, it would be inconvenient, and it is very easy to send the patients to South Africa, where, I do not doubt, they receive the best and kindest of treatment. But this is a tragic betrayal of the patient's real interests, for to a man who has already been away from home for perhaps a matter of years the prospect of being transferred now that he is ill to a strange country for an unknown length of time and always with the possibility of his dying there is terrifying. This, together with the fact that he has little say in the matter, leads to a state of mind which is not helpful to recovery.

Of course there is another side to the matter: there will never be enough specialists to have one available everywhere, and having the few there are in special centres does make them available, on paper anyhow, to everybody. By specialist I mean, in this instance, the man who has seen so much of one disease (or group of diseases) that he can recognize it by its bark and can treat it almost with his eyes shut. But I very much doubt whether these men contribute a very great amount to the sum total of medicine, and it is by no means certain that to force patients to go and stay long distances away in order to place them under the care of these men will contribute much to the sum of human happiness, nor will it save many from the grave before their time.

At the moment the special-centre enthusiasts appear to want to embrace almost all but the most elementary medical practice, and unless we can put the brake on this enthusiasm we shall all be caught up in the net. Medicine will then lose much of its humanitarian interest, for who can be interested in the unit which must be sent here for that and there for this? In addition we shall find ourselves fearful of making this or that diagnosis which we know will mean the removal of the patient from his home and the break-up, although temporarily, of his family—that is, of course, always supposing that he will go to the centre for his disease.—I am, etc.,

GUY ROWORTH.
Surg. Lieut.-Cmdr., R.N.V.R.

Universities and Colleges

UNIVERSITY OF LONDON

John Yudkin, M.D., Ph.D., has been appointed to the University Chair of Physiology tenable at King's College of Household and Social Science as from Oct. 1.

UNIVERSITY OF GLASGOW

Leslie John Davis, M.D., F.R.C.P.Ed., senior lecturer in the Department of Medicine in the University of Edinburgh, has been appointed to the Muirhead Chair of Medicine in the University of Glasgow as from Oct. 1, in succession to Prof. A. W. Harrington, M.D.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

At a meeting of the Council of the College held on Aug. 2, with Sir Alfred Webb-Johnson, President, in the chair, a Diploma of Fellowship was granted to Raymond Alexander King. Diplomas of Membership were granted to D. A. N. Barran, A. V. G. Bibby, D. G. Evans, P. M. R. Hemphill, G. F. Jolly, R. A. J. Pearce, E. J. M. Weaver, and to the 130 successful candidates whose names were published in the report of the meeting of the Royal College of Physicians of London in the *Journal* of Aug. 11 (p. 201); as were the names of the five successful candidates for the Diploma in Public Health. Diplomas in Medical Radiology and in Ophthalmic Medicine and Surgery were granted, jointly with the Royal College of Physicians of London, as follows:

DIPLOMA IN MEDICAL RADIOLOGY.—R. A. Andrews, K. C. Falkner, R. M. Hall, T. M. Young.

DIPLOMA IN OPHTHALMIC MEDICINE AND SURGERY.—D. Ainslie, F. J. Damato, A. J. Elliot, H. C. Kodilinye, J. M. Loftus, P. J. McNicholas, L. H. G.-Moore, J. C. Mustardé, T. H. Negus, A. K. Pittman, D. Shorten, R. Vaughan-Jones.

ROYAL COLLEGE OF OBSTETRICIANS AND GYNAECOLOGISTS

At a meeting of the Council, held on July 28, Mr. Eardley Holland was re-elected President to take office in October next. The following officers were also elected: *Vice-Presidents:* Profs. D. Dougal and R. Marshall Allan. *Honorary Treasurer:* Mr. W. Gilliatt. *Honorary Secretary:* Mr. G. F. Gibberd. *Honorary Librarian:* Mr. F. W. Roques. *Honorary Curator of Museum:* Mr. A. W. Bourne.

The following candidates were elected to the Membership: T. M. Barnett, A. Buchan, Daphne Wai Chan Chun, Aileen M. Dickins, E. D. Y. Grasby, M. W. Hemans, Ursula M. Lister, Agnes M. D. Milne, Abd-El-Salem M. El-Minabbawy, K. Mitra, Joan P. Moignard, P. Raj, W. B. Shute, Beatrice M. Smyth, J. M. Thomson.

Medico-Legal

A SEAMAN'S RIGHT TO TREATMENT

If a merchant seaman reasonably believes his health is endangered by illness for which he can only be properly treated ashore, he may go ashore for the treatment even in disobedience of his captain's orders.

An assistant cook in a merchant steamer carrying troops complained to the ship's doctor of spasm in the right thigh muscles. About a fortnight later he complained of pain in one ear. By the time the ship reached Durban three months later both complaints had become worse and he was dissatisfied with the treatment given by the ship's doctor. The man went ashore and consulted of his own accord the port health officer, who sent him to two private doctors, one for his leg and the other for his ear. He also signed a letter to the captain of the ship, but this never reached the captain. Both the private doctors sent the man to a radiologist. He obtained from the ship's agents an authority to be radiographed; copies of the radiologist's reports were sent to the ship's agents and handed by them to the captain, who promptly started inquiries. The otologist, according to the man's statement later, said he must go to hospital for immediate operation, but that he must obtain a note from the ship's doctor allowing this to be done. When the man told the ship's doctor of this, the doctor, who had authorized neither the *x*-ray examination nor the consultation with the otologist, was not satisfied. He met the man at the otologist's surgery, and after a consultation the otologist told the man that the operation could wait until the ship returned to Liverpool. The man was not satisfied with this opinion and went back to the port medical officer, who also was not satisfied and sent the man to a third doctor. This doctor found the man definitely ill and in need of urgent attention to prevent infection spreading from the mastoid to the brain. He arranged for the man to see him next day so that he could make arrangements for his admission to hospital. Next day, however, the captain sent for the man and, after inquiry, ordered him to return to duty pending investigation. The man retorted that he proposed to go ashore and that the captain could not keep him on board. Shortly afterwards he went ashore, and was duly operated on and discharged about ten days later, certified as fit to travel but not to work. He did not inform anyone aboard the ship that he was in hospital; the hospital informed the ship's agents, but the ship had by then sailed. The captain detained the man's effects which he had left aboard the ship, and entered in the ship's log a statement that the man had deserted the ship at Durban.

When the man returned to England he sued the owners of the ship for a declaration that he was not a deserter, for the return of his belongings or their value, for wages, for breach of statutory duty to obtain a certificate from the shipping master entitling the captain to leave the man behind, and for libel. Mr. Justice Lynskey said[1] that to commit desertion a seaman must completely abandon his duty without justification. He took the view that the man, on the advice of the third doctor, thought an operation was imperative and delay might be fatal. He was therefore justified in taking the necessary treatment and not returning to his ship. Both the captain and the purser sent in evidence that if they had known he was in hospital they would have paid him off and not treated him as a deserter. A deserter forfeits wages and his belongings which he leaves on board, but this man, not being a deserter, was entitled to the return of his effects or £140 (their estimated value), to £20 general damages, and to his agreed wages up to the date he went ashore.

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[1] Moore v. Canadian Pacific Steamship Co., (1945) 1 All E.R. 128.

Concerning the breach of statutory duty, the Merchant Shipping Act, 1906, forbids a master of a British ship to leave a seaman behind at any place abroad unless he previously obtains the certificate of the proper authority stating the cause. The captain agreed that he did not obtain such a certificate, and said that in practice this provision is ignored because no one knows whether a man is a deserter or not until the ship has sailed, and to obtain a certificate would mean holding the ship up for hours, if not longer. The judge found that the section imposes an absolute statutory duty which can only be altered by Parliament; but as the man had already been fully compensated he merely awarded under this head nominal damages of 1s. On the question of libel, no doubt the words written in the log were defamatory, but they were written and published on a privileged occasion. Under the Merchant Shipping Act, 1894, a master must make entries in the log, and if he leaves a man behind he must state whether the cause is desertion, inability to proceed to sea, or disappearance. The judge was satisfied that the captain had received no information from the hospital, the ship's agents, the purser, or the doctor; he only knew that the man had had two *x*-ray photographs taken and had defied his orders to remain on board and had not come back; he had made the entries in his log in good faith and the firm belief that they were true. The man therefore failed in his claim for libel and had to set off its costs against those paid by the company on his successful claims.

Obituary

LADY BARRETT, C.H., C.B.E., M.D., M.S.

Lady Barrett, consulting obstetric and gynaecological surgeon to the Royal Free Hospital, died at the age of 78 on Aug. 7. She was the widow of Sir William Barrett, F.R.S.

Florence Elizabeth Perry was born in Bristol in 1867, and, after being educated privately, decided in her early teens to take up a medical career. She studied at University College, Bristol, and the Royal Free Hospital, London. After matriculating at London University in 1893, she took her B.Sc. in 1895. She qualified in 1900, took the M.S. in 1904, and the M.D. two years later. At the Royal Free she acted as assistant anaesthetist, ophthalmic assistant, house-surgeon, clinical pathologist and assistant pathologist, surgical and gynaecological registrar with charge of the *x*-ray department, and clinical gynaecological assistant and anaesthetist. In 1908 she was appointed assistant physician for diseases of women, and from 1913–21 was lecturer in midwifery. Lady Barrett was also consulting obstetric surgeon to the Mothers' Hospital at Clapton, and honorary surgeon to the Marie Curie Hospital; she was Dean and later President of the London School of Medicine for Women. She wrote extensively on her specialty, including such subjects as "A Plea for the Feeding of Nursing Mothers as a Means of Preventing the Waste and Maiming of Child Life" and "Conception Control." This most distinguished medical woman served on a large number of committees concerned with social problems and the part played in them by women. Before the last war she was most active in starting voluntary centres in London for the feeding of expectant mothers and children.

Sir William Barrett, whom she married in 1916, was her second husband, and Lady Barrett shared with him his great interest in psychic research; after his death she in part published, in the book entitled *Personality Survives Death,* the record of sittings held with Mrs. Leonard.

Lady Barrett played an active part in the work of the B.M.A., being vice-president of the Section of Obstetrics and Gynaecology at the Annual Meeting at Newcastle-upon-Tyne in 1921, and president of the Section at the Bath Meeting in 1925. She served on the Committee on Causation of Puerperal Morbidity and Mortality in 1927–8, and also on the Parliamentary Subcommittee in 1921–7.

Dame LOUISE McILROY writes:—

Lady Barrett's death will be mourned by a large circle of friends and by those who were associated with her professional work. She had the gift of making and keeping friendships, owing to her loyalty and her charming personality. This gifted woman was a shining example to all medical women, as she combined delightful feminine attributes with those of a skilled surgeon and expert organizer in all matters pertaining to medical education. With the help of Sir George Newman, she was mainly instrumental in obtaining the obstetric unit for the Royal Free Hospital. She held the opinion that a thorough knowledge of obstetrics should be the basis of general practice as well as that of the specialist. She acted as consultant to the unit, and her relationship with the staff was always of the most harmonious nature. She freely gave advice from her wide experience not only of medical problems but of administration. As Dean of the London School of Medicine for Women her help was always available for the benefit of the students, and she gave her sympathetic advice in difficulties of study and the choice of future careers. Perhaps one of Lady Barrett's outstanding characteristics was her great courage in expressing her opinions as to what was just and right. As a distinguished speaker she was much sought after on platforms where discussions took place concerning the interests and health of women and children. She had a long vision of what should be of benefit in the way of public health reforms. She had a great sense of humour, and a happy infectious smile when amused. Her home life with her husband, Sir William Barrett, a distinguished physicist, was of the happiest. With him she studied spiritualism, and in quiet talks in their home one was given a privileged insight into a world different from that of everyday medical life. Theories were expounded by those possessed of deep scientific knowledge. Faiths and beliefs were discussed with an interest which was profound. Scientists, approaching the subject with a broad outlook, cleared up and displaced fallacies. Lady Barrett was a perfect hostess and loved entertaining her friends. She kept in touch with medical women's interests abroad, and she attended international congresses of medical women, where we were all very proud to feel that we had such a distinguished representative and charming speaker. She was always keen on any effort for the furtherance of knowledge of the cause and cure of cancer, and was a valuable member of the staff of the Marie Curie Hospital. Lady Barrett has been a shining example to all medical women on account of her good work and precious comradeship. We say farewell to her with sorrow in our hearts.

SIR THOMAS JONES, M.R.C.S., L.R.C.P.

Sir Thomas Jones, chairman of the Anglesey Education Committee, has died at the age of 74. He was born in 1870 at Llanddeusant, Anglesey, and was educated at the Liverpool Institute and Queen's College, Manchester. After qualifying M.R.C.S., L.R.C.P., and L.S.A. in 1896 he settled down in practice in Amlwch. He was subsequently medical officer of health for Twrcelyn R.D.C. and Amlwch U.D. Sir Thomas Jones was always interested in public work, and had been a member of the Anglesey County Council since 1902; he was chairman from 1913–15, and was later elected Alderman. Since 1919 he had been chairman of the Education Committee, and was active in advocating the provision of hot milk and meals in schools. He was a member of the Council of the Welsh National Memorial Association from its foundation, and from 1911 had been a member of the committee of the North Wales Mental Hospital, and chairman since 1938. He was also chairman of the Mental Hospitals Association in 1942–3, being the first Welshman to occupy the post.

In spite of his numerous public appointments, Sir Thomas Jones had an exceptionally large practice, and will be greatly missed by a wide circle of friends and patients in the island county. He joined the B.M.A. shortly after qualification, and was at one time chairman of the North Caernarvonshire and Anglesey Division; he was president of the North Wales Branch in 1935 and 1936.

Dr. WILLIAM PORTER, who died on June 10, was the senior doctor in active practice in North-East Ulster; he had been in general practice in Portrush, his native town, for over 45 years. He qualified M.B. at the old Royal University of Ireland in 1897, and M.D. in 1908. He was a trustee of Coleraine Cottage Hospital, where he did a good deal of surgery, and was M.O.H. for Portrush and medical officer of the Dispensary. He was often called in by his colleagues over a wide area to give a second opinion, and he was the "doctors' doctor" in his district, many of them seeking his advice on their own health and that of their families. Always an active member of the B.M.A., which he joined in 1900, he was president of the Ulster Branch in 1927–8, secretary of the Ballymoney Division from 1922 to 1927, and chairman of the Division in 1927–8. Yachting was his main recreation, and for many years he spent his holidays cruising round the Scottish Coast. He was keenly interested in the work of the R.N.L.I., and once during the last war he inspired a volunteer crew of the local lifeboat by putting out to sea on an exceptionally rough night; a fierce gale was blowing, and conditions were so bad that many considered it unsafe for the boat to leave harbour. He is survived by his widow, a daughter of the late Dr. Johnston, of Belfast, one daughter, and two sons—Major Robert J. Porter, R.A.M.C., formerly attached to the London Hospital, and Mr. Hector Porter, who practises in Edinburgh.

Capt. DAVID IRVING ANDERSON, O.B.E., R.A.M.C., who died on July 25, was born on May 20, 1881, and received his medical education at the University of Edinburgh, where he graduated M.B., Ch.B. in 1904, taking the certificate in tropical medicine in the same year. After holding the post of clinical assistant in the eye department of the Prince of Wales's General Hospital, Tottenham, he went to Malaya, where he was surgeon to the Johore State and Lower Perak Planters' Association. He returned for service in the R.A.M.C. in the war of 1914–18, attaining the rank of major, and was appointed O.B.E. in 1919. After the war he practised at Ripley, Derbyshire; Pontrilas, near Hereford; Hoddesdon, Herts (from 1920 to 1931, being honorary secretary of the East Herts Division of the B.M.A. from 1928 to 1931); and finally at Ross, Herefordshire, becoming medical officer under the county council and honorary physician to the local cottage hospital. He was employed as a civilian medical practitioner at Hereford Barracks when war in Europe again broke out in September, 1939, and in June, 1940, he was granted a temporary commission as lieutenant in the R.A.M.C., although then 59 years of age, becoming captain a year later. In 1942 he was transferred to the unemployed list.

Dr. C. D. FITCH, who died at his home at Chaddesley Corbett on July 19 at the age of 81, had, like his father before him, practised at Chaddesley for 40 years. Educated at Aldenham School, Herts, and at Queen's College, Birmingham, Charles Dennis Fitch qualified M.R.C.S., L.S.A. in 1885, afterwards becoming obstetric and ophthalmic house-surgeon at Queen's Hospital, Birmingham. He was fond of a number of outdoor pursuits, being a keen gardener, a sound cricketer, an ardent shot, and an acute observer of Nature, especially of bird life. But his greatest pleasure was in hunting and in point-to-point fixtures; he was a follower of the Worcestershire hounds and was a familiar figure at all horse events in the county for many years. He played a large part in village activities throughout his life and was widely respected. He was a churchwarden, a bellringer, and a trustee to the endowed schools, the Foresters, and the almshouses. He had been a member of the B.M.A. for 39 years, and in 1922 was chairman of the Worcester Division. He was a member of the Kidderminster Medical Society. Dr. Fitch retired in 1928. He leaves a son and daughter.

The Services

Temp. Surg. Lieut. A. G. M. Wilson, R.N.V.R., has been mentioned in dispatches posthumously for gallantry and outstanding devotion to duty while serving in one of H.M. ships in escorting convoys to and from North Russia.

Capt. J. A. Peters, R.A.M.C., has been appointed M.B.E. (Military Division) in recognition of gallant and distinguished services in the field.

The following have been mentioned in dispatches in recognition of gallant and distinguished services in North-West Europe: Major-Gen. E. Phillips, C.B., C.B.E., D.S.O., M.C., and Col. J. W. C. Stubbs, D.S.O., M.C., late R.A.M.C.; Cols. (Temp.) A. T. B. Dickson, O.B.E., T.D., C. Helm, D.S.O., O.B.E., M.C., J. P. J. Jenkins, T.D., and A. R. Oram, M.C.; Lieut.-Cols. (Temp.) C. Bainbridge, A. Cowie, M. H. Evans, M.B.E., R. Evans, F. F. Hellier, E. H. P. Lassen, D. J. MacMyn, T.D., G. A. G. Mitchell, and R. E. Tunbridge, O.B.E.; Majors (Temp.) R. Barraclough, J. Bleakley, J. A. C. Burridge, G. B. Carter, N. J. Crawford, H. B. L. Dixon, C. M. Elliott, W. Halliday, K. N. A. Herdman, P. W. Hunt, W. F. Mair, D. D. Maitland, N. H. Martin, D. I. McCallum, M.C., R. M. McGregor, D. J. Paddison, J. B. Shaw, J. E. Talbot, H. R. Thompson, R. S. Thompson, H. L. Thornton, J. C. Watt, K. S. Wilson, and H. L. Wolfe; Capts. J. T. Anderson, R. D. Chalmers, J. J. Cruickshank, J. Dawson, R. Dobson, J. S. Hollingsworth, A. C. Houghton, H. J. C. J. L'Etang, A. T. Macknight, (Miss) R. M. Marwick, S. A. Mason, R. S. McGeorge, C. N. Mills, B. B. Milstein, J. M. Scott, M. H. Sherwell, R. T. Thin, and C. R. Wright; Lieuts. A. O. Harries, M.C., and W. Mills, R.A.M.C.; Lieut.-Col. G. C. Ferguson; Majors R. Blais, H. I. Palmer, and A. E. Thoms, M.B.E.; Capts. (Acting Majors) F. S. Brien, C. C. Misener, and C. L. Pearson; Capts. T. A. Laidlaw, P. Bernstein, N. N. Levine, H. A. Roberts, and R. G. Winram; Lieut. N. A. Riley, R.C.A.M.C.

CASUALTIES IN THE MEDICAL SERVICES

Surg. Lieut.-Cmdr. GERALD NOEL MARTIN, R.N.V.R., the fourth son (all of whom entered the medical profession) of the late Dr. John Wise Martin of Sheffield, died on June 30 at the age of 59, after an operation and a very short illness at the Royal Naval Hospital, Plymouth. He was educated at Sheffield and the London Hospital, qualifying M.R.C.S., L.R.C.P. in 1913, and then held a house post at the Royal Sussex County Hospital, Brighton. His great love was for the sea, however, and he spent many years afloat, both in the Royal Navy and the Merchant Navy. In the war of 1914-18 he served throughout in the Royal Navy, and was in the water 2½ hours when the *Aboukir*, the *Cressy*, and the *Hogue* were torpedoed in September, 1914. When war in Europe broke out in September, 1939, he soon secured a transfer from the Merchant Navy, in which he had been serving, to the Royal Navy. Again he was on board a ship which was torpedoed and spent a night in a small lifeboat in the Atlantic, during which time he controlled a tourniquet on a seriously injured sailor. His service was spent in all kinds of vessels, from superbattleships to monitors, down to the *Discovery*, which was sent on an expedition to rescue Sir Ernest Shackleton. At the time of his illness he was engaged on work in connexion with the demobilization of naval personnel. He was given a Service funeral, with full naval honours. His loss is keenly felt by a great number of friends, both in the Service and out of it, nearly all of whom are members of the medical profession.

Missing, presumed killed.—Temp. Surg. Lieut. Ross McFaul Kirkpatrick, D.S.C., R.N.V.R.

Medical News

Major Basil H. H. Neven-Spence, M.D., F.R.C.P.Ed., who was re-elected M.P. for Orkney and Shetland at the recent General Election, received a Knighthood in the Resignation Honours List published on Aug. 13.

A short memorial service for Dr. Gordon Pugh will be held in the chapel at Queen Mary's Hospital, Carshalton, on Friday, Aug. 31, at 2.30 p.m.

On Aug. 8 a new kitchen suite was opened at the London Hospital, where a large basement ward has been converted for the purpose at a cost of approximately £7,000. The suite is equipped with labour-saving appointments and modern facilities for cooking, and care is taken in the presentation of food to both the patients and the staff. Sir Wilson Jameson, Chief Medical Officer of the Ministry of Health, congratulated the hospital on the lead it had given in hospital catering, and expressed the hope that other hospitals would follow its example.

The council of the Guild of St. Luke, SS. Cosmas and Damian, at a meeting on June 7, decided that the Guild should resume activities, and arrangements are being made for meetings of all branches to be held in the forthcoming session. Publication of the Guild's *Journal* is also to be resumed at the earliest opportunity. Subscriptions will become due when the new session opens, and application will be made for them by the Treasurer.

The Central Co-operative Anti-Malaria Society, Ltd., celebrated in December, 1944, the 25th year of its existence, under the presidency of Mr. L. K. Elmhirst, Agricultural Adviser to the Government of Bengal. In a special message to the society Mr. R. G. Casey, the Governor of Bengal, said: "By mobilizing popular support in the fight against malaria, and by stimulating interest in preventive measures, you are undertaking a task which is in accordance with the highest ideals of public service, and I wish you every success in your future efforts."

Mr. Basil Hughes, F.R.C.S., has resigned his position of honorary surgeon to the Bradford Royal Infirmary and to St. Luke's Municipal Hospital, Bradford, on his retirement from practice. Mr. Hughes's association with Bradford began in 1911, when he was appointed resident surgical officer at the Royal Infirmary.

It will be recalled that in 1941 the shortage of supplies necessitated the making of Orders by the Minister of Health and the Secretary of State for Scotland which limited the use of liquid paraffin in emulsions to not more than 25% by volume. As supplies have now improved these Orders have been revoked as from July 26, 1945.

The Medical Women's Federation will be glad to hear from medical women who, on demobilization from the Services, are faced with any difficulty on re-entering civilian life on which they desire advice. The Federation can loan money on easy terms in sums up to, say, £100, to suitable applicants who contemplate doing post-graduate study, or who wish to undertake medical work which involves monetary outlay. All inquiries should be addressed to the Secretary, Medical Women's Federation, 73, Bourne Way, Hayes, Bromley, Kent.

In future Service men and women who need sanatorium treatment for tuberculosis will be retained in the Services for a period not exceeding eight months from the date of their first absence from duty on account of the disease. This postponement will benefit the person concerned from the standpoint of his Service rights and privileges.

The National Institute for the Blind is sending an expert, Mr. Eric Boulter, to Greece to conduct a survey for the Greek Government of the special rehabilitation needs of the blind—both those who were born blind and those who have been blinded during this war. This visit has been arranged by U.N.R.R.A., to whom Mr. Boulter has been lent for two months. It is part of a rehabilitation programme in which U.N.R.R.A. is actively taking part in Greece. As a result of the 1940-1 war and the recent fighting there is a great problem in caring for and rehabilitating casualties; not only soldiers, but the many civilians and children who have been disabled by the war devastation in Greece. The Greek Government is fully aware of the size of this problem, and the urgent need to tackle it. The Ministries of War and of Health and Welfare, which are the responsible bodies, have asked U.N.R.R.A. for advice and assistance. The Director of Health of the U.N.R.R.A. mission is Dr. J. Kirk.

Sir Lawrence Bragg was present at a ceremony at Leeds University on July 20, when a tablet paying tribute to his father and himself was unveiled in the vestibule of the Brotherton Library. The inscription reads: "Near this place, in the old Physics Laboratory, in the year 1913, William Henry Bragg, Cavendish Professor of Physics in this University from 1909 to 1915, and his son, William Lawrence Bragg, began their joint researches and established with the first *x*-ray spectrometer the nature of *x*-ray spectra and the principles of crystal analysis, for which they were awarded the Nobel Prize in 1915." The tablet was presented by Mrs. Smithells, widow of Prof. Arthur Smithells, former professor of chemistry at the University. Prof. Smithells was a close colleague of Sir William Bragg, and it was his wish that the tribute should be made. During the ceremony Sir Lawrence presented to the University one of Sir William Bragg's original notebooks.

Mr. Arthur Selby McCrea, of Warley House, Halifax, who died on Feb. 26, aged 91, bequeathed his mansion at Warley, with an endowment of £50,000, to the Royal Halifax Infirmary.

EPIDEMIOLOGICAL NOTES

Discussion of Table

In *England and Wales* during the week notifications of measles fell by 894 cases, diphtheria by 74, whooping-cough by 66, scarlet fever by 31, and dysentery by 23.

The trend of whooping-cough notifications showed little change, except for relatively large declines in Cornwall (35 fewer) and Lancashire (27 fewer). The notifications of diphtheria were the lowest ever recorded, and 28 fewer than the previous low level recorded last summer. During the week a fall in incidence was recorded in every county except Lancashire and Yorkshire, where the incidence remained almost stationary. An increase of 42 in the notifications of measles in Suffolk was the only sizeable exception to the general fall in incidence. The largest returns for dysentery were Lancashire 38, London 24, Warwickshire 23, Essex 21, Middlesex 17, Surrey 15, Lincolnshire 11.

In *Scotland* there was a rise of 33 in the notifications of dysentery, and a fall of 36 in those for scarlet fever. The only new outbreak of dysentery was in Ayr County, 16 cases, and the largest increases were in Aberdeen County, from 2 to 14, and in Glasgow, from 10 to 21.

In *Eire* the only changes of any size in the returns occurred in Dublin C.B., where 63 cases of infantile diarrhoea and enteritis, and 42 of whooping-cough, were notified.

Scottish Vital Statistics

The preliminary statement by the Registrar-General for the second quarter of the year shows that the birth rate has continued to fall, and at 17.5 per thousand was the lowest rate recorded for a June quarter. The marriage rate has risen to 9.6 per thousand, and was the highest rate for any quarter since the first quarter of 1942. The death rate, 11.9 per 1,000, was slightly above the corresponding quarter of 1944, but with that exception was the lowest for any second quarter.

Week Ending August 4

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,232, whooping-cough 1,072, diphtheria 360, measles 2,190, acute pneumonia 234, cerebrospinal fever 39, dysentery 324, paratyphoid 3, typhoid 7, poliomyelitis 21.

No. 30

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended July 28.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

* *Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for:* (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1945					1944 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever	42	6	23	—	4	43	3	22	2	2
Deaths		2	—				—	—		
Diphtheria	370	26	105	72	13	461	20	111	76	18
Deaths	4	—	1	—	—	6	1	2	2	1
Dysentery	226	24	77	—	—	149	15	86	—	1
Deaths				—	—				—	—
Encephalitis lethargica, acute	1	—	—	—	—	1	—	1	1	—
Deaths		—					—			
Erysipelas			35	3	4			28	18	—
Deaths		—					1			
Infective enteritis or diarrhoea under 2 years				78					31	
Deaths	38	3	11	21	2	49	9	11	12	1
Measles*	2,581	129	62	32	4	2,352	73	61	86	22
Deaths	1	—	1	1	—	2	—	1	—	—
Ophthalmia neonatorum	63	3	19	—	—	61	6	21	—	1
Deaths										
Paratyphoid fever	7	—	1 (B)	—	1 (B)	11	—	1 (B)	1 (B)	—
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenzal†	322	20	1	—	—	450	17	2	4	5
Deaths (from influenza)	4	—	—	—	—	3	—	—	—	—
Pneumonia, primary			111	9	—			149	6	
Deaths		26		4	4		26		10	2
Polio-encephalitis, acute	—	—				—	—			
Deaths		—					—			
Poliomyelitis, acute	22	5	—	2	4	12	1	5	2	—
Deaths		1					—			
Puerperal fever		5	10		—		7	10		—
Deaths										
Puerperal pyrexia‡	161	14	18	—	—	147	6	9	2	1
Deaths		—					1			
Relapsing fever	—	—			—	—	—			—
Deaths										
Scarlet fever	1,223	76	155	24	24	1,530	38	147	40	36
Deaths	—	—	—	—	—	—	—	—	—	—
Smallpox	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Typhoid fever	11	3	1	4	1	18	1	2	14	3
Deaths	—	—	—	—	—	1	—	—	—	—
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Whooping-cough*	1,092	55	19	52	14	2,151	129	53	55	9
Deaths	2	—	—	—	—	14	3	1	2	1
Deaths (0-1 year)	247	31	45	38	14	313	35	62	44	17
Infant mortality rate (per 1,000 live births)										
Deaths (excluding stillbirths)	3,512	516	481	183	107	4,190	707	562	204	102
Annual death rate (per 1,000 persons living)			10·9	11·8	§			12·9	13·2	§
Live births	6,871	844	942	397	270	7,089	695	957	419	312
Annual rate per 1,000 persons living			18·8	25·6	§			19·5	27·2	§
Stillbirths	196	22	31			217	14	34		
Rate per 1,000 total births (including stillborn)			32					34		

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

‡ Includes puerperal fever for England and Wales and Eire.

§ Owing to movements of population, birth and death rates for Northern Ireland are still not available.

Letters, Notes, and Answers

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ANY QUESTIONS?

Nocturnal Cramp

Q.—*Can anything be done to prevent the onset of nocturnal "cramps" in the feet and legs in a woman of 35? What causes them? A femoral thrombosis has been present in the right leg for over ten years, but the spasms, which are extremely painful, affect either limb, and seem to be more likely to follow a day when more walking than usual has taken place. There are no varicose veins.*

A.—The spasm probably results from the presence of the products of muscular metabolism which have not been removed. It might be worth while massaging the muscles before going to bed. A hot bath might be helpful in preventing attacks. The precipitating factor is often postural, and difficult to avoid in sleep. Amyl nitrite might be worth a trial in order to relieve the attack. In any case very little is known about cramp; the condition is hardly conducive to deep personal study, and too fleeting and erratic in other persons.

Carbarsone

Q.—*What exactly is carbarsone, and what are its uses? In what form is it administered, and what is the dosage? Has it been found of use in treating asthma? What are the contraindications, if any, in using it in a case of asthma?*

A.—Carbarsone is *p*-carbamido-benzene arsonic acid. It is closely related to tryparsamide and acetarsone. Its main use is in the treatment of amoebic dysentery. It is marketed in tablets or capsules, and the adult dose is 0.25 g. taken by mouth twice daily for ten days. It is usual to institute a rest of ten days, and then the course of carbarsone may be repeated, and so on. The organic arsenicals are a specific remedy for tropical eosinophilia, and carbarsone has been used in this disease. Tropical eosinophilia, which is characterized by bronchitis, asthma, and a high blood eosinophilia, has been ascribed to infestation of the air passages by mites, though this explanation is not generally accepted. The writer has seen a similar condition arising in this country and responding to organic arsenicals. There is no evidence that organic arsenicals are of any value in the classical type of asthma, and it would not seem desirable to use carbarsone in asthma unless there were at least 2,000 eosinophil leucocytes per c.mm. of blood.

Hiccup in Infancy

Q.—*What are the aetiology and treatment—preventive and curative—of hiccups in the infant? A well-developed male infant 10 weeks old, 8 lb. 7 oz. at birth, now 12½ lb., who has been fed in turn on breast, humanized, full-cream, and again humanized food, hiccups just before and after almost every feed. The usual precautions of temperature, size of teat hole, and sitting the child up well have been attended to. Is it advisable to resort to a starchy food in spite of its supposedly rachitic properties?*

A.—The cause of hiccup in infancy is unknown. Probably the pressure of the full stomach on the diaphragm has something to do with it, and the stomach may be full of food after a meal or full of swallowed air before a meal. It is doubtful if the nature of the food used has anything to do with it, and it is a pity if, as may have occurred in this case, breast-feeding has been discontinued because of the hiccup. As regards feeding in the future, it does not appear to matter what is used, and there is certainly no indication for starchy food. A simple milk and water mixture with added sugar would be best (boiled cow's milk 4 oz., water 1½ oz., sugar 1½ teaspoons). The weight-records suggest overfeeding, and this may have started the tendency to hiccup. The present management suggested is to give the child a sedative (choral gr. 2) 15 minutes before each feed, and to see that the feed is taken in 15 to 20 minutes, with breaks for getting up the "wind" about twice during the feed and again at the end. It is likely that the symptom worries the mother (and doctor?) more than the child.

Effectiveness of Phthalates

Q.—*What is the relative effectiveness as insect repellents of the dimethyl, diethyl, and dibutyl phthalates? What is their relative toxicity to the human if rubbed on the skin? For how long is a skin application effective? Is there any danger to the eyes?*

A.—There is at present no published information on the relative effectiveness of dimethyl, diethyl, and dibutyl phthalates as repellents, and I do not know of any on their relative toxicity to man. None of them is dangerous if rubbed on the skin as directed. While there should be no serious danger to the eyes, all of them are liable to cause considerable smarting if they get into the eye. The duration of effectiveness of skin application will depend on temperature, amount of perspiration, etc., and it may be effective for longer with some insects than others; but in all cases it is a matter of hours.

Penicillin in Ulcerative Colitis

Q.—*Has the treatment of ulcerative colitis by penicillin been investigated, either by colonic washouts with a solution, or otherwise? If so what have been the results?*

A.—It has been asserted categorically in the U.S.A. that penicillin given by intramuscular injection has no effect on ulcerative colitis. Introduced directly into the lumen of the lower bowel, penicillin is rapidly destroyed, since *Bact. coli* and other organisms present there produce an enzyme—penicillinase—which has this effect. It should theoretically be possible to suppress the normal flora with such a drug as succinylsulphathiazole, and thus enable penicillin to persist and exert an action on surviving micro-organisms, but there is no evidence that even this proceeding has any effect on the course of the disease. There is some doubt whether bacterial infection *per se* is the cause of ulcerative colitis, and in any case the nature of this infection is undetermined; there are therefore no good reasons for expecting benefit from treating it with penicillin.

Endometrioma in Small Intestine

Q.—*A married woman of 37 complains of pain in the right iliac fossa, nausea, and constipation. This had occurred in bouts and had allegedly been coming on for "several years." She had one child of 16; no miscarriages; menses 6/20; regular and heavy with bearing-down pains. No frequency of micturition or loss of weight. Physical signs were compatible with acute appendicitis, and I operated. The appendix was normal, but she had a carcinomatously hard swelling, the size of a walnut, in the ileal wall. Resected terminal ileum, caecum, and ascending colon, and carried out an anastomosis of the ileum with the transverse colon. The uterus was symmetrically enlarged to the size of about a two-months pregnancy, but I took this to be an ordinary fibroid condition. She has made an uneventful recovery, but to my surprise the pathologist's report on the resected tumour was: "Shows a deposit of uterine adenomyoma." The tumour was relatively mobile and not fixed to the uterus, or near it. Should the uterus be removed, and, if so, how soon? And what is the prognosis? Will other deposits, if they exist, clear up when the origin is removed?*

A.—This is an interesting example of the occurrence of an endometrioma in the small intestine. The fact that such deposits occur is not generally known, though gynaecologists have for some time been discussing and writing on the subject. Any such deposit of an endometrioma will clear up completely if the ovarian activity be destroyed, either by removal of the ovaries surgically or by the administration of a castration-dose of *x* rays. In this case, therefore, there should be no need to advise the removal of the uterus.

Dermatitis of Navel

Q.—*A married woman aged 42 has for the past 8 months had a dermatitis of the navel. The condition is confined to the small area of skin inside the navel orifice, and goes through a regular cycle of desquamation when a thick layer of epithelium separates, leaving a pink, moist surface and slight serous discharge. Any treatment so far tried makes little difference.*

A.—This may be a local infective condition, and fractional doses of *x* rays and the following ointment would help:

Acid. salicyl.	gr. 5
Gentian violet	gr. 2½
Halden's emulsifying base	āā ad ℥j
Paraff. moll.	

Ft. ung.

It may be a local expression of a general disturbance, probably seborrhoeic eczema or psoriasis. In that case attention to general factors—endocrine, metabolic, or focal infections—will also be necessary.

Alkaline Tide in Urine

Q.—*What is the cause of post-prandial and morning alkaline tide? It is stated by some authorities that post-prandial alkaline tide acts as a compensatory mechanism against the loss of acidity during digestion, but this appears unlikely, as the same phenomenon is witnessed in patients suffering from gastric anacidity.*

A.—The alkaline tide in the urine is so exactly correlated with a rise of CO_2 in the alveolar air, and a rise of bicarbonate and a fall of chloride in the serum, that it is generally agreed that it is caused by the excretion of hydrochloric acid in the stomach. All these phenomena are diminished or absent in conditions of hypochlorhydria or achlorhydria, though some changes occur in urinary acidity as a result of the food absorbed. The reason that the tide is most marked after breakfast is that with later meals the alkaline tide from the second meal is obscured by the absorption from the intestines of acid excreted after the first.

INCOME TAX

Purchase of New Equipment

P. understands that recently concessions were made to the medical profession by an allowance for the cost of new equipment.

*** The rule of law is that replacements and repairs of equipment are allowable, but not the cost of increasing or improving the equipment; some purchases, of course, involve both elements, and the cost then has to be divided on some reasonable basis. We are not aware of any concession to the medical profession in this matter. The Income Tax Act, 1945, should benefit practitioners by giving a more effective allowance for future (and some recent) purchases, but that Act does not come into operation until some future date which has not yet been decided by Parliament.

Cost of Postgraduate Course

W. H. is practising in partnership, and has claimed as a deduction the cost of attending a postgraduate course. The inspector of taxes has refused the deduction, quoting in support of his view the judgment in Simpson *v.* Tate.

*** The case quoted dealt with the rather more stringent language used in Schedule E: "wholly necessarily and exclusively in the performance of the duties" as compared with "wholly and exclusively . . . expended for the purpose of the . . . profession. . . ." in Schedule D. Some of the grounds for the decision in Simpson *v.* Tate are consequently hardly applicable in our correspondent's case. On the other hand the language used by the learned judge was unusually general and sweeping, and, further, there may often be an element of "improvement" rather than restoration of professional knowledge and skill which might invoke the argument that a postgraduate course is to some extent at least an investment of capital in the individual rather than a replacement of something he has lost. For these reasons, though the point is open to doubt, we have not felt justified in advising those affected to test the question by an appeal which might involve the expense of a test case in the courts.

Retirement from Colonial Service

M. M. is very soon due to retire from the Colonial Service and has been on leave in this country since February, 1945. (It is assumed that he will remain here until and after retirement.) What will be his liability for the year from April 5, 1945?

*** He will rank as a British resident for this year and will be liable as follows: (*a*) Salary, to the extent to which it is remitted to or paid in this country. (*b*) Income from colonial investments, on one year's income measured according to the amount arising in the year to April 5, 1945. (*c*) Pension, on the amount receivable. No special rate of tax is chargeable; M. M. will be entitled to the usual allowance—personal, life assurance, earned income, etc.—and will be liable at 6s. 6d. in the £ on the next £165 of his income and at 10s. in the £ on the balance.

Repayment of Tax on an Annuity

"LONDON" pays his parent an irrevocable annuity of £120 per annum. How is income-tax relief obtained on this sum?

*** What "London" has done is to transfer £120 of his own income to his parent; the £120 is the parent's income and the extent to which tax is repayable thereon will be determined by his or her circumstances—i.e., what allowances are due and what other income, if any, he or she may have. It is presumed that "London" deducts tax at standard rate from the payments he makes. If so—and that is the correct legal course—he is fully recouped for the tax he pays on the £120, and in due course the parent claims the excess of the amount deducted as tax over his or her actual liability.

LETTERS, NOTES, ETC.

Sleep-walking

Dr. ANGUS MACKAY (Manchester) writes: Dr. C. Ismail (July 21, p. 108) suggests a precautionary measure to be taken in order to prevent sleep-walking in the case of a girl, and the remedy he offers consists in placing a basin containing cold water by the side of the bed in readiness to receive the foot of the ambulatory sleeper. In his experience the unconscious automatism of the motor cortex responds instantaneously, and stationary insomnia prevents any further peregrinations—provided the basin of water has been placed with mathematical precision over the exact floor area which would otherwise contact the descended foot, and provided the inevitable incoordinated postural attitudes were immediately corrected, although he does not mention these possibilities. If one accepts the aphorism that "prevention is better than cure," I very much doubt that this preventive method for cases of somnambulism, which Dr. Ismail assures us is not only the simplest but the best procedure, can be regarded as superior to all others or in any way curative. Disturbances of sleep are one of the commonest problems which confront the paediatrician, either as "nightmares" and "night terrors" or as actual "sleep-walking." The latter simply occurs when efferent impulses from those mnemonical areas of brain tissue (Semon's areas of "engrams") are sufficiently strong to impress the motor cortex with locomotor action. But a neurosis is present in all of these abnormalities. Surely the prevention of this particular disease which Dr. Ismail describes "falls" into the depths of a warm-blooded psychiatrist rather than a basinful of cold water.

Dr. A. OWEN-FLOOD (London, N.8) writes: Dr. C. Ismail gives us an interesting method of preventing sleep-walking. Nocturnal somnambulism and the somnambulistic stage of deep hypnosis are identical: the former yields readily to suggestion under the psychic state. It is not to be forgotten, however, that "walking" is but a symptom and should not be removed without first investigating and correcting the underlying mental unrest causing the condition. Care should be taken to expose "fake" walkers, and I have found sleep-walking a not uncommon symptom in genuine mental epileptics.

"Trigger Finger"

Mr. F. W. M. PRATT, F.R.C.S. (London, W.1), writes: "Trigger finger," referred to in "Any Questions?" (July 21, p. 106) appears to have become more frequent among adults during the last few years, and I think can well be classified among the industrial diseases. Occupations involving pressure on the palm of the hand are to blame. The majority of cases show a localized area of tendinitis at the level of the metacarpo-phalangeal joint of the third or fourth finger. Stenosis of the flexor sheath in my own experience is relatively uncommon. Treatment should be limited to a linear incision of the sheath, which should not be sutured; in fact it is impossible to do so. The results of this operation are excellent.

Novelists' Resuscitation after Drowning

Mr. FRANK T. LAND (Glasgow) writes: Dr. John Yates (July 28, p. 144) draws attention to an old method of resuscitation after drowning which he had encountered in Baring-Gould's *The Vicar of Morwenstow*. It entailed "throwing the victim across a barrel," and presumably following a technique analogous to the modern one of artificial respiration by rocking. This method was apparently popular at one time and is referred to by Dickens in *Our Mutual Friend*. At the reanimation of Rogue Riderhood "Captain Joey . . . a pupil of the much respected old school . . . favours the doctor with a sagacious old-scholastic suggestion that the body should be hung up by the heels, 'sim'lar,' says Captain Joey, 'to mutton in a butcher's shop,' and should then, as a particularly choice manœuvre for promoting easy respiration, be rolled upon casks."

X Rays and Prostatic Hypertrophy

Dr. J. H. DOUGLAS WEBSTER writes: Your annotator on this subject (July 21, p. 105) airily dismisses it, and most urological textbooks give it a very brief reference. The "evidence" your authority turns a blind eye towards, and therefore asserts doesn't exist, is to be found in the textbooks on radiotherapy (as Guilbert, Solomon, Perussia, and Holthusen) and in the many special papers on the subject, as those by Barringer *et al.* (*Amer. J. Roentgen.*, 1934, **31**, 350) and by Burnam (ibid., 1938, **39**, 175). Guilbert (1932) said that 60% were relieved and their disease was arrested; Barringer *et al.* found that 30% of cases which otherwise would have soon come to operation were relieved; Burnam found that more than 50% had relief "symptomatically, as well as from the standpoint of objective findings." There are about 17 references to the subject in the *Index of Radiology* (1923–42). My own experience for over twenty years has been similar to that of those mentioned above; several of my patients have been followed up for over ten years with no further advance of the disease. The value of x rays in the benign prostatic field is nearly as great as in the similarly too-little-used field of uterine fibroids. Much of the early bladder trouble is due to spasm or congestion ("edema"—Barringer); these are usually quickly allayed by x-ray treatment and operation avoided. All early prostate cases might well have a suitable course of x-ray treatment; for in a considerable percentage this would be found to be a prophylactic against further troubles. Pituitary irradiation might help some cases (as in uterine fibroids).

An Eyeless Needle

Dr. **Wright Lambert** (Keighley) writes: In reply to Mr. J. L. Aymard's letter (July 14, p. 74) he may be interested to know that I devised a needle-holder to facilitate threading, and holding, a tubular needle such as he has been using. My description appeared in the *Lancet* of Oct. 21, 1944, p. 536. The holder can be supplied by Down Bros., London, who also supply needles of all calibres and shapes to fit the holder, which will also take an ordinary hypodermic needle.

Prolapsus Ani in a Child

Mr. **F. W. M. Pratt**, F.R.C.S. (London, W.1), writes: I was interested to read the list of methods of treatment for this condition given in "Any Questions?" (July 21, p. 105). It is really time that most of these methods were forgotten or banished from textbooks. For instance, nothing could be more ineffectual or productive of hysteria in both parent and child than to order defaecation in the lying position. As the writer says, many cases undergo spontaneous cure and need no treatment, but there are also many cases which are persistent and should be given active treatment. I do not think that a psychological state is a common factor; diarrhoea certainly is. The following method of treatment is most effective. Under vinesthene anaesthesia 0.25 to 0.5 c.cm. of absolute alcohol is injected into each quadrant of the anal submucosa through a proctoscope, as in the injection treatment of haemorrhoids. No preliminary enemata or wash-outs are given. I have used this method for about the last eight years, and in nearly every case have had an instantaneous cure. In a very few cases this injection has had to be repeated on one other occasion.

Fox-Fordyce Disease

Dr. **John T. Ingram** (Leeds) writes: In my experience Fox-Fordyce disease (Aug. 4, p. 171) is responsive to oestrogen therapy, and responsive to this only.

Visiting at Children's Hospitals

Dr. **L. A. Parry** (Hove) writes: A children's hospital is examining the desirability of allowing a daily visit to their children instead of, as at present, twice a week. I shall be very grateful if any children's hospital which has adopted the daily-visit system will give me information as to how it is working, especially in connexion with the incidence of infection, and the psychological effects on the children.

Adder-bites

Dr. **T. V. Cooper** (Dorchester) writes: In the *Journal* of July 7 there is a question and answer dealing with adder-bites. The answer advises the use of antivenomous serum subcutaneously. Why did not the adviser advocate serum intravenously? Adder-bites are not uncommon in this area. Among Service personnel I have heard of as many as three cases in one day during manœuvres on heath land. At the time of which I speak serum was not available, but I never heard of a fatal issue. Serum is now available on a small scale (see *B.M.J.*, Aug. 4, p. 172). I make a practice of holding a small stock. Under refrigerator conditions I regard, perhaps wrongly, this serum as being potent for use for at least 4 to 5 years, not the one year mentioned in the answer. The Pasteur Institute, who make the serum, give a keeping period exceeding four years. Within the past few weeks I saw an airman home on leave who received an adder-bite while out shooting rabbits, in which a delay of about two hours occurred before he was brought to the hospital; 10 c.cm. of serum intravenously when seen and a further 10 c.cm. four hours later appeared to cut short the systemic symptoms, and he was well enough to go about in four days.

⁂ Our adviser replies: Calmette in his authoritative work on venoms (1908, p. 263) recommends that the antiserum against snake-bite should be injected into the subcutaneous tissue of the abdomen; on page 265 he remarks: "In cases in which phenomena of serious intoxication have already appeared, and when asphyxia threatens, one must not hesitate to inject 10 or even 20 c.cm. of serum directly into a vein." So there is authority for intravenous injection in urgent cases. As regards the length of time during which the serum remains potent, I gave one year as a conservative figure.—Ed., *B.M.J.*

"Doctor" or "Medical Practitioner"?

Dr. **C. R. Moore** (Bray) writes: The restrictions on the use of the term "nurse" reported in the *Journal* of July 28 (p. 130) make one wonder how long it will remain customary to use the term "doctor" to connote registered medical practitioner. The latter description satisfies most of us, and it seems hardly in keeping with the dignity and ethics of the profession to be inaccurate.

Active Practice of Medical Women

Three Final-year Medical Students write: With reference to the large proportion of women taking the medical course—approximately one-third in the final year in our university—it would be of interest to know, on available statistics, how many of these are likely to be actively practising at the end of three or five years after qualifying.

The Shortage of Nurses

Three Sister-tutors, **I. G. Morse, J. Eyre**, and **E. M. Stone**, write: Much attention has recently been given to the shortage of nurses. In actual fact, how great is this shortage and how can it best be overcome? The urgent need of the moment is to recruit domestic workers and to provide the hospitals with trained orderlies; in this way nurses and student nurses will be freed from extraneous duties and will be able to devote their energy to the nursing of patients. For the provision of trained orderlies one scheme has already been suggested: that the Ministry of Labour should set up a national auxiliary service for hospitals, and through this establish courses of training for prospective hospital workers. It is obvious that the domestic duties now performed by nurses must, when given over, be given into other capable hands. Adequate remuneration and good working conditions will be essential to the success of the scheme. At this moment, when massive redistribution of labour is in progress, the time is ripe as never before to establish this new and most necessary grade of hospital worker.

Tuberculous Persons in Prisons

"C.438" writes: Dr. Audrey Roberts (July 21, p. 100), after discussing work done in prisons by prisoners with tuberculosis, asks whether modern prison conditions may be accounted aetiological factors in the disease. My experiences in a prison in 1942 may be of interest, though the term "modern" needs some qualification, since the prison was built 100 years ago, presumably under the influence of the attitude towards crime prevailing at that time. Most of the day, actually 19 hours, including an unbroken period from 4 p.m. to 6.30 a.m. (except when doing special overtime work), was spent in the cell. (I learn that since 1942 supper time has been altered to 5 p.m., so reducing the evening cell period by one hour.) During this time all urine passed, washing-up water, etc., remained until the morning. Though the size of the cell was adequate, the window space was definitely not so. If the cell faced north the occupant was unfortunate in not having any sun during this time. Even when more favourably placed, the smallness of the window combined with its height from the floor (intentionally too high to allow seeing out without standing on a chair—a punishable offence) and the extreme thickness of the walls and bars made it impossible to sit in the sun for more than a very limited period, and then only by following the patch of light in its arc across the cell. Unless one were fortunate enough to be in an outside work-party the two 1/4-hour exercise periods daily were the only time spent out of doors. On wet days exercise consisted of walking round inside landings. Sanitary conditions were primitive, and mattresses and blankets were the legacy of the previous occupants, though clean sheets were given fortnightly—on two occasions palpably damp. Added to this the food was low in quantity and especially lacking in green vegetables, with fruit of any kind practically non-existent. It was noteworthy that the extra slice of bread and cup of cocoa received for three hours' heavy overtime work on hand-loom weaving were cut off, so that we received the same food as those doing shorter hours of sedentary work. Conditions must vary from one prison to another (the one cited was in no sense a reform prison), and they must have been much aggravated by wartime restrictions—e.g., short staffs, rationing, and the blackout. Whatever the reasons, such were the conditions. Unfortunately it is difficult to assess their effect on the health and on the incidence of tuberculosis, since no medical examination was made on discharge.

Correction

In the article by Prof. S. Sarkisov in the issue of July 14 (p. 37) it was stated that bio-electrical investigations (electro-encephalograms) had been carried out in England by Adrian, Matthews, Walter, Ultridge, and others. The name Ultridge was inserted in error, and the name of Williams omitted.

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SEQUELAE OF CEREBROSPINAL MENINGITIS

A FOLLOW-UP STUDY OF 986 CASES*

BY

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WITH THE ASSISTANCE IN THE FIELD OF

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AND

MILDRED S. R. WIEDEN, R.N.

The present survey was designed primarily to answer a single question, "Is there an appreciable incidence of persistent symptoms following cerebrospinal meningitis, and, if so, what are the nature and the severity of these symptoms?" The term "symptoms" is used advisedly, and refers to the subjective sensations and feelings of the patient as opposed to specific pathological states or conditions. The data here presented are therefore based solely on the statements of the patients themselves. It would obviously be highly desirable to carry out a medical check-up as well, but lack of necessary facilities and of medical personnel unfortunately made such a procedure impossible.

The area chosen for the survey comprised three geographically distinct districts. The chief of these was in south-east Wales and Monmouthshire, the lists of patients being supplied by two large city isolation hospitals (at Cardiff and Newport) and five smaller isolation hospitals in coal-mining towns of southern Glamorganshire (Bridgend, Caerphilly, Gelligaer, Pontypridd, and Rhondda). Two smaller areas were added by way of contrast—the Denbighshire region served by the Wrexham Isolation Hospital, and the largely rural area from which patients were sent to the Carmarthen County Isolation Hospital at Carmarthen. The numbers of cases from each of these hospitals are shown in Table I.

TABLE I

Hospital	Number of Cases on Original Lists	Meningitis Cases Excluded from Series: Untraced or Unlocated	Left District	Died since Hospital Discharge	Excluded due to Insufficient Information	Number of Cases in Present Series
Cardiff City Isolation Hospital ..	416	9	17	5	20	365
All-yr-yn Hospital, Newport	144	—	2	1	7	134
Tyntylo Isolation Hospital, Rhondda	127	1	—	1	2	123
Bridgend Isolation Hospital	63	8	4	—	11	40
Gelligaer Isolation Hospital	28	—	1	—	—	27
Caerphilly Isolation Hospital	29	3	—	—	—	26
Tonteg Isolation Hospital, Pontypridd	21	—	—	—	1	20
Wrexham Isolation Hospital	156	—	2	—	12	142
Carmarthen County Isolation Hospital	124	—	2	5	8	109
Total	1,108	21	28	12	61	986

Each of the nine co-operating hospitals furnished the names and addresses of all cerebrospinal meningitis patients admitted during the calendar years 1940 and 1941, and in some cases during the first three months of 1942. The field survey was made during the period from May 21 to June 25, 1942, inclusive. The interval between hospital discharge and follow-up visit thus varied from 3 to 29 months, but tended to approach the longer extreme. Over one-half of the series were followed up more than 18 months and 84% more than a year after discharge, while only 4% had been out of hospital less than six months.

Technique of the Survey

A similar follow-up survey of cerebrospinal meningitis patients in London had previously been made by the Ministry of Health (Maddock, 1943). In order that the incidence figures for sequelae in urban and rural areas of Wales and Monmouthshire should be comparable to those of the Ministry for metropolitan London, essentially the same field technique was again used, and home visiting was done by the same nurses as in the London study.

Follow-up visits were made by three Public Health nurses of the American Red Cross–Harvard Field Hospital Unit, with no advance warning of them. Each of the addresses furnished by the hospitals was visited, and the patient interviewed if possible. Otherwise, information was obtained from a member of the household or a neighbour who knew the patient; each such instance was subsequently reviewed, and those in which the informant did not appear sufficiently well acquainted with the patient's condition were not included in the survey. As shown in Table I, 61 cases were excluded for this reason, and another 61 because they could not be located, had moved from the area, or had died; this left 986 successful follow-up visits out of the original 1,108 meningitis cases.

The Public Health nurses gained a ready entry to the homes by introducing themselves as representing the hospital, which wished to know how the patients had been doing since their illnesses. Leading questions were scrupulously avoided, the only initial question asked being, "How have you felt since you had meningitis?" When this elicited no complaints of ill-health the query was repeated in somewhat altered form during the course of a few minutes' conversation, and if the reply was still the same the patient was recorded as having no disabilities. In analysing the data collected, sequelae were arbitrarily defined as disabilities persisting for over three months after hospital discharge. Symptoms previously present were excluded unless definitely accentuated immediately after meningitis, as were also subsequent symptoms that did not appear immediately after the illness. On the other hand, complaints that had disappeared before the date of the interview were included provided that they fulfilled the above conditions.

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Evaluation of the Survey Method

Before considering the findings, it might be advisable to examine the survey method briefly and to enumerate its chief advantages and disadvantages. These are essentially as follows:

Advantages.—(1) The primary aim of the method employed is to determine the incidence of symptomatic complaints such as personality changes, tendency to become easily fatigued, many headaches, and backaches, etc., for which no supporting evidence would be expected to be found on physical examination. (2) This method will also bring to light those patients not satisfactorily rehabilitated after their illness, whether this be due to organic cause, neurosis, or psychiatric abnormality.

Disadvantages.—(1) Although it would seem reasonable to assume that at least a large proportion of the disabilities reported were a direct result of the preceding meningitis, such an assumption rests on purely circumstantial evidence which, by its very nature, cannot provide proof of any causal relationship. *It cannot be too strongly emphasized that these sequelae are not presented as disabilities caused by the meningitis, but only as symptomatic disabilities, persisting for more than three months, which first appeared, or (if previously present) became accentuated immediately after the illness.* (2) Data based on the patients' own statements will unavoidably be subject to some degree of exaggeration, and will also undoubtedly include a number of genuine complaints due to causes other than cerebrospinal meningitis. (3) There would seem to be no conceivable way in which a control series could be studied. Even if a comparable group could be drawn up, any attempt at collecting similar information concerning health would almost surely be received with such suspicion as to render the results valueless.

The Survey Findings

General.—The incidence of the various disabilities according to age group and sex is shown in Table II. It should be noted, particularly in connexion with the youngest age groups, that the ages given represent age at time of illness, which was up to 29 months before the follow-up interview. A total of 387 individuals showed 657 disabilities; of these, 223 had only a single complaint, while 95 reported two each, 41 three, 21 four, 5 five, and 2 six. As we have said, the classification adopted is purely symptomatic; therefore no attempt has been made at diagnosis. Similarly, it did not seem justifiable to try to decide whether a given symptom was or was not due to meningitis, and all symptoms that satisfy the criteria stated above have been included.

TABLE II.—*Incidence of Disabilities Following Meningitis*

Age at Time of Meningitis:	Under 1		1 and 2		3 and 4		5–14		15–24		25–44		45–64		65 and Over		Total		
Sex:	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total
Total survey population	30	21	71	46	39	47	152	126	114	77	124	80	28	27	1	3	559	427	986
Number with disabilities	7	3	26	9	18	13	55	46	51	28	64	40	12	13	0	2	233	154	387
Emotionally less stable	4		13	3	7	9	16	15	15	7	11	6	1	2			67	42	109
Depression						1	4	1	4		4	1					12	3	15
Inability to concentrate			1	1			5	2	1	2	1			1			8	6	14
Poor memory							4	1	1		3	1	1	2			9	4	13
Total deafness	1		4	1			10	5	4	1		1					19	8	27
Partial deafness					3		8	2	1	5	2	1	2	4			16	12	28
Visual disabilities		1					5	3	6	2	5	3	3	1			19	10	29
Strabismus		1	1	1	1	1		1	1		1	1					4	5	9
Tinnitus											1	2		1			1	3	4
Excessive lacrimation			1										2	1			3	1	4
Other impairment of special senses			1				1							2		1	2	3	5
Pain in limbs and "rheumatism"					1		1	7	2	3	1	6		4			5	20	25
Weakness of limbs			2	1					2			1	3			1	7	3	10
Lameness and unable to walk	1		1		1	1	1	2						1			4	4	8
Headache	1		3	1	6	7	14	19	30	15	40	25	4	5			98	72	170
Easily fatigued				1	3		5	2	7	3	14	7	3	3			32	16	48
Backache			1			1		2	6	5	12	15	2	2			21	25	46
Poor balance		1	2	1		3	3	4	2	1	1	1		1			8	12	20
Dizziness					1		1	3	2	1	3	1	1				8	5	13
Gastro-intestinal symptoms			2		2		1	1	2			1					7	2	9
Neck pain							2		1	1	1	1	1				5	2	7
Nightmares			2		2						1						5	0	5
Increased susceptibility to colds				1		1			2		1						3	2	5
"Heavy head"											1	1	3				4	1	5
Retarded development		1	2		1												3	1	4
Sleeps poorly	1										1	1					2	1	3
Other miscellaneous (once or twice only)			3	1	1	2	2	5	2	2	3	1					11	11	22
Total	8	4	39	12	29	26	83	75	91	48	107	77	26	30	0	2	383	274	657

Emotionally Less Stable.—Under this heading were grouped those patients variously described as irritable, excitable, disposition poor or bad, nervous, high-strung, hysterical, or losing temper easily. In 24 of the 109, severe or frequent headaches or other pains were associated, which might easily explain the condition.

Depression.—Of these 15, 8 were described as depressed and 7 as moody or sulky.

Inability to Concentrate.—"Unable to concentrate" was the term used for 5 of these 14 individuals, while "loses self" and "absent-minded" each accounted for two. The other 5 more specific descriptions were "frequent mental lapses," "ignores conversation directed at her," "appears vacant and doesn't understand what is said to him," "doesn't understand directions well," and "unable since illness to cope with rationing while working in shop."

Poor Memory.—No further qualification was given for 8 of this group, while the other 5 were described as "memory for names worse," "doesn't remember things he is told," "can't remember where she puts things," "forgets things when sent to shop," and "notices it in figuring—mind goes blank."

Total Deafness.—The most striking feature of this disability is the extremely low age distribution, 6 of the 27 (22%) being 2 years of age or less, while 21 (78%) were not over 14. These percentages are slightly less than double the corresponding figures for the entire group of 387 with disabilities. Three patients totally deaf at discharge subsequently showed marked improvement, starting at three months, seven months, and eight months respectively. Specific mention of speech was made in 10 instances, 2 of these speaking well and 5 not as well as before the illness, while the remaining 3 were deaf-mutes.

Partial Deafness.—Here the young age distribution of the preceding group is not found. The deafness was described as moderate or severe in 10 of the 28 cases. In one case a persistently discharging ear offers a probable explanation for the partial deafness, both deafness and discharge clearing simultaneously six months after leaving hospital. Two of this group, both with only slight deafness, had scarlet fever within a few weeks of meningitis, leaving a field for speculation as to which illness the impairment of hearing is to be attributed.

Visual Disabilities.—This tabular classification represents a condensation of the following four headings:

(*a*) *Impaired Vision.*—Of these 22 cases 17 were reported as "weak eyes," while one each was described as "vision worse," "blurred vision," "near blindness in left eye, poor vision in right," and "eyes weak and red" (iritis and choroiditis on discharge from the hospital). The remaining patient, a boy of 14, had a retinal haemorrhage in the right eye while in hospital; after discharge he was in bed in a darkened room for six weeks and unable to see properly for five months, but since that time his vision had been normal.

(*b*) *Visual Disturbances.*—This term is used to designate four cases each presenting a different type of disturbance of visual function. These were double vision, clearing at 18 months and associated with partial deafness and tinnitus; night-blindness sufficiently marked to force the patient to return home before dark, associated with total deafness; spots before eyes frequently; and frequent visual disturbances described rather vaguely by the patient's mother as being in the form of "black spells," associated with severe headaches and strabismus.

(*c*) *Enucleation of Eye.*—This operation was performed in two instances. One of these patients had choroiditis as a complication while in hospital, and the eye was enucleated three months later. The other was transferred direct from the isolation hospital to a general hospital for the operation, the patient not knowing the reason for this procedure.

(*d*) *Total Blindness.*—The single case of total blindness was that of a female infant of 8 months who was totally blind for five months after discharge, but subsequently recovered her sight. She was also in bed for six months after leaving the hospital, unable to sit or walk, but at the age of 32 months (the time of the follow-up visit) could walk alone holding on to a wall, though seeming to have no co-ordination or balance and still having to be fed. (In the absence of further clinical data, the latter disability could only be given the admittedly unsatisfactory classification of "poor balance.")

Strabismus.—The age distribution is again very young, five of the nine being 4 years of age or under. The condition was unilateral in five and bilateral in one, while in the remaining three this point was not specified. In two instances this disability was no longer present—one as a result of operation three months after discharge, the other clearing spontaneously twelve months after illness. The latter patient was a 13-months-old male infant who at the time of follow-up (aged 37 months) showed evidence of markedly retarded development, and was observed by the interviewing nurse to be apparently hydrocephalic.

Tinnitus.—These four individuals were all over 24 years of age, and in all of them the tinnitus was associated with deafness—total in one and partial in the other three.

Excessive Lacrimation.—This was associated with impaired vision in two of the four instances.

Other Impairment of Special Senses.—Aphasia was reported twice (both in individuals over 50) and slurred speech twice, while one female aged 75 complained of complete loss of sense of taste for six months after discharge.

Pains in Limbs and "Rheumatism."—Pain in the lower limbs was complained of by 19 of the survey group. Pain, soreness, or aching of the legs was the complaint of 12, in one case accompanied by stiffness. Three had experienced "arthritis" or "neuritis" of the knee, three others had both pain and swelling of the knee, while the symptom of the remaining patient was periodic swelling of knees and ankles. In four instances it was specifically stated that the disability had interfered with work or attendance at school.

Pain in the upper limbs occurred three times, in the form of aching of arm, "arthritis" of arm, and "neuritis" of shoulder. Three further cases classified as "rheumatism" represent generalized joint or other pains that could not be localized to any one anatomical area.

Weakness of Limbs.—Weakness of the lower limbs was reported eight times, the weakness being in the ankles in three, the knees in one, and the leg muscles in four. One of the latter group had weakness of arms as well as legs, and this combination has been classified as two separate disabilities; this case is one of the two described below. There were two cases of weakness of the upper limbs, both presenting points of individual interest. The first was a female aged 65 who lost the use of her right arm completely for six months following meningitis, with subsequent marked improvement, although 24 months after discharge she was still unable to lift heavy objects. The other was a male aged 52 with extreme weakness of arms and legs for six months after his acute illness. There was no pain or stiffness, but he could not use his arms to lift anything and was unable to work. The condition cleared spontaneously after six months, and for 15 months he was asymptomatic. Then, 21 months after discharge, he developed "fibrositis" of arms and legs with pain and stiffness, and at the time of the follow-up had been completely incapacitated for six months. (The pain and stiffness have, of course, not been included in the survey findings, the later development being related here solely as a matter of interest.)

Lameness and Unable to Walk.—Two of the six cases grouped as lame were described as "turns foot out" and "throws foot out when walking." Two others reported marked limping, one case clearing completely at six months and the other being much improved when interviewed 15 months after discharge. A male infant of 9 months at the time of illness was unable to straighten his leg; he did not walk until he was 18 months old, and though by the age of 27 months (when followed up) he ran about and played, he always kept his leg bent at the knee. The remaining child, a girl aged 6, suffered from stunted growth in her left leg, with a severe limp and muscles that at times were tender to touch. On the basis of information available two patients could only be classified as "unable to walk." A girl aged 6, also totally deaf, was in a push-chair for six months after her attack of meningitis, with subsequent complete recovery. A boy aged 3 was unable to walk on return from the isolation hospital, and in two weeks was admitted to another hospital; 13 months later he was said to be still there with a cast from the waist down.

Headache.—This is by far the most common disability of the series, and was reported by 170 of the survey group. There were associated visual disabilities in only 13 of these. Defining "frequent" for purposes of tabulation as weekly or oftener, this symptom was divided into four main subgroups, as follows:

Mild or moderate, occasional	61
Mild or moderate, frequent	61
Severe, occasional	30
Severe, frequent	18

Space does not permit a detailed analysis of the headache symptomatology, but the findings in respect of each of the four chief characteristics of this symptom are briefly presented.

(*a*) *Severity.*—Ten cases were reported as mild, slight, or not severe, and an additional 10 as dull. These and the 93 cases in which severity was not specified (and so presumed to be mild) give a total of 113. Moderate headaches numbered nine, while 48 were described as sharp or severe.

(*b*) *Frequency.*—In six cases headaches were constant, while in 36 they were termed "frequent" by the patient or informant. More specific frequency was twice a week or oftener in 10, approximately once a week in 27, and less often than weekly in 28. Of this latter group there were only four patients who did not have their headaches at least once a month. Occurrence was described by 40 as occasional or "not frequent," while frequency was not specified in 10 instances. Eight headaches occurred when the patient was hot, tired, or excited, and five were subject to other miscellaneous exciting causes.

(*c*) *Duration.*—This was the least satisfactorily reported characteristic, 107 not specifying the duration of their attacks. Of the remainder, six were constant, 28 lasted between a day and a week, 18 for 2 to 4 hours (including "several hours"), and 11 for one hour or less.

(*d*) *Location.*—In 39 instances location was not specified. The headaches were frontal in 79 (46% of the 170), occipital in 22, "top of the head" in three, and temporal in one. The location was described by 16 as various combinations of two of the above, and by 10 as generalized.

Easily Fatigued.—Of these 48 complaints 40 were described as easily fatigued or tiring easily, three as sleepiness during the day, two as listless or languid, two as lack of energy, and one as "tired bouts." A specific statement that time had been lost from work or school as a result of this disability was made by six individuals.

Backache.—Since backache is essentially a rather vague sort of symptom, it was perhaps to be expected that the description of this disability would be similarly vague and relatively unsatisfactory. Frequency was not specified by 11 of the 46, while eight described their backache as constant, eight as frequent, and eight as occasional. Daily, weekly, and monthly occurrence were each reported once; four experienced backache after heavy work, and four if tired. Neither severity nor duration was well enough described to warrant tabulation. The location (not specified in 18) was interscapular in one, low back in 24, and sacral in three.

Poor Balance.—Aside from the case previously described under "Total Blindness" this did not appear to constitute a serious disability, being variously described as "balance poor," "stumbles easily," "sways when walking," and "tendency to fall." Ten of the 20 cases were associated with deafness—total in five instances and partial in five. The disability had cleared completely in three (six months after discharge in two and 10 months in the third), and was improving in nine of the remaining 17.

Dizziness.—This group of 13 complained of dizziness, giddiness, or feeling "light-headed." Headache was also reported by nine of these individuals. Deafness was associated in only two instances (one total and one partial), and these two were the only ones of the 13 who complained of poor balance.

Miscellaneous Disabilities

This final group of what might be termed symptomatic odds and ends comprises all disabilities (excepting a few that have been grouped above with closely associated complaints) occurring less than 10 times. The greater number of these require no more than mention of their occurrence, but a few seem deserving of some further elaboration.

The nine gastro-intestinal complaints reported consisted of vomiting in five, poor appetite in two, and one each with persistent constipation and with a monthly attack of gastro-intestinal pains and upset. Neck pain, occurring in seven, was described five times primarily as pain and twice primarily as stiffness; headache was associated in four instances and backache in three. Nightmares and increased susceptibility to head colds were each reported five times, while there were three complaints of sleeping poorly.

"Heavy head" was a complaint encountered only in Denbighshire, and no further elucidation of the nature of the disability could be obtained from four of the five presenting this symptom. The fifth patient stated that he felt as if severe pressure were being exerted on the top of his head. This occurred chiefly when he was trying to get to sleep, and as a result he had very little sleep at night and was able to work only three or four days a week.

The four cases of retarded development included one boy of 22 months (3 years old at time of follow-up) described by his family as retarded in physical development, and three cases of mental retardation, all in males. One of these, 3 years old at the time of his meningitis and 5 at the follow-up, had been in a mental institution in London for over a year. The other two were aged 10 and 13 months at the time of acute illness, and were followed up 27 and 26 months later, respectively. Neither had walked or talked or shown any interest in toys, and the younger one was unable even to sit up. This child also presented a history of almost hourly convulsions for the first five or six weeks after discharge. Both patients were seen by the interviewing nurse, and the older was observed to have a disproportionately large head (previously mentioned under "Strabismus").

Of the disabilities occurring once or twice—listed in Table II as "Other Miscellaneous"—only two seem of sufficient individual interest to warrant a brief description. A male aged 39, suffering from facial nerve paralysis, had apparently followed his medical status with close attention, as he described his disability as paralysis of the fifth and seventh nerves, involving masseters and cheek muscles and causing protrusion of the lower lips as well as sensory disturbances of the mouth and tongue. This cleared spontaneously 11 months after discharge, and had not recurred when he was interviewed two months later. The other case was that of a male aged 41, suffering from palpitation which was present "all the time" but worse at night, with associated nightmares and irregularly occurring severe frontal headaches. As a result he slept very little, and had been unable to resume his work as fitter at a local colliery.

Disabilities reported twice were oedema of limbs, oedema about the eyes, fainting attacks, enuresis (in a girl of 6 and a male of 18), nose-bleeding, "not as robust as previously," persistently discharging ear, and restlessness. Those reported a single time (including the two described in the preceding paragraph) were paralysis of facial nerve, palpitation, convulsions, "lumps on back of head," "numbness at back of knee," and "nervous habit of shaking head."

Accentuation of Disabilities Previously Present.—Although it was decided that disabilities previously present should be included if definitely accentuated immediately after meningitis, only 6 such cases were found. Three of these complaints were of headache, two of impaired vision, and one of partial deafness.

Disabilities No Longer Present or Improved.—At the time of the follow-up 35 disabilities were no longer present. Nine of these had cleared four to six months after discharge, 11 during the second six months, 5 during the second year, and 10 from 25 to 28 months after leaving hospital. This list included headache and partial deafness (5 cases each), pain in the lower limbs (4 cases), "easily fatigued" and "poor balance" (3 each), and "emotionally less stable" and strabismus (2 cases apiece), while 11 other disabilities each numbered one recovery. There were 64 reports of disabilities that were still present but improved. Of these, 21 were cases of headache, 9 of poor balance, and 8 of partial deafness, while no other disability was mentioned more than four times in this connexion.

Health Improved Since Meningitis.—In contrast to the disabilities so far presented, the health of 61 individuals was said to have been better since meningitis. This improvement concerned general health in 58, while the other 5 were personality changes for the better. A boy of 4½ was no longer shy and retiring; a girl of 7 now played happily with other children; a girl of 12 "was grizzly before meningitis but has a happy disposition now"; while a girl of 15 "seems improved in disposition." But the most amazing transformation was that of a 51-year-old chronic alcoholic whose previous condition was described by his wife as "drunk morning, noon, and night." She fervently blessed his illness, for since having meningitis he had become a teetotaller, and for 25 months had not touched a drop of liquor.

Some Further Considerations

The major portion of this report has been devoted to a brief description of the survey itself and presentation of the disabilities found. There remains a large amount of associated data gathered by the interviewers in the field, much of which might prove of interest. However, limitations of space permit the selection of only a small part of this material, and four further points have accordingly been chosen to be touched on briefly. These are the interval between discharge from hospital and return to work or school, the occupations of the survey population, indication of those disabilities considered actually incapacitating, and the incidence of disabilities by occupational groups.

Interval Between Discharge and Resumption of Work or School.—This interval is shown in Table III, including the presence or absence of disabilities and sex incidence. It is obviously impossible to determine accurately the point at which an infant or pre-school child resumes normal activity, and these incidence figures are therefore

Table III.—*Interval between Hospital Discharge and Resumption of Work or School*

Time after Discharge when Work or School was Resumed	Patients without Disabilities				Patients with Disabilities			
	Male		Female		Male		Female	
	No.	%	No.	%	No.	%	No.	%
1st month	119	51·5	108	61·0	49	27·7	48	37·8
2nd month	66	28·6	45	25·4	58	32·8	34	26·7
3rd month	28	12·1	17	9·6	20	11·3	17	13·4
4–6 months	13	5·6	6	3·4	33	18·6	18	14·2
7–12 months	3	1·3	0	—	8	4·5	1	0·8
Over 12 months	0	—	0	—	1	0·6	2	1·6
Did not resume	2	0·9	1	0·6	8	4·5	7	5·5
Total	231	100·0	177	100·0	177	100·0	127	100·0
Pre-school	91		91		52		26	
Interval not stated ..	4		5		4		1	
Grand total ..	326		273		233		154	

based on totals exclusive of pre-school ages and the 14 persons for whom the interval was not stated. Taking three months as the maximum limit of a normal period of convalescence, it will be noted that there is a very definite delay in return to work among the group complaining of disabilities compared with those without complaints. The three intervals over 12 months were 13 months for the one male case and 14 months and 25 months for the two females.

Occupation.—A detailed list of the occupations of the survey population resulted in a table so enormous as to be wholly unwieldy, and the occupations have accordingly been condensed into the groupings given in Table IV. Among the males, as shown in the first column of this table, 62 were employed in colliery work, while 38 worked in factories, mills, and plants. The remaining male adults have been divided into "Other Heavy Labour" and "All Other Adults." For the females, housework is the leading occupation with 121, while "Factories and Mills," with 22, is the only other adult classification listed separately. The Services had 17 male representatives—15 Army and 2 Royal Air Force—while there was not a single member of the Auxiliary Services among the females. Three males and no females were unemployed before contracting meningitis, while occupation was not stated in four instances by males and in one instance by females.

TABLE IV.—*Incidence of Disabilities by Occupational Groups*

Occupational Group	Total No.	All Disabilities		Incapacitating Disabilities	
		No.	Rate per 100	No.	Rate per 100
Male					
Colliery	62	36	58·1	12	19·4
Factories, mills, and plants	38	20	52·6	3	7·9
Other heavy labour	41	18	43·9	3	7·3
All other adults	126	51	40·5	9	7·1
School	148	56	37·8	14	9·5
Pre-school	144	52	36·1	9	6·3
Total male	559	233	41·7	50	8·9
Female					
Housework	121	60	49·6	8	6·6
Factories and mills	22	6	27·3	0	—
All other adults	50	19	38·0	5	10·0
School	116	42	36·2	9	7·8
Pre-school	118	27	22·9	3	2·5
Total female	427	154	36·1	25	5·9
Grand total	986	387	39·2	75	7·6

TABLE V.—*Incidence of Disabilities Classified as Incapacitating*

Age at Time of Meningitis:—	Under 1		1 and 2		3 and 4		5–14		15–24		25–44		45–64		65 and Over		Total		
Sex:	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total
Total deafness	1		4	1			10	5	4	1		1					19	8	27
Headache								1	3	4	8	1	1				12	6	18
Backache									1	2	3			1			4	3	7
Partial deafness							3	1		1	1						4	2	6
Easily fatigued							1		1	1	2						4	1	5
Pain in lower limbs								1		2				1			0	4	4
Lameness	1							1						1			1	2	3
Retarded development		1	1		1												2	1	3
Impaired vision							2										2	0	2
Enucleation of eye							1		1								2	0	2
Weakness of upper limbs													1			1	1	1	2
Unable to walk					1			1									1	1	2
Miscellaneous (once each)		2						1	1		2		3	1			6	4	10
Total of disabilities	2	3	5	1	2	0	17	11	11	11	16	2	5	4	0	1	58	33	91
Number of individuals with disabilities	2	2	5	1	2	—	17	9	10	8	11	2	3	2	—	1	50	25	75

Incapacitating Disabilities.—In considering the complaints made by 387 of the 986 individuals followed up (an incidence of 39.2%) it is obvious that many of these disabilities are of a relatively trivial nature. In an attempt to determine how many were truly incapacitating, the record cards of all patients with disabilities were carefully reviewed. The two criteria employed were obvious interference with the patient's former occupation and marked likelihood of his being seriously handicapped. Total deafness was considered incapacitating *per se*, but with this exception the status of each case was decided on its individual merits. The disabilities classed as incapacitating are shown in Table V, with their age and sex distribution. A total of 91 incapacitating disabilities were present in 75 individuals, giving an incidence of 7.6%. The disabilities listed as "Miscellaneous," each occurring once, were (in ascending order of age) total blindness, poor balance, "rheumatism," inability to concentrate, paralysis of facial nerve, palpitation, dizziness, weakness of lower extremities, "heavy head," and aphasia. It should be noted that this classification represents my personal opinion, and thus constitutes a solitary exception in a report otherwise devoted entirely to factual analysis and presentation. For this reason it has been included with no little trepidation, and the cases termed incapacitating have been only those concerning which no possible doubt was entertained. It is felt, therefore, that the true incidence of incapacitating disabilities is undoubtedly considerably higher than these figures would indicate.

Incidence of Disabilities by Occupational Groups.—In addition to the occupational distribution of the survey population, Table IV also shows the incidence and rate per 100 of total disabilities and incapacitating disabilities for each of the occupational groups listed. It might be expected that the incidence rate would be higher for the more strenuous occupations, and the findings bear out this expectation to a considerable degree. In the male total disabilities the rate is highest in colliery workers, falling progressively through factory workers, other heavy labourers, "all other adults," school, and pre-school. A similar progression occurs in male incapacitating and female total disabilities with a single exception each (school and factory workers, respectively), but female incapacitating disabilities fail to provide a further parallel. The incidence percentage is higher for males than for females in both categories, but neither of these differences is statistically significant.

Conclusion

As stated in the opening sentence of this report, the survey was designed primarily to answer a single question, "Is there an appreciable incidence of persistent symptoms following cerebrospinal meningitis, and, if so, what are the nature and the severity of these symptoms?" In view of the findings, the first half of the question can be answered by an unqualified affirmative. The nature and the severity of the symptoms reported have been defined above as clearly and completely as space and the collected data would permit. Discussion has been deliberately omitted. The facts must stand on their own metaphorical feet. There are many extraneous factors other than the preceding meningitis affecting symptomatology which are next to impossible to evaluate, and this is especially true when dealing with a survey period which embraces the entire Battle of Britain with all its associated physical and psychic trauma. In view of this consideration, it seems superfluous to attempt an interpretation of these symptoms, and any such interpretation is left to the individual reader.

I wish to express my very great indebtedness to Dr. J. Greenwood Wilson, Medical Officer of Health for the City of Cardiff, and his staff; Dr. J. Emrys Harries, superintendent of the Cardiff City Isolation Hospital; Dr. T. W. Wade, medical member of the Welsh Board of Health; the superintendents of the co-operating hospitals; and the many medical officers of health and the members of their departments in the areas surveyed. My only regret is that I cannot give individual recognition to all those whose interest and co-operation made this study possible.

Reference

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In recognition of his important work upon the various types of Rh factors and on their genetic transmission, the College of Physicians of Philadelphia has awarded the Alvarenga Prize for this year to Alexander S. Wiener. Dr. Wiener will give the Alvarenga Lecture before the College of Physicians of Philadelphia and the Philadelphia County Medical Society on Oct. 3, on "Rh Blood Factors in Clinical Medicine."

A REVIEW OF PSYCHOLOGICAL WORK AT THE BRAIN INJURIES UNIT, EDINBURGH, 1941–5*

BY

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The psychological work at the Brain Injuries Unit has developed along three principal lines. In the first place, we have given much attention to the study and assessment of specific patterns of cognitive disability associated with cerebral injury or disease. This work was inspired by urgent practical demands, but has incidentally given rise to some research studies that I shall review briefly at the end of this paper. In the second place, we have explored certain psychological techniques which may have value in neuropsychiatric diagnosis. And, in the third place, we have endeavoured to adapt, where possible, general psychological principles and methods to concrete problems of re-education and resettlement. The work as a whole has been under the general direction of Prof. D. K. Henderson and Mr. Norman Dott, the Directors of the Unit, and undertaken in close association with Dr. A. Paterson.

Problems and Methods of Assessment

I would like to preface my review of our work with some general remarks on the methods of psychological assessment and their place in clinical science. It is not uncommonly supposed that the psychologist is the fortunate possessor of an esoteric tool which in deference to current fashion I shall call the *mental test*. Now, a mental test is often conceived to measure in a more or less accurate way some specific ability, aptitude, or trait. It is apt to be regarded as the exclusive property of the psychologist, who alone is held competent to wield and interpret it. An attitude of this kind to psychological work is both unfortunate and misleading. Strictly speaking, nothing psychological is truly measurable, and a so-called mental test is nothing more than a device for eliciting some specific psychological response under controlled conditions of examination. Thus conceived, it is plain that the neurologist who examines his patient for nominal aphasia is conducting a mental test; so also is the psychiatrist who determines a patient's orientation for time or place by means of suitably chosen questions. But in cases of this kind evaluation is very easy because every normal person can be relied on to give the correct response. When we turn to functions such as memory, intelligence, and thought, and the immensely complicated repertoire of habits and skills to which they give rise in the educated individual, it is plain not only that the normal limits of individual variation are very wide but also that the potential directions of breakdown are many and varied. Simple clinical tests are in consequence seldom sufficient in assessing the psychological sequelae of cerebral lesion, and the demand for more highly controlled methods is easy to understand. Hence the appearance on the neurological scene of the academic psychologist.

In the early stages of our work I must admit that we laboured under a certain sense of false security engendered by the admitted success of standardized test techniques in assessing normal intellectual capacity. In a situation which prima facie would seem to call for the greatest caution, we psychologists showed a certain disposition to rush in where angels—and eminent neurosurgeons—rightly fear to tread. Bitter experience has since taught us to recognize that methods adapted to measure intellectual capacities in children and normal adults can seldom be applied with profit in assessing the disabilities of the neurological patient. We now appreciate that a mental test, to have genuine practical value, must be based on intimate and thorough clinical observation. My colleague Dr. Andrew Paterson has issued a timely warning in urging that premature stereotyping of methods of examination may cause us to ignore or undervalue the diverse manifestations of organic intellectual impairment that form the stock-in-trade of the clinical neuropsychiatrist (Paterson, 1944).

Before we standardize any particular test method we must make very sure that it adequately covers the clinical conditions to which it has reference. This presupposes not only an adequate clinical experience of the conditions concerned but also suitably directed experimental research. Whereas we are now beginning to gain the requisite experience, and have developed a number of more specific techniques in accordance with it, it has not as yet been possible to undertake large-scale standardization of particular procedures. Some of our most helpful tests are still rough-and-ready and are flexible enough to adapt in a provisional way to a wide range of variation both in previous level and in pattern of disability. We hope to standardize some of these tests after the war. In the meantime, we interpret them as best we can and supplement them with a number of procedures, developed elsewhere, that may happen to meet the practical demands of routine assessment. The latter include Babcock's deterioration scale (Babcock, 1930), originally devised to provide a quantitative measure of deterioration in the organic psychoses, and the Wechsler-Bellevue intelligence scale (Wechsler, 1941), both in its original form and as modified by Reynell (1944), for assessing post-traumatic intellectual loss. We have also made an eclectic use of the various types of test advocated by Goldstein to assess disorders of abstraction and conceptual thought (Goldstein, 1942; Goldstein and Scheerer, 1941; Trist and Trist, 1943). In studying more specific disabilities, especially of language, certain of the tests devised by Burt (1922), Head (1926), and Weisenburg and McBride (1935) have found application in our work. In general, although we take full advantage of existing norms for tests, we have not been chary of modifying an accepted procedure if this appears to be in the best interests of clinical expediency. What is thereby lost in statistical certainty may, it is hoped, be compensated by resulting gain in practical utility.

Cognitive Disability in Cases of Cerebral Lesion

I now pass on to review our work on assessment of intellectual disability in cases of cerebral lesion. Although it has been possible to do a certain amount of work on *acute* conditions, this in general is of research interest only (Paterson, 1942; Paterson and Zangwill, 1944a; Zangwill, 1945). The routine activity of the psychologist centres round the assessment of *residual disability*. Every patient in whom intellectual impairment is either suspected or to be excluded is referred to the psychologist for examination before discharge. But we make it a general rule that every case of this nature should first be seen by the neuropsychiatrist, who can not only advise on specific psychological investigations but also determine, where necessary, if mental testing in any form is desirable. I need not stress the pronounced catastrophic reaction to which many organic patients are prone and which in outspoken cases renders detailed testing inexpedient. In the post-traumatic conditions, likewise, admixture of psychoneurotic symptoms may render it essential that any mental testing done should be under intimate psychiatric direction. If only for these reasons, it is my firm opinion that the psychologist should invariably work in the closest association with the psychiatrist and, from the point of view of clinical management, under his personal direction. I have already indicated that my outstanding good fortune in this respect has preserved me from many of the pitfalls that beset the non-medical investigator.

The patterns of intellectual disability liable to be associated with cerebral lesions are so diverse that a comprehensive review would be out of the question. I shall therefore make no mention here of our work on the grosser syndromes recognized by clinical neurology—the aphasias, apraxias, agnosias, and disorientations—nor the well-recognized syndromes, such as confusion and dementia, which fall in the province of psychiatry. I shall also omit discussion of the conceptual disorders to which Goldstein and his school (1941, 1942) have devoted attention and which we have had occasion to study in cases with lesions of the frontal lobes. I shall confine myself to a brief selection of our findings which have had a decided practical bearing on the work of this unit.

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* A paper read to the Society of British Neurological Surgeons in Edinburgh on June 1, 1945.

Firstly, we have been greatly struck by *the prevalence of cognitive disabilities which, in more outspoken form, are rightly ascribed to focal lesions.* In many cases, of course, the appearance of such disabilities is not surprising, as they reflect residual impairment from an appropriately localized lesion. Even so, in their reduced form of persistent defect of spelling, grammar, calculation, word choice, visual synthesis, or spatial judgment, they not uncommonly elude routine neurological examination. A more interesting finding, to which my colleague Dr. Paterson has already drawn attention (Paterson, 1944), is the prevalence of this type of disability in the clinical picture of what is usually termed generalized post-traumatic intellectual impairment. In this condition, disabilities of a relatively specific character can often be detected on careful examination and, as Paterson (1944) insists, almost certainly have localizing significance. I may add that their practical significance is often very considerable.

Secondly, we have been able to establish beyond reasonable doubt that focal disorders of visual perception, manual skill, language, and calculation, in their incipient or residual forms, commonly take the shape of what the psychologist is wont to call *decrement of special abilities.** Thus cases showing a very mild residual *dysphasic* syndrome are prone to fail rather grossly on special tests of high-grade comprehension and reasoning well within their previous grasp. This disturbance is often described by the patient himself in terms of difficulty in ordering his thoughts or in expressing himself effortlessly in an exacting discussion. Mr. Norman Dott has suggested the term "supra-dysphasia" for this condition, which warrants wider recognition. The use of special tests gives a helpful objective check on the patient's introspection, and is especially indicated in cases in which fine comprehension and formulation are of occupational relevance. We have likewise noticed that incipient or residual agnostic-apraxic disorders are almost invariably expressed on tests of intelligence stressing spatial judgment and manipulative skill. Tests of this character, often called "performance tests" (Kohs, 1927; Pintner and Paterson, 1935), appear well adapted to assess the finer grades of visual-constructive disability, and have the advantage of being thoroughly standardized in the normal. We have found them especially helpful in studying cases with lesions of the parieto-occipital region of either hemisphere, and gross deterioration of performance is not uncommon in cases which show no disturbance on the simpler tests that normally form part of the clinical examination for agnosia and apraxia. Here our field dovetails into clinical neurology. The importance of performance tests is further stressed by the fact that the majority of skilled and semi-skilled manual occupations make demands on precisely those forms of judgment and co-ordination required for proper performance in the test situation. One may add that the existence of well-circumscribed disabilities, whether of language, visual analysis, or constructive capacity, raises in an acute form the whole problem of the cerebral representation of ability, and suggests a profitable mode of attack on the cortical localization of intelligence in man.

Thirdly, we have found that *some degree of memory or learning defect is outstandingly common in cases of cerebral lesion of all types.* In the past psychologists working with neurological material have been prone to concentrate on the *deterioration* of pre-existing knowledge and capacity. While this is no doubt both interesting and important, it is often of even greater practical consequence to ascertain whether a given patient retains his old capacity to learn from experience and to acquire novel information, habits, and skills. This question arises both with reference to the re-education of specific disabilities and to the advisability of re-settling patients in an occupation necessitating special training. As Isserlin (1923) showed in the last war, the use of experimental methods of studying memory often enables us to detect a degree of impairment too slight to make itself apparent on ordinary examination but quite severe enough to constitute a real practical disability. In our own work we have not uncommonly found that a relatively severe learning defect is quite consistent with good preservation of the previous level of knowledge and ability. The learning defect in some cases appears general, affecting all spheres of psychological function (as in the Korsakov syndrome, but in much less degree). In other cases, however, especially those with focal lesions, the learning defect is often restricted to a particular performance field, such as language or spatial orientation. Here it almost certainly has localizing value, and may persist long after the grosser focal symptoms have cleared up. We have found simple learning tests (Zangwill, 1943) of decisive help in assessing memory defects, both local and general in type. Their use in post-traumatic conditions, especially, is to be advocated as a routine procedure. In this connexion I may recall that Air Vice-Marshal Symonds has commented that the post-traumatic patient not uncommonly gives the impression of being less of the man and more of the child (Symonds, 1940). Perhaps I may be allowed to add that so far as his memory is concerned he is liable to give us the complementary impression of being less of the young adult and more of the old man.

As a postscript to this review of assessment I should like to call attention to certain points of method which have special relevance to the psychological worker. In the first place one must never allow oneself to forget that *every response on a mental test must be evaluated with strict reference to the conditions under which it is elicited.* Organic symptoms at the psychological level are by no means always absolute and constant in the sense of a visual field defect or a total aphasia. Even at the level of the cerebral integration of ocular movements, Gordon Holmes (1938) and others have stressed the part played by interest and incentive in calling forth a response that cannot be elicited under the ordinary conditions of clinical examination. In ideational apraxia it is well known that the complex acts involved in purposive manipulation of objects can often be performed normally in an accustomed and properly motivated setting. It is only when the same acts are demanded under the relatively artificial conditions of examination that the patient is apt to break down and display his disability (Lange, 1936). It is therefore only to be expected that the results given on tests of the higher mental functions in the psychological laboratory will by no means necessarily give one an adequate appraisal of the patient's capability to handle comparable tasks under everyday conditions. This difficulty can never be wholly overcome in experimental psychology, and, if only for this reason, I should like to pay special tribute to Miss de Brisay and her staff of occupational therapists at this hospital, who have ungrudgingly given us the benefit of their experience and observation in arriving at a just appraisal of a patient's work capacity. But for their help much of the work undertaken in the psychological laboratory would have remained academic and sterile.

In the second place, I would like to call attention to the *variability, fluctuation, and proneness to fatigue* of brain-injury performance on sustained mental work. This was well brought out by Goldstein (1919, 1942) in his careful laboratory studies during the last war, and has again been raised by Paterson (1944) in view of our similar experience to-day. It follows that an assessment based on a single short psychological examination may give a most misleading impression of a brain-injured patient's capacity to cope with protracted work. We therefore prolong psychological observation and testing over a lengthy period—in some cases over weeks and even months—in order to reach a fair appraisal of the true level. We also check our findings at frequent intervals against the patient's work record in the occupational therapy department. In special cases we have even arranged to give a patient an extended practical trial in a line of work akin to his own and under realistic conditions. A procedure of this kind, though not always easy to arrange, can be exceptionally rewarding.

Applications to Differential Diagnosis

The experience which we have gained in delimiting the finer grades of organic intellectual impairment has proved of help from time to time in differential diagnosis of organic and psychogenic sequelae of head injury. In the field of memory impairment, for example, our work with appropriate tests

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* The term "special ability" is used here in a general sense without specific factorial connotations. Brig. Stephenson has suggested to me that the more typical forms of circumscribed disability (verbal, spatial, etc.) might find an interpretation in terms of the factor-psychology, and Lashley (1937) has made similar suggestions in a discussion of intelligence and cerebral localization in general.

(Zangwill, 1943) has proved valuable in enabling one to distinguish with fair confidence between a true organic decrement of learning and the more capricious interference with memory so often found in the psychoneuroses. Our work in assessing milder grades of dysphasia has likewise given us some basis for evaluating non-organic disorders of language. Cases of psychogenic stammer, for instance, seldom show decrement on verbal intelligence tests, which is the rule in focal dysphasic conditions. Atypical behaviour on aphasia tests has also led us on occasion to suspect an emotional involvement which psychiatric opinion confirmed.

Among more specific psychodiagnostic methods which we have explored I shall mention only the Rorschach method (Klopfer and Kelley, 1942). Our experience with this procedure has been rather less happy than that of some of its more zealous advocates. In rare cases this method has provided important data bearing on post-traumatic deterioration or has given us evidence of an abnormal personality make-up complicating the organic reaction. In the majority of post-traumatic cases, however, the test findings have added little of real value to expert psychiatric assessment.

In the earlier stages of the war we found intelligence tests very helpful in distinguishing between deterioration and pre-existing mental deficiency. With the adoption of large-scale selection techniques, however, high-grade defectives have practically vanished from our Service material.

Re-education

I come now to the last major province of our work—namely, its bearing on re-educational procedures. Under Mr. Norman Dott's tireless enterprise the joint activities of the clinical, psychological, and auxiliary therapeutic members of the unit have reached a very high level of integrated endeavour. The psychologist's contribution can be summarized under three headings. These are, first, advice regarding re-educational procedures in patients with psychological handicaps; secondly, periodic psychometric assessment of progress made; and, thirdly, preliminary exploration of techniques which might govern re-education of special disabilities.

Advice as to method of re-education is based on careful investigation and testing in individual cases. This involves not only proper mapping-out of the major disabilities but also determination of the patient's probable capacity to profit from training in the various performance fields affected. The choice of any particular method of re-training is governed both by general principles, in particular those laid down by Goldstein (1919, 1942), and by the balance of findings in the individual case. *Direct* re-training, in which the lost function is built up anew by tuition and exercise, is indicated especially in the expressive speech disorders. *Indirect* training, making play with what have been called substitution and detour methods, is generally called for in cases with receptive language disorders, especially reading. The particular programme of re-education in any given case will thus depend very largely on the individual patient and the balance of ability and disability which he presents.

Assessment of progress in patients undergoing prolonged re-education on account of psychological disabilities is undertaken every two or three weeks. In a considerable number of cases, for the most part aphasics undergoing prolonged speech therapy, we have been able to obtain detailed records of progress during the whole course of rehabilitation. Evaluation of this material is helping us to arrive at conclusions bearing on the types of aphasic syndrome which yield most adequately to re-education and the optimal length of treatment indicated.

We have undertaken some experimental studies of re-education methods with especial reference to reading, writing, and calculation. This work has been done with the active collaboration in the first place of Mrs. H. Mitcheltree, formerly speech therapist to this hospital, and more recently of Miss E. Butfield, my present colleague in the unit. We have devoted considerable attention to re-training alexic patients on the compensatory basis of kinaesthesia and touch, in some cases with conspicuous success. We have also made special investigations of acalculia with a view to improved re-educational procedures. Here, too, our tentative methods have met with limited success. Another field to which we have devoted study is the *re-education of brain-injured children*. Here the position is complicated by the fact that we have to consider not only the re-education of what has been lost but the educational prognosis. Intensive study associated with practical educational work has in some cases enabled us to advise both parents and teachers as to educational management of children with residual dysphasia and other types of scholastic handicap. This field obviously calls for development, but careful follow-up studies will be needed before general conclusions can be drawn.

Rehabilitation

The results of psychological examination have not infrequently been of help in formulating a general course of rehabilitation and occupational therapy. Thus timely recognition of high-grade defects such as colour agnosia, impaired spatial judgment, and constructive apraxia has on occasion helped to guide Miss de Brisay and her staff in fitting the most adequate available course of occupational therapy to the individual patient. Reciprocally, the therapists' observations have not uncommonly called our attention to special disabilities displayed in a practical setting and suggested more intensive laboratory investigation.

Disposal and Resettlement

The psychologist has sometimes been in the position to contribute to practical problems of disposal and resettlement by placing his observations in the hands of those called upon to assess an individual case and advise as to his future. In some cases our observations, when taken together with work records in the occupational therapy department, have provided material of direct relevance both to optimal disposal and to proper assessment of compensation and pension claims.

Fundamental Research

The material at the Brain Injuries Unit has proved a veritable gold-mine from the point of view of research on fundamental psychological problems. Owing to war conditions and practical exigencies it has not as yet been possible to communicate all of our material, but I may mention some work on orientation in the confusional state that it has been my privilege to undertake in collaboration with Dr. Andrew Paterson (Paterson and Zangwill, 1944a) and a joint communication from us on visual agnosia and disorientation associated with lesions of the non-dominant hemisphere (Paterson and Zangwill, 1944b). On the more specifically psychological side, I may mention a preliminary report on clinical tests of memory impairment (Zangwill, 1943) and some observations on the Rorschach test in cases of acute head injury (Zangwill, 1945). It is hoped to communicate further research studies shortly.

Conclusions

The main directions of psychological work undertaken in this unit during the past four years have been outlined. These include studies and assessment of high-grade intellectual defects, explorations of adjuvant techniques in neuropsychiatric diagnosis, and practical contributions to re-education, disposal and resettlement. Some contributions to psychological research are also reviewed.

I wish to thank Prof. D. K. Henderson and Mr. Norman Dott, the Directors of the Brain Injuries Unit, for their invaluable guidance, encouragement, and help; and Dr. Wm. McAlister, medical superintendent of this hospital, for his kind permission to study the case material. In its research aspects this work has been made possible by the support of the Rockefeller Foundation.

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ACCIDENTAL INFANT SUFFOCATION

BY

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No special study of the true incidence of infant suffocation appears to have been made in this country or the U.S.A. (see *B.M.J.*, 1945, 1, 524). The information necessary for an analysis is not available to the investigator except through the coroner, and then only by his closest co-operation, and as over 70% of coroners have no medical qualifications their interest is mainly confined to the purely legal aspect of each case. Further, the coroner's procedure precludes to a large extent the collection of comprehensive data by anyone but that official himself.

In England and Wales cases of death of infants from suspected suffocation are reported to the coroner of the district, either directly or indirectly, by the doctor called in to examine the child at death. If the doctor issues a death certificate certifying the cause of death as asphyxia or suffocation the case reaches the coroner through the Registrar of Births and Deaths under Statutory Rules and Orders, 1927, No. 485, thus ensuring that it does not escape investigation. It may be that a coroner will act on the strength of the doctor's opinion as to the cause of death without necessarily having the confirmation of a post-mortem examination. Prior to 1927 this was usually the case, as it was then not possible for a coroner to order a post-mortem examination without holding an inquest; therefore the medical opinion as to the cause of death, based on circumstantial evidence and external examination only, was usually accepted. The Coroners' (Amendment) Act, 1926, however, gave the coroner authority to order a post-mortem examination without necessarily committing the case to an inquest if death was found to be due to natural causes. Since that date every death in Birmingham from suspected suffocation of an infant dying in bed with its parents or others, or found dead in a cot, has been the subject of a post-mortem examination conducted by a skilled pathologist. It will be appreciated that all these deaths were entirely unexpected and that no doctor had recently been in medical attendance upon the child during life. The result of this altered procedure is reflected in the statistics in the following manner.

Birmingham Statistics

During the seven years 1938 to 1944 the total number of deaths reported to me of which asphyxia was considered as a possible cause was 318. Of these, 108 occurred while the infant was in bed with its parent or other person, and as a result of post-mortem examinations only 18 of these 108 were shown to have died from asphyxia occurring mechanically. It is also significant that of the remaining 210 cases in which an infant died while sleeping alone in a bed, cot, or perambulator, post-mortem examination established mechanical suffocation as being the definite cause of death in only 6 cases. Of the deaths 280 were due to natural causes, 152 to respiratory infection alone, and 77 to a respiratory condition associated with otitis media. Table I sets out in detail the age distribution and causes of death in the 318 cases as determined by the post-mortem examination.

Available statistics show that the total number of deaths attributed to asphyxia while in bed with parents or other persons in the Birmingham coroner's area during the seven years 1918 to 1924 was 130 when the estimated population was 550,000, as compared with 18 occurring during the seven years 1938 to 1944 with an estimated population of 1,000,000.

All the post-mortem examinations were conducted by skilled pathologists, including Prof. G. Haswell Wilson, professor of pathology, University of Birmingham; Prof. J. M. Webster, director of the West Midland Forensic Science Laboratory; Dr. J. M. Smellie and Dr. W. Carey Smallwood, honorary physicians and clinical pathologists on the staff of the Birmingham Children's Hospital; also the pathologists of the Children's and the Maternity Hospitals, Birmingham, and others.

Table I.—*Causes of Death (1938-44)*

Age	No. of Deaths of Children, occurring in Bed with one or more other Persons, for which Asphyxia was considered a possible cause	No. of Deaths of Children, occurring while alone in Bed, Cot, Perambulator, or other form of Improvised Cot, of which Asphyxia was considered a possible cause	Asphyxia occurring by Mechanical Means while in Bed with Parents or other Person	Asphyxia occurring by Mechanical Means while in Bed, Cot, Perambulator, or other form of Improvised Cot, alone	Asphyxia, cause of which was not definitely established—i.e., by Mechanical Means or Natural Causes	Asphyxia due to Inspiration of Vomit	Bronchopneumonia, Capillary Bronchitis, Bronchiolitis, without Complications	Bronchopneumonia or Respiratory Disease with Otitis Media	Bronchopneumonia or other Respiratory Disease with Contributory Cause—i.e., Pyelitis, Toxic Hepatitis	Otitis Media and Mastoiditis	Disease of Larynx	Neonatal Intracranial Haemorrhage	Meningitis	Tracheitis with Infection in Liver and Spleen	Congenital Atelectasis with Enlarged Thymus	Tonsillitis	Status Lymphaticus	Enteritis	Congenital Heart Disease	Atelectasis	Birth Injury	Convulsion—no Apparent Reason	Encephalitis	Immaturity
Under 1 day ..	2	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Over 1 day and under 1 month	12	17	2	—	2	1	11	4	3	1	—	1	—	—	—	—	—	—	1	1	1	—	—	1
Over 1 month and under 2 months	31	37	6	2	—	—	38	12	8	—	—	—	—	1	—	—	—	1	—	—	—	—	—	—
Two months and under 3 months	20	46	5	1	—	5	27	17	7	2	—	—	—	—	1	1	—	—	—	—	—	—	—	—
Three months and under 4 months	20	28	3	—	1	—	29	12	2	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—
Four months and under 5 months	9	23	—	1	—	2	14	10	3	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—
Five months and under 6 months	4	16	—	1	—	—	11	6	—	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—
Six months and under 7 months	4	15	—	1	—	1	9	3	—	2	1	—	—	—	—	—	1	—	—	—	—	—	1	—
Seven months and under 8 months	1	9	—	—	—	—	3	6	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Eight months and under 9 months	1	4	—	—	—	—	1	2	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nine months and under 10 months	—	7	—	—	—	1	3	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ten months and under 11 months	2	5	—	—	—	1	3	1	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Eleven months and under 12 months	2	3	—	—	—	—	3	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total ..	108	210	18	6	3	11	152	77	28	8	1	1	1	1	1	1	1	2	1	1	1	1	1	1

The findings as shown justify me in stating as my considered opinion that all deaths from suspected accidental infant suffocation should be the subject of post-mortem examinations, both from the point of view of correct statistical information and in some cases to relieve the mother from mental torture or reproach. Despite their grief, the relief of parents is often very apparent when informed that the death was due to circumstances beyond their control. Careful inquiries made in every case have revealed that there was a complete absence of prodromal symptoms or any departure from the normal sufficient to justify the parent in seeking medical advice—in other words, death was entirely unexpected, even in those cases in which the cause of death was found to be respiratory or due to otitis media. It would appear that an infant could develop bronchopneumonia or capillary bronchitis without complications, or even accompanied by otitis media, and die suddenly without warning, as is shown by a considerable number of the 229 deaths from these causes.

Quite a number of the children in all groups were found prone or with the face turned into the pillow—borne out by post-mortem hypostasis—suggesting death from obstruction to the air passages; and in the absence of other factors one might naturally conclude that death was caused by mechanical means.

In the 11 cases of death from inspiration of vomit, inquiry into the circumstances of how and when the child was fed did not seem to have any direct bearing on the death.

The total numbers of deaths due to mechanical suffocation in bed, cot, or cradle, etc., in England and Wales, taken from the Registrar-General's Returns, for the years 1940, 1941, and 1942, were 308, 379, and 358, respectively (*B.M.J.*, 1945, **1**, 602). If the Birmingham figures are any guide, in view of the fact that the population is approximately one-fortieth of that of the country, it would appear that these figures are much too high, and that they would be corrected by the universal procedure of post-mortem examination.

My experience is that doctors who, at the time of reporting a death, honestly believed that a child had been suffocated by mechanical means have frequently expressed their surprise on attending the post-mortem examination, which showed that death was not due to these causes but to other factors. Consequently, I consider that every medical practitioner should act warily in such cases, and should so qualify his opinion as to the cause of death as to necessitate the coroner concerned using his powers to obtain the best opinion possible, by means of a post-mortem examination.

It will be observed from Table I that all cases of children asphyxiated while in bed with the parents occurred during the first four months, and that all cases of asphyxia by mechanical means occurred during the first seven months of life. Seasonal incidence in deaths from respiratory infections and mechanical asphyxia is shown in Table II. Annual deaths from suffocation while in bed with parents or others occurring in Birmingham from 1916 onwards are shown in the accompanying chart.

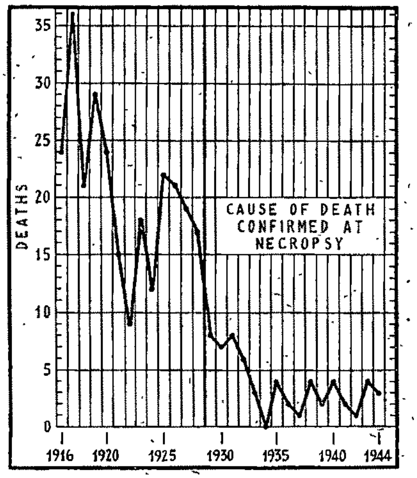

Chart showing annual deaths from mechanical suffocation while in bed with parents, or others, in Birmingham from 1916 to 1944.

TABLE II.—*Seasonal Incidence, 1938–44 (7 years)*

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Respiratory infections with or without contributory cause	40	27	31	17	16	7	10	7	19	22	24	37	257
Asphyxia in bed with parents	2	1	3	—	2	—	1	—	—	2	5	2	18
Asphyxia while sleeping alone	—	2	—	—	—	—	—	—	2	—	1	1	6

Summary

Attention is drawn to the fact that statistics relating to infant suffocation are misleading and err on the side of over-estimation. Circumstantial evidence that suffocation was the cause of death is not sufficient.

Accurate information regarding the true position in a city of 1,000,000 inhabitants revealed an incidence very much lower than is generally accepted.

During the years 1938 to 1944, of 318 deaths considered as possibly due to asphyxia only 38 were shown to have been so caused; 18 of these resulted from mechanical suffocation while in bed with some other person, and 6 from mechanical suffocation while sleeping alone. The remaining 280 deaths were definitely ascribed to natural causes, principally bronchopneumonia, often with an associated otitis media.

A post-mortem examination is indispensable as part of the routine investigation in every case where suffocation is considered a likely cause of death. Evidence in support of this is furnished by the Birmingham deaths, which show such a pronounced fall from 1929 onwards, when this procedure was adopted.

The number of deaths in infants reported to the coroner during the past three decades shows a very marked and progressive fall. This is undoubtedly due to many factors, including improved social and housing conditions, and the activities of the child welfare section of the public health authorities; but in the group in which death was the result of mechanical suffocation I feel that the present statistics for the whole country do not do justice to the real improvement that has taken place in recent years.

The remedy rests in the first instance with the medical practitioner, and, failing him, with the coroner.

POLYNEURITIS AFTER JUNGLE SORES

A SERIES OF TWENTY-ONE CASES

BY

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AND

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In a recent campaign in the Burmese jungle British and Indian troops were fighting for upwards of five months under appalling geographical and climatic conditions. During the operation many of these men developed multiple indolent ulcers, mainly on their limbs, and commonly known as "jungle sores." It was noticed that several of those who had suffered from jungle sores contracted a peripheral neuritis later. This paper describes a series of such cases. Owing to war conditions it has been impossible to make satisfactory laboratory investigations; for the same reason the literature on the subject was not available. Therefore this description must be considered from the purely clinical standpoint.

Clinical Data

Twenty-one cases of peripheral neuritis were seen in hospital. Of these, 11 were admitted complaining of symptoms referable to their neuritis; nine because of malarial relapse, and one with jungle sores. All of them had suffered from jungle sores, but, except for Case 19, the ulcers were healed at the time of admission. The number of ulcers on each man varied from 2 to 40, with an average of 14. The commonest sites were the lower leg and forearm. Ulcer scars were also found on the wrists, ankles, arms, buttocks, and shoulders, in that order of frequency. The average healing time was 8 weeks, but varied from 4 to 17. The description of the jungle sores as given by the patients in no way differed from the unhealed sores seen by us. A typical one was about ¾ in. in diameter, circular or oval in shape. It presented a punched-out appearance, with a necrotic sloughing base and unhealthy purple edges; but the local reaction was slight, and was confined to the margins of the ulcer.

The clinical course of all cases in the series was remarkably constant, and the sequence was as follows. In 16 cases the first symptom of nervous involvement was blurring of vision, the common complaint being that after reading two or three pages the print became blurred and reading was impossible. This symptom was usually noticed about seven weeks after the jungle sores began. The earliest it appeared was in four weeks and the latest 12. The average duration of blurred vision was four weeks, the eyesight returning to normal after this time. In all patients there was disturbance of sensation. In four cases it synchronized with blurring of vision, but in the remainder it occurred three weeks later. The average time between the onset of jungle sores and the appearance of sensory disturbance was 10 weeks. Sensory symptoms, consisting of tingling, numbness, and coldness of the extremities, were often severe enough to make the men report sick. In the milder cases these paraesthesiae were the only complaints; however, others later complained of difficulty in walking and writing. The picture in its most sevre form was completed by progressive weakness of the limbs spreading to involve hips and shoulders.

In addition anaesthesia of the extremities, astereognosis, and ataxia were present. From a shuffling walk with feet apart the gait deteriorated until walking was impossible.

Examination of the nervous system in these cases showed the characteristic signs of a polyneuritis. In addition to this, paralysis of accommodation was a marked feature of the disease. However, in the few cases in which eyesight was blurred during stay in hospital the pupils reacted to light and to accommodation. The phenomenon was subjective, and was shown by defective near vision. There was paresis of a lower motor neurone type, peripheral in distribution; maximum weakness being in the hands and feet. The weakness spread centripetally, but recovery took place in the reverse direction. Loss of power was more pronounced in the extensor than in the flexor muscle groups; although characteristically bilateral, it often predominated on one side. The distribution of the paresis in no way followed that of the jungle sores. Impairment of sensation followed the distribution of the paresis, all forms being affected, including postural sense. In the severe cases astereognosis and ataxia were present. Increased muscular tenderness was rare. Vasomotor disturbances were seen in a few cases, as evidenced by blueness and coldness of the extremities. It was observed that the area affected by paraesthesiae was larger than that of actual anaesthesia. Tendon reflexes of the affected limb were either absent on admission or rapidly disappeared. Even when there was minor disturbance of motor and sensory function the corresponding reflex was absent or sluggish. Muscle tone was normal in all cases and wasting of muscles did not occur. Except for these findings in the C.N.S., physical examination was negative. The cases fell into the age group 20–30. The general condition of all was good. No anaemia, glossitis, or malnutrition was observed. Clinically there was no cardiac abnormality and the pulse was normal in rate and rhythm. The gastro-intestinal tract was also normal.

Mild Cases

The cases may be classified according to the severity of their disability. Eleven were classified as mild—i.e., disability unnoticed except when attempting physical exertion. A typical example of this group was Case 8.

Case 8.—Admitted to hospital for malaria. Also complained of tingling and numbness of hands and feet. Stated that he found it difficult to march more than a mile. Jungle sores began in Burma, followed 8 weeks later by blurring of vision. Four weeks later the paraesthesiae started and the jungle sores healed. No history of diarrhoea. On examination, nutrition good. No evidence of avitaminosis or anaemia. Scars of healed jungle sores on legs. All systems except C.N.S. normal. C.N.S. examination: pupils regular, equal, reacted to light and accommodation; all cranial nerves normal; bilateral weakness of grip and dorsiflexion and plantar flexion of feet; no other muscular weakness; no disturbance of muscle tone; slight impairment of all forms of sensation over both feet; postural sense slightly impaired; ankle- and knee-jerks absent bilaterally; all other reflexes present. Gait fair while wearing light shoes; with boots, dragging of toes and walking with feet abnormally wide apart, this being accentuated when the eyes were closed. In two weeks paraesthesiae had disappeared. In three weeks power was returning to normal, and the patient was discharged from hospital, knee- and ankle-jerks still being absent.

Synopsis of Cases

Case No.	Jungle Sores		Accommodation		(a) Sensory Symptoms. Onset (weeks)	Sensation		Gait Affected ?	(b) Weakness		Tendon Reflexes	(c) Disability Group
	No.	Healing Time (weeks)	Affected ?	(a) Onset (weeks)		Anaes.	Posture. Affected ?		Arms	Legs		
1	22	17	Yes	12	16	+	+	+	++++	+++	All abs.	2
2	8	6	„	7	8	−	+	+	++ L > R	+++ L > R	A.J.s and K.J.s abs.	1
3	30	13	No	N.A.	13	+	+	+	++++	+++	All abs.	2
4	12	4	Yes	4	4	±	+	±	+	+++ R > L	Rt. A.J. and Rt. K.J. abs.	1
5	6	4	„	4	8	+	±	−	+	++	A.J.s and K.J.s abs.	1
6	16	8	„	4	8	+	+	+	++++	++++	All abs.	3
7	15	10	„	5	8	+	±	−	++	++	A.J.s and Z.J.s abs.	1
8	25	12	„	8	12	±	±	±	++	++	A.J.s and K.J.s abs.	1
9	5	10	„	6	10	±	+	±	++	++	All abs.	1
10	2	8	„	6	10	+	+	±	++	+++	„	2
11	10	6	No	N.A.	6	+	+	±	++	++	„	1
12	30	8	Yes	8	7	+	+	+	++++	++++	„	3
13	8	8	No	N.A.	10	+	+	+	+++	+++	„	2
14	7	12	Yes	12	14	+	+	+	+++	+++	A.J.s and K.J.s abs.	2
15	40	9	„	6	6	+	+	+	++	++	All abs.	2
16	8	6	„	4	8	−	+	+	++	++	„	1
17	10	8	„	12	16	+	+	+	+++	+++	„	1
18	6	8	No	N.A.	12	+	−	±	+	++	A.J.s and K.J.s abs.	1
19	8	11	„	N.A.	14	+	+	+	++++	++++	All abs.	3
20	14	8	Yes	6	15	+	+	+	+	+++	„	2
21	14	16	„	12	16	−	−	±	±	++	„	1

(a) Time of onset reckoned from beginning of jungle sores.
(b) + = Weakness of grip/foot.
++ = Weakness up to and including forearm/leg.
+++ = Weakness up to and including upper arm/thigh.
++++ = Weakness up to and including shoulder/buttock.

(c) 1 = Disability only on exertion.
2 = Routine life impeded.
3 = Bed-ridden.

Moderately Severe Cases

In seven cases, classed as moderately severe, the disability was sufficient to impede the patient's everyday life. Case 1 is an example.

Case 1.—Admitted for symptoms referable to polyneuritis. Nineteen weeks before admission jungle sores started, and 12 weeks later he noticed blurring of vision. Three weeks before admission, onset of increasingly severe tingling in hands and forearms. Simultaneously walking became difficult. Weakness was progressive, until on the date of admission he could scarcely walk. Fine movements of hands were clumsy. Abnormal physical signs: Pronounced bilateral weakness of grip and forearms; moderate weakness of upper arms; marked weakness of feet, legs, and thighs; some degree of left foot-drop; in all limbs extensor muscle groups were weaker than the flexor; partial anaesthesia of "glove-and-stocking" type bilaterally; postural sense very poor; astereognosis and ataxia marked. All tendon reflexes absent. Progress: Power returned steadily; in two weeks foot-drop disappeared. After three weeks fine movements of hands became possible and anaesthesia was absent. Patient was discharged after six weeks; shortly beforehand paraesthesiae had gone, but although power greatly improved, it would not permit severe exertion.

Severe Cases

Of the series only three cases became bed-ridden; one of these is described.

Case 12.—Gave a history of jungle sores beginning two months previously; finally healed a few days before admission. Present complaints: tingling of extremities, unsteadiness of gait, and blurring of vision. These occurred at approximately the same time as the sores healed. On examination, general condition good. No evidence of avitaminosis or anaemia. Scars of healed jungle sores on legs and forearms. All systems normal except C.N.S. C.N.S. examination: pupils and cranial nerves normal; weakness of grip—L. > R.; slight weakness of extensors of wrist and dorsiflexors of ankle; no anaesthesia; upper-limb tendon reflexes present; ankle- and knee-jerks absent on both sides. Two days after admission:—Tendency to foot-drop, L.>R.; impairment of all forms of sensation up to knees; astereognosis present; biceps jerks now absent. There followed a rapid increase in weakness, maximal peripherally and spreading towards the trunk. Ten days after admission:—Patient unable to move either arms or legs; muscles of both hips and shoulders weak; sensation bilaterally impaired up to the elbows, and on legs up to and including the perineum; no disturbance of sphincters; all tendon reflexes absent; cremasteric and abdominal reflexes present. One month after admission:—First signs of recovery appeared; power of hips and shoulders began to return. Six weeks after admission:—Able to lift arms above head; power returning to upper arms and thighs; foot-drop improved; area of anaesthesia greatly diminished. Eight weeks after admission:—Able to use hands and stand with support; extremities still weak and with impaired sensation; all tendon reflexes absent. The paraesthesiae, which had disappeared at the time of maximum anaesthesia and had returned in the early stages of recovery, now left him entirely. At this point the patient was transferred to a rehabilitation centre.

Discussion

There is no doubt that these patients were suffering from a polyneuritis, the aetiology of the condition being the main point of interest. Chemical poisons such as arsenic can be excluded as the aetiological agent, since no patient gave a history of exposure to this. Acute infective polyneuritis is excluded on the natural history of the disease, the onset in the series being insidious and the course afebrile. It remains to decide whether the polyneuritis is the result of a vitamin deficiency or is due to a bacterial toxin. Cases of vitamin B deficiency were seen in troops engaged in the same operation; the picture presented by these was primarily one of wasting and diarrhoea, with glossitis. Polyneuritis, when present, was mild and responded quickly to intensive vitamin therapy.

In the cases under discussion the polyneuritis, as has been shown, could be completely disabling, and was not influenced by adequate doses of the vitamin B complex. Moreover, the nutrition of all cases was good, despite the conditions under which they had been living, no glossitis and no diarrhoea being noticed.

Since a constant association between jungle sores and a subsequent polyneuritis was noticed, it is likely that a toxin, elaborated by bacteria infecting these ulcers, was the responsible agent. Clinically a marked similarity exists between jungle sores and the desert sores seen in troops of the M.E.F. It was found that a number of desert sores were infected with diphtheria bacilli; similarly these organisms have been isolated from jungle sores. In our series of polyneuritic cases, except for one patient, the sores were healed at the time of admission. From the unhealed sores of this case (No. 19) diphtheria bacilli were isolated. However, a week after admission this patient developed faucial diphtheria; therefore it is difficult to decide whether the polyneuritis was due to the faucial or to the extrafaucial infection.

The time of onset of polyneuritis indicated the latter. The outstanding clinical point in favour of a diphtheritic aetiology is the paralysis of accommodation noted in a large percentage of cases. It is also important to note that the neuritis was not locally related to those areas affected by jungle sores. In a few cases neuritis of the legs and arms followed when the ulcers had been present only on the arms, and vice versa. The loss of accommodation can also be explained by assuming a blood-borne spread of the toxin. This form of generalized peripheral neuritis is seen in both faucial and extrafaucial diphtheria, and as a clinical entity differs from other types of polyneuritis. The number of ulcers did not influence the severity of the disease; similarly, neither did the duration of unhealed jungle sores. A feature of interest was the fact that although Indian troops taking part in the same operation developed jungle sores, no case of a subsequent polyneuritis was discovered. It is well known that diphtheritic infection is rare in Indians.

From the above facts it is felt that all the cases represent a polyneuritis of diphtheritic origin. The value of Schick testing was obvious, but although every attempt was made to obtain the toxin none was available. Electrocardiographic studies would also have been valuable. The origin of a diphtheritic infection incurred in the jungle is obscure. These cases of polyneuritis were drawn from all the units concerned in the operation. If a carrier was the source of infection it is likely that the cases would have been grouped in one unit. All troops came into contact with the native population, and it is more likely that the infection was introduced from them. However, no details are known of the incidence or carrier rate of diphtheria in the Burmese.

From a military point of view this disease can cause a serious wastage of man-power. Even the mild cases will be unfit for jungle warfare for six months from the onset of their disability. The severe cases will probably take a year to recover fully. These men neither had been immunized against diphtheria nor had previously suffered from the disease. If the diphtheritic origin of this polyneuritis is accepted the question of prophylactic immunization will arise for troops engaged in future jungle operations.

Summary

Twenty-one cases of polyneuritis subsequent to jungle sores are described.

The course of the disease followed a constant pattern.

Sixteen out of 21 cases had loss of accommodation.

In reviewing the aetiology it was considered most likely that the polyneuritis followed a diphtheritic infection of the jungle sores.

We wish to thank Col. Wm. Morrison, *M.C.*, F.R.C.S.Ed., officer commanding a general hospital, for his advice and friendly criticism, and also for permission to publish this article.

ACUTE INFECTIVE POLYNEURITIS

BY

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A form of acute polyneuritis apparently of infective origin is well recognized by neurologists but has received little attention in English medical textbooks. It is probably more common than polyneuritis due to the classical toxins, and seems often to be a source of diagnostic confusion. The following case, which appears to be typical, seems therefore worth recording.

Case Report

An air-gunner aged 23 was admitted to his station sick-quarters with a left facial palsy. On the day of admission he rapidly developed "pins and needles" in arms and legs, with marked muscular weakness. The condition was recognized as a generalized one, and he was transferred to hospital. There was no sphincter disturbance. On admission to hospital it was elicited that he had had a bad cold and chill a fortnight previously. Apart from appendicectomy a year ago, he had always been healthy and never a heavy drinker. On examination he was afebrile, but appeared ill. A complete left facial palsy of the lower motor neurone type was present, but the other cranial nerves were normal. The fundus oculi was healthy. There was marked muscular weakness of arms and legs, with winging of the right scapula. The proximal muscle groups, indeed, were particularly affected. Tendon reflexes could still be obtained on admission, but within a few days had entirely disappeared from the legs and left arm, and were feeble in the right arm. The muscles were flaccid and toneless. The upper abdominal reflexes were present, but not the lower; the plantars were flexor. No reliable sensory changes could be discovered, but the paraesthesiae were the cause of much complaint. The throat was clear, the nose a little congested. No K.L.B. could be isolated from a swab. Other systems were normal. Lumbar puncture on the day after admission showed a clear fluid under normal pressure, with no cells; protein, 45 mg. per 100 c.cm.; Wassermann reaction negative. Recovery from the facial palsy was rapid, being complete within a month. In the arms it was slower, but tendon reflexes were present in three weeks and normal in four. The legs were slowest of all, and convalescence was attended by much aching in the feet. After nine weeks the lower-limb reflexes could be obtained, with the exception of the left ankle-jerk. By 11 weeks he was walking well with the aid of a stick, and shortly afterwards was transferred for rehabilitation. All tendon reflexes had returned by this time, but there was residual weakness of the glutei and calf muscles, with still a little pain in the feet.

Discussion

A description of this condition, with post-mortem findings, was given by Gordon Holmes (1917) under Osler's diagnosis of acute febrile polyneuritis. A more detailed account, based on 30 cases, was published by Bradford, Bashford, and Wilson (1919). Transmission of the disease to monkeys from post-mortem material is described and its infectious origin held to be established. Hence the term "acute infective polyneuritis," which has since been commonly used. In the present war a group of 7 cases has been described by Barber (1940) under the title "Polyradiculoneuritis (Guillain-Barré Syndrome)," which he gives reasons for considering the same as Holmes's. From the descriptions this would appear reasonable, though Guillain (1936), writing 20 years after his original publication, still wished to draw a distinction between the syndrome known by his name and the type characterized by fever. The eponym, much used by French writers, pays tribute to his work on the subject. American authors have added other series in recent years. Forster, Brown, and Merritt (1941) describe 26 similar cases as "polyneuritis with facial diplegia," although facial involvement was not a constant feature, being lacking in four patients. They point out incidentally that their cases showed a much worse prognosis than is usually given, 11 ending fatally, and suggest that an increase in virulence of the hypothetical causative virus occurred at one period of their survey. An interesting possibility that has often been discussed is that Landry's paralysis is a form of the disease under consideration (Pinckney, 1936; Garvey and Slavin, 1938). A long list of synonyms is given in the recent editions of Osler's *Medicine.*

The importance of establishing the diagnosis is not entirely academic, in spite of our ignorance of the aetiology and the specific therapy. Cases are often labelled anterior poliomyelitis, and a much more serious prognosis given as regards paralysis than is warranted. On the other hand, failure to appreciate the possibility of involvement of the respiratory muscles may assist in fatal consequences. Points of differential diagnosis in poliomyelitis are given by Gordon Holmes as "the more rapid evolution and the more irregular distribution of the palsy, the frequent paralysis of the trunk muscles, and the usual absence of objective sensory symptoms in this disease." It is also generally agreed that in the polyneuritis there is usually a considerable interval between the febrile episode, which may mark the onset of the illness, and the appearance of the characteristic symptoms. Recovery, too, tends to be complete. The C.S.F. findings show in polyneuritis an increase of cells—an acellular albuminosis, as it has been called. This was not marked in the present case, but the sample was obtained very early. I have usually noted higher figures for protein in civilian cases, which come to hospital at a later stage of the disease. On the other hand, seven of Forster, Brown, and Merritt's cases had protein within normal limits, and they find that this cannot be explained on a time basis.

This case was apparently a sporadic one, and no evidence of a local epidemic has been found.

My thanks are due to the Air Ministry for permission to submit this note.

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S. J. Carter (*Ann. Surg.*, 1945, **122**, 117), who records eleven illustrative cases, maintains that serum amylase determination should be made in all chronic alcoholic patients if operation is contemplated for severe acute abdominal symptoms.

Medical Memoranda

Misleading Evidence in Establishing the Time of Death

The rate of emptying of the stomach is considered a useful if subsidiary means of establishing the time of death in medico-legal cases. The following case presents unusual features in this connexion.

CASE RECORD

The dead body of a soldier aged 26 was admitted to the mortuary of a military hospital in the M.E.F. He had sustained severe head injuries when the truck which he was driving overturned, and he died 13 minutes later without recovering consciousness. The body was placed in the mortuary refrigerator 4 hours after death, and the necropsy was performed 14 hours later.

The face and forehead were gashed and abraded, and the left maxilla driven backwards, with depression of the floor of the left orbit, indicating a severe blow on the face. The skull was widely comminuted and the undersurface of the brain lacerated. On section, the mid-brain was peppered with small perivascular haemorrhages and the ventricular fluid was heavily blood-stained. The lungs contained a quantity of blood inhaled from the nasopharynx. A small tear was found in the liver, and the pelvis was fractured.

The stomach was empty; but, lying free in the jejunum, 12 inches below the duodeno-jejunal flexure, was a vulcanite denture with 8 jagged points round the convex border, and bearing one artificial tooth. Its shape was roughly triangular, the base 38 mm., the altitude 25 mm., and it was curved to fit the hard palate. Passage of the denture appeared to have caused no injury to the food channels.

COMMENT

Subsequent interrogation of a companion in the truck disposed of the idea that the deceased had swallowed his denture before the accident, and it is reasonably certain that it was dislodged at the time of the facial injury. It would appear that the denture had then been swallowed while the patient was unconscious, and passed through the oesophagus, stomach, and duodenum into the jejunum, travelling 45 inches from its original position in the mouth in the course of 13 minutes.

Sydney Smith in his *Forensic Medicine* states that after a full meal food begins to leave the stomach in 15 minutes, and that the stomach is empty in 2 to 5 hours; that a barium meal passes through the stomach almost at once, but that metallic foreign bodies may be retained in the stomach for days; and that food travels through the small intestine at the rate of about 6 feet in an hour.

The surprising distance travelled by the denture may have been due to accelerated peristalsis during life or persistent peristalsis after death; but, in either case, had the time of death been unknown the evidence of the denture would have proved misleading.

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Scabies and D.D.T.

The success of D.D.T. in preventing infection by lice has caused many people to wonder whether it has any effect on scabies. There is little information about this. Buxton (1945) in his excellent account of D.D.T. does not mention scabies, but in the discussion of his paper K. Mellanby says—"D.D.T. is certainly not to be recommended for the treatment of scabies." To determine whether D.D.T. has any prophylactic action against scabies, I examined, in conjunction with Major G. A. Hodgson, a series of infected soldiers to see how many had been wearing impregnated shirts or had been using D.D.T. powder regularly and recently; "recently" was interpreted as being within the last two months. We obtained the following results:

	Scabies Patients			Controls		
	Cases	Yes	No	Cases	Yes	No
G. A. H. ..	48	23 (48%)	25 (52%)	111	46 (41%)	65 (59%)
F. F. H. ..	52	29 (56%)	23 (44%)	100	64	36
Total ..	100	52%	48%	211	110 (52·2%)	101 (47·8%)

("Yes" signifies wearing an impregnated shirt and/or having used D.D.T. powder regularly within the last two months.)

The difference between the proportions protected in the two series is due to their having been observed, purposely, in two different areas. The almost exact identity between the scabies patients and the controls shows that D.D.T. has no preventive action against the acquirement of scabies.

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REFERENCE

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A Method of End-to-end Anastomosis in the Small Intestine

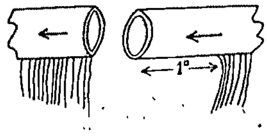
In lesions of the small intestine requiring resection speed is of very considerable importance in war surgery, and side-to-side anastomosis is therefore seldom done because, while giving a very satisfactory union, it is undoubtedly time-consuming. The common method of end-to-end anastomosis is to unite the cut ends with two layers of sutures—an inner "all-coat" and an outer "sero-muscular"—but this method has two disadvantages. In the first place it is often found that closure of the mesenteric angle gives rise to some difficulty, and at the end of this part of the anastomosis there is sometimes a feeling that one's technique at this stage has not been quite up to standard. Indeed, this fact has lately been uncomfortably proved at the necropsy of a patient dying of paralytic ileus from peritonitis, where a small localized abscess was found within the mesenteric angle. The second disadvantage is that the two layers of sutures produce a thick and rigid anastomotic line predisposing to mechanical obstruction.

The following method of anastomosis has been devised to overcome these difficulties and to reduce the operative time. The diagrams explain the stages of the operation.

METHOD

Having determined the line of bowel resection, the mesentery of the efferent loop is divided at this level, but with the afferent loop the mesentery is divided 1 in. proximal to this line, thus leaving 1 in. of bowel without mesenteric attachment (Fig. 1). Next, three catgut (00) sutures are introduced from without inwards into the efferent gut. These sutures are inserted 1 in. distal to the line of resection and are placed equidistantly around the circumference of the gut, with one suture at the antimesenteric border. Each stitch is then brought out through the end of the efferent loop; the corresponding part of the end of the afferent loop is picked up, and the stitch returns within the lumen of the efferent loop again, to emerge close beside its point of entry, where the ends are tied (Figs. 2 and 3). Thus the afferent loop is invaginated within the efferent loop and the cut ends of the mesentery are now in apposition. A continuous suture, picking up all coats of the cut end of the efferent loop, and the sero-muscular coats of the afferent loop at the level of mesenteric attachment, now completes the anastomosis, and the mesenteries are united by interrupted stitches (Fig. 4).

1.



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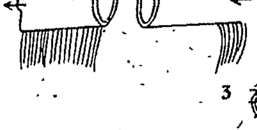

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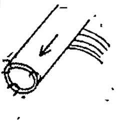

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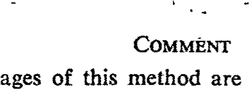

COMMENT

The advantages of this method are that it is quick and easy to perform and makes leakage at the mesenteric angle impossible. In addition it is felt that it offers less resistance to normal peristaltic movements along the gut.

Two criticisms may be anticipated: (1) Bleeding at the cut end of the afferent loop has not been controlled. In practice, noticeable bleeding has not occurred here, probably because of the distance below the mesenteric attachment at which the gut is divided. (2) The passage of the three interrupted sutures within the lumen of the gut might be considered to spread infection. This obviously is of no importance in war surgery, where gross soiling is inevitably present; and even for "clean" resections this soiling can be of little importance until we more nearly approach the ultimate goal of aseptic anastomosis.

Excluding patients who have died within 24 hours of operation from the severity of their wounds, this method has now been employed in 6 cases, 5 of whom survived. The one death occurred on the 4th post-operative day from gas gangrene of the abdominal wall, and necropsy showed no intraperitoneal trouble and a sound anastomosis.

Access to the literature is impossible at present, but it is felt that an operation of this type has possibly been described before. Personal ignorance of the existence of such a technique has, however, prompted the description of this method of anastomosis.

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Two Cases of Air Embolism

In view of recent references to air embolism the following two cases may be of interest.

CASE I

Mrs. L., aged 30, suffering from tuberculous infiltration of the right apex. Left lung healthy. Has had an artificial pneumothorax since March, 1944. Collapse satisfactory and well maintained; patient making good general progress.

After screening, a refill was thought necessary, and at 11 o'clock one morning a needle was inserted in the fifth intercostal space in the anterior axillary line, as was customary with this patient. Pressure was −2, −4 and manometer movement was sluggish; a probe was used to make sure that the needle was clear, but readings persisted. A little air, less than 50 c.cm., was blown through to clear the needle. Patient remarked, "Something funny is happening, Doctor. I think I am going to faint." The needle was withdrawn forthwith. Mrs. L. then became unconscious with eyes wide open and stertorous breathing. Pupils were widely dilated; pulse almost imperceptible though colour remained good. A fine tremor was present throughout the whole body. About ten minutes later the pulse was quite imperceptible and paresis of the left side of the face was noticed. Two c.cm. of nikethamide solution was given intravenously. Dilatation of pupils decreased somewhat, the eyes closed and resisted opening; conjunctival reflex present. Tremor had ceased. The patient was put to bed between two hot blankets and with numerous hot-water bottles. About an hour and a half later she showed signs of returning consciousness and drank a few mouthfuls of tea. She relapsed again, and at 4.30 p.m. there was another fit of trembling with marked photophobia. A quarter of a grain of morphine was given. At 6 p.m. patient was conscious and rational but complained of severe post-orbital and frontal headache. She said that she was blind and could see nothing but a white sheet. Pupils were half dilated and she was obviously unable to see.

Twelve hours later, after a restful night, patient felt well and her vision had improved to the stage where she could see objects, but she complained of their being fuzzy. Optic disks showed a degree of venous congestion and arteries appeared to be contracted. Nothing abnormal was discovered in the nervous system. Thirty hours later she had returned to normal except for a residual fuzziness of vision. Next day this had disappeared. There have been no apparent sequelae. The question of a possible hysteria arose and was considered, but the patient has shown no antipathy to treatment and has been twice refilled since without untoward effect.

CASE II

J. M., aged 19. Extensive tuberculous disease with cavitation in right lung. Artificial pneumothorax induced Sept. 20, 1944, and refilled at regular intervals. On the last occasion, one month after the above case, on the insertion of the needle for refill, before any air was passed and while a reading of −2,0 was being recorded, he suddenly complained that he felt dizzy. The needle was immediately withdrawn and the tip was found to be bloodstained. This patient did not lose consciousness, but he too complained of loss of vision. His pupils, particularly the left, were somewhat dilated; examination of the left disk showed in at least two arteries a short, moving, silver thread which was taken to be air; this disappeared in a few seconds, and perhaps fifteen seconds later the patient remarked, "I can see again now, but I still feel dizzy." After a few minutes' rest he rose from the table unaided, and has had no more trouble other than a slight staining of the sputum about half an hour after the incident.

COMMENT

Hamilton and Rothstein (*J.A.M.A.*, June 22, 1935) consider that air embolism occurs once in 500–1,000 cases, and that it is more frequent in patients whose pleura is thickened and in inductions. It was noticed in both the above cases that the needle seemed to pass through a thickened soft pleura. This has been confirmed in the case of Mrs. L. on later occasions, when refills have been carried out without incident. More satisfactory pressure readings have been obtained on these occasions.

The similarity of the condition to so-called "pleural shock" is noted. It was suspected after the first case that the true mechanism was air embolism, and the opportunity taken for immediate retinoscopy in the second case seems to confirm this.

These cases emphasize the points made by Hamilton and Rothstein: that the common practice of "blowing a little air through the needle to clear it" is one not unaccompanied by danger and is in fact to be firmly discouraged; and, secondly, that the tubing from the apparatus to the needle should be as short as possible and of fine bore. In Case II this could have been the only source of air.

Noranside Sanatorium,
Angus.

PHILIP H. DALGLEISH, M.B., Ch.B.

Reviews

A PIONEER FRENCH PHYSIOLOGIST

François Magendie. Pioneer in Experimental Physiology and Scientific Medicine in XIX Century France. By J. M. D. Olmsted, M.D. With preface by John F. Fulton. (Pp. 290. $5.00.) New York: Schuman's.

The celebrated François Magendie (1783-1855) had a curious upbringing. His father, a Bordeaux surgeon, as a faithful disciple of J. J. Rousseau, let him remain undisciplined and without schooling until he was 10 years old. Two years before that the family moved to Paris to enable the father to enjoy the violence of the Revolution to the full. When François enterd on his medical studies Napoleon was throwing medical education into chaos with his innovations. However, France then had so many distinguished physicians and surgeons that the intervention of the State was less disastrous than might have been expected. Magendie soon came under the influence of Bichat, who in his short life of 31 years made a great impression on medicine. To-day he is chiefly remembered by his carrying his anatomy beyond organs to their constituent tissues, though curiously enough he distrusted the microscope. But in his own day he was also known as a vitalist who held that all vital phenomena were marked by "an instability which distinguishes them from physical phenomena remarkable for their uniformity." On this Magendie, though himself a vitalist at that time, broke away from him, believing that this apparent instability was merely due to our ignorance. He therefore embarked on a study of experimental pharmacology and physiology—aspects which Bichat had neglected. From an investigation of the action of poisons on living tissues he went on to a study of absorption, deglutition, and vomiting. Meanwhile he was practising as a physician, and applied his scientific methods to the treatment of an epidemic of typhus in 1814. Throughout his life he advocated "expectant" methods of treatment and was strongly opposed to routine bleeding. He next turned to work on motor and sensory nerve roots; it would be tedious to relate the controversy this involved him in with Sir Charles Bell as to priority of discovery—a controversy which continued long after the death of both protagonists. Clearly each learnt from the other; but there was a lack of candour in Bell's attitude. After some work on hydrophobia which ended in the failure of his vaunted treatment by intravenous injections of large quantities of water, Magendie turned to the more fruitful subject of the functions of the cerebellum. Here again he became engaged in controversy, this time with Flourens. Magendie's two great defects as an experimenter were his inadequate use of controls and an obstinate adherence to the opinion he first formed. This is seen also in his work on the cerebrospinal fluid, where he correctly described the foramen still known by his name, but was wrong about the course of the flow and on the function he ascribed to the pineal. Hence in all his work we find many errors embedded in a mass of important discoveries. One disservice he certainly did to science; it was his ruthless experimentation that started the antivivisection campaign. Yet with human suffering he was tender and sympathetic; his fearlessness in trying to alleviate it was shown by his conduct during the epidemics of typhus and cholera. During his tenure of the professorship at the Collège de France he engaged with his pupil Poisenille in devising apparatus for observing circulation and respiration; but his most distinguished pupil, and later collaborator, was the famous Claude Bernard, with whom he carried out the initial experiments on the glycogenic functions of the liver.

All this and much more is to be gathered from Prof. J. M. D. Olmsted's admirable biography. In order to get a true portrait of the man he has combined the pictures drawn by three of his contemporaries: Claude Bernard, who chiefly regarded Magendie as the exponent of the experimental method; Dubois, who disapproved of his methods but liked him personally; and Flourens, who admired his scientific probity but condemned his intolerance and unwillingness to recognize that other investigators might occasionally be right. His opposition to the use of ether as an anaesthetic was a striking illustration of this, as was his obstinate belief that cholera was non-contagious because he never contracted it himself while working in the midst of epidemics. Claude Bernard sums him up in these words: "He was two quite different people" as a casual acquaintance and in the laboratory. "Affable and kindly . . . with the world at large, in the laboratory and in his scientific relationships his character changed completely." In a brief but cogent preface Prof. J. F. Fulton emphasizes the debt that all American physicians—and, we would add, British physicians—owe to French medicine of the early 19th century.

NEUROLOGY IN CHILDHOOD

Diseases of the Nervous System in Infancy, Childhood and Adolescence. By Frank R. Ford, M.D. Second edition. (Pp. 1,143; illustrated. $12.50 or 69s.) Springfield and Baltimore: Charles C. Thomas; London: Baillière, Tindall and Cox.

Seven years after Prof. Frank R. Ford had put neurologists and paediatricians firmly in his debt with his *Diseases of the Nervous System in Infancy, Childhood and Adolescence,* a second edition has been issued. It is clear that revision and rewriting has been widely undertaken, and the list of new material is long. The total number of references is now over 2,000, and nearly a quarter are new to this edition, which also includes 40 new illustrations and 11 new charts. It is, of course, impossible to check all the new material, but so far as can be ascertained Prof. Ford has not missed anything of serious importance. Penicillin has just got into a footnote, and its value in meningitis will need amplification next time. A topical subject now causing considerable anxiety in America is the effect of recent tonsillectomy in the aetiology of poliomyelitis. This is duly recorded, but without comment, and this is not the only place in the book where what Prof. Ford himself thinks is not made clear. The surveying of the literature is splendidly done, and the value of the well-known team-work at the Johns Hopkins Hospital is obvious. But modesty has kept the author a little too much in the background. Perhaps with the pruning that will be necessary for the next edition on grounds of sheer bulk he will keep this in mind. Meanwhile the second edition of Prof. Ford's book is a worthy production of the famous Baltimore centre and is assured of a warm welcome.

OBSTETRICS AND GYNAECOLOGY

The 1944 *Year Book of Obstetrics and Gynecology.* Edited by J. P. Greenhill, B.S., M.D., F.A.C.S. (Pp. 576; illustrated. 18s. 6d.) Chicago: The Year Book Publishers; London: H. K. Lewis and Co.

The 1944 *Year Book of Obstetrics and Gynecology* follows the pattern of its well-known and popular predecessors. It comprises well over 500 pages, which are devoted almost equally to the obstetrical and gynaecological sections, and into these a wealth of interesting and useful information is compressed. As might be expected, considerable space is given to the subject of caudal anaesthesia, which has been much more extensively used in America than in England. The editor speaks enthusiastically of his personal experience of the method, but states that he does not believe that it will become "part of our obstetric armamentarium." Reference is made to penicillin therapy, but at the time the book was published few reports were available, and it is to be expected that next year much more space will be devoted to the use of this wonder drug. Readers who have found difficulty in understanding the literature on the rhesus factor will find an excellent summary of the subject on page 277.

This *Year Book* is an excellent institution, and it should be near the desk of every general practitioner and obstetrical and gynaecological specialist.

The Board of Registration of Medical Auxiliaries (B.M.A. House, Tavistock Square, London, W.C.1) has published a sixth edition (1945) of the Orthoptists Section of the National Register of Medical Auxiliary Services. Orthoptics (i.e., the practice and principles of the development of binocular vision in the case of squint) was recognized by the Board as a branch of medical auxiliary work on the recommendation of the Council of the B.M.A., and the Council of British Ophthalmologists and after investigation by the Board into the claim for recognition. Registered orthoptists do not undertake the treatment of any person except under the direction and control of an ophthalmic surgeon or a registered medical practitioner engaged in ophthalmology. Copies of the Orthoptists Register may be obtained free of charge from the acting secretary of the Board.

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NUTRITIONAL DIARRHOEA

Diarrhoea is common among people suffering from semi-starvation and malnutrition; as noted by Kenny[1] in a recent number of the *Journal* it adds to the difficulties of treatment, but usually clears up in a short time when the patients are given a milk diet. It has been attributed to a diet containing large amounts of cellulose and other indigestible materials, and to infections as a result of eating anything edible.

Diarrhoea is, however, one of the three "D's" that are regarded as characteristic of pellagra, and Heilig,[2] working in Mysore, found that chronic diarrhoea in malnourished persons was relieved by nicotinic acid. Aykroyd and Gopalan[3] have recently recorded a study of 54 cases of chronic diarrhoea not attributable to sprue or other known condition. The onset in these cases was gradual; all of them had vague abdominal discomfort, but no griping or tenesmus; the stools were not frothy and contained no blood. In all but 13 the number of motions was over six a day. Test meals were examined in 42 cases: free hydrochloric acid was absent in 28 and subnormal in 13. Evidence of nutritional deficiency other than emaciation was found in most of the patients. Forty-nine had glossitis: this was of the hypertrophic type, with fungiform or filiform papillae, in the early cases with diarrhoea of under four weeks' duration; and atrophic, with a red and smooth or a fissured tongue, in the more advanced and chronic cases. Anaemia was found in 46 cases; in all but three of these it was of the macrocytic hyperchromic type commonly found in pellagra. Fifteen had "crazy-pavement" dermatosis—that is, patches of epithelium of a darker colour separated by fine and irregular fissures. Only one had the typical symmetrical dermatitis of pellagra. Twenty-five had oedema of the dependent parts. The oedema and, possibly, the dermatosis and anaemia may have been caused by general undernutrition secondary to the diarrhoea; but the soreness of the tongue was noticed by the patients at the same time as, or a short while before, the diarrhoea started.

After admission to hospital all these patients, except some who were so severely ill that it was not justifiable to withhold treatment, were kept for four days on the usual hospital fluid diet. Little or no improvement was seen during these four days. Nicotinic acid was then injected intramuscularly. In the severe cases 100 mg. was injected daily; in the milder cases 50 to 70 mg., according to the severity. After the third injection the number of motions was reduced and the stools were more formed. In 50 cases the diarrhoea was controlled within twelve days. The four that did not respond were severe cases that had had diarrhoea continuously for over six months; when admitted they were grossly emaciated, with severe oedema. The soreness of the tongue diminished with treatment, and the patients were able to take a full hospital diet with little discomfort. The appearance of the tongue did not, however, become normal in any of the cases. Oedema gradually disappeared after the patients were able to eat a normal diet. No striking change in the "crazy-pavement" dermatosis was noticed. Achlorhydria or hypochlorhydria persisted in spite of treatment. It may be inferred that the diarrhoea in these cases was due to deficiency of nicotinic acid.

Rice contains little nicotinic acid, but typical pellagra is rare among rice-eaters in India (Aykroyd and Swaminathan[4]); although, as Aykroyd[5] points out, the recorded death rate from diarrhoea and dysentery in the rice-eating areas—Orissa, Central Provinces, and Madras—is four to six times as high as in the wheat-eating Punjab, where milk consumption is relatively high. The demonstration that vitamins of the B group can be synthesized by bacteria in the intestine and absorbed (see this *Journal*[6]) calls for a reconsideration of aetiology of diseases such as pellagra. It is possible that the diets of Indian rice-eaters commonly contain a factor that favours the growth in the intestine of bacteria that synthesize nicotinic acid. Apart from this, pellagra may be due to failure to absorb the nicotinic acid supplied in the food or formed in the intestine. The importance of absorption was shown in the cases considered, as nicotinic acid was not so effective when given by mouth as when injected intramuscularly. It is possible that the deficiency of nicotinic acid in the Indian cases was due to removal from the diet of the factor that favours synthesis or some factor favouring absorption. Pellagra is a multiple deficiency disease; differences in its manifestations may be due to differences in the adequacy or inadequacy of the factors that contribute to its prevention.

THE FUTURE OF POPULATIONS

Among the latest contributions to the literature of this subject are a volume of essays by British writers, each discussing an aspect the writer is well qualified to treat, and a comprehensive work by Dr. Alva Myrdal, a Swedish medical woman who has given many years of study to the whole question.[7] The first is described as an inquiry with recommendations; the second as a report on the Swedish experiment in democratic family and population policy.

The essayists have command of a more attractive literary style than has Dr. Myrdal, but she makes accessible to readers of English—or perhaps one should say American—a good deal of information hitherto available only in Swedish. We may interpolate here that this includes (Chapter XVI) a chapter on medical services which we should have liked to quote. We do not do so because the subject is controversial, and unless passages are given in full—for which there is no space—there is danger of bias in selection. The basal facts of population are, or should be, well known. In Great Britain, and in many other West European and North American States, the populations must eventually diminish; because, in each successive generation, the number of women of an age to bear children is decreasing. In most of these countries the populations will continue to increase in absolute numbers for some time, because improved death rates are permitting a much larger proportion of young adults to survive and swell the ranks of non-breeders. But when the stone has reached the summit of the hill it will descend rapidly on the other side. This is common ground to demographers. One of the essayists—Mr. Titmuss—gives a much-needed warning that a recent increase of the birth rate is, in all probability, a mere spurt explicable by wholly transitory conditions. There is also general agreement that the only hope of arresting the downward trend is, to state it quite bluntly, to put families with many children in an economic (including educational) position not less favourable than that of childless or one-child families. On how this is to be done there is no general agreement. We think, however, that Dr. Myrdal's investigations should do something to shame those persons who spend words and ink on insulting those younger and poorer than themselves. The joke about young people who prefer a "baby" Austin in the garage to a baby in the cradle was never a good one. Dr. Myrdal provides detailed budgets of families with 0, 1, 2, etc., children, showing the amounts spent on various items. Here is her well-justified comment: "Even if the whole recreational item in the budget of the more well-to-do childless family were omitted it would hardly pay for one child and still less for several." The common people of England (and other countries) are alternately praised (at elections) and insulted. It might be well to remember Chesterton's lines:

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[1] *British Medical Journal*, 1945, **1**, 777.
[2] *Ind. med. Gaz.*, 1943, **78**, 129.
[3] Ibid., 1945, **80**, 68.
[4] *Ind. J. med. Res.*, 1940, **27**, 667.
[5] *Ind. med. Gaz.*, 1942, **77**, 549.
[6] *British Medical Journal*, 1945, **1**, 879.
[7] *Rebuilding Family Life in the Post-War World*, edited by Sir James Marchant (Odhams Press, Ltd., 2s.). *Nation and Family*, by Alva Myrdal (Kegan Paul, 21s.).

> "Smile at us, pay us, pass us; but do not quite forget.
> For we are the people of England, that never have spoken yet."

One of the essayists, Dr. Grace Leybourne-White, notes that even if the White Paper proposals are carried into effect the wealthy will still have a great advantage over the poor in providing for the education of their children. That is true of almost all items on the programmes.

We find it hard to close on a note of optimism. The British people, like the Swedes, may be proud of what has been done within a generation to improve social conditions. But improvement *must* be slow in a democracy which is also a nation valuing its traditions. If the essayists and Dr. Alva Myrdal are right—and we believe they are—a social reconstruction far more sweeping than the generation now old has experienced must be effected within another generation, under the threat of a disaster which is not imminent, which will not be experienced by a majority of those now living at ages beyond, say, 40—viz., that fraction of the people which is politically vocal and powerful. The threat is from the intellectual point of view grave, not from the emotional point of view. The gibe, that posterity has done nothing for us so why should we bother about posterity, has more point than the "baby" Austin joke. It paralysed statesmen in face of a more imminent disaster which almost destroyed European civilization.

TAKING THE WATERS

Medical treatment has always evolved from the magical to the rational. These two methods have often existed side by side, and indeed in some respects continue to do so. As if to mark the contrast between them the Aesculapian Temple and the School of Hippocrates were two miles apart in the small island of Cos. But both schools believed that treatment was best carried out in healthy, attractive surroundings and in the therapeutic value of water. When science was eclipsed in the Dark Ages water naturally was credited with magical properties again, especially if drawn from a saint's well. And even when the darkness gradually cleared a belief in the therapeutic value of spas and springs "rationalized" the old magical ideas. But as time went on and knowledge of pharmacology increased these claims were challenged. Sir William Osler, in particular, was a terse critic. Only to quite a limited extent did the spas meet the challenge by carefully controlled observations to elucidate the alleged value of the ingredients of their waters. For the most part they replied by installing physical methods of treatment; in this they were wise, even if thereby they did not show any excessive confidence in such ingredients.

In this country Harrogate has always maintained its reputation largely because of the progressive attitude of its corporation, which has now taken the enlightened step of asking Prof. Stanley Davidson to investigate the whole situation and to make recommendations. His published report is of much interest and value, for it is both destructive and constructive. To take his negative conclusions first. He does not believe in a specific therapeutic action from any mineral water, and "the cure of anaemia is far more effectively and cheaply obtained by taking two or three shillings' worth of iron tablets than by drinking chalybeatic waters." Of course many mineral waters are laxative or diuretic, and thus by elimination assist other methods of treatment. He notes that the number of persons undergoing spa treatment has been steadily falling off for the last 20 years. This he attributes to the decline in over-eating and over-drinking, and to the redistribution of wealth by heavy taxation, which chiefly affected those who made use of spas. Although these factors will continue to operate, nevertheless Prof. Davidson considers there is a distinct future for well-planned spa treatment. Like the Aesculapians he believes in the value of pleasant surroundings and cultural amenities as important adjuncts, and if there are fewer "idle rich" there are plenty of tired and harassed men and women to whom this is the first need.

Though Prof. Davidson evidently thinks the principal virtue in the drinking of mineral waters lies simply in H_2O, he believes in its external use, and where there is a thermal spring there is saving of money and labour in making use of its warmth. The Vichy douche and the deep pool are commended, and he advocates the installation of a "fog room" (such as the vapours of Mont-Dore provide naturally) for the treatment of sinusitis, bronchitis, and asthma. On the other hand he is more doubtful of the advantages of colonic lavage. He would like to see some of the space occupied for this purpose utilized for other forms of physiotherapy, in which he is a firm believer. He does not recommend sulphur water externally for skin diseases, while internally its bactericidal action is negligible. He recognizes the value of the research work done at Harrogate in conjunction with Leeds University, and presses for its extension, particularly in the investigation of rheumatic diseases, which in panel practice account for one-seventh of the total incapacity of the insured population.

Apart from local questions of organization most of Prof. Davidson's conclusions apply to spa treatment in general, and he has helped to clear the air of both credulity and undue scepticism. As he says, when a patient goes to a spa for treatment he is willing to submit to a certain amount of discipline. The treatment is carried on daily, and adequate periods of rest are enforced. All this is very different from ambulatory treatment at home and obviously more efficient. It is often urged that the Continental spas organize the patient's daily routine more completely, but then, curiously enough, as Prof. J. W. McNee once pertinently put it, the British are more disposed to accept medical orders if they are couched in broken English. In any case the chaos on the Continent will dissuade visitors from this country from going there for treatment for a good many years to come. It is therefore an opportunity for British spas to set their houses in order and to avail themselves of the most recent scientific knowledge, recognizing both the limitations and the efficacy of their resources. The Harrogate Corporation is to be commended for the courage with which it put its faith to the test, and Prof. Davidson's report has justified that faith in many particulars while making helpful suggestions for future rational developments.

FURTHER RESULTS WITH D.D.T.

Since our first general account[1] of the insecticide D.D.T. a great deal more information has been published on its applications and its possible hazards in use. In February, 1945, an address[2] by Prof. Buxton to the Royal Society of Tropical Medicine summarized the progress made in utilizing the insecticide against a number of insect-borne diseases. Yet another successful application has been demonstrated in the use of D.D.T. powder against rat fleas,[3] and this should be of much value in combating bubonic plague and murine typhus; quite recently there was an urgent demand for D.D.T. in Malta, where four cases of plague were reported.

With the wide range of uses to which D.D.T. might be put it was of high importance to investigate carefully all possible toxic hazards to man. Investigations were made in a number of laboratories in this country and in the U.S.A., and the results of some of these were commented on earlier in the year.[4] Since then there have been several notable additions. Neal and his co-workers[5] studied the possible risks of inhaling D.D.T. from aerosols, mists, or air-borne dusts, and on the whole their results are reassuring. Of particular interest is the publication in this *Journal*[6] of Prof. G. R. Cameron's work on behalf of the Ministry of Supply. The figures for lethal doses obtained by him and Burgess are fairly close to those of American toxicologists, with the exception of those for rats. In the British experiments rats were decidedly more resistant than rabbits and guinea-pigs, whereas two groups of American investigators found them to be much more susceptible. The general picture presented, however, is the same: D.D.T. is practically safe as a dry powder and in dilute (e.g., 0.5%) solutions. Repeated contact with concentrated solutions is dangerous, but early warning of intoxication is to be expected in anorexia. If contact with D.D.T. ceases as soon as more advanced symptoms (tremors) occur there is every expectation of complete recovery. This is confirmed, if anything, by the published account[7] of a case of human poisoning with D.D.T. The exposure (to a concentrated acetone solution) was far in excess of that to be encountered in the practical use of D.D.T., so that it does not invalidate the conclusion that in ordinary circumstances it is without danger. Cameron and Burgess tested the possible influence of D.D.T. contamination on the rate of healing of wounds: a single application of 5% powder to open wounds was found to be without effect.

From descriptions of symptoms and delimitation of the toxic doses the next step in D.D.T. toxicology is to seek an antidote. Some Brazilian workers claim that injection of calcium salts (10% calcium gluconate) accelerated recovery of dogs from the effects of D.D.T., and also that preliminary injections give considerable protection.[8] Smith and Stohlman find a very substantial antidotal effect from the hypnotics dilantin and urethane, especially the latter[9]; they also observed that D.D.T. is excreted in large amounts in both urine and faeces. A later paper[10] describes the technique of extracting the drug from urine: unaltered D.D.T. was obtained from an ether-soluble fraction of the urine, and an unidentified chlorine-containing compound (possibly a degradation product) was detected in a fraction soluble in alkaline water.

LANCASHIRE LOOKS BACK ON TUBERCULOSIS

Not many specialists of high accomplishment can look back over thirty years spent in catering for the tuberculosis needs of two million people. When Dr. Lissant Cox took up office in 1913 the county scheme did not exist. Cases had been notified for only a few years; a meagre number of beds were used in private sanatoria, and 112 per thousand of the population died from tuberculosis. To-day the corresponding figure is 50, and the difference between these two death rates is an epitome of progress in the Lancashire Tuberculosis Scheme. In the last year the scheme has been further strengthened by the operation of mass radiography and the new maintenance allowances. The county borough of Blackburn has seen the wisdom of joining in with the Lancashire County Council for tuberculosis purposes. Other non-tuberculous chest diseases show a tendency to come into the purview of the Tuberculosis Service, and the *x*-ray diagnostic tentacles have spread out to the nursing and domestic staff in wartime nurseries. The deaths from pulmonary tuberculosis in 1943 were the lowest on record. All this and much else forms an enthralling chapter in preventive medicine.

Mass radiography is carried out in Lancashire by members of the county tuberculosis staff, and the special *x*-ray unit has been stationed at various large factories in the area, and also at Warrington. Sixty-nine active cases of pulmonary tuberculosis, about half of them with positive sputum, were discovered in 1943 through mass radiography—a figure of 3.5 per thousand examinations. This is thought to indicate the presence of some 800 still undiscovered positive-sputum cases among the total factory population in the county who would be discovered through the operation of further *x*-ray units. But of course mass radiography will give even more beneficial results in finding early cases.

We may read between the lines of Dr. Lissant Cox's wise and suitably restrained remarks on the value of fuller co-operation with the smaller county boroughs. The example of Blackburn may be the forerunner of closer liaison with other similarly placed administrative areas which now have their own tuberculosis schemes that exist like islands in the centre of Lancashire county. Every student of tuberculosis control will agree as to the value of the larger unit and the grave handicaps suffered by smaller areas.

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[1] *British Medical Journal*, 1944, **2**, 217.
[2] *Trans. roy. Soc. trop. Med. Hyg.*, 1945, **38**, 367.
[3] Davis, D. E., *Publ. Hlth. Rep. Wash.*, 1945, **60**, 485.
[4] *British Medical Journal*, 1945, **1**, 338.
[5] *Publ. Hlth. Rep. Wash.*, Suppl. No. 177, 1944.
[6] *British Medical Journal*, 1945, **1**, 865.
[7] Wigglesworth, V. B., ibid., p. 517.
[8] Vaz, A., Pereira, R. S., and Malheiro, D. M., *Science*, 1945, **1**, 434.
[9] *Publ. Hlth. Rep. Wash.*, 1945, **60**, 289.
[10] Stohlman, E. F., ibid., p. 350.

We are at the point when the first-fruits in a second generation can be gathered from the county tuberculosis scheme initiated thirty years ago. Dr. Lissant Cox, in reviewing the brilliant record shown in his report for 1943, is perfectly right in stating that prevention can yield a greater dividend than treatment, though he is still looking for the ideal and still undiscovered chemotherapeutic substance which will attack the tubercle bacillus and make treatment as a whole more effective than it is to-day. Cautious reference is made to the supervision of the health of nurses and domestics, especially in regard to the new administrative procedure whereby they are directed to work in sanatoria. The whole report, though abbreviated compared with those sumptuous volumes we remember from Lancashire, is much more interesting than such compilations usually are. Dr. Lissant Cox has good cause to be satisfied when he looks back on his first thirty years in building the Lancashire Tuberculosis Scheme. The immediate future is full of doubt, but with this excellent foundation it ought to be possible to weather the dangers of the next few years, when there will be fewer beds and houses, fewer doctors and nurses, than a developing medical service requires.

WORLD CONTROL OF NARCOTIC DRUGS

A meeting in London of the Permanent Central Opium Board was made the occasion of a press conference at which the president, Sir Atul Chatterjee, gave an account of the world drug position. The Board wishes to return to pre-war conditions of control. All countries signatory to the Conventions (that is, every considerable country with the exception of Argentina) are required to send in estimates of their needs of narcotic drugs for consumption, manufacture, or export for the coming year. These are examined by the Supervisory Commission—an allied organization to the Board—and no country is allowed any excess of the figure without submitting a supplementary estimate. At the beginning of the war every Government was asked to keep intact national control and to collaborate with the Board in international control. But during the war some retrogression has taken place in many countries, especially those with colonial territories. In ordinary times the Board receives some 1,500 returns annually from metropolitan Governments; by 1941 this number had fallen to below 1,000, but there has been a recovery. The Axis or Axis-occupied countries are the chief defaulters, but the Soviet Union has ceased sending returns since it severed its connexion with the League of Nations. Spain, although ratifying the Convention, was tardy in making returns even before the war, and during the last five years has made no annual returns, in spite of repeated reminders. It is hoped that Italy will soon resume collaboration, and that in Germany the military government will ensure adequate domestic control. Much of the trouble which arose after the last war is ascribed, rightly or wrongly, to the fact that military control was not watertight. Evidence shows that control is being resumed or continued in Belgium, the Netherlands, the Scandinavian countries, and France and French territories in North Africa. No information has been received in recent years from the Baltic States, or from Greece and Bulgaria and other countries in South-Eastern Europe. The position in the Far East is obscure. Japan ceased collaboration at the outbreak of war; China has continued to collaborate so far as is possible. There have been no returns from the Dutch East Indies, Siam, Indo-China, and Burma. In Iran there is a large production of raw opium, but that country has not ratified the Convention of 1925, and has not given any satisfactory figures of production or of exports. In Egypt and in India the control remains strict. In South America the situation varies from country to country. Internal as well as international control is satisfactory in Colombia. Argentina, although it has not ratified the Convention, sends full returns. In Peru, a cocaine manufacturing and exporting country, there has been great improvement, but in Panama and some other places in Central and South America control can hardly be said to exist.

No country has denounced any of the Conventions, and although in some countries internal control has been lax an effort is now being made to re-establish and reconstruct control within the country and control of its part in international traffic. The Permanent Central Opium Board opened a branch office in Washington at a time when the United States was still neutral. The Washington office is now to be closed, and a return is to be made to Geneva. The relationship of the Board to the new United Nations organization will be the subject of negotiation during the next few months.

JOINT EFFORT IN SOCIAL WORK

The eighth annual report of the British Federation of Social Workers has been issued from 5, Victoria Street, S.W.1. The aims of the Federation are to promote greater efficiency in the conduct of the social services, the advancement of social and industrial welfare and of health, and, generally, the well-being of the community and its improvement. The keynote of the work is interchange of knowledge and experience between the constituent organizations, which now number 14. Last year was one of consolidation. Various important pieces of work which prepare the ground for future expansion have been concluded. The Council of the Federation not only has supplied information and offered suggestions to various Government Departments but has been called in and consulted when small meetings were held on matters of urgency—such as the Hankey Interdepartmental Committee on Further Education and Training when the post-war supply of social workers was under consideration, and the Resettlement Advice Committee of the Ministry of Labour when setting up its new centres. The planning of new services called attention to the need for new staff and hence for training; the return of disabled soldiers and industrial casualties raised most acutely the problems of rehabilitation; the prospect of demobilization brought resettlement into the foreground. Training and restoration to working capacity, and the care of children, occupied chief places in the programme. After visualizing and amplifying some of the needs of the social services as set forth in the Beveridge report, the Beveridge Study Group (an *ad hoc* body of seven people) turned to the interpretation of function as defined by each constituent association in the light of its own work, and boldly brought conflicting interests and views together without committing the Council.

Two separate reports—one on the needs of society and the other dealing with function—were presented at a delegate conference. By their nature these reports provoked comment and criticism and a further probing into the matter. "Lively controversy broke into the usually peaceful atmosphere of the office. Indeed, the very essence of federation work had at last been brought into being." Rehabilitation was tackled with equal energy, and a subcommittee for the purpose is now continuing its work in co-operation with a tuberculosis subcommittee; it is also studying the needs of returned prisoners of war. A third big subject—how best to care for the unwanted or problem child, or the child with a broken home—has been broached, but the main task lies ahead.

PREMEDICAL ZOOLOGY

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In the present widespread discussion of medical education the teaching of premedical science is not receiving the detailed criticism it deserves and needs. The Goodenough Committee[1] recorded much dissatisfaction with the usual course of instruction, but made no concrete suggestions about the scientific background which medical students should have. The Moran Committee[2] made some valuable points about the university premedical year, but left details to the teachers concerned. It is desirable that teachers of premedical science should state their views for criticism by their medical and scientific colleagues. In offering the following suggestions for modification of the zoological part of the First Medical Course we are assuming that at least for several years a considerable proportion of students will continue to take this course at a university. We feel, however, that our proposals are also relevant to premedical teaching in schools.

It is generally agreed that zoology can contribute two things to medical education: (*a*) Training in scientific attitude. Zoology, the nearest of the premedical sciences to medicine, is particularly suitable for the initial training of medical students in scientific method. (*b*) Knowledge of biological principles basic to medical science.

In order that these contributions shall be adequately made, we believe that there are two major necessities, in both of which contemporary courses are seriously deficient: (1) *A large part of the teaching must be primarily and deliberately directed to training in scientific method.* (2) *Factual material must, where possible, be drawn from the biology that is important to man and relevant to medicine and not from "pure" or "academic" zoology.* We will discuss these two points separately.

(1) Training in Scientific Method

Our experience of zoology teaching has shown us that the assimilation of scientific facts does not of itself automatically lead to an understanding of scientific method, nor does it inculcate scientific habits of thought. The essentials of scientific method must be quite explicitly taught, and training in scientific habits quite deliberately undertaken. Such instruction is not specifically provided for by the usual university teaching techniques of lectures and demonstrations, which are designed to present factual material as quickly and easily as possible. Indeed, however much the intention of training in scientific method is affirmed in syllabuses, one can find little trace of it in examination questions, which may be taken as indicators of both the treatment and the content of a course, and which certainly strongly condition the attitude of students. The traditional system of instruction thus contributes to, or at any rate fails to correct, the deficiencies of the average medical graduate noted by the Moran Committee[2]: "He tends to lack curiosity and initiative; his powers of observation are relatively undeveloped; his ability to arrange and interpret facts is poor; he lacks precision in the use of words." It is as though we fed our students always through a stomach-tube. We choose their meal carefully, prepare it suitably, insert it efficiently, and deny them scope to develop the use of their senses, powers of discrimination, and voluntary muscles. Training in scientific habits must be the primary business of much of the teaching and not, as traditionally, a subsidiary and often imaginary by-product of factual instruction.

For instance, one of the most important scientific habits for successful medical practice is that of unprejudiced observation. Yet it is usual to give students full information about material they will subsequently see in the laboratory. This may be the quickest way to get students to absorb as much knowledge as possible in a short time, but it is not the best way to train them to observe carefully, to record accurately, and to interpret what they see. Indeed, results of an experimental class test showed that pre-knowledge in students of what they expect to see *inhibits* careful observation.[3] Many practical classes should be designed to make students find things out for themselves, even if the factual knowledge they so acquire is only a small fraction of what traditional methods give them in the same limited time. In our opinion it would be far better if students were taught less and found out much more.

We do not propose in this article to be more concrete about methods of training in scientific method, partly because we want to emphasize generalities, partly because the necessary new teaching techniques cannot be deduced from first principles, but must be developed by deliberate experimentation. We might suggest from our experience, however, that, since an important part of zoology practical classes must consist of training in the technique of dissection, a useful step is to give dissections so far as is possible in the form of problems. Training in observation, recording, and interpreting can be introduced at many points in practical work. We have found training in the process of experimentation more difficult to devise; biology is here at a disadvantage in comparison with physics and chemistry. It is difficult to find valuable experiments which are not better done subsequently in the physiology course. Finally, it is important to introduce students to elementary statistical procedure.

(2) Subject-matter of the Course

We now come to consider the subject-matter. It is our opinion that those aspects of zoology which are relevant to human affairs have most to contribute to medical education. We will discuss our reasons for this opinion under two headings: (*a*) the value of what we may call "human" zoology, as part of the mental equipment of students; (*b*) the value of human zoology in promoting the process of learning.

(*a*) Human Zoology and Mental Equipment

It is surely a reasonable view that biology relevant to human affairs should be an essential part of the culture of a citizen of democracy, because control of the development of human society demands such knowledge. This attitude has been expressed recently by Hogben,[4] and we need not discuss it further. If, however, human biology is important for every citizen, it is doubly important for doctors. Medicine is, after all, a field of human biology, and doctors are directly concerned with many biological problems.

The content of most elementary syllabuses, however, has clearly not been designed with the above consideration in mind. The relative emphasis given to different major principles or branches of zoology is quite arbitrarily determined in the traditional course. It certainly cannot be said to give a balanced picture of modern academic zoology. Still less does emphasis in the course reflect importance for the general citizen. The principles of comparative morphology are chosen for special emphasis, though this is perhaps the least important branch of zoology when man is the centre of interest. More important principles may also be taught, but almost always with illustration by factual material of unnecessarily little human interest —for example, parasitism exemplified by *Monocystis* and *Taenia*. A great deal of factual material has neither relevance to any biological principles nor any intrinsic human importance —we refer especially to much of the detail of the "type" animals and embryos.

It may nevertheless be said that the educationally important principles are most soundly taught in the traditional way through carefully selected aspects of "pure" rather than through "applied" science, and that application of the principles to practical problems can be left to the student to make as he finds it necessary. We cannot agree with either of these contentions. Useful animals and plants exemplify most biological principles just as well as those which have no social importance. For instance, the principle of the circulation of matter can be taught as well through the biology of fisheries or of sewage disposal as of ponds or heaths. And the principles of physiology can be taught as well with reference to man as to the traditional frog; indeed, better, since human physiology is so much better understood.

As regards subsequent application of general principles to practical problems, it is the usual experience that a general principle is not at all easily applied in an unfamiliar context. A student is likely to apply his knowledge of general principles to human affairs only if he already knows how it does apply. An interesting experiment has shown the advantage, from the point of view of handling social problems, of integrating human applications with scientific fundamentals in the teaching of genetics.[5]

(*b*) Educational Value of Human Zoology

The educational value of a zoology syllabus which takes man as its centre is not the only point in favour of such a course for medical students. We believe that the material will be more readily learned and retained than will that of traditional zoology. As a recent report[6] points out, human zoology has the advantage of starting from the everyday biological interests of all students. Its particular importance for medicine can easily be made plain. The interest of the keen medical student who tends to be impatient of the apparent irrelevance of the traditional course is therefore readily captured, and learning is much facilitated. Further, if the subject-matter is relevant to medicine, there is less danger that the biological principles which the course illustrates, and the scientific attitude which it is supposed to inculcate, will be jettisoned as the student proceeds to his medical studies. He will be reminded from time to time of his biological training, and a real link between premedical and subsequent years will be developed. The importance of making such links between the various parts of the medical course is emphasized by the Goodenough Committee.[1]

A link can, for example, readily be made with the preclinical years by discarding, in lectures on vertebrate anatomy and physiology, all "type" animals except man. These lectures can put the most general aspects of human anatomy and physiology into their background of the anatomy and physiology of all animals. The amount of duplication of preclinical work will obviously be negligible in a short course, but the material can be made a useful introduction to subsequent work and a permanent link between broader biological principles and later specialization.

We have recently also experimented with the frequent use of medical exemplification in discussion of physiology, parasitology, and genetics in order to make quite clear to students that the general principles they learn are a valuable part of their medical training.

Here we are on controversial ground. While most educationists would agree that every attempt must be made to give sound training in scientific method, and many might agree that emphasis should be put on the *human* aspects of biology, we are well aware that our suggestion that biology should in addition be given a *medical* flavour may seem to run counter to the commonly held view that premedical science should be non-vocational. Let us explain, however, that we do not propose that students should in any sense be given a preliminary course in medicine, but merely that when the course can be illustrated and exemplified by obvious applications to medicine the opportunity should not be missed. Advantage should be taken of the fact that, for instance, the pathology of processes is sometimes a convenient natural experiment which reinforces the evidence for any generalization. And for examples of parasites we prefer to use those of medical importance—the malaria parasite rather than *Monocystis*, and hookworm rather than tapeworm.[7] The number of medical facts which students learn in this way will be negligible; their importance lies in capturing the interest of the keen medical student and to some extent in helping to integrate biological with subsequent medical studies.

Such a medical flavour introduced into our zoology course during the last two sessions produced a strongly favourable response in anonymous questionaries returned by students. To adapt a legal dictum, we may say, therefore, that a premedical course should not only be relevant to medicine but be manifestly and obviously seen to be relevant.

We have indicated that we believe that human zoology is a more suitable general training for every kind of student than the traditional first-year zoology. We have no need, therefore, to segregate medical from science students, and we agree with the Goodenough Committee that such segregation is undesirable in the early stages of education. We should add that the introduction of a medical flavour into elementary zoology does not necessitate such segregation. The time occupied by medical exemplification is inconsiderable, and, incidentally, science students also find such a course more interesting than the traditional one.

Conclusion

We suggest, therefore, that the subject-matter of a premedical course should be designed as an introduction to the study of man in relation to other animals. To clarify our proposals we give in brief outline the sort of course in zoology we have in mind.

1. The earth as a habitat; the circulation of matter and the place of animals therein; the animal kingdom and man's place in it; the history of animals.
2. The physiological anatomy of man against a background of other animals and in relation to habitat. This survey should be discussed round a central theme, such as the maintenance of constancy of the internal medium in the land habitat.
3. Sex and development, omitting details of morphological embryology.
4. Genetics applied to human and agricultural problems. Special emphasis should be placed on the relation of nature and nurture, which is of such fundamental importance in medicine and social science.
5. Evolution; the uniqueness of man; the contrast between cultural and organic evolution.
6. Pests and parasites of man and domesticated animals and plants, and their control; in particular, malaria and hookworm studied from biological and social aspects.
7. Animal populations and the relations between animals; food chains illustrated by the biology of fisheries and of sewage disposal.

Throughout the course a deliberate attempt must be made to inculcate desirable habits of thinking. While this can be done during lectures by explicit precept and by implicit example, the process would undoubtedly be very much speeded up if staffing arrangements would allow the development of a tutorial system. The following points are among those we think should be insisted on:

Elementary semantic discipline: avoiding verbal confusion; understanding the potency of "word magic."

The changing system of knowledge; the importance of flexibility of mind and of avoiding dogma.

The importance of unprejudiced observation and of controlled experiment; the evaluation of evidence from a variable population obtained with variable techniques; the role of techniques and their limitations, including the use of experimental animals.

Summary

To play a useful introductory part in the medical course, premedical zoology should concentrate on: (1) training in a scientific approach to biological problems; (2) provision of an introduction to the study of man in relation to other animals.

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Official figures show that the number of blind persons in this country has increased by nearly 150% in the past quarter of a century. The number was 30,785 in 1920; it has risen to 76,145 in the latest count. But the National Institute for the Blind explains that the statistical increase may be more apparent than real, as the official figures refer only to people who have been actually registered as blind. The registration system is much better to-day than it was 25 years ago. At the same time the Institute considers there is much more blindness than need be, and that thorough preventive measures should be taken. It does not intend to make any separate appeal for this part of its work, but it is urging the Government to include ophthalmology in the National Health Service. One urgent need, according to the Institute, is the creation of more research and treatment centres similar to that at Oxford. There should also be a vigorous campaign to make the public "eye-conscious," more aware of the dangers that threaten sight.

REHABILITATION OF THE DISABLED

A conference was recently held at Oxford under the auspices of the Southern Regional Office of the Ministry of Labour and of the Nuffield Organization, when 250 industrialists were addressed on various aspects of rehabilitation. The medical aspect was dealt with by Mr. G. R. Girdlestone and Lieut.-Col. J. W. T. Patterson.

The Hospital Team

Mr. Girdlestone described some of the features of a good orthopaedic hospital, the things at which he had aimed in the initiation and development of the Wingfield-Morris Orthopaedic Hospital at Headington. A complete team of experts was needed, he said, for the nursing, feeding, surgery, physiotherapy, occupational therapy, and other needs—including diversion—of the patients. It was difficult to get together the members of such a team, and mistakes were sure to be made. A few would not fit and would go, but many would respond to the infection of the place. "To join in so wholesome a common task tends to breed the right kind of men and women."

The first thing to be done was to win the confidence of the patient and enlist his co-operation. What a man learned to do for himself was the mainspring of his recovery. Education was the secret of his treatment—education in the true sense, which meant making something wholesome and true grow within him.

Mr. Girdlestone went on to say that one of the great contributions of orthopaedic surgery was the knowledge, now widely accepted, that the way to restore movement, power, and skill to a damaged part was the natural and easy activity in some purposeful employment. In hospital the occupational therapist devised a plan of work which would bring into use the damaged part with increasing range and power, but the management in industry must complete what the occupational therapist had begun, and go out of its way to help the man through the first period of awkwardness and discomfort. Special handles to tools and similar devices facilitated the use of the damaged part, and until the man's recovery was complete or he had contrived new ways of accomplishing the old craft, his progress must be watched and the scope and requirements of his work adapted to keep pace with his improvement.

Whether the disablement was moderate or severe, it was the man's response that mattered—his response, on the one hand, to the pain and trouble occasioned him, and, on the other, to the kindness and skill which were at his service. It was for those of them who worked in hospitals to induce the favourable response by good nursing, feeding, and surgery, and by reassurance and the taking of trouble to show the man what was happening and what was the aim in view. That disabled men did make a special effort and did succeed had been proved by a recent investigation in the United States,* in which it came out that disabled men held their jobs more consistently than the uninjured. Given the right hospital and the right management, disabled men responded magnificently.

Reinstatement in Industry

Col. Patterson agreed that successful reinstatement was a matter of team work on the part of the many people involved. All members of the team must, as a first essential of success, understand something of the central figure in the problem—the disabled person himself—and be able to analyse his reactions and the personal adjustments he had to make in facing his disability. They must also study the various reactions which, as members of the general community, they experienced in the presence of the disabled person, and must determine whether their attitude was justified or whether it was based, as it so often was, on weak sentimentality, deep-rooted prejudice, or, worst of all, indifference.

He went on to trace the history of a disabled person from the time, previous to his disablement, when he was called upon to exchange his civilian career for a military one, his painful adjustments to Army discipline, his experience of battle, the first shock consequent upon his injury, and afterwards the depressing prospect, domestic and industrial, which opened out before him, his insecure replanting in the world to which he had formerly belonged, and the skill and care required of those in whose charge he was if his readjustment into the old environment was to be accomplished without disaster. Often the general attitude of the community towards these disabled individuals was the outcome of ignorance of the facts or was born of a sloppy kind of sentimentality which got nowhere. The disabled man's ambition was to be regarded as normal, whereas many of those who met him were inclined to regard him as an interesting exhibit and wanted to be told at once in detail how it all happened, while others went to the opposite extreme, and in their endeavour to pretend that they had noticed nothing amiss became most unnatural in their conversation and embarrassed everybody concerned.

Col. Patterson set out the following points for consideration:

Frequently the sheer necessity to overcome disability brought out talents and attributes which otherwise would never have been developed.

It was not always a tragedy that a man through injury was unable to return to his old job; possibly he was never really happy in it.

Despite new means of destruction, the varying types of physical disability have changed little since Waterloo or earlier; what has changed is surgery, which has been improving all the time.

Fifteen years from now among those who had come through the war with no physical disability would be some who had made a success of civilian life and others who had failed miserably, and it was doubtful whether the ratio of successes to failures would be higher among the disabled.

A Medical Assessment

Any reinstatement of disabled persons in industry, said Col. Patterson, must start with an initial medical assessment, based, he suggested, on seven qualities: (1) physique or general constitution, (2) arm or upper extremity efficiency, (3) locomotion or lower limb efficiency, (4) hearing, (5) vision, (6) mental capacity, (7) emotional capacity. Each of these seven qualities should be assessed in one of five degrees, the number 1 being given for the highest assessment and 5 for the lowest. It was then important to determine whether, with any quality which was assessed at a low rating, the rating could be improved by remedial treatment.

Having carefully assessed the individual it was necessary to make certain of his correct employment. An analysis ought to be made of all industrial employments similar to the analysis of Army employments, from the point of view of the minimum physical and mental demands of each, expressed in the same terms as the assessment of the individual just discussed. Thus it would be possible to set out in main groups the jobs of similar type from the point of view of training and experience and general qualification.

These assessments, in Col. Patterson's opinion, called for a special team of men some of whom would be technical industrial officers with a wide knowledge of labour conditions, and others medical men with experience of physical and psychological examination. Further, it would be of immense value to know what Army and civilian employments were equivalent. Having decided the main group into which the man fitted most appropriately, the next step would be to "marry" the ciphers indicating the assessment of the individual to the ciphers corresponding most closely among the list of individual employments, thereby indicating the correct specific employment of the man within the main group employment or trade. Then came the final stage of resettlement, which must be undertaken with understanding and tact. A programme of graduated resettlement training should be laid down for all the men concerned, with opportunities for general and specific education in working hours.

HELPING THE BLIND TO SEE

It is thought that some of the scientific devices used in the war in direction-finding, radiolocation, and "blind" flying may have something to contribute to easing the life of the blind person, and preliminary research into the subject has already been done at St. Dunstan's. A blind person walks about alone by using his sense of hearing for direction-finding and for locating his position by reflected sound. One of the newest developments is a guiding device, made by Captain H. G. Round, which transmits a beam of light and receives the reflected ray. Preliminary tests have justified further work, but

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* In a recent review carried out by the Western Electric Company accident rates have been found to be higher among the unhandicapped than among the handicapped, and 7% more of the able-bodied were losing time through absence from work.

Sir Ian Fraser emphasizes that the device is in its very early stages and blind people must not expect any help from this or anything similar in the near future. The Council of St. Dunstan's has, however, set up a committee, under the chairmanship of Prof. E. D. Adrian, to be known as the Sensory Devices for the Blind Committee, which will investigate not only guiding devices, but also methods whereby the printed word in an ordinary book can read aloud to the blind; an improvement of recorded "talking books," braille machines, and other apparatus. Through the generosity of an anonymous donor enough money has been made available for the committee's work for five years. It has already met twice, and on its advice St. Dunstan's has decided to set up a research unit with a full-time research physicist and a biologist. The research work will include investigations into the better use of the little glimmer of sight that remains with many people who are technically blind, and the substitution of the other senses for the sense of sight.

MENTAL HOSPITAL POPULATION: PROPOSAL FOR DISPERSION

A proposal for reform of mental hospitals which would change the atmosphere of these institutions and abate the public fear of them, which is a handicap to psychiatric treatment, was made by Lieut.-Col. J. Ivison Russell, medical superintendent of the North Riding of Yorkshire Mental Hospital, at a meeting of the Mental Hospitals Association recently held at Guildhall, London. The fact that the mental hospital is considered as a last resort—a place for the reception only of those cases which cannot be managed elsewhere—is undoubtedly a great hindrance to the acceptance of the mental hospital as a main centre for the treatment of mental illness. By the Mental Treatment Act the mental hospital is legally recognized as a proper place for the treatment of psychoneurosis, but that legislation does not give the hospital any popular appeal, and the fact remains that people are afraid of mental hospitals and will remain afraid of them until they are drastically reorganized.

Col. Russell said that the most objectionable peculiarity of the mental hospital is its habit of retaining a large number of "settlers," and he thought this number could be reduced. The settlers include four main classes, amounting to 70% of the total. There are 5% who are recovered but homeless, and who would probably not have sufficient stability in a competitive community. Then there are something like 45% of chronic psychotic cases, 10% of seniles, and 10% of mental defectives. Col. Russell's proposal is that the recovered cases, the seniles, and a proportion of the chronic psychotic cases could be more suitably accommodated in subsidiary homes, and that congenital cases should be treated in mental deficiency colonies. The recovered cases would be transferred to a resettlement unit remote from the hospital. Many of the chronic psychotics could be adequately supervised in after-care homes in a rural environment; and separate infirmaries would be instituted for senile patients. All these remote units would function as integral parts of the mental hospital, which would be conceived as a group of therapeutic centres rather than as a single unit.

As for mental defectives in mental hospitals, Col. Russell's recommendation is that every patient before admission to hospital should be seen by a psychiatrist whose duty it would be to advise on the appropriate institution, and in the case of transfers between mental deficiency colonies and mental hospitals the concurrence of the medical officer of the receiving institution should be required.

This would leave the headquarters hospital, with an annexe at a distance of 300 yards or so. In the annexe would be those chronic psychotics who, owing to abnormality of behaviour, were unfit for transfer to after-care homes. At the main hospital the reception wards for depressive and anxiety states on the one hand and for states of excitement and socially disagreeable behaviour on the other should be in separate buildings. The administrative offices, progress wards, special treatment rooms, out-patient consultation rooms, occupational centres, operating theatre and laboratories, and sick-rooms for bodily illness would be at the main hospital. These measures, Col. Russell claimed, would reduce by one-half the number of alleged incurables at the main headquarters hospital, and would so change its character that patients and their relatives would be willing and even glad to have the modern psychiatric treatment available at such centres. He agreed that the pride of administrators in the size of their large institutions would have to be combated, also that dispersal of units can show some economic and administrative disadvantages, but the making of the mental hospital acceptable to the public mind seemed to outweigh these disadvantages.

Industry and Psychiatric Research

At the same meeting of the Mental Hospitals Association there was an interesting paper by Dr. J. R. Murray, medical superintendent, St. George's Hospital, Morpeth, who urged the development of a liaison between psychiatric research centres and industrial undertakings and the industrial health service. Research, he said, was the key to the future of psychiatry. Such research as had been done in the past, often painstaking and sometimes brilliant, had suffered by its separation from the main stream of medical research, and had lacked the critical and stimulating contact with university thought which it was hoped would be brought about in a new mental health service. Research into positive mental health was required as much as, or more than, research into the negative aspects of the problem. The work done in the Services by way of personnel selection, with its intelligence, temperament, and aptitude tests, had foreshadowed a wide field for vocational guidance and industrial psychology.

Medico-Legal

ANTI-VIVISECTION SOCIETIES NOT CHARITABLE BODIES

In the King's Bench Division on July 27 Mr. Justice Macnaghten allowed an appeal by the Crown in the case of the Commissioners of Inland Revenue *v.* the National Anti-Vivisection Society, on the ground that in his view the society was not entitled to exemption from income tax as a charitable body.

The hearing of the appeal occupied two days. In his considered judgment Mr. Justice Macnaghten said that the society had claimed exemption on the ground that it was a body of persons established only for charitable purposes. The Commissioners for Special Purposes of the Income Tax Acts had considered themselves bound by a decision given in 1895 by Mr. Justice Chitty in the case of Foveau Cross *v.* the London Anti-Vivisection Society, in which the society was held exempt from income tax. The question, said his lordship, was whether the Special Commissioners were right in holding themselves bound to follow Mr. Justice Chitty's clear decision that a society for the total suppression of vivisection was a charity. He accepted the facts, which had been found by the Commissioners, that the main object of the society was the total abolition of vivisection, and held it conclusively proved that the discontinuance of experiments on living animals would be a serious obstacle in the way of obtaining further medical knowledge of benefit to the public. That being so, it seemed to his lordship plain that the society had failed to establish that it was a charity beneficial to the community. In his view the Commissioners ought to have rejected the claim to exemption from tax under Sect. 37 (1) of the Income Tax Act, 1918.

We understand that the National Anti-Vivisection Society is appealing against the judgment and is being supported by other bodies of a similar description. Certain of these, such as the Animal Defence and Anti-Vivisection Society, make anti-vivisection only one of their objects, and carry out many-sided work for the protection of animals in general, such as hospitals, homes, and aid posts, which would be regarded as charitable on any reading of the word, and if the judgment is sustained some means will have to be found, presumably, of separating for tax purposes the anti-vivisection propaganda of the society from its other activities.

S. Nesbitt, P. F. Mark, and H. M. Zimmermann (*Arch. intern. Med.*, 1945, **22**, 601) record a case of Kaposi's disease (disseminated visceral idiopathic haemorrhagic sarcoma) which was of special interest because of the involvement of the thyroid gland and brain, of which there has not been a previous example recorded.

Correspondence

Epidemic Diarrhoea

SIR,—I have read with great interest the leading article on epidemic diarrhoea (Aug. 11, p. 189). Early in 1941 (April 12, p. 554) I published jointly with Major (then Captain) D. J. Davies a preliminary report on gastro-enteritis at a large Army centre. This clinical work was done in conjunction with Dr. Robinson, lecturer in bacteriology, Liverpool University, then in charge of the E.M.S. Laboratory at Conway, who was at that time not allowed to publish the article jointly with us by the E.M.S. regulations then in existence. This preliminary report, which at the time created a little interest, as shown in the letters sent to us and to the *Journal*, was to have been followed by another report based on our further clinical work and the findings of Drs. Scott and Griffith, of the Ministry of Health, who were working with the specimens of blood we sent to them. This work they informed us was most promising, and they had transmitted the infection through several series of monkeys. Unfortunately, they were both killed in the May, 1941, "blitz" on London, and all their papers were lost. At the time, if I remember rightly, they thought that they had discovered a virus which was definitely the cause of the epidemic gastro-enteritis, and they were in process of identifying the strain.—I am, etc.,

Llanelly. A. H. D. SMITH.

Amoebiasis

SIR,—In the *Journal* of April 28 (p. 613) it is reported that Dr. Morgan asked the Secretary of State for the Colonies for information about amoebic dysentery in the South and East African Colonies from below Egypt to the Cape. In South Africa, Natal is generally considered to be a hotbed of the condition. In one Durban African hospital alone there were over 1,200 proved cases in 1944. Other hospitals and private nursing homes have the same story.

The disease takes a much more virulent form in Africans than in Europeans; the Indian population is relatively immune. In the African there is an acute dysentery with prostration and dehydration. On examination, the stools are literally teeming with active haematophagous trophozoites, as many as 100 amoebae having been counted in a single low-power field. The cellular content of the stool is that of an acute bacillary dysentery. When it has been possible to culture the stools organisms of the dysentery group are very seldom found. In Europeans here, however, the disease is more chronic, with an accent on the remoter less specific effects of the organism. The Indians seem to have developed a symbiosis with the amoeba, though they do not show a high incidence of the condition.

The incidence of the more acute form in the native population is contrary to usual teaching, and rather suggests that this may be a "new" disease to them. This is borne out by the low incidences of this condition reported elsewhere, both in other South African provinces and in the Parliamentary note referred to.

Dietetic influences may also play a part in determining the difference in the condition found in Africans and in other races here in Natal. The natives have a predominantly carbohydrate diet, and it may be that this predisposes to an acute form of the condition, as it does in dogs. There may, of course, be an associated avitaminosis. The importance of the dietetic factor is also illustrated in the fact that there has been a marked increase in the condition during the war years, when the native urban population have been deprived of their meat, which constituted their main supply of protein. It is a remarkable fact that there has also been, during the same period, a phenomenal increase in the incidence of tropical ulcer in the same people, though this condition is also found in the Indian.—I am, etc.,

Durban. R. ELSDON-DEW.

Treatment of Infective Hepatitis

SIR,—May I use the medium of your columns to bring forward some tentative suggestions for the treatment of infective hepatitis.

It is established that the disease is almost certainly due to a virus. It seems a possibility that the latter may require methionine for its own economy. The liver would thus be deprived of an important metabolite and necrosis would ensue. The administration of methionine while the virus is still active might encourage further growth of the infective agent, in addition to stimulating recovery of the liver. These two effects are mutually antagonistic, and hence the apparent ineffectiveness of methionine in treatment. On occasion the amino-acid might even be dangerous, in so far as stimulation of the virus could be greater than that of the liver and so lead to further necrosis. This would seem to be borne out by the unfortunate experience of Higgins (Higgins *et al.*, 1945). This may, however, have been pure coincidence. There is a possibility that the virus does not itself require methionine, but is capable of rendering that compound unavailable to the liver. The above remarks will apply equally well to the use of choline (Richardson and Suffern, 1945). This substance would seem to increase the methionine/cysteine ratio (György and Goldblatt, 1940). In this way it acts merely by making more methionine available to the liver.

The primary problem of treatment is, therefore, to destroy the virus. Administration of methionine might then be of some use in accelerating recovery. The question would seem to be one of immunity. On these grounds the early administration of γ-globulin to established hepatitis might be indicated. It has already been shown in the U.S.A. to have marked prophylactic value in this disease.

On the other hand methionine apparently speeds recovery from arsenical hepatitis. This apparent anomaly is capable of explanation by assuming that the virus of this disease sensitizes the liver to the action of arsenic in therapeutic dosage. This is the exact converse of what is generally thought—namely, that arsenic sensitizes the liver to the virus. The metalloid is known to produce necrosis by interference with the thio-amino-acids of the liver cell. This is limited by the amount of arsenic given and, therefore, can be overcome by therapeutic administration of methionine, or possibly choline.

Finally, it is important to stress the possible value of γ-globulin in the prophylaxis of homologous serum jaundice as well as that of arsenical hepatitis.—I am, etc.,

A. L. LATNER,
Wirral, Cheshire. Capt., R.A.M.C.

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Effort Syndrome in West African Soldiers

SIR,—I have just had the opportunity of reading Major M. D. W. Elphinstone's criticism (July 28, p. 134) of my article on effort syndrome in the West African soldier (June 30, p. 908). While I maintain that the facts and figures given in the article do lend support to the conclusion arrived at, it cannot be denied that the proportion of Christians to non-Christians in the 40-bed surgical ward of the hospital in which the cases were recorded do suggest that this hospital did not serve its quota of combatant units with their predominantly Mohammedan and pagan personnel. I am grateful to Major Elphinstone for raising the matter, for the true explanation cannot be deduced from the article.

In fact, during the first ten months of the year in which this investigation was undertaken the hospital did serve units of all arms in the Gold Coast, including the infantry. Indeed, if cases of effort syndrome were to be found in non-Christians, this hospital was better placed to receive them than any other medical unit in the Gold Coast. During the last two months of the investigation, however, troop movements from the hospital area caused a considerable decrease in the proportion of non-Christians admitted to the hospital, and this was the state of affairs when the count was taken in the surgical ward.

Without doubt figures more favourable to my case could have been obtained by selecting them from the ward reports of a few months previously, but this might have savoured of "cooking the accounts." I should add that in the first ten months eleven of the twelve cases recorded were seen.

Major Elphinstone also suggests that if a non-Christian soldier with effort syndrome did reach a "sympathetic" R.M.O. the latter would probably fail to diagnose the condition, because he would have the same difficulty as I had in getting *en rapport* with such a patient. I cannot agree with this. The R.M.O.s of the combatant units in the hospital area were, I am glad to say, sympathetic, but not soft, and some of them had had very considerable experience in dealing with the West African native. Furthermore, the diagnosis of effort syndrome rests on the presence of definite symptoms and signs. The Northern Territory man is able to complain directly, or through interpreters, of such symptoms as pain in the chest, headache, inability to take exercise, or anorexia when they are due to organic disease: why not when they are manifestations of effort syndrome? The doctor need not be in mental harmony with his patient to make a diagnosis of effort syndrome. On the other hand, this is essential if he is to discover *why* (not whether) the man has developed the syndrome, so that even with English-speaking Africans "no attempt has been made to diagnose the psychological abnormalities underlying these cases" in the paper.—I am, etc.,

Brompton Hospital, London, S.W.3. DERYCK L. H. GODDARD.

Breast-feeding

SIR,—Dr. R. O. Barber (April 21, p. 566) clings tenaciously to the *older concepts* of breast-feeding, the teaching of which has, in my experience, only helped to confuse and confound mothers still further.

It is refreshing to note the observations made by Dr. M. Pallot (May 19, p. 714) and endorse his remarks about the care of the nipples. For over ten years I have advised mothers to apply gauze soaked in cod-liver oil to the nipples as a prophylactic and therapeutic measure against cracking, with most gratifying results. Unlike most of the other applications prescribed, cod-liver oil is safe, sound, and efficient. Should the baby happen to lick some of it off it can only do good.—I am, etc.,

Johannesburg. M. WITKIN.

Day Nurseries

SIR,—When I wrote to you on the question of mothers with young children going out to work I mentioned three people concerned. I had in mind a fourth—the well-intentioned "advocate and supporter" of day nurseries—but I did not mention him because I wished to lure him into print. Sir Drummond Shiels and Dr. L. Stuart Woolf (Aug. 11, p. 198) have duly obliged. What do their arguments amount to?

Sir Drummond sets out the reasons which have led to the establishment of day nurseries, and as statements of fact I accept most of them. I must, however, protest when, after stating quite correctly that the arrival of the first baby brings a tie which makes it difficult for husband and wife to go out together, he goes on to make the romantic suggestion that this "first break in married happiness" is averted by the existence of the day nursery. If all the adult males of the country were night watchmen there might be some point in the suggestion, but as in fact father's return from work usually coincides with the closing of the day nursery this delightful picture will not bear examination.

Dr. Woolf accuses me of "half-truths." I wrote from twenty-five years' experience of industrial practice, and I can only say that I find his statements not half-true but utterly fantastic. What proportion of fathers are in prison, or have deserted their wives, or own one-man businesses? As for mothers in lodgings, I have never come across one (she can't afford it: what is she going out to work for?); and if the child is so happy at the day nursery why is he so pleased when his mother comes to take him away?

The essential difference between myself and my critics is to be found in the first paragraph of Sir Drummond Shiels's letter, where he speaks of "misunderstanding . . . of the motives of those who advocate and support day nurseries." He is wrong. I do not question their motives; I do not doubt that their road is paved with good intentions; but where does it lead to?

In my last letter I suggested that encouraging young mothers to go out to work (which is what we do whenever we put up a day nursery) not only is bad for the individuals concerned but also is a definitely anti-social policy. As surely as "Speenhamland" it involves a subsidy in aid of wages, with this difference—that whereas "Speenhamland" made for a rise in the birth rate, this makes for a fall. Is it not highly significant that neither of my critics has ventured to take up the population issue? This is all the more regrettable because Sir Drummond's letter shows that he, at any rate, appreciates something of the problems involved, yet the shock of my letter has so confused him that he ends by begging me to agree to the temporary continuance of some day nurseries. I never proposed that we should celebrate "VJ-Day" by shutting up a single one of them; what I said was that every one was a blot on our civilization. So is every slum, but not one of us would propose to pull down a single slum at this moment; even a slum house is better than no house. Now slums represent the nineteenth-century attempt to meet the needs of underpaid workers, and day nurseries one of the twentieth-century's attempts to tackle the same problem. Are either of them the best that we can do?

We know that elected local authorities and the Ministry of Health are (historically) young, and, like many young children, are fond of building with bricks; but are they not old enough to give up saying: "Look what I've done; isn't it clever?" and to say instead: "Let's look what we've done: is it good enough?"—I am, etc.,

Wandsworth. F. GRAY.

Toxic Properties of Sting-ray's Sting

SIR,—I read with special interest Dr. Muir Evans's letter on the toxic properties of the sting-ray's sting (Aug. 4, p. 165), as I have personal experience of being stung both by the sting-ray in Cornwall and by a jelly-fish in the Suez Canal during the 1914–18 war. By an odd chance the sites of stinging were very similar in both cases to those described in the letter.

I can confirm the excellent description of the wound and progress of symptoms from the sting of the ray. It appears to me, however, that some of the symptoms in these cases—i.e., vomiting and constipation—might be attributed to the morphine, as these symptoms are common with this drug. It is also possible—and this is the point which appears to me of interest—that the toxic properties of the sting may render the victim unusually sensitive to the effects of morphine. I had no morphine on either occasion and did not vomit or have severe constipation. It would be interesting to know whether controls who had the misfortune not to receive morphine for the relief of their pain, escaped also the vomiting and constipation.—I am, etc.,

Camborne. R. H. BLAIR.

Recommendations of the Goodenough Report

SIR,—I find it difficult to appreciate Sir Ernest Graham-Little's objection (Aug. 11, p. 199) to a reform which would restore the London M.B., B.S. degree to its rightful place as a qualifying degree. I think most medical practitioners who have been students at any of the London medical schools would agree that a reform in teaching methods and examinations is long overdue. The practice of leaving a student in his clinical years to amuse himself for three years before taking his finals is hardly in keeping with any reasonable system of education.—I am, etc.,

Bradford. F. J. FISH.
Capt., R.A.M.C.

S. L. Robbins (*Arch. intern. Med.*, 1945, **75**, 280) records three cases of cerebral abscess complicating congenital septal defects of the heart, which brings the total number of such cases to 26. In only three of the cases on record was an ante-mortem diagnosis made and surgical drainage instituted.

Obituary

ROBERT ALFRED WORTHINGTON, O.B.E., F.R.C.S.

The death of Mr. Robert Alfred Worthington of Exeter removes one of the best-known surgical specialists in the West of England and also a man of more than local fame as an accomplished water-colour painter.

Though he spent nearly the whole of his professional life in Devonshire, Worthington was a Yorkshireman, born at Saltaire 67 years ago. Both his father and mother were artists—his father was also a mathematician and physicist of some distinction—and the son inherited their gift. At Rugby he won a prize for drawing, a subject not much esteemed in public schools in those days, and he was told that it was a pity he could not get a prize for something serious. From Rugby he went to Clare College, Cambridge, and, adopting medicine as his career, proceeded to the London Hospital, qualifying in 1904. For a time he was clinical assistant in the out-patient department at the East London Hospital for Children, and assistant director, under Prof. H. M. Turnbull, at the Pathological Institute of the London Hospital. While serving in the latter appointment he was responsible for the first and second volumes of the archives of the Institute, and in their production he showed his skill not only in editorship but in design and illustration, setting so high a standard that no one, apparently, was found to emulate him after he left the London Hospital, and no more annual volumes were issued.

In 1909 he took his F.R.C.S., and afterwards studied for a time in Berlin, where he acquired experience in the endoscopic methods then coming widely into use. In 1911 he was appointed surgical registrar and assistant pathologist to the Royal Devon and Exeter Hospital, and thus began his connexion with Devonshire which continued until his death. Presently he specialized in otology and laryngology, and in 1914 he became surgeon-in-charge of the ear, nose, and throat department at his hospital. He still continued to do general surgery as well, and during the first European war, when he was in command of the 2nd Exeter General Hospital, he was responsible for the general surgery there as well as for his own specialty. After the war he devoted himself exclusively to ear, nose, and throat work. He became aurist to the West of England Institute for the Deaf and Dumb and aurist and laryngologist to a number of hospitals in his county. For a time he was lecturer in vocal anatomy and physiology to the London Academy of Music, and was co-author of a book entitled *The Mechanics of Voice Production*, illustrated by a number of *x*-ray pictures of his own throat during the various phases of speech. He himself had suffered in early life from a speech defect, which he overcame by his own efforts until it was no more than a rather attractive hesitancy, and to help others similarly placed he wrote a thesis on stammering and its treatment. His reputation stood high among his fellow specialists, and he was made vice-president of the Section of Otology of the Royal Society of Medicine.

In his earlier life Worthington's chief recreations were music and hunting, but during the last twenty years he developed his native skill with the brush and devoted much of his leisure to water-colour. It was said that he never undertook a professional or recreational journey without his painting materials, never knowing what subject might catch his observant eye. He was not only a painter, but a discerning critic and collector, an expert on the work of the English school of water-colour. At a time when it was thought that Exeter was safe from air raids he stored in the basement of his house in Southernhay many valuable pictures, the property of his London friends. In May, 1942, Exeter was the target of a "Baedeker raid" and Worthington's house was set on fire by incendiary bombs. He made superhuman and successful efforts to remove to a place of safety the treasures of which he was in charge, but his house was destroyed, and with it perished most of his personal collection and his own work. He never quite recovered from the shock of that experience, and during the last eighteen months his health caused serious concern to his many friends. He died at Honiton after an attack of cerebral haemorrhage.

Worthington married Miss Evelyn Bankart, sister of Mr. A. S. Blundell Bankart, the London orthopaedic surgeon. She survives him, with one daughter.

C. E. M. JONES, M.B., B.CH.

The news of Dr. C. E. M. Jones's death on Aug. 3 at Alton, Hants, was received by his many friends with great sorrow.

Charles Edward Mellersh Jones was born on May 9, 1881. He was educated at Eggars Grammar School, Clifton College, and King's College, Cambridge, and received his medical training at Guy's Hospital, graduating M.B., B.Ch.Cantab. in 1908. He started his medical career at Alton with his father, the late Dr. G. M. Jones, and at the outbreak of the 1914 war was M.O. of the 4th Battalion of the Hampshire Regiment. In October, 1914, he was sent with his battalion to India, and in the following March went to Mesopotamia. After serving through all the operations of that campaign he was taken prisoner on the fall of Kut. He was kept a prisoner in the hands of the Turks in the Taurus Mountains, and gained his freedom only after the cessation of hostilities.

On his return to England he joined the resident medical staff of the Lord Mayor Treloar Hospital, and as chief assistant to the late Sir Henry Gauvain a loyal partnership and deep friendship was formed between the two men who did so much for the hospital and for its patients. This happy partnership lasted well over 20 years, and was ended only this year by the death of Sir Henry Gauvain, to whom Dr. Jones was the natural successor as medical superintendent. Sir Henry repeatedly acknowledged the debt he owed to his old friend and the part he played in all the activities of the hospital. His knowledge of surgical tuberculosis in children and adolescents in particular was profound, but, with so many chronic cases in the wards, a cheerful and optimistic atmosphere is almost as important as medical skill, and in creating and preserving this atmosphere these two men were supreme. He was a gifted teacher, as many a student, taken by his chief in a party to visit the hospital, has gratefully testified.

Jones was deeply loved by all, both patients and staff. On innumerable occasions a whispered word and a fatherly caress from him brought smiles instead of tears to the face of a little patient. Jones was invariably cast for Father Christmas, a part his enthusiasm for amateur theatricals enabled him to fill with unusual success.

The young doctors on joining the staff, without exception, rapidly acquired a deep respect and affection for "Jonah." His unfailing courtesy to all whose duty took them to the hospital, his love of good company, and his fund of good stories made him everybody's friend. He was an excellent boxer in his younger days, and as a fast bowler assisted the Alton XI on many occasions. As a batsman it was either six or nothing. He will be sadly missed by his dogs as well as his host of friends.

H. A. T. F.

Medical Notes in Parliament

New Government's Programme

The King's Speech, read to both Houses of Parliament on Aug. 15, promised increase by all practicable means of the number of houses available in town and country. It announced that Parliament would be asked to approve measures to provide a comprehensive scheme of insurance against industrial injuries, to extend and improve the existing scheme of social insurance, and to establish a national health service. A promise was given that Ministers would keep in being and extend the new food services for the workers and for mothers and children which had been established during the war. Education reforms already approved would be brought into practical effect at the earliest possible date.

Speaking in the Debate on the Address on Aug. 16 Mr. ATTLEE said there was a world shortage of meat, fats, and sugar, which could not be overtaken because the food was not there. It would be unwise to expect that the end of the war with Japan would materially affect the position for some months. Nothing the Government could do in new housing construction would substantially alleviate the serious position which would arise this winter. For the present, direction of the housing campaign would rest with the Minister of Health in England and Wales, and in Scotland with the Secretary of State. The Government intended to introduce legislation providing a comprehensive scheme of industrial insurance, and to expedite the setting up of a national health service.

Negotiations with Medical Profession

When the debate was resumed on Aug. 17 Mr. GREENWOOD said the Government's duty was to proceed with the National Insurance Scheme and follow that with the health plan. That course was forced on the Government by the terrible muddle in which the health plan had been left by the late Minister of Health (Mr. Willink). The White Paper on the Health Services had not gone as far as the Labour Party would have liked, but had been generally accepted by the House. Yet after undue delay the fact had become known that Mr. Willink, behind the backs of everyone else, had opened discussions with the British Medical Association.

Mr. WILLINK pointed out that Mr. Tom Johnston, a member of the Labour Party, had been associated with him in these discussions.

Mr. GREENWOOD said that when the secret discussions closed the late Government had not been committed in any way. The present Government would not start where these negotiations had finished. It must go back to the White Paper, and its task would be more difficult because of the unnecessary concessions which Mr. Willink had made. Mr. Greenwood added that Mr. James Griffiths, the Minister of National Insurance, was pressing on with further details of the social insurance measure. This looked like becoming one of the longest Bills ever seen in the House of Commons, but should be in the hands of Members when they resumed next year.

In the House of Lords on May 16 Viscount ADDISON, speaking as Leader of the House in the Debate on the Address, said the health and social insurance proposals were based in the main on those which recently had been produced and agreed to. There would have to be, on the health side, departures from decisions which Mr. Willink seemed to have reached *in camera* with various parties but which had not been disclosed. He left it at that.

Universities and Colleges

UNIVERSITY OF GLASGOW

It is announced that in response to the invitation of leading representatives of the University Liberal, Scottish Nationalist, and Socialist groups, and also of leading Independents, Sir John Boyd Orr, M.D., F.R.S., who returned to Parliament after the General Election, has accepted nomination as Independent Progressive candidate for the Lord Rectorship of Glasgow University.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

POSTGRADUATE SURGICAL TEACHING

The Royal College of Surgeons maintains a Library, Museum, and Laboratories for the use of medical graduates from all parts of the world. These facilities are available to Fellows and Members of the College by right, but they have also been made open, on suitable introduction, to graduates of medicine who are not Fellows and Members. They are also open to undergraduates, and a large number of students have used the Library during the war, though unfortunately the museum specimens have not been available. It is hoped that specimens will be on exhibition again at an early date.

In addition to the above facilities short courses of instruction have been held each year on the contents of the Museum—the Arnott Demonstrations in Anatomy by Prof. Cave, and the Erasmus Wilson Demonstrations in Pathology by pathologists and surgeons appointed each year. These classes have been attended by large numbers of graduates and undergraduates. In addition, the Arris and Gale and the Hunterian Lectures provide opportunities for the presentation of original work in anatomy, physiology, pathology, and surgery.

In recent years the Professors of the College have given an increasing number of lectures, and it has now been decided that two regular courses shall be given each year on anatomy, pathology, and applied physiology—by Professors Wood Jones, A. J. E. Cave, J. Beattie, and R. A. Willis. These courses will deal with the subjects of the Primary examination for the Fellowship. They are not designed, however, to provide complete and comprehensive instruction in these subjects but to deal with such fundamental aspects as shall be selected from time to time. They must not be regarded as classes specially arranged for the examination; but they are so planned as to be helpful to candidates, and also to practising surgeons, by dealing with recent advances in these subjects and their practical application. At present these courses are open to all medical graduates without fees, but later on fees may be charged to those who are not Fellows or Members of the College.

The Council has also decided to provide instruction in surgery by arranging courses of lectures each year, designed to assist those who are engaged in specialist work, and those who are preparing themselves for the Final examination for the Fellowship of the College. The lecturers will be chosen each year from a panel of teachers, and the subjects dealt with will cover a large range of general and specialist surgical work. The lectures will be arranged in two courses, one in the spring and one in the autumn. Lectures will be given at 5 p.m. on several days a week, but there will always be one of special interest on Thursdays. The lectures will be free to Fellows and Members, but others desiring to attend the courses will be required to pay a small fee.

In addition to the facilities provided and the lectures and demonstrations outlined the College awards several prizes for meritorious work as well as many Fellowships for those who desire to engage in practical work in the Museum and Laboratories or to devote some time to research. The awards open are:

1. *For Undergraduates.*—Begley Prize in anatomy and physiology, £16 10s. *Jenks Scholarship, £27 p.a. for five years. Macloghlin Scholarship, £90 p.a. for five years.

2. *For Graduates.*—Hunterian Professorships, 12 each year, £10 10s. Arris and Gale Lectureships, three each year, £10 10s. Charles Tomes Lectures, two each year, £10 10s. Every four years alternately with Liverpool University and the Liverpool Medical Institution—Robert Jones Travelling Fellowship, £250. Leverhulme Scholarships—two of £500, usually for three years. Bland-Sutton Research Scholarship, £300. Prophit Research Studentships, two of £500. *Streatfeild Research Fellowship, usually £250 for three years. *Mackenzie Mackinnon Research Fellowship, three of £250 or according to circumstances.

3. *Awards for Special Meritorious Work.*—Bradshaw Lecture, £27. Thomas Vicary Lecture, £10 10s. Robert Jones Lecture, £30. Moynihan Lecture, £125. Lister Medal, £500. Cartwright Prize, £100. Walker Prize, £100. Jacksonian Prize, £18 5s. John Hunter Medal and Triennial Prize, £50. John Tomes Prize £22. Hallett Prize, £5 5s.

* Jointly with the Royal College of Physicians.

The Services

Acting Surg. Lieut.-Cmdr. G. R. Nicks, R.N.V.R., has been appointed O.B.E. (Military Division) for excellent service in the maintenance of law and order in Greece during the period of the Civil War, 1944–5.

Temp. Surg. Lieut. M. Sherrard, R.N.V.R., has been mentioned in dispatches for distinguished service, efficiency, and zeal while serving in one of H.M. ships in the clearance of the Aegean and the relief of Greece during the period 1944–5.

Major W. H. Cavan and Major (Acting) J. I. Matas, R.C.A.M.C., have been mentioned in dispatches in recognition of gallant and distinguished services in Burma.

Medical News

A meeting of the Medical Society of the L.C.C. Service will be held at the County Hall, Westminster Bridge, S.E., on Wednesday, Sept. 5, at 4.30 p.m., when a discussion on subarachnoid haemorrhage will be opened by Dr. Barling, Dr. Bratton, Dr. Jacobs, and Dr. Simmons.

The 104th annual meeting of the Royal Medico-Psychological Association will be held at 11, Chandos Street, London, W.; on Wednesday and Thursday, Sept. 5 and 6, beginning at 10.30 a.m. each day. On Sept. 5 there will be a discussion on "Ageing and Senility," with contributions by Dr. Aubrey Lewis on a major problem of psychiatry; by Miss H. Goldschmidt on social aspects and Mrs. Margaret Eysenck on psychological aspects of ageing and senility; and by Dr. Derek Richter on some biochemical changes in senility. The annual dinner will be held at the Savoy Hotel at 7.30 p.m. On Sept. 6 the president, Lieut.-Col. A. A. W. Petrie, R.A.M.C., will open a discussion on "The Future Organization of the Psychiatric Services," and this will be followed by a discussion on the revision of the constitution and by-laws of the Association.

On and after Aug. 27 the permanent address of the Tavistock Clinic will be Nos. 2–4, Beaumont Street, London, W.1 (formerly the Duchess Nursing Home), although it will be closed to patients until Sept. 10. The Clinic's pre-war premises at Malet Place, W.C.1, were completely destroyed by enemy action in 1941, and it has been functioning since then in a wing of Westfield College.

Among the eight Chinese representatives of different professions who are visiting this country just now as guests of the British Council is Dr. Wang Ging-Hsi, the physiologist and director of the Institute of Psychology of the Academia Sinica. He will be here for three months.

A provincial meeting of the Tuberculosis Association will be held at Bristol on Thursday, Friday, and Saturday, Sept. 6, 7, and 8. The programme is as follows: Sept. 6, 12.30 p.m., council meeting; 2.15 p.m., opening address by Prof. R. H. Parry; 3 p.m., paper by Dr. William Stobie, "Tuberculosis and the Eye"; 5 p.m., annual general meeting. Sept. 7, 9.30 a.m., paper by Dr. P. E. W. Edwards, "Treatment of Primary Tuberculosis in Adults"; 10.30 a.m., discussion, "Chemotherapeusis in Empyema," to be opened by Mr. J. E. H. Roberts and Prof. R. S. Pilcher; 2.30 p.m., visit to Ham Green Sanatorium, where there will be demonstrations by Dr. J. Campbell Faill and Mr. R. Belsey; 7 p.m., annual dinner. Sept. 8, 9.30 a.m., paper by Lieut.-Col. W. H. B. Bull, N.Z.A.M.C., "Tuberculosis in Allied Prisoners of War"; 10.30 a.m., papers on tuberculosis in Europe during the war, (1) Prof. E. Rist, "Tuberculosis in France," (2) Dr. Henri Durieu, "Tuberculosis in Belgium," (3) Dr. Van Den Berg, "Tuberculosis in Holland." All the meetings will be held at Wills Hall, Bristol, with the exception of that at Ham Green Sanatorium.

The Sheffield Radium Centre has received a gift of £10,000 from Mr. James Morrison for research in radiotherapy of cancer. The fund, which is to be named after the donor's brother David, will be used to establish a radiotherapy research department at the Centre for investigation of new methods of irradiation, for which supervoltage *x*-ray equipment and a radium beam unit will be installed. The trustees of the fund, nominated by Mr. Morrison, are Dr. Sydney Atkin, Mr. G. W. Blomfield, medical director of the Centre, and Mr. P. M. Osborn, deputy chairman, Royal Sheffield Infirmary and Hospital.

The Board of Management of the Marie Curie Hospital for Cancer and Allied Diseases (Fitzjohn's Avenue, London, N.W.3) has received a gift of £2,000 from Lord Nuffield towards the Re-establishment Fund, to endow a bed. £250,000 is required for the rebuilding of the hospital, which was destroyed through enemy action early last year.

The Sterilized Catgut Manufacturers' Association has been formed to protect and to advance the interests of the members, and to negotiate with Government Departments and others on all relevant matters.

The Council of the Royal Society of Medicine has decided to continue, as part of the Society's normal services, the Visitors' Reading Room, which for the past seven months has provided non-Fellows with accommodation and library facilities.

Dr. M. Rana has been appointed a Nominated Indian Unofficial Member of the Legislative Council of Kenya Colony.

Dr. George Riddoch has been appointed honorary consulting neurologist to the Ministry of Pensions.

EPIDEMIOLOGICAL NOTES

Discussion of Table

In *England and Wales* there were 391 fewer notifications of measles than last week, but 98 more of dysentery.

Although the total notifications of whooping-cough remained practically constant, there were considerable local fluctuations, the largest being an increase of 54 in Warwickshire. The notifications of diphtheria were 10 fewer than last week's record low level. Monmouthshire, with a rise of 82, was the only exception to the general drop in the incidence of measles.

Dysentery was more prevalent than for the past six weeks. No fresh outbreaks of any size were reported, but there were large increases in Oxfordshire, from 8 to 27, and in Lincolnshire, from 11 to 62 (Scunthorpe M.B. 50). The other high totals were Lancashire 37, London 30, Middlesex 21, Surrey 20, Yorks West Riding 13, Warwickshire 13, Buckinghamshire 10.

In *Scotland* notifications of scarlet fever rose by 26, there being 43 more cases in the western area than in the preceding week; in all other areas the incidence fell. There were 21 fewer notifications of dysentery, the largest return being Glasgow C.B. 17.

In *Eire* the incidence of infantile diarrhoea and enteritis, falling by 52, was the lowest recorded for three months: 17 deaths were registered from this cause in Dublin C.B. A record low level of diphtheria, 50 cases, resulted from the fall of 22 in the notifications. Whooping-cough reverted to the level of the preceding weeks, with 23 fewer notifications.

In *Northern Ireland* notifications of scarlet fever rose by 8. The incidence of other infectious diseases tended to fall.

Week Ending August 11

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 937, whooping-cough 936, diphtheria 346, measles 1,681, acute pneumonia 251; cerebrospinal fever 33, acute poliomyelitis 16, dysentery 300.

No. 31

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended Aug. 4.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1945					1944 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever ..	39	1	15	—	1	40	2	15	—	1
Deaths		—	—				1	1		
Diphtheria	360	14	103	50	10	471	12	100	63	23
Deaths	8	—	—	—	1	2	—	1	1	—
Dysentery	324	30	56	1	—	139	13	118	—	2
Deaths				2	—				—	—
Encephalitis lethargica, acute	—	—	—	2	—	3	—	—	—	—
Deaths		—					1			
Erysipelas			33	11	7			37	3	2
Deaths		—					—			
Infective enteritis or diarrhoea under 2 years				26					34	
Deaths	53	8	8	22	1	38	4	12	11	6
Measles*	2,190	113	57	26	7	2,154	47	67	83	31
Deaths	—	—	1	—	—	2	—	1	—	—
Ophthalmia neonatorum	74	10	13	—	—	59	3	15	1	—
Deaths										
Paratyphoid fever ..	3	—	3 (B)	1 (B)	2 (B)	7	—	1 (B)	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenzal†	234	16	3	—	2	376	19	5	1	—
Deaths (from influenza)	5	—	—	—	—	1	—	—	—	—
Pneumonia, primary ..			119	12				126	9	
Deaths		12		9	7		12		4	4
Polio-encephalitis, acute	3	—				2	—			
Deaths		—					—			
Poliomyelitis, acute ..	21	3	3	2	1	8	1	7	—	1
Deaths		—					—			
Puerperal fever		4	18		—		1	13		—
Deaths										
Puerperal pyrexia‡ ..	145	16	8	—	—	154	6	13	2	—
Deaths		—					—			
Relapsing fever ..	—	—			—	1	—			—
Deaths										
Scarlet fever	1,232	65	181	17	32	1,410	45	180	31	37
Deaths	—	—	—	—	—	—	—	—	—	—
Smallpox	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Typhoid fever	7	2	1	1	2	15	3	1	20	11
Deaths	—	—	—	—	—	1	—	—	1	—
Typhus fever	1	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Whooping-cough* ..	1,072	46	25	29	6	1,768	97	46	30	15
Deaths	5	2	—	1	1	10	1	5	1	—
Deaths (0–1 year) ..	303	41	51	60	17	287	23	56	24	22
Infant mortality rate (per 1,000 live births)										
Deaths (excluding stillbirths)	3,781	549	508	199	108	4,238	839	176	161	117
Annual death rate (per 1,000 persons living)			11·5	12·8	§			11·4	10 4	§
Live births	6,786	869	831	376	271	6,838	587	392	390	253
Annual rate per 1,000 persons living ..			16·6	24·3	§			25·4	25·3	§
Stillbirths	200	11	29			222	14	27		
Rate per 1,000 total births (including stillborn)			34					30		

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

‡ Includes puerperal fever for England and Wales and Eire.

§ Owing to movements of population, birth and death rates for Northern Ireland are still not available.

Letters, Notes, and Answers

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: *Aitiology Westcent, London.* ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated.

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ANY QUESTIONS?

Purpura

Q.—*A woman of 64 noticed that she was bruising easily. Some 3 weeks after, purpuric spots began to appear in skin and mucous membranes, followed by epistaxis. Blood transfusions and splenectomy were carried out successfully, one moderate and two small attacks of epistaxis occurring at regular intervals post-operatively (7–10 days). Transfusion (fresh blood) was given after each epistaxis. Approximately 3 months after splenectomy purpuric spots are reappearing in skin and mucous membrane. The most recent blood count shows platelets 150,000 per c.mm. Is capillary weakness a factor as well as a low platelet count? Are further, regular attacks of purpura to be expected? Are blood transfusions necessary? If so, on what indication? Has focal infection any connexion, and, if so, where? What is the general prognosis? Which books are the best for reference?*

A.—It is unusual for essential thrombocytopenia to occur at this age. Of a series of 271 cases collected by Wintrobe and co-workers (*J. Amer. med. Ass.*, 1937, **109**, 1170) only 10 were over 50 and none apparently over 60 years of age. The data given are inadequate for a differential diagnosis, but the possibility should be considered that the thrombocytopenia is secondary to some other malady, such as aplastic anaemia or leucopenic leukaemia. In essential thrombocytopenia capillary weakness is a factor, and the capillaries do not retract normally on injury. This has been demonstrated by R. G. Macfarlane (*Quart. J. Med.*, 1941, **10**, 1). Improvement follows splenectomy in about 80% of cases. It is not always complete and immediate, and there would still be a prospect of further improvement in the present case if the diagnosis is correct. Nor is recovery always permanent, relapses occurring in perhaps 10% of cases. When the disease is chronic, blood transfusions are really only of value for the anaemia, and there is no specific remedy. Focal infection is rarely of importance, but an allergic reaction, particularly to the drug sedormid, is always worthy of inquiry. The over-all mortality of essential thrombocytopenia in females after puberty has been given as 40% (Evans and Perry, *Lancet*, 1943, **2**, 410). Further reference may be made to the following books: *The Hemorrhagic Diseases*, by A. J. Quick, Springfield, Ill., 1942; and *Clinical Hematology*, by M. W. Wintrobe, Philadelphia, 1942.

Apex Beat of Heart

Q.—*Can the apex beat of the heart of normal size be felt in the mid-axillary line when the patient is lying fully on his left side, the apex beat not being palpable in the erect or dorsal position?*

A.—The normal apex can be felt in the left axilla when the patient lies on the left side—perhaps not quite so far as the mid-axillary line. The apex is then well against the chest wall; whereas in the upright position obesity or emphysema might obscure it, or the vertical heart might have an apex beat near the mid-line.

Bilateral Bronchiectasis

Q.—*A woman of 30, who had a bad bronchial catarrh initiated by noxious fumes in a poison-gas factory some time ago, has been left with a number of very small bronchiectases scattered about the bases of both lungs. Is there anything to be done about it?*

A.—Bilateral bronchiectasis is not necessarily unsuitable for surgical treatment; indeed, bilateral lobectomies have been done with excellent results. The operations are, however, most likely to be successful in children and young adults. In the case of a woman of 30 bilateral intervention would be justified only if the symptoms were very grave or the amount and character of the sputum rendered life intolerable. Operation on one side only is liable to be disappointing. Quite apart from this, it is doubtful if the type of disease present in this patient is suitable for operation. The causal agent and the description of "a number of very small bronchiectases scattered about the bases of both lungs" suggest the probability of an associated chronic bronchitis and emphysema, which would definitely be unfavourable.

Treatment should consist of postural drainage and breathing exercises, expiratory as well as inspiratory; if much infection is present, penicillin given by inhalation should be considered.

Drug Treatment of Cancer

Q.—*Can you recommend any form of drug treatment likely to benefit a man of 54 with inoperable carcinoma of the colon and secondary deposits in the peritoneum? Liver normal. Colostomy has been performed to relieve the obstruction. At the moment his general health is good.*

A.—It is certainly not possible to "recommend" any form of drug treatment here, in the sense that one is justified in expecting benefit as a reasonably frequent sequel; there is at present no such justification. On the other hand, the question raises an issue of general interest, and is probably dealt with best from this wider point of view. Until comparatively recently the attention of most students of cancer was quite rightly held by the cancer cell's autonomy and independence, and by its refractoriness to environmental changes of many kinds, including those which can be brought about by the action of drugs. On this basis there developed a confirmed scepticism—still only too well merited so far as cancer in general is concerned—as to the feasibility of affecting malignant growth by chemical agents which do not at the same time seriously interfere with the normal processes of growth and repair. Within the last few years, however, this rather extreme viewpoint has become modified, through the knowledge that both the growth characteristics and the histological structure of many tumours can be materially influenced by hormonal agents, and especially by oestrogenic compounds, both natural and synthetic—a practical example being the useful control of prostatic cancer which has been achieved in this way. Carcinoma of the prostate is probably as exceptional an example as it is a favourable one, but it is a curious and still unexplained fact that in a small proportion of other types of cancer—for example, a low percentage of cases of carcinoma of the breast, and random examples of other cancers which one would not classify as possessing any special hormonal susceptibility of this kind—oestrogen therapy does in fact have some effect: e.g., local alterations in the tumour, accompanied by symptomatic improvement and gain in body weight. There is no means of predicting the outcome in these cases, and oestrogen trial alone would be justified only when all other possibilities of treatment had been exhausted, on the understanding that the prospect of any substantial degree of improvement is remote, and that where it occurs it is almost certain to be impermanent and even fleeting. Although there is no evidence that one oestrogen differs essentially from another so far as this action in cancer is concerned, a suggested regimen would be to administer dienoestrol by mouth in doses of 0.3 mg. thrice daily, to increase the dose fairly rapidly to, say, 5.0 mg. three or four times daily, and to maintain treatment for a period of three months before withdrawing the drug completely; the course could then be repeated after an interval of several weeks.

It will be seen that much of the difficulty in reply to such a query arises from the circumstance that while we cannot affirm the application of oestrogens to the treatment of cancer other than that occurring in the prostate, neither can we completely exclude the possibility of benefit in individual cases of types arising elsewhere. Much patient work is required before the situation can be clarified, and those most closely concerned are the first to insist upon the need for present caution. As to other drugs or substances which have been sufficiently investigated, one cannot yet speak with confidence of any which hold out even this slight prospect of usefulness.

Multiple Warts

Q.—*A schoolboy, apparently in perfect health, has a mass of warts on his hands and knees, and they are now appearing on his lips and face. This is a distressing condition, and I shall be grateful for advice. Cauterizing the warts individually would be an impossible task.*

A.—Apart from the plantar variety, which are often extremely painful, warts require consideration only because of their slightly disfiguring and slightly contagious qualities. They may be cured by suggestion or clear up spontaneously, which explains the curative effect of many nostrums and perhaps some published methods of treatment. Individual warts can be destroyed by caustics or the cautery, if skilfully used, and provided other and more urgent matters allow of the time required. *X* rays and radium are the prerogative of the specially trained expert. As none of these methods, even when skilfully and properly used, is free from the risk of producing permanent changes in the skin, each of us will consider whether the patient's condition justifies the expenditure of time and skill on lesions which may at any moment vanish without trace.

Immunity after B.C.G. Vaccination

Q.—*How long does immunity to tuberculosis take to develop after vaccination with B.C.G., and how long does it last?*

A.—Calmette himself advised that infants given B.C.G. vaccine should be removed from contact with infection for 2 months thereafter, and re-vaccinated after 3, 7, and 15 years. There is evidence that some resistance to infection develops within about 2 months in the fact that the treated individual usually becomes tuberculin-sensitive within that time. In those particularly exposed to infection, such as household contacts and hospital nurses, natural infection may be expected to reinforce the immunity originally conferred by B.C.G.

Lice and the G.P.

Q.—*Could you advise me on the best method of protecting myself and my family from becoming infested with pediculosis corporis as a result of picking up odd specimens in certain parts of the practice?*

A.—Short of wearing protective clothing, or of the regular use of insecticides over the external clothing, the risk of picking up occasional lice cannot be avoided in some medical duties. But the risk of a sustained infestation (i.e., lice breeding in the clothing) from such rare specimens is extremely slight if the underclothing is laundered regularly. We know of colleagues who, in the course of research, have worked exclusively on pediculosis corporis, with several hours daily in a clinic of verminous persons, without finding more than one or two lice in their own clothing in the course of many months.

When the new insecticide D.D.T. becomes generally available it will be possible to make quite certain of protection by dusting the underwear weekly with an ounce of 10% D.D.T. powder.

Modern Methods of Blood Examination

Q.—*The various new procedures used this last five years or so in the recording of R.B.C.'s, M.C.V., etc., are rather confusing. Could we have an explanatory paragraph, mentioning the additional knowledge obtained over previous methods?*

A.—In the Wintrobe system for examining venous blood, which is now commonly used, a portion of the oxalated or heparinized blood is placed in a Wintrobe haematocrit tube, which is allowed to stand for one hour for the estimation of the sedimentation rate. The tube is then centrifuged at high speed and the percentage volume of cells read from the graduations on the tube. If the red cell count and haemoglobin are now determined in the ordinary way, the following indices can be calculated:

The mean corpuscular volume (M.C.V.) is determined by dividing the haematocrit percentage (× 10) by the number of red blood corpuscles in millions per c.mm., the result being expressed as cu. μ. For example, if the haematocrit percentage is 45 and the red blood corpuscles 5 millions per c.mm., the mean corpuscular volume is 90 cu. μ.

The mean corpuscular haemoglobin (M.C.H.) is determined by dividing the grammes of haemoglobin per 100 c.cm. of blood (× 10) by the number of red blood corpuscles in millions per c.mm., the result being expressed in micro-microgrammes, symbolized by the letters $\gamma\gamma$. For example, if the haemoglobin per 100 c.cm. is 15 grammes and the red blood corpuscles 5 millions per c.mm., the mean corpuscular haemoglobin is 30.0 $\gamma\gamma$.

The mean corpuscular haemoglobin concentration (M.C.H.C.) is determined by dividing the grammes of haemoglobin per 100 c.cm. (× 100) by the haematocrit percentage, the result being expressed in per cent. For example, if the haemoglobin per 100 c.cm. is 15 grammes and the haematocrit percentage 45, the mean corpuscular haemoglobin concentration is 33.3%.

Other constants, less frequently determined owing to the time-consuming nature of the techniques, are: (1) *the mean corpuscular diameter* and *coefficient of variation* of the red cells, which are measured by the Price-Jones technique; and (2) *the mean corpuscular fragility*, which is determined by measuring the percentage of haemolysis in graded strengths of hypotonic saline solutions.

The advantages of these measurements over the simple calculation of the colour index are numerous. There is a growing tendency to report haemoglobin values in terms of grammes of haemoglobin per 100 c.cm. of blood, instead of percentages of an arbitrary scale. The idea that 100% Haldane is the "normal" value has in fact led to very grave confusion, but once we abandon percentage scales of haemoglobin it is anomalous to try to preserve the colour index. Secondly, the haematocrit percentage is a valuable check on the haemoglobin level. Thirdly, it is possible for corpuscular volume and corpuscular haemoglobin to vary independently. In tropical anaemias, in particular, the cell volume may increase at the same time as the haemoglobin concentration falls, owing to a dual deficiency of P.A. factor and iron. This would not be revealed by the colour index. Fourthly, if we know the cell volume and the cell diameter we have an approximate idea of the shape of the cell and can calculate the cell thickness. In familial acholuric jaundice the cells are small and plump (spherocytosis), whereas in Mediterranean anaemia (Cooley) they are broad and thin (leptocytosis). In practice, then, the new procedures have proved of considerable value in the diagnosis and classification of anaemias.

INCOME TAX

Retirement from Colonial Service

G. A. is retiring from the Colonial Medical Service and becomes entitled to a gratuity and to a return of contributions to a pension fund plus 2½% interest. Are these sums liable to income tax?

⁂ In our opinion—no.

Dispensers' Salaries

W. H. is one of three partners in a practice. Each partner has a dispenser-secretary paid by himself, and the expense is treated as deductible from each partner's share of the firm's profits. The inspector of taxes insists that the three employees should be shown on one return to be made as for the practice as a whole.

⁂ Clause (2) of the Statutory Regulations governing P.A.Y.E. defines an "employer" as meaning "any person paying emoluments on his own account or on behalf of another person." Clearly each partner is the "employer" for the purpose of these Regulations, and we consider that they are entitled to make separate returns if they desire to do so.

LETTERS, NOTES, ETC.

Artificial Respiration

Dr. J. L. WHITWORTH (Melbourne) writes: The chief secretary of the Royal Life-Saving Society (March 17, p. 387) stresses the absence of proof of the arching of the diaphragm in the cessation of breathing, in defence of the Schäfer method of resuscitation against the rocking method outlined by Dr. F. C. Eve. But is this arching of the diaphragm really important? The response to treatment is surely more to the point; and Eve's method has proved its "response to treatment" reputation, especially at sea. As a matter of fact, the points of contention and their explanations and proof in the matter of cessation of breathing could be named and proved; but it is necessary to "kneel before one may rise" and admit the merits of Eve's method of resuscitation.

Treatment of Post-traumatic Headache

Mr. N. GARBER, F.R.C.S. (Johannesburg), writes: With reference to the question and answer on headache after fractured skull (April 14, p. 543), when all else has failed the following will be found of service: (1) oral administration of prostigmin hydrobromide 15 mg. three times daily for six to eight weeks, together with (2) intramuscular injection of 1 c.cm. of a solution of prostigmin methylsulphate 1 in 2,000 twice weekly for six to eight weeks, and (3) restricted fluid intake. Prostigmin potentiates the action of acetylcholine, which is a powerful vasodilator, and thus abolishes vasoconstriction of meningeal and labyrinthine arteries, which vasoconstriction is presumably the underlying cause of persistent post-traumatic headaches. For greater detail the original paper of Malone (*J. Amer. med. Ass.*, 1942, **119**, 861) should be consulted. This mode of therapy has yielded most encouraging results at the General Hospital, Johannesburg.

Women in Labour

Dr. CHARLES J. HILL AITKEN (Rotherham) writes: Is it not time the physiologists gave us in the *Journal* an account of the physiological mechanism behind labour, so that the expectant mother can be trained to cultivate the conditioned reflex essential for easy, and possibly painless, labour?

Hygiene in Sanatoria

Mr. H. P. HOLLOWAY (Hounslow, Middlesex) writes: One reads frequent references in the *Journal* and other medical papers (one in your last issue) to the hygiene which is taught in sanatoria to tuberculous patients. I have been a patient in several sanatoria in this country and have never heard a single word of such instruction given. The only advice I can remember was a printed notice hanging on a wall requesting patients not to clean their teeth in the ordinary wash-basins but to use the special basin provided. My own observations proved that even this advice was often ignored. It would surely not be asking too much to require all patients, before discharge, to attend one or more lectures on this very important subject.

Correction

Through an accident in the course of printing our annotation on "Folic Acid" (July 21, p. 91), vitamin B_c appeared as vitamin B in the 14th line.

BRITISH MEDICAL JOURNAL

LONDON SATURDAY SEPTEMBER 1 1945

THE RESULTS OF ROUTINE INVESTIGATION FOR Rh FACTOR AT THE N.W. LONDON DEPOT*

BY

G. PLAUT, M.D. M. LEITCH BARROW

AND

J. M. ABBOTT

Since Oct., 1942, this laboratory has undertaken to supply Rh-negative blood for transfusion purposes and to determine the Rh group of samples submitted for test. In the course of such routine investigations information has been accumulated on the incidence and clinical importance of the Rh factor. This is analysed below under the following headings: (I) The incidence of the Rh factor in Group O donors. (II) Results of examination of samples submitted from families giving a history suggestive of haemolytic disease of the newborn. (III) Routine serological investigation of unselected women attending an ante-natal clinic. (IV) Serological investigation of reactions following transfusion reported to the laboratory.

Methods

Test for Rh Factor in Red Cells.—Both cells and serum from samples submitted for test for Rh factor were first examined for their ABO group, using the tile technique (M.R.C. War Memorandum No. 9). The test for Rh factor was carried out in small test-tubes, 2 in. by 1/4 in., using one drop of anti-Rh serum of suitable ABO group or serum neutralized by saliva, and one drop of a weak cell suspension. The tubes were then covered with small glass caps and left in the incubator at 37° C. for two hours. After looking at the cell sediment one drop was carefully removed from the bottom of each tube and spread on a clean side. If no agglutination could be seen macroscopically, microscopical examination followed. Controls with two known Rh-positive bloods and one known Rh-negative blood were included in each test. From Oct., 1942, until Jan., 1944, the cell suspensions were put up against three different potent anti-Rh sera of appropriate ABO group. The cell suspensions were called Rh-positive if they were agglutinated by one or more of the test sera. After Jan., 1944, the cell suspensions were tested with one known potent anti-Rh serum only. Those which showed no agglutination with this serum were then tested with one known potent anti-Rh′ and anti-Rh″ serum.

Tests for Anti-Rh Agglutinins in Serum.—Tests for anti-Rh agglutinins were carried out by putting up the patient's serum in dilutions of from 1 : 1 to 1 : 512 against two suspensions of known Rh-positive Group O red cells (Rh_1Rh_2 and Rh_2Rh_2 (or Rh_2rh)), one suspension of known Rh-negative Group O red cells, and a suspension of the patient's own cells. In maternity cases the patient's serum was also tested against the baby's red blood cells if these were available and of compatible ABO group. Serum from cord blood was tested for anti-Rh agglutinins whenever possible. Tests for blocking antibodies (Wiener, 1944) or incomplete antibodies (Race, 1944; Race and Taylor, 1944) have been carried out only recently on sera of Rh-negative patients which contained either weak anti-Rh agglutinins or no anti-Rh aggultinins.

I. Incidence of Rh Factor in Group O Donors

In order to obtain a regular supply of Rh− blood for routine transfusion purposes and to build up a panel of known Rh− donors 5,837 unselected Group O donors have been tested. In the case of the first 2,944 donors tested only anti-Rh serum was used. In this series 2,472 (84%) were Rh+ and 472 (16%) were Rh−. The later 2,893 donors were tested with anti-Rh, anti-Rh′, and anti-Rh″ serum: 2,411 (83.3%) were Rh+, 432 (14.9%) were Rh−, 30 (1%) were Rh′, and 20 (0.7%) were Rh″. The sera from donors were not tested for anti-Rh agglutinins.

II. Examination of Samples submitted from Families giving a History suggestive of Haemolytic Disease of the Newborn or in whom Anti-Rh Agglutinins were found

Specimens of blood were received from 624 women with a history suggestive of haemolytic disease of the newborn or with a history of repeated stillbirths or miscarriages. In 133 instances the history suggested haemolytic disease of the newborn, as evidenced by the statement that the present or previous infants had anaemia, icterus gravis, hydrops foetalis, erythroblastosis foetalis, kernicterus, haemolytic disease, or early jaundice. In 3 women with a history of repeated miscarriages or stillbirths anti-Rh agglutinins were found; they are therefore included in the following analysis. The complete serological investigation of the remaining 488 specimens will form the subject of a further communication.

The term "Rh-negative" in the following paragraphs includes Rh′ and Rh″ subgroups, as the majority of the cases were investigated before the subgroups were recognized. The subgroups have been mentioned in the last column of Table I whenever they have been tested for.

An analysis of the table shows that 120 (88.2%) of the 136 women with either a history or serological findings suggesting haemolytic anaemia in an infant were Rh-negative and 16 (11.8%) Rh-positive. The Rh-negative mothers belonged to the following blood groups: Group O, 46 (38.3%); Group A, 60 (50.0%); Group B, 8 (6.7%); Group AB, 6 (5.0%). It proved possible to test only 85 husbands of the above 120 Rh-negative women; all but one were Rh-positive. The latter father could not be re-tested to determine if he belonged to one of the Rh subgroups. The 84 Rh-positive husbands belonged to the following blood groups: Group O, 50 (59.5%); Group A, 27 (32.1%); Group B, 4 (4.8%); Group AB, 1 (1.2%); unknown, 2 (2.4%). The red cells of only 55 affected babies with Rh-negative mothers were available for examination; 53 were Rh-positive, and 2 belonged to subgroup Rh′ (Table I, Cases 59 and 79).

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* A report to the Medical Research Council.

TABLE I.—*Cases Suggestive of Haemolytic Disease of the Newborn*

KEY TO TABLE.—M., Male. F., Female. A.W., Alive and well. D., Died. Surv., Survived. I.G.N., Icterus gravis neonatorum. E.F., Erythroblastosis foetalis. J., Jaundice. S.B., Stillbirth. Misc., Miscarriage. H.F., Hydrops foetalis. Prem., Premature. Prog. an., Progressive anaemia.

Family No.	Mother's Age When Tested	Mother's Group		Father's Group		Mother's Serum		Pregnancies					Notes
		Rh	ABO	Rh	ABO	Anti-Rh	Time When Tested	1	2	3	4	5, 6, 7, and 8	
1	31	–	A	+	O	1:16 1:32 1:4	7 days 14 days 2 mths. } after del.	1938 A.W. Gp. O Rh+	1942 E.F.: D. few mins.				
2		–	B	+	O	1:4	9 days after del.	F. 1939 A.W. Gp. O Rh+	1942 I.G.N.: D. 5 days	1943 Therapeut. abortion Gp. O Rh+ 10/52	M. 1944 H.F.: D. 15 min.		Mother's anti-Rh 1:16 months after 2nd child
3	28	–	A	+	O	1:64	4 mths. after del.	M. 1934 A.W. Gp. A Rh+	M. 1936 J.: D. 10 days	M. 1938 S.B.	M. 1940 J.: E.F. D. 1 day	(5) F. 1942 E.F.: D. 1 hour	
4	39	–	B			1:16	2 yrs. after del.	F. 1923 A.W. Gp. O Rh+	F. 1926 J.: surv. Gp. O Rh+	F. 1928 J.: surv. Gp. O Rh+	F. 1940 J.: surv. Gp. O Rh +		2nd and 4th children ha blood trans. 3rd child now deaf and dumb
5		–	A	+	A	1:256	1 mth. after del.	Misc.	1942 I.G.N.: D. 5 days				P.M. report: Kernicterus
6	28	–	A			1:4	14 days after del.	M. A.W. Gp. O Rh+	1938 J.: D. 7 days	1941 S.B.	1943 S.B.: prem.		Mother's W.R. positive. 4th child: death due to ? syphili or E.F. (no P.M. to clarif this). 1st child illegitimat
7	35	–	A			1:128	1 mth. after del.	F. 1931 A.W. Gp. A Rh+	M. 1933 J.: D. 4 days	M. 1934 S.B.	F. 1936 J.: surv. Gp. A Rh+	(5) F. 1938 J.: D. 9 days (6) F. 1940 J.: D. 8 days (7) 1941 S.B. (8) 1944 I.G.N.: D. 7 days Gp. A Rh+ Convulsions	4th and 8th children ha blood trans. No anti-Rh i last baby's cord blood
8		–	AB			1:4	10 days after del.	F. 1935 A.W. Gp. A Rh+	F. 1937 A.W. Gp. A Rh+	1942 I.G.N.: surv. Gp. B Rh+			3rd child had a blood transfusion
9		–	A	+	O	1:1 –	During preg. After del.	F. 1926 A.W.	M. 1928 A.W. Gp. A Rh–	F. 1931 S.B.: ascites	M. 1932 S.B.: J.	(5) F. 1935 S.B. (6) M. 1939 S.B. (7) M. 1940 E.F.: D. soon after birth (8) 1943, A.W. Gp. O Rh–	7th child: P.M. confirmed E.F Mother's anti-Rh titre 1:3 2 years after 7th pregnanc
10		–	A			1: 2 –	3 wks. before del. 13 days after	F. 1931 S.B.	M. 1932 A.W. Gp. A Rh+	M. 1934 S.B.: prem.	F. 1935 S.B.: H.F.	(5) M. 1936 S.B.: H.F. (6) F. 1940 S.B.: H.F. (7) 1941 S.B. (8) 1944 E.F.: D. 5 hours Gp. O Rh+	1st preg. forceps delivery. 8t preg. blood trans. Enlarge liver and spleen. No ant Rh in cord blood. Mother' anti-Rh after 7th preg. 1:512
11		–	A			1:8	? mth. after del.	M. 1929 A.W.	M. 1930 A.W.	F. 1939 A.W.	F. 1942 Severe an. Surv.		4th child had blood transfusion
12	28	–	A	+	O	1:1	1 mth. after del.	1939 A.W. Gp. A Rh+	1942 Severe an. J. at birth Surv. Gp. A Rh+				
13		–	AB	+	O	–	days after del.	D. few hrs.	D. (dysentery)	1942 I.G.N.: D. 15 days Gp. B Rh+	1944 A.W. Gp. B Rh–		3rd child had blood tran Mother's anti-Rh at th time, 1:4
14	34	–	A	+	O	1:512	11 days after del.	M. 1937 A.W. Gp. O Rh+	1941 I.G.N.: D. 3 days	1943 S.B.: H.F. Gp. O Rh+			Anti-Rh agglutinins present i mother's serum during preg nancy; increasing
15	26	–	A			1:512	8 days after del.	M. 1938 A.W. Gp. O Rh–	M. 1940 A.W. Gp. O Rh+	1942 E.F.: D. few hrs.			
16		–	A			1:8	1 wk. after del.	F. 1927 A.W. Gp. O Rh+	F. 1929 A.W. Gp. A Rh+	M. 1942 I.G.N.: surv. Gp. A Rh+			3rd child had blood tran This child is by the secon husband
17		–	O			1:512	3 wks. after del.	D. melaena	J.: D.	1942 I.G.N.: surv. Gp. O Rh+			3rd child had blood tran fusions
18		–	O			–	11 mths. after del.	1938 S.B.	Misc.	Misc.	1940 Prem.: D. 4 hours	(5) Misc. (6) 1942 J.: surv.	
19		–	A			1:2048	2 wks. after del.	A.W.	1943 I.G.N.: surv. Gp. A Rh+				2nd child had blood tran fusion

TABLE I (*continued*)

Family No.	Mother's Age When Tested	Mother's Group		Father's Group		Mother's Serum		Pregnancies					Notes
		Rh	ABO	Rh	ABO	Anti-Rh	Time When Tested	1	2	3	4	5, 6, 7, and 8	
20	48	—	O			—	9 years after del.	F. 1914 A.W. Gp. O Rh+	M. 1916 J.: D.	M. 1918 A.W. Gp. O Rh—	M. 1920 J.: D.	(5) F. 1924, J.: D. (6) F. 1927, J.: D. (7) F. 1930 J.: surv. (8) F. 1934 J.: D.	First 3 children by 1st husband; 3rd child is reported to have had jaundice as baby. All deaths from jaundice occurred between 3rd and 15th days
21		—	A			Not available		S.B.	S.B.	S.B.	I.G.N.: D.		Sister of No. 16
22		—	A	+	B	—	During and after 2nd preg.	Haemorrh. disease D.	F. 1943 A.W. Gp. B Rh—				
23	36	—	A	+	O	Not available after last preg.		1943 Prog. an.: surv. Gp. A Rh+	1944 A.W. Gp. A Rh—*				Anti-Rh agglutinins in mother's serum after 1st child, 1:4096. *2nd child Rh″
24		—	A	+	O	1:256	6 days after del.	1940 A.W. Gp. A Rh+	1943 Prog. an.: surv. Gp. A Rh+				2nd child had blood transfusion
25	31	—	O	+	O	1:2	During preg.	I.G.N.: D. 5 days	1943 I.G.N.: surv. Gp. O Rh+				2nd child had several blood transfusions
26		—	O	+	O	1:1	Few days after del.	A.W.	A.W.	A.W.	A.W.	(5) 1943, Twins E.F: D. 3½ hrs. A.W. Gp. O Rh—	
27	23	—	A			1:256	Few days after del.	A.W.	1943 I.G.N.: surv.				Both children are illegitimate by different fathers. 2nd child had blood transfusion
28		—	A	+		1:1	5 days after del.	1935 A.W.	1936 A.W.	1937 D.: transv. pres.	1939 S.B.: H.F.	(5) 1940 S.B.: H.F. (6) 1942 S.B.: H.F. (7) 1943 S.B.: H.F. Gp. A Rh+	Father reported to be Rh+
29	39	—	A			1:1	?	F. 1928 A.W. Gp. A Rh—	Misc.	Misc.	Misc.	(5) 1943 H.F.	Mother's serum tested within first 10 days
30	29	—	A	+	A	1:1	10 days after del.	F. 1936 A.W. Gp. A Rh—	F. 1938 A.W. Gp. A	1941 Misc.	1943 S.B.: prem.		Not enough blood to test 2nd child
31		—	AB	+	O	1:4	19 days after del.	M. 1934 A.W. (prem.) Gp. B Rh+	F. 1934 A.W. Gp. B Rh+	1943 I.G.N.: surv. Gp. B Rh+			Mother: severe rigor after 10 c.cm. of A blood. Maternal grandmother: Gp. B Rh+
32	33	—	A	+	O	1:1	1st week after del.	A.W.	1943 I.G.N.: D. 2 days				
33	23	—	O	+	O	1:2	14 days after del	M. 1941 A.W. Gp. O Rh+	F. 1943 I.G.N.: surv. Gp. O Rh+				Mother's serum showed zoning. 2nd child had blood transfusion
34	21	—	O	+	A	1:512	1 day after del.	M. 1943 I.G.N.: surv. Gp. O Rh+					Baby's serum contained anti-Rh 1:8. Baby had several blood transfusions. Mother's serum still contained anti-Rh agglutinins 1:256 after 7 months
35		—	A	+	O	1:512	13 days after del.	M. 1936 A.W. Gp. A Rh+	F. 1943 I.G.N.: surv. Gp. O Rh+				2nd child had blood transfusion
36	30	—	A	+	A	1:16	13 days after del.	M. 1937 A.W.	M. 1939 A.W.	M. 1941 Prem. twins D.	1943 A.W. Gp. A Rh—		Mother's serum contained higher anti-Rh agglutinins at end of pregnancy
37	24	—	B			1:32	1 week after del.	D. (vit. K deficiency)	A.W.	1943 Prog. an.: surv. Gp. B Rh+			All children are illegitimate by different fathers
38		—	AB	+	O	1:1	Few days after del.	1942 S.B.	1943 H.F.				
39	30	—	A	+		1:2	3 days after del.	M. 1933 A.W.	M. 1935 J.: D. 3 days	M. 1936 J.: D. 5 days	F. 1937 J.: D. 3½ mths.	(5) M. 1940, A.W. (6) F. 1941, A.W. (7) M. 1943 J.: surv. Gp. A Rh+	7th child had blood transfusion. Father and two children reported to be Rh+. Impossible to get further information
40		—	O	+	A	—	7 days after del.	F. 1930 A.W. Gp. O Rh+	1932 S.B.	1933 S.B.	1935 S.B.	(5) 1936 D. 5 days (6) M. 1938 A.W. Gp. O Rh+ (7) 1941, S.B (8) 1944, A.W. Gp. O Rh+	Mother's serum contained anti-Rh agglutinins (1:2) during preg.; none after del.; also high anti-A titre (1:1024). All living children Gp. O

TABLE I (*continued*)

Family No.	Mother's Age When Tested	Mother's Group		Father's Group		Mother's Serum		Pregnancies					Notes
		Rh	ABO	Rh	ABO	Anti-Rh	Time When Tested	1	2	3	4	5, 6, 7, and 8	
41	32	−	O	+	O	1:32 1:256	1 day after del. 14 days after del.	F. 1928 A.W	M. 1930 A.W.	1932 J.: surv.	M. 1935 S.B.: macerated	(5) F. 1938 S.B.: H.F. (6) M. 1943 E.F.: surv. Gp. O Rh+	6th child had blood transfusion. All the other surviving children evacuated to U.S.A.
42		−	A	+	A	1:32	During preg.	S.B.	S.B.	I.G.N.: D. 36 hours	1943 I.G.N.: D. 52 hours Gp. O Rh+		Last baby delivered by Caesarean section; born jaundiced; had 3 blood transfusions
43		−	A			1:32	4½ yrs. after del.	M. A.W.	F. I.G.N.: D.	F. 1939 I.G.N.: surv.			3rd child had blood transfusion
44	35	−	O			−	20 mths. after del.	S.B.	S.B.	1941 I.G.N.: surv.			3rd child had several blood transfusions. Mother had severe reaction after transfusion with blood not tested for Rh
45	29	−	A	+	A	1:32	5 days after del.	M. 1935 A.W. Gp. O Rh+	M. 1936 Twins, A.W. Gp. A Rh+	1943 Prog. an.: D. 4 days			P.M. report on 3rd child: E.F.
46	27	−	O	+	O	1:128 1:64	Before del. 7 days after del.	M. 1938 A.W.	F. 1940 I.G.N.: surv.	M. 1943 I.G.N.: surv. Gp. O Rh+			2nd child has had injections of mother's blood. 3rd child had blood transfusion
47		−	A	+	A	1:4	9 days after del.	S.B.	D. bronchitis	1943 Prog. an.: surv. Gp. A Rh+			3rd child had blood transfusion
48	26	−	A	+	A	1:32	During preg.	F. 1938 A.W. Gp. A Rh+	F. 1939 I.G.N.: D. 12 hrs.	F. 1940 I.G.N.: D. 3 days	M. 1941 A.W. Gp. O Rh−	(5) M. 1943 D. 9 mths. (anaemia) (6) 1943 Therap. misc.	
49		−	AB			1:1	9 mths. after del.	M. 1942 Prog. an.: D. few days	F. 1943 H.F.: D. ½ hr				Mother had toxaemia during last pregnancy
50	28	−	A	+	O	1:512	5 days after del.	M. 1938 A.W.	M. 1943 S.B.: H.F.				
51		−	O	+	A	1:4	9 mths. after del.	Misc.	1943 J.: surv. Gp. O Rh+				
52		−	A	+	A	1:64	8 days after del.	M. 1938 A.W.	1941 M., A.W. Gp. O Rh+ F., A.W. Gp. A Rh+	1943 J.: surv. Gp. A Rh+			Last child had blood transfusion. No anti-Rh agglutinins in cord blood
53	41	−	O	+	O	−	During and after preg.	M. 1922 A.W. Gp. O Rh−	M. 1924 S.B.: E.F.	M. 1928 S.B.: E.F.	1944 A.W. Gp. O Rh−		S.B.s are supposed to be due to E.F. Mother Rh′
54	39	−	A	+	O	1:1 −	14 days before del. 5 days after del.	1934 A.W. Gp. O Rh+	M. 1935 A.W. Gp. O Rh−	F. 1936 A.W. Gp. O Rh−	F. 1937 A.W. Gp. A Rh−	(5) 1940 S.B.: E.F (6) F. 1944 Anaemia: surv. Gp. O Rh+	6th child: no anti-Rh agglutinins in cord blood. Mother and 3 children Rh′
55	35	−	A	+	O	− 1:2	2 days after del. 1 mth. after del.	1935 A.W.	F. 1944 I.G.N.: surv. Gp. O Rh+				2nd child had blood transfusion
56		−	O	+	O	1:64	2 days after del.	A.W.	1943 I.G.N.: surv.				2nd child had blood transfusion
57	30	−	A	+	O	− 1:2	5 days after del. 12 days after del.	1934 Misc.	M. 1935 A.W. Gp. A Rh+	1937 J.: D. 8 days	1940 S.B.	(5) 1944 D. 24 hrs.	
58	29	−	O	+	O	1:64	10 days after del.	M. 1934 D. 11 mths. (sarcoma)	F. 1935 I.G.N.: D. 5 days	F. 1938 I.G.N.: D. 4 days	1944 Misc.	(5) 1944 5/12 preg.	Anti-Rh titre increasing during pregnancy
59		−	A	+	O	1:8 1:4	1 day after del. 7 days after del.	M. 1936 A.W.	M. 1939 D. 11½ hrs.	F. 1940 I.G.N.: D. 1 day	M. 1942 I.G.N.: D. 7 days	(5) F. 1944 Anaemia: surv. Gp. O Rh−*	*5th child is Rh′; had blood transfusion. No anti-Rh agglutinins in cord blood
60	40	−	A			1:2	?	Repeated misc.					
61	25	−	A	+	O	1:4	Few days after del.	1941 Haemolytic disease, D.	1942 A.W.	F. 1944 Prem. A.W. Gp. A Rh−			Mother suffering from severe anaemia. J. after trans. with blood of unknown Rh factor. Rh− blood given successfully
62		−	O	+	O	1:1 1:4	2 days after del. 11 days after del.	M. 1939 A.W. Gp. O Rh+	1942 S.B.	1944 S B.: H.F.			

TABLE I (*continued*)

Family No.	Mother's Age When Tested	Mother's Group		Father's Group		Mother's Serum		Pregnancies					Notes
		Rh	ABO	Rh	ABO	Anti-Rh	Time When Tested	1	2	3	4	5, 6, 7, and 8	
63		–	O	+	A	1:1	?	F. 1942 A.W. Gp. O Rh+	1944 S.B.				Mother Rh′
64		–	A	+	A	1:2	1 day after del.	S.B.	S.B.	1944, S.B.			
65		–	O	+	O	1:32 1:256	6 days after del. 10 days after del.	A.W.	1944 I.G.N.: D. 6 days				
66		–	B	+	B	1:128	?	M. S.B.: prem.	F. 1944 E.F.: D. 15 days				
67		–	O	+	O	1:2	8 days after del.	F. 1937 D. 2 yrs.: pneumonia	F. 1939 S.B.: prem.	F. 1942 S.B.: prem.	1944 E.F.: D. 6 hrs.		
68	38	–	O	+	O	1:4	6 days after del.	M. 1932 A.W. Gp. O Rh–*	F. 1943 Prem. D.	M. 1944 I.G.N.: D. 2 days Gp. O Rh+			*1st child Rh′. 2nd born prem. after car accident; died from haemorrhage from umbilical cord. 3rd child died after convulsions in spite of transfusion with Rh– blood; enormous number of megaloblasts in blood film; serum from cord blood agglutinated baby's own cells
69		–	A	+	O	1:1	9 days after del.	1941 A.W.	M. 1944 I.G.N.: surv. Gp. O Rh+				2nd child had two blood transfusions
70	20	–	O	–	B	Not available		1943 J.: D.					Husband not tested for Rh′ or Rh″
71	29	–	O			—	4 days after del.	1943 J.: surv. Gp. A Rh+					Mother's serum anti-A titre 1:16,384
72	34	–	O	+	O	1:128	3 weeks after del.	F. 1936 A.W. Gp. O Rh+	F. 1938 S.B.	1944 S.B.			
73		–	A	+	A	1:128 1:512	3 days after del. 8 days after del.	A.W.	A.W.	A.W.	F. 1944 I.G.N.: surv. Gp. A Rh+		4th child had blood transfusion
74		–	A	+	O	1:128 1:512	6 hours after del. 5 days after del.	F. 1942 A.W. Gp. A Rh+	M. 1944 I.G.N.: D. 3 mths. Gp. A Rh+				2nd child had two blood trans., showing signs of kernicterus. Died 3 mths. old, suffering from spastic paralysis and mental deficiency. Cause of death: pneumonia
75		–	A			1:4	During pregnancy	1931 A.W.	1934 S.B.: prem. (? E.F.)	1935 Misc.	1940 S.B.: prem.	(5) 1944 31/52 preg.	No further information available
76	24	–	O			1:128	3 days after del.	F. 1943 D. of pneumonia	M. 1944 I.G.N.: surv. Gp. O Rh+				2nd child had blood transfusion
77		–	A	+	O	1:512	8 days after del.	M., F. (twins) 1940 A.W. Both Gp. A Rh+	M. 1944 I.G.N.: surv. Gp. A Rh+				
78		–	O	+	A	1:256	7 days after del.	F. 1926 A.W. Gp. A Rh+	A.W.	A.W.	A.W.	(5) D. pneumonia (6) D. 2 weeks (7) 1944 S.B.: H.F.	6th child had enlarged liver
79	22	–	O	+	O	1:256	3 days after del.	F. 1943 A.W. Gp. O Rh+	1944 I.G.N.: D. 2 days Gp. O Rh–*				*2nd child Rh′. Baby's serum contained weak anti-Rh agglutinins
80		–	A	+	A	1:256	7 days after del.	M. 1942 A.W.	M. 1944 Prog. an.: surv. Gp. A Rh+				2nd child had blood transfusion
81		–	B	+	O	—	15 days after del.	1941 D. 2 days: congenital heart	1943 Prem. D. 3 days	1944 Prog. an.: surv.			
82	28	–	A	+	O	1:1	12 days after del.	F. 1935 A.W. Gp. A Rh+	F. 1938 A.W. Gp. O Rh–	F. 1940 S.B.: prem.	F. 1941 A.W. Gp. O Rh–	(5) F. 1943 S.B.: prem. (6) F. 1944 A.W. Gp. O Rh+	6th child reported to be very pale (!) for some time after birth. 2nd and 4th children Rh′
83	38	–	A	+	B	—	17 days after del.	1940 D. 20 days: pneumonia	1942 S.B.	1942 Misc.	1943 Misc.	(5) 1944 H.F.: D. few hrs.*	*Blood in very bad condition: could not be tested

TABLE I (*continued*)

Family No.	Mother's Age When Tested	Mother's Group		Father's Group		Mother's Serum		Pregnancies					Notes
		Rh	ABO	Rh	ABO	Anti-Rh	Time When Tested	1	2	3	4	5, 6, 7, and 8	
84		—	O	+	A	—	4 days after del.	1931 A.W.	1935 D.: cong. heart	1937 Misc.	1938 S.B.: prem.	(5) 1939 S.B.: prem. (6) 1944 S.B.: H.F.	Impossible to get more information
85		—	O	+	A	1:512	9 days after del.	F. 1942 A.W. Gp. O Rh+	M. 1944 J.: surv. Gp. A Rh+				Mother's serum has also very high anti-A titre
86		—	B			—	6 mths. after del.	1938 A.W.	1940 S.B.	1944 S.B.: H.F.			
87	28	—	O	+	O	1:4	9 days after del.	M. 1939 A.W.	F. 1942 Anaemia: surv.	1944 I.G.N.: surv. Gp. O Rh+			3rd child had blood transfusion
88		—	A	+	O	1:512	14 days after del.	1942 S.B.	1944 I.G.N.: D. 5 hrs.				
89		—	B	+	B	1:1	3 mths. after del.	S.B.	M. (twins) A.W. Gp. B Rh+	S.B.	S.B.	(5) 1944 S.B.	
90		—	O			1:1	8 days after del.	A.W.	A.W.	A.W.	M. 1944 I.G.N.: D. 1 mth. Gp. O Rh+		First 3 children by 1st husband. 4th child transfused with Rh— blood when 8 days old, suffering from I.G.N. with rigidity and head retraction (? kernicterus)
91		—	A			—	During preg.	1943 E.F.: D.	1944 5/12 preg.				Mother Rh′
92		—	A	+	A	—	5 days after del.	M. 1944 J.: surv. Gp. O Rh+					Child 10 weeks premature, very anaemic and jaundiced
93		—	O	+	O	1:64 1:256	5 days after del. 24 days after del.	M. 1932 A.W. Gp. O Rh+	M. 1944 I.G.N.: D. 2 days				
94		—	O	+	O	— 1:1	1 day after del. 13 days after del.	A.W. Gp. O Rh+	M. 1944 I.G.N.: surv. Gp. O Rh+				2nd child had blood transfusion
95		—	O	+	A	1:2	3 days after del.	1942 A.W.	1944 H.F.: D. 15 mins. Gp. O Rh+				1st child not by present husband. Mother Rh″
96		—	O	+	O	1:1	4 days after del.	M. 1928 A.W.	M. 1931 I.G.N.: D. 2 days	M. 1933 S.B.	F. 1936 Prem. I.G.N.: D. 8 days	(5) F. 1941 I.G.N.: D. 2 days (6) 1944 S.B. Gp. O Rh+	6th child: no anti-Rh agglutinins in cord blood
97	37	—	A	+	A	—	9 days after del.	M. 1925 Prem. D. 3 wks.	M. 1933 Prem. A.W.	M. 1941 A.W.	1944 J.: surv. Gp. O Rh+		1st child died of convulsions: ? cause. Mother Rh′
98		—	A			—	During preg.	A.W.	I.G.N.: D. 4 days	1944 7/12 preg.			
99		—	A	+	A	1:256	? first wk. after del.	M. 1928 A.W. Gp. O Rh+	F. 1930 A.W. Gp. A Rh+	1944 E.F.: surv. Gp. O Rh+			3rd child had blood transfusion
100	30	—	O			1:2	12 days after del.	F. 1938 A.W. Gp. O Rh+	F. 1941 A.W. Gp. O Rh—	1944 Prog. an.: surv. Rh+			3rd child: specimen too small to group *and* test for Rh. Group unknown
101	36	—	O	+	O	—	During preg.	F. 1933 A.W.	F. 1941 I.G.N.: D. 4 days	1942 Misc.	1943 Misc.	(5) 1944 6/12 preg.	
102		—	A			1:16	6 mths. after del.	Twins D.	S.B.	1944 Misc.			
103		—	A	+	A	1:128	20 days after del.	M. 1944 Prog. an.: surv. Gp. A Rh+					Child had blood transfusion. Mother Rh′
104	35	—	A	+	O	—	12 days after del.	1942 A.W.	1944 J.: surv. Gp. A Rh+				
105		+	A	+	O	—	4 mths. after del.	1942 Severe an.: surv. Gp. A Rh+					Child had blood transfusion
106	20	+	O			—	8 days after del.	1940 ? I.G.N.: D. 12 days	1942 Misc.				
107	29	+	O			—	During preg.	M. 1935 A.W. Gp. O Rh+	1937 J.: D. 3 days	F. 1939 J.: surv. Gp. O Rh+	1943 4/12 preg.		

TABLE I (*continued*)

Family No.	Mother's Age When Tested	Mother's Group		Father's Group		Mother's Serum		Pregnancies					Notes
		Rh	ABO	Rh	ABO	Anti-Rh	Time When Tested	1	2	3	4	5, 6, 7, and 8	
108	39	+	A			–	During preg.	1931 A.W.	1932 A.W.	1941 J.: D. 14 days	1943 Pregnant		
109		+	O			–	1 day after del.	A.W.	J.: surv. Gp. A Rh+				Mother's anti-A titre after delivery, 1:256
110	23	+	O				Not tested	? E.F.: D. few days	1943 32/52 preg.				
111		+	O	–	A	–	Few days after del.	1 and 2 prem. died soon after birth		D. 10 days	J. and an.: D. 7 days	(5) 1944 A.W. Gp. O Rh+	Mother's anti-A titre during pregnancy, 1: 8192
112		+	A	–	O	–	1st week after del.	1937 A.W.	1943 Prem. J. and an.: surv. Gp. O Rh+				
113		+	O	+	A	–	1st week after del.	1944 J.: surv.					Mother's anti-A titre 1:1024 after delivery
114		+	A	+	B	–	11 days after del.	J.: D.	M. 1944 J. and haem.: D. Gp. AB Rh+				2nd child had blood transfusion. Mother's anti-B titre 1:4096 after delivery
115	31	+	B	–	A	–	During preg.	F. 1943 ? E.F.: D. 4 days	1944 Pregnant				Mother's anti-A titre was 1:16,384+ during pregnancy
116	29	+	O			–	4 days after del.	1944 J.: surv. Gp. A Rh+					Mother's anti-A titre 1:2048 (4 days after delivery) Mother's anti-A titre 1:256 (11 days after delivery)
117	42	+	A			–	2 mths. after del.	F. 1927 D. pneumonia	M. 1928 A.W.	M. 1931 A.W.	M. 1933 A.W. Gp. AB Rh+	(5) M. 1944 S.B.: ? H.F.	Mother's anti-B titre 1:512 two months after delivery
118		–	O	+	O	1:1 1:1	12 hours after del. 9 days after del.	A.W.	M. 1944 I.G.N.: D. 18 hrs. Gp. O Rh+				2nd child died with convulsions during blood transfusion. Mother's serum incomplete antibodies 1:1 in two tests
119	30	–	A	+	O	1:128	During preg.	1940 Prem.: D. 2 days	1943 J.: D. 3 days	1944 Preg.			
120		–	O	+	AB	– 1:1	1st week after del. 2nd week after del.	M. 1934 A.W. Gp. B Rh+	M. 1937 A.W. Gp. A Rh+	1944 J. and an.			Mother Rh″, anti-B 1:8192
121		–	O	+	A	1:1	10 days after del.	1942 Misc.	1943 Prem. A.W.	1944 S.B.			
122		–	O	+	O	1:32	During preg.	F. 1939 A.W.	M. 1940 I.G.N.: D. 4 days	F. 1942 J.: D. 19 days	1944 2/12 preg.		
123	26	–	O			1:1	6 days after del.	F. 1938 A.W.	1940 Ectopic gestation	F. 1944 S.B.: E.F.			Mother: incomplete antibodies 1:4
124	28	–	B	+	A	– –	During preg. 9 days after del.	M. 1942 S.B.	1944 E.F.: surv. Gp. A Rh+				Mother: no incomplete antibodies. Cord serum: no anti-Rh agglutinins
125		–	A			1:512	6 weeks after del.	1935 I.G.N.: D. 1 week	1944 I.G.N.: D. 5 days				Mother Rh″
126		–	O	+	O	1:1	During preg.	M. 1936 A.W.	M. 1943 J.: D. 18 days	1944 Misc.	1944 2/12 preg.		Mother: no incomplete antibodies
127		+	B	+	B	–	? some mths. after del.	1944 H.D.: D.					
128	30	–	O	+	A	– –	1 day after del. 10 days after del.	M. 1944 I.G.N.: surv. Gp. A Rh+					Mother: no incomplete antibodies in both tests. Child had blood transfusion
129	33	–	O			–	During preg.	M. 1942 I.G.N.: D. 22 days	1944 4/12 preg.				Mother: no incomplete antibodies
130	34	–	O			–	1 day after del.	M. 1940 ? J.: surv.	M. 1942 Misc.	F. 1944 I.G.N.: D. 21 days			Mother Rh″, no incomplete antibodies. 3rd child had blood transfusion. Died of diarrhoea + vomiting
131	40	–	O	+	O	1:16	10 days after del.	A.W.	A.W.	F. 1944 I.G.N.: surv. Gp. O Rh+			3rd child had blood transfusion
132	25	+	O			–	6 days after del.	1943 Misc.	1944 Prog. an.: surv. Gp. O Rh–				Child had blood transfusion

TABLE I (*concluded*)

Family No.	Mother's Age When Tested	Mother's Group		Father's Group		Mother's Serum		Pregnancies					Notes
		Rh	ABO	Rh	ABO	Anti-Rh	Time When Tested	1	2	3	4	5, 6, 7, and 8	
133	25	–	A			1 : 1	During preg.	1940 A.W.	1942 E.F.: D. 2 days	1944 5/12 preg.			Mother: incomplete antibodies 1 : 16
134		–	A	+	A	1 : 16	1 week after del.	A.W.	A.W.	A.W.	A.W.	(5) 1944 Haemolytic an.: surv.	5th child had blood transfusion
135	22	+	O	+	B	–	2 days after del.	F. 1944 E.F.: surv. Gp. B Rh–					Child had blood transfusion. Mother: anti-B 1 : 2048
136	31	–	AB			–	3 mths. after del.	A.W.	A.W.	1944 J.: D. 3 days			Mother: no incomplete antibodies

TABLE II.—*Transfusion Reactions*

Nature of Reaction	Rh+ Patients who had:		Rh– Patients who had:		Remarks		
						Rh– Patients	
	Previous Transfusions	First Transfusion	Previous Transfusions	First Transfusion	Rh+ Patients	Previous Transfusions	First Transfusion
Anuria	0	0	1	1		Mothers of babies suffering from H.D. Both anti-Rh present	
Jaundice	0	1	2	3	Anaemia	Anaemia cases. Anti-Rh present	All three women, one of them anaemia of pregnancy. All anti-Rh present
Rigor and high temperature	9	15	5	2	All patients very anaemic. One ulcerative colitis	2 patients: no anti-Rh present. 1 patient had several transfusions, all but the first followed by rigor: anti-Rh present. 1 patient had anaemia (Hodgkins): anti-Rh present	1 P.P.H.: anti-Rh present 1 (see above—jaundice) anti-Rh present
Haemoglobinuria and haematuria	1	0	1	1	Severe anaemia	Steatorrhoea: anti-Rh present	Same case as anaemia (above): anti-Rh present
Urticaria and shock	1	1	0	1	One case of anaemia and one of miscarriage		Eclampsia and anaemia: *no* anti-Rh present
No rise in haemoglobin	0	0	2	2		Same cases as jaundice (above): anti-Rh present	1 case see above (jaundice). 1 case (woman) of severe anaemia: *no* anti-Rh present
Pain in back or chest	1	2	0	1	All cases of anaemia		Anaemia (woman): *no* anti-Rh present
Vomiting	0	1	0	0	Ulcerative colitis		
Loss of consciousness	0	1	0	0	Disease unknown		
Undefined	0	3	2	4	2 cases of anaemia 1 unknown	1 case of septicaemia 1 case of operation: *no* anti-Rh present	All women: *no* anti-Rh present

Anti-Rh agglutinins were found in the serum of 94 (79.6%) of the 120 Rh-negative women. In one of them (Table I, Case 61) the anti-Rh agglutinins may possibly have resulted from the transfusion of Rh-positive blood, as the woman's last baby was Rh-negative. After its birth she had received a transfusion of blood of unknown Rh group. Her first child died of haemolytic anaemia.

Anti-Rh agglutinins could not be found in 26 (21.7%) of the Rh-negative cases. In these the tests were carried out under varying circumstances: (*a*) after pregnancy with Rh-negative children (4); (*b*) only during pregnancy (4); (*c*) only during the first week after delivery (5); (*d*) during pregnancy and the first week after delivery (1); (*e*) only during the second week after delivery (2); (*f*) during the first and second weeks after delivery (1); (*g*) only during the third week after delivery (2); (*h*) 1 to 12 months after delivery (3); (*i*) over one year after delivery (2); (*j*) serum was not available (2).

Eight sera were tested for incomplete antibodies. Two had a higher titre of incomplete antibodies than of anti-Rh agglutinins; one had the same titre for both; five sera without anti-Rh agglutinins also had no incomplete antibodies. The cord serum of the affected babies was tested in 10 instances: no abnormal agglutinins were found in seven; anti-Rh agglutinins were present in two; one agglutinated the baby's own red cells.

The first pregnancy of the 120 Rh-negative mothers ended with a child normal at birth and during infancy in 80 instances. In 27 cases the child was suffering from haemolytic disease or was stillborn; in 5 the pregnancy ended in a miscarriage; and in 8 cases the child died from unknown causes or from causes other than with haemolytic disease of the newborn. Of the 80 normal first children 33 were Rh-positive, 5 Rh-negative, and 42 were not tested. There were eight Rh-negative normal children in families who had previously had children suffering from haemolytic disease of the newborn (Table I, Cases 9, 13, 20, 22, 23, 48, 53, 61).

The table includes 16 Rh-positive women. Eight of their husbands (5 Rh-positive, 3 Rh-negative) and eight of the affected children (5 Rh-positive, 3 Rh-negative) were tested. The serum of only one of the 16 Rh-positive mothers was put up against the baby's red cells; these were not agglutinated. The serum of one of these women could not be tested; in none of the other 15 were abnormal agglutinins detected.

III. Routine Serological Investigation of Unselected Women Attending an Ante-natal Clinic

Between Jan. 3 and June 5 and between Nov. 1 and Dec. 30, 1944, routine Rh tests were carried out on 433 women attending an ante-natal clinic. These women were unselected except that a large number had been sent to the ante-natal clinic at University College Hospital by outside doctors on account of a difficult obstetric history. This possibly explains the comparatively large number of 96 (22.2%) with histories of miscarriages and/or stillbirths.

339 women (78.3%) were Rh-positive, 79 (18.2%) Rh-negative, 11 (2.6%) Rh′, 2 (0.5%) Rh″, and 2 (0.5%) were Rh-negative tested with anti-Rh serum only. Out of 96 women who gave a history of miscarriages and/or stillbirths, 77 (80.2%) were Rh-positive and 19 (19.8%) were Rh-negative, Rh′, and Rh″ respectively. The Rh-negative, Rh′, and Rh″ women belonged to the following blood groups: Group O, 41 (43.6%); Group A, 44 (46.8%); Group B, 8 (8.5%); Group AB, 1 (1.1%). Of these women 60 had had no children and 34 were multigravidae.

The sera of the 94 women who were Rh-negative, Rh′, or Rh″ were tested for anti-Rh agglutinins. Of these women 53 (36 nulliparae, 17 multigravidae) were tested only during the first 6 months of pregnancy; 22 (13 nulliparae, 9 multigravidae) only between the 3rd and 9th months of pregnancy; 10 women who had had no previous pregnancies were tested some time during pregnancy, but further information was impossible to obtain. The 9 remaining women (1 nullipara, 8 multigravidae) were tested during and after pregnancy. Seven babies of this last group were tested; 6 were Rh-positive and 1 Rh-negative. One of the Rh-positive babies died of icterus gravis neonatorum; the other 6 were apparently normal. No information could be obtained about the remaining two. The mother of the baby who developed icterus gravis had been tested very early in pregnancy and no anti-Rh agglutinins were found then. Her serum contained anti-Rh agglutinins after delivery. Her husband and older child were both Rh-positive. Of the 94 who were Rh−, Rh′, or Rh″ this woman was the only one in whose serum anti-Rh agglutinins were detected. The sera of 20 of the Rh-negative women were tested for incomplete antibodies, but none could be found. No abnormal agglutinins were discovered in the serum of the seven babies tested.

Only 33 husbands of the 94 Rh-negative, Rh′, or Rh″ women were tested: 31 were Rh-positive; two were Rh-negative.

IV. Serological Investigation of Reactions following Transfusion

Reactions in 48 patients after transfusion of blood of compatible ABO group were reported to the depot director for further investigation: 28 reactions occurred in Rh-positive and 20 in Rh-negative patients. These reactions were not necessarily severe (see Table II). Of the 28 Rh-positive patients who had transfusion reactions six had received Rh-negative blood. No abnormal agglutinins were detected in their serum. A transfusion had been given previously to 10 of these Rh-positive patients. Of the 20 Rh-negative patients included in this series, two had had previous transfusions with known Rh-positive blood without any reactions. A second transfusion—in one case with Rh-positive blood and in the other with blood of unknown Rh factor—was followed by a reaction. Both patients had anti-Rh agglutinins in their serum.

Seven patients had previously been transfused with blood of unknown Rh group without reaction; 3 of them had a further transfusion with Rh-positive blood and with blood of unknown Rh group. The later transfusions were all followed by a reaction. Anti-Rh agglutinins were detected in the sera of two patients known to have had Rh-positive blood and in two who had had blood of unknown Rh group.

In 11 cases the first transfusion was followed by a reaction. One was a young child suffering from haemolytic anaemia and 10 were women, 5 of whom had only recently been delivered. Three of the maternity cases were those of women whose babies suffered from progressive anaemia or jaundice. One had anti-Rh agglutinins in her serum before transfusion, and these increased after the transfusion of Rh-positive blood (Case 23, Table I); the other two women were tested only after the transfusion with blood of unknown Rh group. One had anti-Rh agglutinins in her serum (Case 31, Table I); none could be detected in the serum of the third woman, who was not tested until 20 months after delivery (Case 44, Table I). The two remaining maternity cases were those of women who had been delivered of normal children; one received Rh″ blood, and no abnormal agglutinins could be detected in her serum; the second woman received blood of unknown Rh group after the delivery of a normal Rh-negative child. Her serum contained anti-Rh agglutinins. She had probably been previously sensitized during a pregnancy ending in the birth of a baby who died of haemolytic anaemia (Case 61, Table I).

The remaining 5 reactions occurring after the first transfusion were in patients not connected with maternity cases. One of these had Rh-positive blood and 4 had blood of unknown Rh group. Anti-Rh agglutinins could be detected in the serum of two of these women. No anti-Rh agglutinins were detected in the serum of the child suffering from haemolytic anaemia. Of these 20 Rh-negative patients 16 received one or more further transfusions with Rh-negative blood without any reaction. Five cases of this series are included in Table I (Nos. 1, 23, 31, 44, 61); anti-Rh agglutinins were found in the serum of each of these patients.

Discussion and Conclusions

The total number of Group O donors tested (5,837) was made up of two series: in the first, 84.0% were Rh-positive; in the second, 83.3% were Rh-positive. These figures are in close agreement with the other large series published in this country (Cappell, 1944).

The series of cases suggestive of haemolytic disease of the newborn has not been selected on as stringent a basis as some previously published series (Levine, 1941; Levine *et al.*, 1941; Potter *et al.*, 1943; Race *et al.*, 1943; Boorman *et al.*, 1944; Cappell, 1944), since it proved difficult to obtain by correspondence complete reports stating the clinical and pathological findings. The wide area served made personal contact impossible. Nevertheless, 88.2% of the total of 136 cases proved to be Rh-negative, and 79.6% of these had anti-Rh agglutinins in their serum.

The 433 ante-natal cases tested showed 78.3% to be Rh-positive—i.e., a lower proportion than occurred in the unselected donors and in other series published from ante-natal clinics (Cappell, 1944; Murray, 1944). There is at present no explanation of this low figure. The relatively high incidence, however, of Rh-negative mothers suggests the importance of routine Rh-testing in ante-natal clinics.

The number of transfusion reactions investigated was not large. The findings, nevertheless, suggest that the transfusion of Rh-negative individuals with Rh-positive blood is a not uncommon cause of relatively mild reactions and may result in more severe reactions. Of the 48 cases examined 20 (41.7%) proved to be Rh-negative, and 11 of these patients had anti-Rh agglutinins in their serum. Nine of the 20 Rh-negative patients had had previous transfusions without reactions, five with Rh-positive blood. It may be of interest that the remaining 11 patients who had a reaction after the first transfusion were all women. Diamond (1942) and Vogel *et al.* (1943) have published 10 cases each of reactions in Rh-negative patients following the transfusion of Rh-positive blood.

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Continuing its campaign for children's nurseries as a permanent feature of our national life, the London Women's Parliament (24, High Holborn, W.C.1) has issued a circular for distribution to mothers telling them how they can help to achieve this end. In an accompanying letter this organization welcomes the Government's recent decision to introduce a national nursery certificate for trained workers, but points out that some other assurance is needed that the nurseries are to remain—such as the continuance of the 100% grant to local authorities, the reopening of the "wartime" training schemes (closed last January), and the opening of the nurseries themselves to all who need them.

ACUTE INVERSION OF THE UTERUS

BY

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The object of this paper is to draw attention to a simple method of replacement of the acutely inverted uterus which my colleagues and I have not heard of to date—to wit, intravaginal hydraulic pressure attained in a very simple manner. This succeeded in the following two cases.

Case I

Mrs. A., aged 31; first pregnancy, 1938—normal labour and puerperium; infant 6 lb. 8 oz. The second pregnancy was normal; the expected date was given as early February. On Feb. 15, 1945, surgical induction by Drew Smythe catheter was performed. Spontaneous delivery of a living child weighing 6 lb. 12 oz. occurred 12 hours later. The first and second stages of labour together lasted three hours. There was moderate haemorrhage, so Credé's expression was practised, and immediately the uterus became completely inverted, the separated placenta being delivered at the same time. The uterus was replaced in the vagina at once, but further manipulation was considered inadvisable in view of the patient's shocked condition. I saw her 1 hour and 10 minutes after the inversion. She was pale and sweating; B.P. 80/50 and pulse 140. On palpating the abdomen no fundus uteri could be felt, and on parting the labia the red fundus uteri could be seen with the placental site on the fundus. Treatment for shock included three pints of blood. Three hours later the patient's general condition had greatly improved, so open ether was given and replacement by taxis was attempted. This manœuvre caused a rapid deterioration in her condition, so I decided to give a douche preparatory to a later attempt. In carrying out the douche the tip of the nozzle, guarded by my fingers, was passed towards the posterior fornix; my forearm happened to block the vaginal orifice and the vagina ballooned out, and to my surprise and pleasure the uterus promptly returned to its correct position, the signs of shock rapidly disappeared, and the patient made an uninterrupted recovery.

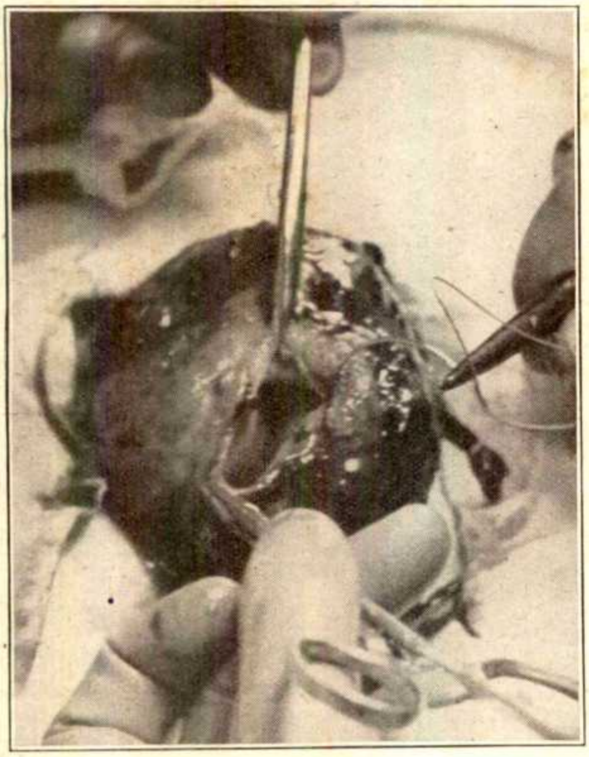


FIG. 1.—Case II. Inverted uterus, showing complete rupture.

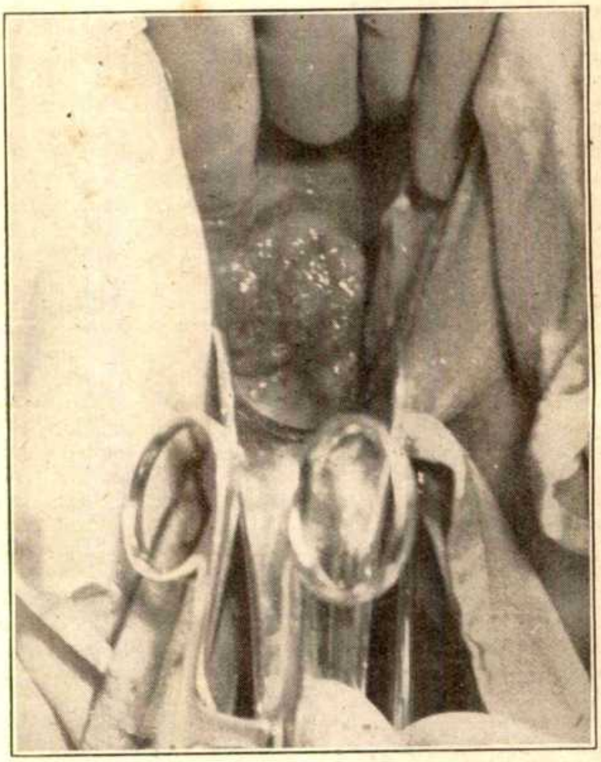


FIG. 2.—Case II. Cervix after replacement of inverted uterus by ballooning vagina, etc., by sterile douche.

Case II

Mrs. B., aged 24; an especially interesting case, as she had had acute inversion with her second confinement. In 1941 the first pregnancy and labour were normal apart from mild toxaemia towards the end of pregnancy. In 1942, with her second, she had a normal ante-natal history. On Oct. 4, 1942, after a surgical induction on the same day, she had an easy spontaneous delivery of a female child weighing 7 lb. 3 oz. There was an adherent placenta, and after blood-grouping she was given a general anaesthetic, when the placenta was found to be adherent to an inverted uterus. The placenta was peeled off. The patient at the end of this operation was so shocked that no attempt could be made at replacement of the uterus. She was given a blood transfusion and gradually improved. The next day her haemoglobin was only 52%. She was given sulphonamides prophylactically. On Nov. 8 an Aveling's repositor was introduced and the uterus slowly and successfully replaced.

In her third pregnancy Mrs. B. attended at 36 weeks with the breech presenting; external version failed to correct the presentation. The pregnancy remained normal and the patient went into spontaneous labour on April 23, 1945, and had an easy breech delivery of a female child weighing 7 lb. 2 oz., alive and well. When the placenta was thought to have separated from the uterus an attempt was made to express it by fundal pressure and traction on the cord. Inversion of the uterus followed at once. As the patient was bleeding, an attempt to strip off the placenta was made, and this resulted in two large tears—one near the fundus, 2 in. long, through all three layers; the second on the left side, 1¼ in. long, also complete. At this stage the patient was desperately ill, with B.P. 70/40 and pulse 160. The placenta was finally stripped—bleeding being controlled by ergometrine and hot packs—the uterus dusted with sulphanilamide powder, and replaced in the vagina. Blood drip, 2 pints, was given, then reconstituted human serum, 2 pints. I saw this patient about 9 hours after the inversion, when she complained of backache and severe pain in her left shoulder. Her condition had improved sufficiently to warrant further treatment, though no major surgery could yet be attempted, her B.P. being 110/75 and pulse 120. Light open ether anaesthesia was given. The uterus was gently delivered through the vagina. The adjacent peritoneal cavity tubes and ovaries were inspected through the tears and found normal. The two large tears were sewn up in two layers—continuous catgut for the peritoneum and interrupted catgut for the muscle layer, which was found to be thin over the lateral tear.

The uterus was douched with proflavine and dettol, then dusted with sulphanilamide powder and again replaced in the vagina. Gentle taxis failed to replace the uterus and increased the pulse from 120 to 150; the B.P. also began to fall. At this stage, in spite of the ruptured uterus, which had been firmly sutured, it was decided to make an attempt to replace with hydraulic pressure as in the previous case. The vagina was distended to capacity by means of a dettol-and-proflavine douche, retained by blocking the vaginal outlet with my forearm, aided by my assistant's (Dr. England's) hands. The uterus went back promptly and smoothly, the douche-can being held two to three feet above the vagina. The accompanying photographs, taken at the time, show (Fig. 1) the inverted uterus, with one of the complete tears; (Fig. 2) the cervix after replacement.

At the end of the operation there was no clinical evidence of any free fluid in the peritoneal cavity and the patient's condition was fair. Her puerperium was febrile for two weeks, but ultimately she made a complete recovery under first sulphanilamide then penicillin treatment.

Synopsis of the Complication

Acute inversion of the uterus means a rapid turning of the uterus inside out *per vias naturales*. This serious complication usually occurs during the third stage, though sometimes it may begin towards the end of the second stage by the pull on a short cord, or soon after the separation of the placenta. Various authors put the incidence at between 1 in 200,000 and 1 in 17,000 deliveries. It usually occurs after a full-term labour, but has been reported in a five-months miscarriage.

The condition may be divided into (*a*) incomplete—including all degrees from a placental dimple to inversion into the vagina; (*b*) complete—where the fundus is outside the vagina. The common cause is mismanagement of the third stage of labour by: (1) pulling on the cord when the uterus is relaxed; (2) pushing on the fundus of a relaxed uterus; (3) a combination of these two. In the two cases just described one or both were caused by one of these three ways. The catastrophe is most likely to occur if the placenta is attached to the fundus. Careful records of this point would be of great help. Well-authenticated cases of spontaneous inversion have been reported.

The symptoms are usually very severe shock, out of all proportion to the amount of blood lost; a tendency to bearing down after the placenta has been delivered; and, later in the puerperium, a persistent red haemorrhage or oft-repeated small haemorrhages, with obvious signs of anaemia and difficulty in micturition.

The signs are as follows. A complete inversion is self-evident. An incomplete inversion may be mistaken for a large fibroid polyp, but if the bladder is empty an abdominal examination will reveal the absence of the fundus uteri in the abdomen, and in its place a saucer-shaped depression where the fundus has been invaginated into the uterine cavity. Examination reveals a large rounded polypoid mass with a broad pedicle in the vagina. This, with the abdominal findings, renders the diagnosis obvious.

The prognosis is always very grave, the mortality varying between 23 and 80% in different series. If left alone, sloughing and/or sepsis may occur. In some cases spontaneous reinversion in a matter of hours, in others even during the passage of years, has been reported.

Treatment.—(1) Immediate replacement as soon as the inversion occurs, and before shock develops, without attempting to strip the placenta if it is still attached. (2) If the patient is very shocked, first clean the uterus and change the complete inversion into an incomplete by gently replacing the inverted uterus in the vagina, then raise the foot of the bed, put a sterile pad on the vulva, and carry out treatment for shock. (3) When shock is controlled replace the uterus as described above by hydraulic pressure.

My grateful thanks are due to Dr. H. R. England and Dr. H. Mayer for their great help in the second case, and to Dr. L. B. Bourne for the excellent photographs.

Writing on vision and selection of personnel in industry in the July/August number of *Industrial Welfare and Personnel Management* Mr. Joseph Minton, F.R.C.S., expresses concern at the haphazard methods of vision testing in industry, many firms insisting on visual standards which are too high, others having no standards at all. As he says, men and women with all grades of vision can be employed in industry to-day, and he gives a chart for use as a general guide when selecting workers. In the same issue is an account by Col. S. D. Large of the planned exercises, mental and physical, at an Army convalescent depot which enables 85% of the men to leave fit. From his experience 70,000 cases Col. Large concludes that the principles practised at this depot could be applied with gain in civil centres. Dr. J. B. L. Tombleson describes a scheme operating in Bedford which provides a medical service to 10 firms employing about 7,000 workers.

ADMINISTRATION OF PENICILLIN BY INTRAMUSCULAR INFUSION

BY

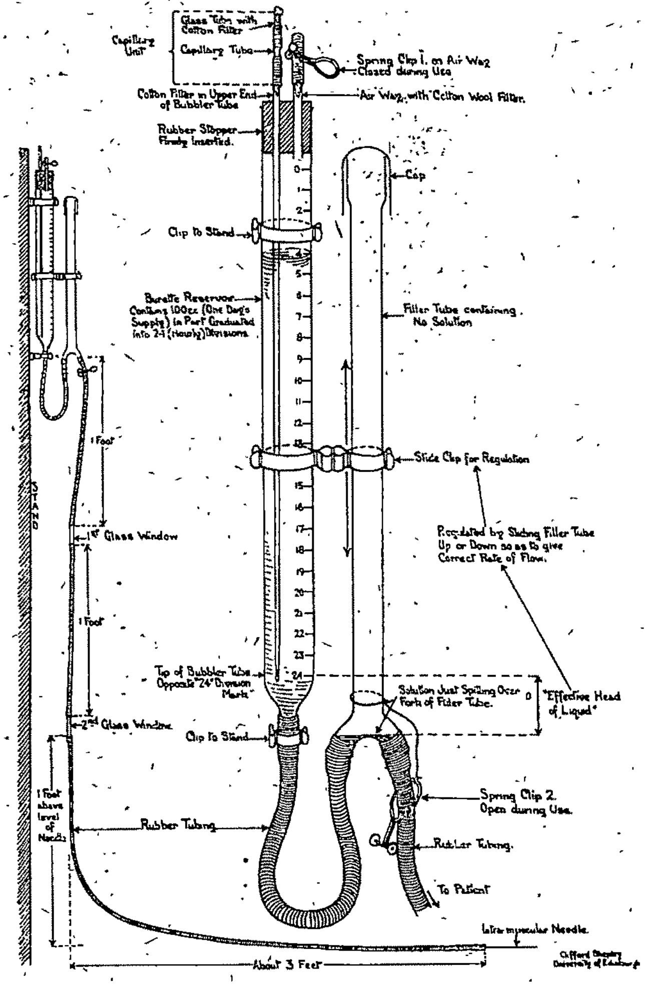
E. C. TURTON,* M.B., B.S.

(The Radcliffe Penicillin Unit of the Medical Research Council)

This account deals solely with the clinical aspects of the administration of penicillin by intramuscular infusion as described by Morgan, Christie, and Roxburgh (1944). Experience with 30 patients is summarized and attention is principally focused on three points: (i) whether this method was preferred by the patient to intermittent intramuscular injection; (ii) whether it was convenient for the medical officer; (iii) whether there was any ill effect from its use.

Technique

The instrument used was the Eudrip 2 (see Fig.), briefly referred to by McAdam, Duguid, and Challinor (1944). It is similar in principle to Eudrip 3, which they describe in detail, but instead of the 4-oz. "medical flat" bottle for reservoir there was a 100-c.cm. burette with 24 graduations. In the top of the burette there is a rubber bung with two holes for the glass tubes. To the tube which passes to the bottom of the burette is attached the capillary air intake, to the other a piece of rubber tubing and a clip for release during filling. This is done by filling the side arm and elevating it. The side arm and other connexions are similar to those of Eudrip 3.


Glass Tube with Cotton Filter
Capillary Unit
Capillary Tube
Spring Clip 1. on Air Way Closed during Use
Cotton Filter in Upper End of Bubbler Tube
Air Way, with Cotton Wool Filter.
Rubber Stopper Firmly Inserted.
Cap
Clip to Stand
Burette Reservoir Contains 100cc (One Day's Supply) in Part Graduated into 24 (Hourly) Divisions
Filler Tube containing No Solution
0
1
2
4
5
6
7
8
9
10
11
12
13
15
16
17
18
19
20
21
22
23
24
Slide Clip for Regulation
STAND
1 Foot
1st Glass Window
Regulated by Sliding Filler Tube Up or Down so as to give Correct Rate of Flow.
1 Foot
Tip of Bubbler Tube Opposite "24" Division Mark
Solution Just Spilling Over Fork of Filler Tube.
0
"Effective Head of Liquid"
2nd Glass Window
Clip to Stand
1 Foot above level of Needle
Rubber Tubing
Spring Clip 2. Open during Use.
Rubber Tubing.
To Patient
Intra-muscular Needle.
About 3 Feet
Clifford Shepley University of Edinburgh

Eudrip apparatus No. 2 in use.

Three types of needle were used: the ordinary needle in an M.R.C. pattern blood-transfusion set; one similar to this but with two side perforations; a needle of the Middlesex pattern.

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*In receipt of a grant from the Medical Research Council.

Cetavlon was used for skin-cleansing. The needles were inserted without local analgesia.

The penicillin used for the first three or four cases was made by Pfizer, the remainder by Eli Lilly. A drip was not set up on a patient unless it seemed likely that it would be required for at least three days and unless he had had a course of injections previously. All the patients were in a 30-bed ward reserved for men from B.L.A. who had been specially selected as having severe compound fractures—of the leg in most cases. The majority of the drips were started within a week of wounding while the condition of the men was still acute. The usual site of the drip was the antero-lateral aspect of the thigh or the pectoral region, but on occasion both the calf and the trapezius muscle were used satisfactorily.

A drip was set up in 7 to 15 minutes by a medical officer, who checked its speed after an interval of approximately 1 to 3 hours. After that the nursing staff was responsible for its watching and refilling, the medical officer checking it only once or sometimes twice a day. The needles were changed either when there was an indication or every third or fourth day, although at first they were changed more frequently. The later tendency was to leave the needles *in situ* for longer periods—at the most 7 days.

The intermittent injections were administered by the nursing staff. No nurse was allowed to give the injections until she had been instructed by the medical officer and had been seen by him to do this satisfactorily. A subcutaneous needle of the size of a "Record" fitting No. 18 was used. Care was taken to see that the needles were sharp. 16,600 units of penicillin in 2 c.cm. of saline were given three-hourly—always slowly. For 24 hours one thigh was used for the injections, then a buttock for the next 24 hours, and similarly on the other side.

Patients' Preference

Out of 30 patients, 24 were quite emphatic that they preferred Eudrip 2 to injections. The commonest cause of drip preference was that sleep was undisturbed. Only two preferred the drip because of the actual pain experienced from the injections; but many had a considerable dislike of the needle-pricks, while two stated that their "nerves went to pieces" with the injections. Incidentally, these two were severely ill patients who required rest, and both took drips excellently.

In 4 cases in which both pectoral and thigh regions were used the thigh was strongly preferred, but patients disliked frequent changes of site, owing to the sensation on introduction of the needle. Drips were therefore started, where possible, while the patient was still under the influence of general anaesthesia following operation. Hence the indications from the patients' point of view for drip therapy were: (i) inability to sleep while having injections; (ii) fear of injections, which is easily transmissible round the ward; and (iii) pain from injections.

Six patients preferred injections, the chief reason being that these were quickly over and almost painless, while with a drip the needle was always present, which if not actually painful could be felt. That movement was hampered was also a source of complaint. Two had a strong dislike of the drip. Neither of these could give any obvious reason, and one, who was intelligent and bore severe pain without complaint, had such a horror of the drip that it had to be discontinued after a day.

Convenience of Use

The main difficulty in using the drip was the maintenance of a slow and steady supply of penicillin. The common cause of an irregular flow was a leak at the air capillary owing to the rubber splitting or a bung which did not fit perfectly. These resulted in too great a flow to the leg, with pain, to relieve which the delivery tube was sometimes clipped off, with subsequent blockage of the needle. The latter became a serious danger after half an hour's cessation of flow, although it occasionally happened sooner. Out of a total of 11 blocked needles, 8 had some antecedent technical difficulty with the drip. In four cases the blockage was probably avoidable and due to inexperience. A striking feature was that if there were no technical difficulties a drip would run to time almost exactly, with the minimum of interference. The number of drips going at a time varied, but it was found possible for one medical officer to have seven running simultaneously without interfering with his other duties.

A typical history of such a drip is as follows:

Day 1, 14.00 hrs.: Drip set up. Needle, left thigh. 100,000 units penicillin in 100 c.cm. saline
Day 2, 14.30 hrs.: Refilled. 100,000 units penicillin in 100 c.cm. saline
Day 3, 13.45 hrs.: Refilled. 100,000 units penicillin in 100 c.cm. saline
Day 4, 13.30 hrs.: Refilled. 100,000 units penicillin in 100 c.cm. saline
Day 5, 14.30 hrs.: Discontinued. End of course. No redness or swelling at needle site. Minimal tenderness on firm pressure on site

The following is an account of a not so satisfactory drip, such as was encountered occasionally.

Day 1, 22.00 hrs.: Drip set up. Middlesex needle, right thigh. 100,000 units penicillin in 100 c.cm. saline
Day 2, 09.00 hrs.: Drip too fast all night and had required frequent readjustment. Small leak round bung. Needle blocked. Stylet passed and needle reinserted near by
" 16.30 hrs.: New set put up, as old one still leaked round bung
Day 3, 18.30 hrs.: Refilled; new set running regularly (100 c.cm.)
Day 4, 09.30 hrs.: Slight tenderness at drip site
" 19.30 hrs.: Refilled (100 c.cm.)
Day 5, 20.30 hrs.: Discontinued. Very slight tenderness at drip site

Ill Effects

Fifteen patients admitted to some tenderness on firm palpation over the needle site after withdrawal, but pain was not a feature of the drips in any instance. In three cases very slight skin redness and in one case a moderate area of reddening were noticed. In eight cases there was a trace of localized oedema, which would probably not have been observed unless specially looked for. Subsequent stiffness of a limb with delayed return to full function was not found in any case, nor was there any abscess formation or pus in the needle track. The effectiveness of the treatment was demonstrated by measurement of blood penicillin levels, by the disappearance of Gram-positive pyogens from wounds, and the steady progress made by patients towards recovery—local and general.

The general impression at the end of the series was that, in a hospital where there are a practised operator and several nurses well acquainted with the technique of continuous intramuscular infusion, it is the method of choice for the patient and no more laborious for the staff than intermittent injection. In some cases in which injections are tolerated badly, it is of great value. When it can be alternated with a course of injections it is especially acceptable to those who have to submit to a lengthy course of penicillin therapy. Some time, however, must elapse before a staff becomes proficient in using the apparatus, and, for this, instruction and practice are necessary.

Summary

Out of 30 patients 24 preferred Eudrip 2 to intermittent intramuscular injections.

Local reactions were slight or *nil*. No abscesses occurred.

With an experienced staff the time taken for supervising the accurate running of the apparatus is not considered greater than that required for repeated intramuscular injections.

The brands of penicillin used for both methods of administration were the same.

A further 10 drips have been set up in the same ward with less experienced staff, and they bear out the conclusions drawn in this paper—that it is a practicable form of treatment in a busy ward provided the staff has some instruction and practice.

I wish to thank Lady Florey and Prof. Christie for their great help in the preparation of this paper; and also Drs. McAdam, Duguid, and Challinor for permission to reproduce their illustration of Eudrip 2.

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It is announced from Leeds that Yorkshire has—apart from the Army Blood Transfusion Service itself—contributed more blood and blood products to the armed Forces than all the other regional services put together. Between January, 1941, and May of this year 25,028 bottles of whole blood and 128,523 bottles of dried serum or plasma were supplied. The number of donors presenting themselves is now falling off, and a warning was issued by the Public Relations Officer that general, maternity, and military hospitals have still to be supplied, and that consignments of plasma are being shipped to the Far East.

USE OF BENZEDRINE SULPHATE BY PSYCHOPATHS

THE PROBLEM OF ADDICTION

BY

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Benzedrine (amphetamine) sulphate was first introduced in America in 1935 by Prinzmetal and Bloomberg for the treatment of narcolepsy. Guttmann in 1936 reported its use in this country in cases of depression, and in collaboration with Sargant described its psychological effects in 1937. Since then an enormous literature has accumulated on its pharmacological and physiological action and its therapeutic application in narcolepsy, post-encephalitic Parkinsonism, alcoholism, epilepsy, obesity, etc. Its use in psychopathic states and behaviour disorders, both in adults and in children, has been described by Cutts and Jasper (1939), Bradley and Bowen (1941), and Korey (1944), and, on a larger scale in connexion with electro-encephalographic studies, by Denis Hill (personal communication). The beneficial effects of benzedrine in certain types of psychopathy have been observed in numerous instances by my colleagues at the Sutton Emergency Hospital. Hill, as quoted by Sargant and Slater (1944), has noted that certain psychopaths can tolerate benzedrine in enormous doses and benefit from the therapy, as opposed to normal persons, who are intolerant of high doses. The case here recorded illustrates this point.

Case Report

A man aged 35 was admitted to Sutton Emergency Hospital on Jan. 26, 1945, complaining of depression, insomnia, and bad nerves. There is a family history of psychopathy. The patient has been a nail-biter all his life, had periodical attacks of stammering, had nightmares, was enuretic up to the age of 12, and at school was a poor mixer. After normal schooling he trained for commercial art at Cardiff Technical College and had a succession of jobs in Wales and later in London. He had been married 17 years and had two children, but his wife left him in 1940 after they had had some "differences."

He is described as a persistently unhappy reserved man with few friends, stubborn, anxious, highly strung, sensitive, and easily depressed. Since 1939 he was a fire fighter in the N.F.S. and went through the London "blitzes," but had to "steel himself" to do so. He expected every bomb would be his last, but did not report sick. In March, 1944, during a raid, he received a slight injury to his arm and leg, and the "sudden realization that he had been hit at last produced shock." He fainted repeatedly, and remembers little after that until he found himself in hospital, where he remained some weeks. Sulphonamides with which he was treated made him depressed. After returning to duty he experienced some nasty flying-bomb incidents, and was tense and sleepless. His condition deteriorated, and he was sent to a Fire Force in North Wales for a month, but felt worse on return, yet continued on duty. His relatives were all evacuated and he had to look after himself. Finally he reported sick and was sent into Sutton Emergency Hospital. On admission he was tense and depressed, stammered, and stated that he had lost interest and had some thoughts of suicide, but was anxious to get well. He had bad dreams and felt that people were talking about him. There was a slight loss in weight. He insisted that he did not want to leave the N.F.S., because it gave him some measure of financial security.

Physical examination showed him to be a thin, asthenic individual. There were small scars on his right leg and the ulnar border of his right forearm. His pupils were dilated and B.P. was 120/95. There was no physical abnormality.

At the time of admission he gave no indication that he had been taking benzedrine. After five days of moderate sedation he was restless and agitated, and was put on continuous narcosis with sodium amytal and paraldehyde. The restlessness and agitation persisted for some days and he complained of vivid dreams of his experiences. His appetite was ravenous. When taken off narcosis he was treated with daily intravenous 33% glucose and with large doses of nicotinic acid, thiamine, and riboflavin. There was rapid physical and mental improvement, and he was no longer confused and agitated, was able to carry on a reasonable conversation, and slept well on small doses of paraldehyde.

He admitted he had been taking large doses of benzedrine early on during the narcosis, and later stated that he first began to do so during the 1940 raids. At that time he took it when he needed it, and was scared of its potency; but soon he took daily six tablets of 5 mg. each. He found no ill effects—it seemed to banish all tiredness and fatigue, and gave him a strong feeling of well-being—and by increasing the dose he experienced "unlimited energy." Soon he was taking nine to ten tablets, and in the latter part of the 1940 raids 30 tablets daily. This larger dose produced a tendency to some "subtle" depression a few hours afterwards: "nothing very suicidal, but at the same time a distinct sense of depression, irritability, and an increase of perspiration." The effect of well-being was increased by strong tea: "benzedrine with a strong cup of tea was better than a good meal." His average dose was nine tablets three times a day; this produced no sense of intoxication, but merely increased his energy and allowed him to do a better job. "It stimulated my sense of perception, imagination, and formulation of ideas." After many months he cut down his benzedrine consumption to eight tablets a day when the air raids ceased, but increased the dose whenever he was called upon to do extra work or go without sleep. His injury in 1944 suddenly deprived him of benzedrine for a month when in hospital, and, he states, "I can't say that I missed it a great deal, and although I could not sleep well I felt no craving for it"; but he resumed taking 25 to 30 tablets daily during the flying-bomb era. When on maximum doses he had to take 30 gr. of barbitone to help him sleep, but found that the uplift of benzedrine was carried over until the next morning. A fortnight after admission to Sutton Emergency Hospital he said he had no craving for benzedrine: "It rather interests me, as I expected to feel a craving for it when I came into hospital, but I did not." He rapidly improved, put on 8 lb. in weight, and lost his tenseness, but throughout maintained that although he did not want any benzedrine, he "felt it had been a good thing for me."

Discussion

The *Journal of the American Medical Association*, in an editorial in 1938, issued a warning on the dangers of the use of benzedrine for obesity, for which it was commonly being employed in America. That journal stated: "Its use over long periods is certainly not without danger, particularly to the circulatory system." Lesses and Myerson (1938) replied to this: "As to addiction, the drugs to which human beings become addicted are the narcotics. There is no evidence in the entire literature of medicine that stimulants become habit-forming. One of us (Myerson) has had clinical experience with benzedrine sulphate for more than two years in a very large number of cases and has not seen a single case of addiction in the sense that a person, otherwise well, now feels it necessary to take the drug habitually and in ascending doses to produce the desired effect." Waud (1938) stated that a definite tolerance for amphetamine is slowly built up, and that increasing doses are necessary to produce the original effects, but he indicated that the question of addiction was not settled at the time. Despite the many hundred papers published in connexion with benzedrine very few describe possible cases of addiction. Friedenberg (1940) quotes a case in which a patient in a period of six months took five 10-mg. tablets twice daily for obesity; reduction of the doses was followed by fatigue and depression and a demand for larger doses. Hahne (1940) described a case in which the patient had been taking benzedrine sulphate for nearly two years, averaging twelve 10-mg. tablets daily, and on many occasions double this amount. He was an alcohol addict before starting benzedrine, and, experimentally, was prescribed two benzedrine tablets daily. He returned many months later, and Hahne states: "He came looking fine. He had gained weight, and claimed that the taking of the drug had completely banished his craving for alcohol. He said, however, that if he missed taking the benzedrine he would get a terrific craving. He claimed that he could not carry out the daily routine without it. Withdrawal caused nervousness, exhaustive fatigue, an inability to think straight, and sleeplessness. In spite of the fact that he had been a lifelong drunkard he had not touched a drop since he began taking the tablets. Aged 49, his B.P. was 115/90." The last fact is interesting because one of the points raised against the regular use of benzedrine is said to be its hypertensive effect (Morse, 1936; Beyer, 1939). It will be noted that the blood pressure of my patient was normal. Cases of so-called addiction have therefore only rarely been recorded. Guttmann and Sargant (1942) stated that they had not met with cases of addiction to benzedrine—the only queries were a few instances in patients with abnormal tolerance. They say: "The fact that patients cling to a drug from which they derive physiological benefit cannot be regarded as liability to addiction. The same could be said of insulin or cough mixtures." In my patient there was little sign of "craving" when suddenly deprived of benzedrine in hospital in March, 1944. He says he did not miss it, and for five days in hospital before I put him on to continuous narcosis he took no benzedrine and showed no change in symptoms apart from some restlessness and sleeplessness. He was able to carry on in the N.F.S. for some years with large doses of benzedrine, and would almost certainly have broken down without it. Like a diabetic, he was efficient with his drug and inefficient without it. There were no serious physical changes as a result of its long use. Some cases of idiosyncrasy and collapse after the use of even small doses of benzedrine have been described in the literature, but they are rare. Bloomberg (1940), on the other hand, recorded his studies of three patients with narcolepsy who had been taking at least 70 mg. of amphetamine every day—for two years and eight months in two cases and for one year and eight months in another. In spite of the massive doses over a long period no significant abnormality was found in exhaustive regular tests: there was no rise in the basal metabolic rate, no rise in blood pressure, no evidence of organic damage to organs or blood, etc., and no evidence of addiction or habit-formation was found. We must conclude, therefore, that there is no evidence of physiological damage from benzedrine even in prolonged and massive dosage.

Summary

A case is reported of a patient taking large doses of benzedrine (amphetamine) sulphate for over four years, the daily consumption being from twenty-five to thirty 5-mg. tablets for many months periodically.

The only apparent withdrawal symptoms were increased restlessness and sleeplessness. There were no apparent physical ill effects. The blood count was normal. After stopping the benzedrine the patient had a marked hunger, which confirms the fact that benzedrine reduces the appetite.

Although the use of benzedrine was abruptly stopped when the patient entered hospital, he made no request for it.

Sleeplessness induced by benzedrine was well compensated by barbitone.

This paper discusses the question of "benzedrine addiction" and notes the clinical experience that certain types of psychopath can well tolerate and benefit by large doses of benzedrine.

I wish to thank Dr. L. Minski, medical superintendent of Sutton Emergency Hospital, for permission to publish this case, and to Drs. Slater, Sargant, and Hill for their help and advice.

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A circular from the Ministry of Health states that a substantial extension of mass radiography will not be practicable until normal production of the highly specialized apparatus required becomes possible and reduced demands on medical man-power release the skilled staff essential to the proper use of the apparatus. In view, however, of the general desire for an extension of mass radiography as soon as conditions permit, the Minister reminds tuberculosis authorities (other than the few who already have mass radiography units in operation) that the M.R.C. Committee on Tuberculosis in Wartime in its report issued in September, 1942, advised that a high standard of quality of miniature radiography is necessary for correct interpretation and that the use of compromise apparatus is to be condemned. Experience has since confirmed the soundness of this advice. The Minister suggests, therefore, that, when the present difficulties begin to relax, authorities wishing to undertake mass radiography should first seek the advice of his expert consultants, who will give every help and guidance.

ERYTHEMA NODOSUM AND TUBERCULOSIS

BY

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Recent articles in the medical press have stressed the common association between erythema nodosum and tuberculosis. The rheumatic theory of its origin, however, is still too prevalent among general practitioners, and often blinds them to the necessity for referring these cases to the tuberculosis officer for investigation. Perry (1944) states that in 72% of cases among school-children erythema nodosum marks the onset of primary tuberculosis. Daniels (1944) records 5 cases out of 284 tuberculin-negative nurses who became tuberculin-positive after an attack of erythema nodosum. The Norwegian authority Ustvedt claims that the condition is practically always a tuberculous one. The following cases have been seen at a tuberculosis dispensary in the past 18 months.

Case 1.—Boy, 13 years; referred to dispensary with erythema nodosum in June, 1943. Fading nodules on both shins, but nothing heard in chest. Failed to return to dispensary for two months. Cough then present, with pain in the chest. Temperature 99.6° F. Pleural effusion found at left base. No heart murmur. Patient admitted to sanatorium, and Mantoux test found positive to 1 in 10,000 dilution. Effusion cleared normally, and chest film a year later showed calcified hilar glands. Attack of acute nephritis while in sanatorium. Now well, and working. Family history: mother's uncle had tuberculosis and brother has tuberculous cervical glands.

Case 2.—Boy, 12 years. Developed erythema nodosum in Aug., 1944, and was treated in bed by the family doctor. When allowed up, started a cold and complained of periodic attacks of pain in the right side of chest. On Oct. 12 examination revealed right pleural effusion. Tuberculin patch test gave a slightly positive human reaction and a strongly positive bovine one. Treated in bed for a further eight weeks. A chest film on Dec. 9 showed absorption of fluid and a large right root shadow, suggesting a primary complex. He now feels well and is gaining weight. Family history: nothing of tuberculosis. Mother had a cough, but chest film was negative.

Case 3.—Youth, 16 years. Developed some pain in the right side in June, 1944, followed by erythema nodosum on the left leg. Referred to dispensary; a chest film showed opacity in and above the right horizontal fissure. Developed a slight cough, and admitted to sanatorium on Jan. 2, 1945. Film then showed a large root shadow with some infiltration in the right lower zone. There were two calcified shadows in the left root. No family history of tuberculosis.

Case 4.—Girl, 10 years. Referred with a history of erythema nodosum two months before, in June, 1943, and as a contact of her elder sister with active pulmonary tuberculosis and a positive sputum. A chest film showed some shadowing in the right midzone. Has been kept under observation for the past 18 months; complained of pleurisy pain in June, 1944. A chest film in August suggests that bronchiectasis may be developing at the right base. Her weight and appetite are good.

Case 5.—Girl, 16 years; referred with pain in the left shoulder-blade, cough, and sputum. Was just recovering from an attack of erythema nodosum. A chest film showed a fan-shaped shadow contiguous with the left root shadow. A few crepitations were heard in the left subclavicular region. Sputum was negative for T.B. Admitted to a sanatorium for treatment. Her father has a chronic cough, but refuses to be examined.

Case 6.—Girl, 6 years; referred with erythema nodosum and history of frequent colds and "styes" on eyelids. Bluish nodules on both shins. Tuberculin patch test gave a slightly positive human reaction and a strongly positive bovine one. Left tonsillar gland slightly enlarged. A chest film showed large left root shadow; suggesting a primary complex. Two or three weeks later she developed phlyctenular conjunctivitis and corneal ulcers, followed by a recurrence of erythema nodosum. As her general condition was poor, sanatorium treatment was advised. Family history: aunt attends dispensary with old mainly calcified disease and a negative sputum. Mother's chest film negative. Father has had chest trouble for years, but refuses examination.

Case 7.—Boy, 9 years; referred on account of a cervical abscess. Swollen glands first appeared after an attack of erythema nodosum in Jan., 1944, which had been described as surface rheumatism by the family doctor. The glands subsided after rest in bed, but recurred in October with abscess formation. The abscess was opened by the doctor and discharged intermittently. He was admitted to a sanatorium for treatment, and the Mantoux test was found positive in 1 in 25,000 dilution. A chest film was normal. There was no definite family history; but the child frequently visited a house where somebody had a bad cough and swollen glands in the neck.

Case 8.—Boy, 6 years; referred because a lodger in the house had been found suffering from pulmonary tuberculosis with a positive sputum. The left tonsillar gland was enlarged, and a tuberculin patch test was found positive for human and bovine tests. A chest film showed a primary complex on the left side. He had had an attack of erythema nodosum in Jan., 1944, diagnosed as rheumatism.

Case 9.—Boy, 7 years; referred with erythema nodosum, corneal ulcers, and phlyctenular conjunctivitis. Tuberculin patch test positive for both human and bovine tests. A chest film showed an enlarged right hilar gland, suggesting a primary complex. Rhonchi were heard in the right lung, and there has been loss of weight. He visits a house where one of the family died of tuberculosis.

Summary and Conclusions

Nine cases of erythema nodosum are described. Seven were of school age; two were young adults. Six are males, three are females. Three are contacts of known cases of pulmonary tuberculosis, and another has a family history of tuberculosis. Two have been visitors to a tuberculous household, and two more have relatives suffering from chronic cough who refuse to be examined. Only two gave no history of suspicious contact. All the children gave a positive tuberculin reaction. The tuberculous lesions met with were pleural effusion, pulmonary tuberculosis, phlyctenular conjunctivitis with corneal ulcers, tuberculous cervical glands, enlarged or calcified hilar glands, and a simple primary complex. No history of rheumatism was given by any of the patients.

Erythema nodosum is often associated with tuberculous lesions, and is a manifestation of tuberculous infection. All cases should be referred to the tuberculosis officer for investigation and follow-up. Every case of erythema nodosum should be regarded as a newly infected case of tuberculosis, and therefore search should be made among family and friends for the unknown source of infection. While the cases may develop nothing serious, the occurrence of ill-health and minor tuberculous lesions is frequent enough to warrant attendance at a tuberculosis dispensary in every case.

My thanks are due to Dr. D. F. Macrae, chief clinical tuberculosis officer to Durham County Council, for permission to publish these records, and to Dr. J. W. Gray, medical superintendent, Holywood Hall Sanatorium, for allowing me to see Case 3, a patient in the sanatorium.

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Medical Memoranda

A Freakish Occurrence

A patient suffering from pulmonary tuberculosis with an apical cavity was found to need the division of certain adhesions which were preventing the establishment of a satisfactory pneumothorax. Through the thoracoscope (a single-instrument pattern) multiple adhesions suitable for division were displayed. They were cut with the electrocautery in the usual way until one only remained. This was a rather fleshy posterior adhesion which it was judged would require novocain infiltration of its parietal attachment over a rib. For the uninitiated it may be explained that such injections are made through a long metal tube to the end of which a small needle, about ⅞ in. long, of the Schimmelbusch type is screwed, the whole being introduced to the site of injection through the thoracoscope. While this injection was being made a sudden movement of the instrument caused the little needle to snap off. It was subsequently found that the needles of this batch were unduly brittle owing to a slight defect in the tempering. A search of all parts of the pleural cavity visible in the field of the telescope was made, but the small portion of needle, about ¾ in. long and the thickness of a hypodermic needle, could not be seen. It was believed that it had fallen into the posterior sulcus and, as the patient was in a semi-upright position, probably lay just above the diaphragm. It seemed unlikely that a small portion of sterile needle in this position would cause any trouble and, in any case, radiographic location was essential before further steps, if any, were taken. The patient was therefore returned to the ward.

The instrument was now taken to pieces, cleaned, and re-sterilized by boiling. The next case also had multiple adhesions, which were divided. Before withdrawing the instrument a final look round revealed a thin straight reddish object lying on the upper surface of the lower pulmonary lobe. It was about the size and shape of the missing part of needle, but as this line of thought seemed too fantastic to be seriously pursued the suggestion was made that the object was possibly a blood-cast expelled from an artificial pneumothorax needle used at one of the previous refills. Satisfied with this explanation I withdrew the instrument.

The *x*-ray photographs taken on the following day, however, showed beyond doubt that the small piece of needle broken off in Case 1 was now in the chest of Case 2, and that it was the blood-stained portion of needle which had been viewed through the thoracoscope. How the transference occurred is not known with certainty, but it was found just possible to insert a portion of a small needle between the telescope and the outer sheath where a slight groove is produced by the electrical lead to the lamp.

The needle after breaking off must have passed directly backwards into the instrument and there become attached by a little blood clot, the fixation being aided probably by the heating effect of a cautery both upon the blood and the film of lubricant (K-Y jelly) employed. In this position it withstood the ordinary method of cleaning followed by boiling for several minutes, but was pushed out by the insertion of the telescope when the sheath of the thoracoscope was already in the thorax of the second case.

The chances of such a series of events occurring must be very small; my non-mathematical friends all speak in terms of millions.

NORMAN C. LAKE, M.S., F.R.C.S.

Congenital Discoid Internal Cartilage

Congenital abnormalities of the external cartilage in the form of either a complete or a partial disk are relatively common, and are most often encountered in adolescence, when they first cause trouble. We have been unable to find any reference to a similar condition affecting the internal cartilage, and so great an authority as Prof. McMurray remarks that he has never encountered a complete disk on the inner side. A fairly careful perusal of the literature makes us feel that the following case merits recording.

Photograph of the specimen. The black glass rod is in the tear on the superior surface of the cartilage.

This patient, a soldier aged 29, passed A1 for the Army 4½ years ago, and was admitted to Alder Hey Emergency Hospital on Oct. 20, 1944. His knee-joint had never troubled him until five weeks before admission. He was walking out of the Naafi when his left knee gave way with a loud crack, causing him to stumble. This happened several times on the way back to his billet, and finally the knee-joint became fixed in a semi-flexed position. His M.O. applied a back splint, which was kept in place for four weeks, and after its removal he was allowed up, but still found walking very painful and difficult.

On admission to Alder Hey there was a definite effusion in the knee-joint, and extension was limited by a few degrees. A bucket-handle tear of the internal cartilage was diagnosed. At the operation it was found that the upper articular surface of the tibia was completely covered by a somewhat irregular fibro-cartilaginous disk. With some difficulty this disk was completely removed. Post-operative examination of the specimen revealed that it was a complete disk with a split extending from the back end to the front of the cartilage, and in addition on its deep surface a horizontal split was discovered.

Progress was uneventful, and on discharge 10 weeks later he had a full painless range of movement with no effusion, and had reached the "heavy" class in physical training.

This case is published with the kind permission of the medical superintendent, Dr. W. E. Crosbie.

Orthopaedic Centre,
Alder Hey Hospital,
Liverpool.

F. C. DWYER, M.Ch. Orth., F.R.C.S.
C. TAYLOR, M.B., Ch.B.

Reviews

A NEW TEXT OF GALEN

Galen on Medical Experience. First edition of the Arabic Version with English Translation and Notes. By R. Walzer. Published for the Trustees of the late Sir Henry Wellcome. (Pp. 164. 12s. 6d.) London: Oxford University Press.

The discovery of a new text of Galen is something of a literary event, and the source in this case particularly interesting, if not wholly unexpected. The works of Galen were well known to the Nestorian writers of the ninth century, who translated them into Syriac. In the next century they were turned from Syriac into Arabic. In Greek they were largely neglected. Thus certain of them were lost in the language in which they were written, but of these some have survived in Arabic versions. The best known of these Arabic survivals is the great treatise on dissection, *De anatomicis administrandis,* the last part of which is known only in that language. When this was published some forty years ago hopes rose high of further discoveries of like kind. The present work is thus a fulfilment of those hopes. The manuscript on which it is based was discovered in the library at St. Sophia in Constantinople in 1931, and the work is now available to English readers.

Galen was a complex character. He was at once an able experimenter, a courtly physician, and a contentious disputator. This work shows him in the last role. It was written in A.D. 150 before he was 21, and was intended to reproduce a disputation held in Smyrna between Galen's master, the dogmatist Pelops, and the empiricist Philippos. We know very little of the empiricist school, and this work extends our knowledge considerably. It is peculiarly valuable for this purpose, since Galen expressly refrains from putting his own views into the mouth of the empiricist. There are very few texts of Galen available in English. This new one, clearly set forth and admirably printed, provides a side of Galen that has not hitherto been presented in our language. We are grateful to Dr. Walzer for this literary service.

THE ADVANCE OF MEDICINE

The March of Medicine. The New York Academy of Medicine Lectures to the Laity, 1944. (Pp. 121. 11s. 6d.) New York: Columbia University Press; London: Oxford University Press. 1945.

The New York Academy of Medicine continues its laudable custom of annually inviting the lay public to its comfortable and acoustically perfect theatre to hear lectures on the advance of medicine. It is noteworthy that for the first time the format of the book containing these accords with the war economy standards of this country instead of its previous more elaborate style. Particularly striking is Prof. C. M. Macleod's lecture on chemotherapy, the best non-technical account of the subject we have read. He reminds us that even in 1881 von Behring believed that the killing of bacteria within the body was for ever impossible without also killing the host. He also has the gift of metaphor; discussing the role of para-aminobenzoic acid in bacteriostasis, he compares the sulphonamides to the flies used by fishermen, which the trout mistakes for something (i.e., para-aminobenzoic acid in this case) he has been accustomed to devour with relish, and so is hooked. Moreover, some drug-fast bacteria seem to have acquired the property of excluding the sulphonamides from the cell—like the wise old trout who detects the baited hook. But the whole lecture repays careful reading. Dr. Glen King gives a lucid and straightforward account of food in relation to civilization, and adds a useful warning. Remembering how wholly ignorant we were thirty years ago concerning vitamins, it is absurd to conclude that our knowledge of such things is now complete, and in view of past mistakes "every new development in the art of processing, storing, or preparing food must be scrutinized in the light of the accumulated knowledge of nutrition." It was a gracious thought to invite our Minister at Washington, Sir Gerald Campbell, to lecture on the effects of science on human beings. He considers that "the two main departments in which we have of late allowed ourselves to benefit from the gifts of science are personal comfort and war," with disastrous results. "The scientist cannot wholly isolate himself from the rest of human affairs and remain indifferent to the wider implications of his discoveries . . . if civilization is to advance into that spacious era which science is laying open to us." Lieut.-Col. T. T. Mackie gives a vivid historical account of the influence of epidemics on the outcome of wars and indeed on the fate of nations. The Crimean War, with its gross medical defects, nevertheless led to a new era in medicine itself. It is evident that the medical problems of armies and navies at war, and the need for maintaining their establishments in peace, have indirectly contributed to the progress of medicine and to the control of epidemic disease: "The great general of the future must have a great physician on his staff."

DIGESTIBILITY OF DIFFERENT FOODSTUFFS

Les Régimes des Hépatiques. By Étienne Chabrol. (Pp. 61. No price given.) Paris: Librairie J.-B. Baillière et Fils. 1941.

Les Régimes des Gastropathes. By Paul Carnot. (Pp. 128. No price given.) Paris: Librairie J.-B. Baillière et Fils. 1943.

Arctic explorers and shipwrecked mariners dream continuall of food, and similar circumstances probably explain the appearance of these two monographs printed in France during th occupation. They are typically French in their accounts o the digestibility and characteristics of different foodstuffs. Th same might not unfairly be said of their reliance on traditio and theoretical deduction rather than controlled experimen and observation. It is difficult, for example, to get a clea picture of what is meant by "the liver in hyperactivity (hypertrophic cirrhosis and sundry nutritive and dyspeptic conditions)." Biochemical observations on patients with larg livers indicate that the functional activity of the liver is reduced In fact, much of these books will appeal more to the layma than to the physician, as, for example, the suggestion tha dyspepsia is commonly produced by excess of protein, carbohydrate, or fat in the diet and is to be corrected by a carefu balance of these ingredients. These prescriptions will be mor useful for the treatment of wealthy hypochondriacs than fo the handling of patients in ordinary general or hospital practice. Ascites and oedema are treated by giving 1,500 c.cm. milk every day for three or four weeks. Vitamins C and and 50 grammes of liver a day are added, but no other foo or drink. There seems no rational basis for reducing protei and calories in this way when the patient is already in a sta of hypoproteinaemia, and we should need successful recor of controlled trials before recommending such a regime.

PSYCHOLOGY IN GENERAL PRACTICE

Psychology in General Practice. Edited by Alan Moncrieff, M.D., F.R.C.P. The Practitioner Handbooks. (Pp. 199. 12s. 6d.) Published on behalf of the *Practitioner* by Eyre and Spottiswoode. 1945.

This collection of essays will be extremely useful to the fami doctor, and the non-psychiatric specialist will find that a stud of them will help him to understand the "overtones" of h specialty, which are constantly present when he deals wi the human being who is his patient. On the whole the vario authors give the reader essentials which he ought to kno without burdening him with technicalities or the elabora devices of special treatment.

The first four chapters deal with generalities of approac classification, diagnosis, and treatment; the next four wi the more specific mental illnesses; then comes a most valuab chapter by Dr. Rogerson on visceral neuroses, which should carefully studied by all doctors. Dr. Halliday's chapter psychosomatic medicine and the rheumatism problem is stim lating, but leaves the impression that this is a subject whi needs much more exact and carefully controlled study by t conjoined work of the rheumatologist and psychiatrist. Wi one statement, however, we can cordially agree—that "fibr sitis" is a label far too loosely and frequently applied. D Maberly's and Dr. MacCalman's chapters on problems childhood deserve careful study, for it is here that the chan of preventing mental illness and maladjustment lies, not on for children themselves but for the parents as well. D MacCalman's chapter on minor degrees of mental defect very valuable.

The work of Service psychiatrists among their personnel h shown how important is backwardness in preventing pro adjustment and how useful the backward can be if their tas are fitted to their capacity, and the same lessons have to learnt in relation to civil life. Dr. Curran warns his readers against a too ready acceptance of the cliché that all crime is disease, and points out the use and the limitations of psychotherapy in the treatment of delinquency. Mrs. Edkins's chapter on psychiatric social work shows how useful an auxiliary the well-trained psychiatric social worker can be. Dr. Griffith pleads for greater knowledge of sex problems by the family doctor, who ought to be the adviser of his patients on these matters, but who often fails lamentably. This is too big a subject to be dealt with in a small space, but indications are given of where fuller information may be obtained. Finally Dr. Tattersall gives a detailed summary of how to get a patient into and out of a mental hospital, which should be of great service to the practitioner.

This little book deserves a wide public, and whoever acquires it will not find that much professional time passes before he has found a use for it.

Notes on Books

An interesting book, *Annals of the University of Otago Medical School, 1875–1939*, by Professor D. W. CARMALT JONES, has reached us from A. H. and A. W. Reed, 182, Wakefield Street, Wellington, New Zealand. The inception of this school in the South Island was in 1870, when the New Zealand University Act, by which degrees in medicine could be granted, became law. Tedious birth pains set in, and it was only in 1875 that the Faculty of Medicine was opened. The first doctor to practise in Otago Province was Dr. Joseph Crocone, who arrived in 1836. Gradually other wandering doctors arrived, but it was not till 1861 that Alfred Eccles, F.R.C.S., of St. Bartholomew's Hospital, went out from Britain and made himself the moving spirit in a series of undertakings which contained the germ of the Otago Medical School. At that time there was a big increase in immigration, following the discovery of gold in Otago, which attracted 200,000 diggers to Dunedin. The book opens with an account of the nature and history of the New Zealand country, its zoological and botanical peculiarities. Succeeding chapters are devoted to the establishment, development, and present status of the Medical School. The settlement was made on a considered plan, which placed Otago far ahead of all other New Zealand cities in the matter of higher education. Great pains were taken in the choice of professors, and men of " quite exceptional quality " were secured. Otago was the first British University to grant degrees to women. Biographical notices are given of the medical leaders associated with the fortunes of the College. Prof. Carmalt-Jones in compiling his history has given us a model for the establishment of Colonial colleges on a sound basis. He takes his readers through all the stages of development of a fully constituted university.

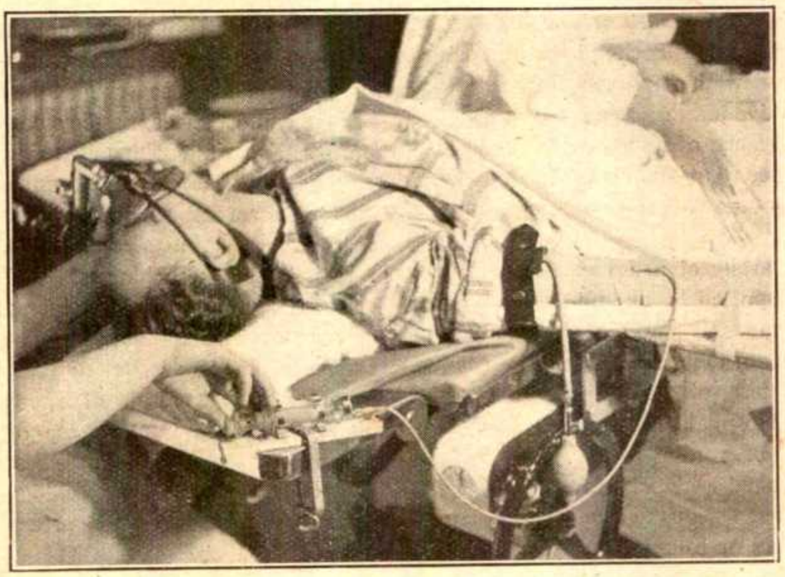
Mechanical Dentistry, by EDWARD SAMSON (The Technical Press, Ltd., Gloucester Road, Kingston Hill, Surrey; 15s.) is an excellent textbook for dental mechanics, and describes in detail the basic principles of their craft. So much advance, however, has been made recently in the use of plastics in dentistry that a new chapter must be added to bring the volume up to date.

Preparations and Appliances

A SIMPLE APPARATUS FOR CONTINUOUS PENTOTHAL

Dr. H. MARCUS BIRD, D.A., honorary anaesthetist, West Suffolk General Hospital, writes:

During the past few years a large number of devices for administering continuous pentothal have been described. The great majority of them share the faults of being cumbersome and difficult to sterilize except in a fully equipped theatre.



The ingenious bicycle-valve apparatus described by Cochrane in the *Journal* of Aug. 26, 1944, has neither of these disadvantages, but, in its original form, detaches the anaesthetist from the patient's head. This can be overcome by increasing the length of the rubber tube to about 2 feet, when the syringe can be clamped to the head of the table and controlled with one hand, leaving the other hand free for the patient or the anaesthetic trolley, as can be seen in the photograph. This set-up is not ideal, for the longer tube not only spoils the excellent vein-seeking properties of the apparatus, but in addition any accidental compression of the tube or constriction of the arm causes back-flow of blood into the needle with blockage from clot. This can be prevented by using two bicycle valves, one close to the needle and the other attached to the syringe, but this arrangement offers so much resistance to injection of the solution that it is difficult to give the very small amounts required during the more prolonged administrations.

The most satisfactory combination is a glass needle mount attached to a female syringe fitting by a 2-foot length of rubber tubing with an ordinary bicycle valve interposed 2 inches from the glass viewer. This gives a considerable amount of backlash in the syringe, but by compressing the plunger sharply by 1/2 c.cm. and releasing it immediately about 1/10 c.cm. of solution will pass the valve and needle, quite sufficient to keep the needle clear.

The internal bore of the rubber tubing is very critical. It must fit the valve snugly enough to prevent backflow, but not so tightly as to necessitate the use of any force in the syringe, or the adapter may be blown off it. (A bayonet catch here might be an advantage.) If different strengths of solution are used, it is wise to use them always in different patterns of syringe to avoid any possible confusion—for example, an all-glass syringe containing 5% solution for induction and a Record containing 2½% for maintenance. The syringe can be clamped to any convenient object in a carrier constructed from two spring tool-clips screwed to a strip of wood. A third, very small, clip holds the mount while the syringe is changed or refilled.

In use it is advisable to inject a few drops of solution at least once every ten minutes (though the needle will often remain clear for very much longer than this), and for this reason the 2½% solution is preferable for maintenance, especially as surprisingly small amounts of pentothal are required when supplementary nitrous-oxide–oxygen or cyclopropane is employed.

The capacity of the apparatus is about 4 c.cm., and this must be allowed for if changing from one strength of solution to another, as the first 4 c.cm. injected will be of the strength formerly in use.

Sterilization is simplicity itself, as the whole apparatus can be either boiled or carried in a spirit-proof container ready for immediate use. This, together with its portability and ease of construction from local sources, should commend its use under active service conditions.

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CHANGES IN THE KNEE-JOINT AT VARIOUS AGES

Osteo-arthritis is a disease which is found in all vertebrates and is known to have occurred in man since the earliest times. The Neanderthal man of La Chapelle (40,000 B.C.) had hypertrophic spondylitis of the fifth to seventh cervical and first to third thoracic vertebrae,[1] and Timbrell Fisher[2] has found that prehistoric animals in the British Museum show evidence of advanced degenerative joint disease. The aetiology of osteo-arthritis has, however, always remained a matter for dispute. Many modern writers think chronic vascular disease resulting in local anaemia is the important causative factor, while others suggest that dysfunction of one or more of the endocrine glands is responsible. While a few authors incriminate a specific metabolic disorder, a larger group regard extra-articular infections with streptococci or other organisms as a major aetiological factor; some of these look upon degenerative joint disease and rheumatoid arthritis as variant manifestations of the same arthropathy; yet others consider the absorption of toxins from malfunctioning intestines as a cause. Axhausen and Pels[3] put forward the thesis that arthritis deformans is caused by a septic necrosis of cartilage or bone, and saw a close relation between this disease and the various epiphysial necroses, including osteochondritis dissecans; and some writers[4] even view the hyperplastic changes so characteristic of degenerative joint disease as a regenerative phenomenon. The importance of an inherited predisposition to the disease has been stressed, but most observers have regarded it as a process closely connected with the ageing of articular tissues.

In view of this great variety of aetiological hypotheses, many of which are unsupported by anatomical or laboratory evidence, Walter Bauer, when the Commonwealth Fund placed him in charge of the Robert W. Lovett Memorial Foundation for the study of crippling diseases at the Massachusetts General Hospital, resolved to study the anatomy and physiology of normal joints. Now he and his colleagues have published a classic monograph on the changes in the knee-joint at various ages.[5] They obtained knee-joints from necropsies or following amputation from 63 individuals ranging in age from one month to 90 years, who, so far as was known, had no history or clinical evidence of articular disease. All the joints were removed unopened, while care was taken to secure the nutrient arteries; they were all *x*-rayed before further examination. They were then opened and studied both macroscopically and microscopically. The results of these investigations are beautifully recorded with no fewer than 28 plates in their monograph. It was found that all the joints obtained from individuals beyond the age of 15 exhibited changes like those observed in hypertrophic arthritis. The findings indicated that joints remained unimpaired for a very short time after complete development. The material, therefore, not only allowed the authors to achieve their original purpose of establishing the normal conditions of the knee-joint at each age decade but enabled them to describe in detail the development of degenerative joint disease.

This condition first becomes manifest in the superficial layer of the articular cartilage in the second and third decennia. This tissue—smooth, glistening, translucent, resilient, and bluish-white in normal growing subjects—acquires a yellowish opaque colour and firmer texture indicating a progressive loss of elasticity, while at the same time the surface layers exhibit small blisters, linear grooves, and pits in those areas where weight-bearing is concentrated. Microscopically there are slight irregularities in the surface from which fibrillated shreds of tissue have been detached; here the cells of the uppermost stratum are more numerous and form a dense layer with their long axes parallel to the joint lumen. The subjacent matrix has comparatively fewer cells, and the intercellular substance is swollen. Individual cells are voluminous and heaped in small clusters. Alterations in the calcified zone of cartilage may be an early or late accompaniment of changes taking place in the overlying hyaline layers. Early swelling, altered staining reaction, and, finally, loss of cartilaginous matrix accompanied by cellular necrosis and the absence of any evidence of inflammation show the process to be one of primary degeneration. Though the first changes appear in articular cartilage, parallel developments appear in other parts of the joint. Those occurring at the articular margin are perhaps the most evident; they consist first of proliferating fibrous tissue, but with advancing years metaplastic fibrocartilage, hyaline cartilage, and bone develop. The cartilage-bone border, subchondral trabeculae, and cancellous spaces of the joints studied showed manifold but no constant pathological changes. In individuals over 40 the calcified layer of cartilage increased in thickness due to calcium deposits in the hyaline zone, and when these were extensive the end-plate of the subchondral bone was irregular as the result of spotty ossification stimulated by and advancing into areas of abnormal calcification. Changes in the synovial membrane occurred late, usually after the sixth decade; villous structures hanging as threads from the synovial surfaces were the most obvious abnormality.

Bauer and his colleagues point out that there are two fundamental causes which are probably the predisposing factors in every example of degenerative joint disease. One is the paucity of the cellular constituents of articular cartilage, its remoteness from blood supply, low respiratory rate, and extremely limited faculty for autogenous repair. The other is the effect of mechanical stress and strain resulting from joint function upon a tissue whose specific means of resistance to such use has been depleted. The most constantly observed concomitant to the so-called primary degenerative joint disease is increasing age.

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[1] Palès, L., *Paléopathologie et Pathologie Comparatives.* 1930. **2**, Masson et Cie, Paris.

[2] *Internal Derangements of the Knee-Joint*, 1924, London.

[3] *Dtsch. Z. Chir.*, 1911, **110**, 515.

[4] Burckhardt, H., *Münch. med. Wschr.*, 1924, **71**, 1495; *Arch. klin. Chir.*, 1924, **132**, 706.

[5] *Changes in the Knee-Joint at Various Ages*, 1942, Commonwealth Fund, New York.

ANTI-VIVISECTION SOCIETIES AND INCOME TAX

For the past fifty years anti-vivisection societies have been granted exemption from income tax on interest on their very large investments, as the result of a finding in the case *In re* Foveaux (1895, 2 Chancery, 501) by Mr. Justice Chitty on the ground that "the intention is to benefit the community; whether, if they achieved their object, the community would, in fact, be benefited is a question on which, I think, the Court is not required to express an opinion." *In re* Grove-Grady, Plowden *v.* Lawrence (1929, 1 Chancery, 557) a very large bequest, to be administered solely by anti-vivisectionists for the benefit of animals, was successfully disputed on the ground that it would not benefit the public. In his judgment on that case Mr. Justice Russell (now Lord Russell of Killowen) threw doubt on the above decision when he said: "For instance, anti-vivisection societies, which were found to be charities by Mr. Justice Chitty, and were described by him as near the border-line, might possibly, in the light of later knowledge in regard to the benefits accruing to mankind from vivisection, be held not to be charities."

On the outbreak of war in September, 1939, Dr. G. P. Crowden, who had taken up the Grove-Grady Will case, proceeded on active service, and Sir Leonard Rogers took over his work as hon. secretary of the Research Defence Society in addition to his duties as hon. treasurer. In 1942 Sir Leonard drew up a memorandum on "Are Anti-vivisection Societies Good Charities?" This was much on the lines of his paper in the *St. Bartholomew's Hospital Journal* in 1941 entitled "The Case Against the Anti-vivisectionists: Their Anti-Public Health and Anti-War Efforts and their Cruelty to Animals." The committee of the Research Defence Society directed this memorandum to be sent to the Treasury, with the request that the grounds on which anti-vivisection societies were exempted from income tax as "charities" should be reconsidered in the light of the immense advances in curative and preventive medicine due to animal experiments during the last half-century. After a question on the subject had been put down in the House of Commons by Prof. A. V. Hill, Secretary to the Royal Society, the Inland Revenue authorities asked for evidence in support of the statements in the memorandum, and on receipt of this from nine medical and veterinary scientists a test case was heard in December, 1943, by the Special Commissioners of Income Tax. The commissioners spent three days in taking the evidence of the director and treasurer of the National Anti-Vivisection Society on one side, and of the following scientists on the other side: Major-Gen. L. T. Poole, Director of Pathology at the War Office; Sir Edward Mellanby, F.R.S., Secretary to the Medical Research Council; Dr. R. D. Lawrence; Dr. J. W. Trevan, Director of the Wellcome Physiological Research Laboratories; Sir John Ledingham, F.R.S.; Sir William Savage, President Society of Medical Officers of Health; Dr. J. H. Burn, F.R.S., Professor of Pharmacology in the University of Oxford; Prof. G. H. Wooldridge, Past-President of the Royal College of Veterinary Surgeons; and Sir Leonard Rogers, F.R.S., whose book *The Truth about Vivisection* was put in as evidence regarding the great advances in human and veterinary medicine subsequent to the verdict for the scientists in the final report of the Royal Commission published in 1912.

The findings of the Special Commissioners of Income Tax became public only when they were read in the course of an appeal in the King's Bench Division of the High Court before Mr. Justice Macnaghten, who gave his decision on July 27 of this year.[1] Owing to the General Election results having just appeared, the case received very scanty notice in the Press. The following are the essential points in the two findings. The Special Commissioners found (contrary to the contentions of the National Anti-Vivisection Society) that: "We are satisfied that the main object of the Society is the total abolition of vivisection, including in that term all experiments on living animals whether calculated to inflict pain or not, and (for that purpose) the repeal of the Cruelty to Animals Act, 1876, and the substitution of a new enactment prohibiting vivisection altogether." They also found that the evidence of "a number of very distinguished men called as witnesses for the Crown" proved conclusively that "(*a*) a large amount of present-day medical and scientific knowledge is due to experiments on living animals; (*b*) many valuable cures for and preventives of disease have been discovered and perfected by means of experiments on living animals, and much suffering both to human beings and to animals has been either prevented or alleviated thereby. We are satisfied that if experiments on living animals were to be forbidden (i.e., if vivisection were abolished) a very serious obstacle would be placed in the way of obtaining further medical and scientific knowledge calculated to be of benefit to the public. We were very impressed by the evidence of Major-Gen. Poole, Director of Pathology at the War Office, as to the great value of experiments on living animals in connexion with the successful carrying on of the present war by the maintenance of the health of the troops and the avoidance or minimizing of many diseases to which soldiers in the field are particularly liable."

The Special Commissioners concluded that if it was their function to weigh the assumed benefit from the Society's efforts in the "advancement of morals and education among men" (no express evidence in support of which has been given) such benefit "was far outweighed by the detriment to medical science and research and consequently to the public health which would result if the Society succeeded in achieving its object, and that, on balance, the object of the Society, so far from being for the public benefit, was gravely injurious thereto, with the result that the Society could not be regarded as a charity. . . . But, upon the authorities, we regard ourselves as precluded from so holding." The Special Commissioners therefore felt bound to allow the Society's claim. Mr. Justice Macnaghten, after hearing legal arguments for two days, reversed that decision by the following judgment: "In view of these authorities [quoted in the earlier part of his judgment] it was for the Society to prove affirmatively that it was a society established for charitable purposes only." Not only did the Society fail to prove that fact, but the evidence called for the opposition to the Society's claim proved that the main object of the Society was the total abolition of vivisection, and that the attainment of that object, so far from being beneficial, would be gravely injurious to the community. In these circumstances it was the duty of the Special Commissioners to reject the Society's claim for exemption from income tax. "In my opinion, therefore, this appeal must be allowed, and the order granting the exemption must be revoked." Costs were allowed against the Society.

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[1] *British Medical Journal*, Aug. 25, 1945, p. 265.

NEUROLOGICAL TRAINING OF THE FUTURE

Clinical neurology has for a century been one of the cynosures of British medicine. But time marches on, and hospital and medical services and undergraduate education are now the subject of close scrutiny. It is not surprising, therefore, that neurology, like psychiatry and paediatrics, should come up for review. Recent trends in general medicine and orthopaedics, as well as in neurosurgery and psychiatry, have tended to invade a domain long regarded as a neurological Tom Tiddler's ground. The recent report of the Royal College of Physicians Committee on Neurology is therefore of topical interest. The committee was elected to consider (1) the training of specialists in neurology, (2) the conditions of recognition as a consultant or specialist in neurology, and (3) the relation of neurology to general medicine and to psychiatry, with special reference to hospital and consultant services. The committee's report may not be wholly approved by all physicians, or even by all neurologists. Nevertheless it would be difficult to better it. It is arguable that neurology—like other specialties—should be left to develop in its own way and in its own time, without the help or hindrance of outside influences. So neurology has evolved in the past, and no one can decry its accomplishments. But circumstances are now proving too much for natural growth and development, and the radical changes which are likely to occur in medical education and in national hospital and health services cannot be ignored even by the most complacent or conservative.

The function of the neurologist in one way differs from that of the practitioners of some other aspects of medicine—e.g., psychiatry, tuberculosis—for the neurologist is a consultant rather than a specialist; he is a judge who sums up and advises as to the nature, origins, outcome of an illness, and the disposal of a sick person, and he is not the purveyor of a particular line of treatment. Hence neurologists have been comparatively few in number, self-selected, highly trained and experienced. If schedules of training should become necessary—and such may of course be deplored—then they must be exacting, eclectic, and extensive. Such epithets may be applied by some in criticism of the suggested programme of the neurological committee, which includes as minima: 18 months' whole-time study of general medicine after registration; the M.R.C.P.Lond. or its accepted equivalent; six months in the whole-time study of pathology, physiology, and anatomy of the nervous system, together with normal psychology; a year's devotion to psychiatry (including six months' hospital residence); and 18 months' study of clinical neurology (including a year's hospital residence). This means that the neurologist will be around 27 or 28 years of age before he leaves the embryo stage. At the end of that time he is advised to embark upon a period of foreign travel or of research. A hard apprenticeship indeed, but one that is necessary if the prestige of consulting neurology is to be maintained in international medicine. No discipline has yet suffered from the austerities of its regime, and the best types of anchorite will not be deterred by exacting conditions of entry or pupilage.

The committee in its report has not attempted to grasp the nettle of the future relationships with neurosurgery, though a period of six months as a whole-time house officer in a neurosurgical department will be accepted as part of the 18 months' compulsory service in clinical neurology. It does not favour a statutory register in present circumstances. Neither does it approve the creation of a special diploma in neurology, the consultant status of the neurologist being secured, it is felt, by a higher qualification in medicine. That financial assistance may well be required from official sources to maintain the neurological apprentice is fully appreciated by the College committee.

DELAYING EXCRETION OF PENICILLIN

One of the great handicaps of treatment with penicillin is its rapid excretion, which necessitates frequent injections and uses up much material. Various ways of circumventing this have been described, especially methods for delaying absorption from a subcutaneous site by mixing the penicillin with oil or by causing local vasoconstriction by adrenaline or by ice. Recently it has been reported by Beyer and his colleagues[1] that the action of penicillin can be prolonged by delaying its excretion through the kidney by the simultaneous administration of *p*-aminohippuric acid. Dogs were given a continuous intravenous infusion of 2.25% solution of aminohippurate at the rate of 3 c.cm. a minute, and a single intravenous injection of 10,000 units of penicillin. The concentration of *p*-aminohippuric acid in the plasma was 30 to 50 mg. per 100 c.cm. By this means the duration of detectable penicillin in the blood was almost doubled (4 hours instead of 2½ hours), the level was materially raised, and the amount excreted in the urine was correspondingly diminished. In later experiments[2] a mixture containing 5 units of penicillin per c.cm. and 1.5% sodium *p*-aminohippurate was given by continuous intravenous infusion for over 48 hours. The plasma concentration of penicillin was 2½ to 4 times as great as it would have been in the absence of aminohippurate. Beyer and his co-workers believe that penicillin is actively excreted by the tubule cells of the kidney and that this excretion is partly inhibited by aminohippurate. *P*-aminohippuric acid is said to be comparatively innocuous, and large amounts can be given without producing toxic symptoms.

Clinical trials of this procedure have been reported by Loewe and others.[3] They were treating patients with penicillin by continuous intravenous drip, and *p*-aminohippurate was given by the same means in doses up to 100 g. a day for periods of eight days. In most of the 50 patients this dose of aminohippurate produced only a low concentration of the compound in the blood (less than 10 mg. per 100 c.cm.) and there was no effect upon the blood concentration of penicillin. But in eight patients the blood concentration was greater than 10 mg. per 100 c.cm.; and in these the blood concentration of penicillin was increased three- to six-fold. Thus Loewe and his colleagues confirm in man the results obtained by Beyer and his colleagues in dogs; but at the same time they point out the difficulties in the way of successful clinical application. To maintain an adequate blood concentration of aminohippurate—e.g., 30 to 45 mg. per 100 c.cm.—it would be necessary to give 245 g. intravenously in 24 hours. No toxic effects were observed in any of the patients; nevertheless these amounts seem very large for a treatment which is only supplementary to another treatment.

The various devices for overcoming the rapid excretion of penicillin are ingenious, but they all introduce furthe complications into the treatment of the patient. The ideal solution of the problem is either to improve the supply of penicillin until it is plentiful and cheap enough to give by mouth regardless of waste, or to discover some derivative of penicillin with the same antibacterial action combined with more satisfactory pharmacological properties.

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[1] *J. Pharmacol.*, 1944, 82, 310.
[2] *Amer. J. med. Sci.*, 1945, 209, 608.
[3] *Proc. Soc. exp. Biol.*, N.Y., 1945, 58, 298.

CYSTOMETRY

Cystometry is a comparatively new procedure, but one which is proving to be of increasing value as its application is more widely understood. Cystometry is much more than the mere measurement of bladder capacity, as the word seems rather to suggest; its usefulness lies in the practicability of making simultaneous measurements of capacity and intravesical pressure. From a study of these much can be learnt about normal bladder function and micturition—a subject which in man is still imperfectly understood. Moreover, nervous disorders affecting the bladder can be investigated with a completeness which has hitherto been notably lacking. In a recent article David Band,[1] after summarizing the accepted views on normal bladder innervation and micturition, describes the results obtained by cystometric studies in a series of cases of nerve disorders, including partial lesions such as transverse myelitis, and complete lesions where there is destruction either of the spinal cord or of the conus or corda equina. He shows how such examinations may not merely add to our knowledge of bladder function, but may also help the patient to live more comfortably. Of perhaps more general interest are the cases described of frequent or urgent micturition and enuresis typically met with in young patients who display no other neurological imperfections. Many officers, both medical and non-medical, have met with examples of this disorder during the war among young soldiers anxious to fight and psychologically normal. Cystometric investigations show that these patients have not got normal bladders. Clearly they deserve much sympathy and careful attempts to cure. The malingerer can quickly be detected. Band shows that ephedrine, by stimulating the sympathetic nerves of the hypogastric plexus, damps down the overactive detrusor muscle, and therefore may cure enuresis in selected cases.

The apparatus for cystometry is somewhat cumbrous and complicated, and, if unnecessary risks to the patient are to be avoided, should be used only by an expert.

NUTRITIVE VALUE OF FOODS

Nutritive Values of Wartime Foods (tables compiled for the Accessory Food Factors Committee) has been issued by the Medical Research Council as War Memorandum No. 14 (H.M.S.O., 1945, 1s.). Practically all of the 298 foods of these tables are peacetime as well as wartime foods, and it is highly desirable that the few exceptions such as "cod-liver oil, Ministry of Food" and "orange juice, Ministry of Food" should long be available as products of known and reliable potency. Thus the memorandum will be useful for long after the end of the war to all who desire to assess the values of the meals they eat or provide. For each food the average contents of water, protein, fat, carbohydrate, calories, calcium, iron, vitamin A (i.u.), vitamin B_1 (μg.), vitamin C (mg.), and wastage (%), are given per 100 g. of the edible portion. Individual samples may vary widely from these figures. Vitamin D (i.u.) and riboflavin (μg.) values per 100 g. of edible portion are given for certain foods. Probably all the likely sources of vitamin D have been examined, but it is fairly certain that many good sources of riboflavin will yet be discovered. Additional tables give the composition of foods "as purchased" per 100 g. and per oz., which will save the busy housewife some weighing in her own kitchen and also some arithmetic, but it will give her a less accurate estimate of the value of her meals. The memorandum is well printed, but the paper cover will withstand very little handling in either office or kitchen.

THE EXCEPTIONAL CHILD

Six papers are published in a report of the tenth conference on the exceptional child held in Baltimore by the Child Research Clinic of the Woods Schools, Langhorne, Pennsylvania. Those engaged in psychotherapy must remember that the mental health of a person cannot be gauged except in relation to the people round him; that a child never remains static, for both he and his behaviour are constantly changing; nor can mental health be divorced from physical health, and vice versa. "Psychotherapy should aim at making it possible for a particular patient to live within the limits of his equipment with other people, maybe with all other people, maybe with just a few other people, happily and without making a nuisance of himself." Most important in the child's environment is the mother, and she often needs treatment, not only advice, just as much as the child does. Until both are treated she will not enjoy the security which she can pass on to the child. Play is the normal method of expression for the child, and this can be used in elucidating his problems. A special technique is described called "the play-interview," in which the child is encouraged to carry on conversations between two or more dolls, thus revealing to himself and to the doctor the nature of his difficulties.

The educationist can take a hand in the problem of delinquency. The setting regarded as desirable to enable this to be done to the full is described, as are the methods whereby the retarded can take their place in the social complex. It is remarkable how often the parents of retarded children harbour a sense of grievance and guilt, and for their own sake and that of the child it is very necessary that such feelings should be removed by appropriate treatment. It ought to be remembered, however, that the vast majority of the people in the world are average and normal. A child's character and behaviour are largely influenced by the habits and convictions of the parents, but these in turn are determined by the attitudes of society; and it is most encouraging to know how quickly and completely social attitudes and habits can change. The true deviate alone cannot be influenced, and these abnormal personalities should be recognized. Sometimes the child is the deviate, and no treatment improves him, but sometimes a child who is really average, and therefore malleable, is brought for treatment by a parent who is a deviate and who cannot and will not allow the child to develop normally.

Two articles on the mite-borne disease commonly called scrub typhus—tsutsugamushi disease—appeared in the *Journal* of July 28: one on scrub typhus as a war disease by Major-Gen. Sir John Megaw, and the other a clinical study by Lieut.-Col. M. C. Menon and Capt. Colin Ibbotson. At that time the war with Japan had not come to an end, and it was forbidden on security grounds to mention that a successful prophylactic vaccine had been discovered and that at the request of the War Office the Ministry of Supply had undertaken to organize the production of this vaccine on a large scale for inoculating our troops in the Far East before the worst season of the year was upon them.

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[1] *Brit. J. Urol.*, 1945, **17**, 1.

DOMICILIARY MIDWIFERY AND THE FAMILY DOCTOR

BY

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Doctors all over the country are perturbed by the recent report of the Royal College of Obstetricians and Gynaecologists, whose findings obviously point to the establishment of a specialist midwifery service in which the general practitioner would be excluded from midwifery practice unless his qualifications conformed to conditions, not laid down by the General Medical Council, but by the Council of the College. They ignore an issue which has not so far been effectively put before the medical profession—namely, the proper position of domiciliary midwifery in the proposed National Health Service.

The whole position of domiciliary midwifery has in recent years been obscured by the housing shortage. The increased hospitalization of expectant mothers within this period is regarded by most obstetrical specialists as due to an increasing desire on the part of pregnant women for hospital care during their confinement and post-natal period; whereas a very large proportion of the women who have had experience of both hospital and domiciliary care would prefer the latter had they proper homes to live in. Much done in medicine to-day ignores the patient as an individual and the vital importance of his or her environment. Those ignorant of general practice fail to realize the reactions of the latter upon the individual and upon the family. The following article has been written in support of the doctors in the country who are doing domiciliary midwifery, and who wish not only that they themselves should continue but that their successors should continue what they regard as the most important part of general practice. We have also tried to show that many of the adverse criticisms of our work as practical obstetricians has not the support of recent investigation.

For a number of years, owing to the rapid development of the public health service, local authorities and many specialists have come to think only in terms of institutions and clinics and have failed to appreciate the basic fact that a successful health service must centre round an efficient general medical service. In no department of medicine is this latter fact more evident than in the practice of midwifery, where, with the general practitioner as a centre, you have on the one side the midwife, the district nurse, and the health visitor, and on the other the specialist and the maternity hospital; the combination of all, as illustrated in the terms of the Maternity Services (Scotland) Act, 1937, produces the ideal maternity service.

The provision of better trained and more efficient nurses, the facility of transport, and the prevention of complications by more careful ante-natal examination, have in recent years diminished the dangers and sufferings of pregnancy and labour, and, while reducing the anxiety of the midwife, family doctor, and specialist, have increased their capacity not only to deal with normal maternity cases but to anticipate complications, and overcome difficulties to the ultimate advantage of mother and baby. Under the Maternity Services Act the family doctor has already realized that the more careful and skilful his ante-natal examination is the less trouble he has at the confinement.

Maternity practice is the very root of general practice; it produces the bond which unites the home with the family doctor, and the knowledge gained by the practitioner as family doctor not only compels him to see a maternity case in its true perspective, but is one of the main guides in ante-natal diagnosis towards a realization of his own capacity and his own limitations. To the obstetrical specialist the maternity patient is often little more than a case; he fails to realize that successful midwifery can be based only upon a co-operation between every factor which has for its ultimate aim the safety of mother and child. No clinic can take the place of the family doctor.

Exaggerated Fears

The dangers and difficulties of midwifery practice have of late years been magnified out of all proportion by specialists and public health officials. We contend that successful midwifery depends upon a sense of confidence and an absence of fear in the mind of the prospective mother. In the Scottish Report on Maternal Morbidity and Mortality, page 24, it is written: "There has been an unfortunate tendency of late to over-emphasize the dangers of child-bearing, and it is desired to take this opportunity to stress publicly the facts that pregnancy and parturition are natural physiological processes, and that departures from the normal occur only in a small proportion of cases. It is difficult to assess the reactions caused in women by fears unnecessarily aroused by indiscreet public emphasis upon accidents of child-bearing. There is no suggestion that scientific inquiry should be discouraged, but it is believed that disproportionate publicity of untoward results may itself aggravate a problem already sufficently difficult." A resolution in practically identical terms received the approval of one Representative Meeting of the B.M.A.

The case against the general practitioner's ability to practise midwifery successfully was based on evidence much of which has been proved wrong. The old belief that he is the main agent in spreading infection was long in dying; indeed there are still medical officers of health who have little knowledge of midwifery who hold this view. No reliable evidence is now put forward to support their case against us. In the large majority of domiciliary midwifery cases puerperal sepsis is infrequent, in spite of the fact that the family doctor is daily in contact with all manner of infectious diseases. On the other hand, such diseases as mastitis, phlegmasia alba dolens, etc.—diseases contracted as a result of labour or early in the puerperium, but which come to light some eight to ten days after the confinement—are much more common in hospital practice than in general practice. Want of an efficient system of follow-up prevents this fact being brought home to hospital staffs.

Use and Abuse of Forceps

It is, unfortunately true that in the early years of the twentieth century there was too much "meddlesome midwifery." All are agreed that forceps were frequently used when they should not have been. As a result of a campaign against this evil, in which the general practitioner received much abuse from certain specialists, many go to the opposite extreme and fail to use forceps when their use would save suffering and even the loss of infant life. No experienced general practitioner would permit a prolonged second stage of labour when the suffering, supervention of shock, and trauma of the mother, perhaps her life, and the life of the infant could be saved by a few minutes' skilful use of forceps. Not long ago a general practitioner objected to the use of the word "interference," writing that "skilled conduct of midwifery is the ability to use skilled scientific methods when required." The experienced general practitioner has to tackle many cases which are beyond the capacity of the midwife, outside the sphere of the specialist, but which he is quite capable of dealing with successfully. Some time ago Dr. W. H. M. Wilson pointed out in these columns that the impaction of the head in the middle of the birth passages was a common cause of delay in labour, and that if this were realized "the conservative use of forceps would be an everyday matter and not a cause of horror, as it seems to be." He further wrote that "the country practitioner is now, as he had always been by force of circumstances, the acknowledged expert in cases which, without being abnormal, are really difficult."

Until quite recently injuries, particularly tears of the cervix, were put down to "meddlesome midwifery and hastily conducted labours," and, of course, the general practitioner had to shoulder most of the blame. Investigation has now proved that a very large proportion of tears of the cervix are the result of the forces of an uncontrolled Nature. Many of these tears are due to neglect to give analgesics when the os is dilating. In England, under the Midwives Acts, this is very common, but it is less common in Scotland where the doctor is in control of the case. A drug such as pethidine will help to relax a cervix early in labour and thus prevent its injury;

an anaesthetic with manual or instrumental help will save many a perineum. Midwives in Scotland under the Maternity Services Act are much more likely to send for the doctor to repair a torn perineum than are midwives in England; where the ridiculously low figures recently published for perineal tears in cases conducted by midwives make it clear that the latter are not sending for the doctor when they should. Under the Scottish Act the services of an anaesthetist are provided; this guarantees that in extensive tears repair will be more efficiently done.

Ante-natal Care

A big percentage of doctors were doing a large amount of ante-natal work long before this was undertaken by special clinics. Under the Maternity Services Act all medical practitioners are expected to carry out a minimum of three ante-natal examinations in every case they book. The public are becoming much more alive to the importance of ante-natal examination, and within two years of the inception of the Act the medical officer of health of Lanarkshire was able to report that 95.3% of mothers within his area had received ante-natal care.

The ideal place for ante-natal examination is the home of the patient or the surgery of the general practitioner. There is a real danger in the ante-natal clinic. In many cases the patients are scared by their waiting-room companions before they enter the clinic proper; when there, the listening to discussions between physicians, nurses, and students often adds an alarming element of dread to the thought of the coming confinement. It is wrong to discuss ante-natal findings and their possible treatment before prospective mothers, especially primiparae. Ante-natal examination calls for experience and skill, and, as one writer put it, "patients must be individualized in regard to diagnosis and treatment . . . there should be no such thing as mass production."

The purposes of ante-natal examination are to determine the fitness of the patient to carry on with her pregnancy, to educate and reassure her, to diagnose the relationship between her and her infant, and, within the bounds of possibility, to foresee the nature of the confinement and determine whether the case can be dealt with at home or should go to hospital. As in the case of all beneficent advances in medicine, ante-natal care carries with it certain dangers. It has been proved that among a considerable number of the younger, inexperienced obstetrical specialists the ultimate effect of various findings tends to be exaggerated, patients are alarmed, the power of Nature to overcome difficulties is forgotten, and measures are taken which may result, and have resulted, in the loss of maternal and infant lives where, had the case been left to Nature or in the hands of a general practitioner, all would have been well.

For some years the widespread and unnecessary use of Caesarean section or of induction of labour for difficulties which Nature herself, or the general practitioner in the quiet of the patient's own home, could overcome led to protests from influential quarters. Dr. Bright Bannister (1935) wrote "that the operation of Caesarean section occupies an unjustifiable position in obstetric practice to-day, that the incidence of the operation is far too high, and that it is attended by a mortality which makes it suspect among measures that should have for their aim the diminution of maternal mortality." Prof. F. J. Browne (1934) was equally emphatic when he wrote that "no one will deny that much of this intervention is unnecessary" and added, "I believe I am justified in saying that ante-natal care has often simply transferred mortality from one column to another."

Whether we have to deal with a case of toxaemia, disproportion, hyperemesis gravidarum, heart disease, or any of the other complications of pregnancy, no one is so fitted as the family doctor, knowing as he does the personal and family history of the patient and the patient's home conditions, to determine whether the case should be dealt with by himself and in the patient's own home or transferred to hospital. The most careful and experienced, be he general practitioner or specialist, can make an error of judgment in midwifery practice. This does not happen in the commoner difficulties, but in sudden and unforeseen emergencies; and even in the big majority of these cases the specialist can be called to the home of the patient and, with the assistance of the family doctor and nurse, deal successfully with the case.

It is possible that much of the present urge for institutional treatment is a passing phase and depends in large measure on the wretched housing of the majority of our working people. Hospitals we must have, but the ideal midwifery of the future must be based upon the principles which form the foundation of the Maternity Services (Scotland) Act, 1937—that is, close co-operation between general practitioner, midwife, specialist, and hospital.

Relief of Pain

The relief of pain in labour is of supreme importance to a large percentage of parturient women. It is the psychological build of a woman which determines her appreciation of pain, and from this point of view the family doctor, with his previous intimate knowledge of the woman, is in the best position to decide when an anaesthetic should be administered. In Scotland and England under the Midwives Acts midwives were discouraged from sending too often for the doctor. The Maternity Services (Scotland) Act recognizes the importance of relieving pain; the services of an anaesthetist, if necessary, are provided. In England specialists are advocating that midwives should have permission to administer anaesthetics; in Scotland we hold—and we are supported by the B.M.A.—that no midwife should be allowed to administer an anaesthetic without a general practitioner being present. It is very gratifying to note that in England, where in the past the relief of pain in labour was less considered than in Scotland, the insistence of the patient on obtaining relief of pain is resulting in more frequent calls by the midwife on the doctor.

There is no one in a better position to give valuable information regarding maternity nursing than the G.P. His opinion is never sought. It would be well were the Council of the Royal College of Obstetricians and Gynaecologists to appreciate the fact that a registered medical practitioner is a practitioner, and a registered nurse is a nurse, and apply this knowledge to the practice of domiciliary midwifery.

Queen's nurses have for many years, under the direction of the family doctor, conducted midwifery in the most satisfactory way, with efficiency, tact, and discretion. The outstanding feature of their service is the traditional co-operation between nurse and doctor. The midwife who has had a general nursing training has also these qualifications. In the training of midwives there is great need for instruction in ethics in order to impress upon them the importance of avoiding idle talk and discussing the condition of their patients with them. A patient must have perfect confidence in her nurse as in her physician. The longer a midwife remains in a district the better, for she gets to know her patients and they come to have confidence and trust in her. Local authorities tend to think too much in terms of institutions and too little in terms of the mothers' own homes, with the result that the changes of nurses are too frequent.

In maternity practice midwives do not seek medical aid sufficiently early and often. A nurse should realize, especially in cases of primiparae, the importance of sending for a doctor early in labour. When the os is dilating the doctor is able to lessen the patient's pain without injury to the foetus, and also to lessen the chance of injury to the cervix; he is able to allay the fears of the patient and her relatives and to guide and encourage the midwife.

The Teaching of Midwifery

Howat in the *Lancet* (1938), in discussing the many conflicting theories in well-known textbooks, remarked: "With teaching so copious, so various, so conflicting, confusing, and mistaken, choice is wide and perplexity almost inevitable. In fact, it is not so much the fault of the general practitioner that his obstetrical skill is under a cloud as the fault of his teachers. . . . Their published writings go to show that British teachers of midwifery to-day, almost without exception, hold and teach not that normal parturition is a normal function to be naturally performed so long as it progresses normally, but that it is a process calling for active interference." We might add that in many teaching centres students are strongly advised, in cases where there is the slightest deviation from the normal, either to call in a specialist or to send the patient to hospital. Such is the modern training.

General practitioners who, during the past ten years, have read articles upon midwifery, followed discussions upon ante-natal care, etc., and appreciated the conflicting views expressed are not surprised to find that some obstetricians are uneasy about their ability to teach midwifery successfully to their students. Happily physicians have not the same feeling about their teachers of medicine and surgery, and yet, after all, a much greater part of their surgery work requires reference to a specialist. The obstetrical specialist and the G.P. always approach the subject from a different angle. General practitioners as a body are very conservative, and this has been their salvation, or rather the salvation of their patients, when faced with the ever-changing teaching of the specialists.

According to some obstetrical specialists the perineum is a danger spot which must not be touched during the course of labour; vaginal examination is almost an obstetric crime. We general practitioners examine our patients per vaginam as often as we think necessary, and it is comforting to be told by a well-known obstetrician that he has still to be convinced that digital vaginal examination is a danger to a woman in labour, and that "he was prepared to argue that anyone who has not sufficient knowledge to make an examination in a surgically clean manner has no business to attend a confinement." Within recent years no new era has dawned upon hospital and specialist obstetric practice, the outstanding factors in the reduction of maternal mortality being sulphanilamide therapy and blood transfusion.

By far the best method of learning midwifery practice for both doctors and nurses is the direct one—that is, to sit at the bedside of a woman in labour. Attendance at many normal labours is of the greatest help when it comes to tackling the difficult and abnormal case, and it would assist the hospital specialist and hospital practice if the specialist gave more attention than he does to the normal and itched less to interfere with the course of Nature. We would like to point out to those obstetricians who have been so prominent in belittling the general practitioner's ability to practise midwifery successfully that they would have gained considerably in manipulative skill, and also gained a real knowledge of the parturient woman, if, before they had specialized, they had spent a few years in general practice. Then they might have appreciated the many difficulties the family doctor encounters in his daily work.

Conclusion

We would assure Mr. Eardley Holland (vide *Practitioner*, January, 1945) that the team-work upon which, he contends, the successful practice of modern midwifery depends will be found in Scotland where the Maternity Services (Scotland) Act, 1937, is in operation, and that there is no tail. This Act has changed the whole future of maternity practice in Scotland, and England would be wise to follow our lead. It is hardly necessary to add that in the proposed National Health Service the maternity services would not be under the direction of the local authority. The psychological effect of the presence of friendly and sympathetic people in familiar surroundings upon a woman in labour cannot be overestimated. Domiciliary midwifery, with the woman in the hands of a doctor and nurse in whom she has confidence, is safer for mother and infant, in all but a small minority of cases, than institutional midwifery. When the housing shortage has been remedied there will be a great increase in domiciliary midwifery to the advantage of the whole country.

Finally let us quote two outstanding medical women. Dame Janet Campbell writes: "No woman ought to lack, on account of poverty, anything she needs during childbirth. The great thing is to make midwifery in the poorer houses sufficiently attractive for the family doctor to take it up and study it more closely." This has been done in Scotland. Dame Louise McIlroy writes: "There were those who considered that the mothers of the country would be best served by a whole-time midwifery service, and the general practitioner would have to go, but it seemed a pity, for the general practitioner provided a human element lacking in a different service. Take prevention, which was the slogan of legislators; there was no one more capable of instituting preventive measures than the family doctor. He was the first line of defence, knowing the family and its circumstances, treating the little ailments of the prospective mother, and forestalling complications."

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AGENDA FOR PLANNING LONDON HOSPITALS

KING EDWARD'S FUND PROPOSALS

Yet another report on London hospitals, this time the work of a joint committee of King Edward's Hospital Fund for London and the Voluntary Hospitals Committee, makes its contribution to the solving of the largest if not the most difficult of hospital planning problems. It runs parallel with the recent survey of hospital services by Dr. A. M. H. Gray and Dr. A. Topping (reviewed in the *British Medical Journal* of July 14, p. 56) and reaches substantially the same conclusions.

It is now generally recognized that the hospital services of London cannot be planned without taking into account the extent to which the Home Counties look to London for hospital facilities. Before the war about 40% of the patients treated in the voluntary hospitals of London came from outside the County of London boundaries. There is a continuing tendency for the London population—its industries as well as its homes—to move outwards; means of transport between the centre and the periphery have improved out of all knowledge; but hospital provision has not shared this tendency to any great extent. Even if, in future, large additional hospitals are put up in the outer areas the great hospitals of Central London will still be looked to for highly specialized services.

The area of London and the Home Counties must, therefore, be planned as a whole. It can be divided roughly into three zones: the central area with a heavy concentration of beds and a declining residential population, the industrial and dormitory area with a shortage of beds and a rapidly increasing population, and the more rural areas centred on local towns. The hospitals in this great region vary much in size and function. The local authorities have a number of large, up-to-date, and well-equipped hospitals side by side with old-fashioned and unhygienic institutions still administered under the Poor Law. On the voluntary side there are hospitals ranging from the very largest to small ones of 60 beds or so, which, however, have been classed as general rather than as cottage hospitals.

Hospitals in Transition

The report discusses the transition from the cottage to the general hospital. Such a transition implies that the general hospital will lay itself out to deal with the whole range of "acute" work likely to arise in its locality. It must provide a consultant staff with clinical responsibility for the patients under their care, a resident medical staff, a nursing staff of the required competence, all proper ancillary services, out-patient clinics, and the commoner special in-patient departments, such as ear, nose, and throat. Efficiency demands a bed complement somewhere in the neighbourhood of 150, and a hospital with 150 beds should afford sufficient work to warrant the employment of at least three resident medical officers, in addition to one or more registrars.

> "It would . . . make for progress if it were recognized that a hospital with less than 150 beds—other, of course, than a cottage hospital staffed by general practitioners—is unlikely to be able to provide a complete service; and should therefore be regarded as in a state of transition, and as not yet having fully attained to the status and responsibilities of a general hospital."

It is common ground that it is not yet practicable to propose that all the members of staffs of the smaller general hospitals, and even of some larger hospitals in the Home Counties, should be consultants, giving their whole time to general medicine or surgery or to a specialty; but it is desirable, say the authors of this report, that in future such appointments should be restricted to practitioners who have served for a period of not less than two years in a hospital or unit devoted to the special work they propose to undertake.

Is there an economic size for the larger general hospital? Would it be wise to encourage the ultimate development of voluntary general hospitals to a size approaching that of the average local authority hospital? There has grown up in recent years a belief that a large hospital, say of 700 or 800 beds, is *per se* more efficient than a small hospital. Undoubtedly that is true in some respects, but the authors of this report are of opinion that the argument in favour of the large hospital may be carried too far, and that the case for the small general hospital rests on much firmer ground than appears at first sight. By "small" anything under 700 beds is meant.

A Plea for the "Small" Hospital

The smaller hospital has certain advantages over the large unit: it serves a more local population; it is well known to its patients; and it can more easily ensure a friendly and personal atmosphere, which means much to the sick person.

> "We do not believe that the voluntary hospital is called upon to compete with the local authority hospital in size, and we think there would be a real danger of voluntary effort failing to make its special contribution in terms of quality of service if too ambitious a programme were undertaken with the help of public monies."

In the Central London area it is considered that there is little justification for general hospitals of fewer than 100 beds. These hospitals might well join forces with each other or with a larger neighbour, with the ultimate object of a physical amalgamation; but in industrial and dormitory areas the elimination of the smaller hospital would be a serious loss to the life of the communities. Perhaps in time these hospitals might develop into large hospitals providing a comprehensive service.

In the outermost zone of the London and Home Counties region the hospitals are mainly located in towns of medium size, and they serve rural areas. The majority of the voluntary hospitals are of the cottage type. It is urged that there should be a full acceptance of the difference between a general and a cottage hospital, the upgrading of all those units where circumstances justify the development into a general hospital, and an overhaul of consultant medical staff in such a way as to bring a regular system of visiting of cottage hospitals by consultants into the realm of practical politics. It is considered that a working arrangement between the voluntary and the local authority hospitals would be greatly facilitated if they shared to a certain extent the same consultant staff. Moreover, the appointment of the same consultant to two or more hospitals in the same area would probably provide him with sufficient work to make it worth his while to live in the neighbourhood.

For cottage hospitals the report lays it down that any such hospital with 50 or more beds should have a resident medical officer. Beds at a cottage hospital should be available to all general practitioners in the neighbourhood, subject always to the approval of the committee of management. Other recommendations concern special hospitals, which play an important part in postgraduate education and in research; the provision of accommodation for the chronic sick; and the establishment of out-patient departments and an ambulance service.

The authors of the report are critical of the proposal of a central bureau for controlling admissions. Such a plan would be contrary to the principle of free choice of hospital. The more important step would be to raise the standard of medical and nursing care in those hospitals in which it is unsatisfactory, so that they would attract more cases, and the unwieldy waiting-lists attaching to some hospitals would be diminished.

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COURSES IN HOSPITAL CATERING

The Nuffield Provincial Hospitals Trust has taken the lead in initiating, as an experiment, refresher courses in catering at three Provincial centres. These courses are to be held at Birmingham, Leeds, and Wolverhampton, where the Boards of Management of the Birmingham United Hospital (Queen Elizabeth Hospital), the General Infirmary at Leeds, and the Royal Hospital, Wolverhampton, readily agreed to co-operate and are making available all the necessary facilities and the staff required for the conduct of the courses.

This development in the Provinces follows the successful results of the course at the London Hospital arranged by King Edward's Hospital Fund for London. The syllabus for the courses includes lectures and demonstrations, classification of foods, administration of food and catering departments, buying and ordering, special diets, menu planning, cooking and serving of foods, rationing, and allowances. The planning of the courses has been undertaken by the responsible officers at each of the hospitals, and they have had the advice and assistance of Miss Rose Simmonds, chairman of the British Dietetic Association.

The courses, each consisting of six sessions, are open to administrators, matrons and assistant matrons, dietitians and catering officers, stewards, housekeeping sisters, and cooks of hospitals in the areas adjacent to each of the three hospitals mentioned above, and no fee is required of those attending. The Wolverhampton and Birmingham courses begin on Sept. 11 and 15 respectively; the one at Leeds opened on Aug. 14.

TYPHUS FEVER PANEL

In February, 1942, reference was made in these pages to the establishment by the Ministry of Health of a Typhus Panel. The lack of opportunity for the medical profession in this country to become familiar with typhus fever has not infrequently resulted in a mistaken diagnosis. In the circumstances, a panel of 8 to 10 consultants established in different parts of the country was formed. Gaps have now appeared in this panel, and the Chief Medical Officer of the Ministry of Health would be grateful to hear from medical men who have had the necessary clinical experience and who are willing on occasion to assist in the diagnosis of typhus in the districts in which they live. A fee of 5 guineas and out-of-pocket expenses will be paid by the Minister if and when a member of the panel is called upon to act. The consultant is required to provide the Minister with a written report on each case seen.

APPOINTMENT OF REGISTRAR-GENERAL

The King has approved the appointment of Mr. G. C. North, *M.C.*, LL.B., a Principal Assistant Secretary in the Ministry of Health, to be Registrar-General upon the retirement, at the age of 65, of Sir Sylvanus P. Vivian, C.B., on Sept. 30, 1945. Sir Sylvanus Vivian has been Registrar-General since 1921. He began his career in the Inland Revenue Department in 1903. In 1913 he was Assistant Secretary to the National Health Insurance Commission, and during the last war served in both the Ministry of Food and the Ministry of National Service. Mr. G. C. North joined the Ministry of Health in 1921, and has had wide experience of health and housing administration, including international health matters. He served as private secretary to Miss Susan Lawrence and Sir Edward Forber at the Ministry; Secretary, National Radium Trust, 1931-7; acted as secretary of various Departmental Committees, including the Advisory Committee on Water and the Advisory Committee on Therapeutic Substances; member of the British Delegation to the League of Nations Assembly, 1930; also worked in connexion with the International Health Office in Paris; Ministry representative on the Central Council for Health Education, and on the Executive of the National Federation of Women's Institutes.

The pamphlet, *Colonial Research 1944–5* (Cmd. 6663, H.M. Stationery Office, 6d.), includes the second annual report of the Colonial Research Committee, constituted jointly by the Secretary of State for the Colonies and the Medical Research Council, under the chairmanship of Sir Edward Mellanby, with Dr. W. H. Kauntze as vice-chairman and Dr. F. Hawking as secretary. No specific schemes for medical research involving substantial expenditure were before the committee during the year, but plans were made to continue studies on the bionomics of *Anopheles gambiae* in Sierra Leone and Nigeria, and for field trials of the insecticide D.D.T. Definitive reports on trials of D.D.T. in British Guiana during the year were not available, but preliminary accounts indicated that this material will certainly be a most important addition to the armamentarium of the malariologist, and may in fact prove to be the first really efficient means of controlling malaria in rural as well as in urban and closely settled areas. In the hands of workers in Africa, advised and guided by Prof. P. A. Buxton, it has been shown that D.D.T. is toxic to the tsetse-fly, the vector of trypanosomiasis. With regard to D.D.T. generally, the committee does not consider the promise shown by this or any other substance of like activity justifies as yet any relaxation of orthodox and tested antimalarial measures. Nor does it consider that there is any cause to relax efforts to increase supplies of quinine, which, despite the development of valuable synthetic drugs for the prevention and cure of malaria, remains of outstanding importance as the easiest and safest drug to use without close and constant supervision.

Correspondence

Ambulatory Treatment of Duodenal Ulcer in a Factory

Sir,—Towards the end of two years' enforced absence from general practice it was my good fortune to fall on a book, *Endocrinology in General Practice*, by William Wolf, M.D. On the subject of peptic ulcer he states, like most authors, that the pathogenesis of peptic ulcer is still undecided, but points to "involvement of the endocrine glands through the sympathetic nervous system." From these premisses he builds up his argument on a physiological basis as to the causation of peptic ulcer, and his conclusion seems justified. Further, he states that Metz carried out the treatment of peptic ulcer with posterior pituitary extract snuff with good results. To a sufferer of 20 years' standing, who had undergone an operation for perforation of the duodenum and who had consulted several specialists, it was a relief to know that at least there was a departure from the usual practice of treatment by rest, diet, and alkalis—a treatment which, like my fellow-practitioners, I had carried out for many years with very poor results. In my own case I had adhered rigidly to all medicines and diet prescribed, but even with that I had freedom from pain for only two or three weeks between attacks which lasted for two to three months. It was then I concluded that diet had little to do with the causation or treatment of peptic ulcer: rest I had in plenty, yet pain, sickness, and vomiting were my constant companions.

I began work again in May, 1939, and after having several severe attacks I started, in January, 1940, Metz's treatment with posterior pituitary extract snuff insufflation 50 mg. at 11 a.m. and 7 p.m.; diet was not restricted. I remained completely free from pain, sickness, and vomiting from January, 1940, to September, 1940, when I had an attack. I again commenced the "snuff," which cut short the period of two to three months to as many weeks. I remained free from attack until December, 1941. Again the remedy was taken with excellent results. In April, 1943, I was *x*-rayed and the report was "deformity of the duodenal cap." Since then I have had two attacks; in all, I have been off work for three weeks since 1939 with duodenal ulcer complaint. I trace the attacks to worry and chill and probably overwork.

From May, 1939, to May, 1944, my work consisted, in the most part, of the examination of men for His Majesty's Forces, and I had little opportunity for treating ulcer cases. In May, 1944, I took a position as medical officer to Scottish Aviation Limited, Prestwick Airport, Ayrshire, and was not surprised to find a big number of workmen suffering from duodenal ulcer and thereby losing much time. In October, 1944, I approached the directors, explained to them my own experience of duodenal ulcer, and asked for permission to treat the workmen. They were interested; not only did they grant my request but stated their willingness to bear the expense.

A number of men with duodenal ulcers proved by *x*-ray were interviewed, and it was agreed that treatment should be carried out, subject to the approval of their own doctors. Only a few withheld consent. The advantage of this ambulatory treatment is that it can be carried out while the men are at work. Each man was examined in the following manner: family history, past history, history of stomach complaint; and the effect of weather, worry, anxiety, fatigue, and fear. The different patients' systems were examined. In two cases organic disease of the lung and organic disease of the heart were found and their doctors duly notified. Treatment began on October 27, 1944. Treatment: posterior pituitary extract snuff 50 mg. at 11 a.m. and 7 p.m. by insufflation, to which I added half a grain of phenobarbitone half an hour before bedtime. The powders were given for 14 days and the pellets for 28 days. The histories were varied—the men had suffered from the condition for from 1 to 20 years, many had been discharged from the Services, many had histories of duodenal perforation, and most at one time had been in-patients. Treatment ended on April 2, 1945, and the results to the present show that, of 75 cases treated, 60 have had no pain. Two have been *x*-rayed; in one case "no duodenal ulcer was found" and in the other case there was "deformity of the duodenal cap."

It is reckoned that many hundreds of working hours have been saved by this treatment. My purpose in making this report now is that, owing to the possibility of my losing some of my patients through their return to peacetime occupations, I availed myself of my present opportunity of having their reports while they are still with Scottish Aviation Limited.—I am, etc.,

Prestwick Airport, Ayrshire. John Stevenson.

Treatment of Infective Hepatitis

Sir,—We have followed with interest the recent publications on the use of choline and methionine in the treatment of hepatitis and jaundice, and we wish to put forward certain points about the dosage. That the substances are lipotropic and that they can exert a curative effect on certain types of liver pathology is certain, at any rate so far as animals are concerned. The use of these substances in man does not appear to have met with the same success, few of the investigators suggesting more than slight statistical evidence of improvement. We suggest that these results should not lead to abandoning the use of the substances but to a more careful metabolic assessment on an increased dosage.

It may be of interest to compare the dose used in these trials on men with those which have proved effective in animals. In animals in order to prevent the appearance of a fatty liver methionine should be given in doses of 20 mg. per kilo body weight. Choline appears to be effective in the same dose (Frame, 1941). For a man of 70 kilos it would appear that 1.5 grammes per day of either substance is the minimum prophylactic dose. The point to be stressed, however, is that these are prophylactic doses: the curative dose of choline is 3 to 4 times larger—70 mg. per rat per diem according to Best and Huntsman (1935). Experimental evidence is lacking on the curative dose of methionine. If this is assumed to be either equivalent to choline as in prophylaxis, or on the basis of methyl groups three times greater, then the curative dose in man would be 20 grammes of choline a day for two or three weeks, or 20–60 grammes of methionine a day for a period as yet undetermined.

Beattie (1944) gave methionine intravenously in 10-gramme doses with some success, and we have been using similar amounts of either methionine or choline. The intravenous route was selected because oral administration may lead in some cases to sickness (Higgins *et al.*, 1945; Albanese *et al.*, 1944), and also to ensure complete absorption. Spill-over by the kidneys is only small. We have found that the total loss of unchanged methionine in the urine is only about 70 mg. per dose.

Using doses of this size leads in nearly every case to ketosis; the ketone being acetone and β-hydroxybutyric in the case of methionine, and an unidentified ketone or aldehyde in the case of choline. The presence of these ketones would suggest increased fat embolism. In patients with existing albuminuria both substances lead to its decrease or disappearance, although it should be noted that in normal men the same dosage of methionine actually leads to albuminuria.

We are reporting elsewhere the results of our experiments, but in two cases we have had results as dramatic as those reported by Beattie.

Since the results of clinical trials using small doses, statistical evaluation, and in many cases inadequate metabolic studies, have been generally inconclusive, your leading article (March 24, p. 415) suggests that the expense involved does not warrant the use of methionine in the treatment of jaundice. This conclusion might well lead to the abandonment of a life-saving measure in certain cases.—We are, etc.,

J. A. Barclay,
Richard G. Kenney,
Department of Physiology, Birmingham University.
W. Trevor Cooke,
Queen Elizabeth Hospital, Birmingham.

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Acute Surgical Emergencies and Pulmonary Tuberculosis

SIR,—Patients having collapse therapy for pulmonary tuberculosis are, equally with others, subject to the risk of acute surgical conditions requiring laparotomy. If they are under care in a sanatorium the combined treatment can generally be achieved with adequate supervision, but in some cases where patients are admitted to a surgical ward in a general hospital it appears that treatment for the pulmonary condition is not maintained.

All sanatorium physicians have, from time to time, re-admitted patients after acute operations on the abdomen who have lost an artificial pneumothorax previously well established, with resulting reactivation of the tuberculous disease. As an example I may quote the history of a young woman with a left artificial pneumothorax, able to work, who developed an acute intussusception which was successfully operated upon in a general hospital many miles away. Unfortunately no attention was paid to the pulmonary disease; the pneumothorax was found completely obliterated on her next attendance, and the reactivated disease caused her death nine months later.

I would therefore urge that surgeons faced with such a situation should, as for an equal emergency, call at once for expert maintenance of the collapse therapy: house-surgeons are generally not competent to undertake this. The operation and the administration of an anaesthetic can cause a pneumothorax to be lost in a day, and the result may be ultimately as fatal to the patient as neglect of the surgical condition.—I am, etc.,

Clare Hall Hospital, South Mimms. F. A. H. SIMMONDS.

Treatment of Severe Paronychia

SIR,—The *Journal* of June 30 has just reached me, in which Drs. G. J. Grossmark and L. W. Plewes describe (p. 906) the treatment of hand infections with penicillin. I note that 14 out of 32 cases of paronychia had pus under the nail, and that the average time off work from the start of penicillin treatment was 12 days.

Recently at sea a rating reported with a severe paronychia about 12 hours old. Frequent hot bathing and poulticing during the next 12 hours produced a grossly swollen and painful terminal phalanx, with tense red skin all round the base of the nail and visible pus beneath it. This was clearly a case for the classical two lateral incisions and ribbon gauze under the flap, but such a procedure single-handed at sea is not always easy, and it was decided to try to drain the finger through the nail. A pointed wire 1/16 in. in diameter was heated and applied to the nail over the pus. The pressure caused some pain, but it was only necessary to heat the wire three times before pus welled up through the hole with instant relief. About six holes were thus burnt through (only the first was painful), and in all at least 1 c.cm. of pus was obtained. That night the patient slept well, and next morning the finger appeared much improved. A few of the holes were reopened and some more pus extruded; pressure on the skin proximal to the nail caused pus to appear, thus proving that the whole of the area was capable of being drained through the nail. Heat was applied during the second day, and by the third morning no more pus appeared and the finger was symptomless except for slight tenderness. By the fifth morning this rating was considered fit to return to full duty, including scrubbing out his mess, and there has been no relapse. No other form of treatment, except a sling, was used.

This most encouraging result, when successful, far surpasses any other form of treatment as regards simplicity, lack of pain and subsequent deformity, and quick return to work. This is the only case I have yet tried, and it may, of course, prove to be useless in others.—I am, etc.,

IAN G. WICKES,
At Sea. Surg. Lieut., R.N.V.R.

Penicillin for Massively Infected Tissues

SIR,—The following case of subcutaneous gangrene of buttocks complicating a horseshoe ischiorectal abscess may be of interest as a further example of the great part penicillin is playing in the treatment of overwhelming infectious conditions.

A heavily built plethoric man aged 61 was admitted to hospital on May 29, 1945, when he was rather confused, very toxic; temp. 101.6° F., pulse of poor volume, rate 110 per minute. The skin of his buttocks was green and necrotic, surrounded by a wide area of cellulitis, and foul-smelling pus oozed from two large and three smaller sinuses. Both ischiorectal fossae showed signs of abscess formation. The condition had apparently been present 14 days. Cardio-respiratory and other systems were normal for his age.

Under light gas-and-oxygen anaesthesia the ischiorectal fossae were incised and found to be involved in an enormous horseshoe abscess which had discharged under the skin of the buttocks. On incising the skin over the buttocks by joining the sinuses, great lumps of subcutaneous fat, which were green, gangrenous, and stinking, separated to expose the muscles of the buttocks. All this necrotic material was removed, the overlying skin, which was green and gangrenous, was also removed, but as much of it as possible was spared. A specimen of tissue was taken and tested for sensitivity of infecting organism to penicillin. On surveying the site of operation the buttocks presented a horrible stinking mass, glutei exposed, both ischiorectal fossae draining through large incisions, and in the middle a patulous anus. There was no fistula in ano present and the sphincter ani muscles were intact.

The patient was treated with penicillin 10,000 units three-hourly by intramuscular injection, as I did not consider the continuous intramuscular drip method suitable in this case in view of the filthy condition of his buttocks and thighs. In the meantime the causative organism was found to be a non-haemolytic streptococcus sensitive to penicillin. Four-hourly eusol dressings were applied locally, and within 48 hours the temperature was normal. The patient looked better, pulse was firmer, he began to eat, and was quite rational. From then on he never looked back. He remained incontinent of faeces for a month, but by the sixth week was discharged fit and well, the skin having grown in a most amazing manner to cover the buttocks completely.

I have previously been impressed by the remarkable power of regeneration which penicillin therapy confers on massively infected tissues. This was especially marked in the case of a woman with phagedaena vulvae treated conservatively with penicillin only by Mr. Emblin, surgeon to the General Hospital, Halifax, that patient too making a complete recovery with first-class anatomical and cosmetic result.

I wish to thank Mr. Haydon-Baillie, F.R.C.S., medical superintendent, for his advice on this case, and also Dr. Dunlop, who conducted the pathological investigations.—I am, etc.,

R. F. O'SULLIVAN,
R.S.O., County General Hospital,
Worksop, Notts.

Aspiration Test in Diagnosis of Breast Tumours

SIR,—Most of us will agree with Mr. M. D. Sheppard (Aug. 18, p. 231) that a diagnostic aspiration is a wise procedure in a doubtful breast tumour. Sometimes such a diagnostic aspiration may cure the cyst, and thus become a therapeutic aspiration. I have two patients who had cysts of the breasts aspirated two and three years ago, without recurrence up to the present time. Further, should a cyst recur after aspiration it is sometimes possible to cure it by a small injection of a sclerosing solution. One has to bear in mind, of course, that such treatment does not cure the underlying chronic mastitis.—I am, etc.,

Rotherham. ERIC COLDREY.

Emergency Treatment of Fractured Femur

SIR,—Vigorous criticism in the absence of direct observation is prone to inaccuracy. However, I was interested to read the remarks of your correspondent, Surg. Lieut. J. S. Joly (Aug. 18, p. 232), regarding an emergency treatment of fractured femur. It is equally probable that a short description will involve omission of details. As your correspondent states, it was possible to diagnose the fracture as being in the region of the greater trochanter. This was done. There was considerable shortening, and although I am not prepared to defend the ice-tong calliper as a form of extension, it is much easier to control than a Thomas splint. Conditions of lack of sepsis did not prevail. Your correspondent infers that an attempt was made to use the calliper with a Thomas splint; in fact, no such experiment was carried out.

The construction of the elevation apparatus is such that flexion of the knee is maintained until after the application of the plaster. The description of the procedure states: "As the application of the cast proceeded the skeletal traction was removed." The fracture was not displaced during the application of the plaster or at any other stage. The board extended from the patient's head to the level of the second lumbar vertebra. The perineal post is not attached to the board but to a narrow metal plate. The plaster is passed round the metal plate, which is slipped out afterwards. The whole purpose is to ensure continuity of extension so that traction shall be continued right up to and even during the first part of the time taken to apply the plaster.

As the condition of traction remains exactly the same, no displacement can occur and an anaesthetic is quite superfluous. In this case an anaesthetic was contraindicated in view of the patient's age—76 years. The plaster was applied from the level of the second lumbar vertebra to the knee on the affected side, as it was considered that the patient would wish to walk about again, and it was thought worth while to continue active and passive movements at the knee, which had been started two days after the Thomas splint had been removed and continued during the several weeks before the plaster cast was applied.—I am, etc.,

Scarborough. J. NOEL-JACKSON.

Removal of the Wrong Eye

SIR,—In the *Supplement* of Aug. 11 (p. 41) it is reported that Mr. Oswald Hempson made the following statement: "We have cases of forceps being overlooked, and occasionally cases so grave as the removal of the wrong eye. . . ." Mr. Hempson was speaking as a lawyer and his words imply that cases of removal of the "wrong eye" have occurred more than once within his own personal experience, or, at least, that he has definite knowledge of such cases. Would Mr. Hempson or any doctor who has met with a case of this kind be so good as to indicate where it has been reported in medical or legal literature? It is difficult to imagine that such a case could occur without being recorded in print.

It was always my habit when teaching to refer to the impossibility of such a mistake as one of the advantages of the use of local analgesia for the removal of an eye, but the removal of the sound eye was regarded as a hypothetical possibility rather than as an actual fact. I have never heard of a case. Has it ever happened or is it a myth? If it has not happened it is important that the public should not gain the impression from the medical press that it sometimes occurs.—I am, etc.,

Edinburgh. H. M. TRAQUAIR.

Jelly-fish Stings

SIR,—Dr. H. Muir Evans (Aug. 4, p. 165) quotes a description of a case occurring in the Tropics. Having personal experience of this unpleasant bathing incident on our own west coast, I think that a statement of my symptoms may be of interest, for since then I have held the view that many unexplained bathing fatalities in good swimmers may have been caused by this agency.

In 1902, when on holiday at Llandudno, I was beach-bathing; in those days a long diving-board on wheels enabled one to take a running dive into about six feet of water. I made a good dive, but before I had surfaced I felt an intense red-hot pain over the side of my neck and right supraclavicular region. Turning to swim in, the pain spread across my right chest and axilla and down my side and right arm, while I felt as though I were going to faint. By the time I had waded ashore, only a matter of some twenty yards or so, I felt nearly powerless with an agonizing sense of constriction in my chest, and just managed to get to my tent before my legs gave way under me. Though it was 11.30 a.m. on a hot summer morning I felt desperately cold and my teeth began to chatter. I looked so bad that my friends rushed to get brandy (procurable in those days!) and a doctor. Mercifully the former was quickly forthcoming, and its effect was to relieve to a great extent the feeling of respiratory distress, so that I was able to slip on some clothes and get the few hundred yards to my hotel, where I went to bed.

By this time the affected area of the skin was swollen and red with a few weals on my face and neck and below my deltoid, while the burning pain was intense. I experienced severe colicky pains and felt as though I were going to have diarrhoea and sickness. No doctor being forthcoming I prescribed another hot brandy and water, while my friend went to a local chemist for a lotion to soothe the skin. This was most efficacious, and the soporific effect of the unaccustomed brandy worked so that I slept till tea-time. On waking I still felt extremely weak, but could breathe without difficulty, all abdominal discomfort had disappeared, and I was quite ready for a wholesome tea with an egg. The friendly chemist, when issuing a further supply of the lotion, advised and handed out a rhubarb pill! I slept all night and woke feeling more or less fit, except for an intense irritation of the affected area of skin, which was still pink and had a few petechiae below the axilla on arm and side. This completely disappeared in two days, but I had a mild desquamation of the petechial area.

The interesting point is the extreme rapidity with which the poison produces such profound shock, for I was 18 at the time and as physically fit as it was possible to be; nevertheless I feel sure that had I been in deep water any distance from the shore I could not have made it without assistance. True, I gave myself a good dose of the poison by squeezing the jelly-fish between my arm and side, but this could happen to anyone doing an over-arm stroke. The jelly-fish was of the "frayed rope-end" type (*Medusa charybdiaedae*, I believe), and visitors to the coast, particularly in the west, will know that on some days the sea is alive with them, as they appear to drift in with certain winds on warm currents. They are bathing companions to be given a wide berth.—I am, etc.,

Amersham. H. J. HENDERSON.

Weight Reduction by Dieting

SIR,—I was interested in your correspondent "Apollonian's" starvation diet (July 28, p. 136), but feel that he might have achieved his object almost as rapidly and more advantageously without starvation. I have been able to achieve similar results while continuing to eat, in peacetime, as many full and hearty meals as I wished, and even in wartime, without starving, by the simple expedient of strictly removing all fat and all carbohydrate from the diet. No vitamins or alkalis are taken. This is a comparatively easy procedure, and still leaves a number of purely protein and cellular foods from which even nowadays quite useful and sometimes hearty meals can be prepared. I have tried it successfully on myself, and although after nearly six years in the R.A.M.C. I cannot aspire to any great interest in a view of male genitalia from whatever angle, I was nevertheless able to record a reduction in weight 85% as good as "Apollonian's" over a comparable period—with the additional satisfaction of being reasonably certain that little or none of this loss was at the expense of my muscles or other body proteins.

Considerably greater reductions were produced in grossly overweight patients, who lost in one case 14 lb. and in another 18 lb. in the first week. I have not yet failed to obtain a minimum loss of 5 lb. weekly in anyone adhering rigidly to this diet, and neither I nor my patients have suffered any ill effects from it.—I am, etc.,

London, N.W.1. A. LEWIS.

Chemically Induced Convulsion Therapy

SIR,—In convulsion therapy drugs have been very largely superseded by the electrical method of inducing the fits. This is because, as Brain and Strauss have pointed out, E.C.T. is inexpensive, simpler, and a relatively safe method. Moreover, it is quicker, easier to perform, and does not spoil the veins. Whereas for many reasons it is desirous to use the electric method of induction, we believe it would be a mistake if the special advantages to be gained by the use of the injections were neglected. In actual fact experience shows that there are differences between electrical and phrenazol fits, as seen by the type of convulsions, the associated changes, and their clinical application.

The phrenazol fit begins with a slight pallor, dilatation of the pupils, and a cough; then the fit sets in with opisthotonos followed by clonus. During the short asphyxial period the eyes are often deviated upwards and the gag is held tightly between the teeth. Then deep breathing starts, the gag is released, and recovery of consciousness occurs. Generally there is an unpleasant memory of the preconvulsive period, with the result that patients frequently dread the treatment. The course of the electrical fit is, however, a shorter one. The onset of the convulsion is instantaneous; it does not start with opisthotonos, but in 70% of a series of our cases with a flexion of both legs at the hips and knee-joints, accompanied infrequently with a flexion of the elevated arms at the elbows, the flexion of both legs going slowly over to an opisthotonos which is then followed by clonus. The asphyxial period lasts longer, the eyes often being deviated sideways, as was observed by Kino, and while consciousness is clouded there are frequently sucking movements of the lips present, even if the gag is artificially removed from the mouth.

The patient has an amnesia for the treatment and consequently the fear is less.

Guttman and Reitman showed that after cardiazol (phrenazol) convulsions the blood pressure rises quickly to above the resting level and returns very slowly. Dax found similar changes with ammonium chloride. In a series of electrical convulsions the same changes were not found, for after the blood pressure became registrable it rose, but not to the same degree as with phrenazol, and it returned more rapidly to the resting level. At first it was thought that the fear and apprehension for phrenazol convulsions played a part in the results, but this was later disproved by Cook. It seems, however, that the general tendency is to emphasize the psychological significance of the *pre*-convulsive "aura" in phrenazol and the *post*-convulsive psychomotor dramatization in E.C.T. Furthermore, in our experience lasting memory disturbances are more marked after E.C.T. than after phrenazol.

Carse and Frank emphasized that patients refusing food showed a better therapeutic response to phrenazol than to E.C.T. In accordance with these observations previous workers had noticed that patients put on weight after chemically induced convulsions, but it was suggested by others that this was the result of the mental improvement. We have also found in accordance with Carse's observations that patients refusing food respond better to phrenazol and gain in weight. In comparison similar cases receiving E.C.T. respond only slowly to the treatment and the ultimate gain of weight averages less than with phrenazol. Based on these experiences, in case of constant food refusal we administer as a routine phrenazol shocks for 3 to 4 consecutive days in preference to E.C.T. We also believe that phrenazol can be used to advantage in cases of stupor, in simple schizophrenics with vasomotor disturbances, and in breaking up a state of mania. Based on these experiences, of a total of 849 patients who received convulsion therapy in 1944 at Netherne, 69 had their convulsions produced by chemical means, the remainder receiving electrically induced fits.

The practical conclusion of these observations and investigations seems to be that while E.C.T. in most cases remains the method of choice for convulsive treatment, chemically induced fits still have a useful field of application. Further clinical research might usefully be directed towards investigating the therapeutic differences rather than the similarities of these methods of treatment.—We are, etc.,

E. CUNNINGHAM DAX.
Netherne Hospital, Couldson, Surrey. F. REITMAN.

Milk Still Unsafe

SIR,—May I be permitted to offer my congratulations on your leading article (Aug. 4, p. 160) under the above heading. The Joint Tuberculosis Council has for many months been making every endeavour to secure some improvement in the present unsatisfactory state of affairs. Resolutions have been forwarded to the Ministry of Health and other interested bodies, attempts have been made to get the medical Members of Parliament to take action; numerous interviews have been arranged, etc., but beyond being told that we were "flogging a willing horse" nothing has been achieved.

The medical profession has a grave responsibility in this matter. Until we so rouse public opinion that Parliament has no option but to pass the necessary legislation we must ourselves accept some share of the responsibility for our 2,000 deaths per annum as the result of bovine tuberculosis. We have the opportunity of stimulating public opinion by impressing upon all our patients the danger of drinking milk which has not been either pasteurized or boiled, and I would suggest that every doctor, whether in private practice or holding a public appointment, should do all he can in this respect.—I am, etc.,

Welwyn. A. P. FORD.

SIR,—I fail to find in your leading article on "Milk Still Unsafe" (Aug. 4, p. 160) any attempt to deal with the matter from a fundamental point of view. As you are aware, 50% of the milking cows give evidence of tuberculosis. You will, I take it, agree that this is the case because the vitality of the cows is so low that their cells are unable to tackle and destroy the tuberculosis in their bodies.

Why is their vitality so low? First, because of wrong food. If the land is not properly fed one cannot expect good grass to grow and contain the lime necessary for giving a satisfactory supply of this mineral. In 1934, in an address to the Carmarthen Chamber of Agriculture, I advocated a Government subsidy to farmers for buying lime, and in a short time this subsidy was forthcoming. Now that the subsidy has been stopped many lime kilns have ceased to function and the land is starved. Secondly, the calves have so bad a start in life that they fail to develop into healthy heifers. The calves are not given their adequate supply of good fresh milk, while those whose mothers give evidence of tuberculosis get milk of an inferior quality and are made all the more liable to fall a prey to tuberculosis. Thirdly, the cows are stimulated to develop abnormally huge udders in order to yield more and more milk, thereby draining them of a vitality which otherwise would keep off the attacks of the tubercle bacillus. Abnormally large udders are in themselves evidence of a departure from good normal health, and the various competitions for high registered averages are as wicked as they are insane.

You write of pasteurized milk as if it were all of the same quality, notwithstanding your reference to the American Army regulation that soldiers must have only pasteurized milk from tuberculin-tested cows. It is well for all your readers to realize fully that pasteurization of milk from Tb cows cannot possibly make that milk an A1 milk even on the first day, while the rapid deterioration of milk which has been pasteurized makes it on the second day of no value at all.—I am, etc.,

Swansea. G. ARBOUR STEPHENS.

⁂ We do not know what an A1 milk is, but we do know that a milk containing tubercle bacilli is rendered safe by pasteurization—witness Price's observations at Toronto. The deterioration in keeping quality of pasteurized milk on the second day is, of course, less than in the same milk untreated; every dairyman knows this. And if by "no value at all" the writer means nutritive value then the statement is simply untrue.—ED., *B.M.J.*

Tuberculous Persons in Prisons

SIR,—The letter of "C.438" (Aug. 18, p. 242) caught my eye and I referred back to the letter of Dr. Audrey Roberts (July 21, p. 100). Does Dr. Roberts not consider she is making libellous statements about a body of well-qualified men and women who devote their lives to improving a somewhat difficult and dissatisfied section of the community—namely, the prison medical service? Does Dr. Roberts know that each large prison carries two or more full-time medical officers, that smaller prisons carry one medical officer (full-time), and that still smaller prisons have medical officers who visit daily?

I retired from the prison medical service after long service in 1939. At my prison we had a number of special cells, facing south, with walls rendered smooth and all angles rounded off, the whole of the walls and ceiling being painted with enamel. They were provided with bedsteads, hard-wood furniture, and chairs with backs; they also had specially large windows and impervious floors. These were for prisoners (tuberculous) who did not require hospital treatment. Prisoners occupying these were employed outdoors all day at light garden work, and were examined once a week and weighed by the medical officer. The more serious cases were treated in bed in hospital rooms with large windows. In my experience tuberculosis is not common among prisoners, and I recollect only three serious cases in 30 years. One was of a man who had been treated in the Isle of Wight and was merely lodged in my prison on his way home to Yorkshire; the journey, unfortunately, proved too much for him. (This was the only patient with tuberculosis who died under my care.) The second was a case of acute pneumonic phthisis; the patient was released in a day or two to a suitable institution, where everything possible was done for him. The third was a case of tuberculous peritonitis, which was operated upon at a general hospital, and a bad prognosis given. The patient was kept on a mattress with suitable protection all the days of a long fine summer; he completely recovered and was last heard of serving a sentence of penal servitude.

Various statements in "C.438's" letter are, I believe, inaccurate—e.g., sanitary conditions are not primitive; there is ample accommodation for attending to the calls of nature in the morning. At the prison where I was, any prisoner who wished to leave his cell to empty any obnoxious matter was allowed to do so up to 10 p.m. on ringing his bell. New entrants should have a new mattress and clean blankets on admission. Prisoners were allowed one hour's exercise, not half an hour. Fruit had not been added to the menu when I left, but the food was good and more than adequate, with such variety as was obtainable (carrots, turnips, and onions were often served).—I am, etc.,

York. F. J. WILFRID SASS.

Weights and Measures

SIR,—The trickle of unsolicited papers and pamphlets describing medicinal and food preparations is already arriving, and may by-and-by become a flood. Before this happens—for we sometimes read them—may I draw attention to the exclusive preference being shown in these to the metric system of measuring dosage, with the ignoring of the Imperial system? In a number of recent instances metric figures alone have been given.

Those of us—and they constitute the great majority—who have been educated in the use chiefly of the English scale continue to believe it good enough and exact enough for all practical purposes; and we feel that English equivalents, which are being quietly dropped, ought to be reinstated as alternatives; indeed, should be given pride of first place. Why prefer the foreign system when we know our own time-honoured English scale of measurements to be reliable and perfectly serviceable in clinical use? The metric system is a recognized laboratory necessity, not to be forced upon the British prescriber or dispenser. In ordering drugs most practitioners adhere to the old English scale, and will continue to do so in spite of much argument against, and in favour of the metric system, which is too fine-drawn for bedside use and only encourages the ready-made to the detriment of prescription writing.

The Imperial scale should be rehabilitated; in default of this being done the waste-paper basket is again likely to find one of its proper uses.—I am, etc.,

Bournemouth. S. WATSON-SMITH.

Doctors and the Social Trend

SIR,—If the people of this country had not opposed the "social trend" in Europe in 1939 we would not enjoy to-day the little freedom we have preserved. Representative bodies of medical men have consistently expressed their conviction that State control of medicine would not be in the interests of the public, medical progress, or the doctors themselves. Shall we now recant against our better judgment because of an election held in an atmosphere of mass hysteria due to reactions after a long war? Many people gave me their reasons for voting Socialist: in most cases it was a blind loyalty to the Labour Party by workers and trade unionists or else a desire for a change at all costs, a result of war-weariness; some for the most illogical and absurd reasons—for example, "Churchill is a war-monger" or "The fat ration is too low." I have, however, yet to meet one person who voted Socialist because he wanted a State medical service. The public are just not interested in it and any agitation for it is purely political.

I know there are a great number of doctors like Dr. Shackleton Bailey (Aug. 18, p. 235) who think a State medical service is bound to come, and for that reason I think we should get down to brass tacks and state the minimum terms that would be acceptable, so that Mr. Bevan may have no illusions. I have gone into this question with various sections of the community, and there is a remarkable unanimity of opinion as to the terms under which a general practitioner of some years' standing might accept State service. Briefly they are: compensation for practice, salary of £1,250 per annum with travelling expenses, pension of £500 at 65, adequate holidays and time for refresher courses. Is the Government in a position to offer us these terms? I very much doubt it. Even if it is, I think we ought still to insist that any doctor who wishes to maintain his freedom and not take part in the service and any patient who wishes to contract out for his treatment should be free to do so without victimization.

The defeatism of Dr. Bailey and many other doctors is quite unwarranted. The medical profession is in an unassailable position, and with a little courage and unity need never be dictated to. Just think for a moment if the miners or the dockers were in our position how they would fight the Government! Besides, we have the heartening example of our colleagues in Australia and New Zealand.

We must expect many attacks now from a section of the Press and the politicians, but when Mr. Aneurin Bevan goes into the matter he will find, as Sir Stafford Cripps did in the case of the cotton industry, it is no easy thing to nationalize medicine. A Bill rushed through the Houses of Parliament could not produce the extra doctors or nurses, nor could it provide additional hospital accommodation—all of which are essential if chaos is to be avoided. I think Mr. Bevan will soon see that the ambitious State medical service which his party has been promoting would require at least ten or fifteen years to materialize, assuming, of course, that our depleted finances can stand it.—I am, etc.,

London, S.E.1. W. B. PEMBERTON.

SIR,—Surely Dr. Shackleton Bailey (Aug. 18, p. 235) as a good Conservative is not going to haul down his colours after one defeat. The fact is that we have a Labour Government for a longer or shorter period of office which is determined to nationalize at least, and possibly socialize, medicine. But Parliaments come and go and cease to have responsibility for that which they have done, but we, as a profession, remain, and do not cease to be responsible for the advice we give to our fellows and our juniors and for the legacy we leave to our successors. That is why a change of Government should not make any change at all in our views as to what is right for our ancient and noble profession.

Doctors are on the whole poor politicians, which seems a good thing, and our decisions are almost entirely free of political considerations and formulated on a fairly clear idea of what is right for our profession and posterity. The latter is the whole crux of the matter. Governments legislate for the immediate future; we must see that that legislation is also the right one for our successors. That responsibility is ours just as certainly as night follows day, and no thinking doctor will deny it. Dr. Shackleton Bailey states that the medical profession can no longer defy a force that has swept Mr. Churchill aside. The answer is that Mr. Churchill has not been swept very far aside, and the medical profession, if united, can defy anything of which it does not approve.

Our leaders realize that in a democracy Governments do not get all their own way. The best results are achieved by the stimulation of a healthy, energetic, and honest opposition.—I am, etc.,

Glasgow. KATE HARROWER.

SIR,—Dr. Shackleton Bailey draws attention to the trend of things with us—in fact the bloodless and silent revolution of our social structure that is being enacted at this very time. Yet, surely, most of us have been alive to these facts for years, and many of us have not ignored them in our various writings from time to time. Nevertheless Dr. Bailey, in common with many others, assumes that General Elections are apt to convey the impression to the innocent that a change of Minister means all is lost and all must be changed. True such a change has brought in new names with doubtless new energy; but it should be kept in mind that it is the workers of all grades who must avert our and their own approaching nudity. If any deluded supporters of the Left remain who imagined that Mr. Attlee when in charge was some form of modern Aladdin who has only to rub his lamp and produce the promised land of milk and honey, clothing, motor cars, and stockings at once, then they have already been warned by Mr. Attlee himself.

Mr. Churchill, "the greatest hero in the hour of his triumph over our enemies," has not been swept aside, as Dr. Bailey most wrongfully suggests. Mr. Churchill's party and policy may be temporarily out of favour as a result of its moderation and precaution in socialistic reforms, preferring to promise something it was sure it could carry out rather than commit itself to a policy of questionable politics. Mr. Churchill's achievements are already part of history. The world speaks justly his high praise, and this needs no further repetition. "The Government may have the votes in the House of Commons, but the Opposition most certainly has the voice. Its voice is that incomparable orator and debater, Winston Churchill."

On the demeanour and manner in which Mr. Aneurin Bevan, ex-miner and now Minister of Health, conducts his affairs in the future will largely depend the continuance or fall of the present Government. Our Minister of Health has uttered few words in his new official capacity, far less outlined his proposed policy for the future of the medical profession, and it does seem unfortunate that Dr. Bailey should choose this juncture to assume the role of prophet, or endeavour to interpret what he thinks Mr. Bevan is likely to propose for the profession, and goes further by suggesting we should accept something before we have even heard the details. It is just possible that Mr. Bevan—not perhaps such a "vehement critic" as he is reputed to be—may yet surprise many of us in his understanding, reasonableness, and soundness of the requests he may place before the profession.

Most of us are aware of the Labour Party's proposals for a *National Service for Health* as published over a year ago (price 2d.) and how only a full-time salaried service would appear to appease that appetite. Yet many of the proposals in this booklet strike notes of common sense, and the doctors, in my opinion, have never desired to oppose the wishes of the public, as Dr. Bailey tends to imply, but in fact have always placed the welfare of the patient in the forefront. They remember that poverty is perhaps still the greatest single cause of ill-health, and that good conditions of work, with full employment and ample opportunity for leisure and exercise, well-built and well-planned homes, plentiful supplies of milk and nourishing food, with sunlight and absence from injurious noises, are much more likely to achieve better health of the nation than good doctoring by itself.

It seems, therefore, essential that those who are entrusted by us to negotiate the future basis of employment of our profession with the elected representatives of the nation should exert all possible influences on the Government of the day to listen to the experience and advice of professional men who have spent their lives studying and advising the sick in their best interests. Our representatives should bear in mind the experience and opinions of those who have served in whole-time salaried medical services such as the Forces (*Journal*, 1944, **1**, 732), and also in the municipal medical services. Already in this country there are "2,000 public hospitals and some 1,000 so-called 'voluntary' hospitals of various types." Examine the numbers of attendances of these two groups throughout the country, and from the result it would appear that an overwhelming majority favour the voluntary hospitals' treatment. Nevertheless, the Government will doubtless ask for, in fact demand, a full-time salaried service, and those who desire it must have it. But let us also legislate for a part-time salaried service, incorporating with it the right of private practice, and so safeguard the interests of the public so that in the event of the full-time service failing (as it has to a large measure in Russia) then we have the alternative part-time National Health Service already in operation to maintain the interests and health of the nation.—I am, etc.,

London, W.1. NORMAN P. HENDERSON.

SIR,—Dr. Bailey's letter should appeal to most members of our profession. There is one point, however, which he might have mentioned. The country and the Government regrettably seem determined to regard the medical profession of the future as a "trade." All trades are protected by their respective trade unions. If we have to consider our profession from the trade point of view with the public represented by the Government as our employer, then our urgent need is for an adequate machinery to prevent our exploitation. This should exist in our British Medical Association.

The vast majority of doctors are not mercenary-minded, but it is quite reasonable for an individual who has perfected himself in a trade which demands high skill to expect both an adequate financial reward and working conditions which enable him to do himself and his patient justice. The Government now in power is reasonably determined to obtain adequate medical attention for every member of the community, but doctors would like to be assured that the means taken to achieve this creditable end are adequate and agreeable not only to the medical man but also to the patient—a process which will take many years to perfect.—I am, etc.,

Eton. JOHN WEBB.

Belsen Camp

SIR,—On my return a few days ago my attention was drawn to a letter from Major F. R. Waldron, R.A.M.C., pointing out certain omissions in my article on Belsen of June 9 (p. 814). I am very glad that he has done so and added the names of the Army units in question, and enlarged upon the work of the Field Hygiene Section of the 11th Armoured Division, who were in the camp before anybody else, when the S.S. were still actually in charge. No praise is too high for them. I am exceedingly sorry that they obtained less than their due. This, however, was not my fault. I was requested to write the article objectively as an observer. I was not in the camp as a worker until later on. I discussed the article with Lieut.-Col. Johnston, the S.M.O., and wrote it partly in his tent. At that time there was a great lack of nursing personnel and Johnston was against handing the people over to German nurses. The article was written with the object of rousing public opinion and getting the release of nurses from home. I asked Johnston to sign the article himself. He did not like to do this, and he did not want any names of individuals or units mentioned, as he felt all had worked so hard that it would be unfair to pick out individuals. An article was then composed and referred to the necessary high command. The latter had already decided on a different policy and hence cut out certain parts of the original article. At the same time they said that the work done by the Army units in the early horror days was so outstanding that they felt these units should be mentioned by name and added the list themselves.

As a matter of detail, it was not stated in my article when the camp was first entered. If Major Waldron looks at the article again he will see that the date April 17 is given by the S.M.O. as the date when *he* first entered the camp and not the date it was first entered.—I am, etc.,

Dublin. W. R. F. COLLIS.

The Training of the General Practitioner

SIR,—I should like heartily to endorse Dr. J. Macleod's letter (July 28, p. 135) on the above subject and also to agree in the main with the suggestions contained in Dr. Frank Gray's article (*Supplement*, May 27, 1944, p. 121). I well remember Dr. Harvey Cushing's remarks in his address to the International Conference in London in 1913, or thereabouts. He then gave it as his opinion that no doctor should be allowed to specialize until he had spent 10 years (I think it was) in general practice (or words to that effect), and I certainly think that that would be a good rule to go by, for the sake of both the public and the profession generally. Otherwise many specialists trained from their youth up in their one line and mostly in hospitals remain narrow in outlook and poor in diagnostic acumen.

Failing such general training a useful substitute would be for specialists to undergo refresher courses in general practice at suitable intervals. Such courses would, I feel sure, broaden their outlook, temper their judgment, and improve their relations with the G.P.s. As Dr. Macleod says, the medical schools are turning out embryo specialists, who, incidentally, seem to consider themselves already in the ranks of the adults and are very apt to "talk down" to the "ignorant G.P." If it could be arranged lectures and ward teaching in medicine and surgery by a good G.P. in every medical school would greatly help in fitting the new graduate for his life's work and getting his mind off rare cases and advanced conditions.

As regards the budding G.P., the young graduate is not only permitted to engage in independent private practice as soon as he is registered but he is also, be he ever so poorly qualified, permitted to purchase the practice of a good G.P., and may be taken on as a presumably worthy successor by a trustful clientele at whose expense he proceeds to learn his job. This is certainly a defect in our present system. Whether he intends to take up general practice or later to become a specialist, it should be obligatory on a young graduate to spend at least two or three years as assistant to an experienced G.P., and on taking up independent practice it should also be obligatory to put his qualifications on his door plate and not be allowed to masquerade as a well-qualified medical man under the simple title "Dr." to which he may not be entitled.

A high-standard diploma in general practice should raise the prestige of the G.P. *vis-à-vis* the specialist. The word "specialist" is exploited *ad nauseam* in professions and trades, and in the public mind suggests a high grade of knowledge and skill and also, unfortunately, a sort of infallibility, all of which are often lacking. It is a pity it cannot be scrapped. With the raising of the standard of general practice which such a diploma might be expected to bring about we should perhaps hear less often such remarks as, "He's only a G.P. of course," and the still more disparaging one, "But then he's only a panel doctor"! Having had some experience of both forms of medical activity I agree with Dr. Macleod in thinking that efficient general practice is of greater value to the public and more difficult to carry out than any specialism, and, incidentally, it should, in my opinion, be able to command at least as high a remuneration.—I am, etc.,

C. H. BARBER,

Thame. Lieut.-Col., I.M.S. (ret.).

Obituary

WILLIAM CRAMER, D.Sc., PH.D., M.R.C.S.

News has reached this country of the death at Denver, Colorado, on Aug. 10 of Dr. William Cramer, who was for 25 years pathologist on the staff of the Imperial Cancer Research Fund and in 1939 crossed the Atlantic to take up the posts of cancer research associate at the Barnard Skin and Cancer Hospital, St. Louis, Missouri, and research associate in the anatomy department of Washington University.

William Cramer was born on June 2, 1878, and received his education at the Universities of Munich, Berlin, and Edinburgh, and at University College Hospital, London. He graduated Ph.D. of Berlin in 1901, D.Sc. of Edinburgh in 1908, and took the English Conjoint qualifications after nine years as lecturer in chemical physiology at Edinburgh University. Before then he had worked for a short time under the Imperial Cancer Research Fund, whose scientific staff he rejoined in 1914. He was elected a Foreign Member of the German Society for the Investigation of Cancer and a member of the Leeuwenhoek Vereeniging. In 1933 he went as official delegate of the British Government to the International Cancer Congress in Madrid, and a year later attended the International Cancer Research conference in Paris as British delegate. At the Skin and Cancer Hospital at St. Louis he was promoted to be head pathologist, and in 1941 gave the Middleton Goldsmith lecture before the New York Pathological Society.

With a wide knowledge of his subject and its literature, Cramer served for some years as sectional editor of the *Cancer Review* and as editor of the *Acta* of the Union Internationale contre le Cancer. He wrote numerous papers published in the reports of the Imperial Cancer Research Fund and in scientific journals on cancer, physiology, biochemistry, and nutrition. His book for students, *Practical Course in Chemical Physiology*, reached a fourth edition in 1920 and his monograph, *Fever, Heat Regulation, Climate, and the Thyroid Adrenal Apparatus*, appeared in 1928. He was a member of the Physiological Society, the Pathological Society of Great Britain, and the Biochemical Society.

By the death on Victory Day of Dr. ALEXANDER BROWN, of Bartholomew Road, N.W., a wide circle has suffered an irreparable loss. He had been a member of the B.M.A. since 1908. He held office as honorary secretary and treasurer of the St. Pancras and Islington Division from 1910 to 1913; was vice-chairman of the Division from 1913 to 1916; chairman in 1916–17; and he represented the Division at the Liverpool Annual Meeting in 1912. Son of Andrew Brown, M.D., he was a King's College man, where in 1894 he gained the Rabbeth Scholarship and the Sambrooke Exhibition. He gained the senior medical scholarship in 1898, in which year he qualified. He practised in the house in which he was born, where the family practice was maintained for nearly 100 years, and he was only persuaded to leave when enemy action had rendered the house a total loss. By good fortune he and his family escaped from the ruins unharmed. He served as a regimental medical officer in France during the 1914–18 war, and often remarked that such is the effect of war on one's contemporaries that he went to the war as "the young doctor" but returned as "the old doctor." Alexander Brown possessed a strong personality with great personal charm—a beloved physician, a true mirror of Oliver Wendell Holmes's lines. As a family doctor he served all classes of his community, and resisted alike the rush of contract practice and the attractions of an exclusive West End clientele. In the difficult sphere of family practice he maintained to a high degree a keen scientific outlook, combined with such a kindly interest in, and consideration for, others as endeared him to all. Quick to perceive the patient's often unexpressed feelings, he easily identified himself with their problems and spared neither time nor effort in their solution. With his accurate observations carefully noted, a consultation with him was both a pleasure and an instruction. It is no faint praise to say that he was in every sense a true family doctor, rich in those qualities which cannot be taught. Medicine owes its stature to the work and example of men like this. While showing selfless devotion in his practice, as a man he shrank from publicity, or even from obtaining his rights if influence were the key. His last illness, in full knowledge of the outcome, was borne with a quiet and characteristic courage. He leaves a wife and two daughters. Many will join them in feeling a very personal loss.—K. H.

Surgeon Commander JOHN DAVIES, who died at his home on Aug. 2 at the early age of 43, was one of the best-known practitioners in Hampstead. He had a distinguished academic record at the Westminster Hospital, qualifying as M.R.C.S., L.R.C.P. in 1924 and taking the degree of M.B., B.S.Lond. in 1928, and the M.D. and M.R.C.P. in 1932. He filled the appointments of house-physician, house-surgeon, and resident medical officer at Westminster Hospital, and that of clinical assistant at the Royal Chest and Royal Ear Hospitals. He settled in practice at Hampstead in 1932 and soon became well known both in medical and in lay circles. He was one of the public vaccinators for the Metropolitan Borough of Hampstead and a member of the Hampstead Rotary Club. He joined the B.M.A. in 1926 and took an active part in the work of the Hampstead Division, being its Representative at the Annual Meeting at Plymouth in 1938 and being appointed chairman in 1939. Soon after the outbreak of war he joined the R.N.V.R., and for two years was posted to the Royal Naval Hospital at Plymouth, where he acted as neuropsychiatric specialist. He was transferred to the Middle East, serving in the same capacity at the 64th General Hospital for two years. There, however, his health deteriorated, and he returned to this country, but continued to serve at the Royal Naval Hospital, Kingseat, Aberdeen, until shortly before his death. The following tribute came from D. B. K. and H. D. L.: In the death of Surg. Cmdr. J. Davies, R.N.V.R., the Royal Naval Medical Service has lost a fine doctor, and we, his shipmates, a beloved colleague and friend. Jackie was a man of boundless energy and drive, which was often the envy of younger and more staid medical officers. Well versed in all branches of medicine, he was chiefly interested in neurology. To this work he brought a sound insight into human nature and a whimsical individual touch. It was while acting as neuropsychiatric specialist in Alexandria that he formulated his famous "Ferdinand" syndrome—applied to those patients in the Forces who, like Disney's bull, did not want to fight but preferred to sit in the fields and pick flowers. But happiest memories of him are apart from work—around the wardroom fire, or in his own charming home—a grand host and a warm-hearted and generous colleague. His many kindnesses were proverbial, but were always performed with so much tact and humour that only those who knew him most closely were aware of the deep and serious strain of compassion in his nature. Jackie never lost the "innocence of anger and surprise" when confronted with a case of injustice, and he would work quietly but fiercely and unsparingly until it was righted. Despite the fact that for months he must have realized the gravity of his illness, he insisted on carrying on until he collapsed. His passing will leave a gap in the hearts of many in the Navy all over the world. To his widow, son, and daughter we extend our deepest sympathy in their great loss.

The following well-known medical men have died abroad: Dr. LUTHER REICHELDERFER, formerly clinical professor of surgery at the Columbia University Medical Department, aged 71; Dr. MARIANO ALURRALDE, ex-professor of clinical neurology at Buenos Aires and ex-president of the Argentine Medical Association, aged 81; Dr. CARLOS BRITO FORESTI, professor of clinical medicine of the Buenos Aires Faculty of Medicine, aged 65; and Dr. MANOEL FRANCISO DE AZEVID jun., formerly president of the Society of Medicine and Surgery of Rio de Janeiro, aged 79.

Medical Notes in Parliament

Dr. Haden Guest has been appointed chairman of the Medical Personnel (Priority) Committee.

A Labour Medical Committee has been formed at the House of Commons with Mr. Somerville Hastings as chairman and Dr. Haden Guest as honorary secretary.

A meeting to discuss the re-establishment of the All-Party Parliamentary Medical Group will probably be held after Parliament has reassembled in October.

New Government and Health Service Proposals

Sir HENRY MORRIS-JONES on Aug. 23 asked the Minister of Health whether he had yet made any arrangements for discussion with the medical profession, the voluntary hospitals, and the local authorities on the Government's proposals for a National Health Service. Mr. BEVAN replied that he had not done so. The Secretary of State for Scotland and he had the whole question at present under review.

Mr. Willink's Statement

During the debate on the Address on Aug. 21 Mr. WILLINK referred to the release of doctors from the Services and hoped that now the war was over the Government would see that the supply of doctors at home was rapidly increased. Turning to the plans for the National Health Service, Mr. Willink said he was disturbed by the statement, made by Mr. Greenwood on Aug. 17, that it was necessary to go back to the position of March, 1944, and to start afresh the discussions contemplated by the White Paper. Mr. Willink said he had always contemplated that legislation should be introduced this year and that the comprehensive health scheme should come into force with or before the general insurance plan. Young doctors, particularly those returning from the Services, should know as soon as possible what forms of professional work were going to be open to them. Planning of hospital resources was urgent, but until there was legislation both voluntary and municipal hospitals would be in difficulty about their future function and development. Mr. Greenwood had made inaccurate and misleading observations about the course of events since March, 1944, and had said that Mr. Willink reopened, behind the backs of everybody else, secret discussions with the British Medical Association. Mr. Greenwood had said the result was a muddle causing great and unnecessary delay. Mr. Willink wondered whether that was put forward as an excuse for delay by the Government. He explained that, at an early date after the Parliamentary debate on the White Paper, discussions expressly contemplated by Parliament had been opened by him and Mr. Johnston. These were not primarily with the British Medical Association. They were with voluntary hospitals, local authorities, and with a body representative of the whole medical profession—the Royal Colleges, the medical officers of health, and the general practitioners. B.M.A. representatives made up about half of one of the three bodies with which Mr. Willink, in conjunction with Mr. Johnston, had discussions. There were other discussions with chemists, dentists, and other bodies. The local authorities much disliked the proposal to transfer their hospitals to Joint Boards.

Mr. BEVAN intervened and warned Mr. Willink that if he was going to tell the House of these negotiations, then Mr. Bevan at some other stage would complete the picture.

Mr. WILLINK said he was in a stronger position to describe what passed than was Mr. Bevan, who had not been present. Mr. Willink reported that both the voluntary hospitals and the medical profession claimed a fuller share in the planning of the future hospital and other services than was accorded in the White Paper. The voluntary hospitals also strongly objected to receiving direct aid from local rates. The best lay and medical opinion agreed that the White Paper scheme gave no adequate place to the influence which universities with medical schools should be able to exert on the planning and development of the hospital and health services. The voluntary hospitals and the doctors were apprehensive about local authority control of their work. The general practitioners were among many who strongly objected to the powers which the White Paper proposed should be entrusted to a Central Medical Board. All these contentions were serious matters proper for discussion. Those who came to discuss them, though critical, were most helpful. In the result by the end of May he and they had reached a stage where, without the loss of a single service contemplated by the White Paper and without a thought of abandoning a wide trial of health centres of various kinds, a structure had emerged likely to command such agreement that it was possible to begin and to make considerable progress with drafting the necessary legislation. There was no muddle whatever. He hoped the Government would not decide that the work and effort given by those most skilled in these matters should be treated as nugatory. There ought not to be an excess of Party politics in the health services of the nation.

Sir HENRY MORRIS-JONES warned the Government that if it ignored the great medical profession and its traditions of freedom they would get resolute opposition, comma by comma, and line by line, from the Opposition side of the House to any National Health Service which obliterated the principle of the private patient having access to his doctor. If the Government intended to make the profession of medicine a State-salaried Civil Service it would be up against the biggest fight it had ever tackled. He was sure he expressed the view of 95% of the medical profession. The conference of the medical profession had, last summer, voted by 93% against some of the proposals which the then Minister of Health brought before them on behalf of the Government.

Mr. HERBERT MORRISON said the Government would go ahead with an effective social security programme. There was more in the social services than feeding the hungry or bringing the doctor to the sick.

Committee on Atomic Energy

Mr. ATTLEE announced on Aug. 21 that to assist them in dealing with the questions raised by the new discoveries respecting atomic energy and its further development in this country for industrial or military purposes the Government had decided to appoint an advisory committee under the chairmanship of Sir John Anderson. On Aug. 23 Mr. Attlee added that research on the possible use of atomic energy would continue to be carried on under the Tube Alloys Directorate of the Department of Scientific and Industrial Research.

Ratio of Doctors to Civilian Population

Mr. BEVAN told Sir John Mellor on Aug. 23 that the average number of civilians per general practitioner in the United Kingdom was 2,576. The corresponding number in relation to medical practitioners of all kinds was 1,359. The number of Army personnel per medical officer in the B.L.A. was about 409, but these officers had considerable additional commitments to displaced persons and others.

Protection of Practices Scheme

Sir E. GRAHAM-LITTLE asked on Aug. 17 whether Mr. Bevan knew that the B.M.A.'s scheme for the protection of absentee practitioners' practices forbade other doctors from attending a demobilized doctor's patients for a period of twelve months after the close of hostilities, "thereby depriving insured persons on his list of their right to a free choice of doctor for that period; and, as this constituted a violation of the National Insurance Act, if he would take remedial action." Mr. BEVAN replied that he was in consultation with the B.M.A. on the subject.

Release of Doctors

Mr. LAWSON said on Aug. 24 that release of doctors from the Army was being accelerated in accordance with the quicker release of the Army as a whole. Delay in the release of categories of specialists would occur owing to the existing shortage and difficulty in finding replacements in these categories.

Medical News

Sir William Douglas has been appointed to succeed Sir John Maude as Permanent Secretary of the Ministry of Health and will take up his new duties in September. He entered the Civil Service in 1914, was assistant secretary and then Secretary of the Department of Health for Scotland in 1935-9, and for the past three years has been Permanent Secretary of the Ministry of Supply. He was created K.B.E. in 1941 and K.C.B. in 1943.

The annual dinner of the Royal Medico-Psychological Association will be held at the Savoy Hotel, London, on Wednesday, Sept. 5, at 7.30 for 8 p.m. Among the speakers will be the new Minister of Health.

Mr. Clifford Morson, F.R.C.S., will deliver a lecture on "The Present Position with Regard to Oestrogens in the Treatment of Cancer" at Whipps Cross Hospital, E., on Friday, Sept. 7, at 8.30 p.m.

Prof. A. C. Chibnall, F.R.S., will give the Procter Memorial Lecture before the International Society of Leather Trades' Chemists in the New Chemistry Building, Leeds University, on Friday, Sept. 21, at 2 p.m. His subject is the contribution of the analytical chemist to the problem of protein structure. Tickets may be had from the acting hon. general secretary, "Craigieburn," Duppas Hill Road, Croydon, Surrey.

The Tuberculosis Educational Institute has arranged a refresher course in tuberculosis for health visitors, almoners, and social workers, to be held from Sept. 27 to 29, at the London School of Hygiene and Tropical Medicine, Keppel Street, W.C. Particulars may be had from Dr. Harley Williams, Tavistock House North. Tavistock Square, W.C.1.

Mr. E. Laming Evans, F.R.C.S., who died on April 6, left estate of the gross value of £53,494. After bequeathing his property to his wife during widowhood he directed that on the death of the survivor of his wife and his sister the ultimate residue of his estate should go to the Royal College of Surgeons of England, the income to be applied for the advancement of and research into orthopaedic surgery, "or should they refuse then to the University of Cambridge for like purposes."

EPIDEMIOLOGICAL NOTES

Discussion of Table

In *England and Wales* infectious diseases were less prevalent than in the previous week: measles notifications went down by 509 cases, scarlet fever by 295, whooping-cough by 136, dysentery by 24, and diphtheria by 14.

The fall in scarlet fever was most marked in the north, Yorks West Riding reporting 53 fewer cases than last week, and Lancashire 50. The incidence of whooping-cough fell sharply in Lancashire, Essex, and Warwickshire, where, respectively, 32, 31, and 31 cases were recorded. The returns for diphtheria for the past three weeks have been 28, 38, and 52 below the lowest return of last year, which was then the lowest level ever recorded. The incidence of measles continued to fall throughout the country, except in Kent, Southampton, Essex, and Norfolk, where it remained practically stationary: these four counties contributed 31% of the total notifications.

The largest returns for dysentery were Lincolnshire 72, Essex 27, London 25, Middlesex 23, Suffolk 22, Oxfordshire 18, Lancashire 17, Glamorganshire 14.

In *Scotland* there was a general fall in the notifications of infectious diseases. Notifications were fewer than last week by the following totals: primary pneumonia 32, scarlet fever 27, measles 24, dysentery 9, diphtheria 8.

In *Eire* notifications of diarrhoea and enteritis, rising by 34, reverted to the high level of July; 54 of the 60 cases were in Dublin C.B.

Scotland's Health during 1944

The report of the Department of Health for Scotland shows a health record that compares favourably with the best pre-war years. The 1944 rates for infant mortality, stillbirths, and maternal mortality, respectively 65.0, 32.5, and 3.0 per thousand, were the lowest ever recorded in Scotland. Diphtheria notifications were high in 1940 with 15,069 confirmed cases and 675 deaths, but each successive year has shown an improvement, although the disease is still relatively prevalent, with 6,835 confirmed cases and 183 deaths in 1944. It is estimated that the incidence during 1944 was 1 in 435 for immunized children, and 1 in 190 for non-immunized children, with case-mortality rates of 1 in 400 and 1 in 18 respectively. The incidence of cerebrospinal fever is falling, confirmed cases during 1940–4 numbering 2,580, 1,868, 973, 641, and 518. During 1944 there were 4,373 cases of dysentery—almost four times the total for 1939. For the first time during the war years the notifications of pulmonary and non-pulmonary tuberculosis fell—there were respectively 7,036 and 2,512 cases. Deaths from pulmonary tuberculosis, 2,978, remained at the level of 1943, and deaths from other forms, 957, were 26 fewer. Notifications of venereal diseases are on the downgrade; the number of cases of syphilis at treatment centres was 3,542, and of gonorrhoea 4,270.

Quarterly Returns for England and Wales

The birth rate during the first quarter of the year was 17.0 per thousand, this being 0.4 below the rate for the March quarter of 1944, but 1.8 above the average of the five first quarters 1939–43. There were 10,656 infant deaths—59 per thousand live births, and 11 below the average for the 10 preceding first quarters. Deaths from diarrhoea of infants under 2 were 5.8 per thousand live births; the rates for the four preceding quarters were 4.9, 4.1, 6.4, and 4.5. The general death rate was 15.1 per thousand, compared with 13.8 for the March quarter of 1944, and 16.0 for the average of the five first quarters prior to 1944.

Week Ending August 18

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 922, whooping-cough 967, diphtheria 351, measles 1,327, acute pneumonia 275, cerebrospinal fever 39, dysentery 259, paratyphoid 4, typhoid 5, poliomyelitis 27.

No. 32

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended Aug. 11.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1945					1944 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever	33	—	16	1	1	52	4	25	1	—
Deaths		1	—				1	—		
Diphtheria	346	20	95	53	18	428	18	103	64	16
Deaths	8	—	2	—	—	8	1	—	1	—
Dysentery	300	25	47	—	—	127	19	78	—	—
Deaths				—	—				—	—
Encephalitis lethargica, acute	2	—	—	—	—	2	—	—	—	—
Deaths		—					—			
Erysipelas			40	3	—			33	9	2
Deaths		—					—			
Infective enteritis or diarrhoea under 2 years				60					43	
Deaths	51	7	6	13	5	70	4	14	15	4
Measles*	1,681	61	33	8	3	1,795	36	45	14	29
Deaths	—	—	1	—	—	2	—	—	—	—
Ophthalmia neonatorum	59	3	20	—	—	67	1	19	—	—
Deaths										
Paratyphoid fever	6	—	2 (B)	—	2 (B)	8	1	6	1 (B)	—
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenzal†	251	13	2	3	1	356	10	2	—	3
Deaths (from influenza)	4	—	—	—	—	8	—	—	—	—
Pneumonia, primary			87	10				117	16	
Deaths		17		7	2		20		4	5
Polio-encephalitis, acute	1	—				3	—			
Deaths		—					—			
Poliomyelitis, acute	16	—	2	2	3	12	—	9	—	2
Deaths		1					—			
Puerperal fever		2	14		—		2	9		—
Deaths										
Puerperal pyrexia‡	116	7	16	2	1	143	6	14	1	—
Deaths		—					—			
Relapsing fever	—	—			—	—	—			—
Deaths										
Scarlet fever	937	57	154	19	23	1,084	22	169	26	27
Deaths	—	—	—	—	—	1	—	—	—	1
Smallpox	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Typhoid fever	6	1	4	3	4	12	—	2	23	4
Deaths	—	—	—	—	—	—	—	—	1	1
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Whooping-cough*	936	41	26	16	4	1,444	61	64	30	13
Deaths	9	1	1	—	1	14	4	2	2	—
Deaths (0–1 year)	263	38	33	28	19	328	28	50	28	18
Infant mortality rate (per 1,000 live births)										
Deaths (excluding stillbirths)	3,668	555	478	153	113	3,972	646	499	153	106
Annual death rate (per 1,000 persons living)			10·9	9·9	§			11·5	9·9	§
Live births	5,926	733	748	377	264	6,175	491	854	278	248
Annual rate per 1,000 persons living			15·0	24·3	§			17·4	18·0	§
Stillbirths	193	16	19			197	20	39		
Rate per 1,000 total births (including stillborn)			25					44		

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* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

‡ Includes puerperal fever for England and Wales and Eire.

§ Owing to movements of population, birth and death rates for Northern Ireland are still not available.

Letters, Notes, and Answers

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ANY QUESTIONS?

Persistent Pain after Spinal Analgesia

Q.—*A month after amputation of the left leg under spinal analgesia 18 months ago a patient started to get pain in the region of the anus and perineum—deep-seated, constant when sitting or lying, but not present when standing. She has not got a painful stump. There is no paralysis or area of anaesthesia or hyperaesthesia. Rectal and vaginal examinations reveal nothing abnormal. X-ray examination of sacrum and coccyx is also negative. Injections of proctocaine, both deep and superficial, have made no difference. Is this a sequel of the spinal analgesic, and what further treatment can be given apart from analgesic drugs?*

A.—It is very unlikely that the pain complained of has any relation (save that of time) to the spinal analgesic. Any damage to the conus or to the peripheral sacral nerves would be accompanied either by some weakness of the external sphincter or by some disorder of sensation, and any resulting pain would be unlikely to disappear when the patient stood. It is a fairly good general rule that pains which defy explanation even after the most thorough physical examination, which are unaccompanied by any evidence of organic lesion, and which do not conform to any known clinical type of pain, may be regarded as being of a functional nature and of psychic origin. Such a diagnosis in this case must be provisional and careful, and repeated examinations should be made to ensure that there is no organic lesion developing.

Unless the pain be severe no treatment is necessary; if it be troublesome analgesics may be given, but morphine should be withheld.

Significance of B.S.R.

Q.—*The blood sedimentation rate in this country is usually taken as an index of the extent of activity of an exudative process. It is, however, known that the in-vitro addition of small quantities of globulin to serum greatly accelerates erythrocyte sedimentation, and the highest B.S.R. met with in medicine occurs in multiple myelomatosis—in which condition the serum globulin may reach 8%. In patients with chronic hepato-lienal fibrosis I have found a reduction of the serum albumin with a rise in the globulin fraction. Such cases often have a B.S.R. in the region of 40 mm. in the Westergren scale. Can such a reading be attributed to the changes in the blood proteins? Provided that all other investigations are negative, is it justifiable to ignore the high B.S.R. in such cases, as a sign of an active inflammatory process?*

A.—Measurement of the sedimentation rate of the blood is essentially a refinement of observations on the buffy clot or crusta sanguinis, which go back to the earliest records of medical history. In Fahraeus's classical paper (*Acta med. scand.*, 1921, **55**, 1) there is an interesting account of the many theories and treatments which have been based on the sedimentation rate—for example, the humoral theory of disease and treatment by venesection. It should now be general knowledge that the sedimentation rate is merely a rough index of the colloidal constituents of the plasma in general and of the relative proportion of fibrinogen, globulin, and albumin in particular. A rapid rate of sedimentation is a normal phenomenon in the horse and the pregnant woman. In inflammatory diseases the sedimentation rate is usually raised because of the associated rise in fibrinogen. In chronic hepatic disease it is raised because of the fall in albumin and the rise in globulin. There is no evidence that this is a sign of an active inflammatory process; it merely indicates the inability of the damaged liver to manufacture albumin and the compensatory rise in globulin. Obviously, too, it cannot be ignored, as a progressive rise in sedimentation rate suggests a progressive decline in hepatic efficiency. Owing to the other factors which may affect the sedimentation rate in diseases of the liver—e.g., anaemia, changes in fibrinogen, and possibly changes in the quantity of bile salts in circulation—more accurate knowledge of the course of the disease will be acquired from the actual estimation of the plasma proteins.

In conclusion, measurement of the sedimentation reaction, as of the pulse and the temperature, is a useful criterion of illness, but one should not try to make the test bear more weight than it is designed to carry. There has been a regrettable tendency in recent years to "gild the lily" and to introduce elaborate methods of measuring, correcting, or recording the rate of sedimentation of the red cells which have little justification in theory or practice.

Urticaria and Fresh-water Bathing

Q.—*Since the age of 16 a man now aged 31, otherwise in perfect health, develops a dry eczematous eruption on the inner flexures of the elbows and inner sides of thighs when he starts bathing in fresh water each summer. Exposure to sunlight without bathing does not bring it on, nor does bathing in sea-water. It develops gradually after immersion in fresh water, taking a week or so to attain its maximum, at which it remains until he gives up bathing in the autumn. Baths and showers do not bring it on. He has occasionally noticed what are probably urticarial weals on the same sites immediately on immersion, fading after his bathe. There is no history of urticaria, hay-fever, asthma, or migraine in himself or his family, and no other disease of significance. Can you suggest cause and treatment?*

A.—This very unusual history is not easily explained. The mention of urticarial weals at the eruption sites might point to the form of urticaria caused by exposure to cold, in which a hypothetical dermolysin circulating in the blood stream is fixed to the cells of the skin at low temperature, reacting on warming and liberating histamine, with, in consequence, weal formation. As this would happen in both salt and fresh water it does not fit the facts. The flexural sites of the eruption may suggest an external irritant acting on a sensitive or sensitized skin, and in this connexion it would be interesting to learn whether the immersion in fresh water means in swimming pools where the water is chlorinated. This would seem, so far as the available facts allow, a possible explanation.

Climacteric

Q.—*A woman aged 49 underwent a panhysterectomy for uterine fibroids 3 years ago, and it appears that no ovarian tissue was left behind. Since the operation the patient has become increasingly nervous, having occasional hot flushes, throbbing headaches, and ungovernable fits of temper. Would you indicate a course of endocrine or other therapy which might prove beneficial?*

A.—The facts suggest that the symptoms are the result of the climacteric, and oestrogen therapy should be tried. Give oestrone or one of its esters 0.1 or 0.2 mg. t.d.s. by mouth for two or three weeks. If there is only limited improvement the dose may be cautiously increased, but heavy dosage with synthetic oestrogens or with natural oestrogens by intramuscular injection should be avoided if possible. The object should be to give the smallest dose which will control symptoms rather than relieve them completely. Having determined the amount necessary for this, maintain it for two or three weeks and then gradually reduce the dose, discontinuing treatment completely within 3 months. The principle of gradual oestrogen deprival should be explained to the patient and her co-operation obtained.

If the symptoms are not affected by oestrogen therapy, then a cause other than the climacteric should be looked for.

Achlorhydria and Dental Decay

Q.—*Are transparency and decay of the edges especially of the upper incisor teeth after the age of 60 likely to occur in a hypochlorhydric subject? If so, is it due to the achlorhydria? Or could the taking of a dilute hydrochloric acid at one or two meals a day have any effect as a solvent? Could the condition be due to a vitamin deficiency? The textbooks suggest that the teeth are not subject to decalcification in the later age period.*

A.—There would not appear to be any direct connexion between achlorhydria and dental decay. It is known that workers in chemical plants who have prolonged exposure to acid fumes suffer from decalcification of the more exposed surfaces of the teeth, and decalcification is said to follow prolonged vomiting in some cases. Theoretically the taking of dilute hydrochloric acid could produce the same condition, but would probably have to go on for many years before any clinical signs were evident. It is frequently advised, however, that the acid be taken through a tube or straw, partly to avoid the possibility.

Superficial decalcification as the result of imperfect cleaning is commonly seen in old people, but the teeth tend to become more calcified in old age, the process affecting particularly the dentine.

It is very unlikely that any vitamin deficiency could be held responsible.

Mersalyl and Cardiac Failure

Q.—*A patient has gross oedema due to cardiac failure. The response to intravenous injections of mersalyl is unfortunately becoming less, and the oedema is remaining stationary. I would be glad of advice. Could the mersalyl be combined with mag. sulph.?*

A.—Mersalyl may be given with ammonium chloride. Forty-five grains of the latter should be given in capsules of 15 grains, enteric-coated if possible, 45 minutes before the mersalyl. Intravenous injection of cardophylin (0.25 gramme) might be tried, but is not very likely to surpass the mersalyl. The intake of sodium—mainly, of course, as sodium chloride—should be rigidly controlled. Fluid intake is usually restricted to 1½ to 2 pints. This may cause arterial dehydration, for the bulk of the fluid is in the interstitial tissues. Bacon, meat, and eggs contain a good deal of sodium, and a careful diet should be laid down so that an intake of NaCl of 2 grammes daily is not exceeded. In heart failure there may be hypoproteinaemia, and dropsy may be due to this. Then full protein is needed. Removal of oedema or ascites by puncture may initiate diuresis.

Pyretotherapy for G.P.I.

Q.—*Is there any reason why pyretotherapy in the forms described by Dr. Bartley for gonorrhoea and gonorrhoeal arthritis* (JOURNAL, *Oct. 21, 1944, p. 550, and May 5, 1945, p. 642) should not be used in place of malaria in the treatment of G.P.I.?*

A.—There is no reason why pyretotherapy with T.A.B. vaccine should not be used in the treatment of G.P.I., but it is far less likely to be successful than artificially induced malaria. Many forms of artificially induced hyperpyrexia have been tried in this disease, but none has produced results comparable with those obtained by malarial infection, except those methods which raise the patient's temperature by physical means—e.g., the Kettering hypertherm and similar cabinets. In this connexion it should be stressed that the induction of hyperpyrexia is potentially dangerous, and should be undertaken only by one skilled in the procedure and with optimum nursing and other facilities available.

Treatment of Peptic Ulcer

Q.—*May I have information on the treatment of duodenal ulcer? Do you know of any book which deals with the medical treatment of the peptic ulcers, particularly with post-ulcer diet? All the books murmur vaguely about purées, etc., but none seems to give real practical help.*

A.—The Sippy treatment of peptic ulcer by diet and alkalis is still the standard method. Modifications chiefly concern precautions against avitaminosis and alkalosis and efforts to deal with the nocturnal secretion of acid. The drawbacks of alkalis are compensatory secretion of acid and the production of alkalosis; formation of CO_2 is not a disadvantage. After-secretion of acid is most likely to occur after strong alkalis such as sodium bicarbonate, magnesium oxide or carbonate, and calcium carbonate. These substances are also likely to produce alkalosis if used in excessive dosage. On the other hand, they are cheap and they relieve pain more effectively than the newer alkalis, such as magnesium trisilicate and aluminium hydroxide. The nocturnal secretion of acid can be neutralized by the continuous-drip method, whereby a stomach tube is passed and alkalis, such as aluminium hydroxide gel or a mixture of milk and sodium bicarbonate, are allowed to drip continuously into the stomach throughout the night. Alternatively, the patient may be roused for feeds at 12, 2, and 4 a.m. Aluminium hydroxide has no advantage over magnesium trisilicate, except in the form of aluminium hydroxide gel for continuous intubation.

Evidence of the value of alkalis in the treatment of experimental ulcers in animals is quite convincing. If the gastric juice can be continually neutralized so that the acidity never exceeds *p*H 3.5, pepsin is inactivated and ulcers heal. The difficulty is to maintain this continuous neutrality in the human stomach. Clinical gastro-enterologists have been impressed by the importance of emotional tension in the genesis of ulcer symptoms and the relief secured by rest in bed without alkalis. They therefore tend to be more interested in psychological management and sedation than in the use of alkalis. For similar reasons regularity, frequency, and adequacy of feeds are considered more important than the exact composition of the diet. In fact many diet schedules are inadequate in calories and quite needlessly complicated. Finally, as there are possibly more than a million patients with peptic ulceration in this country at the present time, treatment must be ambulant in the great majority of cases. For all these reasons treatment by diet and alkalis tends to be less strict than in the past. Details of diet will be found in standard textbooks such as Hutchison's *Food and the Principles of Dietetics* or McLester's *Nutrition and Diet in Health and Disease.* The homogenized or strained foods supplied for special diets and infant feeding by the large canning firms are now available again at most chemists' and are useful for purées. Half an hour with an intelligent dietitian will give more help on post-ulcer diets, particularly under wartime conditions, than a much longer time spent in a medical library.

INCOME TAX

Depreciation of Furniture, etc.

J. R. has been informed by the inspector of taxes that depreciation is not an admissible deduction for income-tax purposes, but that he can claim "wear and tear allowance" or "cost of renewals." The inspector suggests that as the cost and date of purchase of each item must be known for the purpose of the wear and tear allowance J. R. may find it preferable to claim renewals.

⁂ The wear and tear allowance is "such deduction . . . as the Commissioners . . . may consider just and reasonable as representing the diminished value by reason of wear and tear during the year." No rule is laid down as to the method of estimating the "diminished value," but the common practice is to start from the cost of the particular asset and write it down by an appropriate percentage year by year. One proviso of the section limits the final allowance in respect of the asset by reference to the amount of its cost less any sum received for it on sale. For that purpose the inspector is entitled to know the amount of the cost of each item on which wear and tear allowance is claimed, even if the Commissioners having jurisdiction in the matter are willing to depart from the normal basis of estimating "value."

Purchase of Practice

M. Y. wishes to buy a practice, obtaining a loan on terms which provide for repayments of principal out of income. Will she have to pay tax on the profits before deducting the amount of the repayment of loan?

⁂ Yes. Such repayments are clearly payments on "capital" account and cannot be deducted in calculating "income." In fact they represent savings in a particular form, and there is no more legal ground for deducting them in calculating income-tax liability than there would be in the case of repayment of a building society loan or even voluntary savings for investment.

LETTERS, NOTES, ETC.

Primary Cancer in Accessory Sinus

Dr. THOMAS LINDSAY, F.R.C.S.Ed., writes from St. Lawrence's L.C.C. Hospital, Caterham, Surrey: Many years ago I reported a case of ? primary carcinoma of the heart. At that time I think it was Duncan Fitzwilliams who asked if the accessory sinuses had been examined, and they had not. The other day a case occurred which at first sight looked like a primary carcinoma of the liver. The liver was very large and riddled with growths. On further investigation the primary growth was found in the maxillary antrum.

Device for Filling Blood Sedimentation Tubes

Capt. M. D. DESHMUKH, R.A.M.C., writes from Harihar: Having read in the *Journal* of May 5 (p. 632) Dr. M. M. Conran's description of a device for filling blood sedimentation tubes I went round to our clinical side-room to show it to the medical officer, Capt. Gian Singh, I.A.M.C., who is in charge of the laboratory investigations. He showed me the method he was following, and it certainly appears to be very much simpler. It is as follows: Attach a well-fitting rubber teat to the upper end of the blood sedimentation tube and fill it like a pipette up to just above the zero mark. Put the lower end lightly on the rubber pad and adjust the level to the zero mark by pressure on the rubber teat, letting out the slight excess of blood; then press the lower end firmly, remove the rubber teat, and fix the clip.

Management and Treatment of Tuberculosis and Venereal Disease

Dr. J. L. WHITWORTH (Melbourne) writes: The report that the Central Hospital, Melbourne, requires several doctors and that this hospital and these doctors are to be engaged on tuberculosis and venereal disease mainly calls for some comment. It will be obvious even to the layman that the concentration of this infective material in the heart of a big city is unwise and unnecessary. That these diseases should be treated "in the great open spaces" should be a foregone conclusion. Further, the expense entailed and the inconvenience caused in trying to manage these diseases under conditions so opposed to the public health would be unreasonable; the aseptic technique would require to be almost fanatical; the risks of infection to doctors and nurses and staff unfair; and the end-results problematical, in spite of the superior skill and attention that would be given, perhaps to the disadvantage and detriment of medical matters elsewhere.

Corrigenda

The last line of Dr. Owen-Flood's letter in the *Journal* of Aug. 18 (p. 241) should refer to "minor epileptics" not "mental epileptics."

By a mishap at the printers the first line in col. 2 immediately under Table V in Capt. Degen's article on "Sequelae of Cerebrospinal Meningitis" last week was transposed to the foot of col 1.

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MENINGITIS AFTER SPINAL ANALGESIA

BY

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The possibility of introducing infection into the subarachnoid space by spinal tap has been recognized from the time that lumbar puncture was first performed, and this possibility must be considerably increased if anything is injected into the theca. Though Babcock (1932), when reviewing the causes of death following spinal analgesia, says meningitis is extremely rare, it is probable that the percentage of infections is higher after this procedure than after any other necessitating lumbar puncture. The literature would appear to support the infrequency claimed by Babcock, for only scattered references can be found, but this may be accounted for by a natural reluctance to report what should be a preventable happening.

Six cases of meningitis after simple lumbar puncture have been described. Siebert (1922), Spiller and Payne (1924), Symonds (1925), and Reynolds and Wilson (1934) gave the details of this group, in which one death occurred.

After spinal analgesia there are more frequent reports. Barrie (1941) describes 11 cases with one death in 96 consecutive spinal analgesias in three months. Livingstone, Wellman, Clark, and Lambros (1943) describe 2 cases which they label " aseptic chemical meningitis," and quote 8 further cases with three deaths from the earlier literature. Evans (1945) gives an account of two deaths from such a meningitis, but does not indicate whether these were the only cases or whether they were the fatalities in a series. The clinical details of all these cases are scanty, and for this reason the group below is reported.

If infection is introduced along a needle track it may obviously lodge anywhere in the course of that track. With lumbar puncture the possible localities are the skin, subcutaneous tissues, vertebrae, epidural space, and subarachnoid space. Each localization gives a fairly typical clinical picture. In this paper are reported seven cases, occurring in the Middle East, of infection of the subarachnoid space after spinal analgesia. One of these patients died, and a post-mortem examination was carried out. Because of its importance in the argument on aetiology and pathogenesis a precisely similar case following diagnostic lumbar puncture is included. The clinical course of this condition is so prolonged that only the first case is given in full detail. The others are briefly summarized. For ease of comparison the C.S.F. findings are collected in the accompanying Table.

Case I : Male aged 22

Jan. 9, 1942.—Herniotomy was performed after the administration of 13 c.cm. of nupercaine. He remained well for seven days and then headache and pyrexia occurred, but it was not until Jan. 29 that he developed clinical meningitis—confirmed by lumbar puncture (Table, L.P.1). Sulphapyridine was given with apparent improvement, but he relapsed very soon. These remissions and relapses continued in spite of treatment, and the patient was transferred to the neurological unit on March 4. He was then fairly well and had a positive Kernig's sign as his only abnormality. On March 18 he relapsed (L.P.5) and was given a course of sulphathiazole. No real improvement occurred (L.P.6), and the next relapse on March 26 was treated with sulphadiazine.

March 29.—Felt very much better. No headache and temperature settled. Neck and back felt easier (L.P.8).

April 1.—He had been very well until the early hours of this morning, when he had a sudden onset of severe renal colic, more marked on the left, with haematuria. The total dosage of sulphadiazine was 100 g., and no more was given. The patient was put on a glucose-saline intravenous drip and given 1 dr. of sodium citrate by mouth every three hours. As no urine was passed between 10 a.m. and 6 p.m., the ureters were catheterized by Lieut.-Col. Ogier Ward. Small clots protruded from the ureteric orifices, and the renal pelves were washed out with bicarbonate solution until the return was clear. After this his urine became normal.

April 3.—He now felt fine and had no complaints apart from slight stiffness in the legs (L.P.9).

May 17.—Until this date he continued to improve apart from residual stiffness in the legs. He developed a headache in the night, and temperature rose to 102° F. On examination no physical signs could be made out—certainly nothing to suggest a recrudescence of meningitis. This settled after two days.

May 25.—Blood count: R.B.C., 4,510,000; Hb, 85%; W.B.C., 10,200, differential normal. B.S.R. (Westergren): Fall in one hour, 48 mm.; in two hours, 81 mm.

The B.S.R. indicated that some active infection was still present, and three days later he again complained of severe pain in the head which was both retro- and supra-orbital. He also had pain in the neck and lower back, going down the backs of both thighs and legs. He had two further relapses, which appeared to respond to sulphadiazine, but by June 16 (L.P.10–13) the lumbar punctures suggested the infection was sealing itself off in the spinal canal. Every now and again apparently a pocket leaked into the general subarachnoid space and there was a recrudescence of the general manifestations. This loculation could be regarded as a stage of lumbar arachnoiditis, and it might account too for the failure to clear completely with sulphadiazine therapy. The drug appeared capable of dealing with the infection when it was generalized in the spinal theca, because this settled more rapidly with than without treatment. The presence of loculation was supported by the poor response to jugular compression and the rise in C.S.F. protein without a corresponding rise in cells. Support for this theory was also given by the symptoms, which were mainly confined to the back and legs and persisted even when the patient was otherwise fairly well. It was decided that the next time lumbar puncture was carried out a simultaneous cisternal puncture should be done and the fluids compared. Any significant difference would indicate that the theory was possibly correct. This was done on June 19 (C.P.14 and L.P.15). Macroscopically the two fluids were very different and, with the laboratory findings, supported the diagnosis of infection confined mainly to the lumbar subarachnoid space with partial blockage of C.S.F. circulation. It was now suggested that, owing to the block, the sulphadiazine did not reach the infected area in reasonable concentration, and it was decided to put a weak solution of the drug into the lumbar theca. The danger of using sulphonamide derivatives by that route was well known, but it was felt that this was due to the great alkalinity of ordinary solutions, and carefully neutralized 1/4% sulphadiazine was used. The *p*H of this was just above 8, and 20 c.cm., containing 50 mg., was injected by lumbar puncture. No untoward reaction occurred.

June 29.—There had been no local or general reaction and the patient felt much better, but could not bend his back with ease and the back of both thighs felt stiff (L.P.16).

July 7.—In the past week the patient had been feeling rather better, but on this day had more local pain in the back. There was no tenderness or redness over the lumbar spines. The legs felt stiffer, but there was no neck stiffness (L.P.17). 20 c.cm. of 1/2% (100 mg.) sulphadiazine solution of *p*H just over 8 was introduced into the lumbar theca No reaction of any kind occurred.

July 13.—The patient had been very well during the past week. He thought his back and legs were less stiff. Again simultaneous cisternal (18) and lumbar (19) punctures were carried out. These indicated that, temporarily at any rate, the local introduction of weak sulphadiazine solution had cut down the infection, though the rise in protein was a little disturbing. There was certainly no clinical evidence of gross damage to the spinal cord, nerves, or membranes. No sulphadiazine was present in either fluid.

July 17.—(L.P.20.) The rise of protein indicated either further obstruction by adhesions in the spinal arachnoid space or a reaction locally to the sulphadiazine.

July 24.—He had a sudden onset of headache and his temperature rose to 101°, but there was no neck stiffness or any increase of leg stiffness (L.P.21). After this he was given sulphadiazine by mouth in a three-day course of 10 g. daily. This was to be repeated each week for four weeks.

Table showing C.S.F. Findings in Case I

	Date	Route	Pressure	Jugular Compression	Appearance	Protein mg./100 c.cm.	Polymorphs per c.mm.	Lymphocytes per c.mm.	Film	Culture
1	29/1/42	L.P.	150	Free rise	Turbid	90	400	1,600	Nil	Sterile
2	5/2/42	L.P.	160	"	Opalescent	80	50	450	"	"
3	26/2/42	L.P.	140	"	Turbid	100	3,200	600	"	"
4	9/3/42	L.P.	190	"	Opalescent	70	750	350	"	"
5	18/3/42	L.P.	200	"	Turbid	90	1,500	500	"	"
6	23/3/42	L.P.	240	"	Opalescent	90	510	220	"	"
7	26/3/42	L.P.	200	"	"	85	460	170	"	"
8	29/3/42	L.P.	160	"	"	60	70	45	"	"
9	3/4/42	L.P.	170	"	Clear	40	—	25	"	"
10	31/5/42	L.P.	200	"	Turbid	120	2,800	480	"	"
11	5/6/42	L.P.	130	"	Clear	50	28	16	"	"
12	13/6/42	L.P.	120	Poor rise	"	85	—	2	"	"
13	15/6/42	L.P.	150	Very poor rise	Opalescent	150	80	320	"	"
14	19/6/42	C.P.	90	Free rise	Clear	65	12	48	"	"
15	19/6/42	L.P.	70	No rise	Opalescent	100	650	600	"	"
16	29/6/42	L.P.	100	"	Clear	100	24	16	"	"
17	7/7/42	L.P.	100	"	Opalescent	120	160	40	"	"
18	13/7/42	C.P.	100	Free rise	Clear	90	—	15	"	"
19	13/7/42	L.P.	80	Slight rise	"	95	—	2	"	"
20	17/7/42	L.P.	140	No rise	"	200	5	5	"	"
21	24/7/42	L.P.	150	Slight rise	Opalescent	85	410	270	"	"
22	31/7/42	L.P.	100	"	Hazy	40	36	24	"	"
23	23/8/42	L.P.	150	Slow rise	"	100	150	100	"	"
24	31/8/42	L.P.	140	"	"	80	77	33	"	"
25	7/9/42	L.P.	120	Moderate rise	Clear	90	28	7	"	"
26	14/9/42	L.P.	130	Free rise	"	70	—	20	"	"

L.P.22 and 23 were done on July 31 and Aug. 23. It was disappointing to find the persistence of infection when the four-weeks course had been completed. The possibility of washing out the lumbar theca as described by Symonds (1925) through high and low lumbar or through cisternal and lumbar needles was discussed, but it was decided to postpone this for the present, and to give another intrathecal dose of sulphadiazine at the next lumbar puncture.

Aug. 31.—(L.P.24.) 20 c.cm. 1/2% sulphadiazine (100 mg.) was given intrathecally. Within half an hour there was a reaction, with severe pain in the back which spread up, and in one hour there were severe headache and neck stiffness. The temperature rose to 102° four hours after the injection and there was definite head retraction. Vomiting began about two hours after the injection and continued for ten hours. The patient said that he had not had so severe a headache or pain in the neck or back since the original onset of meningitis. He required 1/4 gr. morphine and 1/100 gr. hyoscine in the night for the relief of pain and headache.

Sept. 1.—The headache, neck stiffness, and backache had now gone and the temperature was normal. Apart from feeling limp, the patient said he was not too bad. Examination showed no physical signs apart from lower back and thigh stiffness. The sulphadiazine solution was investigated, and it was found that the *p*H on this occasion had been tested with a colour indicator which had deteriorated and that the *p*H might actually have been as high as 9. On the previous occasions the *p*H had been determined with the hydrogen electrode. The reaction produced in the patient was therefore due to the alkalinity of the solution, and was a true irritation of the arachnoid giving a meningitic picture.

Oct. 24.—The last two lumbar punctures were done in September, and during the past month the patient had been very well. There had been no pyrexia for six weeks and, apart from a minor bout of furunculosis, no untoward happenings. He walked well, but his legs tired very rapidly. Examination showed no physical signs in any system beyond a limitation of straight-leg raising to 45°. The other systems were normal. B.P., 130/90. Urine: Sp. gr., 1020; no albumin, sugar, or casts present. Blood urea, 32 mg. per 100 c.cm. Blood count: R.B.C., 4,750,000; Hb, 85%; W.B.C., 9,000, with a normal differential. Sedimentation rate (Westergren) normal.

Eight months later this patient was very well apart from stiffness of the lower back and thighs. He still tired very easily. These were his only symptoms and the only signs of damage to the cauda equina.

There can be little doubt that this man had had a lumbar obstruction to the flow of the C.S.F. which cleared spontaneously. It is difficult to see why there had been a completely free period of six weeks after the initial treatment with sulphadiazine. The generalized meningitis had disappeared, either naturally or as a result of treatment, but the recrudescence proves that pocketing had already occurred. The clearing of the spinal obstruction was also seen in later cases. It is probable that in this spontaneous disappearance of adhesions an occasional pocket of infection is liberated into the general subarachnoid space. The continuation of infection in the pockets suggests that the sealed-off areas cannot be reached by chemotherapy. It is possible, however, that these pockets contain sterile pus and that the clinical manifestations are due simply to the liberation of this irritant material into the general subarachnoid space.

Case II: Male aged 25

On Sept. 9, 1942, appendicectomy was carried out under spinal analgesia, 13 c.cm. of light percaine being used. The appendix was acutely inflamed. The patient had a continuous pyrexia after the operation, and three days later complained of some pain in the back, for which no cause was found. It was not until Sept. 21 that there were any clinical signs of meningitis, but the local tenderness prevented any punctures being carried out He was started on sulphadiazine and began to improve, only to relapse exactly as the previous patient had done. He was transferred to the neurological unit on Oct. 3. He then had an obvious clinical meningitis, but was very tender over the lumbar spine. This suggested a possible osteomyelitis of the spine or a spinal epidural abscess. Skiagrams of the spine were negative, and a cisternal puncture confirmed the meningitis The back soon settled and lumbar puncture as low as possible showed a free flow of fluid, thus negativing a large epidural abscess, which would have caused an obstruction. This patient did not respond to sulphadiazine, having many remissions and relapses. Several transfusions were given because the haemoglobin was falling, but with only temporary improvement. By the middle of November his condition had deteriorated greatly; it was obvious that spinal block had developed, and on Nov. 27 intrathecal sulphadiazine accurately buffered was given. This was repeated on three occasions. In spite of the C.S.F. improvement there was no clinical progress, and early in December he had passed into a state of akinetic mutism with definite papilloedema. As in spite of the spinal block the C.S.F. protein remained relatively low it was felt that this block must be very high up. On Dec. 18 the left lateral ventricle was tapped through a burr-hole. Instillation of methylene blue followed by cisternal and lumbar punctures showed that the block was below the cisternal level. In spite of ventricular tapping his condition deteriorated, and on Jan. 8, 1943, as he was moribund, 2,000 units of calcium penicillin were instilled into the ventricle. This produced no clinical change, but his C.S.F. now gave a profuse growth of *Ps. pyocyanea*. He died on Jan. 11.

Post-mortem Examination.—This was carried out by Capt. A. D. Morgan, R.A.M.C. *External appearances:*—The body was that of a pale and extremely emaciated young man. The right pupil was dilated. In the right iliac fossa was a healed surgical wound. *Spine:*—The muscles in the lumbar region were rather juicy, but there was no evidence of extradural abscess or osteomyelitis. The C.S.F. in the lumbar theca was yellow, turbid, and under pressure. The dura mater was slightly thickened and the pia-arachnoid inflamed throughout. Over the thoracic segments of the cord was a thick yellow exudate causing fairly firm adhesions between dura and cord.

In the meshes of these adhesions lay pools of turbid C.S.F. Over the posterior aspect of the lower medulla were numerous small subpial haemorrhages. *Head and contents* :—High in the left parietal bone was an exploratory burr-hole. The dura and its venous sinuses were healthy. The brain surface was dry and the gyri were flattened. A thick fibrino-purulent exudate was observed over the base of the brain; elsewhere the meninges were congested. A moderate degree of internal hydrocephalus was present, the ventricles containing air and a little turbid cerebrospinal fluid, their ependyma being coated with a thick glairy tenacious exudate, most marked in the right lateral and third ventricles. On removing this the ventricular wall showed mottled red foci of inflammation. There was no evidence of abscess formation. *Abdomen*:—The appendix scar was healthy. The liver, spleen, and kidneys were normal in size and appearance; the adrenals somewhat atrophic. The stomach and alimentary tract were normal.

Histology.—Spinal cord :—The grey and white matter appeared normal. The pia-arachnoid immediately surrounding the cord was infiltrated with polymorphs. The nerve roots were surrounded by a similar fibrino-cellular mesh-work. Deep-blue staining, circumscribed patches of concentrated polymorphs, and fibrin indicated cross-sections of elongated strands of fibrino-purulent material which had become inspissated in the larger interstices. Outside this zone the cellular reaction became more lymphocytic, and, further out, a very chronic arachnoiditis was represented by a thick layer of fairly dense, avascular, and relatively acellular fibrous tissue, intimately adherent to the inner aspect of the dura mater. This picture was that of a very chronic infection of the pia-arachnoid membrane, with a peripheral deposition of fibrous tissue. *Brain* :—The ventricles were lined by a thick layer of pus. The vessels just deep to the ependyma showed marked lymphocytic cuffing. The appearances indicated that infection at this level was more recent than in the cord.

This is a most instructive case because the necropsy findings prove what had been suspected on clinical grounds. The patient had had a very chronic, relatively mild inflammation of the subarachnoid space, which had resulted in fibrin deposition with subsequent organization. Some of this may perhaps have been due to the intrathecal sulphadiazine, but there is good clinical evidence that obstruction in the spinal subarachnoid space had begun some four or five weeks earlier. In this process of organization pools of infected C.S.F. had become shut off, and if the unorganized or even organized fibrin should break down then this infected C.S.F. would be liberated into the general subarachnoid circulation. It is possible, too, that these loculi may not develop the same concentration of any therapeutic substances as is present in the free-flowing C.S.F., so that even if the causal organism is sensitive to sulphonamides it is cleared only from the general C.S.F. circulation and not from these loculi. Any dilution of sulphonamide can be obtained, and endless possibilities of rendering a sensitive organism sulphonamide-fast arise. It is impossible to say how these loculi are liberated, but that this does occur can be seen from the relative rapidity with which a spinal block may disappear. This would seem to be a reasonable explanation for the relapses which form the most striking clinical feature of the condition.

Case III: Male aged 27

Herniotomy was performed on Jan. 26, 1942, in a general hospital under spinal percaine analgesia, 13 c.cm. being used. The patient developed clinical meningitis the next day and was treated with sulphapyridine. He improved and relapsed several times and was transferred to the neurosurgical unit on March 4. At first *Ps. pyocyanea* had been found in the C.S.F., but after arrival a short-chain non-haemolytic streptococcus, allied to *Str. faecalis*, and *B. coli* were found. The C.S.F. soon became sterile. Shortly after admission the meningitis increased in severity and he developed papilloedema followed by a right flaccid hemiplegia which became complete. He went on to develop a pseudo-bulbar palsy with increased jaw-jerk and an explosive dysarthria. He did not respond to sulphathiazole in large doses, and on March 23 it was certain that he was developing an obstructive hydrocephalus. He was almost moribund and certainly too ill to stand a posterior fossa decompression. He was started on sulphadiazine. From this time he began to improve and became less drowsy. The sulphadiazine was stopped after 100 g. had been given in seven days. He could now answer questions and respond to commands. The paralysis began to improve, and it became evident that he had a marked cerebellar ataxia on the right. He also had nystagmus on lateral gaze and a cerebellar dysarthria. He continued to improve physically, but as he did so it became obvious that he was badly hit mentally. He complained that he felt in a daze and that his brain worked very slowly. His memory and concentration were very poor, and he could not carry on a conversation for more than a few minutes because he seemed to fall into a dream state. By the time he left for the United Kingdom, at the beginning of June, he was able to walk alone and use his right arm for feeding himself and for writing. I heard from his wife at the end of November, and he had then been invalided from the Service. He was still hazy and unable to concentrate, and, compared with his state before this illness, seemed like a different man. His right arm and leg had almost recovered and he had had no relapse of the meningitis.

This case almost went the way of Case IV, and we were certain that the patient was beginning an obstructive hydrocephalus. It would appear that, whatever infecting organism was present, it was sensitive to sulphadiazine and that the formation of adhesions around the brain-stem did not continue to extend once this compound was given.

Whether the paralysis, which was pyramidal in type, and the cerebellar manifestations, which this paralysis masked, were due to brain-stem adhesions or whether they were due to a toxic vascular accident such as thrombophlebitis is uncertain. In addition to these local happenings there can be no doubt that the higher functions of the whole cerebral mechanism were impaired. The apathetic appearance, the continual complaint of being in a mental haze, and the marked inability to sustain any effort are remarkably reminiscent of the after-effects of a severe closed head injury. No formal intelligence tests were carried out in this case, but ordinary conversation was enough to suggest a falling off from the level indicated by his previous personal history. His wife describes an undoubted change of personality. These are certainly an indication of generalized hemisphere damage. It is unlikely that such damage could be due to the hydrocephalus alone, as this was of relatively short duration. It is more probably a direct result of cortical damage, though whether toxic or directly inflammatory, as has been suggested in meningococcal meningitis (Banks and McCartney, 1942), it is impossible to say.

Case IV: Male aged 24

On Dec. 27, 1941, this patient had a radical cure of a left inguinal hernia performed under spinal analgesia, 12.5 c.cm. of light percaine being used. The next day he developed meningitis. The C.S.F. and ampoules of percaine from the same batch were sterile. He appeared to respond to sulphapyridine, but, as with the other cases in this group, he relapsed frequently. By Jan. 30, 1942, he had developed papilloedema and was transferred to the neurosurgical unit. It was felt that he had an obstructive hydrocephalus, and the right lateral ventricle was tapped and methylene blue instilled. This failed to pass into the cisterna magna, thus demonstrating an internal hydrocephalus. He continued to have acute hydrocephalic attacks, which could be relieved by tapping the ventricles, but this relief was only temporary. On Feb. 20 a right subtemporal decompression was performed and, after this, lumbar puncture gave as much relief as ventricular puncture. This indicated that the hydrocephalus which was still present was no longer internal but external. As daily lumbar punctures did not help, a posterior fossa decompression was performed on March 9 by Major P. B. Ascroft, R.A.M.C. A fistula was made between the cisterna magna and the posterior cervical muscles, and the papilloedema slowly subsided. He improved very slowly. On June 17 an air encephalogram showed considerable dilatation of the ventricles. There was no obstruction at the fourth ventricle foramina, but there was obstruction round the brain-stem—no air passing on to the cortex.

In this case natural cure resulted. In the early stages the patient undoubtedly had a ventriculitis and a blocking of the outflow from the fourth ventricle. By the time this cleared he had developed an obstruction to the passage through the tentorium. He did not respond to any form of chemotherapy.

Case V: Male aged 25

On Dec. 23, 1941, appendicectomy was carried out under spinal analgesia, 12 c.cm. of nupercaine being used. Both the operation and the puncture were uneventful. The appendix was thickened and contained many concretions. Four days later he developed clinical signs of meningitis and was immediately lumbar-punctured. His C.S.F. was sterile at first, but later specimens grew an anaerobic *Staph. aureus*. He had several remissions and relapses, and was transferred to the neurosurgical unit on March 4, 1942. A control period without any form of therapy showed that a remission could occur spontaneously. He made no lasting response to sulphapyridine or sulphathiazole, but after a course of sulphadiazine he improved and no further remissions occurred. He was the only patient in whom no clinical evidence of spinal block occurred during the course of the illness. This lasted for 14 weeks, and a follow-up a year later showed that he had remained free from symptoms. It is impossible to say whether the cure in this case was due to sulphadiazine or to a spontaneous remission. In only one other patient (Case III) did cure follow so dramatically on a first administration of sulphadiazine. In the next three cases it obviously had no permanent effect whatsoever.

Case VI : Male aged 26

This patient had a radical cure of a right inguinal hernia after receiving 12 c.cm. of nupercaine. Two days later he developed clinical meningitis, which was confirmed by lumbar puncture. His fluid grew coliform bacilli and *Ps. pyocyanea*, but soon became sterile. In spite of this and continued chemotherapy with sulphadiazine he continued to relapse for three to four days at a time. During a prolonged remission his sedimentation rate (Westergren) was 39 mm. in one hour. He developed clinical spinal block about two months after the onset, and following this his relapses were characterized by severe pain in the back and a decrease of straight-leg raising with relatively little headache or neck stiffness. He improved slowly and did not relapse again after four months from the onset. His sedimentation rate was now 5 mm. in one hour, and his straight-leg raising 70° on each side.

Case VII : Male aged 19

On Sept. 3, 1942, this patient was operated upon for a low-grade pelvic peritonitis after receiving 13 c.cm. of light percaine. The appendix was involved, but it was thought unlikely that this was the cause. Three days later he developed clinical meningitis, confirmed by lumbar puncture, and a pneumococcus was grown from the fluid. The ampoules of percaine from the same batch as used in this case were sterile, but the local analgesic used for the skin grew *B. coli*. He appeared to respond to chemotherapy with sulphadiazine, but soon relapsed, and he continued relapsing and improving for five months before the infection fully cleared up. Like the preceding case, he developed spinal block about two months after the onset, and this disappeared slowly as the condition improved.

Case VIII : Male aged 29

In this patient the meningitis followed lumbar puncture. He is included because the course of the disease was precisely similar to that in the previous cases though no foreign substance had been injected into the subarachnoid space. In July, 1942, he had a pyrexial illness, in the course of which a lumbar puncture was performed. C.S.F. was perfectly normal. As his symptoms continued he was lumbar-punctured again, and on this occasion the puncture was reported as being difficult and a heavily blood-stained fluid was obtained. Six days after this second puncture he developed meningitis, which was confirmed by lumbar puncture. No organisms were grown. He was transferred to the neurosurgical unit and found not to respond to chemotherapy. He developed spinal block in five weeks, and lumbar punctures were given up. He did not improve, and five months later he was given calcium penicillin 2,000 units by lumbar tap. Unfortunately this was from the same infected batch as used in Case II, and there was a recrudescence of symptoms with a frank *Ps. pyocyanea* infection. This slowly cleared, and a month later he was almost cured. No further relapses occurred after this. The spinal block diminished as the condition improved. Until infected with *Ps. pyocyanea* in Jan., 1943, the case had differed in no essential feature from the previous three recorded. This case is of great importance, for it demonstrates that such a meningitis can occur without the deliberate injection of a foreign substance and cannot be due to chemical irritation alone.

These cases are similar enough to be considered as one group. The condition is a low-grade meningitis which, if it is not stamped out almost at once, causes the deposition of fibrin and the formation of adhesions, in the meshes of which infected C.S.F. may remain for a long time. Periodically this infected C.S.F. may be liberated into the general subarachnoid space and so cause a relapse. This illness is not as a rule immediately serious because the infecting organisms are rarely of high pathogenicity and, unlike the pyococcal infections, life is not at once threatened. So long as the condition is confined mainly to the spinal canal the arachnoiditis, whether it produces spinal obstruction or not, can cause no serious complications and, given time, will eventually resolve. When the infection spreads into the cranium, then adhesions may cause an obstruction to the flow of C.S.F. through either the fourth ventricular foramina or the tentorial hiatus. This results in hydrocephalus with its characteristic signs and symptoms. A ventriculitis may occur, but the general symptomatology and the post-mortem findings suggest that it is rare and if it occurs is late.

At some stage during the course of the illness the stiffness of the back becomes and remains more pronounced than the neck stiffness. This back rigidity usually continues for some time after the infection has died out and recovery is apparently well established. It is probable that the stiffness is due to spinal-root irritation. In the necropsy on Case II it was seen that the nerve roots were surrounded by a fibrino-polymorph cuff, and it is probable that until this undergoes resolution the irritation and consequent stiffness are maintained.

Aetiology

Three possible explanations have been advanced to account for the production of this form of meningitis.

1. The Chemical Theory

This theory suggests that the condition is entirely due to the irritant action of the spinal analgesic and that infection plays no part. This explanation is used by Livingstone, Wellman, Clark, and Lambros (1943) for two cases occurring in 4,006 nupercaine instillations. The clinical picture they describe is that of a mild meningitis occurring after special aseptic precautions which, on paper, seem almost fool-proof. The meningitis lasted four and five days respectively and then cleared up completely. No relapses occurred. The cellular outflow was almost entirely lymphocytic, with a rise in protein content in a sterile C.S.F. It is possible that these two cases may have been chemical in origin. There can be no doubt that the spinal analgesics are irritants and, like all irritants put into the theca, produce a protective reaction.

There have been several investigations into the changes in the C.S.F. following analgesia. Barker (1909) found that 24 hours after intrathecal stovaine there was an increase in leucocytes of various kinds. Iason, Lederer, and Steiner (1930), 12 hours after novocain spinal analgesia, found a pleocytosis, mainly lymphocytic, in 14 out of 31 cases. There was an increase of sugar but not of protein, and no correlation was observed between C.S.F. changes and post-spinal reactions. Konwaler (1943) investigated a series of patients one, two, and three weeks after spinal analgesia and found no changes of any kind. Experimental work has been done by Davis, Haven, Givens, and Emmett (1931). After the intrathecal injection of nupercaine in dogs, admittedly in larger doses weight for weight than are used in man, meningitic changes were present in the arachnoid. These consisted of a thickening of the membrane and collections of proliferated arachnoid cells and plasma cells in the interstices of the membrane. The exudates were mainly lymphocytic. If the animals were killed later, then organization and scarring was seen. This was most marked in the lumbar and sacral region and diminished steadily up the cord. There were some inflammatory changes in the ganglion cells and axis cylinders, but these were less definite and seemed less permanent.

There is therefore good evidence of the irritant effects of the spinal analgesics, but it would appear that with ordinary clinical dosage this irritation comes on at once, is short-lived, and settles down without relapse as the irritant is got rid of. A very good illustration of this occurred in Case I when sulphadiazine solution of too alkaline a reaction was put into the C.S.F. There was an immediate accentuation of meningitis, beginning in the lumbo-sacral region and travelling up the spine to the head accompanied by an increasing pyrexia. The reaction, though violent, lasted less than 24 hours, and there was certainly no tendency to relapse, as this was the beginning of complete recovery from the existing relapsing meningitis. Similar chemical "meningitis" has been seen after the use of impure or deteriorated iodized oils for opaque myelography. This clinical picture is quite different from that occurring in true infective meningitis.

The infrequency with which the infecting organism has been isolated is used to support the chemical theory, but, as has been shown by Smith and Smith (1941), it may have no significance. This is discussed more fully later. This theory cannot explain meningitis which follows simple lumbar puncture, as in Case VIII of this series and the similar cases quoted from the literature, for in these no irritants had been put into the theca. Yet the natural history of this meningitis is identical with that following the spinals. This would suggest that, whatever part the irritant may play, it is not the direct cause of the condition. It is also difficult to see why only one ampoule of a batch of percaine should be irritant.

2. Secondary Meningitis Theory

The next possibility is that the meningitis is secondary to infection elsewhere in the body. Weed, Wegeforth, Ayer, and Felton (1920) suggested on experimental grounds that lumbar puncture in the presence of bacteriaemia may produce meningitis, and their findings were confirmed by Remson (1936). This work is open to criticism because a heavy bacteriaemia was necessary before positive results were obtained. Pray (1941), from an analysis of pneumococcal meningitis in children on whom lumbar puncture had been performed before the onset of the meningitis, was not able to confirm the experimental results.

In the present series, Cases I, III, IV, and VI were "clean" hernia operations, and there was no reason to suspect the prior existence of a bacteriaemia. In Case V a subacute mildly involved appendix was removed, in Case II an acute appendix was removed, and in Case VII a low-grade obscure peritonitis was found. In none of these patients was there a suggestion of bacteriaemia in the pre-operative phase. The clinical features of all the cases recorded were so similar as to suggest the same aetiology and pathogenesis in all. As secondary meningitis is not possible in the "clean" cases, one may argue that it is an unlikely explanation in the others.

3. Infective Theory

The third possibility is that the meningitis is due to the introduction of infected material along the lumbar puncture needle. It is true that in a number of cases it has not been possible to isolate the organism as might be expected in an infective condition. This may have a variety of explanations. In five of the cases described above the C.S.F. was sterile throughout the course of the disease if the known contamination with infected penicillin be excepted. In the three cases in which an organism was found it very soon became so attenuated that it could no longer be cultured. In spite of this the clinical state did not improve, thus indicating that the infection was still alive. If attenuation is the cause of the failure to isolate an organism then it may be that in the cases in which the C.S.F. was sterile from the first this attenuation was present early. Whatever the cause the only point that is made here is that failure to cultivate an organism is compatible with an infective origin. This is not infrequently seen in the meningitis which follows open wounds of the brain—an infective condition by all other standards. Smith and Smith (1941) have shown that special techniques are necessary to cultivate the organisms which may be found in this type of case, thus explaining some of the failures.

In the cases described by Barrie (1941) no causal organisms were found. The clinical picture and the necropsy findings, however, suggested an infective cause. Because of this negative bacteriology it was suggested that the condition was due to a virus, though the C.S.F. findings were unlike any meningitic reaction to known virus diseases. This carries the significance of the "sterile" C.S.F. too far. If an epidural abscess, osteomyelitis, or a subcutaneous abscess follows a lumbar puncture, it is regarded as infective whatever the bacteriology of the purulent material, and there is no logical reason why this should not be extended to the subarachnoid space.

The delay which usually occurs between the operation and the onset of meningitis is very suggestive of a phase of multiplication of an organism as a preliminary to the phase of clinical activity. The cases described all occurred in small groups—three in one hospital and two in each of two other hospitals. This may indicate that the conditions necessary for infection to take place were present in one institution for a short time and then were no longer found. Probably the most convincing evidence in favour of the infective theory is the cessation of fresh cases with the tightening up of aseptic technique.

4. Mode of Infection

From the evidence presented it is reasonable to conclude that these cases of meningitis are due to the introduction of organisms into the C.S.F. There can be little doubt that the spinal analgesics are mild irritants, and it is possible that the reaction to this irritation with the outpouring of protein-rich fluid gives reasonable conditions for an organism to gain a foothold. In no case has the spinal analgesic itself been infected. Bacteria have been found, however, in every other fluid used during the lumbar puncture. These include the local analgesic used for anaesthetizing the skin at the site of puncture, the spirit used for sterilizing needles and syringes, and the water used for rinsing these needles and syringes. There is no need to give here the details of the asepsis necessary for lumbar puncture and spinal analgesia, as every aspect has been fully considered in papers by Carnegie Dickson (1944), and Evans (1945), and in the *Lancet* (1944). That there is need for an absolutely rigid technique is shown by Smith and Smith (1941), who found bacterial contamination in 89 of 223 specimens of C.S.F. It is true that the contaminants were mainly non-pathogenic, but they suggest that these might be activated under suitable conditions. They thought that the contamination was mainly due to the "sterile" water used for rinsing needles and syringes, but it is possible that the sterilization of needles and syringes by means other than dry heat may be faulty.

Treatment

The only satisfactory treatment is prophylaxis. It should be possible to avoid these unhappy cases completely. If, owing to an emergency, a rigid technique is not possible, then spinal analgesics should not be used.

If the condition does occur it is essential to stamp out the infection as soon as possible, otherwise it may go on for months and even prove fatal. Unfortunately the causal organism is often not susceptible to present-day chemotherapy—i.e., sulphonamides and penicillin—but this should not prevent these substances being given an early and adequate trial. Once it has been established that they are ineffective, not only in preventing relapses but in clearing up each relapse, they should be discontinued. The commonest infecting organisms are probably *Ps. pyocyanea* and atypical *B. coli.* Botterell and Magner (1945) have suggested intravenous iodides for the former, whereas Ecker (1945) has found a combination of urea and sulphadiazine useful for the latter.

The formation of adhesions causing spinal block is common and calls for no special treatment, but if hydrocephalus occurs, then surgical relief may be necessary. In none of our cases was an attempt made to wash through the spinal subarachnoid space as suggested by Symonds (1925). In retrospect it appears that this may be a useful manœuvre if not put off for too long, as it might break up strands of fibrin and so wash away the foci of infection which cause relapses later on.

Apart from the specific attack on the meningitis all measures used in a long-continued septic illness must be tried, and of these whole-blood transfusion would appear most valuable.

Summary

Seven cases of meningitis following spinal analgesia and one following diagnostic lumbar puncture are described.

The condition is a low-grade meningitis caused by a variety of organisms introduced at the time of lumbar puncture.

The main clinical features are the chronic nature of the illness and the tendency to relapse.

It is suggested that this is due to the formation of adhesions containing infected C.S.F., which is liberated from time to time.

These adhesions may cause spinal block or hydrocephalus.

The cause of the condition is discussed, and on the evidence available it is decided that the likeliest cause is infection due to faulty aseptic technique. The irritation produced by the analgesic may enable an organism to gain a foothold.

Treatment is mainly prophylactic.

My grateful thanks are due to Brig. D. McAlpine, then Consulting Neurologist, M.E.F., for placing these patients under my care and for his constant help and advice during the many anxious moments of their long-continued illnesses. I must also thank Major R. W. Cope, R.A.M.C., for his advice in all matters relating to spinal analgesia, and Lieut.-Col. G. H. Buttle, R.A.M.C., for help in all matters relating to chemotherapy and the *p*H of solutions. Col. H. D. F. Brand very kindly permitted me the use of the hospital records.

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TREATMENT OF BURNS: A PLEA FOR SIMPLICITY

BY

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> "It can be said truthfully that the treatment of burns has returned to chaos."—Major-General P. H. Mitchiner.

It is sad to think that a distinguished surgeon and respected critic should be forced to the conclusion quoted as a text at the head of this paper. Modern war causes many burns, and during the past five years more surgeons have had to treat these cases than at any time before, and yet it must be agreed that about the treatment a good deal of confusion still exists. In part, at least, this confusion results from the large number of articles published and the numerous memoranda issued by separate authorities. Anyone who adds to this spate of literature takes upon himself a grave responsibility lest he confound yet more deeply the struggler in this therapeutic tangle. Yet General Mitchiner's challenge should be accepted.

My approach is purely clinical and personal. What follows is based on the results of treating regularly during the past five years patients with burns, under conditions that have varied very considerably. The numbers have not been vast, but the intake of patients has been very constant. Much has been learned from surgeons, physicians, pathologists, sisters, and orderlies. I do not intend to refer widely to the writings of others, believing that a picture drawn from the experience of one individual may be clearer than one which is composite.

Origin of the Chaos

The first step in trying to clear the confusion is to analyse some of its causes. A burn is a wound with infinite possible variations. It may extend widely or deeply, or both. Its effects vary according to the general condition of the patient—his age, his fatigue before being hurt, his associated injuries. Treatment depends on factors imposed by time and space: Was the patient burned in a factory, a tank, or a ship? Did his aircraft crash close to a well-equipped hospital or on a temporary landing-strip in the desert or jungle? The list of changeable factors in any single case of burns could be extended, but enough have been quoted to show that each patient must be considered individually. Yet surgeons hanker after a universal panacea. It is not uncommon to be asked, "How are you treating burns now?" That question is as intelligent as "How are you treating fractures now?" The questioner should not really be blamed for the folly of his remark, because from his student days onward he has been led to believe that there is "a" treatment for burns. Even the authors of the admirable Field Surgery Pocket Book published by the War Office in 1944 write that "there is *to date* no cure-all for burns," being reluctant to abandon the hope of some magic still to be found. Twenty years ago all burns were treated with carron oil or picric acid. Later, tanning was introduced, and this notable advance fell into disrepute because it was employed in all burns in all places under any circumstances. Unfortunately its defects were not critically analysed: its whole use was condemned, to be replaced by another panacea—the dyes. The saline bath, envelope irrigation, and plaster-of-Paris came next, and again were judged on their universal applicability, and by this uncritical test were found wanting. The same fate probably awaits penicillin.

The treatment of burns must in the present state of knowledge be to some extent empirical, because the pathological processes which make the patient ill or cause his death are as yet not fully understood. But by careful observation of those signs and symptoms which are comprehensible a high standard of treatment can be achieved, function can be preserved, and lives saved. Such a study can perhaps be more easily made in the Royal Air Force. The admissions for burns are steady and regular, and there is only very rarely the urgent pressure of a large number of battle casualties. Furthermore, the nature of the trauma and the extent of the burns which follow an aircraft crash are remarkably constant, so that successive cases are comparable. The extent of such burns depends on the protection of clothes, and from the same trauma a man is more seriously injured if wearing a sleeveless shirt and shorts instead of full flying clothing. A study of these two groups of cases—those at home and those over-seas—has been clinically instructive. From that study has emerged a plan of treatment which, with variations, can be made applicable to any case of burns; but at each stage of treatment the surgeon must examine his patient, and the details depend on the circumstances of the time and his own experience. There is no single all-embracing universally applicable treatment for burns, and never will be. The surgeon who attains that belief is a long way towards reducing chaos to order.

Degrees of Burns

From the clinician's point of view burns are of two degrees—slight and severe. Slight burns are those in which there is no detectable general disturbance; severe burns are those in which the general treatment of the patient is more urgent than the local treatment of the burn. The differential diagnosis is not always so easy as it sounds, because fit young men widely burned show for a few hours an astonishing vitality. One such walked four miles to get help for his injured companions. This temporary well-being leads at times to disaster, for it is followed by a quite sudden collapse. Patients apparently not very ill have been sent by ambulance car or aircraft on journeys they were not fit to make, and have arrived at hospital moribund. If there is any question in the medical officer's mind as to whether the case is one of severe or slight burns the patient must have the benefit of the doubt. No patient has died because his doctor took an over-cautious view of his burns and refrained from rushing him off to a special centre; a number have died because they were thought to be fitter than they in truth were.

Any other classification, or attempt at classification, in the early stages is useless, and (what is worse) confusing.

Slight Burns: Local Treatment

There are three types of local dressings available: (1) wet dressings, changed at intervals, of saline or antiseptic; (2) occlusive dressings, of tannic acid or dyes; (3) greasy dressings. A wet dressing is suitable for a fresh burn not cleaned or an old one gone septic. An occlusive dressing is successful if the wound is clean and the burned area one that is relatively immobile. It is therefore not good as a first-aid dressing, nor on the fingers, face, and flexures. Greasy dressings are very comfortable and proper on the face and fingers, but should not be used too continuously; the raw surface gets grease-logged and indolent. It is admirable as the skin heals. All three have their place in the local treatment of burns if the surgeon knows why he has chosen one of the three for the particular problem he is trying to solve.

Since the appearance of considerable numbers of cases of sulphonamide skin sensitivity, the use of any sulphonamide powder locally is to be viewed with some caution. For first-aid treatment wet saline dressings give reasonable comfort and do not prejudice later treatment; "Glasgow cream," if available, is probably best of all. Penicillin is still experimental. It seems so far to have a place but not a monopoly in the local treatment of burns.

Severe Burns: General and Local Treatment

In every case of severe burns there are a series of symptoms and signs which must be looked for, and, if found, treated. The details of treatment vary, but the particular points should be checked over in each patient.

1. Any case assessed as severe first requires intravenous plasma. It is extremely valuable to have the haemoglobin estimated before treatment is started, and essential to have this done as soon as possible: from beginning to end, the chart of the haemoglobin percentage is as important as that of the temperature and pulse. Follow the plasma by intravenous glucose-saline until it is apparent that the patient can drink enough, without vomiting, to prevent dehydration. A fluid-intake-and-output chart gives the surgeon complete information on this point, and treatment varies accordingly. There obviously cannot be a statutory number of bottles or days during which the drip should be maintained.

2. Local Treatment.—Despite the early appearance of organisms in a burned area there is no desperate rush to get at the wound. Under morphine alone, the burned areas are cleaned with all aseptic rites, blisters snipped, and very carefully dressed with tulle gras or

vaselined gauze or Glasgow cream. If possible, these dressings are to stay on several days; the most likely reason for having to shift them is that they become uncomfortable. Hence the need for care in applying them. Guard the ends of the fingers by a Cramer wire splint which projects beyond the tips. Give morphine for pain. The procedure is slow: to be done properly it must be done carefully. Under the urgent pressure of battle it may be very difficult to do properly, but that is no real criticism of the method. There are surgical operations which cannot be skimped or done roughly without the work becoming second-rate: the first dressing of a burn is one of them.

3. It is, as already stated, the purpose to leave the dressings alone for four days at least. In the interval the patient needs fluids, glucose, and rest. If his burns are reasonably comfortable he will sleep better with a hypnotic than with morphine. So many doctors seem to have no thought beyond morphine, though the man is suffering not so much from pain as from sleeplessness and nightmares.

4. After three to seven days, depending on the general condition, it is time to think of doing the first dressing. The limbs are beginning to get uncomfortable; the patient is rested; his fluid intake, by whatever route, stable. For an extensively burned patient there is nothing which makes him so comfortable, or the dressing so easy, as a bath. Elaborate machinery, though desirable, is not essential. An ordinary bath, cleaned with cresol, filled with warm water to which salt has been added to give rough normal salinity, does very well. On one occasion a bath filled with buckets of water boiled on primus stoves met an urgent need in treating two badly burned airmen. In the early stages, during the separation of sloughs, a daily bath seems best. Later, when the wound reaches the healing stage, it may make the granulations soggy. Judge the need for baths by the state of the wounds and the comfort of the patient. If the hands are burned, keep the fingers moving in the bath. For limited burns, especially of the hands, the envelope irrigation treatment is successful. With adequate organization, baths are as easy to arrange: with a large number of cases to be treated and a small staff, envelope irrigation may be a satisfactory alternative. But I feel bound to point out that some form of bath treatment centre can be improvised in any hospital if it is thought important enough: in R.A.F. hospitals in one command abroad a bath department was planned in each improvised building as automatically as was the operating theatre.

5. Food, with extra proteins, is the next care. In practical terms this meant abroad plenty of eggs. Patients with badly burned faces are apt to go short, but an adequate diet is very important. As important is attention to the bowels: these patients get constipated, and are much more comfortable and eat better when their bowels start to move.

6. Check the haemoglobin at any time that the patient's condition causes anxiety or if progress is slow, and always on the tenth day. If it is below 80%, check daily, and if thereafter it falls two days running, give a pint of blood. Give more if this does not check the fall, but one transfusion sometimes starts the curve upwards.

7. As the patient's general condition improves, the question of first-aid grafting where skin has been destroyed becomes urgent. The aim of the general surgeon is to preserve function and give the plastic surgeon as good a foundation to work on as possible. Ogilvie's definition of the need at this stage for " more optimism than sense " is the guide. It is often practicable to get skin to " take " on a raw area on the back of the hand that is continuous with discharging areas over infected phalanges. It is beyond the scope of this paper to discuss details of grafting, but it is important to know when to start this procedure. The answer is—at the very first sign of spontaneous healing at the edge of the raw areas. Whatever the bacteriology of the wound may be, natural healing shows that conditions are favourable for trying to graft. If the first attempt fails, try again. Thiersch, " postage stamp," and pinch grafts all have their place.

Summary of Important Points

It has already been explained that there can be no universal treatment for burns, but the purpose of this contribution is to try to show that there are certain recurring clinical pegs on which to hang the details of treatment.

1. Decide whether the burn is slight or severe. If in doubt, treat as severe and give general treatment first.
2. Local treatment depends on the nature of the wound and a consideration of outside factors such as nursing and transport.
3. Prevent dehydration by checking fluid intake and output. Ensure sleep.
4. Baths.
5. Watch the diet. Keep the bowels open.
6. Watch the haemoglobin and keep the record on a chart.
7. Graft at the first prospect of success.

By going over these points when faced with a case an intelligent approach to treatment is achieved. It used to be so common to find the surgeon wondering what to " put on " a dirty-looking burn ten days old when the patient had been constipated for a week and had a haemoglobin of 50%. Whether or not sulphonamides, penicillin, or anything else should be used can all be decided by observation of the individual patient, his wounds, and his charts. They cannot be given by rule of thumb.

Shock and Toxaemia

These two words appear in any paper or discussion on burns, and this one is no exception. They are, however, introduced for a special reason. Until they receive a much more definite meaning the surgeon treating burns would do well to forget them. That is not to deny that they are pathological factors, and it is to be hoped and expected that pathological and biochemical research will endow them with meaning which will aid the clinician in specific therapy. Until that day arrives the surgeon should break down his patients' symptoms and signs into words which have a practical application—pain, sleeplessness, dehydration, anaemia, and so forth. He will find it more profitable than sheltering behind " shock " and " toxaemia," which delude him into thinking he has made a diagnosis, and leave him stranded as to what to do to help. In certain severe cases he will find that there remains, when all possible lines of treatment have been used, some unknown factor which is keeping the patient ill and preventing progress, and for convenience that something unknown can be called " toxaemia." It is, however, for the clinician a dangerously seductive word, and there is a good case for using it very cautiously and a better one for not using it at all.

Comment

The infinite variety of problems presented for solution in the treatment of burns means inevitably that a volume of great size would be required to cover all the points that can arise. The omissions in this paper are deliberate. The points stressed are of universal application, and on them can be based the details which must be considered in every case. One omission demands a note—namely, the value of blood-pressure estimations. In so many of my patients has it been impossible from the nature of the burned areas to obtain readings that I have ceased to rely on them, depending on other signs for guidance: but if the blood pressure can be measured it helps.

On one point of detail a personal view is submitted. Severely burned patients travel badly until their general condition is stabilized, which usually takes from four to ten days. Long journeys for injured patients form a tragic feature of surgery in an oversea command. Burned patients do better if their general condition is treated well and they are kept quiet and still even under quite rough conditions, with poor facilities for local treatment, than if they are hurried away to the most lavishly equipped special centre. Paradoxically, some of the most severely burned men have lived because the medical officer forward has had no doubt in his mind that a journey would be fatal, and has kept and treated his patient, while others less badly injured have been sent on their way and have died. Hence the urgency of the need for teaching that in any case of doubt general treatment must have priority, and for eradicating the belief that there is some local dressing, be it ointment, powder, dye, or lotion, which can by its wonderful property save the patient's life.

Conclusions

In our knowledge of the treatment of burns there are gaps. They will be filled by the researches of pathologists, biochemists, and others; and with the information they provide the surgeon will be able to approach his patients with more confidence than he now has. My failure to refer to the amount of work done on this subject implies no disparagement, but its very mass is to the clinician somewhat confusing. It is my contention that the surgeon who tackles a case of burns as he would any other traumatic problem, with an analysis of symptoms and signs, will find his anxieties enormously reduced, his path clear, and in his mind tidiness instead of confusion. He will find himself varying his detailed technique from case to case as in any other branch of surgery. As research develops new information he can try new lines, for with their variety burns keep on presenting new difficulties for solution. But withal he must avoid the confusion of detail and not be ashamed to rely on the simple practice of good surgery.

I am very grateful to many medical officers serving on units and in hospitals and in administrative posts, to nursing sisters, and to orderlies. They have shown that the handicaps imposed by an oversea campaign, the necessary improvisations, and long-distances are no real bar to a high standard of burns treatment when faced with intelligent enthusiasm and understanding. For such views as are not in accordance with the current teaching on burns, or appear unduly dogmatic or provocative, I am solely responsible.

FIRST-AID TREATMENT OF PHOSPHORUS BURNS

BY

W. McCARTAN, M.D., M.R.C.P.

AND

E. FECITT, M.P.S.

(Brighton County Borough Mental Hospital, Haywards Heath)

The facility with which copper combines with active phosphorus to form copper phosphide has been the basis of most methods of first-aid treatment of persons contaminated with phosphorus. The standard treatment suggests that the burning phosphorus should be extinguished with water, keeping the burned area damp and removing the patient to hospital for surgical attention as quickly as possible. The burn is treated with aqueous solutions of sodium bicarbonate and copper sulphate.

The principal objections to this treatment are that such solutions are cumbersome to carry and are not likely to be immediately available in civil defence and active service conditions, although speedy application is, of course, all-important. Also, the number of persons contaminated may be so large that immediate active surgical attention to all is not possible, and in the meantime it is necessary to repeat the application of the solution—not the best treatment for an already shocked patient. There is, further, the danger that repeated applications of fluid may wash particles of phosphorus to the periphery, with the risk of peripheral burns.

The possibility of damage to this institution by phosphorus-containing incendiaries during air attacks and the prospect of having to deal with a number of casualties among our population led us to investigate this matter with a view to producing a substance which fulfilled the following requirements: (*a*) it should be readily available in a compact form; (*b*) all the remedies should be contained in one compound; (*c*) it should immediately extinguish the phosphorus and inactivate the products of phosphorus combustion—i.e., phosphorus pentoxide and phosphoric acids; (*d*) it should be viscous and stick to the skin so as to remain in position, and also hold the particles of phosphorus *in situ*; and (*e*) it should be easily removed by warm water.

Godding and Notton (1942) suggested the use of copper sulphate, glycerin, and starch. Tomski (1943) recommended for trial two creams, the first containing 20% of sodium bicarbonate, and the second copper both as oleate and as sulphate. Tomski suggested that the two creams could be carried by fire guards, wardens, etc. Goldblatt and Oakeshott (1943) considered that aqueous solutions of copper sulphate would be unlikely to interact with solid phosphorus or with phosphorus dissolved in some solvent not miscible with water to produce total inactivation of the phosphorus. They suggested the use of copper oleate, with which they combined a rubber solvent.

One of us suggested the use of sapo mollis *B.P. Add. III* as the base for incorporating copper sulphate, and after many trials a compound was prepared with a final content of 4% copper salts. The damage to tissue by burning phosphorus is thought to be due not only to the heat of combustion and to the corrosive action of phosphoric acids formed as the terminal result of such combustion but also to the intensely hygroscopic action of phosphorus pentoxide, which is the intermediate stage of the change. Phosphorus pentoxide "mops up" water with great avidity and with the production of intense heat, and we suggest that, applied to the skin, a film of water sufficient to extinguish the phosphorus flame will not be adequate to provide the pentoxide with enough water to supply its needs; thus tissue fluid is called on, causing further damage. For this reason a high proportion of water was mixed with the compound. It was also felt that water loosely held in depth over the area by such a compound might act as a better conductor of heat than air and that in this way the heat generated by the change—$P_2O_5+3H_2O \rightarrow 2H_3PO_4$—would be more easily removed from the site of the injury. The method of production of the copper-soap compound is described later.

Bench and personal trials showed that the compound was extremely quick in action. Burning phosphorus was extinguished immediately and phosphide formation was very rapid. It also appeared to us that the inactivating layer of copper phosphide on the surface of a piece of phosphorus was of greater depth than with the copper sulphate solution. The black phosphide particles were very clearly visible in the green mass of the compound, giving an excellent colour contrast, and this may be important, where manual removal in the operating theatre afterwards is necessary. The compound is adhesive and remains *in situ*, but is easily washed away with warm water.

Through the co-operation of the Ministries concerned, arrangements were made for tests to be carried out on experimental burns, and we are deeply indebted to Prof. G. R. Cameron and Mr. F. Burgess for their reports and for permission to publish them.

REPORT I

Treatment of Experimental Phosphorus Burns with Copper Sulphate Soap (Prof. G. R. Cameron and F. Burgess)

Adult rabbits (2 kg. body weight) were given standard phosphorus burns on the shaved skin of their backs. Under nembutal anaesthesia, 0.1 c.cm. of a 50% solution of yellow phosphorus in carbon bisulphide was applied to an area of skin enclosed by a metal ring 19 mm. in diameter, ignited, and allowed to burn for 15 seconds. Such burns are remarkably similar in depth and reaction, and heal in about 5 to 6 weeks when treated simply by water application. Two such burns were made on each rabbit—one being treated at once by repeated application of the copper sulphate ointment, which was renewed until it failed to turn brown or black, the other burn serving as a control and treated in some instances with water alone, some with the standard sodium bicarbonate–copper sulphate solution method (*Medical Manual of Chemical Warfare*, 1943, p. 50). In a third group the copper sulphate ointment was compared with copper sulphate ointment followed after two hours by 2% solution of sodium bicarbonate. In all instances the ointment was allowed to remain on the burn for several days. Comparison of healing times, judged by separation of the scabs which invariably form on the burnt surface, was adopted as the measure of effectiveness of treatment. Results are shown in Table I. It is apparent that the ointment-treated phosphorus burns heal more rapidly than burns treated with water or with the standard sodium bicarbonate—copper sulphate solutions. In the latter case there was as much as a fortnight's difference in healing times; in the former, nine days. These results are statistically significant.

With the third group of experiments, in which application of copper sulphate ointment was contrasted with ointment application followed after two hours by removal of ointment with sodium bicarbonate solution, the procedure was changed. All animals were killed on the 28th day, when healing was nearing completion, and the burns examined microscopically. The notes in Table I bring the main findings into contrast. There is no doubt that the follow-up of copper sulphate ointment application by washing with 2% sodium bicarbonate solution has aided healing; the bicarbonate solution is also excellent in removing the ointment if cleaning up of the burnt area is desired.

One striking effect of the ointment is the marked tissue reaction seen during the first 24 hours around phosphorus burns so treated. We examined microscopically the burns of five rabbits at this stage and found a great deal more oedema and cell infiltration than in burns treated by other methods. It is possible that an excessive reaction might have its disadvantages; it might lead, for instance, to more pain if the oedema were confined under tension, or it might predispose to secondary infection. But it has not led to interference with healing; on the contrary, the ointment-treated burns have healed more rapidly than those with other treatments, accompanied though they are with less initial reaction. Perhaps the ointment has evoked a useful counter-irritation effect; but this is purely conjecture.

TABLE I.—*Healing of Phosphorus Burns with Various Treatments*

Rabbit	Healing Times in Days	
	Copper Sulphate Ointment Treatment	Water Treatment
810	22	19
811	20	20
812	19	20
813	20	20
1594	26	55
1595	27	56
1596	34	42
1597	26	40
1628	27	31
Mean ..	24·6	33·7

	Copper Sulphate Ointment Treatment	2% Sodium Bicarbonate + 1% CuSO, Treatment
1654	31	31
1655	24	45
1656	24	45
1657	33	47
1658	31	45
Mean ..	28·6	42·6

	Copper Sulphate Ointment Treatment	Copper Sulphate Ointment followed after 2 Hours by 2% Sod. Bic.
	Microscopical Findings 28 Days After Burning	
1837	Very large epidermal defect, large scab, little dermis reaction	Moderate epidermal defect, small scab, little dermis reaction
1838	Large epidermal defect, large scab, little reaction	Completely healed over
1839	Almost complete healing, very little dermis reaction	Complete healing, but epidermis thin, little reaction
1840	Moderate epidermal defect with scabbing, little dermis reaction	Healing nearly complete
1841	Scab attached to two small epidermal gaps, little dermis reaction	Scab attached to one small epidermal gap, little dermis reaction

We conclude from these experiments that copper sulphate ointment, in addition to being an excellent first-aid measure for phosphorus burns, is of value in the healing stages also, since it has reduced the healing time of burns in striking fashion. We would suggest that it be combined, in subsequent treatment, with sodium-bicarbonate solution; for the latter allows of the easy removal of the ointment if the burn is to be inspected, assists in the disposal of any phosphorus which may still persist after ointment treatment, and tends to reduce the healing time of the burns.

Trials of preparations of this type involving emergency methods are extremely difficult to arrange. We are, however, informed by Surg. Capt. Fairley that at the time of the trials of the compound a scientist sustained a badly mangled hand due to a phosphorus grenade exploding in his hand. There was very serious tissue laceration of one hand and the loss of several phalanges of both hands. Burning phosphorus was embedded in the lacerated tissues of one hand. The compound gave excellent results, and after the patient's removal to hospital for urgent surgical treatment the soapy character of the first-aid application allowed his various injuries to be quickly cleaned up before operative treatment was undertaken. The surgeons made favourable comment on this.

The compound was issued in this hospital in wide-neck glass jars each holding half a pound. The mouths of the jars are 3 in. in diameter, thus enabling the operator to insert his fingers and obtain a sufficient quantity at once.

A sample of a German paste preparation suggested by H. Stadlinger (1944) was prepared and forwarded for examination. A comparison of this German paste and the copper-soap compound was made, and was reported on as follows.

REPORT II

Treatment of Experimental Phosphorus Burns with a German Paste (Prof. G. R. Cameron and F. Burgess)

This paste (Stadlinger, 1944) contains $CuSO_4$ 2 parts, bolus alba (i.e., kaolin) 70 parts, and water 100 parts. The following tests were carried out in order to compare Stadlinger's paste with the $CuSO_4$ ointment of McCartan and Fecitt, as well as with water treatment. Groups of 10 rabbits were used. Under nembutal anaesthesia 0.1 c.cm. of a 50% solution of yellow phosphorus in carbon bisulphide was applied to an area of rabbits' skin enclosed by a metal ring 19 mm. in diameter, ignited, and allowed to burn for 15 seconds. Two such burns were made on each rabbit, one being treated at once by repeated application of the British $CuSO_4$ ointment, the other being treated with Stadlinger's paste, applied repeatedly until discoloration of it ceased. In another series of rabbits the Stadlinger paste method was compared with water treatment. Comparison of healing times, judged by separation of scabs which form on the burnt surface, was adopted as a measure of effectiveness of treatment. Results are shown in Table II. In addition, microscopical comparison of burns variously treated, and examined after 24 hours, was carried out to determine initial reactions to the treatment.

TABLE II.—*Healing of Phosphorus Burns After Various Treatments*

Rabbit	Healing Times in Days	
	British Copper Sulphate Ointment Treatment	Stadlinger Paste
4231	23	32
4232	23	32
4233	23	42
4234	32	45
4235	35	45
4241	23	37
4242	23	37
4243	24	37
4244	24	38
4245	28	38
Mean ..	25·8	38·3

	Water Treatment	Stadlinger Paste
4226	42	27
4227	34	27
4228	37	42
4229	38	45
4230	50	45
4236	50	34
4237	42	37
4238	44	37
4239	44	37
4240	44	41
Mean ..	42·5	37·2

The mean healing time for burns treated with the British $CuSO_4$ ointment was 25.8 days, for the Stadlinger paste 38.3 days. The difference is significant. In the second group of rabbits the mean healing time for burns treated with water alone was 42.5 days, for the Stadlinger paste 37.2 days. This difference is barely significant. The cheering result of the investigation seems to be that the British $CuSO_4$ ointment is much better than the Stadlinger paste in promoting healing, while the latter has little advantage over water treatment. Microscopical examination of burns 24 hours after treatment showed somewhat more inflammation with the Stadlinger paste than with the British $CuSO_4$ ointment. The $CuSO_4$ ointment is very much easier to apply and remove than the Stadlinger paste. Secondary infection was not seen in any of these experiments.

We conclude that the British $CuSO_4$ ointment is much superior to the German paste.

Preparation

For convenience in handling the compound was made in ½-lb. lots. A 25% solution of copper sulphate in water was prepared and the requisite amount of this to give a final content of 4% copper salt was heated in a boiling-flask. Sapo mollis was heated in a water bath, and the copper sulphate solution was added hot by constant trituration on a slab. Copper precipitates as oleate, and this is thoroughly incorporated into the base between each addition. It is advisable to add the copper sulphate solution in small successive portions. The resulting compound is a tacky homogeneous mass, and samples have kept very well for at least twelve months. The *p*H of the final compound, determined electrically, is 8.65 at 19° C. and 8.24 at body temperature.

Sapo mollis *B.P. Add. III* is described as the sodium or potassium soap of a suitable vegetable oil or oils or the fatty acids therefrom, other than coconut oil, palm-kernel oil, or their fatty acids. The sapo mollis used in the above preparation was supplied by British Drug Houses Ltd., and has proved very consistent and suitable for the purpose.

British Drug Houses Ltd. sent us an analysis of the sapo mollis as follows: 51.7% of fatty acids, as compared with the *B.P.* recommendation of not less than 44%. The fatty acids have a solidifying point of 17° C. (*B.P.* not higher than 31° C.), an acid value of 191.5 (*B.P.* not greater than 205), and an iodine value of 146.5 (*B.P.* not less than 83). Resin acids are absent. The soap contains no free alkali hydroxide and no free fatty acids. The total free alkali, calculated as Na_2CO_3 in 10 grammes, is equivalent to 0.2 c.cm. N/1 sulphuric acid, as against the *B.P.* limit of 1 c.cm. N/1 acid.

Conclusions

The copper-soap compound is an effective first-aid treatment of phosphorus burns.

Being a viscous and compact substance, it can be carried about easily by nurses, fire guards, etc.

In experiments, using the copper-soap compound, the healing time of wounds was substantially reduced as compared with the standard treatment.

We express our thanks to Prof. Sir Francis Fraser, Director-General of the Emergency Medical Services, and to Mr. J. B. Hunter, F.R.C.S., Sector Hospital Officer, for their great interest and help. We gratefully acknowledge the work of Prof. G. R. Cameron, Mr. F. Burgess, and Lieut.-Col. Collumbine, who carried out experiments; and also the arrangements made by Surg. Capt. A. Fairley. We are much indebted to the Medical Research Council for the help given us through Dr. F. H. K. Green and members of the Burns Subcommittee. We also wish to record our appreciation of the helpful advice and criticism given by Mr. R. F. Nunn, B.Sc., biochemist to this hospital.

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GLOBIN INSULIN: CLINICAL TRIAL

BY

J. M. MALINS, M.B., M.R.C.P.

In the present trial globin insulin (G.I.) has been used in single daily doses in 36 cases, of which 33 had had no previous treatment. All the patients gave a history of acute onset of diabetes with thirst and wasting. The diet was approximately the same for all; it contained 180 g. of free carbohydrate with an average proportion of protein and fat, and allowed patients to use the normal resources of the home kitchen or works canteen. The carbohydrate was spaced as follows: breakfast, 50 g.; dinner, 50 g.; tea, 30 g.; supper, 50 g. The range of insulin dosage was 10 to 40 units, with an average of 24, the injection being given half an hour before breakfast.

Results.—(*a*) In 10 cases perfect control, both clinical and biochemical, was obtained. The health remained normal, the blood sugar did not rise above 180 mg. per 100 c.cm., and the urine contained not more than a trace of sugar. The average dose of G.I. in this group was 20 units. It is notable that seven of these ten patients were regarded as exceptionally co-operative. (*b*) In 16 cases control was only fair. Hyperglycaemia and glycosuria persisted, although the weight and general health were on the whole maintained. The main difficulty in this group was the frequent occurrence of insulin reactions, even when the dose of insulin was increased only to control the symptoms while hyperglycaemia persisted. Six of these cases have been changed to a P.Z.I.-S.I. mixture with satisfactory results. (*c*) In 10 cases the control was certainly inadequate and diabetic symptoms persisted—e.g., pruritus, weakness, or occasional thirst. Five of these have been changed to a P.Z.I.-S.I. mixture, and the others will almost certainly be treated likewise in the near future.

Hypoglycaemia.—Eighteen patients complained of insulin reactions, the symptoms in general being those common with S.I.—sweating, trembling, weakness, and hunger, relieved at once by food. In 12 cases the symptoms occurred between 11 a.m. and noon (four to five hours after the injection). In three cases the symptoms began at 6 p.m. and headache and weakness were outstanding, while relief from food was not immediate—features which resemble the P.Z.I reaction. In one case the incidence was at 4 p.m., in the other at 8 p.m., and one man stated that he felt identical symptoms twice in one day—at 11.30 a.m. and 6 p.m.—which must be a rare event with any type of insulin. Local reactions occurred in two cases only, and were transient.

Blood-sugar Readings.—In 11 in-patients the blood sugar was studied throughout 24 hours at approximately two-hourly intervals. The diet was that described above and the average dose of G.I. was 24 units. The results were inconstant, but three average curves are shown (Figs. 1–3) which suggest that with increase of dosage of G.I. the insulin activity is delayed in onset and prolonged. (1) With 16 units hyperglycaemia occurred after breakfast, but not after the midday or evening meals, while the fasting blood sugar was well above normal the next morning. In this particular case good health was maintained for six months on this regime. (2) With 32 units there was still hyperglycaemia after breakfast, but later in the day (15 hours after the injection) the blood sugar fell to dangerous levels, while the fasting sugar next morning was not grossly raised. (3) With 40 units hyperglycaemia occurred after breakfast and the midday meal, the insulin action being delayed, with very low figures throughout the early hours of the following morning (lowest figure 24 hours after injection).

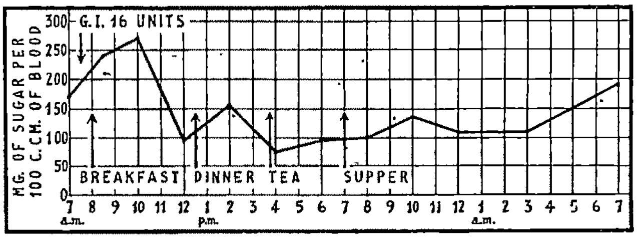

FIG. 1.—Blood-sugar readings with 16 units of G.I.

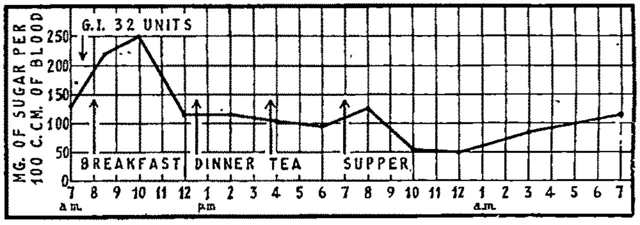

FIG. 2.—Blood-sugar readings, 32 units G.I.

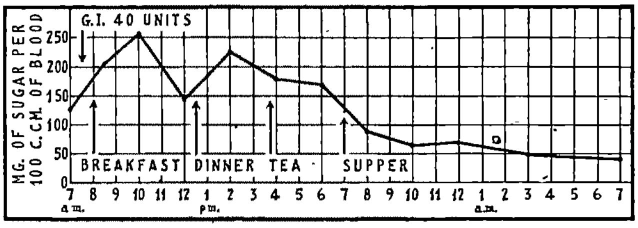

FIG. 3.—Blood-sugar readings, 40 units G.I.

Discussion

The action of G.I. has been compared with that of other insulins under experimental conditions by Bauman (1939) and Duncan and Barnes (1941), and in both papers was found to be intermediate between P.Z.I. and S.I., with maximum hypoglycaemic effect eight hours after the injection. In clinical use it has been commended by Bauman (1939, 1940) and Andrews and Groat (1940), who were able to control mild and moderately

ately severe cases requiring less than … for those who are regular in their dietetic habits. … absence of local reactions may be an indication for its use instead of P.Z.I.

Summary

The results of treatment with G.I. in 36 diabetic patients are described. The greatest drawback to its use has been the frequency of hypoglycaemia. G.I. is considered to have a limited place in the treatment of mild and moderately severe diabetes.

I would like to thank Dr. A. P. Thomson and Dr. G. H. Knight, under whose care these patients were treated.

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A CASE OF PARAPLEGIA AFTER CEREBROSPINAL MENINGITIS

BY

H. HILTON STEWART, M.D., M.R.C.P.

Paraplegia is one of the many nervous complications of cerebrospinal meningitis, and may be organic or functional (Rolleston, 1919). Most cases occur during the course of the acute phase of the disease and gradually tend towards recovery, although permanent paraplegia is recorded. The pathology may be pressure on the cord due to exudate, haemorrhagic or purulent, and not matting of adhesions or a diffuse meningomyelitis (de Massary and Chatelin, 1910). Lesions localized both to the brain and to the spinal cord have been described (Ribadeau-Dumas *et al.*, 1938).

Onset of paraplegia after the acute phase of the disease has passed off does not seem to have been recorded, but a case of syringomyelia occurring four months after cerebrospinal meningitis has been observed (Guillain *et al.*, 1939). The case here reported is therefore unique in that it occurred one year after the acute phase of the meningitis, and was due to organized adhesive meningitis causing diminution of the blood supply to the mid-dorsal area. Division of these adhesions presumably restored the blood supply, and function very slowly recovered. It must be excessively rare for any spinal compression case to make complete recovery after an interval of 1½ years from the removal of the obstruction, but such is the fact in this case, and the only departure from normal demonstrable in this patient now is a scar on her back.

Clinical History

A child about 12 years old was admitted to Lurgan and Portadown District Hospital isolation ward on March 29, 1940, suffering from acute meningitis. While no meningococci were cultivated, the C.S.F. was slightly turbid and contained pus cells, and was thought to be definitely meningococcal. She was treated with a full course of sulphapyridine orally and antimeningococcal serum intravenously. Her affection ran a subacute course and she was in hospital 5½ weeks, being discharged cured on May 14, 1940.

In March, 1941, the patient began to have difficulty in walking. She first noticed that her right foot was trailing and catching the ground so as to trip her. The weakness gradually increased in both legs. The only other symptom was difficulty in starting micturition. She was admitted to Lurgan and Portadown District Hospital on

and no pus cells. The culture showed …

The sensation now altered, and for a time the patient's replies were unreliable. From the umbilicus upward, sensation was normal; but downwards from the umbilicus sensation became progressively worse until the mid-thigh was reached. From there to the periphery sensation was almost lost. Radiographs of the spine were normal.

On May 28 2 c.cm. of lipiodol was injected into the cisterna magna, and the opaque material was found to be held up at the lower border of the body of the 9th dorsal vertebra. Radiographs six days later showed no further descent of the lipiodol.

On July 3 a spinal exploration was carried out by Mr. W. W. Bassett. The spines of the 3rd to 9th dorsal vertebrae were removed. The dura was exposed and incised vertically, but the arachnoid failed to bulge out. It seemed as if the latter were adherent to the surface of the pia, for the usual "floating" appearance of the cord in the C.S.F. was not seen. The slit in the dura was extended downwards, but no other obstruction was found. About the level of the 7th dorsal vertebra the posterior aspect of the cord looked pale. The adhesions between the dura and arachnoid were separated by blunt dissection, and it was concluded that the lipiodol hold-up had been due to these adhesions. The dura was closed without opening the arachnoid. The patient made a good recovery from the operation, but no improvement occurred in the legs. On Aug. 1 it was noted that they were still spastic. Muscle and joint sense was gone. Vibration sense was present, reflexes were increased, and plantars were still extensor. Pressure sores developed on the skin of the heels.

No further recovery ensued, and the patient was transferred to her home to be nursed there. Nothing more was heard from her until Jan. 18, 1945, when she walked up to the hospital to allow me to examine her. Her subsequent history is interesting.

It is now 3½ years since the operation. Three months after leaving hospital sensation slowly began to return. She lay in bed unable to move for 1½ years after operation and then began to move her legs. Shortly after this she started to crawl around the house. This stage lasted three months, and then she got two sticks and walking improved further. The sticks were used until Sept., 1944, since when there has been no disability. Her longest walk up till now has been three miles, but she says she could go much further. Examination showed no spasticity in either leg and no wasting; co-ordination was normal. Sensation to all forms was normal. The reflexes were present and equal and the plantars were flexor. The cranial nerves and upper limbs were also normal. Apart from the healed wound on the back it would have been impossible to say that the patient had ever had spinal compression.

I am indebted to Mr. W. W. Bassett, F.R.C.S., surgeon at Lurgan and Portadown District Hospital, for his valuable help in this case.

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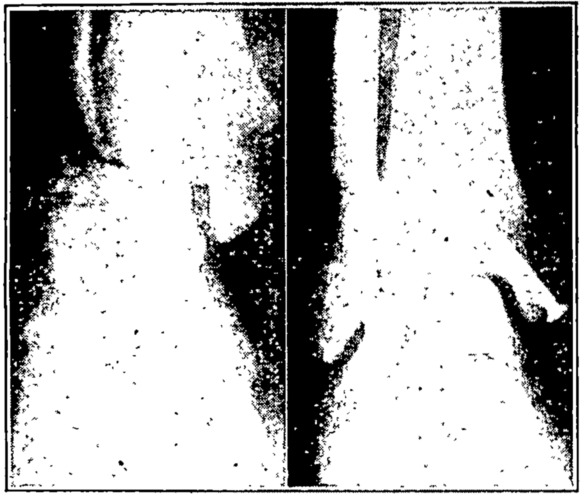
A report in the *Scotsman* states that the trustees of the Nuffield Provincial Hospitals Trust have agreed to make a substantial annual grant for a period of years towards the work of the rehabilitation department of Glasgow Royal Infirmary. The grant will be used to establish associated clinics in some of the outlying parts of Lanarkshire and neighbouring counties. It has been found that many patients attending the department did not complete their treatment at the Infirmary owing to difficulties and expenses of travel, and the new clinics should be of great value in encouraging patients to attend for the follow-up treatment and regular examination essential to the restoration of injured workers to full capacity for work. The facilities of the clinics will be available to all patients irrespective of the hospital they may be attending.

[illegible] reduction of the vast majority of these fractures meets with only partial success. The chief factor militating against anatomical reduction is the [illegible] of the [illegible] covering of the malleolus into the gap between the fragments in a tense curtain-like fold. In the fortunate ones this fold does not extend as deeply as the cartilaginous surface, and union of the deeper part of the malleolus next to the joint restores the mortise of the ankle. In those less lucky, particularly where some displacement has occurred, the aponeurotic fold clothes the entire depth of the fracture and fibrous union is inevitable. It is not possible to tell from the skiagrams which cases have this interposed fold and which have not—it has been found here in the great majority of the cases operated on. After excision of the fold the opportunity is taken to obtain anatomical reduction of the malleolus by internal fixation. This minimizes the chance of fibrous union, maintains reduction, and facilitates early active movements and thus a return to full function in minimum time.

Operative Fixation

The operation is not a difficult one, and is best done as early as possible, before reactionary swelling occurs. A study of the lateral *x*-ray view will show whether the anterior or the posterior part of the malleolus is fractured, and the siting of the incision is made accordingly: attention to this apparently trivial point adds considerably to the ease of the operation. The fracture line is exposed, clot cleared, and the aponeurotic curtain excised. Anatomical reduction is now effected, particular care being taken that filleting of the small fragment is not done, because of the danger of subsequent ischaemic death.



The fragment is fixed by a long vitallium screw, which is introduced at a steep angle in order to avoid the angle of the joint mortise. The screw has to be long because of the poor holding quality of the cancellous bone into which it is introduced. Comminuted fractures, or fractures in which the fragment is too small to hold a screw, are not suitable for this method of fixation.

Active movements are started from the very next day, the leg being put up in a right-angled foot splint when at rest. In [illegible] three, five, and six weeks respectively, [illegible] weight at six weeks. The remaining four had fractures of the external [illegible] malleolus at varying levels, obtained full movements at an average of two and a half weeks, and took full weight at an average of seven weeks. Any associated external malleolar fracture or diastasis of the inferior tibio-fibular joint is not directly treated. Since the internal and external lateral ligaments are intact, the anatomical reduction of the internal malleolus pulls the astragalus into place, and this in turn reduces the external malleolus.

Summary

The cause of fibrous union which occurs in many fractures of the internal malleolus is an aponeurotic curtain-like fold interposed between the fragments.

Internal fixation following excision of this fold is recommended as a measure to ensure union, to obviate the use of external fixation, and to restore early function.

The method of operation is described and the results of 20 cases are given.

Medical Memoranda

Partial Atresia of the Cervix complicating Pregnancy

The case recorded below, which came under my care, may be thought interesting enough to merit publication.

CASE HISTORY

A primipara, aged about 27, was admitted on May 28, 1944. She had been carried to Calabar from a neighbouring village by canoe. On admission she gave a history of full-term pregnancy and of labour pains, which were said to have begun four days previously, but at the time of admission the labour pains had ceased. She was lightly built, emaciated, and appeared toxic. Temperature 102.4° F., pulse 144, respirations 24, and blood pressure 100/60. Pelvic measurements were: I.C. 9 in.; I.S., 8 in.; E.C., 7 in. On abdominal palpation the uterus was found to be tense and tender. The fundus was four fingers below E.C., with vertex presentation and left occipito-anterior position. The head was well down in the pelvis. Thirty-six ounces of urine was withdrawn by catheter: it was highly concentrated, with a heavy cloud of albumin; sugar was not present.

Vaginal examination showed oedema of the labia: the clitoris was normal. The vagina was about 2 in. in length and led to a blind alley, formed by the partially atresic cervix. In place of the external os were two "pin-hole" openings, about 3/4 in. apart. Through these small holes a few strands of the infant's hair were protruding, and very offensive liquor amnii was trickling out.

Treatment.—Under chloroform anaesthesia with gr. 1/100 atropine premedication the cervix was opened with a pair of scissors. Craniotomy was performed, and a female baby weighing 7 lb. 2 oz. extracted. The placenta was removed manually. Bubbles of gas and very offensive material came from the uterus on extraction of the placenta. There was brisk bleeding, but this was quickly controlled by the injection of 1 c.cm. of pituitrin. The foot of the bed was kept raised for six hours, and one pint of submammary saline given.

Subsequent treatment consisted of injection of one ampoule of soluble sulphapyridine, followed by two tablets of sulphapyridine four-hourly. As the temperature had not settled down by the end of the first week and the patient's condition was still unsatisfactory, sulphathiazole was administered in doses of two tablets four-hourly. The temperature settled down three days after giving this drug. Apart from oxytocic drugs, sedatives, and tonics, repeated administration of anti-gas-gangrene and antitetanus sera was found necessary. Local treatment consisted of a daily intra-uterine douche with 1 in 320 dettol followed by insufflation with powdered sulphapyridine.

The woman was discharged from hospital exactly one month after admission, June 28. At the time of her discharge she appeared to have gained weight, and she had completely recovered.

COMMENTS

This was undoubtedly a case of congenital partial atresia of the cervix, as there was no history of previous infection or trauma to suggest closure of the cervix by scar tissue or any evidence of scarring. I consider this case of peculiar interest in view of the generally accepted view that in this type of abnormality the internal genital organs are too much underdeveloped to permit of fertilization.

At this station one has no access to the literature, but I doubt if many such cases as the one described above are recorded.

I am indebted to the Director of Medical Services, Nigeria, for permission to publish this case report.

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Spontaneous Rupture of Rectus Muscle

Haemorrhage into the rectus sheath may result from a direct blow or a severe muscular strain, but there is the so-called "spontaneous" type, the cause of which is not so obvious. This latter condition is rare, and most surgeons of wide experience have seen few cases. It is well known that certain febrile diseases are complicated by muscle degeneration and that this may predispose to rupture of the muscle. Thus Virchow in 1857 described the rupture got in typhoid fever, and gave a detailed account of the hyaline degeneration present—a condition which later became known as Zenker's degeneration. Snyder (1939) has pointed out that the condition is also not uncommon in respiratory infections, especially influenza, and was noted during the epidemic in 1918. Haematoma of the rectus sheath is also found occasionally after the termination of pregnancy, and Torpin (1943) has summarized 27 cases which come into this category and has added one of his own.

The following is a case of haematoma of the rectus sheath which shows some unusual features and is worth recording:

CASE HISTORY

A carrier aged 36 was admitted to hospital with a painful swelling on the right side of the abdomen. Two weeks previously he had been suffering from boils on the side of his neck, and found about this time that he was having slight twinges of pain in the right side of the abdomen when he was cranking his motor lorry. The pain continued, but was never severe enough to prevent him from starting his lorry each morning. About a week after the pain had begun the patient noted a fullness in the right side of the abdomen. A few days later he found that there was a definite swelling present, and this enlarged up to the day of admission.

The patient was a healthy, well-nourished man who did not seem to be suffering much pain. There was a tender mass the size of a fist lying to the right of and slightly below the umbilicus. The condition was diagnosed as a rupture of the rectus muscle, and it was decided to operate and repair it. This was done on the day after admission. Under general anaesthesia an incision was made over the swelling. The rectus sheath was found to be distended with partially clotted blood and, after this had been evacuated, a transverse tear 1 cm. long was found 1.5 cm. below the level of the umbilicus. Suture of the tear was impossible because of the friability of the muscle, and the rent was thus made into a longitudinal one by removing small segments of muscle above and below; it was then sutured transversely. The patient made an uninterrupted recovery.

The pieces of muscle removed were examined histologically. The muscle fibres were swollen and the striations were absent, the appearance resembling that of Zenker's degeneration. Much blood-clot was seen extending between the fibres.

DISCUSSION

There are three interesting features about the case. First, the condition appeared to start during the time the patient was suffering from a septic process; secondly, the trauma applied to the rectus was not such as would normally rupture the muscle; and, thirdly, the histology suggested a degenerative lesion of the muscle fibres, although it is possible that this was due to the ischaemia of the fibres around the tear. It is thus tempting to postulate that the rupture of the rectus was predisposed to by a degenerative process secondary to the septic focus in the neck. It should also be noted, however, that there was some pain in the muscle for almost two weeks before the final large rupture, and it is possible that the repeated slight strains on the muscle caused by cranking a heavy engine had played an important part in producing the muscle degeneration.

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Reviews

LEUCOPENIA AND AGRANULOCYTOSIS

Leukopenia and Agranulocytosis. By William Dameshek, M.D. Edited by Henry A. Christian, M.D., F.A.C.P., F.R.C.P.Can. Oxford Medical Publications. (Pp. 74. 10s. 6d.) London: Oxford University Press.

This little book gives an excellent summary of the numerous observations which have been made on the occurrence of leucopenia and agranulocytosis, and at the same time on exposition of our ignorance of the physiological background of these events. "Definite leucopenia" is said to be present when the white blood corpuscles are below 4,000, though it is difficult to impose a standard owing to the variations in the white count in different individuals. Agranulocytosis is defined as an acute disorder characterized by constitutional disturbances, fever, sore throat, and extreme leucopenia. Leucopenia occurs in a variety of conditions, which are enumerated in detail. Agranulocytosis, on the other hand, is due in the great majority of instances to sensitivity to drugs, of which amidopyrine and the sulphonamides are the most important. It is probably an anaphylactic or allergic type of shock phenomenon with sudden arrest of production of granulocytes in the marrow. In the past, treatment has been chiefly concentrated on efforts to stimulate the marrow to make white cells. Therapeutic agents for this purpose have included *x* rays, nuclein derivatives such as pentose nucleotides, liver extract, leucocyte cream, and yellow bone-marrow; transfusions have also been used. The value of these agents has been much disputed, and it would appear that the marrow is already stimulated to a maximum degree by the infection which is present. Dameshek believes that a more rational therapy is to prohibit the offending drug and to endeavour to control the infection by sulphonamides (if the case is not due to sulphonamide sensitivity) or by penicillin. It seems probable, indeed, that penicillin will greatly improve the prognosis of agranulocytosis. So much, then, for empirical data. When we look deeper into the matter we find we know very little about the mechanism of leucocytosis in pyogenic infections, and still less about the leucopenia of virus infections, many protozoal diseases, and many forms of splenomegaly. This has been at any rate partly due to the relative inaccessibility of the bone-marrow; but the recent development of marrow puncture should make investigations easier. We also know very little of the process of sensitization to drugs, though this is a matter of increasing concern with the introduction of chemotherapeutic agents, such as the sulphonamides and thiourea. Dameshek's review is therefore timely in providing a base from which further advances may be made in these important fields of experimental and clinical science.

ALLERGY

Allergy. By Erich Urbach, M.D., with the collaboration of Philip M. Gottlieb, M.D. (Pp. 1,073; illustrated. 70s.) London: William Heinemann. 1944.

Allergy is one of the most loosely used words in medicine: it has even passed into common speech, where it is used in a sense hardly wider or less legitimate. If some definitions of it be accepted the term certainly covers a wide variety of phenomena, and anyone who can formulate principles to explain them is doing an important service. This is the commendable approach to the subject adopted by E. Urbach and P. M. Gottlieb, of the Allergy Service, Jewish Hospital, Philadelphia, in a massive tome of which the first considerable section deals only with fundamental principles and the experimental basis on which knowledge rests. Succeeding subjects are the principles of diagnosis and treatment, "etiologic agents" (which are classified as inhalants, ingestants, injectants, contactants, physical agents, and infectants), and finally the symptomatology and treatment of allergic diseases, which are here classified regionally. The practising physician will find many interesting ideas in this volume, though he may not accept all its doctrines. He may, indeed, be surprised how many commonplace phenomena or actual diseases are capable of explanation on an allergic basis. To invoke such an explanation for exanthematous rashes and a variety of skin diseases and for functional disorders of the respiratory and intestinal tracts is often reasonable enough, but some much more startling attributions will be found here, as may be gathered from the fact that the diseases dealt with include angina pectoris, endocarditis, nephritis, cataract, and gout.

To attempt any critical assessment of the views expressed is impossible in a small compass: it must suffice to say that they are interesting and stimulating if sometimes rather far-fetched. The book is profusely illustrated, thoroughly documented, and evidently based on extensive and exceedingly varied clinical experience.

INTELLIGENCE AND ATTAINMENTS OF CHILDREN

The Scottish Council for Research in Education. Its Aims and Activities. Publications of the Scottish Council for Research in Education, XXIV. (Pp. 38. 1s.) University of London Press, Ltd., Malham House, Bickley, Kent.

The report of the Scottish Council for Research in Education is a valuable and interesting document which includes several points relevant to medical practice. These chiefly concern the intelligence and mental capacity of children, but the findings are of general importance. It is found that both in intelligence and in attainment the small country schools and the large town or city schools compare favourably with medium schools, probably because of more individual attention on the one hand and better organization on the other.

A survey in Fife on a batch of American achievement tests showed that 11-year-old Fife children are 16 months ahead of American children of the same age. A wider survey showed a smaller proportion than was expected of children two or more years retarded. The proportion above the standard, however, was smaller than expected. This may mean that the standard of education is suited only to the brightest children. The best basis for predicting future success seems to be a combination of I.Q. plus qualifying examination plus teachers' estimates (sealed). If only one method is used the examination carefully set and corrected by one competent examiner is held to be best. It was found that 7½% of boys are for all practical purposes colour-blind. Unless special tests are used this generally goes undetected and the children may therefore be misjudged.

Two large surveys of Scottish children have been undertaken, one in 1932 and one in 1935–7. It would appear that the average I.Q. comes very close to 100 for boys, and with girls very slightly less. Exceptional children—i.e., those falling outside the limits of twice the standard deviation—for whom provision would have to be made are less than 5%, half of whom would be subnormal and half supernormal. One gathers that mental deficiency is rather less prevalent in Scotland than in England and Wales. The incidence is much alike in urban and in rural areas, though the interesting fact emerges that the highest average intelligence was found in the Highlands and Islands.

There seems little indication that the mental capacity of a child changes appreciably either through time or through circumstances, but the high scorers by no means always get into occupations suited to their capacity. This is a matter which should engage the attention of those responsible.

NEURASTHENIC STATES

Conceptions et Traitement des États Neurasthéniques. By J. Tinel. (Pp. 63. No price given.) Paris: Librairie J.-B. Baillière et Fils, 19, Rue Hautefeuille. 1941.

It is a real pleasure once again to have for review the work of a French clinician with his countryman's familiar brilliance of clinical description and logical deductions from direct observation. This little book on the neurasthenic states is most worthy of perusal. The author at first deprecates the use of the word "neurasthenic," but confesses that no other term is so expressive of the asthenic psychoneuroses which are so familiar in our hospitals and consulting-rooms. He regards the condition as a mixture of psychic disturbance and nervous disability characterized by a subjective fatigability which, however inconstant and variable it may be, is a real fatigue though it may not be demonstrated by specific ergographs, memory or concentration tests, and the like. The patients are essentially egocentric and are characterized by an obsessive hypochondriacal attitude. They exhibit certain physical disturbances such as headache, backache, insomnia, giddiness, paraesthesia, and disturbances of the digestive, respiratory, cardiovascular, urinary, and genital systems—the psychosomatic syndromes of modern terminology—and at the same time are depressed and retarded. The condition has been regarded by some, especially by Dejerine, as due to emotional shocks or prolonged states of disturbances of feeling and curable by faith, and by others as true psychoses—i.e., constitutional, possibly toxic, tending to phasic repetition and not amenable to direct therapeutic intervention: in fact mild and aberrant forms of psychotic depression. Although these concepts are contradictory, Dr. Tinel thinks they are both true: that on the one hand the sensibility to emotional influence is constitutional, and on the other hand the intervention of emotional situations may produce a condition leading to repeated attacks and permanent changes.

The author points out the dangers of thinking the condition is organic and wasting the patient's time, money, and confidence in senseless repetition of investigations and treatment. Equally dangerous and unjust is to describe the symptoms as imaginary; as Dejerine said, they are artificial but not imaginary. In treatment Dr. Tinel favours symptomatic therapy by appropriate physical and medical methods, and discusses the difficulties of achieving an automatic balance by pharmacological means. But causal treatment must be by psychotherapy. Crude suggestive methods, and in all but a very few cases deep psycho-analysis, are deprecated. What is required is sympathy and clear explanation so that the patient realizes the meaning of his illness and the nature of his own personality. Perhaps there is little new in this, but the presentation is so clear and so commendably brief that it is to be recommended to all doctors.

Notes on Books

We have received from Messrs. Taylor and Francis Ltd., Red Lion Court, Fleet Street, London, E.C.4, the *Annals of Science*, Vol. 5, No. 3, July, 1945. This admirably conducted journal began as a quarterly in 1936 and is devoted to the history of science since the Renaissance. It was compelled to cease publication in 1942 in the midst of its fifth volume. We welcome the continuance of this volume. Dr. Sherwood Taylor, in a clear and well-illustrated article on "The Evolution of the Still," trespasses rather beyond the special period of the *Annals*, but throws much light on this subject in tracing the history of this instrument from the early Christian centuries to modern times. Dr. K. J. Franklin, equally well known for his historical studies and his researches on the vascular system, in a description of a seventeenth-century theory on the foetal blood flow, gives a new view on the scientific quality of the French Académie at the time. Prof. J. R. Partington, our leading authority on the history of chemistry, deals with the familiar ground of hydrocarbon flames and records milestones in the advance of knowledge of the subject. The number is completed with articles by Dr. Millington on "Theories of Cohesion," Dr. Dobbin on the "Discovery of Phosgene Gas," and Prof. Patterson and Dr. Buchanan on the crystal forms of the tartrates. Dr. McKie and his fellow-editors are to be congratulated on having maintained so high a scientific standard in the very difficult times in which the *Annals* has recommenced its career.

Essentials of Local Anaesthesia in Dentistry, by A. CORNFORD BOWDEN, is published at 6s. by John Wright and Sons, of Bristol. This small book condenses into 50 pages the essentials of dental analgesia and has been written to help the dental student in his study of the anatomy and innervation of the teeth and jaws. It is wisely emphasized that most dental extractions and fillings can be carried out under a simple infiltration anaesthesia, or in the case of the lower jaw by an inferior dental nerve block. A clear technique is given for the last-named injection, which has become so popular and useful during recent years.

Some local authorities may be applying to be allowed to continue in peacetime a limited service of British Restaurants, mainly for the use of industrial and commercial workers. *Community Restaurants in Design*, published by the London Council of Social Service, 7, Bayley Street, London, W.C.1, at a price of 2s. 6d. post free, sets out two plans considered suitable for such restaurants. Local conditions would probably entail modification of either plan, but it is suggested that the principles embodied in them should be seriously studied by organizers and designers of separate restaurants, or of restaurants incorporated into other buildings. The architectural designs are presented in two coloured plates, and should be studied in conjunction with the written report. The booklet is written by F. le Gros Clark, with designs by L. H. Bucknell and Ruth Ellis, and a foreword by Sir Wyndham Deedes.

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THE DISSEMINATION OF POLIOMYELITIS

The mode of transmission of acute anterior poliomyelitis remains in some doubt in spite of the attention given to the subject since the disease was first recognized as communicable by Medin in 1890. In its endemic form infantile paralysis behaves like any other disease of low invasiveness which may gain entry either by the respiratory, or the alimentary, or the cutaneous routes. The virus appears to be widespread, and it is believed that many harbour and disseminate it without showing the usual manifestations of the disease, so that the source of infection is almost never traced and the channel or vehicle cannot be ascertained. In most epidemics the links between paralytic cases are not obvious, although the Victoria outbreak of 1937-8 differed in this respect, and multiple cases in houses are uncommon. Careful inquiry during an epidemic usually reveals contemporaneous febrile illnesses of an indefinite type, often in members of families in which there is a paralytic case, which may be, and probably are, poliomyelitic infections. If these be accepted as infective poliomyelitis without such destruction of nerve cells as causes paralysis, the course of an epidemic is compatible with case-to-case infection. The summer and autumn season at which poliomyelitis prevails is, however, different from that of the common air-borne infections, and this has led epidemiologists to doubt whether it belongs to this group. The fact that it is not a disease in which gastro-intestinal disturbance predominates made them look first for an insect vehicle rather than alimentary channels of infection, although a few small epidemics in America pointed to milk, and Aycock's careful epidemiological analysis of the Broadstairs and Ramsgate outbreak of 1926, which led him to believe that it was milk-borne, has not received the attention in this country which it deserves.[1] The biting stable-fly (*Stomoxys calcitrans*) seemed a possible carrier of the infection, at least under experimental conditions, but this has never been confirmed by the investigation of human outbreaks. The fact that the virus has been isolated occasionally from house-flies is no proof that they play an important part in transmission, and, in any case, they merely act as mechanical agents of alimentary infection.

The experiments of Fairbrother and Hurst[2] in 1930 and subsequent work in America by Faber and Gebhart,[3] indicating that the virus gained entry to and multiplied in the olfactory area of the nasal lining and spread by axonal channels into the brain-stem and cord, sharply turned our minds back to the theory that poliomyelitis is air-borne, especially as it accords with the epidemiological behaviour of the disease if its seasonal incidence is discounted. This view was hardly challenged for ten years, but in the meantime new facts were gathering. The presence of the virus in the faeces of patients and contacts was increasingly demonstrated. Kling and his colleagues in Sweden[4] had found the virus in drinking-water; these workers,[5] and Paul and his colleagues in Detroit,[6] isolated it from sewage. Faecal contamination and alimentary infection could no longer be disregarded. The post-mortem findings of Graeme Robertson during the epidemic in Victoria threw doubt on the olfactory bulbs as a channel of entry, and led Burnet, who had hitherto accepted this route of infection,[7] to say in 1942 that "there can be no real doubt that spread from the alimentary tract to the central nervous system does occur in the individuals who develop paralysis, mild or severe."[8] His view now is that poliomyelitis is an infection of the alimentary tract which may or may not involve the throat. If it does, salivary contamination and droplet spread may play a part, but, as the virus "is liberated in the faeces of all persons with virus infection," particular care should be devoted to training children in the most practical ways of avoiding faecal contamination.

The development of laboratory technique provides a tool which should be capable of forcing a way to more precise knowledge of the spread of infection. H. C. Pearson and R. C. Rendtorff and their colleagues,[9] [10] [11] of the School of Public Health, University of Michigan, have made detailed studies of several groups of sporadic cases in isolated farms, villages, and small towns, and of an epidemic in a large town. Family and remote contacts have been traced, any history of abortive poliomyelitis ascertained, and their stools examined for virus. Insects of many species, rodents and their parasitic insects, faeces from farm animals, and samples of water, milk, and sewage were investigated. The magnitude of the undertaking may be gathered from the facts that in one village where a single case had occurred faecal specimens were obtained from 127 members of all but one of the 39 families living there; in a small town of 1,350 inhabitants where two cases had occurred 282 stools were collected from children under 16 of all but three of the 146 families; in a large town specimens were obtained from 524 persons, including familial and non-familial contacts and persons (374) without known contact; and altogether nearly 10,000 insects of numerous species were examined.

Briefly the results were that virus was isolated most frequently from the faeces of persons who were close family contacts with a known paralytic case, less frequently from those with more remote contact, and very seldom among those who had no connexion with such a case. For instance, during an epidemic in the large town virus was found in members of 6 of 8 households where a case had occurred, the majority of the individuals harbouring it being over 17 years of age; in 8 of 45 households having contact outside the home with paralytic cases; but in only 2 of 127 households whose inmates had no known contact. Positive laboratory findings were not specially associated with a history of indefinite illness. Poliomyelitis virus was not found in any pool of material from insects, animal faeces, water, sewage, milk, or rodent intestines, and only once was a virus of indeterminate character found in a pool of rat brains. Extra-human sources of infection, therefore receive no support from this inquiry. Although the faecal samples were usually collected some time after clinical cases had occurred, and the authors are reserved as to the efficacy of the methods of demonstrating the virus (which they describe in detail), nevertheless the close association of positive laboratory findings with cases of paralytic poliomyelitis strengthens the conviction that infection is from case to case, whether clinical or subclinical, and that the control of the disease depends on early diagnosis and the management of contacts. This accords with the experience of Victoria in 1937–8. Seddon and his colleagues,[12] from their study of the Malta and Gozo outbreak, also concluded that food, water, and insects were not implicated. These writers assumed, however, that dissemination took place by nasopharyngeal droplets and droplet nuclei. It is unsafe to make this assumption from the rapidity of spread and the form of the epidemic wave. The behaviour of Sonne dysentery in this country during the winter of 1937–8 shows that an alimentary infection can follow a similarly rapid course even where there is no common source in the form of food or drink. Diarrhoeal diseases occasionally sweep through even well-conducted children's wards. The living conditions in camps and barracks are somewhat analogous to those in hospital, and if non-immune Service men were exposed to an invasive strain of poliomyelitis virus of which there were numerous hidden foci, it is conceivable that rapid dissemination might ensue by ingestion. From his experience in India, and especially because of the fact that far more officers than other ranks have been affected—the standard of hygiene in officers' mess kitchens as compared with that of other ranks in India being demonstrably lower—D. McAlpine[13] believes that poliomyelitis may be conveyed by food, but that the method of transmission may vary as between one group of cases and another.

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[1] *Amer. J. Hyg.*, 1927, **7**, 791.
[2] *J. Path. Bact.*, 1930, **33**, 17.
[3] *J. exp. Med.*, 1933, **57**, 933.
[4] *Acta med. scand.*, 1942, **112**, 217.
[5] Ibid., 1939, **102**, 629.
[6] *J. exp. Med.*, 1940, **71**, 765.
[7] *The Biological Aspects of Infectious Disease*, 1940, Camb. Univ. Press.
[8] *Commission of Publ. Health, Victoria: Health Bull.*, 1942, No. 71, 1911.
[9] *Amer. J. Hyg.*, 1945, **41**, 164.
[10] Ibid., p. 179.
[11] Ibid., p. 188.

MALIGNANT TUMOURS OF THE NASOPHARYNX

Malignant tumours of the nasopharynx have been estimated to comprise only 0.4% of all malignant tumours. The non-malignant form, nasopharyngeal fibroma, is still more rare, and usually seen in males between 15 and 25 years of age; it can be removed, though the operation is severe and bloody. The malignant tumours, however, have not yielded to surgical attack, though every possible form of approach and osteoplastic exposure have been tried. The anatomy of the region discourages this form of treatment. With the failure of surgery we have to rely upon radiotherapy, and it is time to take stock of the results obtained.

A comprehensive study of 454 cases has been undertaken by Erik Godtfredsen[14] (Copenhagen), the records having been drawn from four radiological clinics—those of Copenhagen and Aarhus in Denmark, the "King Gustav V^tes Jubilaeumsklinik" in Lund, and the Radiumhemmet in Stockholm. The period under review extended from 1927 to 1942 inclusive, and attention has been focused on the ophthalmic and neurological complications, estimated at 38% and occurring in 172 of the cases. Many of the tumours were so immature and anaplastic that classification was difficult; the author has adapted that used by Ringertz[15] for carcinoma of the nose: (1) cylindrocellular carcinoma; (2) squamous carcinoma (that is, of epidermal type); (3) metaplastic carcinoma (squamous carcinoma with signs of originating from cylindrical cells which have undergone metaplasia); (4) undifferentiated carcinoma. It is also difficult to classify the sarcomas which arise in the lymphatic tissue of the nasopharynx. Godtfredsen includes here the much-debated lympho-epithelioma, in which Ringertz has demonstrated fibrils by silver impregnation and the transitional-celled carcinomas. The presence of argentophil fibrils is regarded as evidence of mesodermal origin, and the absence of keratosis and the clinical characters, including the pronounced sensitivity to radiation, support this. There is still lack of agreement on this but it was decided to include as sarcomas all tumours appearing to arise in cells of the reticulo-endothelial system. Differences of classification explain the differences in the percentages of carcinoma and sarcoma previously published.

Of the total number (454) of cases 438 were verified histologically: there were 243 carcinomas and 195 sarcomas. There were 172 cases of squamous-celled carcinoma and 166 of reticulum-celled sarcoma. The high proportion of the latter is explained by the classification adopted. There were 61 cases of undifferentiated carcinoma, 17 of lymphosarcoma, and 12 of plasmocytoma. There were a few other tumours of rare type, including one chordoma. About 80% of this series of nasopharyngeal tumours were of the anaplastic type with a low grade of differentiation. Of the 438 verified cases there were ophthalmic and neurological complications in 158; it appears that the squamous-celled carcinomas are particularly apt to invade the base of the skull, generally extending by the foramen lacerum medium. Fifty-three per cent. of all the patients fall into the age group of 41–60, the average age being 49 years—51 for patients with carcinoma and 46 for those with sarcoma. Of the 454 patients 294 were males and 160 females.

The local symptoms of nasal obstruction—discharge and epistaxis—are sometimes overshadowed by the more remote effects. Obstruction of the Eustachian tube causes deafness and effusion into the tympanum, and when the tumour invades the base of the skull palsies may affect any of the cranial nerves. Ophthalmoplegia, neuralgia, headache, paralysis of the palate, larynx, and tongue occur in a variety of syndromes. Enlarged glands in the neck beneath the upper attachment of the sternomastoid may press on the jugular foramen, and the primary focus of disease pass unrecognized. Correct diagnosis is often delayed, and Gordon New[16] recorded that tonsillectomies, intranasal operations of different kinds, operations on the ear and the Gasserian ganglion, dental extractions, and crani otomies have been performed before the diagnosis has been established. To confirm this, *x*-ray examination of the nasopharynx shows an asymmetrical shadow with indefinite outline, dislocation of the upper surface of the soft palate, and evidence of destruction of the base of the skull, particularly in the region of the foramen lacerum medium.

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[12] *Quart. J. Med.*, 1945, **14**, 1.
[13] *Lancet*, 1945, **2**, 130.
[14] *Acta otolaryng. Stockh.*, Supplementum LIX.
[15] *Acta otolaryng. Stockh.*, 1938, Supplementum XXVII, 95.
[16] *J. Amer. med. Ass.*, 1922, **79**, 10.

The most common initial palsy—often the first symptom—affects the 6th nerve: next in order are the 5th, the 3rd, and the 4th nerves. Shelden[17] in 1921 drew attention to neuralgia caused by infiltration of the Gasserian ganglion. Paralysis of the hypoglossal may appear with symptoms of pressure on the jugular foramen. Paralysis of the 7th nerve is rare, as also is paralysis of the sympathetic. The commonest initial symptom, however, is enlargement of the cervical glands (especially in sarcoma), followed by aural, nasal, and neurological symptoms (especially in carcinoma).

X-ray examination showed that destruction of the base of the skull is five times as frequent in cases with as in those without ophthalmic and neurological symptoms. That no bone destruction could be demonstrated in some of the former may be due to invasion of the cranial cavity through the basal foramina, as Shelden described. Destruction of bone without cranial-nerve palsies is explained by limitation of the process to the base of the pterygoid process. The destruction is nearly always unilateral and in the neighbourhood of the foramen lacerum medium (spheno-petrous fissure), so that the tip of the petrous portion of the temporal bone, the great wing of the sphenoid, including the foramen ovale and the foramen spinosum, the body of the sphenoid bone, and the edge of the basilar process would be attacked. This corresponds to the common site of origin on the lateral wall of the nasopharynx, which Trotter[18] [19] described, and constitutes about 80% of the cases in which the base of the skull is invaded. The third type of invasion is a mesial destruction of the body of the sphenoid bone, which includes the sella, posterior clinoid processes, and sometimes the clivus further back as well. This situation is likely to produce ocular symptoms without affection of the 5th nerve. Pulmonary metastases were found in 3 cases only.

It will be inferred from this condensed review of an elaborate and detailed investigation that early diagnosis of tumours of the nasopharynx is not the rule, and that when diagnosis is made invasion of the base of the skull, the surrounding tissues, and the lymphatic glands in the neck has already often occurred. The success of radiotherapy must be due to the anaplastic lowly differentiated character of many of the tumours, which are very sensitive to radiation. A collection of 540 cases of nasopharyngeal tumour reported by eight different writers showed that 62 patients were free of symptoms for five years or more (that is, 11.4%), but only 10 of them had carcinoma; of the remaining 52, 24 had lymphosarcoma, 25 lympho-epithelioma, and 3 reticulum-celled sarcoma. The prospects of cure in this series were five times better for sarcoma than for carcinoma, as there were 270 of each in the whole series; and better results were obtained in the lympho-epitheliomas than in the lymphosarcomas.

There was much difference in the details of the methods used at the four different clinics, especially between the Swedish and Danish institutions. The periods of treatment varied from 24 to 72 days and the dosage from 3,300 *r* to 10,000 *r*. Radium and *x* rays were both employed. With the exclusion of patients treated after May, 1938, there were 266, of whom 117 had either ophthalmic or neurological symptoms. Altogether 59 of the 266 were found free of symptoms for five years or more—that is, 22.2%. Only 13 of the 117 patients with evidence of intracranial extension (that is, 11.1%) were free from symptoms for five years. Of the cases with glandular enlargement there were good results only in 18.8%, compared with 32.5% for cases without cervical enlargement. The poorest results were in the cases of squamous carcinoma: no patient with the epidermal type survived; of the patients with the other types of carcinoma 18 survived. There were 38 survivors among the patients with sarcoma; of these 32 had reticulum-celled sarcoma, 4 lymphosarcoma, and 2 plasmocytoma. It was found that many of the patients became symptom-free as an immediate effect of the treatment (327—or 72.1% of the 454), but in 167 there was a recurrence. There were, however, among the patients free from symptoms for four years 2 with epidermal squamous carcinoma. The best results have been obtained, alike in males and females, in patients under 40. Most recurrences are during the first year after treatment, but 9 cases of recurrence have been observed after more than five years.

WOMEN ON WAR WORK

In a study[1] of women on war work in four factories Dr. S. Wyatt and his five assistants describe the continuation of an earlier statistical study of sickness absence among women in industry (Report No. 86 of Industrial Health Research Board). In that report it was shown that a comparatively small proportion of the women were responsible for the greater part of the time lost through sickness, so a detailed comparison was now made between groups of women who had the most sickness absence and those with the least. In all, 250 women in each of these classes were interviewed, the interviews lasting from 30 to 60 minutes. Detailed information was sought about their reactions to numerous conditions inside the factory, such as physical environment, personal relations, and hours of work, and to various factors outside the factory, such as transport and home life. As a rule the two classes of workers reacted in more or less the same way, but in a few respects they showed wide differences. Rather over half of all the women were satisfied with the atmospheric conditions of the factories, and nearly all of them were satisfied with the lighting. No less than 94% of them appeared to be satisfied with their fellow-workers, but only two-thirds were satisfied with their supervisors. Some of the workers were on day rates of payment and others on piece rates, and, rather unexpectedly, substantially more of the former than of the latter were satisfied with their wages. Many of the piece workers did not like the rush of work, and they were afraid that their piece rate might be cut, while the day workers, though they earned less, had the satisfaction of knowing that their wages were independent of the output. Various systems of shift work were in operation at the factories, half of all the workers being on the three-shift system, a fifth on two shifts, and the remainder on one shift. On the three-shift system they all changed over every week between morning, afternoon, and night work, and they put in, on an average, 45 hours of work a week. The arrangement of hours varied much in the different factories, but the women did not complain, over 90% being satisfied. The morning shift was by far the most popular, because it provided opportunity for recreation and amusement in the late afternoon and evening. The night shift was the least popular, but night work (under three-shift and two-shift systems) was not so unpopular as might have been expected. Only 36% of all the women definitely disliked it, chiefly because they could not sleep well in the daytime. Two-fifths of the women got less than 6 hours in bed, and only 14% got over 8 hours. Appetite was liable to be upset, leading to digestive troubles. No less than 55% of the women showing most sickness absence said that their health had been impaired by factory work, as contrasted with 37% of the women showing least sickness absence, and 15% of the former said that their work induced excessive fatigue, as contrasted with 8% of the latter.

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[17] *J. Amer. med. Ass.*, 1921, **77**, 700.

[18] *Proc. roy. Soc. Med.*, 1910–11, **4**, Otological Sect. 68.

[19] *British Medical Journal*, 1911, **2**, 1057.

[1] Wyatt, S., and assistants: *A Study of Women on War Work in Four Factories*. Report No. 88 of Indust. Hlth. Res. Bd., 1945, H.M. Stationery Office, price 9d.

As regards duties outside the factory, the married women naturally suffered more than the single women, 46% of them having to do all their housework and shopping, as contrasted with 12% of the single women. Again, 66% of the married women, but only 34% of the single women, suffered from home difficulties in general, including the care of children, the women who had most sickness absence suffering much more than the others.

Simultaneously with the publication of Report No. 88, the Industrial Health Research Board issued a popular illustrated pamphlet[2] embodying a summary of its contents and of Report No. 86. This ought to be of great value in propagating information about the health of women in factories, and in indicating the need for further research.

CHEMOTHERAPY OF FUNGOUS DISEASES

The chemotherapy of fungous diseases is still in its infancy, but research is being devoted, especially in the United States, to the discovery of new fungicidal drugs. Keeney, Ajello, and Lankford[3] [4] [5] report the results of three separate series of experiments *in vitro* to determine the fungistatic value of (*a*) sodium propionate and salts of other fatty acids of the same series, (*b*) drugs of the sulphonamide group, and (*c*) penicillin. Cultures of the more important pathogenic fungi causing superficial or deep mycoses were used in the tests. Sodium propionate, which is used in the confectionery trade to prevent mould growth in dough and cake mixtures, was found to be fungistatic to many pathogenic fungi. Salts of other fatty acids of this series—valeric, caproic, caprylic, capric, and undecylenic acids—were also fungistatic, and this property appeared to increase with the length of the carbon chain of the fatty acid, so that sodium caprate and sodium undecylenate were more fungistatic than the others. Tests showed that fungicidal power also increased with the length of the carbon chain of the acid, but the lowest member of the series used, sodium propionate, was not fungicidal although fungistatic. All salts in the series were in some degree toxic to white mice; and the greater the fungistatic power the greater the toxicity; therefore the therapeutic value of these salts for the deep mycoses cannot be determined until their toxicity has been more fully investigated. Of their usefulness in the treatment of the epiphytic diseases, especially ringworm of the feet, there is no doubt, the most efficient being sodium propionate and sodium undecylenate, for although the former is not fungicidal it is, in greater measure than the undecylenate, antibacterial against *Staph. aureus* and Group A haemolytic streptococci, occasional secondary invaders complicating foot ringworm.

The results of *in vitro* tests with the sulphonamide drugs in the treatment of superficial or deep mycoses were not encouraging, but evidence justified a clinical trial of sodium sulphamerazine in chromomycosis and of sodium sulphathiazole in histoplasmosis. In spite of the favourable clinical results reported by other writers, Keeney and his colleagues were not impressed by the effect of sulphonamides on actinomycosis. Penicillin was found to have no inhibitory effect on the growth of any of the pathogenic fungi investigated except *Actinomyces bovis*; in fact, in many instances it stimulated the growth of a fungus, and therefore might prove harmful in clinical use. Although, *in vitro*, penicillin is lethal to *Actinomyces bovis*, and in spite of recent reports of impressive cures from its use in actinomycosis caused by both *A. bovis* and the aerobic types of *Actinomyces*, Keeney and his colleagues conclude that these reports "do not warrant unrestricted enthusiasm for this mode of therapy."

In the treatment of ringworm, especially the form known as "athlete's foot," sodium propionate and sodium undecylenate are employed in ointments with the following formulae: Propionate-propionic acid ointment: sodium propionate 16.4, propionic acid 3.6, propylene glycol 5, N-propyl alcohol 10, zinc stearate 5, "carbowax (4,000)" 35, water sufficient to make 100. Undecylenate-undecylenic acid ointment: undecylenic acid 10, triethanolamine 6, propylene glycol 14, "carbowax (1,500)" 10, "carbowax (4,000)" 40, water sufficient to make 100. The water-soluble carbowax base, which aids the penetration of the antifungal substance, is to be preferred to a petrolatum base.

Keeney and his colleagues[6] found the above two ointments to be superior to Whitfield's ointment and to 10% ammoniated mercury ointment in their fungistatic action on cultures of a selected strain of *Trichophyton mentagrophytes* (a common cause of athlete's foot); the propionate ointment was superior to the other three in antibacterial action against *Staph. aureus* and a Group A haemolytic streptococcus. The results of clinical tests on cases of athlete's foot, although not conclusive, suggested that the propionate ointment was probably more effective than the undecylenate; both, however, fulfil the requirements of a good therapeutic agent for foot ringworm in being fungistatic or fungicidal and antibacterial; possessing the power of penetration; and being free from irritant or sensitizing properties even when used over long periods.

CATALOGUE OF MEDICAL FILMS

The Scientific Film Association, as our readers are well aware, was formed in 1943 to act as a centre for the collection, collation, and distribution of scientific films and, by promoting their use, to achieve a wide understanding and appreciation of scientific methods and outlook. It is governed by a council, which has set up special committees to advise and help it in specialized fields. The Medical Standing Committee, which was inaugurated in July, 1944, under the chairmanship of Mr. McAdam Eccles, soon found that its services were in great demand, and an executive committee was formed in October, 1944, which has met twice monthly since then. The preparation of a catalogue of medical films, which is the subject of a letter in our correspondence columns this week, is a work of outstanding importance, for when completed it will list all the medical films known to exist in Great Britain, and will record under each title a summary of content and a critical appraisal prepared by a panel of experts, as well as the usual details of availability and length. As new films are completed details will be issued in supplements, and notes will be given of those withdrawn from circulation. A comprehensive recording system is used, which other countries, including some members of the British Commonwealth, now have under consideration. The catalogue will probably be published part by part, and first instalments may be expected towards the end of this year. During the second series of medical film programmes presented by the Medical Committee of the Association at the Royal Society of Medicine, 18 films, covering a wide range of subjects and methods of presentation, were screened to audiences averaging over 200. A new selection is being planned for the autumn which will be devoted to a number of the more specialized subjects. In addition to this work on films which already exist, the committee is drawing up, for publication this autumn, a memorandum on films which need to be made immediately for use in teaching. The honorary secretary is Dr. Brian Stanford, and inquiries about its general activities should be sent to him at the Scientific Film Association's address: c/o Royal Photographic Society, 16 Princes Gate, London, S.W.7.

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[2] Pamphlet No. 3 on Conditions for Industrial Health and Efficiency: *Why is She Away?* Indust. Hlth. Res. Bd., 1945, H.M. Stationery Office, price 4d.

[3] *Johns Hopk. Hosp. Bull.*, 1944, 75, 377.

[4] Ibid., p. 393.

[5] Ibid., p. 410.

[6] *Johns. Hopk. Hosp. Bull.*, 1944, 75, 417.

FALSE POSITIVE TESTS FOR SYPHILIS IN MALARIA

For many years it was thought that malarial infection might cause false positive reactions for syphilis, but it is only recently that the percentage of these was known to be considerable. Immediately after the last war a series of tests was carried out at the Military Hospital, Rochester Row, and though several cases of malaria gave positive reactions, all, or nearly all, were proved to have syphilis as well. In 1920 Iyengar[1] found no positives in 98 cases; in 1921 Pratt Johnson[2] and in 1924 Altounyan[3] stated that malaria had no appreciable effect on the Wassermann reaction, and another observer, after carrying out several hundred thousand Wassermann and Kahn tests in India and in the United Kingdom, always taught until recently that malaria should not be the cause of false positive reactions in a well-balanced test. In the last few years, however, more and more false positive reactions have been reported, and it may well be that this is due, in part at all events, to the increasing sensitivity of the various serum tests employed. Cumming and his colleagues[4] recorded percentages of from 8.6 to 20.6 in a series of tests carried out by thirteen pathologists, while Kitchen and his colleagues,[5] treating with malaria 25 non-syphilitic patients with functional psychoses, obtained a positive reaction with a complement-fixation or flocculation test at some stage in every case. There are many more examples in recent literature, and it may be accepted that malaria can give rise to false positive reactions. It is not known what is the frequency of these, at what stage (before, during, or after the fever) they are most common, or how long they may persist. It seems probable, however, that false positive reactions tend to disappear within three, and usually within two, months of an attack.

How, therefore, should one interpret a positive serum test for syphilis in a patient known to have, or suspected of having, malaria? The Kahn "verification test,"[6] whereby true reactions may be distinguished from false by incubation at 37° C. and 1° C., when true reactions will occur with the former and false with the latter, may be helpful on occasions, but is not altogether reliable. Cox and Durant[7] state that if a series of Wassermann and Kline tests is carried out, and if there are discrepancies in the results and no history of syphilis, syphilis may be excluded. Brown and his colleagues[8] recommend treating the serum to be tested with N/3 sodium hydroxide before inactivation, and assert that by this method non-specific reagin is destroyed or removed. Rosenberg[9], claims to be able to distinguish between positive reactions due to malaria and syphilis respectively by the "pattern of positivity," employing six tests—Kahn, Kolmer, Mazzini, Eagle, Hinton, and Kline. Of these the Hinton test gave the lowest number of false reactions. There is also the fact that positive reactions due to malaria rarely persist beyond six weeks. Potter and his colleagues[10] found twelve positive Wassermann or Kahn reactions in 100 cases of malaria; but all these reverted to negative within 30 days, with an average of 12 days, and many in 7 days or less; in each the Wassermann reaction of the cerebrospinal fluid was negative. Rosenberg[11] states that if 0.35 c.cm. of saturated ammonium sulphate is added to 1 c.cm. of inactivated patient's serum syphilis reagin is precipitated but malarial antibody is not, and that the two can be distinguished by this means.

The value of few of the above methods has been confirmed, and it will be wise for the present to be sceptical of any serological method said to distinguish between true and false reactions. Where a false positive reaction occurs in a patient who has no history or clinical signs of syphilis, and more particularly if he is suffering, or has recently suffered, from malaria, the test or tests should be repeated. A reaction due to malaria is generally weak, tends to become weaker with lapse of time (here quantitative tests are useful), and invariably reverts to negative sooner or later—almost always within three months. Syphilis should never be diagnosed merely on the strength of a single positive test; such a procedure is unscientific, and unfair to the patient.

ADVERTISEMENTS OF PERMANENT APPOINTMENTS

The Council of the B.M.A. has decided that advertisements of permanent medical appointments which do not invite applications from practitioners serving in H.M. Forces and allow at least four months for the receipt of applications should be refused publication in the *British Medical Journal*. In the event of an employing authority declining to bring an advertisement into conformity with the policy of the Association the appointment in question will be included in the "Important Notice" in the *Journal*. If an advertisement of a permanent medical appointment the wording of which conflicts with the policy of the Association is published in a newspaper, an announcement in the form of the "Important Notice" will be inserted in the same newspaper. The policy of the Association in regard to advertisements of permanent medical appointments at the present time, as recently explained to hospital authorities, has been communicated to employing authorities generally.

The King has approved the appointment of Sir Lionel Whitby to the vacant post of Regius Professor of Physic at the University of Cambridge.

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[1] *Ind. J. med. Res.*, 1920, **8**, 136.
[2] *J. Path. Bact.*, 1921, **24**, 145.
[3] *Lancet*, 1924, **1**, 73.
[4] *Vener. Dis. Inform.*, 1935, **16**, 189.
[5] *J. Amer. med. Ass.*, 1939, **112**, 1443.
[6] *Amer. J. Syph.*, 1941, **25**, 151, 157, 162, 173.
[7] *Med. J. Austral.*, 1945, **1**, 320.
[8] *Amer. J. Syph.*, 1945, **29**, 200.
[9] *Bull. U.S. Army med. Dept.*, 1945, No. 84, 74.
[10] *J. Amer. med. Ass.*, 1945, **127**, 699.
[11] *J. Lab. clin. Med.*, 1945, **30**, 149.

MEDICAL PHOTOGRAPHY IN HOSPITAL

[From a Correspondent]

Research into methods of hospital photography in this country is sorely needed. Excellent work has been done under poor conditions, but how much more efficiently it can be turned out from well-planned, well-equipped laboratories is shown by the excellent illustrations reaching us from America. It is no good British doctors demanding pictures comparable with these, however, unless the same facilities are available.

The first thing needed for a medical photography department is a complete system of air conditioning, not only to draw out dust, soot, fumes, and bad air, but also to maintain the temperature at a certain level. All normal processing has to be done within a limited range of temperature; above this level gelatin melts, films frill, and other things go wrong, and below it some chemicals refuse to work at the same speed and so interfere with the balance of densities. Next a mobile unit (camera and lights) and a miniature camera with synchronized flash should always be in readiness for work in the theatre, wards, and departments. Electric fittings all over the hospital should be of one pattern so that mobile units can be plugged in anywhere, and lighting units should be so designed that one does not continually fall over leads and tripods.

Scope of Hospital Photography

For too long hospital photography has been done by radiographers or not at all. Radiographers are trained in photography relating to their own job—the interior of the body—and the technique is very different from that for the exterior and for the numerous jobs of a clinical photographer. Because of this and because more and more work is falling on both departments, the photographic department should be staffed by experts and possess suitable apparatus. Photographers carry on the good work of the radiographers by reproducing from the radiographs small-sized duplicate films or lantern slides for teaching and prints for publication. But this is only one of the jobs falling to them. In the clinical work of the hospital they may be called upon for full-length photographs of figures or limbs to show position; "close-ups" for detail of lesions, ulcers, etc.; photographs of cavities, swellings, skin reactions, etc.; and, for the pathological department, of specimens and also photomicrographs. The demands for photomicrography and cine-photography are increasing, and the value of colour in diagnosis is being more appreciated. All departments want photographs of apparatus, surgical instruments and appliances, and copies of drawings, charts, photographs, etc.

Further photographs provide permanent records of the exact clinical condition at the moment of taking, and when a series are made over a period of time the doctor can see immediately the changes that have taken place. Such photographs filed with a patient's history are time-saving; they are also helpful in planning treatment, and invaluable for purposes of comparison in investigations. A photograph in a published paper will show at once what might otherwise take pages of reading matter to explain.

Scheme for a Hospital Department

The following is a brief outline of a scheme for a hospital photography department. It might be possible for one hospital in ten to build such a department, and by catering for the other nine to become, eventually, self-supporting.

Staff.—Director (fully qualified medical photographer); secretary to the director; three senior photographers (1 colour); three junior photographers (1 colour); clerk to the photographers; four first-year students; four second-year students; and a cleaner-porter. Salaries as fixed by the Institute of British Photographers.

Duties.—One senior and one junior photographer, known as operators, are responsible for all photographs (except those taken in colour) taken in the studio, wards, theatre, various departments, and other hospitals, and must, when the negatives are dry, deliver them with full written instructions to the printer. One senior and one junior photographer, as printers and finishers, are responsible for all work done in the processing laboratories and finishing room, except photographs in colour. One senior and one junior photographer are responsible for all colour work. The clerk's job is to make all appointments, see that patients keep them, and that the patients' instruction cards and copies of earlier photographs are delivered to the operator in good time. The clerk is also responsible for seeing that all records are filed or delivered to the departments, or, where necessary, to other hospitals.

Students.—The students, who pay an entrance fee, are given every possible help by lectures, demonstrations, and practical work in passing examinations which will qualify them for membership of the Institute of British Photographers. The advantages of the student system in hospital are the contact with doctors and nurses and the experience in handling patients. There are three qualifying examinations, and any student passing the second before the training time is up may, if he wishes, be taken on as assistant photographer and be paid a suitable salary, or he may leave to take up a position elsewhere; otherwise the course is for two years. In their first year students have a general training in hospital photography; in the second they have a choice of work and may, if they wish, concentrate on a particular branch, such as colour photography or photomicrography, etc. The subjects of lectures include optics, photographic chemistry, anatomy, colour, and general photography.

Institute of Medical Photography

An Institute of Medical Photography is urgently needed. This would be a training centre where every branch of photography would be studied and undertaken for doctors, hospitals, etc., and where patients and work would be sent. It would supply staff with mobile units wherever they were needed, also trained staff for photographic departments. It would have a special department, with membership on camera club lines, where members could meet and do their own work if they wished. Meetings would be held there providing an opportunity for photographers to meet the instrument maker, the electrician, and the mathematician and discuss the construction of suitable apparatus, instruments, and equipment. Finally, the work done at this institute would be so good that it would achieve international repute, and people from all parts of the world would come to study its methods.

MRS. BEETON AT THE HOSPITAL

Two or three years ago the King Edward's Hospital Fund for London published a memorandum on hospital meals. It was welcomed because it opened up the prospect of improvement in an important sphere of hospital work which, in some institutions, was well below standard. But it also showed how many problems there are in hospital catering, and the Fund set up a committee on hospital diet, under the chairmanship of Sir Jack Drummond, to examine them. This committee has prepared a second memorandum, based on recent experiences and observations, with the object of helping those hospital authorities who are making an effort to bring their catering arrangements up to a more satisfactory level.* The organization of the catering department in a hospital is considered at length. It is urged that catering should be regarded as a single important function of a hospital, and one which requires an experienced catering officer together with a competent staff. The most suitable person as catering officer would be a dietitian whose knowledge of nutrition and dietetics is supplemented by an adequate experience of large-scale catering, but such a person is not always easy to find, and, failing him or her, a catering officer should be appointed whose knowledge and experience have been gained in the hotel or catering trade. Such an officer should be responsible for the buying of food, control of stores, planning of menus, cooking, and service, and should report to the chief executive officer of the hosptial and through him to the governing body, or directly through a Diet and Catering Committee, formed after the fashion of the medical committee, of predominantly technical and professional composition.

The memorandum discusses the staffing of kitchens, and hints that the monotony of many hospital menus is a reflection not of restricted wartime rations but of the employment of third-rate cooks, unimaginative menu planning, and, sometimes, financial stringency. One section of this little work is devoted to the value of salads and to the proper cooking of vegetables. The desirability of vegetable salads is stressed, and a number of recipes are given. The outline menus may appear almost fantastic to those who have had experience of the unexciting character of meals in some institutions. Here is a suggested menu for a full diet which can be provided under present conditions:

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* King Edward's Hospital Fund for London. Second Memorandum on Hospital Diet. 9d. net, post free.

When Called.—Cup of tea.

Breakfast.—Porridge or cereal; breakfast dish (11 choices in a separate list); bread-and-butter/margarine; tea, coffee; marmalade once or twice a week; occasionally fresh fruit, hot rolls.

Mid-morning.—Milk; meat or yeast extract; fruit drink; cocoa.

Dinner.—Meat (occasionally fish) (10 kinds of meat or fish, each cooked and served in various forms); potatoes; cooked vegetables or salad; sweets: pudding and milk pudding as alternative. (63 choices of sweets in separate list.)

Tea.—Bread-and-butter/margarine; jam, honey, syrup, or paste or salad, cake, scones, or buns; tea.

Supper.—Cooked dish (separate list of large number of alternatives, hot or cold); sweet; bread-and-butter/margarine; milk, cocoa, etc.

This excellent pamphlet also contains examples of recipes of 13 savoury dishes, 8 sweets, and 7 pastries and sauces, each for 50 persons. It might be commended not only to hospitals and nursing homes but to canteens, hostels, and institutions of all sorts where meals are served, while most hotels might profit from a glance at it.

OCCUPATIONAL RESETTLEMENT OF THE DISABLED

CRITICISMS OF GOVERNMENT SCHEME

P E P (Political and Economic Planning) has issued a broadsheet (*Planning*, No. 238) on the Government's plans for rehabilitation and resettlement of ex-Service men. A consideration which is perhaps not appreciated as it should be is that only one-quarter of all disablement is due to direct physical injury like amputations; three-quarters is due to organic disease or to neurosis. It is easier in general for the physically injured man, after an initial period of adjustment, to settle down to normal life and work than it is for one who is suffering from chronic disease or from some psychological trauma. The problem of disablement, says P E P, will get out of focus if it is considered as wholly or mainly a question of physical injury.

The Pivot of the Scheme

There are signs, says this broadsheet, that the Government's resettlement arrangements, well thought out on paper, are yielding too high a proportion of failures. The Ministries concerned have done their best, within the limits of available personnel, to produce efficient machinery for the re-establishment of normal life, but in practice something has gone wrong. Examples are given of cases in which a man was offered or directed to unsuitable work by the disablement rehabilitation officer, and only through a welfare follow-up was the mistake eventually recognized and the man placed in a satisfactory job. The disablement rehabilitation officer is the pivot on which the Government scheme turns, but the first contact with this representative of the Ministry of Labour comes too late. The D.R.O. should be introduced at a much earlier stage of a man's stay in hospital; he should be a familiar figure about the wards, and should have more opportunity to talk to patients and thus be made better able to appraise their capabilities.

It is also said that the D.R.O. is insufficiently trained, and has inadequate knowledge of industrial work, and little understanding of the background of the men he interviews; that his approach is too casual; that he lacks initiative; that he has not had the right type of education or experience; and that he has not the skill to overcome suspicion or shyness and is not fully appreciative of the difficulties arising from medical and nursing conditions. These men are selected from the staffs of employment exchanges, where they have acquired little internal knowledge of industrial conditions and none at all of social welfare. Some of them, no doubt, are conscientious and kindly, but too many are temperamentally unsuited to the needs of the job. Many are of the same age as the young ex-Service men they interview, and that in itself creates a barrier.

P E P urges the widening of the field of recruitment of these men. Selected ex-Service men, after a certain amount of training, should be taken, also welfare workers who have been employed in dealing with the personal difficulties of working people in their social setting, and labour officers of the Ministry of Supply who, from their experience in ordnance factories, combine some understanding of industrial matters with the knack of assessing a man's capability for a particular job.

Abolition of Pensions Ministry Suggested

Another suggestion of the broadsheet is that carefully selected field officers should be appointed to Service hospitals and E.M.S. units handling long-term cases—men who would live among the patients and really get to know them and build up the necessary confidence; and the work of these officers, like that of the hospital almoners, should be followed up by social welfare workers who would regularly visit the disabled man after he had left the hospital. It is also proposed that the Ministry of Pensions should be abolished, its medical services transferred to the Ministry of Health, and its income, maintenance, and welfare functions to the Ministry of National Insurance. One Department less would mean much less chance of interdepartmental friction. There would still be three Ministries primarily concerned with the disabled ex-Service man—the Ministry of Health for medical care, the Ministry of Labour for training and resettlement, and the Ministry of National Insurance for financial support and general welfare. It is therefore suggested that these three Ministries, possibly in conjunction with the Ministry of Education and the Services Departments, should maintain an interdepartmental council to concert joint action for rehabilitation, training, and resettlement of all disabled persons, with similar joint machinery established locally, or a National Rehabilitation and Resettlement Board might be set up to exercise delegated powers, with the disablement rehabilitation officers and social workers attached to its local or regional agencies.

There is already in existence a Disabled Persons (Employment) Corporation, designed to meet the needs of those whose disability makes it impossible for them to work on equal terms with the able-bodied. Nothing can be said in criticism of it, for it has not got much further than registration as a public company, but its title seems unfortunate. "Strengthen me by sympathizing with my strength, not my weakness; find out what I can do and let me do it, and forget what I cannot do and let me forget it," was the wise slogan given by Mr. H. E. Griffiths at a recent conference on occupational readjustment. Canada has an organization, Vetcraft Industries, for veterans of the 1914–18 war. It is supported by the Government, and has Government Departments as its sole customers. From small beginnings the organization now supplies a wide range of products. This Canadian example may give an idea of how such a project should be developed.

A final suggestion is that early consideration should be given to the taking over by industrial concerns, with Government co-operation, of disused Service installations and converting them into industrial colonies for the provision of jobs and homes for disabled men, though at the same time it is pointed out that segregation of the disabled is in general undesirable and should be avoided except where there is no other choice.

The thirtieth annual report of the Committee of Management of the Royal Victoria Hospital Tuberculosis Trust has been published in Edinburgh. Several pages are devoted to the prevalence of bovine tuberculosis and existing methods of control. After reviewing the facts the conclusion is clearly stated that at the present time the public should safeguard themselves by using either one of the grades of milk guaranteed to be produced free from tuberculosis infection or the pasteurized variety. It is of the utmost importance that any other variety of milk should be brought to boiling-point before use, particularly if it is for consumption by young children. The committee feels strongly that nothing short of the complete elimination of infected bovine animals must be the ultimate aim. Until this is attained there will remain a real menace to life and health. This question therefore should have a prominent place in post-war health planning. The cost of such an effort measured against the social and economic advantage would be relatively small.

Correspondence

Small Hospitals: Efficiency and Economy

SIR,—"Hospital Survey: The Hospital Services of London and the Surrounding Area," that formidable-looking Blue Book, has by now probably been seen by all those interested in hospital work, whether layman or doctor, and it will be agreed by all that Drs. Gray and Topping have carried out their task in an impressively comprehensive manner and with an efficiency which could not be excelled. The statistical tables which form the largest portion of the book are of the greatest value to hospital organizers, and to my knowledge are in constant consultative use in most hospitals. We must, all, therefore, be appreciatively grateful for the tremendous labour which the authors have put into such a Herculean work.

But, having paid tribute to "Hospital Survey," we should not let our appreciation blind us to the fact that, like many other such reports, it was produced under certain conditions and auspices which have an influence upon its recommendations. I refer to the knowledge that the survey was undertaken at the instigation of the Minister of Health in 1941 and that there must of necessity have been terms of reference. What these terms were is not quite certain; but, whether definitely stated or merely implied, it is clear from reading the report that they involved the idea of discovery whether the hospital services could be more *efficiently* and *economically* (not only in the financial sense) run. If this was indeed the real state of affairs it must be constantly borne in mind when considering the report that it had a restricted aim in view, and all its recommendations should be seen in the light of those restrictions. In other words, the report now becomes the opinion of two well-informed minds upon the possible change which would make for greater *efficiency* and *economy* of working. Such a viewpoint immediately changes one's reactions to the Blue Book, for when I regard the report as a complete survey of hospital activities I cannot escape the conviction that it is a completely soulless document; but if I think of it as an essay upon the possible changes which might lead to greater *efficiency* and *economy* then the book stands in a different category, for I am now at liberty to ask what efficiency in medical work means, and whether it is to be the be-all and end-all of medical ambition. Efficiency is difficult to define; who knows what efficiency in its medical application is? Medicine changes so rapidly that what is worshipped as efficiency to-day becomes a clay-footed idol to-morrow. When our dramatic critics say that Miss A.'s acting was efficient, what do we think? Were Turner's paintings, Shakespeare's plays, efficient? Surely we have to think of more in medicine than efficiency. Supposing the Home Secretary asked for a "Family Survey" it would be possible for an assiduous worker to produce a report the logic of which was beyond challenge, but it would of necessity have to contain such statements as: "We found that the one-child family is inefficient and uneconomic, and so we suggest that all children from such families be transferred to the larger families of four or more children." Irrefutable logic, once we accept that efficiency and economy of effort are the final aims.

This brings me to the main point of this letter, for I notice that it is proposed to turn many of the small hospitals into mere annexes of the larger, for the reception of convalescent patients and the like. The basis for this suggestion is that the small hospital is inefficient and uneconomic. I cannot agree for two reasons: in the first place, as I have tried to explain, I do not think that in matters of medical treatment we should raise efficiency to a god-like status; in the second place I do not believe that most of these small hospitals are inefficient when judged by the only criterion that matters—namely, results. It is my privilege to work in both classes of hospital, from over 1,000 beds on the one hand to 50 on the other, and I find that my results are as good in the one as in the other—this for major surgery. I am, of course, not ignorant of the fact that there are certain very highly specialized types of treatment which the small hospital is not equipped to undertake. Cases requiring such treatment, however, make up a very small percentage of the whole and can be dealt with by affiliation with a large institution.

The intangible factors connected with the small hospital—local pride and faith in the institution and so on—cannot unfortunately be estimated by statistical tables suitable for reproduction in "Hospital Survey," but they are in my opinion more important to the well-being and happiness of the patient than a lot of efficiency, which in any case is not lacking.

What the legal implications of the recommended changes are I have no means of knowing, but it is certain that in many instances the money for starting and running such small hospitals has been given specifically because they are what they are. I suppose an omnipotent Parliament can change any law, good or bad, so that this difficulty may not require consideration.

Since writing the above I have had an opportunity of reading the report of the King's Fund upon the same subject, and I note with pleasure that, with certain safeguards, its recommendations are favourable to the retention of the small and cottage hospitals, and that the authors display a keen appreciation of the human as well as the humane side of hospital work.
—I am, etc.,

NORMAN C. LAKE.

Safe Milk

SIR,—This is a most important subject and affects very closely the health of our children. The American viewpoint on our milk is interesting and should be stimulating. The universally suggested remedy is pasteurization, which is, of course, very sound; incidentally it is also very expensive and adds to the retail price of the milk. Surely every household could be taught to sterilize its milk; a temperature of 60° C. would ensure against most infections, and boiling against all. A double pan would guard against overheating and so mitigate against alteration of the taste, except to a very limited extent, if that is desirable. This method is much too simple for modern ideas; everything must be complicated and expensive to have any value.

What is difficult to understand is why dried milk (superheated) is considered suitable for children but boiled milk is not. Boiling does not affect the nutritional value of the milk; the destroyed vitamins are easily replaced. It is my practice always to encourage parents to rear their children on boiled milk if breast-feeding is not possible. Those so persuaded have had no reason for regret. In one particular case people came to see the fine healthy baby reared on ordinary cow's milk. This is characteristic of the artificial mentality produced by advertisements, aided and abetted by local authority clinics all over the country, which sell their favourite brand of dried milk at 1s. 6d. instead of the ordinary retail price of 7s. 6d., possibly as a bribe (part at least of the difference in price is made up by the ratepayers). Parents are not very helpful because, as the children grow older, they are told that boiled milk is horrid and so are prejudiced in favour of unboiled milk. If not so prejudiced the children would probably acquire a taste favourable to the heated variety.

Milk is the only important food that is taken in the raw state and by the most sensitive of our people, whether children, aged, or ill, yet very little is done about it of a really practical character. I would not exempt T.T. or accredited (horrid word) milk from the blessing of boiling or its equivalent. Most working-class homes are visited by swarms of officials of all kinds who could be used to influence parents in favour of heated milk. I have repeatedly brought this viewpoint to the notice of the local health committee, but got no encouragement. If the milk was as sterile as the official mind then all would be well.—I am, etc.,

Birkenhead. D. J. GAIR JOHNSTON.

Famine Oedema: A Clinical Description

SIR,—Famine oedema was frequently seen in refugees from enemy-occupied islands in the Dodecanese. All the patients were adults, mostly over 30, and all had suffered from starvation. They had lived on green vegetables for at least three months, and the majority had actually eaten grass. Potatoes, bread, meat, and fish were available to some of the patients, but only on extremely rare occasions. Such bread as was available was black and of very poor quality.

The onset of symptoms was usually sudden, with swelling of thighs or feet, and accompanied by pain. Pain may precede the actual oedema. Unaccustomed exercise or a sudden lowering of the patient's general condition by some cause such as infective diarrhoea may precipitate the onset. On recovery a relapse is easily caused by the same factors. Swelling of the feet is the usual presenting symptom, but a large number of patients complained of "thickening and hardening" of the thighs, which pitted on pressure. Later on, in twenty-four-hours' time, the swelling of the feet was evident in these cases and the oedema of thighs had disappeared. Swelling of the hands was rarer. Pain is a frequent symptom and prevents sleep at night; tenderness on pressure is almost a constant feature. The patients all complain of weakness and debility. No skin changes were seen. In all cases the heart was normal, the urine was clear, and no history of rheumatism, scarlet fever, or nephritis was given.

Treatment, such as could be given under extremely primitive conditions, consisted of 2 ounces of canned milk, 2 tablets of vitamin C, and 3 tablets of ferrous sulphate daily, in addition to the usual refugee ration. Rest and sunbathing were advocated.

The oedema lasted a long time. The quickest recovery time was one month, and many cases show only slight improvement after three months of improved conditions and "treatment."

A lack of proteins in the diet, with consequent lowering of blood proteins, seems to be the cause of the condition. The position of the oedema appears to be due entirely to posture. This was very noticeable in patients with swelling of the thighs who had been sitting for some time, the backs of the thighs being more oedematous than the fronts. A good mixed diet is needed to dispel the symptoms, but this was not available on the island where the cases were received and seen.

I should like to thank Lieut.-Col. N. S. Turnbull, P.M.O. of the Dodecanese, for permission to publish this record.—I am, etc.,

Friends Ambulance Unit, M.E.F. RAYMOND MILLS.

REFERENCE

Rogers and Megaw (1942). *Tropical Medicine*, p. 423.

Trilene in Midwifery

SIR,—I pointed out the possible dangers of trilene in midwifery in the *British Journal of Anaesthesia* for July, 1944. I have now administered almost 1,000 trilene anaesthetics and recorded my experiences with the first 500. Consideration of these results led me to reserve trilene for healthy subjects in whom a high degree of relaxation is not required and where the expected duration of anaesthesia is short—i.e., up to 10 minutes. I have found the complications of longer anaesthesia do not occur in these short administrations.

When planning anaesthesia in midwifery it is necessary to appreciate that the terminal stage of labour may not go according to plan, and a patient intending to be confined at home may have to be sent into hospital during labour. Trilene may have provided efficient analgesia during the early stages of labour, but may not be a satisfactory anaesthetic for final delivery, particularly if operative intervention is necessary. The lithotomy position is difficult to maintain unless the patient has been heavily premedicated, tachypnoea may be troublesome, and abdominal relaxation is not sufficient to provide good working conditions for the surgeon if Caesarean section is necessary.

In my series of cases when anaesthesia lasted longer than a few minutes, 80% showed an alteration in pulse rate with about 16% of pulse irregularities. In view of these findings, if operative intervention becomes necessary it is advisable to resort to some form of anaesthesia other than trilene. When using a standard Boyle machine without a CO_2 absorber, my own experience in changing from nitrous oxide–oxygen–trilene to nitrous oxide–oxygen–ether was that after a few minutes there was always a rise in systolic blood pressure and pulse pressure with a high incidence of bleeding during operation. These findings were also present when the patient had had only a few breaths of trilene. In the control series of anaesthetics with open ether following nitrous oxide–oxygen–trilene these complications did not rise.

There has also been an alarming series of cranial-nerve palsies and some deaths when trilene has been used in the closed-circuit machine. (Cf. (1) Humphrey and McClelland, (2) Carden (*Journal*, March 4, 1944, pp. 315 and 319).) Some of these unfortunate complications occurred with anaesthetics where no trilene was used, but the same closed-circuit machine had been employed in which trilene had been used on a previous occasion without the soda-lime being changed. Apparently a mere trace of trilene in the machine is sufficient to react with the soda-lime, producing dichloracetylene, which is poisonous and is responsible for these serious complications.

When anaesthesia has to be deepened, if nitrous oxide–oxygen–ether is employed the patient who has received trilene analgesia has sufficient trilene in her exhalations for a consideraable time after the trilene analgesia has ceased to result in (1) serious haemorrhage if the standard Boyle machine is used, or (2) the production of toxic amounts of dichloracetylene if a closed-circuit machine is employed. The latter substance, in addition to being toxic to the patient then being anaesthetized, may contaminate the soda-lime container and thus affect subsequent patients similarly.

I am in full agreement with making every possible effort to give a woman in labour as much relief from pain as is compatible with her safety. Trilene analgesia is superior to nitrous oxide–air in the proportions provided by Minnitt's apparatus. I am at a loss, however, to understand why the analgesic properties of open ether have not received more attention. My own practice is to sprinkle a few drops of ether on to about eight layers of gauze stretched over a wire mask and put it over the patient's face as soon as a pain commences. The mask is removed at the termination of a pain. The patient thus remains co-operative and is relieved from pain. When ether is given in these analgesic doses atropine is not necessary. There is no coughing, salivation, or vomiting; two to three ounces of ether will provide a woman with two to three hours of analgesia during the later stages of labour. If nembutal is also given the patient usually sleeps between her pains. Full anaesthesia can be produced at any time without a change of anaesthetic. If oxygen is available it should be given under the mask, mother and baby both benefiting. The apparatus for ether anaesthesia is simple, safe, and portable, the chief contraindication to its use being an existing respiratory tract infection.

I would not venture to give trilene to patients suffering from cardiac complications or toxaemias of pregnancy. The point I wish to make in this letter is that caution should be exercised in the choice of anaesthetic following trilene analgesia or anaesthesia. Midwives cannot be expected to be specialist anaesthetists, and the responsibility of trilene in labour should not rest on the midwife.—I am, etc.,

Wakefield. EMILY E. JOHNSON.

Women in Labour

SIR,—The correspondence on women in labour leads, I think, to the following conclusions.

(1) That the vast majority of women desire more adequate relief of pain in labour than they obtain at present.

(2) That while every encouragement should be given to techniques —such as that of Dr. Dick Read—which endeavour to make labour relatively easy and painless by the careful application of physiological principles, it appears that most civilized women require some form of analgesia or anaesthesia.

(3) That in our present state of knowledge analgesic drugs for the first stage of labour and a simple inhalation technique for the second stage are the most efficient and generally applicable means of relieving pain.

(4) Several ingenious and very useful "self-help" analgesia machines are available, but they have the following disadvantages: (*a*) They do not give adequate relief to the "resistant" patient in the later stages of labour; this also applies to the very nervous type of woman who is too distraught to manage the machine herself. (*b*) They cannot be used for even simple operative midwifery, such as the application of "low forceps," so that usually in these cases a less desirable agent such as chloroform has to be used. (*c*) To maintain these machines in good working order the services of individuals skilled in the handling and maintenance of anaesthetic machines are required.

(5) With the best will in the world the present medical personnel could not devote the necessary time to give adequate anaesthesia to between 600,000 and 700,000 women a year.

What solution of these difficulties can we offer which can be put into operation reasonably soon? It can be said that the ideal analgesic drug for the first stage of labour remains to be discovered. However, from the big choice now in use most cases can be given considerable help during the first stage. A fair proportion of women can obtain good relief during the second stage by the use of "self-help" machines, provided these are kept in working order, and the woman trained in their use before labour begins.

There remains, however, a large proportion of women who will get adequate relief only during the last part of the second stage when given a well-conducted intermittent anaesthesia by a trained anaesthetist. The presence of such a person with a suitable machine is also required when that "little extra" is necessary for operative midwifery. If it is agreed that medical men cannot be spared for this work then a corps of trained medical auxiliary anaesthetists could be formed quite quickly. These auxiliary anaesthetists would work under the conditions set out by Dr. S. Wray (June 30, p. 924), and under the supervision of the medical man in charge of the case. They could work in maternity hospitals and with general practitioners in domestic midwifery. The general practitioner is very conscious of the fact that he cannot spend hours with his midwifery cases administering anaesthesia.

I feel that only on the above lines can the problem of the woman in labour be seriously tackled.—I am, etc.,

Harrogate. JAMES CAMPBELL.

SIR,—Dr. R. A. Hingson (Aug. 11, p. 196) quotes Grantly Dick Read's book *Revelation of Childbirth*, and says that he considers "caudal analgesia is a *natural* step [my italics] along the road towards the conquest of pain," presumably as one point at which the vicious circle described by Dr. Dick Read may be broken. I maintain that the ability to achieve natural childbirth *by her own efforts*, guided, where necessary, by the doctor, is of far greater help to a woman's sense of fulfilment than is the achievement of it by artificial methods. Surely the "leave-it-to-us, you-will-never-feel-any-pain" attitude towards an often tough but physiological high-spot of womanly experience is a very negative approach compared with the positive approach of the woman trained ante-natally in self-discipline and optimistic anticipation of a perfectly natural labour.

There is plenty of research in the easing of pain by various drug techniques (let us excel in their use and exhibit them freely when required), but far too little on the psychological, endocrine, and "even metaphysical"—to quote Dick Read again—aspects of the problem. A large part of the trouble is the antenatal time required to be given to the psychological approach in particular: it is so much easier to wait till labour starts and then administer drugs. But those who will make time will be amply rewarded, and I believe the reduction in inertias and post-partum haemorrhages especially would be quite remarkable. Incidentally, I think confinements should be conducted ideally in small institutional units; the large maternity hospital unit militates against personal self-confidence, except, of course, where frank abnormalities are anticipated.—I am, etc.,

Leeds. J. GORDON HUNT.

Rehabilitation of Fractured Limbs

SIR,—I am continually exercised in my mind as to the putting of fractures into plaster, leaving the soft tissues immobile for several weeks. Why can't the plasters be cut in two by Gigli thread saws and then secured by webbing straps? This was practised at Bart's 35 years ago. The soft parts can then be got at and kept alive as advocated by Meynell. The modern method seems to me to be distinctly retrograde and entails weeks of convalescing after union.—I am, etc.,

Stone, Staffordshire. R. MURRAY BARROW.

Accidental Infant Suffocation

SIR,—Dr. W. H. Davison (Aug. 25, p. 251) pleads for the routine performance of a post-mortem examination in a particular type of case—suspected asphyxia in infancy. Few will cavil at his thesis; many will look far beyond it and urge the more frequent use of this method of investigation over the whole field of medicine. Apart from the demands of scientific accuracy, morbid anatomy has still its conquests to make, and both are served by the widespread adoption of this procedure.

Further, the coroner for the City of Birmingham refers in passing to fatal infant asphyxia from inspiration of vomit, and finds that "the circumstances of how and when the child was fed did not seem to have any direct bearing on the death." My investigation of a larger series of cases does not confirm this; possibly because the technique of infant feeding varies in different parts of the country. I have frequently found this type of asphyxia directly associated with the common and dangerous practice of giving the infant, lying hungry in the cot, a full bottle of milk. Sometimes, if needs be, the bottle is supported on the pillow beside the infant. Rapid distension of the tiny stomach is followed by regurgitation into the pharynx, and a reflex inspiration results in the infant being "drowned" in its own vomit. The mechanism is precisely the same as that which occurs occasionally in cases of acute intestinal obstruction in adults during laparotomy, when the precaution of a preliminary washing out of the stomach or the insertion of a Ryle tube has not been observed. In either case mechanical obstruction by vomitus is the immediate cause of death—a fact which is readily established by post-mortem examination.—I am, etc.,

Coroner's Office, South-East Lancashire. F. G. RALPHS.

Chronic Regional Ileitis

SIR,—Chronic regional ileitis appears to be of sufficient rarity to warrant report of a case.

A married woman aged 30 had no previous history of any note until the onset of the present trouble four years ago. The first symptom noticed was pain, situated in the umbilical region, coming on in attacks, which occurred chiefly during the night, at intervals of several months. The abdomen felt to be swollen during the attacks, which were accompanied by a sensation of soreness in the right iliac fossa. Twelve months ago the attacks became more frequent, coming on every three months. The patient became pregnant in November, 1943, and was admitted to Reedyford Hospital in one of her attacks in April, 1944. This attack was accompanied by the vomiting of coffee-ground material, which relieved the pain; as had happened in the few attacks immediately preceding, the pain was in the umbilical region, but the tenderness was in the right iliac fossa, and the condition cleared up in two weeks. The diagnosis of subacute appendicitis was made, but in view of the pregnancy intervention was avoided. The patient gave birth to an imperfectly developed stillborn child in Colne Maternity Hospital in July, 1944, and had another of her usual "attacks" in September, 1944. Between the attacks, appetite, which was lost during them, was good. There was no constipation prior to July, 1944; but it was present from then on. There was no headache or loss of weight. The patient could tell the approach of an attack by "feeling she was filling up." The final attack started on Jan. 1, 1945, and there was soreness in the right iliac fossa till the patient was seen on Feb. 6. She had noticed some loss of weight in the previous two months, and had been more constipated. She complained of loss of appetite since the commencement of the attack, and felt swollen; she had also heard "rumbling noises in her stomach." This last attack was unaccompanied by vomiting. On examination the patient was found to be a well-nourished woman with no obvious loss of weight. The abdomen was not obviously swollen and no abnormal mass could be felt. The only definite sign of abnormality that could be elicited was tenderness on passing over McBurney's point. A provisional diagnosis of appendicitis (subacute) was made, and on Feb. 7 the patient was admitted to Reedyford Hospital.

At operation a typical salmon-pink sausage-shaped swelling, 10 in. long, extending proximally from about 2 in. from the ileo-caecal junction, was seen. The ileum was dilated to about twice its diameter for about 30 in. The mass at the centre appeared quite solid. Sixteen inches of the lower ileum, including the swelling, were excised and the apparently unaffected distal portion of the ileum was sutured end to end to the proximal part; the appendix was removed; a small drain was inserted; and apart from a small sinus which persisted for a fortnight progress was uneventful and the patient now appears quite well.

Radiologist's Report.—"Mass of granulation tissue filling lumen of bowels to the extent of apparently complete obstruction."

F. G. Ralph (*Brit. J. Surg.*, 1938, **25**, 524) comes to the conclusion that "the inflammatory mass is the response of the tissues to a slow infection of low virulence." However that may be, the disease appears to be a new one and on the increase. Dr. Whittle, of Nelson, makes the remark that if the disease is new it must be due to a vitamin or other dietary deficiency. In this part of the world shortage of vitamin C appears most likely. Recently one of us has seen a case which *may* have been acute regional ileitis. The patient was a very spare female, aged 60, with extraordinarily lax abdominal walls; onset, acute pyrexia and vomiting; sausage-shaped mass palpable, extending from right iliac fossa to pelvis in midline; complete recovery within a week on a diet of 12 oranges a day; only after the fourth day did traces of vitamin C appear in the urine, but she also had sulphamezathine in adequate doses.—We are, etc.,

O. WILSON.

Nelson, Lancs. T. D. CULBERT.

Air Embolism

Sir,—Reading through the interesting account of two cases of air embolism by Dr. P. H. Dalgleish (Aug. 25, p. 256), I think that the attention of any tuberculosis worker would be at once arrested by the statement: "A little air, less than 50 c.cm., *was blown through* to clear the needle." I do not think that such a procedure would have been considered proper at the majority of clinics or sanatoria. The most probable procedure on getting a dubious manometer reading would have been the removal of the needle and its reinsertion at another site.

In the final paragraph of Dr. Dalgleish's article he says: "These cases emphasize the points made by Hamilton and Rothstein (1935): that the *common practice* of 'blowing a little air through the needle to clear it' is one not unaccompanied by danger, and is in fact to be firmly discouraged." In face of this warning it seems strange that it should have been disregarded.—I am, etc.,

Southborough, Tunbridge Wells. E. Weatherhead.

Syphilitic Reinfection after Penicillin Therapy

Sir,—The following case record illustrates the curative effect of penicillin therapy in primary syphilis inasmuch as the patient, after being treated with penicillin for a primary chancre, returned to this unit in a short space of two months with a second primary sore.

A young African (aged 22) was admitted to the treatment centre where we are serving on March 5, 1945, with a primary chancre of the peno-scrotal junction on the right side. This was a typical indurated sore, and the dark-ground microscopy revealed the *Treponema pallidum* in the serum of the sore. The Kahn test was negative. A course of 2,400,000 units of penicillin was given (40,000 units intramuscularly every three hours for 7½ days). The patient was discharged on March 21 with the sore completely healed.

On May 29 the same patient was readmitted to this centre. He now had an indurated sore of the shaft of the penis, on the left side, with all the characteristics of a primary syphilitic chancre. The dark-ground microscopy revealed the presence of the *Treponema pallidum* in the sore. The Kahn test was − + 1, one plus (weak positive) on May 30. The scar of the old sore was both visible and palpable, and quite separate from the new sore.

Our thanks are due to Brig. R. P. Cormack, D.D.M.S., for permission to publish this observation.—We are, etc.,

K. B. Wood,
Capt., R.A.M.C.
G. C. Cochrane,
East Africa Command. Capt., R.A.M.C.

"Under the Influence"

Sir,—The attention drawn by Dr. C. E. Meryon (Aug. 18, p. 234) to the increasing legal difficulty of obtaining a conviction for dangerous driving under the influence of alcohol indicates that the time may have come for the medical profession to suggest that the law be altered. In addition to the type of case he quotes, in which legal skill is able to exonerate a driver who was obviously intoxicated at the time of examination, there is another still more difficult to convict. Laboratory experience on the effects of small doses of alcohol rapidly absorbed demonstrates quite clearly that it is possible for a driver to be involved in an accident because he is under the influence of alcohol and yet be completely sober 15 to 20 minutes later when tested at the police station and, incidentally, show a blood alcohol concentration regarded as non-intoxicating; the disturbance of cerebral function occasioned by a relatively low concentration, if this is increasing rapidly, disappears when the peak has been passed.

On the other hand, a driver may be in an advanced stage of apparent inebriation when seen at the police station, and although this is the obvious cause of the accident in question, he will be acquitted if the effect is not due to alcohol. A glaring example of this legal anomaly was recently reported in the lay press: following the accident the driver was found in a semi-comatose condition, but because this was due to insulin he was acquitted by the magistrate.

If the purpose of the law is to protect the public against dangerous driving, the action of the driver is surely of greater importance than the possible causes of his action. Dangerous driving should itself be the serious offence. Legal discussion as to the meaning of dangerous driving could be no more involved than that occasioned by the existing law to which your correspondent has drawn attention, and medical men would be free to spend their available time in work of greater social importance.—I am, etc.,

London, W.C.1. M. Grace Eggleton.

? Abuse of Sulphathiazole

Sir,—I have read with interest Dr. P. Robinson's paper on "Penicillin for Haemolytic Streptococcal Throat Infections" (Aug. 18, p. 213), and observe that this has given satisfactory results where sulphathiazole has in many cases failed either to cure the condition or to prevent complications such as peritonsillar abscess, erythema nodosum, and acute rheumatism. On reading the case notes I have, however, been asking myself why this sulphonamide preparation has been chosen and not the ordinary sulphanilamide.

Since the discovery of the various preparations of the sulphonamide group I have carefully studied articles on their action and indications in the *B.M.J.*, and was given to understand that the original sulphanilamide proved most effective in streptococcal and *B. coli* infections, that sulphapyridine was most useful in pneumococcal infections, and sulphathiazole in infections with staphylococci, meningococci, and gonococci—to mention the chief indications. I have also learnt that the toxicity increases from sulphanilamide via sulphapyridine to sulphathiazole, resulting in severe sickness, kidney damage, agranulocytosis, etc.

One of my patients, a baby, has been treated in hospital with sulphathiazole for pneumonia which was not proved to be staphylococcal—it was most probably the usual pneumococcal type. No overdose was given, but the baby developed a nephritis which has become chronic. I asked myself if the same would have happened with sulphapyridine, which I usually give with excellent results.

I have heard of patients complaining of extreme nausea and sickness when receiving sulphapyridine for tonsillitis. I have treated for years now all cases of tonsillitis and tonsillar abscess—which are mostly streptococcal in origin—with the original sulphanilamide, and have always obtained good results without observing either toxic symptoms or complications, provided treatment was instituted in good time. Ordinary pneumonia I have treated with sulphapyridine and found this entirely effective. Only cases with proved staphylococcal or doubtful other infection I treated with sulphathiazole, and was again extremely satisfied with results. Since infectious fever and V.D. cases are usually treated in special centres I had not much opportunity for using sulphonamides on these.

I want to put these observations on record to show that with careful choice sulphonamides are usually adequate in treating most infectious conditions and only seldom—e.g., in osteomyelitis—is penicillin required. If I am mistaken I should be most grateful if an authority on the subject would correct me.—I am, etc.,

Spennymoor, Co. Durham. E. Brauer.

March Fracture

Sir,—I have just read the letter from Sir Lenthal Cheatle (July 28, p. 134) under the above title, and I feel that, having been regimental medical officer to a battalion of His Majesty's Brigade of Guards for a number of years, I am in a position to answer his question as to what the medical officers are doing about "this ugly, ridiculous ritual" of the stamping of feet on drill parade, which is so integral a part of the Brigade particularly. I pointed out to the adjutant and to the regimental sergeant-major of the battalion the opening passages of *Foot Drill, All Arms,* which state that noisy stamping of the feet is strictly forbidden. I was at that time seeing a considerable number of guardsmen who were suffering disability as a result, in my opinion, of this ritual. The adjutant's response was that he could see no reason why I should be any more successful than generations of medical officers before me who had tried to get this instruction enforced, and the sergeant-major denied that any stamping of the feet was being practised, saying that the men merely "put their feet smartly to the ground." The A.D.M.S. appeared to be powerless in the matter, so there it rested.

Thus the answer to Sir Lenthal would seem to be, "Nothing, because there is nothing to be done." For obvious reasons, I must regretfully remain,

"PEDES PLANI DOLENTESQUE."

Whooping-cough Vaccination

SIR,—With regard to the article on whooping-cough vaccination by Drs. A. M. McFarlan, Elizabeth Topley, and May Fisher (Aug. 18, p. 205) perhaps the results in a general practice scattered over a wide area, including a large town and a number of villages, may be of interest.

In the last six years I have done over 300 children, 95% of them at the age of 12 months, and 95% of them with a combined diphtheria and whooping-cough vaccine. So far there has not been a single case of whooping-cough (or diphtheria, for that matter) among the cases, although the majority of the children have been living in districts where epidemics have occurred. We have had a mild whooping-cough epidemic each year for the past six years.

The parents of a child living in a village four miles from here, whom I vaccinated three years ago at the age of 1 year, informed me only yesterday that her boy and another, whom I vaccinated about the same time, living in the same street, were almost the only two children who did not require to stay away from the village school during a recent whooping-cough epidemic. These numbers may be too small to form any real decision, and some of the children may have been naturally immune, but I feel that the results warrant me to continue the practice.—I am, etc.,

Leicester. A. MORRICK.

Climate and Health

SIR,—Dr. Macdonald Critchley's Croonian Lectures on "Problems of Naval Warfare under Climatic Extremes," published in your issues of Aug. 4, 11, and 18, contain conclusions that are open to question. In a paper, "Health and Climate," published in the *Malayan Medical Journal* for December, 1932, I pointed out that (1) man can live in any part of the world where he can obtain food and water, but (2) he enjoys health and energy, physical and mental, leading to the highest state of civilization only in certain regions with an optimum climate (Western Europe, South-East Canada, and Eastern and Central U.S.A.); and (3) though he can colonize a tropical country, his children there, at any rate, will suffer physical and mental deterioration. As an example of physical deterioration, even in the first settlers, there is presbyopia, which comes on many years earlier among tropical peoples and among whites who have lived long in the Tropics than it does among the inhabitants of an optimum climate.—I am, etc.,

London, S.W.1. KENNETH BLACK.

Methodology in the Curriculum

SIR,—I should like to express my agreement with the general argument in the article on premedical zoology by M. Abercrombie and M. L. Johnson (Aug. 25, p. 262) and my particular support for their plea for the deliberate teaching of scientific method to students. As long ago as 1932, in the discussion in your columns on medical education initiated by an article by Dr. C. M. Wilson (now Lord Moran), I suggested the same thing—the addition of the subject of methodology to the curriculum. I said then: "The student should be given the opportunity of becoming acquainted with and developing the rational attitude of mind. He should be encouraged in the attitude of intelligent scepticism as distinct from that of constant acquiescence in dogmatic teaching. He should be made aware of the necessity of distinguishing between assertion and proof, between a reason and a rationalization, and should be helped towards acquiring some knowledge of the personal bias." I would add now that this should include the set teaching of the correct principles of reasoning, otherwise logic, but not, under any circumstances, the traditional system.

The further point that follows again needs accentuation. The addition of another subject to the curriculum, combined with the constant increase in medical knowledge, must lead inevitably, as I pointed out in the same correspondence, to further specialization. The student will be compelled before qualification to drop certain subjects and "specialize" in the rest. I see no escape from this position, and suggest it would be wise to prepare for it and begin to work out its medical and social implications.—I am, etc.,

London, W.1. FREDERICK DILLON.

Premedical Zoology

SIR,—The paper on this subject in your issue of Aug. 25 is convincing and long overdue.

As I remember, my medical zoology course was largely confined to protozoa, earthworms, and the dogfish, while the science course was devoted entirely to snails. I did acquire some understanding of the common heritage of all vertebrates—the notochord, primitive streak, cranial nerves, etc.—but also a great deal of useless mental lumber which I proceeded to forget as soon as possible. Long after qualifying I acquired the *Beast Book for the Pocket* by Edmund Sanders, and I am sure I learned more from it than from my university course. This, I should say, is the sort of textbook for future doctors, and it can be read with interest and profit by a schoolboy. If, as I believe, a good doctor should be a naturalist and know something about most living things and their mutually dependent ways of living. I suggest dogfish have had their day and pigs, sheep, and horses might be considered instead, or even rabbits.

My own university was no worse than any other, I am sure. Therefore I would like to sign this letter merely,—Yours, etc.,

"M.D., B.Sc."

Doctors and the Social Trend

SIR,—As I sat through the last Annual Representative Meeting I wondered how the B.M.A. could possibly have chosen such a time for its deliberations. Surely it was political ineptitude to continue as if the caretaker was bound to be the new landlord. I wondered, too, how those of us who voted for the Labour Party could help to avoid the complete break-up of the Association if a Labour Government came to power with a clear mandate for new health services. For throughout both of the last two Representative Meetings there seemed to be a tacit agreement to ignore the results of the B.M.A.'s own questionary—results which showed that a majority of medical men would in all probability accept service under a National Health Service planned on the lines of the White Paper. When the Election results became unmistakable the suggestion arose that we must therefore close our ranks. Certainly, but do we close them for work with the people, or against them? Dr. J. Shackleton Bailey (Aug. 18, p. 235) has shown us the way out in one of the most constructive and understanding letters that has appeared in our *Journal*.

The Government has now a clear mandate to put into action the Labour Party's policy on a National Health Service. Our Association has objected in the past that changes in the health services should be preceded by such improvements in living and working conditions, in housing, and in nutrition that must eventually reduce the incidence of disease in the best way. The new Government is entirely in agreement that this approach is correct, and consequently housing and social security are among its first intentions. But this, as regards health, is long-term policy and sickness rates will not decrease immediately, so that reform of our curative health services cannot be postponed.

In its negotiations with the Ministry of Health the B.M.A. has shown itself capable of constructive policy. For example, it induced the Minister to accept the proposal that reform of the mental health services should be part of the new National Health Service. We can, however, go much further, and with a willing Government show the Ministry of Health how to design a new health service so that industrial, maternity, and mental services can all be integrated with the hospitals and health centres; not, indeed, that all these should be at once incorporated, but that the scheme should be so designed that all these services can be operated by the same administrative machinery as and when sufficient trained personnel become available.

We have nothing to lose by co-operating constructively with the Government. The Association's miserable attempts to save private practice by a scheme to finance the purchase of practices has been exposed by Dr. Robert Poots (*Supplement*, Aug. 11, p. 43), and it can lead to nothing but a lower standard of life for general practitioners. I need not repeat his arguments, but any demobilized doctor would be wise to study Dr. Poots's analysis of the figures before becoming the servant of the banks rather than assuming the more dignified position of a servant of the people.

My years in the E.M.S. have taught me the pleasure of whole-time medical service. I have been equally frustrated by the administration in local authority hospitals and in voluntary hospitals. But in the former the particular local authority concerned, after many misunderstandings and a tough struggle, now prides itself on its medical and staff committees and on its increasing decentralization of control. A Labour Government must encourage democratic methods, and we must, therefore, seize the opportunity to show it how best to organize the services so that all health workers, nurses, medical auxiliaries, and others as well as doctors can best influence and guide the development of the new service. We must, too, give up talking about health centres as if they are something too difficult to design without prolonged experiments, thereby betraying ourselves as incapable fools without the wit to plan the next step forward.

The B.M.A. must now choose between two alternatives. On the one hand, obstructive tactics and the opposition of private to public interests can only lead to loss of respect by the public for the profession, and to the collapse of our professional organization. On the other hand, tempered criticism, constructive assistance, and an understanding of inevitable social trends will lead not only to a rehabilitation of the profession but to a development of health services which will put the whole of modern medical science at the disposal of the people. Dr. Shackleton Bailey has given us a clear lead.—I am, etc.,

Wimbledon, S.W.20. HUGH GAINSBOROUGH.

SIR,—It is a pleasure to read Dr. J. Shackleton Bailey's letter and a pity that such clear thinking is not more common. As he says, the world is undergoing a great upheaval and what is wanted is a change of attitude of mind. The *raison d'être* of the medical profession is the maintenance of the health of the community. Ill-health was not sent by a beneficent being for exploitation by a professional class, and, provided the State grants its practitioners a reasonable remuneration, the removal of the monetary value of individual patients might prove of moral value in itself.

The profession would have been better advised if, in its dealings with the Government, it had adopted a spirit of willing co-operation in evolving the best possible system rather than one of resistance to an inevitable and probably beneficial change.—I am, etc.,

Wanstead Park. M. STARK.

Day Nurseries

SIR,—Dr. F. Gray (Aug. 25, p. 267) finds my statements fantastic, and therefore I ask to be allowed to say that the pre-war day nursery which I described, and of which I had an intimate knowledge, accepted between 40 and 50 children daily. In each case the father came under one of the headings quoted in my previous letter. In each case "the home" consisted of one or two "let-off" rooms. I gladly agree with Dr. Gray that such cases are a minority, but they do exist and must be helped.

But what about the majority—i.e., the man and wife: he in his job, and she occupied with her house duties? I suggest that if the scope of the day nursery were extended also to provide part-time service for them according to their individual needs and circumstances they would thereby be stimulated, encouraged, and assisted to add to the population. In addition, the valuable contribution that a well-managed day nursery can make towards hygiene, education, and social behaviour of the child in its most formative years must not be overlooked.

Dr. Gray and I are on common ground in deploring the fact that the young mother with a child should go out to work, and be underpaid into the bargain, but I think he is mistaken in laying the blame at the door of the nursery. Such a line of thought could lead us to accuse the hospitals and health clinics of promoting disease.—I am, etc.,

London, N.W.11. L. S. WOOLF.

Catalogue of Medical Films

SIR,—A catalogue of all the medical films in Great Britain is now being prepared by the Royal Society of Medicine in co-operation with the Scientific Film Association. It would be appreciated if any persons holding films of medical or paramedical interest, who have not already been asked for details, would communicate with the Film Cataloguer, Royal Society of Medicine, 1, Wimpole Street, W.1. By so doing they would not commit themselves or their films, but would enable the catalogue to be complete.—We are, etc.,

GORDON GORDON-TAYLOR,
President,
Royal Society of Medicine.

ARTHUR ELTON,
President,
Scientific Film Association.

The Services

It has been announced by the War Office that the release of medical officers will be proceeded with up to Group 23 by Jan. 20, 1946, in step with the rest of the Army.

The Central Medical War Committee is informed that the rate of release of medical officers from the Royal Air Force has been accelerated. The following age and service groups will be released by the dates shown: By Oct. 31, Groups 13 and 14 (i.e., additional to Groups 11 and 12); by Nov. 30, Groups 15 and 16; by Dec. 31, Groups 17 and 18; by Jan. 31, 1946, Group 19; by Feb. 28, 1946, Group 20.

Lieut.-Gen. Sir Alexander Hood, K.C.B., C.B.E., M.D., F.R.C.P., late R.A.M.C., Director-General of Army Medical Services, on completion of tenure of appointment is retained on the Active List (supernumerary).

Major-Gen. S. R. Burston, C.B., C.B.E., D.S.O., E.D., A.A.M.C., has been appointed Honorary Physician to the King, *vice* Brig. D. M. McWhae, C.M.G., C.B.E., V.D., A.A.M.C., who has resigned the appointment.

Temp. Surg. Lieut. Arthur Morton Evans, R.N.V.R., has been awarded the D.S.C. for bravery, determination, and devotion to duty in an action with shore batteries off Andaman Island on March 19, 1945, and in successful attacks on enemy submarine chasers and merchantmen on March 26, 1945.

Capt. Robert Barer, R.A.M.C., has been awarded the M.C. in recognition of gallant and distinguished services in North-West Europe.

Lieut.-Col. (Acting) A. D. MacPherson, R.C.A.M.C., has been awarded the D.S.O. in recognition of gallant and distinguished services in North-West Europe.

Major J. A. Wright, R.C.A.M.C., has been mentioned in dispatches in recognition of gallant and distinguished services in North-West Europe.

2nd Lieut. Harbans Singh, I.A.M.C., has been awarded the M.C. in recognition of gallant and distinguished services in Italy.

The King has conferred the Efficiency Decoration upon the following medical officers of the Territorial Army: Lieut.-Col. G. T. Hankey; Majors (Temp. Lieut.-Cols.) H. W. Bambridge, R. E. M. Fawcett, E. Hutcheon, F. L. Ker, P. J. May, M.B.E., and D. N. Nicholson; and Majors R. V. Facey, H. V. Ingram, and D. P. MacIver, M.C., R.A.M.C.(T.A.).

CASUALTIES IN THE MEDICAL SERVICES

Flight Lieut. SAMUEL LLOYD JONES died on July 29 while on sick leave after being invalided from over-seas. He was born on Feb. 9, 1913, and studied at the Welsh National School of Medicine, qualifying M.R.C.S., L.R.C.P. in 1940. After holding appointments at Swansea General Hospital and as assistant medical officer of health, Merthyr Tydfil, he received a commission as flying officer in the R.A.F.V.R. on Oct. 17, 1941.

Killed.—War Subs. Capts. Alexander Brown and David Frew Wood, R.A.M.C.

Died abroad, as the result of an accident.—Surg. Lieut. Angus Charles Macrae-Gibson, R.N.V.R.

Died in India.—Major Alfred Charles Greene, I.M.S.; Capt. Jean Cunison Nelson, R.A.M.C.

Died in Bermuda.—War Subs. Capt. John Michael Hamer, R.A.M.C.

Died.—Lieut. Gerard Baum, R.A.M.C.

Wounded.—War Subs. Capt. S. Hyman, R.A.M.C.

Obituary

ERIC BIDDLE, *M.C.*, M.B., B.S.

We regret to announce that Dr. Eric Biddle, pathologist and transfusion officer at the East Suffolk and Ipswich Hospital, died on Aug. 21 as the result of a motor accident. He had been chairman of the East Suffolk Division of the B.M.A. in 1939–40 and was elected president of the Suffolk Branch last year. A student of Guy's Hospital, he qualified M.R.C.S., L.R.C.P. in 1915 and after service in the last war as major, R.A.M.C., during which he won the Military Cross and bar, he took the M.B., B.S.Lond. in 1922. At Guy's Eric Biddle held appointments as house-surgeon, out-patient surgical assistant, and senior assistant bacteriologist. He was later assistant in the venereal disease department of the Royal London Ophthalmic Hospital and pathologist to the Devonshire Hospital, Buxton. He joined the B.M.A. in 1926 and was a member of the Pathological Society and the Association of Clinical Pathologists. He published a report on the bacteriological investigation of arthritis in the *Journal of Clinical Research*, and contributed to the *British Medical Journal* in 1939, jointly with Mr. G. F. Langley, a paper on transfusion with conserved blood. His last published writing was a letter in these columns on May 26 of this year in which he put pertinent questions on the subject of blood donors and transfusion services under post-war conditions. In common with many other transfusion officers he was faced with a transition period in which drastic and serious fall in the number of donors must be expected and a resignation of many of the voluntary staff who had helped him during the war.

A. R. H. writes:

The tragic and sudden death of Eric Biddle has come as a shock to his many medical and lay friends in Ipswich and East Suffolk. He came to us from Guy's, where he was senior assistant bacteriologist. As pathologist to the East Suffolk and Ipswich Hospital, he had been in charge of the laboratory since his appointment in 1927 as its first director. In 1928 the new pathological laboratory was officially opened in Ipswich by the Princess Royal, and from then until now, under his able direction, it has grown both in the scope of its work and in its usefulness to the hospital and the area which it serves. During the war years the work of the department became more and more exacting. Dr. Biddle organized a most efficient blood transfusion service which he built up from small beginnings before the war. Latterly he had as many as 172 donors at one session, and averaged 100 donors at each fortnightly session. All this he did and much more outside the terms of his appointment, and always cheerfully and ungrudgingly. He undertook research in penicillin, and his interest in the forensic side of medicine resulted in his services being sought by the authorities to find the cause of death in obscure or suspicious circumstances. He was medical officer to the 9th Suffolk Home Guard and carried out his duties with characteristic enthusiasm. A keen photographer, he was an active member of the Ipswich Photographic Society, and would always help a colleague with photographic evidence for publication or for filing with clinical data. The Music Club for Nurses, which has afforded much entertainment and recreation to the nursing and resident staff, was founded by him. His keen sense of humour and ready wit—free from cynicism or invective—were a joy to us all. Those of us who knew him as a friend and colleague feel the loss of a genial and kindly personality who was always eager to render service at any time and in any emergency.

A. P. BACHA, M.B., B.S., F.R.C.S.

India has lost a pioneer surgeon by the death of Dr. Ardeshir Pestonji Bacha on May 5. He was born in 1881 at Navsari, a town near Bombay in the Baroda State Territory. He passed the matriculation examination from the local high-school and joined the Grant Medical College in Bombay in 1898, where he passed all his examinations in the first class and won scholarships, prizes, and medals. He graduated from the Bombay University in 1903. After working for a short time as a house-surgeon in Dr. Masina's private hospital he secured the Tata Scholarship for further studies and joined University College, London, where he passed the M.B., B.S.Lond. in 1907 and F.R.C.S.Eng. in 1909. He returned to India early in 1910. At that time the Grant Medical College and the Jamsetjee Jeejeebhoy group of hospitals were the only teaching institutions in medicine in Bombay, and they were entirely staffed by I.M.S. officers. At about the beginning of the century Dr. H. M. Masina, F.R.C.S., had started a private hospital, the first of its kind in Bombay. In 1910 Dr. Bacha started a modern nursing home, and by dint of sheer merit he gradually built up a good surgical practice. Since then Bombay has got the new G.S. Medical College, with the K.E.M. Hospital attached to it, the Jerbai Wadia Hospital for Children, the Tata Memorial Hospital for Cancer, and many other hospitals, all staffed by capable Indian medical men and women.

J. B. D. writes:

Dr. Bacha was a keen student of contemporary medical and surgical literature. He subscribed to the leading British and American medical journals and read them carefully. He also bought all the best books published during the last thirty-five years, and the collection in his splendid library had cost him a very large sum. He was also equally lavish in the acquisition of the best appliances and instruments for his work, the latter being also of great value. He took great pains over the minutest details of operations and the after-care of his patients, and thus built up a thoroughly well deserved reputation as a most careful and successful surgeon. Throughout his life he remained a close student of the latest developments in the field of general surgery. He was a staunch Indian Nationalist, though during the later period of his life he greatly deplored the disruptive and communal tendencies in the Nationalist movement which have developed later. During this war he gave his services to the war-wounded as a lieut.-colonel, I.A.M.C., till he was incapacitated by his last illness, and for these he was thanked by Col. Sir Jamshedji N. Duggan, I.A.M.C., the head of the war hospital in Bombay. He was a member of the British Medical Association for over forty years, and a past-president of the Bombay Medical Union. He was surgeon to the Parsi General Hospital and surgeon and lecturer in surgery to the King Edward Memorial Hospital. He was an examiner in surgery for the M.B., B.S., and the M.S. degrees of the Bombay University. He cherished the highest ideals of our profession, and was very strict and uncompromising in his observance of those ideals. I had the privilege of an unbroken intimate friendship with him for fifty years. He was a pioneer Indian surgeon who has set a very high standard for others to follow—one who would have been acclaimed as an outstanding surgeon in any country.

ALFRED SALTER, M.D.

Dr. Alfred Salter, who died in Guy's Hospital on Aug. 24, at the age of 72, first entered the House of Commons as Labour member for West Bermondsey in 1922. He lost his seat in the following year, but regained it in 1924, and held it until his retirement at the recent dissolution. His political activities overshadowed his achievements in medicine, which in his earlier years gave promise of a brilliant career. He was a Guy's man, qualifying in 1895, when he took the gold medal in medicine and triple first-class honours in the London M.B., and in the following year he proceeded M.D., again with gold medal. In 1897 he won the Golding Bird gold medal and scholarship in public health and the Gull research scholarship in pathology. After holding an appointment as house-physician and resident obstetrician at Guy's he became bacteriologist to the Lister Institute of Preventive Medicine, where he remained for three years, and contributed many papers on bacteriological and pathological subjects to French and German as well as English periodicals. His ardent sympathy for and championship of the poor led him into general practice in a working-class district, and he became the senior member of a large partnership in Bermondsey, where he was a well-known figure going on his rounds on a tall bicycle and wearing even in those days the flaming Socialist tie. The woeful condition of the people in some parts of London even as late as the early years of this century caused him to take up various forms of social and religious philanthropy—he would give an address in a little mission hall on a Sunday evening, and then rush off to perform a minor operation, afterwards going on to his adult school or his lads' club—and to become a member of his borough council (of which he was an alderman at the time of his death), of the County Council, and of Parliament.

A correspondent who had known Dr. Salter for over forty years writes:

He was one of those rare spirits who combine the pacifist approach in public affairs with an extreme militancy in propaganda. He was a "bonny fighter," and never feared to cause dismay in the ranks of his friends by his extreme views and forthright utterance. Had he been more accommodating in his conscience he might have won a higher place in politics; as it was, he remained a back bencher while men in his own party far less richly endowed than he, whether in intellect or in moral strength, pushed their way to leading places. Unlike a good many of his friends, he was a pacifist not only in the first but in the second European war. His pacifism was based on a strong religious conviction concerning non-resistance. He was equally resolute in his condemnation of the drink evil. Not long after he entered the House of Commons he created a stir by declaring in a public speech that he had seen many members drunk in the House, and that no party was exempt from this disgrace. The House could do no other than take cognizance of such a statement, and it placed on its records a resolution that Dr. Salter's words were a gross libel and a grave breach of privilege. But there is little doubt that at that time, with many new men entering Parliament, unaccustomed to its long hours and tedium, and finding there a bar which was not subject to licensing restrictions, Dr. Salter had good ground for his statement; he refused to apologize for it or amend or withdraw it. Similarly he was a great champion of free speech, and he actually resigned from the Labour Party in his own borough, which he had founded thirty years previously, because it refused free speech to Fascists. No one more than he detested Fascist tyranny, but it was exactly because he detested it that he was anxious that it should not be imitated by his friends.

In medical politics he took little part (he ceased membership of the British Medical Association in 1913), but he was an active member of the London Panel Committee in its early days, and scarcely a meeting passed without some rising of temperature due to his spirited interventions. Like many men with his sharp tongue and pugnacious jowl, he was, to those who knew him intimately, of the gentlest disposition. His deeds of kindness as a doctor, especially to the very poor, were a legend in South-East London, and in his elections his personality won the support of many who could not abide his politics. He was extraordinarily fortunate in his domestic life. Ada Salter, who died three years ago, like himself a member of the Society of Friends, fully shared her husband's ideals and helped him in his struggles. She was for many years a member of the L.C.C. and was actually mayor of Bermondsey when that borough first returned her husband to Parliament. He felt her loss keenly, and had been in failing health for some time.

It is with regret that we announce the death of Dr. Samuel John Watt Donald, of Brook Street, Sutton-in-Ashfield. Dr. Donald was 54 years of age, and had been ill since last December, but during recent months he appeared to be making progress. The news of his passing was received with deepest regret throughout the district, where his sterling qualities and kindly disposition endeared him to every section of the community. A native of Ballyrickard, Ireland, he graduated M.B., Ch.B., and B.A.O. at Queen's University, Belfast, in 1916; he immediately joined the Forces, and was sent to the Middle East, serving under the late General Allenby in Palestine, Iraq, and India. Later he completed his services with the Army of Occupation in Germany as a divisional D.A.D.M.S., and subsequently settled at Sutton-in-Ashfield until his untimely end. Among his other activities he took an enthusiastic interest in the St. John Ambulance Brigade; having begun in 1920 as a division surgeon he rose to the highest position in the county, that of County Commissioner. He attained the meritorious award of Serving Brother and Officer of the Order of St. John. During the war, amidst a very busy life, he joined the Home Guard as a major, and acted as C.M.P. for the Army. For some time it was evident that he was working under great mental strain. During his long illness that followed, many were the anxious inquiries of his friends, and they hoped against hope that he would be spared to enjoy some little respite from his arduous toil. He was truly one of the war's casualties.—P. M. G.

The many friends of the late Dr. John L. Moir in Anglesey and Cheshire learned with regret of his unexpected death at the age of 63. John Lowndes Moir, second son of the late John Moir, J.P., Brereton Hall, Sandbach, was born in 1882. Educated at Charterhouse School, Manchester University and Medical School, he graduated M.B., Ch.B. in 1908. Following the house-appointments of junior and senior H.P. and senior H.S. at the Manchester Royal Infirmary, he practised at Congleton, Cheshire, from 1910 to 1931, holding the appointments of honorary medical officer Congleton War Memorial Hospital, certifying factory surgeon Congleton district, M.O. to the Post Office, and recruiting M.O. Congleton and district. From his retirement in 1931 John Moir lived at Cemaes Bay, Anglesey. He was called to the Bar by the Middle Temple in 1935 and became a member of the Northern Circuit. He volunteered for the R.A.M.C. in the last war but was rejected on medical grounds, and again volunteered at the outbreak of the present war, but his services were refused as he was over age. Moir then devoted his time to the work of the British Red Cross Society and Order of St. John, and became county medical officer and county civil defence officer of the Anglesey B.R.C.S. On the inception of the Home Guard he was made zone medical adviser with the rank of lieut.-colonel, and for several years undertook the whole of the medical work for the Anglesey County Home Guard unaided. G. P. W. writes: A staunch colleague and a great upholder of the dignity and traditions of his profession, John Moir gave of his utmost to any cause he took up. Prospective Conservative candidate for Ardwick, Manchester, from 1939 to 1944, he was the author of many pamphlets on medico-legal, medical, and religious subjects; a fluent speaker, he often addressed public audiences on these matters. In June, 1945, he was appointed by the Lord Chancellor to the post of medical member of the Pensions Appeal Tribunal, and was engaged on this work up to the time of his death. Deeply religious, he gave freely of his time and energy to any individual or organization he deemed worthy of help, and gave of his best to his patients, rich or poor, irrespective of the financial reward. In his practice at Congleton he was truly the "beloved physician," and innumerable old patients mourn his loss. His epitaph, chosen by himself some years ago, typifies his life: "We are more than conquerors through Him that loved us" (Romans viii, 37).

Dr. Arthur Murray Wood, late of Leith, who died at Cockburnspath on Aug. 19, graduated M.B., Ch.B., with first-class honours, at Edinburgh University in 1900 and proceeded M.D. four lears later. He was elected F.R.C.P.Ed. in 1915 and took the D.P.H. of Edinburgh and of Glasgow. He had been resident physician at the Edinburgh Royal Infirmary and at the Sick Children's Hospital, and not long after graduation held office as senior president of the Royal Medical Society of Edinburgh. Dr. Wood served for more than 15 years as physician in charge of wards at Leith Hospital, and was afterwards appointed to the consulting staff of that institution. He devoted much time to the teaching of ambulance work in Leith, and for many years examined in first-aid work at Leith Nautical College. He joined the B.M.A. in 1911 and remained a member until the end of last year, when ill-health had overtaken him. His two sons are doctors, and one of them carries on the family practice.

Dr. Joseph White, after many years spent in active practice in London, retired to Bournemouth in the early days of the present year. His anticipation of a well-earned rest was but briefly realized, and he died on Aug. 19. Of him, in a short sentence, it may be justly written that he was born a student and that he lived a student. His record at the University of Glasgow was set in due sequence in the Faculties of Arts, of Science, and of Medicine, and the degrees of M.A., B.Sc., and M.B., C.M. were each awarded to him with the distinction of "Honours"; he gained also a much-coveted prize in the shape of the Clark Scholarship. After graduation he continued his studies at Paris, Berlin, and Vienna, with particular attention to midwifery and gynaecology. Thus the fates seem to indicate for him a promising academic career. Yet his choice in the end was for the wide fields and opportunities of general practice, and he applied to these both a trained professional equipment and a personal enthusiasm and devotion. Little wonder that he quickly gained the confidence and regard of patients of all classes, for his ideal was one of service and his purpose was to realize this. With a trained mind and a high standard of accuracy he combined a gentleness of thought and understanding which engaged the affection of his patients and the regard of his colleagues. He knew well the charm of friendship and the values of the domestic atmosphere. In a word, in Dr. Joseph White were seen the modest scholar, the effective practitioner, and the honest man, and his record of service is quietly but firmly written. To his wife and family many friends and colleagues will desire to offer a tribute of sympathy and regard.—C. O. H.

Dr. G. N. P. Carrell died suddenly at his home in Kingswood, Surrey, on Aug. 28. He was in his 90th year. Carrell was a student at Guy's in the 'eighties, and a contemporary and friend of Hale-White and Charters Symonds. He qualified M.R.C.S., L.R.C.P. in 1889 and was clinical assistant in the ophthalmic department. He went into practice at Ilford in 1894 and worked there for nearly 40 years. In that time he saw the small village grow into a large town. Its citizens owe a great deal to his long and devoted service. Carrell was a good doctor and a good man. The many thousands who were his patients will remember his charm, his humour, and his great affection. I know of no one who more closely approached the ideal of the family doctor. He married Sage Ward Haddow in 1894, who survives him. His son, Guy Carrell, is a surgeon lieut.-cmdr. in the R.N.V.R., and his daughter, Enid, is the wife of Lieut.-Col. Cokkinis, R.A.M.C., of St. Mary's.—A. J. C.

Universities and Colleges

UNIVERSITY OF OXFORD

The following medical degrees were conferred at the end of July:

D.M.—J. C. Neely.

B.M.—D. W. H. Barnes, David Gall, J. B. E. Baker, D. S. Cooke, D. St. C. Roberts, Elizabeth J. Horder, *D. G. Melrose, *Christopher Ounsted, *C. J. Radway, *J. S. Dismorr, Anthony Betty Shaw, N. T. Jace, G. E. Dixon, J. C. Lawrie, D. R. Wood, *C. H. Neville-Smith, *C. C. Draper, *J. D. L. Reinhold, *Mary Balf.

* Conferred in absence.

UNIVERSITY OF CAMBRIDGE

The following medical degrees were conferred at a Congregation held on Aug. 3. Only those whose names are marked with an asterisk received their degrees in person; all the other degrees were received by proxy.

M.D.—W. R. Billington, K. W. Donald, C. M. Fletcher, M. I. A. Hunter R. A. Shooter.

M.B., B.Chir.—N. K. Connolly, W. P. D. Ross, J. P. D. Mounsey, C. J. H. Paget, F. S. Sinker, R. H. Whitworth, C. G. Attenborough, R. E. B. Spencer, A. R. C. Butson, P. M. Jeavons, B. W. Pay, I. P. Williams, I. D. P. Wootton, A. R. Buckley, I. S. Hodgson-Jones, D. A. Pyke, M. G. Thorne, R. G. M. Longridge, William Waugh, A. M. H. Bennett, R. E. Church, J. M. Drew, J. W. B. Forshaw, J. B. Lawson, C. M. Monro, V. R. Pickles, David Wilkes, J. H. F. Wood, C. H. Kinder, A. J. Underwood-Whitney, J. M. Walshe, J. C. Sloper, James Crichton, A. G. Dingley, R. B. Wilson, J. A. Dew, P. F. Boreham, H. R. Mallows, J. R. Smythies, David Wilson, M. F. Bethell, R. A. Green, N. B. Malleson, J. R. Moffatt, K. M. Nuttall, O. L. Wade, S. P. Wrightson, J. F. Fisher, A. D. Beard, Emeric Halász; *N. T. Welford, *I. M. P. Dawson, *D. G. Abrahams, *G. R. E. Naylor, *K. E. E. Read, *D. A. W. Edwards, *D. W. S. Sheldon.

UNIVERSITY OF LONDON

Alterations in and additions to the regulations for diplomas and certificates administered by the University Extension and Tutorial Classes Council, including the postgraduate diploma in psychological medicine, have been published from the wartime address. All communications regarding these regulations should be sent to the University Extension Registrar, University of London, Imperial Institute Road, South Kensington, S.W.7. In 1946 all examinations normally due to begin between the dates June 10 and July 31 (both inclusive) will begin one week later.

The following candidates have been approved at the examination indicated:

Academic Postgraduate Diploma in Medical Radiology.—J. J. Stevenson *Part I:* R. Astley, J. Borrowdale, D. Brash, L. Ceballos, E. Giordani, G Hollingsworth, S. Josephs, Gwenllian B. Morgan, R. S. Murray, J. F. Nicholl A. W. O'Farrell, L. G. Picciotto, R. C. Tudway, F. Zammit.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

The autumn course of professorial lectures on anatomy, applied physiology, and pathology will be delivered at the College, Lincoln's Inn Fields, on Sept. 24, 26, 27; Oct. 1, 3, 5, 8, 10, 12, 15, 17, and 18. Prof. John Beattie's course on applied physiology at 2.30 p.m. each day will be devoted to kidney function. Prof. R. A. Willis's course on pathology at 3.45 p.m. each day will be devoted to tumours. Prof. A. J. E. Cave's course on anatomy at 5 p.m. each day will begin with a series of demonstrations. All three courses are open to medical practitioners and advanced students.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH

The report for 1944 of the curator of the laboratory of the Royal College of Physicians of Edinburgh (Dr. A. Fergus Hewat) states that the reports which have issued from the laboratory during the year numbered over 25,000, making a record. Dr. Cranston Low has been appointed superintendent of the laboratory. In mentioning that the research work has gone steadily forward, Dr. Hewat utters a warning against attaching too much mystery to the term "research" or suggesting that it must be conducted under conditions of cloistered seclusion. "It may be necessary to look for future activity of the laboratory on the lines of community service and to combine this work with appropriate research on the abundant material provided. . . . Research is not necessarily to be looked on as a set piece, or even as a major piece of work, so long as it does usefully contribute, like the individual brick, to a final edifice." Brief accounts are given of the work done under Lieut.-Col. W. F. Harvey in histology and haematology, and under Dr. W. O. Kermack in biochemistry. There are also departments of bacteriology and of mathematics and statistics. The histological collection of the laboratory together with clinically recorded tumour material, mainly of Edinburgh, is being used by Dr. Blackwood, pathologist to the Scottish mental hospitals, in an endeavour to make a comprehensive and critical survey of tumours of the nervous system—a study which will require a long period of analytical and statistical investigation.

Medical Notes in Parliament

Age Incidence in Diphtheria

Mr. Viant inquired on Aug. 21 what were the ages in the 23,152 cases finally diagnosed as of diphtheria in 1944 and in the 934 fatal cases.

Mr. Bevan said the particulars requested were:

Age Group	Cases	Deaths
Under 5	4,171	351
5–9	7,200	342
10–14	4,417	104
15–24	4,306	64
25 and over Age unknown	3,058	72 1

Mr. Bevan added that information about immunization was not available for all cases of diphtheria because it was derived from returns by local authorities relating to the immunization campaign, affecting only children up to the age of 15. These returns, moreover, do not include immunizations by doctors in private practice.

Milk

Dr. Summerskill said on Aug. 23 that progress toward enforcement of the standards of milk at the time of sale to the consumer set out in the White Paper had been disappointing. No areas had yet been specified under Regulation 55G. Until the deficiencies of plant, equipment, and buildings could be made good, imposition of heat treatment of milk upon all dairymen would not be practicable. Considerable progress had been made in this direction and the output of new plant was improving.

Mr. Bevan states that a high proportion of school milk is now either heat-treated or tuberculin-tested. He is consulting the Minister of Food on what further action can be taken respecting the supply of adequately heat-treated milk.

Tuberculosis in Ex-Service Men: Treatment Costs

Capt. Bullock on Aug. 22 asked the Minister of Health to reconsider the present arrangements relating to men discharged from the Army suffering from tuberculosis so as to ensure that their institutional treatment should always be a charge upon the State. Mr. Bevan said responsibility for treatment of tuberculosis rested upon local authorities. Where the Ministry of Pensions accepted tuberculosis in a man discharged from the Army as attributable to or aggravated by war service, payment was made by that Department to the local authority concerned at an agreed capitation rate in respect of approved cases of institutional treatment. In any other case the cost of such treatment was borne by the local authority's tuberculosis service, which attracted Exchequer grant.

Medical News

The conference of the Association of Special Libraries and Information Bureaux will be held during the week-end Sept. 15–16 at the Portland Hall (Polytechnic Extension Building), Little Titchfield Street, London, W.C. An inclusive fee of 30s. per head to members (£2 to non-members) will cover admission to all sessions, lunch and tea both days, and a free copy of the report of the proceedings. Application forms can be obtained from the Aslib office, 52, Bloomsbury Street, W.C.1.

A meeting of the members of the British Association of Physical Medicine will be held at 11, Chandos Street, W., on Wednesday, Oct. 24, at 5 p.m., when Dr. James MacDonell will read a paper on "Sleep Posture—Its Implications," to be followed by a discussion.

The address of the Socialist Medical Association is now 35, Long Acre, London, W.C.2.

According to a dispatch from the Delhi Correspondent of the *Times* the Government of India created on Sept. 1 a Department of Agriculture, a Department of Health, and a Department of Education, in place of the existing single Department of Education, Health, and Lands. Sir Sardar Jogendra Singh, Minister in charge of the conjoint department in the Viceroy's Executive Council, will for the time being take charge of all three departments of the central Government.

Dr. Cecil Gordon Roberts, second medical officer to the General Post Office, has been appointed Chief Medical Officer in succession to the late Dr. W. Logan Scott. Dr. M. C. W. Long, assistant medical officer, has been appointed second medical officer.

Courses of ten lectures on "The Psychology of Frustration and Fulfilment in Adult Life," arranged by the Provisional National Council for Mental Health, will be given at Sheffield, Leeds, Bradford, Manchester, and Liverpool throughout the ten weeks from October 1 to December 7. They will run concurrently, the weekly speakers and their subjects being: Dr. Edward Glover, "The Psycho-analytic Approach"; Dr. Lois Munro, "The Psycho-analytic Approach"; Dr. R. G. Gordon, "The Celibate Man"; Dr. Noel Harris, "The Married Man"; Miss Lloyd Baker, "The Celibate Woman"; Dr. Winifred Rushforth, "The Married Woman"; Principal J. H. Nicholson, "Co-education of Young Adults"; Dr. J. A. Hadfield, "Parenthood"; Dr. H. Crichton-Miller, "Frustration and Authority" and "Evolution and Fulfilment." Tickets (for the course, £1) and further information may be obtained from the offices of the Provisional National Council for Mental Health, 39, Queen Anne Street, W.1.

Officials of the Memorial Cancer Hospital, New York, have accepted a grant of $4,000,000 (£1,000,000) from Mr. Alfred P. Sloan, chairman of General Motors Corporation, to the Sloan-Kettering Institute for Cancer Research at the Memorial Centre. The grant will come from the Alfred Sloan Foundation, and half the money will be for buildings and the rest will provide $200,000 annually for ten years towards working costs. Dr. Charles F. Kettering, director of research at General Motors, will be responsible for the organization of industrial techniques for cancer research, but the Corporation will not concern itself with the programme of work. A public campaign is to be launched to raise the $3,000,000 to $4,000,000 required to complete the hospital.

The Minister of Health, the Right Hon. Aneurin Bevan, M.P., has appointed Major Donald Bruce, M.P., to be his Parliamentary Private Secretary.

Viscount Dawson of Penn, by his will, directed that unless conditions arising out of the war made it too difficult, or doctors in attendance thought no service to knowledge could follow, a post-mortem examination of his body should be made. "I do this because I think the public do not sufficiently realize the importance of post-mortem examinations being made and the advantages to knowledge and therefore to future generations which will thus accrue. We do not hesitate to have operations performed on our bodies when we are alive and when circumstances require it. Why, then, should we mind operations (which are done with the same care, the same gentleness, and I may add the save reverence) being done to our bodies when we are dead? Surely this is a rightful service which the dead should give the living. The benefit of such service to the living is very great."

EPIDEMIOLOGICAL NOTES

Discussion of Table

In *England and Wales* the incidence of infectious diseases, with the exception of measles and dysentery, remained at almost the level of the preceding week. Measles returns were 354 fewer, and those of dysentery 41 fewer.

The trend of whooping-cough varied: notifications fell in the north and south, but rose in the midlands, the total for the country increasing by 31. Lancashire reported a rise of 14 in returns for diphtheria. The decrease in measles notifications was general, except for rises of 27 in Kent and 16 in Durham.

The only fresh outbreak of dysentery was in Cambridgeshire, 15 cases. The other chief centres of infection were Essex 52 (Maldon M.B. 39), Lincolnshire 33, Surrey 22, London 22, Middlesex 16, Glamorganshire 16, Lancashire 13, and Warwickshire 10.

Six cases, one fatal, of infantile paralysis have occurred among Ilford boys who recently returned from a Scouts' camp, and the sister of another boy has contracted the disease. The local medical officer of health has given the camp a completely clean bill of health, and considers the camp in no way responsible.

In *Scotland* diphtheria notifications rose by 18, and those for dysentery by 25. In Glasgow the incidence of dysentery rose from 13 to 28, and it was here also that more than half the cases of diphtheria were notified.

In *Eire* there was an increase of 16 in the notifications of diphtheria. The outbreak of diarrhoea and enteritis in Dublin C.B. rose from 54 to the very high level of 88 cases.

In *Northern Ireland* scarlet fever notifications rose by 21, and those for diphtheria by 9. Four members of one family in Londonderry have contracted typhoid.

Week Ending August 9

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,001, whooping-cough 1,152, diphtheria 409, measles 1,151, acute pneumonia 318, cerebrospinal fever 47, dysentery 232, paratyphoid 17, typhoid 12, poliomyelitis 31.

No. 33

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended Aug. 18.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1945					1944 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever	39	2	14	1	3	34	1	26	1	1
Deaths		—	—				—	1		
Diphtheria	351	13	113	69	27	393	10	132	94	14
Deaths	8	1	3	—	—	8	—	1	—	—
Dysentery	259	22	72	1	—	248	14	95	—	—
Deaths				—	—				—	—
Encephalitis lethargica, acute	4	2	—	—	—	1	—	1	1	—
Deaths		—					—			
Erysipelas			31	7	—			36	5	4
Deaths		—					—			
Infective enteritis or diarrhoea under 2 years				97					124	
Deaths	49	4	6	20	7	58	4	47	15	2
Measles*	1,327	66	35	24	2	1,606	39	78	23	20
Deaths	—	—	1	—	—	2	—	—	—	—
Ophthalmia neonatorum	56	2	9	—	—	58	—	20	1	—
Deaths										
Paratyphoid fever	4	—	2 (B)	—	2 (B)	5	—	3 (B)	—	—
Deaths	1	—	—	—	—	—	—	—	—	—
Pneumonia, influenzal†	275	16	—	4	3	345	7	4	1	2
Deaths (from influenza)	3	—	—	—	—	5	1	3	2	—
Pneumonia, primary			96	11				133	10	
Deaths		11		4	4		22		4	2
Polio-encephalitis, acute	1	—				1	—			
Deaths		—					—			
Poliomyelitis, acute	27	4	—	4	2	14	—	10	1	—
Deaths		1					—			
Puerperal fever		1	7		—		—	10		—
Deaths										
Puerperal pyrexia‡	129	10	6	3	—	134	8	11	—	—
Deaths		—					1			
Relapsing fever	—	—			—	—	—			—
Deaths										
Scarlet fever	922	65	165	8	44	1,068	24	181	29	44
Deaths	—	—	—	—	—	1	—	—	1	—
Smallpox	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Typhoid fever	5	—	—	3	4	8	—	3	10	3
Deaths	1	—	—	—	—	2	—	—	1	—
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Whooping-cough*	967	47	22	22	4	1,603	60	36	68	7
Deaths	1	—	1	—	1	3	3	—	2	1
Deaths (0–1 year)	265	29	33	28	14	300	26	88	32	19
Infant mortality rate (per 1,000 live births)										
Deaths (excluding stillbirths)	3,617	522	524	186	109	3,853	570	558	177	92
Annual death rate (per 1,000 persons living)			11·1	12·0	§			12·8	11·5	§
Live births	5,748	693	764	346	249	6,406	496	941	325	288
Annual rate per 1,000 persons living			15·3	22·3	§			19·1	21·1	§
Stillbirths	175	18	16			226	14	20		
Rate per 1,000 total births (including stillborn)			21					21		

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* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

‡ Includes puerperal fever for England and Wales and Eire.

§ Owing to movements of population, birth and death rates for Northern Ireland are still not available.

Letters, Notes, and Answers

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ANY QUESTIONS?

Histidine and Peptic Ulcer

Q.—*In view of the experimental evidence that histidine is necessary for the adequate nutrition of the carnivorous stomach, and in view of many clinical successes from the use of histidine in gastric and duodenal ulcer, why is this form of treatment not more generally used? Is it because the patient dreads the use of the needle, and persuades the doctor first to try rest in bed, alkalis, and a milk diet?*

A.—There are, of course, many "cures" for peptic ulcer, including such diverse substances as vitamin A, alkyl sulphates, pituitary snuff—and histidine. Their reputation is due to the fact that peptic ulcer is a remittent disease, and remissions are particularly likely to occur under the influence of psychic stimuli. Unless a new treatment is carefully controlled, it may well appear successful at first. Histidine treatment has by now, however, been very carefully tested in animals and man, particularly in the U.S.A., and there is no case for using it. It is not effective in experimental ulcer in animals. Several well-controlled trials in man have shown that it is less effective than the usual diet and alkalis, and that injections of distilled water give equally good results. Some suggestive work has been done on the inhibition of histamine by histidine, the excretion of histidine in normal pregnancy, and the excretion of histamine in toxaemia of pregnancy (Kapeller-Adler, R., *J. Obstet. Gynec.*, 1941, **48**, 141), but there is no evidence that similar disturbances in metabolism occur in peptic ulceration. Finally, it should be noted that the dose of histidine commonly used in the treatment of peptic ulcer, 0.2 gramme daily, is probably only one-tenth of the normal intake in the food; and that recent American work on young men taking diets in which the nitrogen is provided by amino-acid mixtures rather contradicts the view that histidine is an essential amino-acid in man.

Vitamin K

Q.—*Apart from the prophylactic use of vitamin K in haemorrhage of the newborn, in what other conditions is it of value?*

A.—Vitamin K may be of value in any condition in which the prothrombin content of the plasma is reduced. Deficiency of prothrombin is responsible for the haemorrhagic tendency in jaundice; if this is due to obstruction it will usually respond to vitamin K, but if it is due to parenchymatous disease of the liver it will not. The response to vitamin K may therefore be used as a diagnostic test. The prothrombin level is depressed by the anticoagulant drug dicoumarol, but this action can be reversed in emergency by very large doses of vitamin K—i.e., 100 to 500 mg. A similar but less striking depression of prothrombin occurs during heavy dosage with salicylates, and it has been recommended that 1 mg. vitamin K should be given for every gramme (15 grains) of salicylate. Recently it has been claimed that a high proportion of patients with chronic urticaria show a deficiency of prothrombin and are relieved by vitamin K in a dosage of 2 mg. t.d.s., a.c.

Vaccination and Diphtheria Immunization

Q.—*Is there any practical reason why a child should not be vaccinated against smallpox and immunized against diphtheria on the same day?*

A.—Vaccination against smallpox is usually done some time between the second and sixth months of life, while inoculation with A.P.T. against diphtheria is usually done about the first birthday. It is probably wiser to vaccinate early rather than late, as more severe reactions seem to occur with older infants, and in any case there is a statutory obligation to do so before the child is 6 months old. The question then arises, "Should the infant be given its diphtheria prophylactic at 6 months of age or earlier?" Children under 1 year, even when they receive maternal antibody via the placenta, may develop diphtheria, and there is some evidence that infection in infancy has become more common in recent years. It would therefore seem advisable to begin immunization at 5 to 6 months of age. Now, there is no objection to combining two *bacterial* antigens, since the one does not interfere with the other in stimulating antibody production; but when two viruses are simultaneously injected there may be an "interference" phenomenon, and it is therefore not possible to say if vaccinia would interfere with the stimulation of antibody by the diphtheria antigen. Thus, while there is a case for early immunization against diphtheria, it would probably be wiser to begin the course after vaccination has been successfully completed. It should also be remembered that the child responds less well to antigenic stimuli in early infancy than it does later on, so that the initial dose should be adequate (say 0.5 c.cm. A.P.T.) and a boosting dose should be given 2 to 3 years later.

Iodine for Asthma

Q.—*A man of 54 has been taking Lugol's iodine, 3 drops twice daily for 2 years, as treatment for asthma. He found the attacks much less frequent and less severe during this period and suffered from no side-effects. It was discontinued for six months, but he now wishes to resume the same treatment. Is this desirable?*

A.—Iodine and iodides are of the greatest value in the treatment of asthma, particularly in cases associated with bronchial infection. The only contraindication to their use would be the occurrence of iodism. The usual symptoms of this are nasopharyngeal irritation as from coryza, skin eruptions, nausea, diarrhoea, cachexia, and depression.

Foot-up Position in Shock

Q.—*An accepted practice in cases of shock, especially after haemorrhage, is to raise the foot of the bed. Is there sound evidence that the circulation is better in this position than lying flat? It is uncomfortable in health, and I have found patients so tilted thankful when allowed to resume the horizontal.*

A.—Asmussen *et al.* (*Surgery*, 1940, **8**, 604) showed conclusively that in normal men the cardiac output (Grollman method) and blood pressure were decreased and the pulse rate increased in head-up tilt compared with the horizontal, and in the horizontal compared with a foot-up tilt of 30 or 60°. This was particularly marked if the effective blood-space was increased by reactive hyperaemia, and conversely less marked if the leg blood-space was obliterated by cuffs. Duncan, Sarnoff, and Rhode (*Ann. Surg.*, 1944, **120**, 31) have provided some confirmation of these findings for the smaller tilt used in clinical practice (7.9°) in patients suffering from severe haemorrhage. The mechanism is this: with decrease in blood volume (e.g., after a severe haemorrhage) or increase in blood-space (as in fainting or spinal anaesthesia, due to peripheral vasodilatation), a decrease in venous and right auricular pressure occurs, leading to a fall in cardiac output and blood pressure. In the head-up position, blood is pooled in the veins of the legs, and right auricular pressure decreases further. With the foot-up position, right auricular pressure is increased and blood is drained back to the heart from the veins of the legs, with resultant improvement in cardiac output. If, however, "shock" is due to cardiac failure, or if the heart is already overloaded, as in chronic anaemia, further increase in venous pressure (already above normal) would be harmful. Here, therefore, the horizontal or foot-up position is contraindicated. It all depends, in fact, on what you mean by shock!

Pregnancy and Diabetes

Q.—*Has any recent progress been made towards improving the chances of pregnancy in diabetics, and is one justified in encouraging it in women whose present treatment does not require insulin? Can the existence of diabetes be taken as the main cause of impairment of sexual function—e.g., frigidity—or should one search further?*

A.—The chances of pregnancy occurring in a diabetic woman have been enormously improved by insulin. The question rather suggests that the patient is anxious to avoid insulin and is having an inadequate diet; and if this is the case inadequate treatment of the diabetes may be responsible for the infertility and frigidity. If the condition persists when a diet is given containing over 150 g. of carbohydrate with an adequate caloric value and sufficient insulin to maintain the blood sugar within reasonable limits, further search should be made for another cause of impaired sexual function.

Mastitis and Breast-feeding

Q.—*If a breast goes through the stages of engorgement, mastitis, suppuration, at what precise stage should the baby be taken off that breast?*

A.—There will probably be some diversity of opinion as to the answer to the third part of this question, and in any given case it will always require a nicety of judgment to decide when breast-feeding should be discontinued. Engorgement is not an indication for taking the baby off the breast, but the writer's view is that as soon as there is definite evidence of mastitis (before suppuration occurs) feeding should be discontinued, and so should all manipulations of the breast, which should be put at rest.

Stilboestrol for Suppressing Lactation

Q.—*How much stilboestrol is usually required to suppress lactation? What is the best preparation to use and how should it be administered? If lactation reasserts itself after a course of treatment, what further steps should be taken?*

A.—To prevent or suppress lactation stilboestrol is usually given by mouth, starting with a large dose and gradually reducing over the course of four to seven days. Various schemes of dosage are employed, and in general it can be stated that smaller amounts are required when treatment is begun immediately after delivery than if it is delayed until lactation is already established. If begun early, the following scheme works well: 5 mg. b.i.d. on the first day, 2 mg. t.d.s. on the second day, and then reduce the total daily dose by 1 mg. a day, completing the course in seven days. Alternative oestrogens employed by the oral route are hexoestrol in similar dosage, and dienoestrol in about one-fifth of the above doses. It is said that a single intramuscular injection of 12.5 mg. hexoestrol dipropionate if given within three days of delivery, is sufficient to prevent lactation. For further details see Josephine Barnes (*Journal*, 1942, **1**, 601) and F. Prescott and Margaret Basden (ibid., 1944, **2**, 428).

The breasts sometimes show sign of some activity 24 to 48 hours after completion of the course of treatment. If this is minimal no treatment at all is required. If necessary, however, a further course of stilboestrol can be given, say 4, 3, 2, 1 mg. on four successive days.

Sex Hormones to Control Uterine Bleeding

Q.—*Would you discuss the use of oestrogenic preparations in the treatment of menorrhagia and metrorrhagia? For both these conditions I have been using progesterone, 2 i.u. daily for four days before the expected date of the period, and have had fair success, especially in menorrhagia. Recently a colleague advised that a patient with metrorrhagia, who had been having "periods" which lasted from seven to ten days and occurred about every two or three weeks, should have stilboestrol 1 mg. t.d.s. for four days, starting on the fourth day of the period and repeated whenever irregular bleeding occurred. I cannot see the rationale of this treatment, as surely stilboestrol will only increase the haemorrhage? Recently, on the advice of a colleague, I gave another patient (who began profuse bleeding six weeks after a normal confinement) tab. dienoestrol 0.1 mg. t.d.s.; within two days haemorrhage had ceased. Why should oestrogenic preparations be used in conditions which suggest a lack of progesterone?*

A.—A complete answer to this question would be a lengthy one, and the inquirer should refer to one of the textbooks on sex endocrinology for the details. Briefly it can be stated that functional uterine bleeding is either ovular or anovular—i.e., occurs from an endometrium previously stimulated by progesterone, or, only by oestrogen. Most bleedings take place when the hormonic stimulus is reduced or removed. Progesterone-deprival haemorrhage can be controlled by progesterone but not by oestrogen. On the other hand, oestrogen-deprival haemorrhage can be controlled either by substituting progesterone or by giving oestrogen to raise the blood level again. In practice, therefore, progesterone is usually employed, because not only will it control either type of haemorrhage, but it is more rational in that it supplies the missing hormone and completes the oestrogen-progesterone cycle, thus following the natural sequence of events. However, not all anovular forms of bleeding are due to oestrogen withdrawal; rather they may be due to incomplete stimulation with oestrogen, so the endometrium remains atrophic or only in an early proliferative phase. In such cases progesterone may not control the bleeding, because for it to be effective the endometrium must be well primed with oestrogen. Under such circumstances oestrogen will, however, complete the proliferation and control the bleeding—at any rate temporarily—during the period of its administration.

It is always wise to hesitate to give oestrogen for the control of uterine bleeding, because of its tendency to produce endometrial hyperplasia and to result in further heavy haemorrhage when treatment is suspended. Evidence to show that it is indicated (such as the finding of atrophic endometrium on endometrial biopsy) is desirable before it is given, and even then the dosage should be worked out carefully. Also there is much to be said for continuing treatment after the immediate bleeding is controlled, and to stimulate the natural ovarian cycle by giving first oestrogen and then progesterone over a period of three to four weeks.

Digestive Disorders and Swallowed Sputum

Q.—*Is there evidence that the swallowing of sputum and nasal mucus in bronchial (chronic) patients has any adverse effect on the digestive process?*

A.—The human air-conditioning system is designed on the principle that bacteria and morbid secretions are trapped and directed into the pharynx, whence they are swallowed and sterilized by the gastric secretion. It is probably for this reason that digestive symptoms are conspicuous by their absence in chronic sinusitis and bronchiectasis. When digestive symptoms occur they can usually be explained by pyrexia and the haematogenous spread of toxins. Owing probably to its waxy coating, the tubercle bacillus is more resistant to digestion and more likely to infect the intestine, and the association of gastro-intestinal symptoms with cough should always suggest the possibility of tuberculosis.

Hydronephrosis and Calculus Formation

Q.—*A man of 40 has periodic headache recurring every four weeks and lasting four days. Associated with this are the following symptoms: renal colic, vomiting, blurring of vision, and ptosis of eyelids. He then passes a small calculus about 2 mm. long. This condition has existed for a number of years. The blood pressure is 160/90; blood urea, 30 mg. per 100 c.cm. of blood; examination of the urine shows the presence of calcium oxalate and uric acid crystals. There is slight hydronephrosis of the right kidney, but pyelography reveals no calculus. What further steps of investigation should be taken, and what should be the treatment?*

A.—The presumption is that the hydronephrosis is favouring the formation of calculi, and that the passage of the calculi gives rise to the symptoms. It is also probable that an element of infection is present. The first step should be to have one of the small calculi analysed. If it proved to be uric acid, the uric acid content of the plasma should be estimated; if the level is above normal the patient should be treated as for gout. If the stone is mainly calcium salts, the possibility of hypercalcaemia from a parathyroid adenoma should be considered. If the stone is urate or oxalate, the urine should be kept alkaline, *p*H 6.0 to 7.0, by means of an alkaline diet and an alkaline mixture. With any type of calculus the intake of water should be at least 2,000 c.cm. a day and foci of infection should be removed. To clear up infection of the urinary tract it would be wise to take a small dose of sulphathiazole for a prolonged period—e.g., 0.25 to 0.5 g. t.d.s.

Diabetes and Epilepsy after Meningitis

Q.—*At the age of 6½ a female child developed meningococcal meningitis, which was rapidly cured by sulphapyridine. Eight months later the child was found to have severe diabetes, controlled with difficulty by ordinary insulin and protamine-zinc-insulin. Nine months later the same child has developed epilepsy. Is there any connexion between the three illnesses? There is no family history of either diabetes or epilepsy.*

A.—Epilepsy is not an uncommon sequel of meningococcal meningitis, which would seem to be the case in this patient, in spite of the rapid cure by sulphapyridine. Diabetes does not appear to be recognized as a sequel of meningococcal infection, but the present history at least arouses the suspicion that the infection caused damage to the pancreas.

INCOME TAX

Replacement of Car

P. B. proposes to sell his old car and buy another in replacement. He has had depreciation allowance in past years. What can he claim as an expense?

*** It is presumed that the old car will be sold for a larger amount than its present "written-down" value. In that case no "obsolescence" allowance will be due, and P. B. should claim, not the cost of replacement, but a depreciation allowance based on the cost of the new car.

Taxation of Pensions

W. W. draws a small pension from a public authority by whom he was employed. He states that during his service he suffered deductions from his salary to provide the pension, but paid tax on his salary in full.

*** The pension is undoubtedly liable to assessment to income tax. Deductions from salary to provide such pensions are usually allowed automatically as "expenses." If W. W. did not receive the benefit of such an allowance, he may have a claim to repayment of some tax for recent years.

Voluntary Disposition of Income

A. G. signed an agreement in March last agreeing to pay a certain annual sum for seven years for the benefit of a specified charity. A simple "agreement" is ineffective for the purpose; what is required is a deed under seal. In an attempt to put the matter on the proper legal footing A. G. added the attestation clause appropriate to a deed to the existing agreement and had it witnessed. The income-tax authority points out that the document is stamped as an agreement, not as a deed, and will be effective only as from the date of its execution under seal.

*** We agree, and suggest that A. G. should submit the existing document for stamping. An agreement and a covenant by deed are entirely different legal instruments and the agreement as such is legally ineffective.

LETTERS, NOTES, ETC.

Intravenous Adrenaline

Lieut.-Col. D. C. Macdonald (Farnborough) writes: I have recently returned from Italy and have had no *Journals* since May. In the first one I opened since my return I find an answer to a question on intravenous adrenaline (July 14, p. 73). I do not know who replies to these questions, but his last paragraph is unfortunate, if not indiscreet. He refers to a recent investigation into the use of adrenaline in malaria, the results of which have not yet been published. If he is referring to the investigation carried out in Italy by the R.A.M.C. he will find that the results of this investigation cannot be relied on. Over a year ago I invited first the Allied Control Commission and then the consulting physician A.F.H.Q. to send reliable observers to Palermo to see for themselves the remarkable results obtained by Prof. Ascoli, but, although I made tentative arrangements for accommodation, food, and transport, no one came. There is none so blind as he who does not wish to see. Americans reacted differently. They came, they saw, and they went away convinced that there was something in it. Perhaps your amanuensis would say that they went away with "dust in their eyes," but in America experiments are being carried out with "something more powerful than quinine or atebrin." To quote from their press: "The search for a quinine substitute following Pearl Harbour brought forward atebrin, but the *failure* of either drug to *provide a permanent cure* led to the present procedure." What an admission of failure! When the Conference of Army Physicians, C.M.F., was held in Rome (Jan. 29 to May 3, 1945) I asked permission to speak on the use of adrenaline in malaria; I was allotted *five minutes* as a very great favour and there was no discussion, the chairman simply dismissing the matter in one sentence. I have spoken to more than one medical specialist, and the answer was the same: "I should get 'bowler-hatted' if I carried out Ascoli's method." This, to my mind, was rank cowardice in the face of an enemy that is winning all along the line because our methods are obsolete and futile. Does your correspondent imagine that a man with one of the best brains in Europe would work on this for thirty years if it were completely valueless? What about the works of 150 independent observers written on this same important subject? Do they go for nothing? Would the Italian Army make this treatment compulsory, as it has done, if it were valueless? No, Sir! With one stroke of his little pen your correspondent seeks to wipe out one of the most astounding discoveries of all time. Ascoli will join the ranks of men like Jenner, Pasteur, and many others, who in life were ridiculed by an unbelieving profession but whose works prevailed despite it. The Italian Government has recently set up a Malaria Research Centre in Palermo with Ascoli at the head. Here doctors and students are being trained in Ascoli's technique. Two large malarious tracts of Sicily have been delineated, exactly similar in every detail, and in one malaria will be treated with quinine products only and in the other with adrenaline alone. I should advise the investigators referred to by your correspondent to hold up their report, which might be the subject of ridicule in years to come.

Sleep-walking

Dr. L. J. Bendit (London, W.C.) writes: The recent comments on the treatment of sleep-walking (Aug. 18, p. 241) rather dismay me. They seem to be on a par with treating renal colic with morphine and leaving the calculus where it is. Surely it is time that the profession realized that symptoms like somnambulism are based on psychological trouble and are manifestations of anxiety and hysteria. Thus to "cure" such a thing by making the child step into cold water is simply to ignore the disease and to treat a symptom. The proper way to deal with such cases is in a child-guidance clinic. I may perhaps be allowed to mention a rather dramatic case, where a child of 8 suffered from sleep-walking. The question seemed to resolve itself into finding out what she was looking for in her wanderings. When I had made fairly sure of my ground I told her where babies came from, in such a way as not to embarrass her and so that, if I had missed the mark, she would not be interested. Apparently I had made a good shot: she immediately stopped her nightly peregrinations. Needless to say, many cases are not so simple; nor are they necessarily due to sex traumata. But they are certainly due to anxiety repressed, and this needs psychological treatment, and not either dope or tricks.

Paronychia of Toe

Dr. W. F. Cooper (Kingston Hill) writes: I wrote a note on the use of a file for ingrowing toe-nails, and got reprimanded by one chiropodist who, however, had never had a piece of nail wrenched out. But the case in the *Journal* of Aug. 11 (p. 203) illustrates the advantage. The man wants to continue at work, and he can't do that if he has a piece cut out—it is painful, even if one remains in bed. Filing the middle part will ease pain due to ingrowing nail, and finally abolish the condition; one may be able to file over the pus. One wants a bastard-cut flat file, with safety edge (or second cut); and the safety edge is used to guide the work with a finger. If the safety edge is so used the nail can be abraded right to the skin. May I point out another important detail. The filing is done best when the nail is cold; but if the whole foot is immersed in hot water for some time, as hot as possible, the chitin alters its molecular condition and becomes soft; then one can slit the nail where there is pus, but not cut a piece out, so that any remedy can enter. I should smear the toe well with acriflavine emulsion, cover with one layer of oiled silk, and let him work. He can dress it often, himself. The hot water will help the inflammation. The man's urine is almost certainly acid, and he would do much better if given alkalis with small repeated doses of mag. sulph. until the urine is nearly neutral. I use a universal indicator for this. Addition of phosphates and syrup. ferri phosph. would also do good.

Nocturnal Cramp

Dr. J. Donaldson Saner (Edgware) writes: In answer to the question about nocturnal cramp in legs and feet (Aug. 18, p. 240), I was given a tip years ago by my cousin, the late Alfred Russell, M.D., of Wimpole Street and Devonshire Place, to take a teaspoonful of bicarbonate of soda in water just before going to bed each night. A simple remedy, but it acted like a charm.

Dr. T. L. Crawhall (Watlington) writes: Nocturnal cramp can usually be prevented by a tablespoonful of glucose taken on retiring. I speak from personal experience.

Resuscitation Across a Barrel: Information Wanted

Dr. F. C. Eve (Beverley) writes: Dr. John Yates inquires (July 28, p. 144) if this ancient method is similar to the rocking method. Presumably it is, but I have not been able to find out exactly how it was done. For efficiency, it is now considered necessary to rock 45 degrees each way. Hence the circumference of the barrel should be twice the height of the victim when kneeling. This would demand a barrel about a yard in diameter. One seldom sees so large a barrel nowadays. Can anyone tell me the sort of barrel which would quickly be available on a ship a century ago? Reliable witnesses who have seen this method in use will soon be extinct. I would like to rescue it from oblivion in my booklet, *Artificial Respiration Explained*, now being printed by Messrs. Livingstone. Can anyone kindly and promptly give me facts or references? I do not think it would be nearly so effective as the rocking method.

Dermatitis of Navel

Dr. E. Gallop (London, S.W.) writes: With reference to the question and answer on the above subject (Aug. 18, p. 240), I think that the possibility of ringworm should be kept in mind in this case. I had a similar one that cleared up on applying pigmentum contra tineam of the *Extra Pharmacopoeia*.

Effects of Tobacco Smoking on Health

Dr. Nigel W. Roberts (Cottingham) writes: I welcome the excellent and timely letters from Dr. Lennox Johnston (July 21, p. 98) and Dr. Sybil Tremellen (Aug. 18, p. 233), and I agree whole-heartedly with every word. But it will be of no avail for the medical profession to denounce tobacco addiction so long as so many of the members thereof are themselves addicts, and are, pretty obviously, content to remain so. An ounce of example is worth a ton of precept; it is regrettable to have to record that the worst tobacco-laden atmosphere I ever endure is that of the meeting-place of the local branch of the B.M.A.

Dr. W. A. Bellamy (Waddesdon) writes: Dr. Sybil Tremellen's letter (Aug. 18, p. 233) calls for comment. It contains far too many generalizations to be of any real value as a scientific article. Isolated cases prove nothing; because Winston Churchill is an inveterate cigar smoker and has shown a moral and physical stamina unsurpassed by millions of total abstainers it does not mean that cigar smoking is a panacea for all our ills to-day. The odd cases quoted by Dr. Tremellen prove, as I say, nothing; neither does the fact that I took my company on a "ten-miles-in-two-hours" (in full marching order, three months before my fortieth birthday) on forty cigarettes a day prove anything either.

"Atomic Pregnancy"

Dr. H. G. Howitt writes: A patient told me this morning that she had recently undergone an operation for "a ruptured atomic pregnancy." It is truly amazing to note the rapidity with which the latest scientific inventions are adapted to modern medicine.

Disclaimer

Dr. E. C. Thomas and Dr. Margaret Thomas, of the Edinburgh Medical Missionary Society, writing from the Victoria Hospital, Damascus, wish to disclaim any responsibility for accounts which they understand have appeared in the British daily press describing the recent disturbances in Syria. They have not seen these reports, but learn that their names have been quoted in connexion with the care of casualties.

AND

H. S. PEMBERTON, M.B., F.R.C.P.

(From the David Lewis Northern Hospital, Liverpool)

From the great sequence of workers from Astwood in 1943 to Leys in 1945 there has come a practically unbroken chorus of praise for the good effects of thiourea, thiouracil, and methyl thiouracil in the treatment of thyrotoxicosis ; there are, however, some few (Joll ; Morley, 1944) who are not entirely of that mind. To this more critical view we ourselves would incline, while fully realizing the great value of thiouracil in the treatment of most cases of thyrotoxicosis. We therefore present a series of 29 cases observed and measured by us, mostly over a period of 16 to 21 months, whereas other workers (Nussey, 1944) include some much shorter observations. We believe that this longer period is of great importance, as in several cases we have seen initial improvement, comparable to that obtained with Lugol's iodine, followed by later relapse while still under treatment ; and, in some instances, leading to thyroidectomy.

Our Series of Cases

In all, 29 cases are here studied—8 men and 21 women—the ages varying from 22 to 66 years. The evidence of thyrotoxicosis, suggested by the symptoms, has in each case been supported by a raised basal metabolic rate. The division into primary and secondary types has so much bearing on our main argument that some explanation is necessary : the former have developed their symptoms and signs either before the appearance of a goitre or *pari passu* ; the latter are regarded as secondary to an established goitre, often of years' duration.

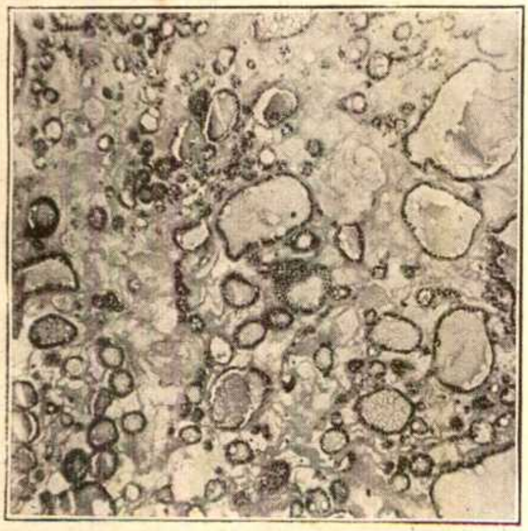

FIG. 1.—Case 14816. Photomicrograph of section of thyroid gland. (× 175.)

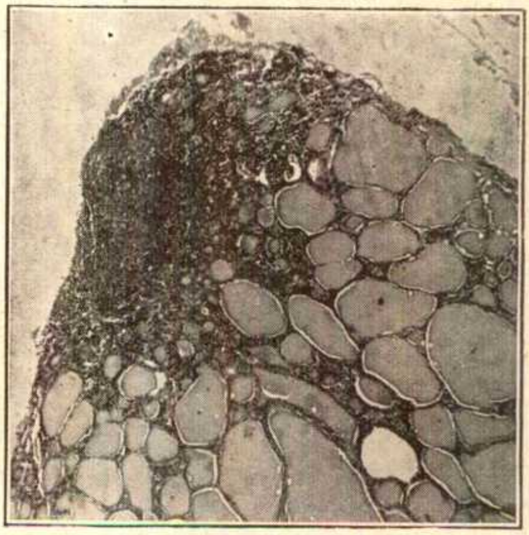

FIG. 2.—Case 14766. Photomicrograph of section of thyroid gland. (× 175.) (Photos by E. L. Murray, A.R.P.S.)

Thiouracil was used almost exclusively—first while the patient was in hospital, until the B.M.R. returned to normal, and then as an out-patient practice. Of the physico-chemical measurements made, initial and end readings alone are given ; in all B.M.R. estimations the Benedict spirometer was used ; blood sugar and cholesterol levels were determined weekly, but we cannot agree with Leys that they are anything like so useful as the B.M.R. as a guide to the degree of thyrotoxicosis. Our usual dosage of thiouracil has been 0.5 g. twice daily until the B.M.R. began to return to normal limits ; then 0.2 g. daily or twice daily ; and finally 0.05–0.19 g. as a maintenance dose. The figures given (see Table) of the time under treatment refer only to the actual days on which the patient took the drug and do not include periods of investigation or of rest (often lasting for weeks). From this table of results the following broad inferences have been drawn.

Improvement was noted in 22 cases, irrespective of sex and age but not of duration ; the tendency was, the longer the history the less the effect of thiouracil. Of these 22 cases, 12 could be classed as much improved, mainly in a clinical sense, although there was a corresponding march in physico-chemical changes, most notably in B.M.R. Three cases were so little improved as to require thyroidectomy, and in all three it will be noted that the thyrotoxicosis was of secondary type. Of the 21 primary cases recorded above improvement occurred in 19 ; of the 8 secondary cases, improvement took place in 2 only.

Effects on the Thyroid Gland

Enlargement.—In those cases with marked goitre further enlargement of the thyroid gland was noted after the 7th day—which constituted the peak period—afterwards declining to a size somewhat above that before treatment. In one case (No. 26) the neck enlarged from 31.4 cm. to 36.2 cm. and remained at that girth long after all symptoms had gone and physico-chemical measurements had returned to normal.

Microscopical Appearance.—In 2 cases we have had an opportunity of examining sections of the thyroid gland removed at operation, undertaken because of the failure of response to thiouracil. Photomicrographs (Figs. 1 and 2) are here shown, and the pathologist (C. V. Harrison) reported as follows :

" 14816.—Macroscopically, the thyroid was enlarged and nodular, and showed plentiful colloid. Some of the nodules showed signs of

				B, 7·5	5·5	B, 88–72 C, 158/85–110/80	B, 95–103		16 months
4	F.	26	Primary, 18 months	A, 25 B, 10·5	— —	A, 122½–129½ lb. B, 100–68 C, 145/65–110/60	A, 83–103 B, 74–130	+27% to +4%	Improved. No recurrence after 17 months
5	M.	57	Primary, 7 months	A, 10 B, 6	107 31·5	A, 110–130 lb. B, 110–78 C, 140/90–130/80	A, 92–105 B, 150–220	+42% to +7%	Much improved
6	F.	66	Primary, 7 months	A, 51 B, 11	40 8	A, 114½–115 lb. B, 108–72 C, 200/100–185/90	A, 68–109 B, 165–180	+34% to +3%	Improved
7	F.	30	Primary, 7 months	A, 46 B, 37·5	78 12·5	A, 122–134 lb. B, 84–88 C, 130/80–125/75	A, 80– 82 B, 130–137	+31% to +9%	Improved
8	M.	40	Primary, 3 months	A, 44 B, 71·5	80 9·6	A, 127–134 lb. B, 94–80 C, 135/90–125/80	A, 76– 96 B, 85– 88	+23% to +1%	Improved
9	M.	54	Primary, 4 months	A, 38 B, 84	197 72·4	A, 145–152 lb. B, 90–78 C, 120/65–120/75	A, 68–105 B, 193–196	+25% to +9%	Improved
10	M.	40	Primary, 6 months	A, 45 B, 33	130 18·5	A, 156–183½ lb. B, 100–78 C, 145/75–120/60	A, 103– 78 B, 75–220	+49% to +7%	Very much improved
11	M.	28	Primary, 2 months	A, 18 B, 18	268 126	A, 128–165 lb. B, 120–60 C, 190/100–115/70	A, 109– 75 B, 72–155	+36% to +4%	Much improved
12	F.		Post-thyroidectomy Recurrence Secondary	A, 20 B, 9·6	40 13	A, 127–125 lb. B, 120–70 C, 160/70–100/60	A, 83–136 B, 162– 96	+29% to −2%	Better
13	F.	23	Primary, 6 months	A, 32 B, 21	50 7·1	A, 94–152 lb. B, 96–68 C, 130/90–90/40	A, 86– 74 B, 138–172	+51% to −3%	Much improved
14	F.	54	Primary, 1 year	A, — B, —	147 73	A, 132½–148 lb. B, 84–76 C, 120/90–130/70	A, 87– 93 B, 130–142	+26% to +1%	Much improved
15	M.	34	Primary, 1 year	A, 17 B, 7	171 137	A, 121–126 lb. B, 104–73 C, 135/80–120/70	A, 122– 91 B, 85–186	+26% to +4%	Improved
16	F.	37	Primary, 1 year	A, 19 B, 7·8	— —	A, 116½–114 lb. B, 94–88 C, 130/70–110/60	A, 103– 98 B, 108–133	+42% to +37%	I.S.Q. Drug fever
17	M.	38	Primary, 18 months	A, 28 B, 28	56 14	A, 160–180½ lb. B, 88–74 C, 158/100–110/70	A, 88– 72 B, 96–128	+34% to +3%	Much improved
18	F.	23	Primary, 1 year	A, 15 B, 12	40 8	A, 100–104 lb. B, 88–76 C, 140/70–130/75	A, 107– 71 B, 108–133	+72% to +11%	Improved. Agranulocytosis
19	F.	51	Primary, 14 months Recurrence 6 months later	A, 90 B, 45 A, 29 B, 16·5	25 7 58 21·5	A, 77–92¾ lb. B, 100–76 C, 190/70–120/75	A, 250–103 B, 122–207	+27% to +3% +30% to +7%	Much improved Remission on stopping treatment after 4 months
20	F.	44	Primary, 5 months	A, 33 B, 25·8	40 18·6	A, 98–103 lb. B, 88–72 C, 115/90–100/60	A, 75– 72 B, 125–140	+38% to +4%	Better
21	M.	46	Primary, 8 months	A, 20 B, 9·5	75 28·4	A, 136–136¾ lb. B, 98–76 C, 220/185–185/165	A, 81– 84 B, 122–140	+30% to +8%	Improved
22	F.	43	Post-op. Recurrence 1 year Primary	A, 21 B, 8·4	186 74	A, 149–146 lb. B, 116–88 C, 150/80–130/80	A, 80– 76 B, 103–202	+26% to +12%	I.S.Q.
23	F.	28	Secondary, 14 months	A, 38 B, 10·5	— —	A, 106–111 lb. B, 96–70 C, 110/70–110/80	A, 97– 98 B, 122– 78	+54% to +43%	I.S.Q.
24	F.	60	Secondary, 2 years	A, 33 B, 28	20 6·5	A, 102–104½ lb. B, 96–76 C, 170/85–130/65	A, 123–115 B, 80– 82	+39% to +32%	I.S.Q. Marked neutropenia. Thyroidectomy
25	F.	44	Secondary, 3–4 years	A, 47 B, 17	— —	A, 91–94 lb. B, 96–66 C, 135/85–90/60	A, 96– 75 B, 100–141	+32% to +2%	Little improved. Thyroidectom
26	F.	49	Secondary	A, 30 B, 22	— —	A, 118–121½ lb. B, 88–76 C, 165/80–135/80	A, 148–127 B, 120–140	+47% to +39%	I.S.Q. Scarlatiniform rash

Table of Results (concluded)

Case No.	Sex	Age	Type and Duration of Lesion	Thiouracil A, Days on Drug B, Grammes		A, Weight B, Pulse C, B.P.	Mg./100 c.cm. in Blood of A, Sugar B, Cholesterol	B.M.R.	Remarks
				I.P.	O.P.				
27	F.	23	Secondary	A, 10 B, 5	32 11·1	A, 86¾–85¾ lb. B, 78–70 C, 110/70–80/60	A, 187–250 B, 640–533	+19% to +10%	Slight improvement Thyroidectomy
28	F.	24	Secondary; recurrence following radium one year before	A, 28 B, 14	40 7	A, 137–140 lb. B, 80–70 C, 150/90–125/70	A, 105– 82 B, 87–164	+27% to −12%	Much improved
29	F.	38	Secondary, 18 months	A, — B, —	240 70	A, 118–126 lb. B, 120–84 C, 130/70–130/70	A, — B, —	— —	Much improved

degeneration. Microscopically, the gland is broken up into nodules by fibrous bands, but lymphocytic infiltration is minimal. The acini are variable in size, but are all in a resting stage with colloid storage. There is hyaline degeneration in the stroma between the acini.

14766.—Macroscopically, the gland was enlarged and nodular and contained plentiful colloid. Microscopically, the gland is broken up into nodules by bands of fibrous tissue. It shows quite numerous foci of lymphocytic infiltration, many with germinal centres. The thyroid acini are mostly enlarged and filled with colloid, and show a resting epithelium; only a few showed any signs of hyperplasia."

From the work of Moore *et al.* (1944) at the Massachusetts General Hospital on 34 cases treated with thiouracil as a pre-operative drug we know that the most prompt clinical response occurred in those patients whose thyroids, on histological examination, showed marked hyperplasia with a low colloid content. It is interesting to observe that those two cases of ours which responded badly to thiouracil both had thyroids in which involutionary changes predominated over hyperplasia.

Toxic Effects of Thiouracil

Symptomatic.—Although nausea and occasional vomiting were experienced in the earlier cases treated by us with thiourea, we have not seen this occur with thiouracil. The chief symptoms noted have been vasomotor—faintness, flushing, and vague muscular pains in the chest, head, and neck.

Granulocytopenia.—Nearly every case we have treated has shown an absolute granulocytopenia (of varying degree) with relative lymphocytosis, usually from the 7th to 10th day. When the white count falls to around 4,500 per c.mm. (with lymphocytes over 40%), cessation of the drug for 3 to 4 days is usually enough to cause the count to return to normal, and when this occurs the drug can be started again without untoward effects.

Agranulocytosis.—Only one of our cases (No. 18) developed a true agranulocytosis, although two others (Nos. 12 and 24) developed such severe neutropenia as to warrant active therapy. The striking fact in this case was the rate of development of the agranulocytosis; although blood counts were done on alternate days, the white count fell to *nil* in 24 hours. The cause would appear to be overdosage rather than a personal idiosyncrasy; because this girl began again with her thiouracil and has since had 20 g. without ill effects. This case is also of interest because the patient developed her agranulocytosis 23 days after treatment—contrary to Himsworth's general rule that such cases usually develop during the first 14 days. In all three cases extract of yellow bone-marrow given by mouth was found to be of most value in restoring the white count to normal.

Purpura.—Severe thrombocytopenic purpura has been described by Newcomb and Deane (1944). One of our cases, that of a female diabetic aged 58, developed a marked purpuric rash after 18 days' (16.5 g.) treatment with thiouracil. The blood picture was as follows: thrombocytes, 360,000 per c.mm.; coagulation time 5½ minutes; bleeding time, 9 minutes; Hess's test strongly positive. The condition abated on cessation of the drug.

Drug Fever.—St. Johnston (1944) has reported 3 cases of drug fever in his series of 7 cases treated with thiourea. In our series we have had one such case (No. 16). This patient, after 8 days' therapy (14 g.), began to complain of headache, nausea, painful glands in her neck, and sore mouth and eyes; her temperature rose to 102.2° F. and her pulse to 124. Her face was flushed, with numerous small white blebs over both cheeks, her eyelids were red and swollen, her mouth showed many small white ulcers, her submandibular and axillary glands were large and shotty; there was no splenomegaly; the skin over her thorax and abdomen had a fine maculo-papular rash. Her white count at this time was 7,400 per c.mm., of which polymorphonuclear cells were 68%, lymphocytes 17%, monocytes 2%, and eosinophils 13%. On cessation of the drug the symptoms abated, but on starting again—on two separate occasions—the signs and symptoms returned. This case differs from those described in showing ulceration of the mouth, eosinophilia, and absence of both splenomegaly and neutropenia.

Other Rashes.—Several of our cases have shown rashes, which were of two main types—maculo-papular, as in the woman described above, and scarlatiniform (Case 26).

Effects of Thiouracil in Cases Other than of Thyrotoxicosis

Hypertension and Diabetes Mellitus.—On the basis of reduction both of blood pressure and of blood-sugar level in cases of thyrotoxicosis, we measured the effect of thiouracil on a group of cases suffering from these conditions. Six cases of essential hypertension were treated for varying periods with little or no response. Its value in diabetes is also disappointing, although we found that its use in diabetes with mild thyrotoxicosis allowed of a reduction in the amount of insulin formerly required.

Cardiac Failure.—Blumengart *et al.* have suggested subtotal thyriodectomy in severe cases of cardiac failure, on the assumption that by reduction of B.M.R. the work of the heart is diminished. On this principle we tried to decrease the activity of the thyroid in two cases of cardiac failure; one case was treated for 30 days (22 g.) with no apparent improvement. We reached the conclusion that thiouracil is of value only in those cases of cardiac failure which have a thyrotoxic basis. Cases of auricular fibrillation of thyrotoxic origin may be controlled by thiouracil with a return to a normal rhythm; this was seen in Cases 1 and 19.

Myxoedema.—In an attempt to discover the mode of action of thiouracil we gave it to a patient with myxoedema. She received 26 g. in 26 days. There was no change in her blood sugar or cholesterol levels, her B.M.R. rose from −40% to −37%, and she lost 4 oz. in weight.

Summary

Of 29 cases of thyrotoxicosis treated with thiouracil improvement was noted in 22, while 12 were classified as much improved.

Of the 21 cases of primary type, improvement was noted in 19, and of the 8 secondary types in 2 cases only.

The effects on the thyroid gland are discussed and photomicrographs after thyroidectomy shown.

Toxic effects are discussed.

The effects of thiouracil in cases other than thyrotoxicosis are recorded.

Our thanks are due to Messrs. Ward, Blenkinsop and Co. for their generous supply of thiouracil in the early days, and to Dr. C. V. Harrison for his reports on the sections.

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THE ROLE OF ANIMAL-TYPE DERMATOPHYTES IN HUMAN RINGWORM

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A feature of dermatology in recent years has been the increased incidence of fungous diseases. Attention has been drawn to the fact that ringworm infections in particular are seriously increasing (Ingram, 1944) and that ringworm of the scalp, which had become a comparatively rare disease, is again threatening to attain epidemic proportions.

Comment has never been lacking on the association of ringworm in man with animal contacts and on the finding of "animal-type" fungi in human lesions. Possibly because it is not always easy to trace the infection from animal to man, this association has been presented in the light of an uncommon occurrence. It is our belief that the importance of the animal source of infection in human ringworm has been insufficiently stressed in this country, and that animal infections occur far more often than is commonly supposed. The mycological findings in ringworm specimens submitted to cultural methods of investigation show a high proportion of fungi hitherto considered unusual in human lesions, especially in ringworm of the scalp, and suggest either that we are witnessing an increase in the incidence of ringworm in man caused by dermatophytes usually parasitic on the lower animals, or that infection by these types of dermatophytes has in the past been incompletely assessed.

In a consideration of the epidemiology of ringworm a distinction is drawn between tinea circinata and tinea tonsurans. A survey of the literature shows that, in the former, animal sources of infection have been recognized from time to time; but in the case of tinea tonsurans the connexion appears not to have warranted any detailed consideration. Kinnear (1931) reported that the occurrence of infection of the scalp with microspora other than *M. audouini*, was very rare in this country. Ashton (1932), investigating the frequency of ringworm in cattle, concluded, after interviewing nearly 400 insurance practitioners, that ringworm derived from animals was not uncommon in certain districts, but chose particularly the glabrous skin rather than the scalp. More recent English publications (Roxburgh, 1944; Shanks, 1944) advocate treatment of tinea tonsurans only by *x*-ray epilation, and, except for suppurative cases, make no mention of the conservative method, which is permissible where the causative organism is an animal type.

The prevalence of the different types of pathogenic fungi is known to vary from country to country and, indeed, from locality to locality. Sabouraud was at pains to emphasize the frequency of animal-type infections in ringworm subjects in France. In the United States the importance of animal types of fungi has for long been realized. The practical significance of these epidemiological considerations was recognized by Lewis and Hopper (1937), who correlated and confirmed the findings of earlier American workers (Bloch, Jadassohn, Miescher, etc.). These had suggested that scalp infections caused by microspora pathogenic to animals are curable by topical methods alone. The topographical variability in the United States is well described by Wise and Sulzberger (1938). They point out that when one considers that in the west and south-west States almost all mycotic scalp infections are due to the "animal-parasite" fungus *M. lanosum*, while children in the cities of the eastern seaboard are mainly affected by *M. audouini*, the human form, it becomes at once comprehensible that the results of various types of prophylaxis, therapy, etc., must be completely different in different parts of the United States.

The role of *M. felineum* as a cause of ringworm in children has been investigated in Canada by Davidson and Gregory (1933). In a study of ringworm in Winnipeg they isolated species of microsporum from 75 children, 43 being *M. audouini*, and 32 *M. felineum*. However, as 19 of the *M. audouini* isolations were from a single school outbreak, the authors considered that a fairer impression of the relative importance of the two species, in the area, would be given by a quotation of the number of outbreaks caused by each. These were: *M. audouini* 14, and *M. felineum* 24.

To attempt to estimate the incidence of animal-type ringworm in Great Britain is no easy matter, and one is forced to the conclusion that not enough evidence is obtainable from published records to support any dogmatic statement as to the relative frequency of the human and animal types. Sabouraud (1910) stated that the earlier English observers had not controlled their microscopical examinations by cultures. He asseverated that animal microspora were not rare in England, it being probable that the cases of tinea circinata ascribed by Adamson and others to *M. audouini* were in fact caused by animal dermatophytes.

Fox and Blaxall (1896a, 1896b) were the first workers to demonstrate the transmission of cat ringworm to man. They recovered *M. felineum* from 14 cases of ringworm, and were able to trace the infection to 11 separate sources.

Generally speaking, little has been done by culture-tests to determine the types of ringworm fungi in Britain, apart from some local investigations. Tate and Hare (1928) examined specimens from L.C.C. schools and found *M. audouini* to predominate. Smith (1944) refers to the oft-quoted figure of 90% as representing the incidence of *M. audouini* in cases of tinea tonsurans. We have reason to believe, however, that infection by animal types of microspora is now much more frequent than this figure suggests. Duncan (1945) isolated 265 cultures of dermatophytes from unselected cases of human ringworm in various parts of England and Wales, but chiefly in the southern counties, and found that 58% were types usually parasitic on the lower animals. The genus *Microsporum* was represented by 211 cultures, of which 122 (57.8%) were of animal types (*M. felineum*, 74; *M. lanosum*, 48) and 89 of the human type (*M. audouini*).

Animal Contagion

Most of the common domestic animals have at different times been suspected of imparting ringworm to man. With animals, as with man, it is the young that are most susceptible to infection. *Calves* have probably been most often implicated, especially on the European continent, and it was in relation to them that the transmission of ringworm from animal to man was first described. In 1840, contemporaneously with an epizootic of ringworm among cattle, almost the entire population of the Swiss village of Andelfingen was known to have ringworm. A smaller outbreak was recorded in 1925 at the cattle-testing station at Pirbright, in this country. Despite specific precautions, five attendants were infected from diseased cattle. Ashton (1932) reached the following conclusions, *inter alia*, regarding ringworm in man.

1. It is the trichophyta rather than the microspora that are commonly communicated to man from cattle.
2. Young stock animals are chiefly involved.
3. Dogs and horses are also susceptible, goats and cats more rarely.
4. Direct contact with the animals or with posts, etc., they have rubbed against is the usual method of transmission.
5. The disease is often limited to the arms and forearms.
6. The prognosis is good and spontaneous cure may occur.

At the present time, while sporadic cases from calves are being constantly encountered, cattle ringworm does not present a problem of urban districts or a source of institutional outbreaks.

Grooms, farriers, and others were formerly often infected from *horses*. As in the case of cattle ringworm, in which adult males are the victims of contagion, tinea barbae is a typical manifestation of the affection. More modern methods of locomotion have rendered the horse an unimportant focus of ringworm infection nowadays, but it used to be otherwise. Tilbury Fox (1871) described an outbreak of ringworm involving seven men, who had received their infection from a pony, but even in those days this plurality of victims was considered exceptional. Bunch (1901) was able to demonstrate cultural proof of connexion between two cases of human ringworm and their equine sources.

A *cat* was proved to be responsible for the biggest recorded "epidemic" produced by one animal. Roberts (1909) described how a kitten brought from Egypt communicated ringworm to 13 persons and another cat directly, and to a child and a dog indirectly. It was found possible to take specimens for culture from all those infected, and the same species of microsporum was isolated in each case. There is no dearth of evidence incriminating the cat in smaller outbreaks and sporadic cases. It is interesting to note how frequently a stray kitten has been taken into a household just before the occurrence of a case of ringworm in that house.

Whereas no textbook omits to refer to canine hosts, the friend of man seems to have been neglected in attempts to provide direct cultural connexion with human ringworm. Sabouraud *et al.* (1908), in their work identifying *M. lanosum* with *M. canis* (Bodin), noted that a particular character of this microsporum is that it often gives rise to family epidemics. They instance an outbreak, in a family of six persons, all with ringworm lesions. *M. lanosum* was recovered from five of the cases; the sixth was not seen. As to the source of the epidemic, they stated that a dog was accused, without proof, of this family outbreak. More recently in France, Stevenin (1937) has recorded three cases occurring in veterinary students; *M. lanosum* was found on culture in each case, but it was not possible to trace the infection to a particular animal. In England, Bunch (1901) included a terrier in his series, showing that the dog was infected with the same organism as he recovered from a case of kerion.

Our own experience in this respect is considered worthy of record. We have recently encountered an epidemic in which an adult and four children, directly, and four children and a cat, indirectly, were infected from a puppy (Table I). Conclusive cultural evidence as to the essential unity of the outbreak was forthcoming in the cases of the eight children and the dog. Hull (1941) has averred that most reported cases of transmission between man and animals are open to criticism, as they are based on slim circumstantial evidence. Accordingly, we have made every effort to obtain direct evidence, where possible. The affected adult was unwilling to submit to examination, and the cat, domiciled next door, was destroyed after a diagnosis of ringworm had been made independently by a veterinary surgeon. Cases 1, 2, and 3 (Table I) were the children of the one adult concerned. All the patients lived in three neighbouring streets, in a part of the town which is known as the "Island" but which is, in fact, a peninsula separated from the main town by a causeway some 200 yards long. They all attended the same school, four of the girls being in one class. The puppy had been recently acquired, and was observed to be in what was described as a "mangy" condition when bought. No child had any skin lesions before the purchase of the animal, and we have not been able to trace any case of ringworm on the Island for at least 12 months previously. The puppy was a mongrel of uncertain origin and age. Inspection revealed gross involvement of its skin, the trunk being almost devoid of fur and the limbs and head only sparsely covered. The denuded areas were layered with an abundance of large flaky scales, which were easily detachable.

TABLE I.—*The "Island" Epidemic*

Case No.	Age	Contact	Condition	Lesions
1	8	Puppy	(a) Tinea circinata	(a) Twelve scattered circular scaly patches, about 1 cm. in diameter, on face. Multiple similar patches on chest, with uniform papulation. Limbs liberally covered with small papular and pustular microsporides.
			(b) Tinea tonsurans (developed subsequently)	(b) Patch, 1·5 cm. in diameter, in occipital region, almost devoid of hair and showing slight scaling
2	13	,,	Tinea circinata	Multiple minor healing lesions on face, neck, arms, and left thigh. On the right thigh a large fresh circular patch, papular and mildly erythematous
3	10	,,	,, ,,	Five discrete circular lesions on face. Diffuse scaling on neck. Multiple scattered papular microsporides on limbs. Large solitary patch on front of chest
4	10	,,	,, ,,	Eight discrete circular lesions, ½ cm. in diameter, on face, neck, chest, and arms
5	12	Case 2	,, ,,	Solitary raised circular patch with red papular edge and healed scaly centre on inner side of right upper arm
6	6	?	Tinea tonsurans	Circular patch, almost denuded of hair and covered with thick scales, in occipital region
7	11	Case 3	Tinea circinata	Red scaly lesion on right arm, 2·5 cm. in diameter, and with slight peripheral vesiculation
8	10	,,	,, ,,	One circular scaly lesion, 2 cm. in diameter, on thigh. Small peripheral papules

The causative organism in all these cases was found to be *M. lanosum*. In order to trace the subsequent course of the outbreak and to investigate the possibility of another focus of infection, all cases of suspected ringworm occurring in the immediate locality since, and also further afield in the area, have been examined and specimens taken for culture. It is a fact that, in 21 positive cultures over a period of eight months, *M. lanosum* has not once been found, though *M. felineum* has been frequent.

The subsequent unselected cases, 45 in all, yielded interesting information when specimens from them were submitted to culture. Table II shows the results in the 21 positive cultures, and otherwise includes only the two instances of simultaneously affected siblings, in one of which no specimen was obtained for culture and the other giving a negative finding. The large preponderance of animal-type dermatophytes in all these sporadic cases is at once apparent.

TABLE II

Case No.	Age	Condition	Contact	Organism	Type
9	8	Tinea circinata	—	M. felineum	Animal
10	11	,, ,,	—	T. tonsurans	Human
11	9	Tinea tonsurans	—	M. audouini	,,
12	8	,, ,,	—	,,	,,
13	6	Tinea circinata	Calf	T. asteroides	Animal
14	7	Tinea tonsurans	—	M. felineum	,,
15	8	Tinea tonsurans and circinata	Kitten	,,	,,
16 (sister of 15)	10	Tinea circinata	Kitten (Case 15)	No specimen taken	,,
17	7	,, ,,	—	M. felineum	,,
18 (brother of 17)	3	Tinea tonsurans	Case 17	Culture negative	,,
19	8	,, ,,	Kitten	M. felineum	,,
20	35	Tinea circinata	Calf	T. discoides	,,
21	13	Tinea tonsurans	—	T. asteroides	,,
22	10	Tinea circinata	Kitten	,,	,,
23	5	,, ,,	Brother	,,	,,
24	1½	,, ,,	—	,,	,,
25	12	,, ,,	—	,,	,,
26	5	Tinea tonsurans	Case 11	M. audouini	Human
27	5	,, ,,	Case 26	,,	,,
28	13	Tinea circinata	—	T. asteroides	Animal
29	3	,, ,,	Kitten	,,	,,
30	12	,, ,,	—	,,	,,
31 (sister of 30)	9	,, ,,	—	,,	,,

Opportunities of examining the animal suspected of being the source of the various infections, by means of Wood's light, etc., have not often presented themselves, and obviously the majority of patients are able to describe some household pet. But we regard the frequent association of kittens and other young animals with cases of ringworm as more than coincidental. In Cases 15 and 16, for instance, the destruction of their kitten because of a "diseased" coat, following the onset of these two cases, is unlikely to be fortuitous; and in Case 20 the patient, a slaughterman, explained that a few days previously he had dressed a calf's carcass, the coat of which had "alopecia." A colleague of his was said by him to be similarly affected.

Specimens from 22 patients gave negative results. Of these, 12 were on clinical examination considered to be probably ringworm. One girl—clinically our most certain case of ringworm—possessed two Persian kittens, which are reputed to be particularly susceptible to ringworm. Another possessed a recently acquired kitten, and a third a puppy.

There remained 10 cases, which had specimens cultured on the off-chance of their yielding a ringworm fungus, but which were probably not ringworm. Only one of these subjects possessed a kitten. Thus, quite apart from the Island cases, close contact with young animals was found in 12 out of 35 cases of proved or probable ringworm. No pretence is made that statistical significance can be read into such small numbers, but they do tend to confirm the suggested infectivity of young animals, already referred to.

Two other points must be borne in mind when assessing the importance of animal contagion. On the one hand, older animals may play some part in the transmission of infection. Sabouraud *et al.* (1908) found that the average age of 15 dogs with ringworm was 23 months. On the other hand, animal-type fungi can be transferred between human beings, but opinions differ as to the proportions thus communicated. Lewis and Hopper (1937) point to this facility of transmission from man to man as a method of distinguishing between animal and human types of infection. Thus the ease with which human types pass between human beings, and animal types between animals, is in contrast with the smaller risk of contagion from man to animal and animal to man. This fact is borne out in our Island series. The four primary cases were all grossly infected, the four secondary cases showed only solitary lesions, and we have been able to trace no transmission from these to tertiary cases. Obviously the profusion of the pathogen accounts for the severity of the directly infected persons. The areas of their bodies affected were chiefly the chin, the neck, the upper part of the chest, and the front of the forearms—i.e., the areas of contact with the puppy when they nursed it, as apparently was often the case.

Nature of Lesions

As regards the glabrous skin, the wide variability of the lesions has often been described. As long ago as 1871 Tilbury Fox pointed out that ringworm of the surface varies considerably in aspect, from a mere desquamating erythema to a pustulating surface resembling, and apt to be mistaken for, eczema, there being many transitional herpetic forms. In his pony cases the severity of the lesions was considered to depend on the profusion of the fungus implanted on the skin, and our puppy cases correspond with this. Despite the variability in clinical appearances, the typical ringworm patch—circular, faintly erythematous, with central scaling and peripheral papulation—was most frequently encountered.

Infection with animal-type fungus is considered to produce more inflammatory lesions on the glabrous skin, to be more resistant to treatment, and, as already mentioned, to be less contagious. No great difficulty is experienced in clearing up the smaller solitary lesion of either animal or human type, but the severer infections, in which microsporides are present, may prove refractory. The time taken to cure the four primary puppy cases varied between five and ten weeks.

The clinical appearances in ringworm of the scalp often make it possible to distinguish between animal and human types of infection. The classical description of tinea tonsurans met with in the various textbooks applies particularly to those cases in which *M. audouini* is the pathogen. The typical patch shows as a greyish and scaly area, with hairs broken off to about one-eighth of an inch. These stumps have lost their elasticity and, being bent in different directions, have an appearance described as "stubbled corn." Erythema is not marked, there is rarely swelling, and oedema and pustulation are absent. The patch may increase in size to involve almost the whole of the scalp, but will be found to have a clear-cut circumscribed growing edge.

Generally the animal types of infection produce an inflammatory appearance. The skin is reddened, often swollen, almost devoid of hair, and occasionally surmounted by pustules, without necessarily reaching the grossly suppurative condition known as kerion. The few remaining hairs are easily removed with forceps. Exceptions to this general description are met with, and in the two *M. lanosum* cases (Nos. 1 and 6) erythema was entirely absent. Yet these two children, whose parents refused treatment, went on to achieve a spontaneous cure. Multiple patches have been commoner than single ones in these animal-type cases. The larger patches sometimes evidence pustulation, while the smaller lesions in the same case may be erythematous only.

Treatment

The treatment of tinea circinata merits no special description. The number of fungicidal preparations is legion and most of them are effective. We have found, for routine treatment, that Whitfield's ointment is quite efficacious, and we have not had recourse to the more elaborate proprietary remedies.

It is in cases of tinea tonsurans, however, that the importance of distinguishing between human and animal types finds its greatest application. In the former group epilation by means of x rays is the method of treatment that holds pride of place, and its value is indisputable. Many consider that thallium acetate should no longer play a part in the treatment of ringworm of the scalp, and the Ministry of Education does not sanction its use. There are also objections, however, to the use of x rays, and the following may be mentioned.

1. There may be failure of re-growth. Shanks (1944) reports that, with modern apparatus and accurate dose calibration, these accidents are now rare. With less skilled workers the number of cases of permanent alopecia rises.
2. A period of some five to six months is required before a full growth of hair is obtained, and the more sensitive children, especially girls, object to returning to school at the end of one month after treatment, which is the minimum time in which they may be allowed to do so.
3. Apparatus is not everywhere available, and, particularly under present conditions, treatment is unobtainable in some districts.
4. X rays are unsuitable for very young children.

The group of scalp infections attributable to an animal dermatophyte differs from the human type in being amenable to treatment by topical measures alone. In this country it had been usual to restrict these conservative measures to suppurative cases. Of the nine cases of animal-type scalp ringworm (Table III), four at some stage showed evidence of slight pustulation, and five were non-suppurative. As previously mentioned, two of these underwent spontaneous cure in eight and thirteen weeks respectively. The remainder received topical treatment and were cured in periods varying from four to eight weeks, but it was not considered that these times were minimal. Cure was assessed by negative response to Wood's light, negative result to direct microscopy, and, in one doubtful case, negative culture, all treatment having been discontinued for seven days. On the affected patches new hair grows slowly and does not keep pace with the re-growth of the rest of the scalp.

TABLE III.—*Tinea Tonsurans Cases*

Case No.	Organism	Mode of Cure
1	M. lanosum	Spontaneous
6	"	"
11	M. audouini	X-ray epilation
12	"	" "
14	M. felineum	Conservative
15	"	"
17	"	"
18	Probably M. felineum	"
19	M. felineum	"
21	T. asteroides	"
26	M. audouini	X-ray epilation
27	"	" "

The routine treatment adopted was similar to that described by Sutton and Sutton (1941) as follows:

1. Close clipping of the hair over the whole scalp.
2. Daily shampoo with ordinary soap.
3. Epilation of hairs from the affected patches and from a narrow margin around the patches, the hairs extracted being carefully burned.
4. Application daily of an ointment containing 6% precipitated sulphur and 4% salicylic acid. This may be rubbed into the lesions so long as no untoward reaction is observed.
5. The wearing of a clean linen cap, which should be renewed daily.

The willingness of the parents to co-operate in this somewhat elaborate toilet had previously been doubted, but with the exception of the two cases in which they refused any treatment, their response was surprising and gratifying. Their aim was to get the child back to school in the shortest time.

Discussion

It is apparent that the type of infection has considerable prognostic significance, and that the lesions produced by dermatophytes pathogenic to animals are those likely to be cured spontaneously or without great difficulty. It has been indicated that, of the human type of fungi, *M. audouini* is very resistant to treatment and is a common offender in this country, but it must be noted that Livingood and Pillsbury (1941) have shown that even *M. audouini* infections have occasionally been known to heal spontaneously, sometimes before puberty, if left long enough. Much less common, but even more resistant to treatment, are the endothrix trichophyta (e.g., *T. tonsurans*, *T. sabouraudi*). The ectothrix trichophyta (e.g., *T. asteroides*), representing animal infection, while producing more violent local inflammatory reaction, are easily amenable to treatment.

In the United States, Lewis and Hopper (1943) go a stage further in their adherence to conservative methods of treatment. They divide their scalp ringworms into resistant and non-resistant groups of infection. The non-resistant cases are those which respond to local therapeutic measures, and include not only those produced by animal dermatophytes but also those human-type infections which produce, among other symptoms, markedly inflammatory reactions. In the resistant group such simple measures are unlikely to succeed. Nevertheless even here manual epilation under filtered ultra-violet rays, followed by the application of adhesive plaster, has, in their experience, been found adequate treatment for some small patches of tinea tonsurans.

From the preventive aspect attention should be paid to animals which are likely to be infected with ringworm. It may be difficult to get a patient to part with his pet (the Island puppy still lives), but he can be induced to consult a veterinary surgeon, and treatment of the animal instituted. Wooldridge (1934), advocating the use of Wood's light by veterinary surgeons, makes it clear that a careful search is indicated before absolving an animal from a charge of ringworm. He points out that in the cat there may be no loss of hair, and that the small size and general hidden character of the lesion, coupled with the fact that there is little irritation, may result in its being easily overlooked even on close inspection. It would be advantageous if the introduction of kittens, particularly stray ones, into a community of children could be preceded by such an examination. As a further precaution, animals belonging to households containing ringworm should not be sold or allowed their freedom.

Finally, the advantage of cultural methods in diagnosis, which provide the only means of identifying the species of the infecting fungus, must be obvious to all, and they should be used whenever practicable. In the borderline cases, where there is no clinical indication as to the type of infection, it is submitted that the patient should be given the benefit of the doubt and only conservative treatment undertaken. Culture on a larger scale will eventually give valuable information as to the organism predominating in a particular area, and knowledge of this will be a further pointer in diagnosing between animal and human types of infection.

Summary

The position of ringworm infection with animal-type dermatophytes in this country is reviewed.

Well-authenticated cases of the transmission of ringworm from animal to man are described.

An account is given of a recent particular outbreak in which five persons directly and four persons indirectly were infected from a puppy, the association being proved by cultural investigation.

Some 20 subsequent cultures, taken from patients in the same area, are discussed and the type of organism given.

Clinical findings are described.

Treatment of tinea tonsurans is discussed, and stress is laid on the importance and practicability of treating by conservative methods scalp ringworm produced by animal-type fungi.

Our grateful acknowledgments are due to Dr. E. I. Davies, medical officer of health to the Barry Borough Council, for permission to publish details of the majority of cases dealt with in this article; also to Mr. Walter Wathan, chief clerk in the Public Health Department of the same authority, for the very willing clerical services he has afforded us.

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NERVE INJURIES IN CHILDREN

BY

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Injuries of the peripheral nerves in children are fortunately rare, but when they do occur they present certain peculiarities so unexpected that it appears worth while to describe two recent cases. Both were injuries of the deep branch of the ulnar nerve due to deep penetrating wounds by glass fragments, in both suture was undertaken after healing of the original wound and the full establishment of degeneration and paralysis, and in both recovery was rapid and complete.

Case I

Mary S., aged 10, was referred to me by Dr. Riddoch with the history that six months previously she had fallen while holding a glass vase. The glass broke and penetrated the palm of the right hand, just below and lateral to the pisiform bone. A small healed scar showed the point of entry. Sensation was normal, but there was complete paralysis of all the muscles of the hand supplied by the deep branch of the ulnar nerve; Froment's sign was present.

Through a curved incision, lateral and distal to the pisiform, the deep structures of the wrist and palm were exposed. The main trunk of the ulnar was first identified and the cutaneous branch seen to be intact. On following the deep branch it was found to be completely divided, ending in a small end-bulb. The distal portion, also with a small bulb, was found with ease, and after removal of the bulbs suture was effected with very fine catgut. Healing was normal, and ten months later recovery of all the small muscles appeared to be complete and the function of the hand normal. At the time of operation the great size of the nerves and the facility of suture were remarked.

Case II

John M., aged 6, was cut by glass in an air raid, a wide deep wound extending across the inner border of the right hand just below the wrist. A large deep scar remained. Sensation was lost in the ulnar area of the hand and there was paralysis of all the small muscles supplied by the ulnar nerve; Froment's sign was present.

It seemed doubtful if in such a small hand suture could be effected, but on exposing the tissues in front of the wrist the ulnar nerve was found to be of almost adult size and quite out of proportion to the other structures. The deep and superficial branches were followed with ease and both were found to be completely divided, ending in bulbs. The distal portions were found without difficulty and suture of each was effected in the usual manner. A year later there was complete recovery both of sensation and of movement, and the function of the hand appeared to be perfectly normal.

Commentary

These two cases give rise to several curious observations. It would appear that the peripheral nerves in a child are out of all proportion to the other structures, and indeed approach adult dimensions. On reflection it is what one would expect on developmental grounds, since the nerve cells are almost unique in their individual persistence throughout life, but, so far as I am aware, the fact has not been recorded nor its surgical importance appreciated. The discovery of even small nerves among the minute structures of a child's hand is thus easy. Their rapid recovery is to be expected from the superior vitality of a child.

Complete recovery after suture of the ulnar nerve is very unusual, if it ever occurs, but this is due to the fact that it is a mixed nerve, and not, as has been suggested, to the smallness and delicate function of the muscles it supplies. The deep branch is a purely motor nerve, and with it one may reasonably expect complete recovery, as occurs after suture of other purely motor nerves such as the posterior interosseous and in a great degree the musculospiral.

In such small hands the diagnosis of a nerve injury is not easy and Froment's sign is invaluable. The best way to elicit it is to pull on a card with the finger and thumb of both hands. Normally the powerful adductor muscle of the thumb is used and the thumb remains flat, but in ulnar paralysis this muscle is not available and an attempt is made to replace it by using the long flexor. This, however, flexes the terminal joint of the thumb, producing Froment's sign. A sign which can be recognized by the patient himself is of real value, particularly if its disappearance is associated in the infant mind with the hope of financial reward.

It is hoped that these experiences may encourage others to deal with an injury which if untreated has such grave consequences to the patient and which at first sight appears to involve difficulties which one might well regard as insuperable.

SCIATIC "NEURITIS"

BY

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It is now generally accepted that the commonest cause of chronic pain in the distribution of the lumbo-sacral nerve roots is a rupture of a lumbar intervertebral disk, but there has been much discussion during the past few years between the exponents of the "disk" and "neuritis" theories of the causation of lumbo-sacral root pain. For instance, Dandy (1943) believes that, apart from tumours of the cauda equina and bony disease of the spine, sciatic pain is invariably caused by a ruptured disk or a "concealed" disk. Symonds (1943) has stated that "the vision of an inflamed and swollen sciatic nerve, so confidently stated to be the cause of the syndrome in question, has never yet been granted to human eyes." On the other hand, Bankart (1943) has expressed the opinion that "neuritis" is the commonest cause of sciatica. He believes that the neuritis arises from a spread of periarticular inflammation in spinal arthritis to the nerve roots in the intervertebral foramina.

It seems clear, from reading the voluminous literature on the subject, that much of the variation in opinion of different authorities, neurological and orthopaedic, is due to lack of a common definition of the term "sciatica." If the diagnosis of "sciatica" be applied less loosely to cases of posterior crural pain and used only when there is evidence of a lesion of a lumbo-sacral nerve root we believe that a much more accurate clinical classification will be possible. This narrowing of the definition to "lumbo-sacral root pain" is particularly valuable when surgical treatment may be contemplated, and has previously been suggested by Pennybacker (1942).

Since we treated our first cases of ruptured lumbar intervertebral disk in 1938 we have modified our original views on the frequency of this lesion as a cause of chronic lumbo-sacral root pain, but we are in agreement with those who state that it is the commonest cause of the syndrome. In a series of 50 cases, which we have followed up and which were investigated clinically and radiologically by myelography and eventually submitted to operation, the incidence of ruptured disks was 44%. All our cases had signs of a root lesion, but at operation we encountered many conditions other than ruptured disks. The purpose of this article is to report three cases of sciatic "neuritis" in which the lesion was found at operation and was clinically indistinguishable from a ruptured disk before operation.

We have on two occasions found a swollen oedematous nerve root, and once seen adhesions around the root in the spinal canal. In none of these cases was there any evidence of a ruptured or "concealed" disk on careful exploration of the intervertebral space, although this had been the pre-operative diagnosis; neither was there any evidence of spinal arthritis in the apophysial joints. For obvious reasons we cannot submit any histological evidence of "neuritis," but there was ample visual evidence of oedema of the nerve roots in two of the cases, and in the third the adhesions around the root were easily seen and freed. It would of course be possible to remove a piece of posterior nerve root for histological examination, but we have not thought it advisable to subject our patients to this procedure.

Case I

A miner aged 34. First seen Nov. 14, 1944, complaining of low lumbar backache, which had been present intermittently for twelve months. Says he "twisted his back" five months previously. He had occasional numbness and tingling in the two outer left toes, but definite posterior crural pain did not appear until after a period of physiotherapy. Lumbar pain was increased by sharp movements. Lasègue's sign present in left leg. Left ankle-jerk diminished. Slight objective sensory loss on outer border of left foot when leg was raised. No muscular wasting. No improvement after physiotherapy. Straight skiagrams of lumbar spine showed slight osteoarthritic lipping of adjacent anterior borders of 3rd and 4th lumbar vertebral bodies, but no thinning of the disk spaces or arthritis of the apophysial joints. Myelography after the injection of 5 c.cm. of "fluid" neohydriol showed a defect of filling of "axillary pouch" of left first sacral nerve root opposite disk between L 5 and S 1. C.S.F.: No cells; protein, 55 mg. per 100 c.cm.; W.R. negative.

Operation.—Jan. 22, 1945. Interlaminar approach on left side between L 5 and S 1. First sacral nerve root found to be thickened to about three times normal size. This was at first thought to be due to a neurofibroma of the root, but on incision of the dural sheath no tumour was found; the root was swollen and oedematous. Further decompression was made by excision of the ligamentum flavum and parts of the laminae adjacent to the opening. The intervertebral disk was explored. No extrusion could be seen, and no softening of the disk was found after incising the posterior longitudinal ligament and inserting a sharp spoon. Most of the iodized oil was removed with a syringe before closure of the wound. The patient had intense sciatic pain after the operation, which subsided gradually in about ten days, but since that time he has had no pain and has returned to full work as a miner. Lasègue's sign and the slight sensory loss had disappeared before his discharge from hospital on Feb. 12.

Case II

A male school-teacher aged 35. First seen March 20, 1945. A year ago had pain in left buttock, and left leg felt "stiff" in mornings. Occasionally had a shooting pain down back of left leg. Pain lasted throughout the summer, but later improved after physiotherapy. About a month before he was seen the pain recurred after a period of complete freedom, but much more severely. He had to be carried into hospital. Pain down back of left leg was increased by coughing and sudden movement. He says that before the onset of the pain a year ago he lifted a heavy sack and felt some strain in his lower back. On examination Lasègue's sign at 30° on left side. Pain also produced in left leg by raising right leg to 60°; left ankle-jerk diminished; scoliosis to left; slight hypo-aesthesia on outer border of left foot and shin; slight tenderness over sciatic nerve in left thigh; no muscular wasting. C.S.F.: 4 lymphocytes per c.mm.; protein, 30 mg. per 100 c.cm.; W.R. negative. Myelography by Dr. Stanley Nowell showed a notched filling defect on left side opposite disk between L 5 and S 1. There was no evidence of thinning of the disk or arthritis of the apophysial joints.

Operation.—March 28. Left interlaminar approach. No disk extrusion found and no softening of disk on incising posterior longitudinal ligament. Left first sacral nerve root showed definite swelling and oedema. The decompression was enlarged by slight excision of the laminae laterally.

This patient also had severe sciatic pain for a week after the operation, and some retention of urine. The pain recurred in attacks for several days and then subsided. He returned home on April 17 and later resumed work, but he is not yet entirely free from pain although not severely disabled. The iodized oil was not removed at operation, and a further film taken before his discharge from hospital showed that the notched filling defect remained in the same position as before.

Case III

A housewife aged 44. First seen July 20, 1944. Had had recurrent left sciatic pain for four years. Pain increased by coughing. Lasègue's sign present and left ankle-jerk diminished. No sensory loss or muscular wasting. C.S.F.: No cells; protein, 40 mg. per 100 c.cm.; W.R. negative. Myelography of the lumbar region showed a slight asymmetry of filling of the first sacral "axillary pouches," with less filling on the left side. No bony abnormality was seen and there was no narrowing of the disk spaces.

Operation.—Sept. 22. Laminectomy of L 4 and L 5. No evidence of disk protrusion on careful exploration of both disk spaces. No softening of disks found. Fine adhesions clearly seen on left first sacral root within the spinal canal. These were freed and the root mobilized. The patient made a rather slow recovery from her pain over three weeks and has remained free from pain since.

Comment

In the first case the swelling of the root was so gross that we were satisfied that it must have been due to a local tumour or very severe oedema. As there was no evidence of any disk protrusion or other cause of external pressure a longitudinal incision was made into the nerve root, which was found to be pale, homogeneous, and oedematous. The enlargement was more than sufficient to cause the defect seen in the myelograms. The prolonged and severe pain after operation is quite unusual in disk cases, but might well be expected with an inflammatory lesion.

In the second case the swelling was less marked, and we might not have felt so confident of the diagnosis but for the similarity to the first, especially in the post-operative course. In this case the iodized oil was left in the theca and, as would be expected, the filling defect persisted in a post-operative skiagram in spite of the decompressive effect of the operation.

The diagnosis of "neuritis" or "radiculitis" at operation is obviously very difficult unless gross enlargement of the root is present, and as these cases have occurred recently we think we may have missed a similar but less marked condition in some of our earlier and hitherto unexplained cases of root pain in which we found no lesion at operation.

It is impossible at this stage to arrive at any definite conclusion as to the cause of the oedema of the nerve roots which we have observed. We could find no evidence to suggest that it was due to the spread of inflammation from arthritis of the intervertebral joints. The mechanical explanation afforded by Dandy's conception of the "concealed" disk causing intermittent compression of the nerve root could perhaps be invoked to explain the oedema and even adhesions in these cases, but, as we have said, we could find no evidence of any abnormality of the disk, and we have not yet encountered any cases conforming to Dandy's description. Mechanical compression of a nerve root from narrowing of the intervertebral foramen or encroachment of posterior osteophytic outgrowths could conceivably cause the oedema we have observed, but one would expect radiological evidence of this to be visible, which it was not in our cases. Magnuson (1944) has discussed these aspects of the diagnostic problem.

If the lesions are inflammatory and no mechanical factor is concerned in their causation it is difficult to think of any condition which would affect isolated spinal nerve roots, apart from herpes zoster. There is some evidence that zoster can occur without a cutaneous eruption, but it is highly improbable that oedema of the affected nerve root would continue for many months even in those cases in which neuralgia persists. In this connexion we have recently seen a case of herpes zoster of the fifth lumbar nerve root after the removal of a fragment of a ruptured fourth lumbar disk. The patient was entirely free from pain on discharge from hospital, but returned a week later with a severe recurrence of his sciatic pain. It was at first thought that a further rupture of the disk had occurred, but within two days a herpetic eruption developed in the fifth lumbar area on the right leg. The severe pain lasted for about a week, but then subsided gradually and has not recurred.

We must leave the problem for further elucidation by observation of the "pathology of the living," as it is improbable that morbid anatomical studies will be available to provide the answer. At present we cannot differentiate these cases of "neuritis" from those with a ruptured disk before operation. We must for the moment be content with having seen a lesion which Symonds considers "has not yet been granted to human eyes."

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FOOD CONSUMPTION OF WORKING-CLASS AND LOWER-MIDDLE-CLASS FAMILIES IN BRUSSELS DURING JANUARY, 1945

BY

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Great concern has been shown regarding the feeding of the peoples in the occupied countries both during the German occupation and since their liberation. There have been many conflicting reports, and little reliable information has been published concerning the feeding position even in those countries which were liberated many months ago. This article gives an account of the feeding of a number of working-class and lower-middle-class families in Brussels during Jan., 1945, some four months after their liberation. It is felt that this description might assist in forming some general opinion concerning the feeding in other localities.

The rations supplied during the period chosen for this study were much the same as had been available for the whole of the period from the liberation in Sept., 1944, to Jan., 1945. They were, in fact, not greatly different from those allowed during the latter part of the German occupation, although during the first two winters of the occupation food had been in such short supply that famine oedema and other evidence of serious malnutrition were encountered in Brussels and other large cities (Bastenie *et al.*, 1944). Thus the data give a fair indication of what the people of medium economic status in Brussels have had to eat during the past two or three years. Wealthier families, by buying on the black market, have had more to eat, and others, through poverty, have had less.

Methods and Results

The information was obtained from records specially kept by 19 clerks or workers at a factory in Brussels, who noted all the purchases of food by their families during a period of one week from Jan. 8 to 14, 1945. The subjects also indicated whether the various items were bought legally or on the black market. The men were given a light midday meal at their place of work, for which they surrendered food coupons, and this was taken into account when assessing the diet of the families. No other source of food was available. Details of the composition of each family and of the income were also obtained. The excellent co-operation given by the men and by the social workers at the factory ensured that the information was reasonably reliable.

The families chosen for this investigation were those of 10 clerks and 9 workmen employed by a gas and electric company. Only men who were willing to co-operate were selected, but there was no reason, on this account, to suspect any bias whereby their diet was not generally representative of that of their economic groups as a whole. There was little difference between the incomes of the clerks and the workmen, the extreme limits being 2,066 and 4,100, with an average of 2,850, francs per month. (176 francs=£1.) The 19 families were composed of 70 individuals of both sexes and various ages.

TABLE I.—*Amounts of Food obtained by the Families in Brussels*

		Bread	Cereals	Potatoes	Fruit and Veg.	Meat Products	Fish	Milk*	Cheese	Butter	Marg.	Eggs†	Sugar	Preserves	Malt and Chicory
Legitimate market purchases	G. per head daily	348·1	5·4	501	250	20·2	47·1	23·6	1·8	3·7	11·9	0·11	37	26·5	7·0
	% of total	91·7	38·2	83·8	86·3	51·6	100	78·2	88·8	29·4	100	2·0	100	91·6	77·8
Black market purchases	G. per head daily	25·6	8·7	0	0	9·4	0	6·6	0·25	8·9	0	5·8	0	2·4	2·0
	% of total	6·8	61·8	0	0	23·8	0	21·8	11·2	70·6	0	98·0	0	8·4	22·2
Works supplement	G. per head daily	5·8	0	97	39	9·7	0	0	0	0	0	0	0	0	0
	% of total	1·5	0	16·2	13·7	24·6	0	0	0	0	0	0	0	0	0
Total	G. per head daily	379·5	14·1	598	289	39·3	47·1	30·2	2·05	12·6	11·9	5·91	37	28·9	9·0

* Expressed as grammes per head of milk solids.
† " " " fresh eggs. Average weight of one egg taken as 55 g.

The basic analysis of the results is shown in Table I, where the daily amounts per head of the various items of food from the three different sources are shown; the percentage of each item obtained from the shops legally, from the black market, and from the works canteen is also given. The bulk of the food was obtained legally. Nevertheless 11 of the 24 francs spent daily per head on food were spent on the black market. Calculation shows that a calorie cost about 6½ times as much on the black market as when legally obtained.

Table II gives a comparison between the total food obtained by the Brussels families and that moving into consumption in the United States, Canada, and the United Kingdom in 1943 (see *Food Consumption Levels*, 1944). The Brussels diet was particularly low in meat products, dairy products, and fats, whereas cereal products and potatoes formed an unusually high proportion of the diet. With such a combination of foodstuffs it was very difficult to prepare palatable meals. It should be pointed out, however, that even in normal times large quantities of potatoes are eaten in Belgium. As would be expected, a close correlation existed between the amount of a given foodstuff bought on the black market and its deficiency on the legal market.

TABLE II.—*Comparison of Amounts of Food obtained by the Families in Brussels in Jan., 1945, with that moving into Consumption in United States, Canada, and United Kingdom in 1943*

	Grammes per Head Daily			
	Brussels	U.S.A.	Canada	U.K.
Milk and milk products, excluding butter (expressed as milk solids)	31	80	79	61
Meats, including cured and canned and edible offal (carcass weight)	39	176	166	133
Poultry, game, and fish (edible weight)*	28	34	33	23
Eggs (fresh equivalent)	5·9	51	47	28
Oils and fats (fat content)	20	55	54	48
Sugars and syrups (sugar content)	54	104	98	81
Potatoes and sweet potatoes	598	193	255	318
Pulses and nuts (weight without shell)	0·51	24	14·5	6·9
Tomatoes and citrous fruits†	0	128	76	29
Other fruits and vegetables	288	202	184	310
Grain products	289	250	268	308
Beverages‡	9	18	13	15

* Only fish was obtained by the families studied in Brussels.
† No tomatoes or citrous fruits were available in Brussels during Jan., 1945. Tomatoes, however, are available in considerable quantity during the summer months.
‡ These include tea, coffee, and cocoa in the U.K., Canada, and U.S.A.; in Brussels only artificial coffee made from malt and chicory was available.

Table III shows the amounts of the various nutrients per head daily, obtained by the families in Brussels from all sources; the total amounts are compared in Table IV with those moving into consumption in the United States, Canada, and the United Kingdom in 1943 (see *Food Consumption Levels*, 1944). In calculating the values for the Brussels families the Combined U.K./U.S.A./U.N.R.R.A. Working Party Food Tables for European Food Supplies (see *Nutrition and Relief Work*, (1945) with corrections kindly supplied by Dr. B. S. Platt, have been used. The nutritive values of the food moving into consumption in the United States, Canada, and the United Kingdom have been calculated from other food tables (see *Food Consumption Levels*, 1944). However, this difference is small and does not invalidate the comparisons.

TABLE IV.—*Comparison of the Nutritive Value of the Diet of the Families in Brussels in Jan., 1945, with that of the Population in the United States, Canada, and United Kingdom in 1943*

	Amounts per Head Daily										
	Kilo-calories	Protein	Animal Protein	Fat	Calcium	Iron	Vit. A	Vit. B_1	Riboflavin	Nicotinic Acid	Ascorbic Acid
		(g.)	(g.)	(g.)	(mg.)	(mg.)	(i.u.)	(mg.)	(mg.)	(mg.)	(mg.)
Brussels	2,100	66	19	43	572	17	6,200	1·8	1·3	13	167
U.S.	3,130	95	56	138	996	16	6,979	2·4	2·3	20	106
Canada	3,120	97	57	133	956	16	6,783	2·0	2·1	19	61
U.K.	2,827	87	40	113	1,054	16	5,000	2·1	2·1	19	127

An assessment of the nutritional adequacy of the Brussels diet can be made by "weighting" for the individuals of different age and sex comprising the 19 families. Table V gives the amount of each nutrient in the diet of the Brussels families expressed as a percentage of the amount they should have received on the basis of the National Research Council Recommended Dietary Allowances (quoted in *Food Consumption Levels*, 1944) and also on the basis of actual intake values found by Dr. R. A. McCance and Miss E. M. Widdowson

TABLE V.—*Nutritive Value of the Diet of the Families in Brussels expressed as Percentages of National Research Council Recommended Dietary Allowances and of McCance and Widdowson's "Found" Values*

	Percentage of N.R.C. Recommended Dietary Allowances	Percentage of McCance and Widdowson's "Found" Values
Kilocalories	82	87
Total protein	106	91
Animal protein	—	38
Fat	—	41
Calcium	61	75
Iron	144	119
Vitamin A	138	141
Vitamin B_1	126	204
Riboflavin	64	—
Nicotinic acid	94	—
Ascorbic acid	242	289

TABLE III.—*The Nutritive Value of the Diet of the Families in Brussels in January, 1945*

		Kilo-calories	Total Protein	Animal Protein	Fat	Calcium	Iron	Vit. A	Vit. B_1	Riboflavin	Nicotinic Acid	Ascorbic Acid
			(g.)	(g.)	(g.)	(mg.)	(mg.)	(i.u.)	(mg.)	(mg.)	(mg.)	(mg.)
Legitimate market purchases	Amounts per head daily	1,769	55·9	14·5	29	454·9	14·1	5,104	1·449	1·090	10·9	140
	% of total	84·3	84·4	77·2	67·9	79·6	84·0	82·3	81·4	81·1	82·0	83·8
Black market purchases	Amounts per head daily	234	6·3	3·3	12·7	76·7	1·2	370	0·176	0·147	0·8	0·6
	% of total	11·1	9·6	17·5	29·8	13·4	7·1	6·0	9·9	10·9	6·0	0·4
Works supplement	Amounts per head daily	97·0	4·0	1·0	1·0	40·3	1·5	726	0·155	0·108	1·6	26·4
	% of total	4·6	6·0	5·3	2·3	7·0	8·9	11·7	8·7	8·0	12·0	15·8
Total	Amounts per head daily	2,100	66·2	18·8	42·7	572	16·8	6,200	1·780	1·345	13·3	167

(private communication) for British middle-class families in the few years before the war. It is apparent that the chief deficiencies are in calorific value, animal protein, fats, calcium, and riboflavin. It is noteworthy that except for riboflavin there is no obvious deficiency of vitamins. Although the Brussels diet is not deficient in total protein the proportion derived from animal sources (29%) is unusually low: this might affect the biological value of the total protein. Moreover, some 40% of the animal protein was derived from milk, which was allocated almost entirely to children, so that the adults must have received an even smaller amount of animal protein than would appear from the tables. Similarly, since 60% of the calcium in the diet was derived from milk, the adult intake of this mineral must have been strikingly low. The deficiency of riboflavin is brought about by the shortage of dairy products, meat, and eggs, which, for example, in the United Kingdom in 1943 supplied 60% of the total riboflavin of the diet (*Food Consumption Levels*, 1944).

No attempt has been made to assess the intake of vitamin D, but the diet obviously contained little of this nutrient. However, most children received supplements of calciferol from benevolent sources.

It should be stressed that the rationing system gave high priority to young children. In fact, their allowances were more than they could possibly have eaten (Bastenie *et al.*, 1944). Thus the food position of the families with young children was usually satisfactory, whereas families without children or with children of 12 to 18, whose requirements were high but for whom no extra rations were available, had much less adequate diets.

Comment should be made on the fact that apparently about 92% of the earnings of the families studied was spent on food. Five factors accounted for this. (1) Past savings were drawn upon with monotonous regularity. (2) When they had all been spent, debts were piled up. (3) As has been pointed out by Ellis (1945), rationed foodstuffs were bought and then sold on the black market to provide money for the purchase of other foods; great nutritional bargains were sometimes made in this way. (4) The coupons for rationed items which were not available were sold at a high price to people who lived in districts where these foodstuffs could be obtained. (5) Many took an active, though small, part in black-market activities; for example, they might go at the week-end to the country, purchase food from a farmer, and bring it back to town, there to sell the greater part at black-market prices.

Summary and Conclusions

By means of household budgets a dietary survey has been made on the families of 19 Brussels workers during Jan., 1945.

The amounts of meat products, dairy products, and fats available to the families in Brussels were low. This is strikingly apparent when comparison is made with the amounts of these foodstuffs available in the United States, Canada, and the United Kingdom during the war. Cereal products and potatoes formed an unusually high proportion of the diet in Brussels.

The nutritive value of the diet in Brussels has been compared with that of the diet in the United States, Canada, and the United Kingdom during 1943, with that of the diet in the United Kingdom before the war as found by McCance and Widdowson, and with the National Research Council Recommended Dietary Allowances. The comparison shows that the diet in Brussels was deficient in calorific value, calcium, riboflavin, animal protein, and fats. There was no obvious deficiency in other nutrients, but vitamin D may also have been inadequate in the diet of adults.

We wish to thank Air Marshal Sir H. E. Whittingham for enabling us to carry out this work and for his encouragement. We would also thank the Director of the Electro-Gaz works, Brussels, and the subjects and their families for their co-operation. We also record our gratitude to the social workers at the Electro-Gaz works, who gave us much assistance in obtaining the data.

This work was undertaken at the request of the Subcommittee on Post-War Nutritional Research of the Accessory Food Factors Committee of the Medical Research Council and the Lister Institute of Preventive Medicine.

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A CASE OF LOCAL TETANUS

BY

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The term "local tetanus" is used to denote those cases of infection by *Cl. tetani* in which muscular spasms and contractures are limited to one region of the body throughout the course of the disease. It is often extended to cases in which the tetanic manifestations are predominantly rather than exclusively local and to those with a prolonged local phase before a terminal generalization. Though referred to by earlier writers, the modern study of local tetanus started with a paper by Courtellemont in 1915. The diagnosis was made with increasing frequency, and by 1918 accounted for 19.2% of all cases of tetanus among casualties treated in the United Kingdom (*Official History of the War*, 1922). The most frequent form was the monoplegic, affecting an arm or a leg, but paraplegic, cephalic, and (rarely) abdomino-thoracic types were recorded. Splanchnic tetanus, so called because it follows a visceral infection, is "local" only inasmuch as the patient dies of asphyxia before generalization can occur.

The features of local tetanus were widely appreciated by the end of the last war, but all forms of the disease have become less common, and there is a risk that the rarer types may escape recognition for a longer period than is desirable in the interests of the patient. It is therefore thought justifiable to record a case, recently studied by Major A. G. Emslie, R.A.M.C., and me. The patient was seen four months after wounding and two months after the onset of what was taken to be a spastic paralysis of the right leg.

History of Case

The patient, a man aged 22, had received no tetanus toxoid or other prophylactic measure before he was wounded on Aug. 21, 1944. The injuries occurred in the chest, left shoulder, abdomen, and anterior aspect of the right thigh in its upper third. He was given 1,500 units of A.T.S within 12 hours. Débridement of all wounds was carried out within 24 hours, and he was then given 9,000 units of anti-gas-gangrene serum on account of the dirty condition of the wound in the thigh. He made a good recovery, and was discharged from hospital on Oct. 11, 51 days after injury. He remained fit for a further three weeks, after which he noticed a dull pain with stiffness in the region of the right hip. This gradually became worse, and he reported sick on Dec. 22. Until then he had been up and about, and throughout his illness he preferred to stay out of bed, as walking relieved the ache in his thigh. Examination on Dec. 29 revealed a cheerful healthy-looking man. Temperature and pulse were normal. All wounds were healed. The cranial nerves were normal. There was no trismus. Power, tone, sensation, and reflexes were normal in the arms and left leg. The right leg was held in an attitude of semiflexion at the hip and full extension at the knee. There was a slight increase of the lumbar lordosis. The lumbar muscles on the right were somewhat tense as compared with those on the left. The tensor fasciae latae, quadriceps, and adductors on the right were hard, tender, and could not be made to relax, but the hamstrings and muscles below the knee were normal. The right knee-jerk could not be elicited owing to the rigidity of the knee. The ankle-jerk was somewhat accentuated. The plantar responses were vigorously flexor. Sensation was normal throughout. The rigidity above the knee was such that the hip-joint seemed ankylosed. No spasms were seen. Radiographs showed a small metal foreign body lying to the inner side of the femur in its upper third. Blood count and sedimentation rate were normal.

A tentative diagnosis of local tetanus was made; this was supported by the observation that the contracture persisted in sleep and under pentothal anaesthesia—a fact which excluded the possibility of a hysterical condition. The consultant physician, Brig. Stevenson, considered the clinical indications definite enough to justify immediate treatment. The patient was given 40,000 units of A.T.S. intramuscularly daily for two days, followed by 100,000 units intravenously in saline on the third day. On the fourth day the wound in the thigh was explored and the foreign body removed. He received 80,000 units on the day of operation, followed by 40,000 units daily for three days. He thus had a total of 380,000 units of serum in 7 days. Despite the operative intervention no trismus or other evidence of generalization occurred.

Cultures taken from the foreign body gave a growth of *Cl. tetani* and *Cl. welchii*—an association often met with in tetanus. In order to control any remaining organisms left in the wound he was given a four-day course of penicillin, amounting in all to 400,000 units, by intramuscular injection at three-hourly intervals. The contractures slowly declined, and tone was normal in the affected muscles 7 weeks after operation. He has remained well since then.

Comment

The long incubation period of two months is not unusual in local tetanus, though in many cases—notably in Bruce's 1918 series (*Official History of the War*, 1922)—it has obviously been an artifact due to the giving of repeated doses of antiserum at weekly intervals after wounding.

As a rule local tetanus arises in subjects who have had antiserum, but this is not always the case. Claude and Lhermitte (1915) have described a case in which no antiserum was given, and have further drawn attention to the existence of an attenuated form of generalized tetanus in which spasms do not occur, symptoms being confined to painful contractures which interfere but little with the patient's activities. Clearly the varying balance between the patient's passive immunity and the strength of the infection will provide a wide choice of clinical pictures.

This case illustrates the manner in which the toxin, ascending along peripheral nerves, involves a sharply demarcated zone of grey matter. The muscles involved were those supplied by the upper lumbar segments on one side only. If contracture was present in muscles above and below this level it was not clinically apparent.

As regards treatment, the large quantities of antiserum given were designed to prevent the generalization which has sometimes occurred after surgical intervention in this type of case. Penicillin was used to control any organism still left; but the happy outcome cannot be attributed to that drug, since many cases of local tetanus have been known to recover after removal of a foreign body and the use of serum alone. Nevertheless, it would seem to be a useful insurance in such cases.

My thanks are due to Lieut.-Col. P. A. Stewart, R.A.M.C., for permission to publish this case.

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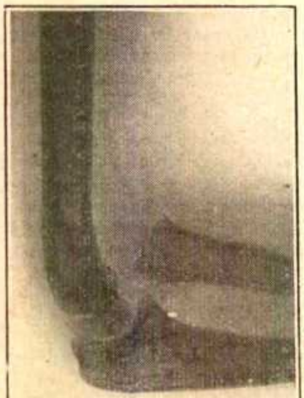
Medical Memoranda

Congenital Recurrent Dislocation of Head of Radius

One feels that this case is worthy of report not only on account of the rarity of the condition but also because of the unique features presented in this particular instance. Twenty-two cases of congenital dislocation of the head of the radius, unaccompanied by other lesions, have been recorded, but in only one (Mauck and Butterworth, 1938) was the dislocation recurrent and completely reducible, and in that case the condition was bilateral, with reduction occurring in full extension.



CASE REPORT

On Jan. 16, 1945, a girl aged 9 was brought to the orthopaedic out-patient clinic of Durham County Hospital with the complaint that exactly one week previously, while attempting to loosen a button on the left shoulder with her right hand, she suddenly felt pain in the right elbow, and noticed that a "lump" appeared in front of the elbow, which disappeared on manipulation. The pain was momentary, and not severe. No history of any previous injury to the elbow was offered. Her birth was by Caesarean section at seven months' gestation, and the birth weight was only 4½ lb.

Examination showed that the patient was a well-developed, intelligent child. The left elbow was normal. Inspection of the right elbow revealed no swelling or bruising. Flexion, pronation, and supination were full. Very slight limitation of extension was present, and the tendon of the biceps with its aponeurosis was unduly prominent in the last few degrees of extension. When the patient extended the elbow past 90°, in supination, the head of the radius dislocated forwards, without pain. It could be reduced with ease by simple thumb pressure. Dislocation was not possible in pronation or in flexion beyond the right-angle.

Radiographs showed that the head of the radius was shallow and poorly formed. There were no additional zones of ossification about the elbow. The ulna had no tendency to anterior curve of the upper aspect of its anterior and posterior borders, as described by McFarland (1936). The radius was not longer than normal.

COMMENT

The absence of any history of trauma and the x-ray appearance of the head of the radius strongly suggested that the condition was of congenital origin. The complete absence of disability rendered any immediate radical treatment, such as orbicular ligament reconstruction, unjustifiable. Excision of the head of the radius was particularly contraindicated by the age of the child.

It was explained to the mother, however, that as the radius grew, dislocation for appreciable periods would permit of undue lengthening of the bone, with the probable result that dislocation would become permanent, and limitation of movement ensue. In that event excision of the head of the radius would be considered.

My thanks are due to Mr. A. H. G. Munro, hon. orthopaedic surgeon Durham County Hospital, for permission to publish this case, and for his help and advice.

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Operation for Recurrent Subluxation of the Temporo-mandibular Joint

In the *Journal* of Sept. 23, 1944 (p. 423), there appeared a letter on the subject of "clicking mandibles." This, and the reply given, prompt me to send the following case record.

An airman in the R.A.F. Regiment was first seen in Feb., 1944. He complained that when he opened his mouth there was a loud click on the right side. When eating, the click would often be associated with a sharp pain in the region of the right temporomandibular joint, severe enough to cause him frequently to abandon his meals. He gave a history of having been an amateur boxer, but he had never had his jaw dislocated or fractured.

In Jan., 1943, he had undergone a dental clearance, and had been fitted with dentures. Six months later he noticed the clicking of the jaw. On examination the click was obviously associated with a partial subluxation of the right temporo-mandibular joint. When he closed his mouth the subluxation was spontaneously reduced. A radiograph of the joint failed to show evidence of osteo-arthritis. He maintained that his condition caused him much disability, and he agreed to submit to operation even after the uncertainty of a cure and the relative certainty of a frontal paralysis had been explained to him.

At operation the right temporo-mandibular capsule was exposed through a curved incision. The capsule was found to be lax. A vertical incision was made in the capsule, and the cut edges were then overlapped and sutured so as to tighten it in an antero-posterior plane. Two sutures were also inserted to draw a very small "pleat" of capsule up to the root of the zygomatic process, and by this means tighten it in a vertical plane. The mandible was then "immobilized" in a jaw splint for seven days. Right frontal paralysis followed the operation. On removal of the jaw splint the patient was able to open his mouth, insert his dentures and eat, without his jaw clicking, and without his old pain. He was seen again in June, 1944, when the right frontal paralysis had completely recovered. According to the patient's statement, recovery had occurred suddenly ten weeks after the operation. He could open his mouth widely without any recurrence of his symptoms, although there was still slight deviation of the point of the jaw to the left. The scar of the operation is inconspicuous.

He was last seen on March 3, 1945, and was then still symptom-free.

For permission to publish these case notes I am indebted to Sir Harold Whittingham, Director-General of Medical Services, Royal Air Force, and to Wing Cmdr. H. F. Harvey, officer commanding our Mobile Field Hospital. I wish to thank Air Cdre. Stanford Cade, Consultant in Surgery to the Royal Air Force, for much help and encouragement.

H. N. G. HUDSON, M.B., F.R.C.S.,
Squadron Leader, R.A.F.V.R.

Reviews

PREVENTIVE MEDICINE

Lectures on Preventive Medicine. By Harvey Sutton, M.D., D.P.H., F.R.A.C.P. (Pp. 658; illustrated. 27s. 6d.) Sydney: Consolidated Press Ltd., 168, Castlereagh Street. 1944.

After six years of war it is no easy matter to give a fresh account of preventive medicine for the student. We have lived so much on improvisation that there have been no real standards since 1938. Col. Harvey Sutton has given us a new start by publishing a series of lectures, based to a considerable extent on recent Australian figures. This work does not pretend to be a textbook, but there is a wide and interesting range of subjects and each one is fully treated. He is evidently specially interested in genetics and the problems of hereditary transmission of mental defect, as he devotes a racy chapter to the subject. The section dealing with maternal mortality is illustrated by recent Australian figures. Some of the conclusions indicate that the age of the mother is a more important factor in mortality than the order of birth; that the first birth is the safest, the mortality rising sharply after the sixth child. In other words, " the young primipara is by far the safest in child-bearing and the multipara over 35 most deserves attention." Sutton estimates that in 1940–1 there were 20,000 deliberate abortions (66 per 1,000) and 15,000 accidental (50 per 1,000). The total natal and neonatal losses were 56 per 1,000—less than half the wastage from abortion and miscarriage. Australia compares very favourably with the other nations in its infant mortality rate, with figures ranging from South Australia (33) to New South Wales (42). The best annual figures in recent years have been Adelaide (27.36) and Perth (27.96).

About half of the lectures are devoted to communicable diseases. Col. Sutton has been at great pains to bring his material up to date, and the section on vectors is well illustrated. The historical notes are often amusing, but the text is in parts little more than a catalogue. In dealing with the epidemiology of infantile paralysis his bewilderment and his honesty are both in evidence. After giving a list of the usual precautions against infection he turns in a kind of aposiopesis to exclaim: " It is curious how often children who have been most carefully kept away from contact with others seem, when the epidemic comes, the very ones to go down with the disease. The history of previous freedom from any infectious disease is more frequent in cases than the community of children." Yet he is content to talk about carriers, and does not draw the inference which is implicit in his observation.

This is a vigorous book, well worth reading, and not seriously marred by wisecracks and quotations from political authors.

PLASTER-OF-PARIS IN SURGERY

Plaster of Paris Technic. By Edwin O. Geckeler, M.D. (Pp. 220; illustrated. $3.00, or 16s. 6d.) Baltimore: The Williams and Wilkins Company; London: Baillière, Tindall and Cox.

Is the skilful use of plaster-of-Paris in surgery an " art " or a " craft "? Dr. C. L. Scudder, in his foreword to this very valuable book, regards it as an art. This cannot be so, for the art of medicine must be bigger than technical procedures which are only a part of it. The art of any branch of medicine is to determine the nature of disease and apply its cure. There is craftsmanship in painting, sculpture, music, and poetry, but the techniques employed are not art. This is important, for to be an orthopaedist one must be more than a skilful user of plaster-of-Paris. In Britain several publishers of art books produce for the beginner works on " How to do it." Valuable as they are, the writers usually recognize that ultimately one cannot learn art, even artistic craftsmanship, from books. One must study the work of the masters and be taught practically by a master. So it is with plaster technique in surgery. Therefore it must be appreciated that the book under review is merely a guide, though a good one, for the beginner or practitioner who is forced to undertake work for which he has no practical training. The need for the latter should be stressed.

There are minor points to criticize—e.g., the uncertainty revealed as to whether the toes in leg casts should have plaster support beneath them and whether, generally speaking, the foot should be held at a right-angle. Too often in the illustrations the negative is portrayed while the positive view is stated in the text. Whilst improvisation, where necessary, should be described, the method here portrayed for fractures of the spine is bad and should not be fathered upon Watson-Jones. As this book can only be meant for beginners, unsafe measures should be avoided. At any rate in this country we would regard as such the use of transfixion pins for fractures of the femur and tibia. More emphasis should be placed upon the difficulties of swelling occurring within plaster splints—certainly one of the objectionable features the prevention and treatment of which should have much more space devoted to them. The medico-legal aspects of this complication ought to be touched upon, together with a description of the form of printed instructions which in this country is almost everywhere distributed to subjects who are being treated with plaster-of-Paris as out-patients.

THE PATIENT IN HIS SETTING

Patients Have Families. By Henry B. Richardson, M.D., F.A.C.P. (Pp. 408. $3.00, or 16s. 6d.) New York: The Commonwealth Fund; London: Oxford University Press. 1945.

In the study of the patient the most conspicuous objective factor is the symptom, which is of course most important to the patient himself. To the doctor, we hope, the symptom is only part of the disease, and too often the study of the situation stops there; but the disease is part of the individual, the individual of the family, and the family of the social group. The doctor cannot fully appreciate the whole situation unless he studies all these factors. It is to be hoped that the new chairs of social medicine will soon familiarize the profession and the public with this truth.

Here is a book from America which describes work parallel with that of the Peckham Centre, and shows the enormous influence which interactions within the family group have in determining the health or ill-health of the various individual members. The effects of infection are obvious, and so perhaps are those of dietary and general habits of exercise and the like; but too little thought is usually given to the effects of suggestion, imitation, and identification in the production of psychosomatic manifestations. Other factors to be kept in mind are the general equilibrium of the family, and personal dominance (even of dead members) in the genesis of anxieties and other psychoneurotic manifestations. Such considerations are, or should be, familiar to the family doctor—the general practitioner in this country; hence his importance—but they are not to the vast majority of consultants and specialists, and Dr. Richardson is rightly concerned with this in America, where few family doctors exist. Is family doctoring to be a new specialism or an integrated team? Be this as it may, integration of team work is necessary, bringing in hospital physician, psychiatrist, social worker, and health visitor, and the author indicates how this may be brought about. He discusses the family as a subject of research, and adds in appendixes various techniques for carrying out such investigations.

This is an important book which deserves to be studied by all concerned with the new health services, for if we are to secure health and not merely fight disease we must get beyond our elaborate instruments, however useful, and our laboratories, however well equipped, to the setting and surroundings of our patient as a member of a family unit.

PSYCHOLOGICAL DEVELOPMENT OF THE CHILD

L'Évolution psychologique de l'Enfant. By Henri Wallon. Collection Armand Colin No. 232. (Pp. 223. No price given.) Paris: Librairie Armand Colin. 1941.

The way in which the mind of the child develops is of importance both for education and for psychology. Much study has been devoted to the subject in recent years and many different approaches have been used, all contributing to the sum of knowledge which is reviewed in this book. In the first part there is a comparison of the child with the adult. It is pointed out that the child's mind is quite different from that of the grown-up and so requires special methods for its study and an appreciation of the way in which it develops. The second part deals with the activities of the child and how they develop with special reference to play. The third part studies more general applications, such as the emotional life, motor activities, the growth of knowledge, and the formation of the personality. All this is summed up in a brief sketch of the successive ages of childhood.

This is an interesting survey of child psychology which may be useful as an introduction to what is now an extensive literature.

Notes on Books

In 1941 we favourably reviewed the fourth edition of a *Textbook of Surgical Pathology*, by Prof. C. F. W. ILLINGWORTH and Mr. B. M. DICK. The fifth edition (J. and A. Churchill; 42s.), which has now appeared, incorporates some changes and additions to bring the matter up to date. In particular the articles on surgical shock and burns are new, and short descriptions are given of the crush syndrome, sarcoidosis, argentaffine tumours, and other conditions. The quality of the new matter is up to the general standard of the book. We see no reason to change the good impression which we previously expressed.

A Study of Endometriosis, Endosalpingiosis, Endocervicosis, and Peritoneo-ovarian Sclerosis, by Dr. JAMES ROBERT GOODALL, formerly professor of clinical gynaecology and obstetrics at McGill University, was warmly welcomed in these columns on Nov. 18, 1944. The original edition was exhausted in a few months, and J. B. Lippincott Company have now published a second (35s.). The only change of consequence is the addition of a new chapter on the urinary complications arising out of pelvic endometriosis, which vary from slight derangements of function to complete destruction of the organs of the tract.

The Wellcome Historical Medical Museum has arranged to publish shortly, in conjunction with the Oxford University Press, a book on *The Development of Inhalation Anaesthesia* from 1846 to 1900, by Dr. BARBARA M. DUNCUM, of the Nuffield Department of Anaesthetics, University of Oxford, and formerly on the staff of the Wellcome Historical Medical Museum. This will be the first of the Museum's post-war series of research studies in the history of medicine. It deals exhaustively with the history of inhalation anaesthesia in Britain, the United States of America, and on the European continent, from the scientific and clinical points of view. Features of the work are its investigation of the changes of opinion in regard to the physiological action of anaesthetics, the evolution and practical application of inhalers and other apparatus, and the introduction and adoption of anaesthetic drugs, during the period under review.

Dr. Rudolf A. Stern's *Trauma in Internal Diseases* was reviewed in the *Journal* of Aug. 18 (p. 220). We are informed by William Heinemann (Medical Books) Ltd. that an English issue of this book will appear under their imprint towards the end of the year at the price of 30s.

Preparations and Appliances

A CHEAP HOME-MADE SPECTROSCOPE

Dr. B. J. FREEDMAN sends the following description of an apparatus of low cost which can be readily set up in the laboratory, suitable for examining the absorption spectra of blood and other fluids:

Rationale

The spectrum is produced by a diffraction grating replica. This consists of a sheet of collodion 1.5×1 cm., which is a surface cast of a small sheet of glass, the original grating, on which about 14,400 parallel grooves to the inch are accurately and evenly ruled with a diamond. The replica, as sold by Adam Hilger Ltd. (Fig. 1), is surrounded by a black paper mask, and mounted between two sheets of glass 5×4 cm. for convenience in handling. If a ray of white light strikes a grating, most of the light passes straight through unaltered. A proportion on passing through is diffracted by the parallel lines, and deflected into two beams diverging on either side of the unaltered beam, the red rays being deflected more than the violet. If, therefore, a grating is held close up to one eye and a source of light is inspected through it a spectrum will be visible on either side of the light source. The grating produces a spectrum equally dispersed at all wave-lengths, unlike a prism or system of prisms, which compresses the spectrum towards the red end. The grating also causes greater dispersion, thus yielding greater resolution of wave-bands and hence wider separation of absorption bands. Any slight shift in position of absorption bands, as occurs on the conversion of oxyhaemoglobin to carboxyhaemoglobin, becomes correspondingly more apparent.

The slit is represented by the linear filament of a double-capped tubular lamp, of the type commonly used in shop windows and radiant-heat cradles. It is supported in the usual sockets, which are mounted one above the other on a board painted a dull black or covered with black cloth (Fig. 2). Alternatively the reflector in which this type of lamp is normally housed may be blackened and used instead. If the grating is now held up to one eye with the short sides of the mount vertical, and the incandescent filament is inspected through it, the spectrum will be seen on either side of the filament. If a sheet of coloured glass or an optical cell containing a clear coloured fluid is interposed between the grating and the lamp, absorption bands will appear in the spectrum (in the same manner as when using a prismatic spectroscope), corresponding to the wave-lengths that have been absorbed. A test-tube of about 1 in. diameter is in many ways better than an optical cell, and is of course incomparably cheaper. Such a test-tube when filled with fluid is a cylindrical convex lens, and, held parallel with the lamp filament (i.e., vertically) and a yard or two from it, causes a real image of the latter to be formed about 1 cm. outside the test-tube diametrically opposite the lamp. With a test-tube held at arm's length in the left hand, in a direct line between the lamp (which should be about 2 yards away) and the observer's eye, this real image will be seen as a bright line apparently running down the centre of the test-tube. This bright line will function as the spectroscopic slit, and will assume the tint of any coloured fluid placed in the test-tube. If now the grating is held close up to the eye with the right hand the spectrum with absorption bands will be clearly seen. A test-tube of smaller diameter is not recommended, as the image of the filament thereby becomes too narrow and lacking in brightness. As is the case with other types of spectroscope, the depth of colour must be optional; if too deep, neighbouring bands broaden and fuse, and the characteristic absorption spectrum of the fluid becomes unrecognizable. Using a test-tube of 1 in. diameter, three drops of blood in 3 in. of water gives a suitable concentration, in the absence of anaemia. Accuracy here is not necessary, and errors can be quickly corrected by adding a little water, or another drop of blood, accordingly.

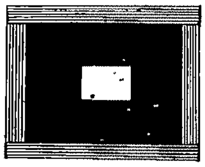

FIG. 1

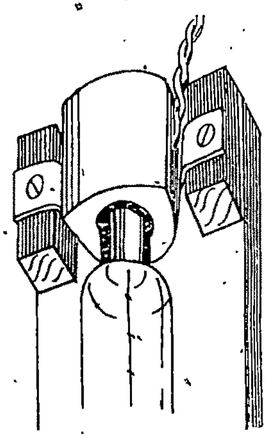

FIG. 2

FIG. 1.—Grating—replica in centre; black paper mask surrounding; edges bound with passe-partout. (One-quarter actual size.)

FIG. 2.—Showing brass strip holding socket to wood blocks. (One-quarter actual size.)

It is advisable to darken the room somewhat, or at least to see that no light objects are near the lamp, as these may obtrude themselves on the spectrum. The rationale has been gone into in some detail because readers may be unfamiliar with the diffraction grating.

Apparatus

1. Double-capped tubular lamp, obtainable from any electrician.
2. Pair of sockets for above, fixed to a black board as illustrated or in a blackened reflector. Sockets mounted on a metal rod and spaced the correct distance are obtainable from Linolite, Ltd. A few feet of twin flex and adaptor connected to the sockets.
3. Diffraction grating replica, obtainable from Messrs. Adam Hilger, 98, St. Pancras Way, London, N.W.1; price 4s. 3d.; catalogue No. K12.
4. Test-tube about 1 in. in diameter.

The total cost is a little over ten shillings.

Technique

1. The solution in suitable concentration is placed in a test-tube about 1 in. in diameter. If blood is being examined, about one drop per inch of water is the correct dilution. Cloudy fluids should first be cleared by centrifugation or filtration. The outer surface of the test-tube should be dry, because drops or smears of fluid impair its function as a lens.
2. Light the tubular lamp, which should be placed in a vertical position.
3. It is advisable, though not essential, to darken the room slightly.
4. Standing at a distance of about 2 yards from the lighted lamp, hold the grating, short side vertically, close up to one eye and observe the spectrum on one side of the lamp.
5. Holding the test-tube at arm's length in the other hand, parallel with the lamp filament (i.e., vertically) and on a level with it, move it across until it is interposed between the grating and the lamp.
6. The somewhat obtrusive direct (undiffracted) rays can be screened off by turning the head a little to one side, thereby interposing the black paper mask which surrounds the grating.

The procedure is simple, though this description may seem complicated to those unfamiliar with the diffraction grating. The advantages claimed for this apparatus over the usual pocket prismatic spectroscope are: (1) low cost; it is to be recommended where expense is a factor; (2) greater dispersion, yielding increased resolution of neighbouring absorption bands.

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WORK AT HIGH TEMPERATURES

To those concerned with the welfare of men and women who work at high temperatures, whether they be industrial workers or Service personnel, it is of no small importance that the limiting conditions under which work can be done should be known. There arises straight away the question how environmental warmth should be measured. Comfort and the body's reactions to its thermal environment depend on four distinct factors: the temperature, humidity, and rate of movement of the air, and the radiation from the surroundings. A perfect index of warmth would need to give due weight to each of these factors. It often happens in buildings, and generally in mines, that the temperature of the radiating surfaces is substantially that of the air, so that the reading of the dry-bulb thermometer indicates the radiation from the surroundings as well as the temperature of the air. Then, at comfortable temperatures, a tolerably good indication of warmth is given by the reading of the ordinary thermometer. In hotter environments, however, the humidity of the air is of increasing significance, for in the limiting condition the whole, or nearly the whole, of the heat produced by the body must be dissipated by the evaporation of sweat.

One index of warmth which is influenced by both the temperature of the air and its moisture content is the wet-bulb temperature. Forty years ago J. S. Haldane[1] concluded that the wet-bulb temperature is the limiting factor of the environment which determines the ability of man to retain his heat balance, and that a higher wet-bulb temperature can be tolerated if the air velocity is increased. Haldane gave the limiting wet-bulb temperature for resting men as 88° F. in still air and 93° F. when the air velocity was 170 feet per minute. Almost similar results were obtained for saturated air by McConnell, Houghten, and Yagloglou[2] twenty years later. Houghten and Yagloglou[3] had already developed the scale of effective temperature which is now in general use in the United States: this takes into account air temperature, humidity, and air velocity, but it gives greater weight to air temperature than is allowed for in the wet-bulb temperature. Pulse rate and rectal temperature were found to correspond closely with effective temperature. Haldane,[4] however, still maintained that wet-bulb temperature was the only thing that mattered.

During the war acclimatization to high temperatures has been extensively studied, and other investigations have been made of the upper limits of environmental heat which can be tolerated by acclimatized men. In his Croonian lectures, published in this *Journal* last month, Macdonald Critchley gave a most interesting account of the climatic problems of naval warfare. Eichna and his colleagues[5] studied acclimatized men who were nude except for shoes and socks and, sometimes, cotton shorts. The men spent eight to nine hours a day in the hot environment, five hours a day being spent in continuous marching. Dry-bulb temperatures ranged from 93° to 121° F., and wet-bulb temperatures from 90° to 96° F. The limiting factor was clearly the wet-bulb temperature, while the dry-bulb temperature exerted but a minor influence. At these high temperatures even a slight increase in the wet-bulb temperature is of importance. Only 4° to 5° F. of wet-bulb temperature separates environments in which work is comparatively easy from those in which it is impossible. Men work easily and efficiently at wet-bulb temperatures below 91° F. At wet-bulb temperatures of 91° to 94° F. prolonged and moderately hard work can be done, but it is done inefficiently and with difficulty, at the cost of loss of vigour and undesirable physiological changes, and with some risk of heat casualties. Above 94° F. wet-bulb temperature most men soon exhibit disturbing changes and can tolerate only about one hour of sustained, moderately hard work. Continuance of work for a longer time is at the cost of strong physiological disturbances, while the work is most inefficiently done. The limiting wet-bulb temperatures are only about 2° F. higher with dry-bulb temperatures below 100° F. than when the air temperature is 120° F. Very similar results have also been reported by Robinson and his team.[6] For men walking in shorts the upper limits at which thermal equilibrium could be maintained, with an air velocity of 180 feet per minute, were an air temperature of 93° F. and 91% relative humidity, or 122° F. and 21% humidity. These conditions respectively represent wet-bulb temperatures of 91° and 84° F., and the corresponding effective temperatures are approximately 89° and 92° F. Here again the effective temperature scale makes too much allowance for air temperature. From this work it seems clear that at the upper tolerable limit of warmth the wet-bulb temperature is the most significant factor, and that the effective temperature scale needs some revision. Another shortcoming of the scale is that it makes no specific allowance for radiant heat, so that when the mean radiant temperature differs much from the air temperature an erroneous impression of the warmth of the environment is given. This source of error is readily apparent when normal room conditions are considered; and that it is important also at high temperatures is clear from the observations of Houghten and his colleagues.[7]

In spite of its faults the effective temperature scale is a valuable aid to engineers who are mainly concerned with the central-heating of buildings, but a scale of warmth is required which will allow adequately for each of the four thermal factors of the environment. For a restricted range covering the comfort zone such a scale of equivalent warmth was put forward by Bedford,[8] but there is a pressing need for scales which will cover the whole range of conditions from cold to great heat, and which will apply to persons who are resting or engaging in work of varying degrees of severity.

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[1] *J. Hyg.*, Camb., 1905, **5**, 494.
[2] *Trans. Amer. Soc. heat. vent. Engrs.*, 1924, **30**, 167.
[3] Ibid., 1923, **29**, 165.
[4] *Trans. Instn. min. Engrs. Lond.*, 1929, **76**, 353.
[5] *J. industr. Hyg.*, 1945, **27**, 59.
[6] *Amer. J. Physiol.*, 1945, **143**, 21.
[7] *Heat., Pip., Air Condit.*, 1943, **15**, 205.
[8] Industr. Hlth. Res. Board, Rep. No. 76, 1936, London.

THE DECAYING VILLAGE

Life in a small village in England, whatever its outward attractions, means almost inevitably for many of the inhabitants a deprivation of some of the comforts and conveniences which a townsman takes for granted. In some villages the housing standard is deplorable. Below the thatched roof of the picturesque cottage and behind its too-small casements may be living conditions as bad as those to be found in the back streets and hidden courts of towns. Public services such as piped water, efficient sewerage, gas, and electricity are often not available, and social and recreational activities are difficult to maintain. This is amply illustrated in a survey undertaken by the Agricultural Economics Research Institute, Oxford,[1] of a little stretch of country in the South Midlands, 24 square miles in extent, comprising three large villages and twelve small ones, with a population of about 6,000 (having declined by 2,000 during half a century). The investigators—fifteen people, nearly all of them with university degrees—have explored the life of the rural labourer from his pre-natal clinic to his old-age pension. Such matters as the domestic budget, the methods of farming, the teaching in the (mostly old and ugly) schools, the attendance at church, the place of the "pub" in the life of the community, the health services and charities, the government of the village (very undemocratic as a rule) are all dissected expertly and sympathetically. These investigators have done in one small volume for a rural district what Charles Booth in seventeen volumes did for the life and labour of the people of London.

The area chosen is anonymous, and villages are identified by numbers. It is stated that no special significance attaches to the survey area, and any other country district would have done as well. From various clues it is possible to identify this strip of countryside. We were inquisitive enough to locate it because we sought an explanation of the almost entire absence of any reference to the rural medical practitioner. An enumeration of resident professional workers is given—8 clergy, 14 schoolmasters, 15 nurses, and so on—but not a doctor among them. We are told that the schoolmaster is the key man in social activities in the villages. The area is said to include four infant welfare centres, and two health visitors operate in it, but we are rather left to infer that the doctor must be sought in an outside market town. Actually the *Medical Directory*, 1945, gives the names of three doctors as living in one of the large villages, and two in another, not to speak of one or two on the retired list. Possibly the active doctors were away on war service when this survey was made. At the very end we are told that the area is reasonably provided with the services of doctors on the panel, but that only one is resident, others having surgeries in the villages. Apparently the method of calling the doctor depends upon the common knowledge that he will be visiting Mrs. Jones or Mrs. Smith round about a given hour, and a message can be left at her cottage asking him to call outside his prearranged round.

From an analysis of the weekly expenditure of 45 families it appears that the agricultural labourer spends just over half a crown a week on medical services and medical and hospital insurance, the professional worker just under three shillings, and the farmer a little over four—in each case about one-third of what they spend on drink and tobacco. On drink and tobacco the agricultural worker spends one penny in the shilling, and the industrial worker spends as much on these things as he does on the clothing of himself and his family. Hospital contributory schemes are very popular, and in the rural districts of the county (Oxfordshire) their membership reaches 80%. Even in remote parishes the hospital is a subject for local pride, though there is a feeling that townsfolk gain admission more readily owing to being near at hand. Complaints are also made of the congestion of out-patient departments and the long periods of waiting, which press severely on country people, who are controlled by the transport position. One reform would be a really good ambulance system for country areas. In the county of the survey nine authorities provide ambulances, some public and some voluntary, but they are entirely uncoordinated.

The larger lesson to be drawn from this survey is that the small village—of less than 1,000 or 1,200 inhabitants—as a self-contained community is doomed to decay. It cannot survive as a healthy organism. It cannot maintain the social services. Its children must go a long way to school. It can have only the occasional visits of a doctor. It must share a district nurse. It cannot afford the overhead costs of water supplies, sewerage, and electric light. Only six out of these fifteen villages have piped water, and in two only of these are many houses connected to the mains, and only two of the villages have sewerage as well as water. In one of the larger villages the wells and springs were condemned some time ago, and here 1,200 people are dependent upon drinking-water which has to be carted from a distance, and run into galvanized cisterns placed in the streets. Every activity, economic and social, is less effective than it should be owing to the smallness of the community.

The countryman has, of course, the same right as the townsman to public services. He should not be penalized because he works in a rural area. The solution will be found partly in bringing more services under central administration, converting more private undertakings into public utilities, making water supply regional, and light and power national, with a flat rate for country and town. It is the view of the survey also that farms should be reassembled in better-planned units, re-equipped, and given adequate transport. The decentralization of urban industries will also have a marked effect on the countryside. Meanwhile better rural housing is an urgent need. Farm workers now living in isolated cottages, often insanitary, should be rehoused in good-sized villages or towns, with the bus passing the door. But preceding the new housing programme, urgent as it is, there should be public services of water, sewerage, and electric light and power; and all new houses should be built on the assumption that those services will be available immediately if not already in existence. The survey makes clear, if it was not clear previously, that there is much to be done in planning and reconstruction before the life of the countryman, either on its material or its cultural side, is likely to approach the fullness of contentment and health.

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[1] *Country Planning. A Study of Rural Problems.* By the Agricultural Economics Research Institute, Oxford. (1945, Oxford University Press, London, 7s. 6d. net.)

STANDARDIZATION OF DIGITALIS

Since the active glycosides in digitalis leaves cannot be isolated and weighed, the potency of digitalis preparations can be maintained approximately uniform by biological methods only. The compilers of the *United States Pharmacopoeia* were the first to recognize this officially, and stipulated that a tincture should kill a frog within one hour when injected by a dose between certain limits. A check on the normality of the frogs was provided by requiring that a certain dose of crystalline strophanthin should also be lethal in the same length of time. This requirement remained effective in the United States for many years. A good deal of criticism was levelled against it, particularly by Hatcher at Cornell University, who introduced the cat method. Hatcher thought that in providing an estimate of the therapeutic value of digitalis the cat would be better than the frog, and for many years he and his clinical colleague, Dr. Cary Eggleston, urged the desirability of making a change in the official *U.S.P.* method, without success. In the meanwhile progress had been made in this country in the use of the frog. Trevan showed that there was a great variation among frogs. If, however, a given dose was injected into each of a large group of frogs the percentage which died was related to the dose. Thus there was a ratio, which was the same for any tincture of digitalis, between the amount that would kill 70% of frogs in a group and the amount that would kill 30%. Trevan's observations thus provided a method by which different batches of digitalis could be compared, and the introduction of an international standard of digitalis leaf provided material for making the comparison. As a result the frog method was indicated as the first method of choice in the *British Pharmacopoeia*, 1932, and has been used satisfactorily since that time.

In the U.S.A. things did not go so well. No provision was made for dealing with the variation in frogs, and the end-point of the test was at the end of one hour. Since digitalis injected under the skin of the frog must first be absorbed, the use of a period so brief as one hour has the effect that differences in the rate of absorption play a great part in determining the result of the test. A freshly made tincture is absorbed quickly, whereas one which is two years old is absorbed slowly. Examined at the end of two years a tincture appears by the *U.S.P.* test to have lost a great deal of its potency. In the United States the officials under the Food and Drug Act are active in examining digitalis preparations which are offered for sale; hence the manufacturer found it necessary to guard himself against the possibility that a tincture taken for analysis after a lengthy storage period would be found deficient in potency. Some manufacturers attempted to do this by issuing tinctures which were exceptionally strong when first put on the market, so that when analyses were made some tinctures were found to be no less than three times as potent as others. Three years ago Dr. C. W. Edmunds, who had strongly defended the frog method in the United States, died, and Dr. Eggleston became chairman of the Pharmacopoeia Convention. The result has been a change in the official method of standardizing digitalis. The frog method has been dropped, and the cat method introduced instead. This change does not affect this country, but it affects the Dominion of Canada. In Canada the *British Pharmacopoeia* has long been a statutory book of standards and has enjoyed a position which it has never enjoyed at home. Canada, however, wishes to sell tincture of digitalis which will satisfy the requirements of the *United States Pharmacopoeia*, and therefore has recently made a change in the official method of standardizing digitalis and strophanthus preparations to be in accord with the *U.S.P.* Six months after April 5, 1945, the cat method will be official in Canada. Details of the new procedure have been issued by the Laboratory of Hygiene, Department of National Health and Welfare, Ottawa.

The cat method is a satisfactory way of estimating digitalis potency, but it does not give a precise measure of the therapeutic value of the sample. No method of biological comparison does this. The doctor must still determine, for each patient, the dose which he requires, however accurately the tincture may have been standardized. This being so, it may be doubted whether the greater expenditure of time and material which the cat method demands is really justified. The difficulty presented in the frog method by differences in the rate of absorption can be avoided by allowing a much longer time for absorption to take place, as is the case in the official British method. This seems adequate to secure what is the main intention of standardization—namely, to ensure that the preparations of digitalis are of uniform potency on cardiac muscle so far as can be ascertained with due regard to economy of time and labour. Since the doctor must determine by trial the dose which the patient needs, it seems unreasonable to insist on a more expensive and elaborate procedure for the assay.

THE HEART IN INFLUENZA

The nature of the myocardial damage in influenza is not well understood, for, although the clinical evidence of this is abundant, recovery is usual and few records of pathological changes are available. Winternitz and his colleagues, in their classical monograph on the pathology of epidemic influenza, do not refer to the matter. The cases observed clinically have been found during convalescence from the disease rather than in its acute phase. It is, therefore, of unusual interest to read an account of two examples of acute myocarditis complicating influenza in both of which the A virus was isolated from the lungs.[1]

In the first case the patient, a woman of 34, suffered from a mild illness which was diagnosed as "bronchitis or 'flu," and some six or seven weeks later developed an acute illness characterized by pyrexia, leucocytosis, and signs of basal consolidation. A diagnosis of pneumonic was made and sulphadiazine therapy instituted. The condition, however, deteriorated, the signs of pneumonia consolidation extended, and death occurred. Post mortem, bilateral pleural effusions were present; microscopical examinations of the lungs showed no frank pneumonia, but congestion, mononuclear-cell and lymphocytic infiltration, some polymorphs and plasma cells, but no bacteria. The chief changes were found in the heart, in which there were widespread myocardial degenerative changes of an acute type, leading to necrosis and associated with mononuclear-cell and lymphocytic infiltration. The second case was that of a man of 39, who developed an acute respiratory infection and died from bronchopneumonia after an illness of six to seven days' duration. The bacteriological findings were not considered significant, but influenza virus A was isolated. In the heart there were areas of scarring and some recent necrosis of the muscle fibres; the lesions, however, in this fatal case were limited in extent and were discovered only after careful search.

The conclusion, which the authors themselves do not press, that these cardiac results are to be attributed to the influenza virus must be somewhat critically considered. The mere fact of the isolation of the virus from the lungs cannot be taken to be conclusive evidence, and it is pointed out that the lesions in the first case had the characteristics of Fiedler's acute interstitial, or acute isolated, myocarditis —a rare condition of unknown aetiology. In the second case the fibrous lesions clearly appear to have antedated the acute respiratory infection, and the acute myocarditic changes were minimal. These observations should stimulate further interest in the search for evidence of myocardial lesions in association with influenza. At the same time the question of damage to tissues by sulphonamide drugs must be borne in mind. We are still incompletely informed as to the frequency and nature of the lesions which they may occasion, and this possible cause should be remembered where unexplained necroses occur as a complication of acute disease when these remedies are employed.

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[1] Finland, M., Parker, F., jun., Barnes, M. W., and Joliffe, A. S., *Amer. J. med Sci.*, 1945, **209**, 455.

AN INTEGRATED HEALTH SERVICE

Major A. V. Franklin, R.A.V.C., has briefly described[1] how the Royal Army Veterinary Corps produced fresh and disease-free meat and milk for the armies of the Mediterranean theatres of war. Farms, livestock depots, dairies, abattoirs, and inspection services were established on the lines of supply. The work was undertaken at a critical period; it relieved pressure on shipping and home supply, and it grew into a large-scale experiment in military preventive medicine under many and varied environmental conditions. According to Lieut.-Col. H. Nelson, S.A.M.C., who was in charge of the hygiene services of the Union Defence Forces, the supply of fresh food benefited the health of the armies. He has been led by wartime experience to the conclusion that a civilian service, embracing such work as the R.A.V.C. performed, is necessary in order to combat the "very serious problem" of malnutrition and food-borne infection in his country. In an address before the South African Veterinary Medical Association[2] he proposed the appointment to the civil health departments of "veterinary officers of health," who should have charge of services concerned with the health control of food and should help in controlling the sources of infectious disease. In his opinion "the veterinary officer should become as much a member of the public health team as the medical officer of health." The theme of Lieut.-Col. Nelson's address was the oneness of the public health service.

In Great Britain the idea of integrating the medical and veterinary public health services was discussed by members of both professions more than a generation ago. It contributed to the movement which resulted in the formation of the Section of Comparative Medicine of the Royal Society of Medicine in 1923. As the *Proceedings* of the Section over the past 25 years have shown, a harmony of thought, training, and purpose unites the two professions, whereas the art and science of examination, diagnosis, and treatment of the patient are peculiar to each. Each is an authority in the application of distinctive clinical art and science to its patients. The problem is how the administrative advantages of concentrating the management of a health service in the person of one individual, who is usually a medical officer, can be harmonized with the need for making sectional work sufficiently bright in its prospects to attract other professional officers of high standing. It is an issue which may go far beyond the particular question of the veterinarian's place in public health as the public health services evolve.

We shall watch with interest how our colleagues in South Africa resolve the difficulties inherent in an integrated public health service. In Great Britain the tendency may be to leave things much as they have been: to accept the principle of collaboration between medical and veterinary officers, between Ministry of Health and Ministry of Agriculture, hoping, when a particular job has to be done, that somehow one or both will rise to the occasion, as the R.A.V.C. did in the Mediterranean theatres of war. In fact, the effect of the Agriculture Act, 1937, has been to diminish the position of veterinary inspectors in the sphere of local government, and to establish a separate veterinary service directly under central management.

MEDICO-LEGAL APPLICATIONS OF BLOOD GROUPING

The discovery of the ABO system of blood groups was soon utilized in connexion with paternity cases and also for the typing of blood-stains. But the chance of exclusion of a wrongful accusation of paternity was not very great. Even with the subdivision of A into its two common subtypes the falsely accused man has, on the average, only one chance in six that he will be excluded by the determination of the blood group. Bloods or blood-stains are divisible into six kinds only—O, A_1, A_2, B, A_1B, A_2B. The establishment of the MN system constituted a notable medico-legal advance. In paternity cases it is of about equal value to the ABO system, so that the wrongfully accused man's chances improved to 1 in 3. There are three kinds of MN blood—M, N, and MN. Combining this threefold division with the sixfold division of the ABO system, human bloods could now be divided into 18 types. A new blood group, P_1, established by Landsteiner and Levine,[1] and more recently reported on by Wiener and Sonn,[2] seems to be clear-cut enough in its inheritance, P+ being dominant to P−. Its value in paternity cases, however, is negligible, for it would exclude only one wrongly accused person in every 100. For subdividing bloods, on the other hand, it is useful; with its help the 18 kinds of blood are increased to 36.

In the short-lived days of its pristine simplicity, when Rh+ and Rh− alone were distinguished, the medico-legal contribution of the Rh system was no greater than that of P. All that is now greatly changed. If Fisher's[3] hypothesis of triple allelomorphs is established, as seems likely,[4] there will exist no fewer than 27 serologically distinguishable kinds of Rh, though some of them are rare. Wiener and Sonn in the paper quoted above discuss the medico-legal implications of Rh, confining themselves to the eight Rh types upon which there has been general agreement for some time. They point out that the chances of the wrongfully accused man have now improved to nearly 1 in 2, while the distinguishable kinds of blood are $36\times8=288$. In this last connexion, however, it must be pointed out that there is a serious limitation; Rh reactions are delicate and are applicable only to fresh, wet blood-stains.

The Rh system will make a further contribution, and there is every likelihood that new blood-group systems will be established in the near future. In a recent paper in this *Journal* Callender, Race, and Paykoç[5] described no fewer than three new antibodies, demonstrated during the course of repeated transfusions to an apparently hypersensitive patient. One of these is a Mendelian dominant, displayed by 8 to 9% of the English population. Truly, serology is making rapid strides towards justifying the opinion of Landsteiner that some day blood groups would be known to be as individual as finger-prints.

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[1] *Vet. Rec.*, 1944, **56**, 447.
[2] *J. S. Afr. vet. med. Ass.*, 1944, **15**, 125.

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[1] *J. Immunol.*, 1931, **20**, 179.
[2] *J. Lab. clin. Med.*, 1945, **30**, 395.
[3] Race, *Nature*, 1944, **153**, 771.
[4] Mourant and Race, ibid., 1945, **155**, 542.
[5] *British Medical Journal*, 1945, **2**, 83.

SOME EXPERIENCES OF A MEDICAL PRISONER OF WAR

BY

B. MARKOWSKI, M.D.,

Surg. Lieut.-Cmdr., Polish Navy

Between Sept. 19, 1939, and May 19, 1945, I was a Polish prisoner of war in Germany and was employed as a surgeon in prisoner-of-war camps and hospitals. These six years have afforded me unique opportunities for studying the life of prisoners of war of almost every nationality, and of making medical observations.

I became a prisoner of war when surgeon-in-chief of the Polish Naval Hospital in Gdynia. After the closing down of this hospital I was sent to labour camps in Poland, in Pomerania, and thence to the fortress of Torun, where at first only Poles were kept, but since May, 1940, also British prisoners from Dunkirk and Norway. From the fortress of Torun I was transferred to the prisoner-of-war section of the German hospital in the same town, and, after three months, with the sick men under my care, back to the fortress. In 1941 I was sent to an oflag in Prenzlau, and after three weeks to the Inter-Allied P.O.W. hospital in Neu-Brandenburg, where I worked for four years as surgeon-in-chief.

The diseases prevailing among prisoners of war were more or less directly the result of the conditions in which they lived. In most cases the front-line soldier was taken prisoner in the heat of battle, at a moment when he was applying himself to a very hard task. The very fact of becoming a prisoner, in most cases unexpectedly, caused a severe psychological shock. This blow to soldierly ambition, the feeling that their personal career was interrupted, and in many cases the realization of the national collapse, induced many prisoners to commit suicide. Such cases were particularly numerous among Polish officers and soldiers after the campaign of 1939.

With his capture two new factors appeared in the prisoner's life. These were psychological and physical humiliations. The Germans tried to humiliate their captives by constantly stressing their individual and racial inferiority. On the whole, these attempts failed to break down morale, and often gave rise to a spirit of rebellion. Prisoners were forced to salute the Germans, their good uniforms were exchanged for prison rags, their equalettes and other badges were brutally torn off, they were forced to do the most hideous sanitation jobs, they were forbidden to enter public places or to walk on the pavements, they had to listen to dirty abuse of their superiors and national leaders. They suffered, too, from hunger, cold, the absence of elementary hygienic amenities and sanitation, and exhausting physical labour. All this affected the men most severely in the first few days of their capture.

I remember the arrival at Torun of the first British prisoners of war from Dunkirk. For six days they had been travelling in sealed cattle-trucks. The heat, thirst, and starvation were such that only a few of them could leave their wagons unaided on arrival. Many of them were so exhausted that they had to be detained in P.o.W. hospitals. The beginning of the period of internment for the Russian prisoners was even worse. I estimate that about 80% of the total number of Russian prisoners of war taken in 1942 and 1943 died from hunger and cold. The majority died in German-occupied Poland in special camps in which they lived without huts, tents, or blankets, in holes which they had dug for themselves in the fields during the severe winter.

Incidence of Diseases

Such conditions tended to develop diseases of the lungs and of the alimentary canal, and fevers. Individual and racial predispositions tended to foster the development of particular diseases.

Typhus.—Of epidemics the most serious and dangerous was typhus. In 1939 there were only sporadic cases. In 1942 and 1943 epidemics of this disease spread throughout the P.o.W. camps in Poland and Eastern Germany, in connexion with which I made one particularly interesting observation. Though the number of cases was largest among the Russians, their death-rate was lower than that of other nationalities. I estimated the death rate from typhus among the Russians in our camp at 10 to 30% in spite of severe underfeeding, which in many cases was the true cause of death. Resistance to typhus was lower among the nationals of countries lying further west: thus at a hospital at Hammerstein out of 20 cases among the German hospital personnel there were 20 deaths. In the Russian prisoner-of-war camp at Hammerstein the German authorities, noticing the high death rate among German personnel who were looking after sick Russians, ordered the speediest possible disposal of the source of infection. Of course, this source was the Russians, of whom about 2,000 were at that time ill with typhus or were under observation. Within three days the German camp commander reported that there were no Russians ill with typhus at Hammerstein. This was quite true. During those three days all the sick Russians had been murdered.

Tuberculosis of the lungs caused many deaths, particularly among the Russians, Serbs, Italians, Poles, and French. Serbs and Frenchmen were especially predisposed to tuberculosis of the bones (mostly Pott's disease). Underfeeding, colds, and hard physical labour made any prospect of improvement or cure out of the question. Treatment was limited to isolation. However, as the camps were overcrowded, isolation was in practice impossible; for in 1944, in the Neu-Brandenburg camp, out of a total number of 6,000 prisoners, 2,000 had open tuberculosis of the lungs, and their number was constantly growing.

Of *diseases of the alimentary canal* there were two big epidemics—typhoid fever, dysentery, and pseudo-dysentery in 1942 and 1944–5—which ravaged the Polish, English, American, and Russians. These resulted in a high death rate, mostly due to complications in the circulatory system. Nightmarish conditions prevailed owing to overcrowding and the lack of sanitation. The sight of so many emaciated patients lying in their excrements, on a floor covered only with a thin layer of straw, was indescribably painful. In the winter of 1944–5 about 1,000 of them arrived at our hospital. They belonged to every allied nation, including many British and Americans. They had been driven for hundreds of miles, from East Prussia and Poland to Western Germany, mostly on foot. They were forced to march while starving and sick, in bitter cold weather and snow. They had to tramp on because those who lagged behind were mercilessly killed by their German guards. I have no words to describe the misery of those poor wretches, who were supposed to be protected by the humanitarian regulations of the Geneva Convention.

All these diseases—i.e., typhus, tuberculosis, and diseases of the alimentary canal—were particularly important, because of the numbers affected. Other diseases hardly differed from cases to be found in hospitals in peacetime.

Diseases due to Prison Life

I should like here to dwell a while on diseases closely connected with the conditions of life of the prisoners, and therefore comparatively rare under normal peace conditions. These are: mental diseases; frostbite; wound gangrene; diphtheria; endarteritis obliterans; severe stomach troubles.

Mental Diseases.—On the whole, the period of captivity only facilitated the development of such diseases in those already predisposed towards them. Most numerous were schizophrenia and manic depression. The weakening of the resistance of the nervous system which found its expression in abnormally strong reactions and in an inclination towards both excitement and depression could be observed among the majority of prisoners. Actual damage to their will-power or mental efficiency cannot be defined by the doctors who were themselves prisoners, but must be done by psychiatrists.

Frostbite.—In this war cases of frostbite have been particularly numerous. Some of these cases I succeeded in getting the Swiss medical press to publish in 1944. These included a case of bilateral paralysis of the radial nerve in a man who suffered only from frost gangrene of his lower extremities. Altogether, I described 37 cases of frostbite (with photographs), most of which arrived in a very advanced state of gangrene of the extremities. This led in many cases to complete or partial loss of the feet. I should like to stress here that all these cases developed, not during the actual fighting or on the battlefield, but after capture, owing to camp conditions.

The infection of small wounds on extremities oedematous from starvation caused the appearance of a rare phenomenon—*gangrene* of the skin and of the subcutaneous tissue. Such cases, resulting from putrid infection, could be observed among Soviet prisoners of war in 1942. Radical removal of the necrosed parts, together with skin-grafting, gave satisfactory results. One day late in 1942 we received 27 patients, all of whom showed symptoms of this form of gangrene; and all of them were Russians.

Diphtheria.—Our experience of diphtheria epidemics should be of particular value to British colleagues. On the Continent we used to regard this disease as peculiar to children, and we were very much struck by the fact that an epidemic spread among British prisoners of war in 1940. In that year we had about 400 cases under treatment in Torun alone. Between 5 and 15 cases were constantly to be found in the Neu-Brandenburg hospital during the last four years. Among complications were disorders of the peripheral nervous system, but deaths were few and far between.

We had special difficulties with the treatment of *endarteritis obliterans*. These cases usually arrived in hospital in an advanced stage of Buerger's disease. In one week 8 patients suffering from this condition had to be operated upon. In the early stages sympathectomy and intensive " priscol " therapy, as well as hormones (obtained from Switzerland), seemed to give satisfactory results, yet in many cases progressive necrosis forced us to amputate the affected extremities.

Severe Acute Dilatation of the Stomach.—This was another disease fairly common among the prisoners of war though rare in peacetime. It was usually caused by the intake of even a *small* quantity of food after a period of *prolonged starvation*. I have personally met with such cases only among Italian and Russian prisoners of war.

Medical Care

The organization of medical services was as follows: the personnel was recruited from medical men of all nationalities who were prisoners of war. They had at their disposal sick-rooms in the P.o.W. camps, and also special hospitals for prisoners. The head of the medical personnel was always a German, both in the camps and in the hospitals. He controlled the prisoner-doctors, but concerned himself less with treatment proper than with seeing that the prisoners were kept as short a time as possible under treatment, so that valuable man-power should not be lost to the Reich. Medical supplies, adequate at first, decreased as the war went on until they were reduced to a ridiculously small amount, and towards the end of the war we hardly got anything at all. Of special medicines, some, such as sulphonamides, were given out to prisoners, but others, like penicillin or hormones, were outside their reach. The sick-rooms in the camps were, on the whole, very poorly equipped, were overcrowded, and hardly differed at all from the ordinary prisoners' huts. Bunks in place of beds, straw in small quantities instead of mattresses, and the lack of sanitation and of running water should give an idea of how bad the conditions were. The personnel consisted mainly of untrained prisoners—male nurses, whose number was strictly kept down. Hospitals were on the whole better equipped, but as time wore on they also got worse.

Medical supplies provided by the International Red Cross improved the position, though the shortage was felt right up to the end. The patients' food hardly differed from the ordinary fare of the prisoners, and the amount of calories was much lower than what was needed. Here again the Red Cross parcels were a great help. I think that if it had not been for these parcels some 70% of the prisoners would have died from starvation. In addition to the main disease, we always had to treat complications resulting from underfeeding and cachexia.

Sights Seen in a Russian P.o.W. Camp

I happened to be in the Neu-Brandenburg camp when dinner was served. This was composed of a watery vegetable soup doled out once a day in meagre quantities. It was winter. I saw a long line of terribly emaciated Russian prisoners in rags. Their feet, blue with cold, were sometimes bare, and sometimes they wore wooden clogs. They held their mess-tins in trembling hands, numb with cold. But it was their eyes that drew my attention. They had nothing human in them; they were deeply set, shining, and fixed with an animal expression on the soup-container. They seemed to see nothing except it; they seemed not to notice that some of their comrades had fallen from exhaustion and that they were treading upon them, doing them to death by the trampling of their clogs. Their only idea was to get nearer to the soup-container and obtain their ration quickly. After this scanty fare several prisoners who had not had enough strength to wait for their turn were carried to the camp cemetery.

I have seen bodies with pieces of flesh hacked out. The flesh was cut away by starving comrades after death, sometimes even before. Yes, this was the cannibalism which the Germans denounced as a proof of the bestiality of the prisoners. It was a proof of bestiality, but of the bestiality of the Germans, who sadistically satisfied their lowest, cruellest instincts. These acts of cannibalism took place in the very heart of Germany, where, right up to the end of the war, well-fed fat Prussian peasants forced emaciated and starving prisoners to perform the hardest tasks.

The Life of P.o.W. Doctors

Though the Geneva Convention guarantees special privileges for doctors, the only practical difference was that we could, and had to, work. We had the same food rations and the same lodgings as other officers. We were entitled to two hours' walk three times a week, but of course under the guard of a German soldier. This walk was a privilege only for doctors, but doctors working in Polish oflags were not getting it. The crowds of patients, the difficulties of securing clinical and laboratory aid, the lack of assistants and specialists—all compelled us to work exceptionally hard. Yet among the Germans we found no understanding whatsoever of our problems.

In 1940 I was sent to the prisoners' section of the German hospital in Torun. It was housed partly in the hospital chapel and partly in old wooden barracks. Infectious patients, medical and surgical cases, were all herded together. In February of that year some new cases had arrived and I discovered typhus among them. The Germans at once sealed off the whole section with barbed wire and forbade all contact with the outside world under penalty of death, while I, who was in charge of all patients, including non-contagious cases, was locked up with them in one large overcrowded room. I remonstrated that in these conditions the non-infectious patients would get contaminated, but my protest was of no avail. I spent five weeks in that room among patients with high fever, many of whom died. In April of that year we were removed to Fort 14 in Torun. This fort was partly underground; it had thick damp walls, no water, and no heating. It was suitable for storing ammunition, but not for a hospital. On the first day of our work there the dampness was such that the constantly wet bed-linen dried only from the heat of our patients' bodies.

In this hospital I was given an assistant, a young English doctor, who had to work very hard and for whom I tried in vain to obtain a change of linen. At the time when help from the Red Cross was not yet in full swing we obtained much aid from the local Polish population, though the penalty for any assistance given to prisoners of war, even for such small things as the gift of a roll or article of clothing, was death; these Polish people saved many prisoners from starvation. Doctors took upon themselves the role of middle-men in supplying food. Of course, for us Poles the discovery of such activities meant death or, at least, the removal to a concentration camp.

In the Neu-Brandenburg Inter-Allied Hospital I worked not only as a surgeon but also as a radiologist. The large number of patients, including many cases of tuberculosis, necessitated frequent *x*-ray screenings. We had only one *x*-ray apparatus for about 50,000 prisoners. It was of French make, a fairly powerful unit but a fairly old model. It was set up in an old barracks with no protection of the walls, and the only cover for the doctor was a ragged apron thrown away by another hospital. When I asked for the necessary precautions against the effect of *x* rays I was told that there was a great scarcity of rubber and that German hospitals had priority. I had therefore either to work without any safety measures or to deprive my patients of *x*-ray examinations. For two years I worked without any safety devices whatever.

Another difficult problem was blood transfusion. To take blood from other prisoners, overworked and exhausted, was not practicable. Many times my colleagues and I had to give our own blood immediately after an operation to save a man's life. We did not get any stored blood whatsoever from the Germans. In this connexion I remember a Russian prisoner of war who was brought to me with an open fracture of the leg. The blood vessels were torn and he had bled a great deal. Before beginning the operation I asked the German doctors for blood for a transfusion. Their reply was that they needed the blood for German front-line soldiers, and that the patient was anyway likely to die. I said that the patient would live if the necessary precautions were taken. To show how strongly I felt about it all I arranged a somewhat theatrical scene. I performed the operation in the presence of German doctors and S.S. men, and when I had finished I asked my assistant to take about 500 c.cm. of my blood (my group happens to be O). The patient was saved, and the Germans left the operating-room without saying a word. However, later on they began to offer us some help.

In 1942, when epidemics of typhus broke out in the Russian P.o.W. camps, only Polish doctors were sent to look after them. Almost all contracted typhus, and many died, including my friends Major Dr. Borkowski, Capt. Dr. Wierzbowski, and others. In that year some 30 Russian prisoners arrived in hospital with gangrene of the lower extremities. I was asked to operate on them and to send them back to their camp, where thousands of even healthy prisoners died from cold and starvation. I refused to send them back, saying that they were human beings and must be treated as such. At this time anti-Bolshevik propaganda was at its height in Germany and found expression in studied cruelty towards Russian prisoners. Although threatened with the firing-squad, I refused to change my mind, and the affair went before the highest German military authorities, who finally agreed to leave these Russians in hospital. Owing to the firm attitude we had adopted the only place in the whole of Germany where Russian prisoners of war were treated in the same way as other prisoners was the surgical side of our hospital.

These facts show the difficulties which the doctor must be prepared to face while carrying out his own profession. But the work of a prisoners' M.O. is not confined to his professional duties. In a stalag or in a hospital the doctor is the highest ranking officer and the chief. He is the trustee and adviser of his patients in all their personal, family, and national affairs. Thus the doctor has first to heal his patients, and, secondly, as their guardian to settle the many affairs that come under his notice. Of course, the Germans took every conceivable step to make it possible for the doctors to act in the latter capacity, and actually many of the latter paid with their lives for what they did in this respect. Among my closest friends and colleagues, Dr. Zenkteller, Dr. Dudo, and many others suffered death for their work.

However, the results obtained were, in spite of all, simply magnificent. Thus, for instance, in the Inter-Allied Neu-Brandenburg Hospital, with 40,000 patients and 5,000 surgical operations in five years, the ratio of cases cured was not lower than in peacetime hospitals. Some of the recoveries of particularly grave cases, such as abdominal gunshot wounds, intestinal obstructions, operations on lungs, bladder, etc., caused not only our own amazement, but also that of German professors who from time to time visited our hospitals.

Conclusions

I should like once more to stress two points. First, the importance of our observations with regard to diseases peculiar to prisoners, particularly diphtheria, frostbite, and stomach troubles connected with starvation. While a prisoner of war I could not follow closely the international medical literature: probably experience had enlarged our knowledge of these diseases during that time. All the same, I thought it my duty to record my observations. The second point I want to stress is that such results as were achieved by us were largely due to the morale of the doctors concerned. Strength of character, professional knowledge, and stout hearts fought victoriously against cruelty and brutality. Many of my colleagues perished during the struggle, whether shot on the spot or murdered in concentration camps. Their deaths were a loud protest against war, murder, and racial and national hatred. They were uncompromising in the help they brought to the sick and wounded of every race and every nationality. And they did not hesitate to offer their lives for their ideals.

CENTRAL TUBERCULOSIS SCHEME FOR NORTHERN IRELAND

The Northern Ireland Branch Council of the British Medical Association has published a report on the need for better facilities for the prevention, diagnosis, and treatment of tuberculosis. At present Northern Ireland suffers from a lack of proper diagnostic facilities in some areas, a universal shortage of hospital and sanatorium beds, and the absence of a plan for the training and rehabilitation of the tuberculous. It is pointed out that in England there are unified schemes for the West Riding of Yorkshire and for Lancashire, as well as a scheme for Wales, and all these areas have populations larger than that of Northern Ireland, which was estimated at 1,295,000 in 1939. Northern Ireland has an annual tuberculosis death rate of 840 per million, which is below that of Wales (958), but well above that of Lancashire and the West Riding (560 and 570 respectively), and Northern Ireland is much less favourably situated than any of these areas in its proportion of beds to the prevalence of the disease, taking as the criterion of prevalence the number of deaths. While in Lancashire the percentage of beds to annual deaths is 90, in Northern Ireland it is only 56. Long waiting lists are therefore the rule at the five hospitals and sanatoria which Northern Ireland at present possesses.

The Joint Tuberculosis Council has recommended that as an absolute minimum there should be a ratio of three beds in tuberculosis institutions for two tuberculosis deaths per annum in any area. In view of the advent of mass radiography and treatment allowances this ratio may prove barely sufficient, but on this basis 1,500 beds would be required in Northern Ireland, where there are only 614 at present. The Branch Council proposes as a minimum two additional institutions. One of these would be a large modern sanatorium to be erected near Belfast (but not less than 10 miles away from the city centre). Smaller but well-equipped institutions might be built elsewhere. Whiteabbey Sanatorium, with certain structural alterations and additions, would be suitable for use as a chest hospital for Belfast and district, though not for convalescent sanatorium patients. These institutions, together with Forster Green Hospital, should go far to provide sufficient beds for all cases of pulmonary tuberculosis. Provision might be made for orthopaedic cases in conjunction with the orthopaedic scheme for Northern Ireland, or, failing this, the temporary children's hospital at Greenisland might be constructed to provide 80 to 100 beds for tuberculous children requiring orthopaedic treatment. The idea of training colonies might be developed in co-operation with the Ministry of Labour.

It is stated that the existing arrangements for notification in Northern Ireland are unsatisfactory. Medical practitioners are required to notify only tuberculous persons who are infective—that is to say, when they have reached a stage at which their chances of cure or recovery are relatively poor, when they are capable of transmitting infection to others, and when long periods of institutional treatment are necessary. It is the view of the compilers of the report that all forms of tuberculosis at any stage of the disease should be compulsorily notifiable.

Other proposals are for a larger number of tuberculosis dispensaries (the name of which should be changed to "chest clinics"), situated where possible in voluntary or county or district hospitals, and the provision of night hostels for tuberculous men and women who are homeless or lack suitable accommodation in their homes. Belfast, it is said, could with advantage provide lodging-houses for such people, with well-ventilated rooms, a verandah, and garden.

The Branch Council also calls for the efficient pasteurization of all milk supplies for human consumption as a means of preventing tuberculosis of bovine origin. About 40% of the cattle slaughtered in abattoirs in Northern Ireland are found to have naked-eye lesions of tuberculosis, and about 6% of samples of unheated milk taken from supplies delivered to households in Belfast are infected with virulent tubercle bacilli. Certain proposals are made for research, education, and after-care. Stress is laid on the need for the systematic instruction of all nurses for the certificate of the Tuberculosis Association. The teaching of tuberculosis to medical students is considered inadequate. The Branch Council recommends that they should be given a regular course of instruction in tuberculosis work, and that more facilities for postgraduate study should be available.

MEDICAL RESEARCH IN EIRE

The Medical Research Council of Ireland in its annual report gives an account of many useful investigations. The goitre problem in County Tipperary has continued to receive attention, and an analysis of the findings of a three-years experiment on the treatment of goitre in school-children by means of iodine has been completed. The indications show that the iodine has had a positive effect in arresting the development of puberal goitre. A dietary survey with special reference to the intake of iodine has been made in Tipperary, with control areas in Galway and Leix. From this work it has been shown that the iodine intake of children in Tipperary ranges from 4 to 35 gamma a day, and that families using home-made (in preference to baker's) bread have, on the whole, the higher intakes. The administration of iodine to children of school and pre-school age and to pregnant women in a number of areas has been continued, but results from this work cannot be expected for some years.

Supplies of Penicillin

The Council has been made the controlling body for the distribution of supplies of penicillin in Ireland. The arrangements are being made by two committees—one for the south of Ireland under the chairmanship of Prof. J. M. O'Donovan and the other for the west under the chairmanship of Prof. J. F. Donegan. The first consignment of penicillin arrived in Ireland in August, 1944, and from that time up to the end of the year 222 cases were treated. Arrangements have been made with the Irish Drug Association for its members to take over the storage of penicillin and its distribution to teaching hospitals in Dublin, Cork, and Galway. The work of the committees will continue until the drug becomes available through the ordinary commercial channels.

Dietary Standards

The Minister for Local Government and Public Health has asked the Council's co-operation in connexion with a proposal to establish dietary standards suitable to the Irish population, both rural and urban. Certain suggestions have been made to the Minister, and it is hoped that the proposed scheme will be working during the present year. An investigation into the typhoid carrier condition, again at the request of the Minister, has been started. Under a special grant from the Eire Parliament two workers have been appointed to carry out an investigation into the chemotherapy of tuberculosis. The question of the incidence of rickets in Dublin has also been investigated, and nearly 400 cases taken at random from out-patient departments have been examined clinically. The maximum incidence was found in the age group under 1 year, whereas in a similar investigation in the spring of 1943 the maximum came in the group 1½–2 years. There was no evidence of any appreciable improvement in the intake of milk and vitamin D. A high plasma phosphatase was taken as justification for classifying the case as one of rickets.

The Council expended during the year £7,900 on grants

Correspondence

Neurologist and Neurosurgeon

SIR,—In your sympathetic editorial (*Journal*, Sept. 1, p. 292) upon the report of the Royal College of Physicians' Neurological Committee you observe that the report has not attempted to grasp the nettle of the future relationships of neurology to neurosurgery. It is true that it does not make any proposals in this regard, and it is true also that some will have to be made and agreed if a soundly integrated body of neurological medicine is to emerge in the future.

The problem that confronts us is that of harmonizing the roles of physician and surgeon in the field of neurology, and a clue to its rational solution is given in your remark that the neurologist is "a judge who sums up and advises as to the nature, origins, outcome of an illness, and the disposal of a sick person, and *he is not the purveyor of a particular line of treatment.*" (Italics ours.)

If we are to take this view of the neurologist's functions—and it is impossible to suppose that any less comprehensive view is practicable—certain consequences follow of necessity. The neurologist must be so trained that he is competent to act over the whole field of neurological illness, and, what is not less essential, over the entire range of clinical material that may be referred to him—even though erroneously—as neurological. For no neurologist of experience will dispute that an appreciable proportion of the cases that come under his observation are not neurological in nature, but include many and diverse illnesses, somatic and psychological. He has therefore to be vigilant and reasonably competent over the whole field of medicine if he is to be expert within his own. He has diagnostically to handle neurology and whatever his colleagues may believe to be neurological, whether in fact it is so or not.

If this be a fair and reasonable statement of his position, it is clear that to exclude from his purview all clinical neurological material which investigation may ultimately show to call for surgical intervention is arbitrarily to mutilate his proper field of experience, and to do so upon no scientific basis nor in accord with any nosological categories. Such a mutilation must cripple his competence both as diagnostician and as teacher, and have unfavourable consequences for those who seek his advice as patients. Therefore the preservation of a coherent and complete field of experience is essential, and a condition of his competence within any part of that field.

How does the position of the neurosurgeon compare with that of the neurologist in these respects? Of its nature his is primarily and predominantly a therapeutic specialty, and that this is so is implicit in his training, for he passes directly from the general surgical to the neurosurgical clinic in all but the rarest instances—instances too few to invalidate the statement. He does not undertake a general neurological training, and whatever he may chance to see of what we may call non-surgical clinical neurology comprises no more than those cases that come into a neurosurgical clinic because someone outside it—in error or in doubt—happens to think them in need of surgical intervention.

The dominance of therapeutic thinking is also reflected in the routine to which these cases are commonly subjected once they enter the neurosurgical clinic. The bulk of the neurosurgeon's non-traumatic cases is made up of space-occupying lesions of one kind or another, and the great ingenuity and skill of the modern neurosurgeon have provided him with a range of diagnostic methods peculiarly his own for the recognition—or exclusion—of such lesions. These are ventriculography, encephalography, and arteriography, which are indeed amongst the major achievements of modern neurological diagnosis within their proper field. It is therefore not surprising that they should come to constitute the neurosurgeon's diagnostic weapons of choice.

The neurologist, faced by a new case, instinctively asks himself, "What is the matter with this patient?" and he is prepared to find the answer anywhere within the field of medicine. Whereas the neurosurgeon instinctively asks, "Has this patient a space-occupying lesion, and where is it?" It can scarcely be maintained that this is an ideal approach, for it carries a tacit assumption which it is neither safe nor reasonable to make as a routine. That upon occasion it has its striking triumphs few would deny, but it remains a method in which far too wide a margin of diagnostic error or failure is implicit—a margin far wider than that of the individual variations in diagnostic acumen possessed by different individuals, be they physicians or surgeons. It leads also, no less inevitably, to the undue use of the particular surgical techniques enumerated and, when these fail to yield relevant information, too often to a negative diagnosis, and to the ultimate handing over of the patient to the neurologist, to whom in such cases—if we are to be perfectly frank—it would have been better to refer him in the first instance.

All this is not to depreciate the importance of the neurosurgeon in the field of neurology. It is simply to indicate that his role is different from that of the physician; and that this point of view is not all pure hypothesis will be evident to whoever may have read Cushing's final analysis of his experience with brain tumours (*Intracranial Tumours*, Baltimore, 1932). In this we learn that some 2,000 histologically verified cases of tumour were admitted to his clinics over a given period of years, and that in addition there were also admitted 1,030 cases of "tumour suspect," and a third category of histologically unverified tumours the precise nature of which is not clear. The "tumour suspects" were comprised by cases of cerebral vascular disease, disseminated sclerosis, cerebral syphilis, encephalitis and its sequels, convulsive states, aneurysms, arachnoiditis, and psychoneuroses. Of this total of 1,030 not less than a quarter were subjected to craniotomy, with an operative mortality of 15%. It is probable that a proportion of the "unverified tumours" were of this order also.

In the event, then, it seems fair to say that, as we know it, neurosurgery is primarily and predominantly a therapeutic specialty, and one that calls for a wider range of diagnostic experience and methods than is generally possessed by those who follow it.

It may be argued that the remedy is to ensure for the neurosurgeon an adequate training in neurology; but, supposing for a moment that before embarking upon his operative career he were to undergo some such scheme of training as is foreshadowed in the report under consideration (and it is difficult to see how he would find time for it), his subsequent and inevitable preoccupation with surgical duties and interests would allow him scant opportunity of gaining over the wider field the clinical experience and judgment for which this training could be no more than a preparation.

Thus it would appear that, for the present, physician and surgeon have each a proper role, and each a different role, in neurology, and it would be as unreasonable for the physician to claim to be able to employ surgical techniques without due training and practice as for the surgeon to ask to be accepted as completely equipped to meet the wider range of diagnostic requirements it is the physician's prime duty to acquire.—We are, etc.,

F. M. R. WALSHE.
C. P. SYMONDS.

London, W.1.

Surgical Conditions in Medical Patients

SIR,—Dr. F. A. H. Simmonds's plea (Sept. 1, p. 299) for maintenance of collapse therapy when a surgical emergency necessitates admission to another hospital is a special case of a similar plea which should be made for every medical patient finding himself in a surgical ward.

Surgery is but a branch of therapeutics, and should assist and not interrupt medical treatment. Yet I have known pernicious anaemia, ulcerative colitis, and even diabetes sadly neglected because a fracture or other surgical condition has intervened.

Interruption of treatment upsets the physician also, and particularly if he is more interested in the life-history of patients with disease than in the immediate diseases (i.e., labels) themselves. All that happens to a patient under a physician's care should be the physician's concern, and he should certainly arrange to know about admissions of his patients to surgical wards in the same hospital. I can recall several acute "medical abdomens" rescued from laparotomy by this arrangement. Treatment, too, of some surgical complications is best carried out from the medical ward. The practice, for example, of admitting perforations to dietetic wards has much to commend it.—I am, etc.,

Chase Farm Hospital, Enfield. C. ALLAN BIRCH.

Domiciliary Midwifery and the Family Doctor

SIR,—I would like to record my appreciation and thanks to Drs. Logan and MacKenzie for their article on domiciliary midwifery (Sept. 1, p. 294). It is with increasing concern and dismay that we in country general practice have watched the mothers enter urban maternity home and hospital for their confinements. I use a gas-and-air apparatus, and the district nurse gives an injection of pethidine and some sodium amytal as the cervix is dilating. We are all happy and confident with this combination. Puerperal infection is very rare and neonatal infections are unknown in this area. Yet many of the babies born in urban institutions return with worrying pyogenic skin infections. The journals report successive series of severe and mortal epidemics of infantile diarrhoea in the newborn. I have never seen a case in the home of a confined woman.

It is my humble opinion that a G.P. is well equipped to handle the normal pregnancy, to diagnose and assess the abnormal developments, and to attend his patient's confinement, whether at home or in a near-by maternity institution. Small rural units for this purpose are essential, and this principle is already recognized in America.

The hours spent together by a doctor, the district nurse, and a woman in labour are essential bonds of experience and sympathy which give the doctor access to valuable family and personal matters so useful in assessing other illnesses in the family. It will dehumanize our profession, and retard the development of psychosomatic medicine by decades, if a cleavage occurs between family doctor and confined woman.

I hope the views expressed by Drs. Logan and MacKenzie will be strongly supported, and will help to decentralize some responsibility and skill back to the G.P. when plans for the new health service are laid down.—I am, etc.,

Grange-over-Sands. P. D. MULKERN.

SIR,—Drs. Dale Logan and Eneas MacKenzie have stated their case very clearly for the retention of the family doctor in domiciliary midwifery. From Dr. Mackenzie we could not have expected otherwise, as he has been a doughty and humorous champion in this arena for many years, and his views command respect. Certain points in their article are deserving of further comment.

The authors take the attitude that the methods of general practitioners cannot be bettered, and that no corporate or other specialist body has the right to assail us. Criticisms, as indicated in the report of the Royal College of Obstetricians and Gynaecologists, are not groundless, and we are not in such a strong position as the authors think, even in Scotland. They state that the increased hospitalization of expectant mothers is due to the housing shortage. I beg leave to doubt this, though partially true. It is due to the appalling lack of domestic help in the homes of our patients. This increases the anxiety of the patient, and constantly hampers the doctor's work where such help, in his own home also, is usually meagre and reluctant. Nor can we expect much more assistance from the present Government than we had from the last. The domestic-help problem has been nibbled at, but never yet tackled seriously, and we carry on in a hopelessly unsatisfactory way.

Again, the family doctor, having far too much to do, must needs practise some form or other of "interference," when if he had the time to wait another hour or two a natural labour would be completed without any instrumental aid. Who of us can deny that we quite often are forced to keep one eye on the clock and the other on the perineum? Prof. F. J. Browne's admirable book on ante-natal care gives valuable advice on mental preparation of the expectant mother for her confinement, and the soothing of her anxieties over a possibly difficult labour, by relaxation, etc. How often can a harassed and busy practitioner find time to carry out these wise suggestions? In an age of hectic rush and speed we must combat a similar attitude and approach to the leisurely art of obstetrics; but, being caught up in the general maelstrom, and with endless other duties thrust upon us these days, it is quite impossible for the average family doctor to do so.

Our "house" is, therefore, not in order: far from it. What is the remedy? More houses, certainly; social security; healthy surroundings; adequate home help for the patient *and* the doctor; and, above all, many more doctors, and smaller practices. With these ends achieved, the standard of domiciliary midwifery practised by the family doctor would very greatly improve, the criticisms of the highbrows would be confounded, and the proposed National Health Service, inevitable as it seems, might have much of its objectionable bureaucratic control "left in the discard."—I am, etc.,

Thurso, Caithness. D. W. D. MACLAREN.

SIR,—It is with diffidence that one comments on opinions expressed by such authorities as the authors of the article in the *Journal* of Sept. 1, but surely it is going too far to assert, as they do, that the Maternity Services (Scotland) Act has changed the whole future of maternity practice in Scotland, presumably for the better, without some qualification. True, the Act points the way to an efficient service, but the way is long and the goal not just round the corner, as seems to be suggested.

One wrong turning is in sight now. Few will disagree with the statement that "the relief of pain is of supreme importance to a large percentage of parturient women," but how many realize that this relief is being withheld from a large percentage of the women attended under the Scottish Act, which permits a practitioner to leave the conduct of the confinement in the hands of the midwife when he is of opinion that labour will be normal. Increasing advantage is being taken of this permission, and it is now doubtful whether practitioners over Scotland as a whole are present at more than 50% of these "normal" births. Do none of these women require relief from pain? Yet the boast is made that "in Scotland we hold —and we are supported by the B.M.A.—that no midwife should be allowed to administer an anaesthetic without a general practitioner being present." One wonders what the unfortunate women think about it, and what would happen if the midwives, who have the thankless task of seeing them through unaided, insisted on sending for help on every occasion an anaesthetic was demanded by the patient.

As matters stand at present there seems very little to choose between the English and Scottish schemes, and our brethren in the South may be excused if they still prefer their infant mortality figures to ours. The practitioner cannot expect to have it both ways. Either the State-registered nurse-midwife should be allowed to administer an anaesthetic or the practitioner should guarantee to be on hand for that purpose. Surely, the experienced Queen's Nurse, whose efficiency, tact, and discretion are so justly praised, is competent to undertake this comparatively safe and simple operation if given the requisite training. To refuse her services and at the same time to leave her patient to suffer unnecessarily requires some justification beyond the pontifical utterance quoted above.

As usual, the local authority is criticized; this time for thinking too much in terms of institutions and too little in terms of the mothers' own homes. On other occasions the crime is failing to provide the necessary institutions. No local authority sets up a maternity home just for fun when the cost per patient-day is likely to be in the neighbourhood of 15s. and receipts from patients microscopical. They do so because (*a*) so many homes are totally unsuitable for a confinement, and (*b*) so many women desire admission, not only for the benefit of skilled and continuous nursing but also for the blessed escape it offers for a short time from all household worries. "Just like a rest cure" was the description given by one harassed mother.

In some small towns there are small maternity homes where patients are attended by their own doctors, whose views on the home versus the homes for normal labours would be enlightening to the advocates of the latter. The specialists have already had their say, and it may not be out of place for the administrative officer under the Act—the M.O.H.—to make a small contribution. He has the advantage—or perhaps it would be more nearly correct to say the disadvantage—of seeing the whole picture and the somewhat difficult task of reconciling theory with practice. If "within recent years no new era has dawned upon hospital and specialist obstetric practice," that is equally true of domiciliary practice, apart from the improvement due to outside help in the shape of skilled midwife assistance and financial and other aids given by the State and local authorities, without which midwifery practice would have little attraction to-day for the average practitioner.

The M.O.H. is probably in a better position than most specialists to appreciate the many difficulties encountered by the family doctor, with whom he sympathizes and is usually on excellent terms. Such help as he is able to give is not entirely unappreciated, but his efforts are not made easier by the arrant nonsense and cheap gibes which have disfigured too many letters in the *Journal* during recent years. Is it not time a halt was called to this one-sided carping? It may sound clever, even amusing at times, but if persisted in can only cause resentment and disunity at a time when it is of paramount importance to forgo petty squabbling and uphold the dignity and decency of medicine in the public view. A word in season from the *Journal* is long overdue.—I am, etc.,

Roxburgh. JAMES R. ADAM.

SIR,—The article "Domiciliary Midwifery and the Family Doctor" is like a breath of moorland air in a crowded street. I agree with every word the authors say, and hope they are right in their suggestion that the "present urge for institutional treatment [for midwifery] is a passing phase." It is no exaggeration to talk of the harm done at ante-natal clinics by unduly alarming patients about the dangers of confinement.

I heartily endorse all they say about Queen's Nurses, especially as regards the outstanding feature of their service being co-operation between doctor and nurse. The tendency for midwives to conduct a confinement on their own, and even to give anaesthetics, breaks this co-operation and is a retrograde step.

There is a question I would like to ask with respect to institutional midwifery. Is the method of preventing mixing of babies absolutely fool-proof? In other words, when the mother leaves the maternity block is she absolutely certain she has got her own baby?—I am, etc.,

Austwick, Lancaster. T. LOVETT.

Acute Inversion of the Uterus

SIR,—I believe that there can be no doubt that Dr. Vincent O'Sullivan (Sept. 1, p. 282) has discovered, and used with striking success, a new method of reducing the recently inverted uterus, and that it is a simple method likely to be of great value. As long ago as 1858 Dr. Tyler Smith introduced the plan of exerting on the inverted uterus "gentle and long-sustained" pressure by distending with water a rubber balloon placed in the vagina. With Dr. O'Sullivan's method the distended vagina would assuredly exercise pressure on the uterine surface more diffusely and presumably more effectively than would a rubber ball. Again the amount of pressure so exerted would definitely exceed that attained by the ordinary method of vaginal douching, which in itself had been associated, by those of us who have had cases of "spontaneous" reposition, with the vaginal douching prescribed as a cleansing measure in preparation for manual or instrumental pressure. Dr. Herbert Spencer (*Obstet. Trans.*, 1905, p. 227), in the discussion on a case of spontaneous reposition reported by Dr. Robert Boxall, agreed with the view that "possibly the gentle pressure of the stream of water had caused it." It would appear, therefore, that someone should have devised the method which Dr. O'Sullivan was astute enough to spot when it occurred fortuitously. In view of the rarity of this dangerous complication of parturition, he is fully justified in reporting an experience based on two cases only, in order that the method may be tested further by others as soon as possible.

It is vitally important to note and remember that he lays stress on the obligation of delaying the use of even this gentle measure until "shock is controlled." Finally, one cannot refrain from praising the magnificent feat of conservative surgery achieved in his second case.—I am, etc.,

Laugharne. MILES H. PHILLIPS.

SIR,—I was interested in the article by Mr. J. V. O'Sullivan (Sept. 1, p. 282), since in the East from very ancient times the urgency of acute inversion of the uterus has been recognized and countered by the postural method of immediate suspension of a patient in the almost vertical position by securing the feet to a pole (usually a bamboo), or by placing the patient, head downwards, on an acutely inclined plane made of rough-hewn logs. Thirty-five years ago I saw this method in use in the Chinese quarter of Bhamo in North-East Burma, and again later in a Bengal village. I was informed that such suspension for an hour or more was always successful, and a few years later I was able twice to demonstrate its efficiency in the labour room of the Eden Hospital, Calcutta, by just dropping the patient into the very highest Trendelenburg position and gently compressing the inverted uterus.

The proposal of Mr. O'Sullivan sounds ideal where the means exist, but maybe an occasion will arise in general practice where the tried wisdom of the East can be applied—that is, the use of a double clove hitch round the ankles attached to the bottom of a bed which is almost stood on end—a position that allows warmth, postural replacement, morphine, and rectal saline.—I am, etc.,

London, W.1. V. B. GREEN-ARMYTAGE.

SIR,—I read with interest the article by Mr. J. V. O'Sullivan; his method of treatment should help materially to reduce the high mortality of this rare condition. But it seems to me that in teaching the treatment of acute inversion far more emphasis should be placed on the *immediate* reinversion of the uterus *whatever* the condition of the patient. As Mr. O'Sullivan states in his record of Case I, on reinversion of the uterus "the signs of shock rapidly disappeared." To support the argument it may be of interest to mention three cases which I have had the unusual experience of seeing.

The first occurred after a normal pregnancy and first and second stages of labour. There was some delay in the delivery of the placenta, and Credé's expression was attempted without success. It was then noticed that the patient was becoming very restless and distressed, and she was returned to bed. I saw her about half an hour after the onset of the collapse, and we found she had then a complete inversion of the uterus, with the placenta attached to the fundus. She was profoundly shocked, but an immediate attempt was made at reinversion. The placenta was stripped off without difficulty, and it was found quite easy to replace the uterus following steady pressure with the finger-tips. No anaesthetic was given. The immediate improvement in the patient's condition was remarkable. No other treatment was given, and she made an uninterrupted recovery.

The second patient was admitted with a complete inversion some two hours after the condition developed; and in extreme shock. An attempt at reinversion was not successful (probably with Mr. O'Sullivan's method it could have been done quite easily), and she was desperately ill for three or four days, eventually reacting to the antishock measures adopted. The uterus gradually involuted, and eventually reinverted spontaneously some two months later while the patient was still in hospital.

The third patient was also admitted about two hours after collapsing, and she was moribund on admission. The uterus was completely inverted, with the placenta attached to the fundus. In view of her moribund condition an attempt was made to treat the shock first, but she was dead within a quarter of an hour of admission.

Surely the treatment of any case of shock is to treat the cause first if this is known. Mr. O'Sullivan recommends immediate replacement "before shock develops"; but will it not usually be found that shock appears at the same time as the inversion develops, due presumably to traction on the sympathetic system, and so cases are unlikely to be seen in which primary shock is not already present? As he states in his article, the degree of shock is "out of all proportion to the amount of blood lost."

It seems likely that, if this simple method were used as the first treatment to combat the shock, few other measures would be required.—I am, etc.,

Rothley, Leicester. A. M. FERENS BATTY.

Removal of the Wrong Eye

SIR,—Dr. H. M. Traquair (Sept. 1, p. 300) writes to inquire whether the removal of the wrong eye is to be regarded as a "hypothetical possibility rather than as an actual fact," and goes on to say that he has never heard of a case. I have personal knowledge of one such case, for I knew the surgeon well and the hospital where it occurred, and, indeed, all the subsequent story of the bitter remorse of the surgeon and the efforts taken to alleviate, so far as possible, the terrible blow to the unfortunate patient, who was totally blinded.

The possibility of such an accident is always present when there is no external evidence of disease in the affected eye such as may be the case in an intraocular tumour. I always practised and always taught students to practise, as a routine measure, the simple expedient of plainly marking the brow above the eye to be excised before the anaesthetic was started.

I know of another case, though I had no personal acquaintance with it, where the surgeon had just started to remove the wrong eye, but was stopped before any serious harm had occurred, by his assistant, who expressed a doubt on the matter. A hasty reference to the notes showed that the assistant was right, and a stitch or two in the conjunctiva, which I assume required a little explanation, sufficed to avert a major tragedy.

Dr. Traquair finds it difficult to imagine that a tragedy of this nature could occur without its being recorded in print; but surely it is scarcely a matter for surprise. The surgeon would obviously refrain from advertising his carelessness in the medical press, and most assuredly would adopt every means in his power to prevent the case appearing in a public court.—I am, etc.,

London, W.1. ARNOLD LAWSON.

Penicillin: Need for Control

SIR,—Supplies of penicillin will soon be available in unlimited quantities, and I feel it is timely to ask as a venereologist if the dangers of the uncontrolled issue of this preparation have been considered. The salutary lessons of the "just a couple of tablets" cure of gonorrhoea during the days of the sulpha series seem to have been forgotten in our new enthusiasm for the "just a couple of injections" in the present penicillin era, if one can judge not only from the reports in the non-medical press but also, unfortunately, from the large number of uncritical reports published in our own journals. Let it be remembered that now syphilis is included, and "cure" is being claimed long before any real assessment of cure is possible. Let me therefore stress the following points.

1. While penicillin undoubtedly kills the gonococcus and *Sp. pallida*, the *diseases* caused by these organisms in the human body bring about vast pathological and humoral changes which of necessity introduce factors which interfere with the lethal properties of the preparation.

2. Dosage is at present empirical, and failures are admitted even by the most enthusiastic. It is interesting if one compares the percentage cure rate in gonorrhoea claimed in the early days of sulphonamides with those now claimed for penicillin.

3. It follows from 1 and 2 that patient evaluation of results over many years, paying more attention to our failures than presenting glowing percentage cure tables, is necessary if we are to disseminate real knowledge and counteract in the lay mind the pernicious effects of articles on "wonder drugs" in the non-medical press.

4. Venereal disease by its very nature tends to become the happy hunting-ground for uncontrolled therapists if an added element of secrecy is thereby obtained. Can we imagine the chaos with the arrival of "tabs. penicillin"?

5. Unlike the sulpha drugs and arsenic, penicillin being non-toxic can be used with impunity.

Enough has been said to indicate the necessity of pressing for control now before penicillin supplies are released, and I leave it to others to point out the dangers that will certainly follow the improper use of penicillin in other specialties. Finally, this letter is not written to belittle in any way the remarkable properties of penicillin or the hope that it gives for the future treatment of venereal disease.—I am, etc.,

Streatham, S.W.16. F. L. LYDON.

Posture during Acute Rheumatic Fever

SIR,—Many textbooks on medical treatment declare that during the acute stage of rheumatic fever with cardiac involvement the patient is best nursed lying in bed without pillows, and that these should only be gradually added when there are signs of improvement. This method, however, seems to me to be a mistake, and even to embarrass the heart in the very way it tries hopefully but incorrectly to avoid.

We all know that a patient with cardiac failure will adopt the sitting posture in preference to lying down, before signs of dependent oedema or ascites have yet developed. Experimentally, this subjective feeling of orthopnoea has been shown to have partly a haemodynamic explanation, and many workers (e.g., "Cardiac Output in Man by a Direct Fick Method," John McMichael and E. P. Sharpey-Schafer, *Britsh Heart Journal*, 1944, **6**, No. 1, p. 34) give figures showing that the cardiac output may be increased by as much as 33% in changing from the erect to the supine position. Therefore in grave cases of cardiac distress it would be much more appropriate to nurse the patient sitting up in bed, in order to give the heart the least possible burden, rather than lie him down, increase the heart's work, and so harass it.

I would like humbly to suggest that the time-honoured, though unfortunately inaccurate, method of nursing these patients without pillows be reconsidered and a more rational approach made to a small but nevertheless significant measure in the therapy of a widespread and distressing malady.—I am, etc.,

Hampstead, N.W.6. LEON RADCLYFFE.

Poisoning by Accidental Drinking of Trichlorethylene

SIR,—Two cases of poisoning by accidental swallowing of trichlorethylene were described in your pages on Aug. 18. May I add a record of another case in which the quantity swallowed (1/2 oz.) was the same, but the effects less severe. Perhaps this was owing to delayed absorption by the stomach, the poison having been taken at 10.15 a.m., immediately after a large breakfast, on April 15, 1945. I saw Miss X, aged 15, an hour later. Her relations had tried, but failed, to make her vomit. I washed out her stomach, and she aided in this manœuvre by vomiting copiously. She was then complaining of dizziness, and numbness of hands and feet. The knee-jerks and biceps-jerks were equal and normal, but she could not hold anything firmly. At 11.30 a.m. she complained she could not hear very well; and at this time she also had incontinence of faeces and began to cry for her mother. She did not lose consciousness, but appeared dazed. She had complete amnesia of the interval 11.30 a.m to 2 p.m. on that day. During the next 24 hours her appetite was poor, but after that she was perfectly fit. A blood count taken on April 18 showed no abnormality.—I am, etc.,

NORA NAISH.

Pasteurization of Milk

SIR,—It would seem from a perusal of the recent correspondence on this subject that most members of our profession still regard good health as being due to the absence of pathogenic bacteria, and all the evidence, both recent and remote, that good health is due to a way of life is ignored. That vigorous health can usually be obtained by following certain simple natural laws is forgotten by all but a notable few. Such things as cleanliness, or the quality of the animals we eat or which provide us with milk, are matters that only cranks bother about. And so we have the present situation in which the general public is told that, although part of its diet consists of sewage, it does not matter in the least so long as that sewage is pasteurized!

In fact, as the guardians of the people's health, we are now advocating the spending of millions of pounds on apparatus for this purpose of sterilization. "Then," we say in effect, "you may eat any filth you like, whether the produce of a cesspool or the fluids which have come from the disease-ridden body of a tuberculous cow, and provided you pasteurize it first it will keep you in health and supply you with the food you need! The fact that it is brimful of waste and toxic materials and contains billions of dead disease germs does not really matter, for it has been put through a special magical process that turns the foulest refuse into excellent food, and in these days of shortage what could be more commendable? "

Since the conditions of milk production in this country are so deplorable it will no doubt be necessary, *as a purely emergency measure*, to institute widespread pasteurization. But in so doing let us make it abundantly clear, with the utmost publicity, that such pasteurization is a temporary procedure, until such time as we improve the quality of our milk production and remove the ignorance of many of those who handle it. If the emphasis is put on pasteurization, as at present, we shall only succeed in further debasing our food supply, whereas a campaign aimed at the enforcement of scrupulous cleanliness and an insistence on giving our cattle the same care and hygienic treatment we give our racehorses would result in a healthy milk supply, free from disease and of high food value.—I am, etc.,

Slough. H. TUDOR EDMUNDS.

Why "Hyperbaric" and "Hypobaric"?

SIR,—To the unlearned these unnecessary words with opposite meanings are dangerously similar: if they have been coined in order to display their inventor's erudition he should consult the friend (or enemy) of his schooldays, "Liddell and Scott," which translates ὑπερ-βᾰρής as "overloaded; overweighed; exceedingly heavy," and ignores the possible existence of such a word as ὑπο-βᾰρής. In the interests of accuracy and of our patients' lives let us stick to "heavy" and "light," at any rate when talking of spinal anaesthetics.—I am, etc.,

H. WILLIAMSON,
Lieut.-Col., I.M.S.
The Viceroy's House, New Delhi.

Press Publicity

SIR,—Having been the subject this week-end of much unwanted and unexpected publicity may I say a few words on the particular circumstances. As I have the honour to serve on the Journal Committee it is perhaps only right that I should also add something on medical publicity in general, to let my constituents know my attitude on the matter.

First of all I should naturally have preferred to avoid all interviews, etc., but when the first reporter, on my asking why he wished to see me, said that I must know that I was the first doctor in this country to put in print that he practised euthanasia, it was obviously necessary for me to try to make him understand the difference between that and giving a dose of morphine to a person apparently dying from coronary thrombosis, even though I thought it unlikely that he would wake up again. This I found no easy job, and the few remarks made in the Press about coronary thrombosis show that I succeeded very poorly.

One difficulty about living in a house where my family have practised medicine for nearly a century is that I myself can have few personal secrets. Similarly, in a small town where intermarriage is common it is practically impossible to hide the identity of any patient about whom one may write if people are really anxious to identify him—which was never anticipated when I wrote my paper. My patient was, however, quite willing for me to mention his case if it would, as he said, save anyone a minute of the agony he had endured till the intravenous morphine cut it short.

It seems that great numbers of readers are interested in names and other personal details, and this leads to perhaps the most objectionable side of newspaper reporting, especially from the medical point of view. The subjects discussed in my paper were of the highest possible medical, human, and social importance, and I tried to treat some of the problems connected with approaching death simply and scientifically, and yet also as a man, a citizen, and often a friend. There is vast scope for much fuller and more authoritative treatment of the matter, but if every effort is to be the subject of general publicity, and if the more striking occurrences, which every doctor must meet and which so often point the way to unsolved problems, are to be sensationalized in the way some reporters seem to wish, the efforts will be few and progress slow—to the inevitable loss and suffering of the public.

When once an article has been published it is open to any newspaper to make whatever use it wishes of its contents so long as comment is reasonable and fair and does not amount to wholesale plagiarism. Personally I welcome any effort by the general press to stimulate interest in medical matters among their readers, but, as certain extracts from my paper showed, it is only too easy to take sentences out of their setting and so give a distorted or sensational view of what has been written. It seemed to me that reporters have a leaning in this direction which is not, on the whole, shared by their editorial staffs; indeed the last telephone call of the day—at 1.5 a.m.—was from an editor who wished to confirm that what had been written would not offend any ethical rules or be likely to cause me annoyance. In the end he left it all out, and so did several other papers that were contemplating some references to my article.

It is perhaps a curious commentary on public taste that, though various papers gave different excerpts from my article, none of them made allusion to what was perhaps the most dramatic as well as the most scientifically based section of all—the use of cardiazol ephedrine in asphyxia neonatorum. Apparently the public is more interested in the tragedy of death than in the more wonderful drama of birth, just as efforts at destruction in war have hitherto greatly exceeded efforts to establish peace.

I have not seen all the newspaper references, and there have been things which I regret; but looking back I cannot but be struck by the amazing pertinacity of the pressmen to get what they want—however little some of their methods may commend themselves—and also by the genuine effort of all the editorial staffs with which I came into contact to do the right thing by the doctors, while, of course, also giving their readers what they think they would like. Where there is such a feeling of good will I feel sure that doctors should realize it and try to develop it, not for personal or professional ends, but to help educate the public in some of the facts of health and medical practice: its needs, its achievements, and its opportunities; its weaknesses and shortcomings; for it is only by cultivating public opinion that Government intervention can be prevented from specious and hasty policies and guided into fruitful channels and wise legislation.—I am, etc.,

Winsford. W. N. LEAK.

Doctors and the Social Trend

SIR,—May I through you acknowledge the unanimous support of those who kindly wrote to me on the subject of my letter which appeared under the above heading on Aug. 18. Judging by the letters printed in the issue for Sept. 1, the others appear to have written to you, Sir.

Contrary to the opening statement in Dr. W. B. Pemberton's letter, many believe we went to war to *preserve* social trends and to overthrow all power exerted against the right of peoples to evolve their institutions by means of freely elected representatives. It is absurd that Dr. Pemberton's most ignorant uncertified patient should have as much say in the determination of our future institutions as his doctor, but, for all that, I remain a democrat in company with the majority. Also, in spite of Dr. Kate Harrower's remarks one cannot fly even Conservative "colours" in the face of a good democracy. She will note that the reason Mr. Churchill "has not been swept very far aside" is because he, in a statesmanlike manner, has abandoned the tone of his electioneering and made it clear that he does not regard the function of H.M. Opposition as obstructionist or necessarily uncooperative. His example might appeal to some people who find themselves in opposition to the Government outside the House.

While Dr. Pemberton is accusing me of defeatism for failing to emulate the miners and dockers (General Strike, 1926?) Dr. Norman P. Henderson on the opposite page expresses the opinion that "doctors have never desired to oppose the wishes of the public." But all this unpractical talk about our "unassailable position" and united opposition to "dictation" clearly threatens opposition to the wishes of the public. It is as reminiscent of an aboriginal war dance as any "example" we have had from "Australia and New Zealand." It may be "heartening" to a few warriors, but it is the despair of those who hope to retain public sympathy.

Dr. Henderson states that the Government *will* "demand a full-time salaried service," and at the same time thinks it "unfortunate" that I should have so far assumed "the rôle of a prophet" as to venture the suggestion that we *may* now have to face such a service. After all, as he says, "most of us are aware of the Labour Party's proposals for a National Service for Health." The point is, Are we going to consider any such proposals from the accredited representatives of the people in the dual role of public servants and expert advisers, or are we already challenging the Government as the unrelenting champions of minority interests? It would seem advisable to announce a broadly co-operative attitude at once, and reserve any opposition for matters of detail later. We are not sufficiently united or strong to stage a retrial of the broad issues which were settled at the General Election. As I pointed out, we could not hope to succeed where Mr. Churchill failed. Whereas the Government might go far to meet us over important details in return for our good offices, its continuance or fall depends, as Dr. Henderson intimates, on its ability to prove that it has promised "something it was sure it could carry out." What people like Dr. Pemberton propose is practically mob law. They wish to oppose the Government to a greater extent than is open to their representatives in the House of Commons. That sort of opposition would indeed invite comparison of doctors with the very worst elements among the miners and dockers.

It is to be hoped that before long we shall have a really statesmanlike pronouncement from the B.M.A. parallel to Mr. Churchill's declaration of opposition policy in Parliament. In the meantime may I once more counsel a larger view of the profession's position in this democratic island and beg that it shall not be compromised further by obstructionist activities.—I am, etc.,

Eye, Suffolk. J. SHACKLETON BAILEY.

SIR,—Dr. Norman P. Henderson writes (Sept. 1, p. 302): "In the event of the full-time [medical] service failing (as it has to a large measure in Russia) . . ." It would be interesting to know on what grounds he bases the statement in parenthesis. All I have read of the socialized medical services in the Soviet Union, in both Russian and English, written by both Soviet and British doctors, suggests that the Soviet health services have been very successful, and, in particular, have tremendous accomplishments to their credit during the war years, which would hardly have been possible with any other form of organization. All the articles which have appeared in the *Journal* confirm this, and do not in the least bear out Dr. Henderson's statement.—I am, etc.,

Nelson, Lancs. T. D. CULBERT.

Ludwig's Angina

SIR,—Mr. Hamilton Bailey (March 17, p. 384) criticizes an article on Ludwig's angina (March 3, p. 295) by Majors John Farr and E. D. Stanhope in which they advocate endotracheal anaesthesia. I suggested this method to them, although I was not associated with them for the series discussed in their article.

The answer to Mr. Hamilton Bailey's theoretical objections is that the tube *does* go in! It is not necessary to have the patient deeply anaesthetized before a tube can be passed beyond the vocal cords. It can be passed under nitrous-oxide-oxygen anaesthesia. No anaesthetist, however experienced, would claim to intubate by the blind method in 100% of cases. I will, however, admit the theoretical point (and time will tell if it is also a practical one) that it may not always be possible to intubate under vision in these cases; but surely that is no reason for avoiding any *attempt* at this method of anaesthesia, since—to quote Mr. Hamilton Bailey—"Obviously, if the larynx is intubated the principal danger of the condition and the anxieties connected with the anaesthetic fade into insignificance."

One cannot estimate the degree of oedema of the larynx without looking at it, but I am under the impression that most of the obstruction in Ludwig's angina comes from the swelling of the tongue and floor of the mouth. No obstruction has been felt as the tube passes into the larynx, and no difficulties from laryngeal obstruction have been noticed on removing the tube at the end of the operation. The following procedure has proved satisfactory in a small series of cases.

In accordance with Hewer's dictum that *any* patient is improved by the inhalation of oxygen, the face-piece of the Boyle machine is applied and oxygen given. Gradually nitrous oxide is added until automatic respirations are established, and, if the condition of the patient requires and warrants it, a little trilene. The Magill tube is then passed by the blind method, and anaesthesia and the operation continued at leisure. A tracheotomy set is always at hand, as stressed by Major Farr.

I have not had to use a laryngoscope in any of these cases, but it was envisaged that, should intubation fail, the surgeon would have to be prepared to do the operation immediately under gas-and-oxygen anaesthesia. Finally, intravenous anaesthesia is contraindicated in all cases of respiratory obstruction, whether the mouth can be opened or not.—I am, etc.,

J. H. WEST,
Major, R.A.M.C.
East African Command.

Means for Keeping up the Population

SIR,—Much has been said and written recently on the subject of the prospective decline in our population. May I put forward the following outline of a scheme for dealing with the problem.

1. Set up crèches in every district, where mothers may, for a reasonable fee, leave their young children in the afternoon. This would enable the mother to enjoy some recreation, which would broaden her outlook, thereby making her a better parent. It would also enable the expectant and nursing mother to have that "rest in the afternoon" which at the present day is usually merely a textbook phrase.

2. Provide "domestic helps," adequately trained and paid by the State, for a certain number of hours each day from two weeks before till three weeks after confinement in a normal case—more where special conditions demand it. This care of the mother in the puerperium would also result in a vast reduction in the number of gynaecological cases which fill our hospital beds and (I may add) lower the efficiency of the patient as a mother.

3. Let us tackle the question of septic abortion. If the figures of the mortality due to this condition could be assessed I feel sure they would be comparable with the maternal mortality from all other causes combined. Moreover, for every fatal case there are many more women rendered chronic invalids (and sterile) for life. The majority of these septic abortions are not performed by professional abortionists on unmarried women or women with husbands in Burma; they are effected by the women themselves—married women with husbands at home. The risks they run must be brought home to them by some form of publicity similar, if modified, to the V.D. campaign now in progress. Thus the lives and health of thousands of women in the prime of life may be saved.—I am, etc.,

Rotherham. ANNE M. TOMS.

Taking the Waters

SIR,—The therapeutic value of spring or spa water was originally on account of its powers of rejuvenation, and the sanctity of the holy wells in this country probably goes back to the days of the megalithic civilization of some two thousand years B.C., which derived its ideas from Egypt or Sumer via Crete and the Iberian peninsula. The alleged healing wells were not discovered by the medical profession but by the pilgrims who thronged them as places of sanctity, which thus attracted the doctors. Harrogate waters, for example, were not discovered in the 16th century; the original patron saint was possibly the Egyptian Horus the Child—according to the views of the late Dr. Rendel Harris and others—in his capacity as the deity of rejuvenescence. Later he was supplanted by St. Mungo (with St. Robert), who, as a "twin," possessed the powers of his predecessor, as do all Dioscuri or Heavenly Twins.

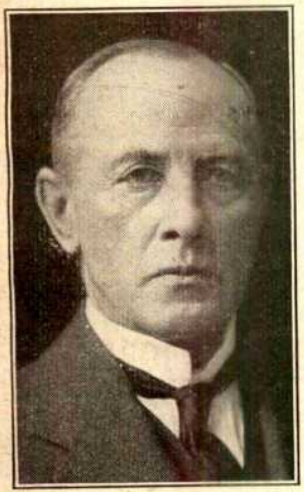
The holy well is generally the fountain of eternal youth, whose popularity has now been supplanted by the glands of the monkey. Prof. Stanley Davidson's report on the negative value of spa waters—the subject of an annotation in the *Journal* of Aug. 25 (p. 259)—instances how long religious superstition can remain in the minds of so-called educated men and women. It is said that the Phoenix rejuvenated himself not only in the fount of youth but also by fire. Possibly he was also aware of the doubtful value of sacred spa water and utilized an alternative and more reliable method.—I am, etc.,

Bournemouth. LOWELL WEBB.

Obituary

J. T. WILSON, LL.D., M.B., F.R.S.

We regret to announce the death on Sept. 2 of Emeritus Professor J. T. Wilson, the distinguished anatomist who held the Challis chair of anatomy in the University of Sydney for 30 years and the chair of anatomy at Cambridge for 14 years, and was president of the Anatomical Society of Great Britain and Ireland in 1924–5. He was looked up to with affection and regard by generations of pupils and younger colleagues in this country and in Australia.



James Thomas Wilson, son of Thomas Wilson, was born at Moniaive, Dumfriesshire, on April 14, 1861, and studied natural science and medicine at the University of Edinburgh, where he, like many others, came under the powerful influence of Sir William Turner, the professor of anatomy, who was quick to recognize and encourage men of promise. Wilson graduated M.B., C.M. in 1883, and after a house-surgeoncy at the Edinburgh Royal Infirmary served for a year as demonstrator of anatomy in the university. In 1887 he left for Australia to become demonstrator of anatomy in the newly established medical school of the University of Sydney, and in 1890 was elected to the professorship of anatomy created in that year. Thenceforward until 1920 Wilson built up and consolidated the Sydney school of anatomy and made great contributions to knowledge. His work in the comparative anatomy of Australian fauna and in embryology was recognized by his election as F.R.S. in 1909, and the University of Edinburgh conferred on him its honorary LL.D. Public duties also claimed his time and energy; he was given command of the Australian Intelligence Corps before 1914, and on the outbreak of war undertook the organization of the censorship in New South Wales. In 1920 he returned to Britain on accepting the chair of anatomy in the University of Cambridge, where he was elected a Fellow of St. John's College and received the M.A. degree *honoris causa*. For the next 17 years he represented the Australian universities on the executive council of the Universities Bureau of the British Empire. His 14 years as head of the anatomy department at Cambridge were happy and fruitful. On his retirement from the chair at the age of 73 he was made professor emeritus and continued to live in Cambridge, where he delighted to welcome visiting scientists and medical men from Australia.

Prof. Wilson was a member of the Council of the Royal Society in 1921–3, and an honorary member and past-president of the Linnean Society of New South Wales. He was also an honorary member of the Royal Society of New South Wales and an honorary Fellow of the Royal Society of South Australia. He joined the British Medical Association in 1894, and held office as vice-president of the Section of Anatomy at the Annual Meeting in Glasgow in 1922. He was president of the Cambridge Philosophical Society in 1924–6.

* * *

Dr. James Powell, of Sennybridge, Breconshire, who died on Aug. 2, was born at Danygraig, Aberdare, and was educated at Monkton House, Cardiff, and Christ College, Brecon. He received his medical training at Cardiff Medical School and at St. Mary's Hospital, London, qualifying M.R.C.S., L.R.C.P. in 1911, and later taking the D.P.H. of Oxford. Dr. Powell first practised at Clydach Vale, and later was assistant M.O.H. at Aberdare; from 1919 he carried on an extensive practice at Sennybridge. He joined the B.M.A. in 1912, and was a member of the Local Medical War Committee and the Breconshire Insurance Committee. He was medical officer of the Sennybridge St. John Ambulance Brigade and Nursing and Cadet Division.

Dr. W. S. Tresawna died on Aug. 21 at his home in Abergavenny, where he had practised (save for the war years 1914–18) since he joined the late Dr. Gamble in partnership 36 years ago. His death robs the district not merely of a highly efficient practitioner and senior M.O. to the Royal Victoria Hospital, but of a colourful personality and of a very popular all-round sportsman. William Samson Tresawna was born 66 years ago in Cornwall, and was educated at Probus and at Sidney Sussex College, Cambridge. He went to St. George's Hospital, London, for his clinical work, and qualified as M.R.C.S., L.R.C.P. in 1905, proceeding to the M.B., B.Ch. at Cambridge in 1907, after holding the usual resident appointments at St. George's. He was a really good cricketer, though handicapped by myopia—but for which, his friends believed, he must surely have got his Blue. He played many fine innings for the Cornwall County eleven, of which his elder brother was for some years the captain, and had the knack of turning out for an occasional game, wholly short of practice, and gathering a century in glittering style; he was also a fine fielder. In addition, he was a good golfer and a keen rider to hounds. He was for a long time a battalion medical officer in the 1914–18 war, and was mentioned in dispatches. A true Cornishman by descent, his handsome hawklike mobile features, always alive with fun and humour, his wavy black hair and dark complexion, all made it easy in his student days to believe the currently accepted view that a strong Phoenician strain tinges the blood of the old Cornish families. Dr. Tresawna married Vera, third daughter of the late Dr. Charles Tuke (one of the three brothers who carried on the very well known private mental hospital at Chiswick House). She survives him with four daughters and one son, Lieut.-Col. R. Tresawna, D.S.O., of the D.C.L.I.

Dr. Arthur Walker, who died on Aug. 22 at the age of 73 years, is widely mourned in Weston-super-Mare musical circles, in which he was well known and appreciated as honorary secretary of the orchestral section of the Music Club and as a 'cellist with the Red Triangle Orchestra. From the Manchester Medical School he qualified M.R.C.S., L.R.C.P. in 1894, and after house posts, service as ship surgeon, and other appointments he settled in general practice at Glossop in 1898. Having later developed a keen interest in ophthalmology and acted as school oculist to the Glossop Education Committee, he successfully applied in 1923 for the position of county oculist for Somerset, and he came south to reside in Weston-super-Mare. It was a most happy appointment for the Somerset school-children. He was a family man, and thorough and self-sacrificing in all his duties. In his private practice he was so much the beloved physician that more than 20 years after leaving Glossop many of his old patients kept up their grateful friendship with him.

Dr. Arthur Hamilton Lowe, who died in retirement at Southbourne, Hants, on Aug. 29, had been for ten years county medical officer and tuberculosis officer for Kesteven, Lincs. The second son of G. M. Lowe, M.D., he was born at Lincoln on Sept. 13, 1869, and from Lincoln Grammar School went to study medicine at the University of Edinburgh. He graduated M.B., C.M.Ed. in 1893 and took the Dublin D.P.H. in 1911. Before entering the public health service Dr. Lowe had served as senior house-surgeon at the West Ham Hospital and resident medical officer at the Newark Hospital. During the war of 1914–18 he held a commission as temporary captain, R.A.M.C. He was chairman of the Kesteven Division of the B.M.A. in 1934–5.

A correspondent writes: The numerous friends of Surg. Cmdr. John Davies will have heard of his recent death with a deep sense of personal loss. At the outbreak of the war he immediately volunteered for active service, and obtained a temporary commission in the R.N.V.R. He was soon employed on neuropsychiatric duties, for which he proved to be particularly gifted, and subsequently served as a neuropsychiatric specialist in naval hospitals both in this country and in Egypt. "Jackie" Davies was a doctor of quite outstanding capacity, well able to hold his own with any medical specialist. Consequently, throughout his Service career his opinion was repeatedly sought in general medical as well as in neuropsychiatric cases, and this involved a great deal of extra work; but he always appeared to be eager and willing to help and never complained. His small, slight physique, thick grey hair turning white, and pleasant Welsh voice made him a memorable figure. He was an admirable messmate, and invariably equable, active, and cheerful. Few men can have worked harder during the war, been more popular, or have done a better job. And when, in the spring of this year, he learnt that he was suffering from malignant hypertension, he faced the news with great courage, and so continued to the end, greatly fortified by his brave and devoted wife.

Dr. **H. Douglas Smart**, who died on Aug. 29 at Barnham, Sussex, was school oculist to the West Sussex County Council, honorary ophthalmic surgeon to the Victoria Hospital, Romford, the Forest Hospital, Buckhurst Hill, and the Jubilee Hospital, Woodford, and also oculist to the Ilford Borough Council Education Committee. Born in Bermondsey on July 14, 1880, son of Dr. David Smart, he was educated at Merchant Taylors' School and Guy's Hospital, qualifying in 1903. He obtained the M.B.Lond. degree in 1904, the B.S., with honours, a year later, and proceeded M.D. in 1906. During the war of 1914–18 he served as M.O. to the 8th Batt. Lincolnshire Regiment and as second-in-command of the Cannock Chase War Hospital, reaching the rank of major and winning the Military Cross. After a period of practice in partnership at Shelley, Huddersfield, he devoted himself to eye work and became chief clinical assistant at Moorfields and at the Western Ophthalmic Hospital. He had been a member of the B.M.A. for 34 years.

K. W. M. writes: In the passing of Dr. **Eric Biddle**, as the result of a motor-cycling accident, a humorous, kindly, and benevolent character will be missed from the pathological laboratory of the East Suffolk and Ipswich Hospital. Appointed as the first pathologist to a fine new department, just opened by H.R.H. Princess Mary, Dr. Biddle organized a service which was to expand rapidly during the next few years. So liberal was his nature that in addition to his plentiful work he became curator of radium and penicillin officer. He was among the first who saw the importance of a blood transfusion service, and from small pre-war beginnings he gradually built up a war service which ultimately occupied a considerable part of his spare time. These bleeding sessions were a joy to his co-workers as well as to the donors, all of whom were kept in good humour by his wit and limitless fund of anecdotes. During his 18 years in Ipswich he made many friends by the geniality of his nature. He found company and relaxation in music, founding the Nurses' Music Club, and although not a performer himself it was his pleasure to give many gramophone recitals of classical music. He was a member of the Ipswich Photographic Society, and his skill in this pastime was always at the disposal of his medical colleagues in the preparation of medical data.

A correspondent writes: Those who know the British Legion Village near Maidstone will learn with deep regret of the death of the Matron, Miss **E. Lee**. For over twenty years—since its foundation—she had been the matron and helped the settlement to grow from a small sanatorium of 70 beds to a flourishing village of more than 1,000 people. In the 1914–18 war she did yeoman work for the troops in Salonika. She later worked at Papworth as assistant matron, and it was from there, on the recommendation of Sir Pendrill Varrier-Jones and Miss Borne, that she was chosen as matron at Preston Hall in 1925 when it was taken over by the British Legion as a village settlement.

Medico-Legal

A SOLICITOR AT FAULT

"Ambulance chasing" is the practice of seeking out victims of road accidents and persuading them to agree to an arrangement by which a claim for compensation is made on their behalf and the proceeds divided. The case is usually settled for a deplorably small sum. The solicitor is strictly forbidden to take part in this kind of activity. By his rules of ethics, touting for clients is disgraceful conduct, just as to seek out patients is disgraceful for doctors. He is therefore forbidden to accept a client who has been brought to him by a lay tout. Similarly, he may not associate with any person (or organization, other than a charity) who is beneficially interested in accident claims but is not a solicitor. Before he accepts instructions to proceed with any accident claim he must make reasonable inquiry to see whether in accepting it he will be breaking one of these rules.

A solicitor was recently summoned before the Disciplinary Committee of the Law Society for accepting instructions in nine cases from a member of a body called the "Ex-Regulars Association" without making reasonable inquiry. Some years earlier he had written to the Law Society asking for a "waiver" of the rules—i.e., an exemption which the Law Society has discretion to make in suitable cases—in the case of this body. He explained then that he acted as its "honorary solicitor"; that when a member satisfied the organization that a prima facie case existed which required help the organization issued a letter of introduction to its honorary solicitor and proceedings were started on the member's instructions. The solicitor, he said, received only a retaining fee based on the work done and on disbursements incurred on behalf of its members. The member paid profit costs in accordance with his means as ascertained by the organization. The council of the Law Society had granted a waiver for three years. In September, 1939, being dissatisfied with the solicitor's conduct in a case which he had taken up without any proper authority from the member on the introduction of a representative of the Ex-Regulars Association, the Council withdrew its waiver. In the present case it found he had broken the rules by not making reasonable inquiry, and suspended him from practice for two years. The Court of Appeal upheld its decision.* Lord Justice Scott said that a solicitor owes a positive duty to make reasonable inquiry if he does not know enough to make him substantially certain that there is no risk of mistake. His obligation is greater if he already has reason to suspect that the organization introducing the client is wittingly or unwittingly putting him in danger of breaking the rules. It is greater still if he has already had a warning from the Law Society that his relations with the organization are dangerously near the borderline of professional propriety. The court dismissed his appeal with costs.

The case shows the strictness of the rules governing this kind of practice. There was no suggestion that the association conducted a touting business, still less that the solicitor had any part in persuading the claimants to let him act for them; nevertheless the Law Society imposed a severe penalty. Hospitals who find that "ambulance-chasers" are a nuisance to them by unsettling patients and summoning medical officers as witnesses will find the Law Society very co-operative in counter-measures.

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*Re A Solicitor (1945) 1 All E.R., 445.

Universities and Colleges

UNIVERSITY OF CAMBRIDGE

Sir Lionel Ernest Howard Whitby, C.V.O., whose appointment as Regius Professor of Physic was announced last week, was born in 1895 and entered Downing College, Cambridge, in 1918 with a senior open scholarship which he had won in 1914. He also won a scholarship and prizes at the Middlesex Hospital, after serving in the war of 1914–18 as an infantry major and gaining the Military Cross. He graduated in medicine in 1923, proceeded M.D. in 1927, and was elected F.R.C.P. in 1933. He gave the Bradshaw Lecture before the Royal College of Physicians in 1938 and was awarded the John Hunter triennial medal and prize by the Royal College of Surgeons in 1939 for his work in perfecting the drug sulphapyridine while holding the post of bacteriologist at the Middlesex Hospital. During the present war he has been officer in charge of the Army Blood Transfusion Service and consulting physician in blood transfusion to the Army with the rank of brigadier. Prof. Whitby was knighted this year, and in July received the triennial gold medal of the Royal Society of Medicine for his distinguished work on wound shock and the transfusion of blood and blood derivatives.

ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW

At a meeting of the Faculty held on Sept. 3, the President, Mr. William A. Sewell, in the chair, J. P. Currie, M.D., and M. M. Whittet, M.B., Ch.B., were admitted Fellows of Faculty.

The Services

CASUALTIES IN THE MEDICAL SERVICES

Missing, presumed killed.—Temp. Surg. Lieut. John Murdoch Blyth, R.N.V.R.

Wounded.—War Subs. Capts. J. M. Hamilton, M.C., and P. G. S. Johnson, R.A.M.C.

The September issue of *C.M.S. Outlook*, published by the Church Missionary Society, 6, Salisbury Square, London, E.C.4, contains an article by Dr. Norman S. Macpherson entitled "Vellore: A Venture of Faith," giving an account of recent progress and planning at the medical school and hospital at Vellore, in South India. The Christian Medical Association of India, in consultation with workers on the spot, has decided to develop the existing medical school and hospital at Vellore into an All-India Medical College for men and women, to prepare them for the M.B., B.S. degree of a university.

No. 34

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended Aug. 25.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1945 (a)	1945 (b)	1945 (c)	1945 (d)	1945 (e)	1944 (Corresponding Week) (a)	1944 (b)	1944 (c)	1944 (d)	1944 (e)
Cerebrospinal fever ..	47	2	23	—	2	30	1	17	—	—
Deaths		—	1				1	—		
Diphtheria	409	23	134	55	13	410	9	134	95	15
Deaths	2	—	—	1	—	3	—	1	1	—
Dysentery	232	31	73	1	—	299	11	15	—	1
Deaths				—	—				—	—
Encephalitis lethargica, acute	2	—	—	—	—	1	—	—	—	—
Deaths		—								
Erysipelas			40	10	2			42	7	1
Deaths		—					1			
Infective enteritis or diarrhoea under 2 years				98					161	
Deaths	46	7	12	20	12	62	1	47	27	6
Measles*	1,151	61	36	40	4	1,114	21	89	58	25
Deaths	—	—	—	1	—	1	—	—	—	—
Ophthalmia neonatorum	74	2	10	—	—	66	4	14	—	—
Deaths									—	
Paratyphoid fever ..	17	—	6 (B)	—	—	14	1	—	1 (B)	—
Deaths	—	—	—	—	—	1	—	—	—	—
Pneumonia, influenzal†	318	12	1	5	2	321	13	6	1	1
Deaths (from influenza)	7	1	—	—	—	6	—	1	—	—
Pneumonia, primary ..			123	5				108	3	
Deaths		16		7	4		10		5	3
Polio-encephalitis, acute	3	—				—	—			
Deaths		—					—			
Poliomyelitis, acute ..	31	3	1	5	—	25	—	4	2	—
Deaths		—					—			
Puerperal fever		—	15		—		—	8		1
Deaths										
Puerperal pyrexia‡ ..	124	9	18	1	2	151	4	16	—	4
Deaths		—					—			
Relapsing fever ..	—	—			—	—	—			1
Deaths										
Scarlet fever	1,001	75	194	15	16	1,071	29	179	19	29
Deaths	2	—	—	—	—	—	—	—	—	—
Smallpox	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Typhoid fever	12	1	2	10	5	8	—	4	—	3
Deaths	—	—	—	—	—	2	1	—	—	—
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Whooping-cough* ..	1,152	75	26	35	5	1,316	55	46	33	16
Deaths	2	—	—	—	—	4	2	2	1	1
Deaths (0–1 year) ..	297	40	42	47	33	314	26	92	54	21
Infant mortality rate (per 1,000 live births)										
Deaths (excluding stillbirths)	3,634	484	504	193	116	3,780	531	561	186	113
Annual death rate (per 1,000 persons living)			11·4	12·5	§			12·9	12·1	§
Live births	6,819	829	825	357	247	5,981	402	868	353	233
Annual rate per 1,000 persons living ..			16·5	23·0	§			17·7	22·9	§
Stillbirths	221	36	20			185	13	20		
Rate per 1,000 total births (including stillborn)			24					22		

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* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

‡ Includes puerperal fever for England and Wales and Eire.

§ Owing to movements of population, birth and death rates for Northern Ireland are still not available.

EPIDEMIOLOGICAL NOTES

Discussion of Table

In *England and Wales* infectious diseases were more prevalent. The increases over the preceding week's notifications were: whooping-cough 185, scarlet fever 79, diphtheria 58, and acute pneumonia 43. Those for measles fell by 176, and for dysentery by 27.

The largest of the local rises in whooping-cough were those of Surrey 36, and London 28. Lancashire, with an increase of 41, showed the only big fluctuation in the notifications of scarlet fever. The total for diphtheria was the largest for five weeks; the biggest rises were Yorks West Riding 12, Yorks North Riding 11, Northumberland 11, London 10, Glamorganshire 10. The incidence of paratyphoid and typhoid fevers, with a total of 29 cases, reached the highest level for thirteen months; 13 of the 17 cases of paratyphoid were reported in Lancashire (Barrow-in-Furness C.B. 10).

For the third consecutive week dysentery notifications fell, the largest returns being Essex 33, London 31, Lancashire 19, Middlesex 17, Surrey 17, Lincolnshire 16, Glamorganshire 13, Yorks West Riding 11, Northumberland 10.

In *Scotland* there were small rises in the incidence of most infectious diseases. The largest were scarlet fever 29, pneumonia 27, diphtheria 21.

In *Eire* diphtheria notifications went down by 14, while rises were recorded for measles 16, and whooping-cough 13. Eighty-five cases of infantile diarrhoea were notified in Dublin C.B.

In *Northern Ireland* the totals for diphtheria and scarlet fever fell by half—by 14 and 28, respectively.

Week Ending September 1

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,020, whooping-cough 1,244, diphtheria 377, measles 851, acute pneumonia 265, cerebrospinal fever 33, dysentery 286, paratyphoid 13, typhoid 9, acute poliomyelitis 28.

Medical News

The Central Medical War Committee is informed that the rate of release of medical officers from the Royal Air Force has been accelerated. The following age-and-service groups will be released by the dates shown: By Oct. 31, Groups 13 and 14 (i.e., additional to Groups 11 and 12); by Nov. 30, Groups 15 and 16; by Dec. 31, Groups 17 and 18; by Jan. 31, 1946, Group 19; by Feb. 28, 1946, Group 20.

It has been announced by the War Office that the release of medical officers will be proceeded with up to Group 23 by Jan. 20, 1946, in step with the rest of the Army.

U.S. medical officers from the Continent were among those attending a course arranged at Glasgow University from Sept. 4 to 7 by the Faculty of Medicine and the British Council. The programme included visits to hospitals and the following lectures: "Modern Chemotherapy," by Prof. Carl H. Browning; "Some Features of the Scottish Health Services and their Development," by Sir Alexander Macgregor and Prof. T. Ferguson; "Some Medico-Legal Aspects of General and Specialist Practice," by Prof. J. Glaister; "Tuberculosis in Scotland during the War Years," by Prof. J. W. S. Blacklock; "The Rh Factor," by Prof. D. F. Cappell; "Art and Therapeutics," by T. J. Honeyman, M.B., Ch.B., Director of the Art Gallery and honorary lecturer on the history of painting, University of Glasgow.

The Princess Tsahai Memorial Hospital Council announces an illustrated lecture by Mr. Richard St. Barbe Baker, in aid of the funds of the memorial hospital now being built in Addis Ababa, which it is hoped to complete at the end of December. The lecture, entitled "The Redwoods, Greatest Trees on Earth, and Trees in Relation to Hospitals," will be given on Tuesday, Sept. 25, at 5 p.m. in the Hastings Hall, B.M.A. House, Tavistock Square, W.C., with Mr. W. McAdam Eccles, F.R.C.S., in the chair. Tickets, price 7s. 6d., 5s., and 2s. 6d., may be obtained from Miss E. Sylvia Pankhurst, 3, Charteris Road, Woodford, Essex.

The following meetings are announced by the Royal Sanitary Institute. Sept. 29: 10.45 a.m., at the Southern Secondary School Hall, Fawcett Road, Southsea; papers on "Mass Radiography—A Review of a First Year's Working," by Dr. I. M. McLachlan; and "Aspects of Sanitation in the Navy," by Surg. Capt. E. C. Holtom. Oct. 13: 10 a.m., at Hope Hospital, Eccles Old Road, Salford; papers on "New Remedies in Disinfestation," by Dr. J. L. Burn, and on "The Unfit House," by Dr. J. E. Blease. Oct. 17: 2.30 p.m., at the Institute, 90, Buckingham Palace Road, S.W., paper on "Uses of D.D.T. in the Field," by Lieut.-Col. M. H. Webster, R.A.M.C., illustrated by a sound film.

The Medical Group of the Association for Scientific Photography announces a joint meeting with the Royal Photographic Society, Colour Group and Cinematography Group, to be held in the Hastings Hall, B.M.A. House, Tavistock Square, on Monday, Sept. 24, at 6 p.m. Sergeant Clissna, of the U.S. Army Pictorial Service, will discuss kodachrome cinematography in ward and theatre and show films.

The annual dinner of the Middlesex Hospital Medical School will be held at the Savoy Hotel on Friday, Sept. 28, at 7.30 p m.

Lord Moran, P.R.C.P., will give the inaugural address at the opening of the session 1945-6 of the London (Royal Free Hospital) School of Medicine for Women. The ceremony is to be held in the Great Hall of B.M.A. House, Tavistock Square, W.C., on Friday, Sept. 28, at 3 p.m. Tea will be served afterwards at the Medical School, 8, Hunter Street, Brunswick Square.

The Archbishop of Canterbury will give the inaugural address at the Westminster Hospital Medical School, Horseferry Road, S.W., on Monday, Oct. 1, at 3 p.m.

During the autumn convention in London of the Incorporated Society of Chiropodists on Oct. 4, 5, and 6, there will be lectures by Mr. Norman C. Lake on "Posture: With Particular Relation to the Legs and Feet"; by Mr. T. T. Stamm, on "Disabilities of the Foot Associated with the First Metatarsal"; and by Prof. F. Wood Jones on "The Evolution of the Foot." Particulars may be had from the secretary of the Society, 21, Cavendish Square, W.1.

The following Chadwick Public Lectures will be given in October and November on Tuesdays, at 2.30 p.m. Oct. 2, at Royal Society of Tropical Medicine and Hygiene, 20, Portland Place, W., Mr. A. F. Russell, A.R.I.B.A.: "Planning for New Housing Standards." Oct. 30, at Livingstone Hall, London Missionary Society, 42, Broadway, Westminster, S.W., Dr. Walter P. Kennedy: "Health Education, its Problems and Methods." Nov. 13, at the Royal Sanitary Institute, 90, Buckingham Palace Road, S.W., Mr. F. C. Vokes on "The Modern System of Sewage Disposal and the Methods and Materials Employed." On Thursday, Nov. 29, at the Westminster Hospital Medical School, Horseferry Road, S.W., Dr. A. M. H. Gray will give the Malcolm Morris Memorial Lecture on "Some Social Aspects of Industrial Dermatitis." Admission to all Chadwick Lectures is free without ticket. Particulars may be had from the secretary, at the offices of the Chadwick Trust, 204, Abbey House, Westminster, S.W.1.

The Food Education Society announces that a public lecture on "Food and Maternal Morbidity and Mortality" will be given by Dame Louise McIlroy at the London School of Hygiene and Tropical Medicine, Keppel Street, W.C., on Monday, Oct. 15, at 2.30 p.m.

A series of lectures on "Human Relationships in the Modern World," arranged by the Provisional Council for Mental Health, is to be given at the Museum and Art Gallery, Bristol, each Friday from Oct. 12 to Dec. 14 inclusive. Among the speakers will be: Dr. W. S. Maclay on "The Study of Human Relationships: its Importance at the Present Time"; Dr. Joyce Partridge, "Men and Women in Partnership"; Dr. Emmanuel Miller, "Parents and Children"; Dr. Frank Bodman, "The Problem of the Homeless Child"; Dr. Tom Garland, "The Individual in Industry"; Dr. J. A. Hadfield, "The Individual in Conflict with Himself"; and Lieut.-Col. R. F. Barbour, R.A.M.C., "Readjustment to Civil Life and Peaceful Living." Tickets (£1 for the course) may be obtained from the offices of the Provisional National Council for Mental Health, 2, Elton House, Rodney Place, Bristol, 8.

The eighth annual Louis Gross Memorial Lecture will be delivered at the Jewish General Hospital, Montreal, on Wednesday, Oct. 17, at 8.30 p.m., by Dr. Paul Dudley White, of Boston. The subject will be, "The Heart in Hypertension since the Days of Richard Bright."

At a course, "Shape of Things to Come," for Canadian servicemen arranged by the British Council, the University of Glasgow, and the Committee for Adult Education in H.M. Forces, held from Aug. 14 to 17, a lecture was given by Dr. A. G. Mearns on "Medicine in the Post-war World."

Quinidine, which is the recognized treatment for cardiac arrhythmias, is almost unobtainable, and in spite of the ending of the war with Japan it is certain that no larger quantity will be available for at least a year. Salts of quinine have been used in the treatment of cardiac arrhythmias, though without notable success. In view of the impossibility of obtaining quinidine, and of the absence of any recognized alternative form of treatment, the Medical Research Council has suggested that cardiologists who wish to do so might give further trial to the use of salts of quinine. The Ministry of Supply has agreed to the use of quinine for this purpose.

The Ministry of Health has informed local authorities of the Minister's decision to extend until March 31, 1947, the period during which the arrangements made by them under the Cancer Act, 1939, should be submitted.

Sir Alexander Fleming, F.R.S., has been decorated with the Insignia of Commander of the Legion of Honour by General de Gaulle.

The International League against Epilepsy, founded in 1935, has continued its activities upon a reduced scale during the war. The United States Branch has been prominent and undertook the responsibility of issuing the journal *Epilepsia*, a commitment which had previously been shouldered by the Danish branch. Under great difficulties the Americans issued a copy of this journal during each one of the war years. It is proposed to resume the annual scientific meetings of the British Branch of this League, and provisionally Friday, Nov. 30, has been set aside for the first of these post-war meetings. Further details will be given at a later date. Any qualified medical practitioner interested in the scientific or social-economic aspects of epilepsy is invited to become a member, and is asked to communicate with the secretary, Surg. Capt. Macdonald Critchley, R.N.V.R., Royal Naval Auxiliary Hospital, Barrow Gurney, Nr. Bristol.

Owing to the war the Government of Iraq has been unable to obtain British professors or British medical specialists, and in consequence a number of chairs at the Royal College of Medicine, Baghdad, are vacant. The College provides a six-years course for some 300 Iraqi students and the teaching is in English. The position has now become acute, and appeals for assistance in filling these important posts have been made to the Central Medical War Committee, which has agreed to help so far as possible in obtaining the personnel required. Applications are invited (see advertisement) from candidates, including any serving in H.M. Forces, with the necessary qualifications, and should be sent to the Overseas Manpower Committee, York House, Kingsway, London, W.C.

A new Order partially removing the restrictions on the use of liver extract has been made by the Secretary of State for Scotland. It permits the use of injectable extract of liver without any restrictions as to the conditions to be treated. It also permits the use of oral preparations of liver (including proteolysed and desiccated liver) on the prescription of a registered medical practitioner for the treatment only of pernicious and other megalocytic anaemias. The Order prohibits the use of any preparation intended for oral administration containing liver extract combined with any other active ingredient except stomach extract.

British civilians who have been disabled by war operations or through enemy detention abroad are entitled to compensation under the Personal Injuries (Civilians) Scheme, and to free treatment for their disablement in E.M.S. hospitals. Notification to this effect has been sent by the Minister of Health to all hospital authorities, in Circular 153/45.

Letters, Notes, and Answers

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ANY QUESTIONS?

Vascular Collapse with Anuria

Q.—*An Indian "other rank" was admitted to a military hospital with acute food poisoning, B. aertrycke being isolated from the massive diarrhoea present. Three pints of isotonic glucose-saline were given intravenously. After ten minutes of running in the third pint the patient shot a hyperpyrexia of 107° with rigors. Subsequently an anuria developed, the treatment being intravenous sodium sulphate followed by intravenous sodium bicarbonate and glucose-saline, with a repetition of sodium sulphate. After six days, during which time a total of five pints of fluid was given and only 30 oz. of urine passed, the patient succumbed. (1) Is there any connexion between the anuria and (a) the original infection, and (b) the hyperpyrexia? (2) What method is recommended for preparing and autoclaving an isotonic solution of sodium bicarbonate?*

A.—A shock-like condition characterized by vascular collapse and anuria may occur in a variety of severe infections and also in hyperpyrexia. It is attributed to pooling of blood in dilated capillaries, with a concomitant reduction in the venous return to the heart and in cardiac output. In the present case the effects of the vascular shock on the kidneys would have been aggravated by the dehydration and disturbances in the blood chemistry induced by the diarrhoea. In such cases oxygen and plasma (1,000 c.cm.) may be of value to maintain the circulation, and they should be used early, for once a patient develops anuria the outlook is very bad under any treatment. There is still much controversy about the nature and total amount of fluid which should be administered to such patients, but bicarbonate should probably not be given parenterally without knowledge of the plasma bicarbonate.

The *British Pharmaceutical Codex* (1934) states that solutions of sodium bicarbonate for injection may be sterilized " by heating in an autoclave, by tyndalization, or by filtration. When the solution is sterilized by heating in an autoclave or by tyndalization, the containers must be airtight and the solution must almost completely fill the container. The containers should not be opened for one or two hours after the temperature of the solution has fallen to normal."

Concentrated Vitamin Dosage

Q.—*In the light of the article by Marion B. Richards in the* Journal *of March 31, 1945, it would seem that by giving a preparation containing, for example, only vitamin* B_1, *nicotinic acid, and riboflavin, to a patient already very undernourished, one runs a risk of antagonizing the action of other factors in the vitamin B complex, about which less is known and which may be of great importance. How far can this possibly be avoided in treating a case such as of severe coeliac disease, where nearly all forms of nourishment are refused and where it is necessary to give the vitamins in concentrated form, or even parenterally?*

A.—So far as is possible vitamins should be supplied by food. When concentrations of vitamins are needed, preparations from natural sources—yeast, liver, or wheat germ—that should contain all the vitamins, should be used when possible. If large doses of an individual vitamin, such as can be given only with pure preparations, are indicated, concentrates should be given, if possible, at the same time. In Richards's experiments the evidence of pyridoxine deficiency did not appear at once; parenteral doses of pure vitamins may be used in emergencies—as nicotinic acid for nutritional diarrhoea—without fear of provoking symptoms of other deficiencies.

Asthma after Pneumonia

Q.—*A patient developed asthma after an attack of pneumonia in 1940. Different localities affect him, and he has now found a district where he keeps relatively free. Unfortunately he finds that the presence of his wife, and also occasionally of other individuals, provokes an attack. There is no marital disharmony, and he himself is well balanced. He has tried sleeping with her hair-brush and with a sprinkling of her face powder on his pillow without result. The psychological element, while a possibility, seems unlikely to me. Could he be allergic to some foreign protein, bacterial or other, in his wife's nose or mouth or dandruff? Skin tests on himself of the usual substances have shown inconclusive results. The seasons make no difference.*

A.—Asthma following pneumonia is usually due to the sufferer's being sensitive to some air-borne inhalant, such as feathers, horsehair, animal hairs, dust, pollens, or orris root, and rarely to any bacteria. The effect of different localities is dependent on the presence or absence of these factors, together with the sufferer's general state of health. His attacks will be more frequent during worries, troubles, mental upsets, or slight ill-health from other causes, depending upon the amount of protective adrenaline he is able to produce himself. Attacks provoked by the presence of another person are usually to do with the person's occupation or connected with the handling of animals. It may be that his wife rides horses or has a favourite cat or dog. This is more probable than that the attacks have anything to do with any foreign protein of a bacterial nature from his wife's nose or mouth. I think that if skin tests were done intradermally with the inhalants mentioned more conclusive results would be obtained.

Oil-in-water and Water-in-oil Emulsions

Q.—*What is the difference between a water-in-oil and an oil-in-water emulsion?*

A.—An emulsion may be described briefly as a preparation composed of two immiscible or almost immiscible liquids, one of which is uniformly distributed in a fine state of subdivision throughout the other. When one liquid is water and the other oil we may have either an oil-in-water (oil/water, O/W) or a water-in-oil (water/oil, W/O) emulsion. In the oil-in-water type the oil is in a fine state of subdivision and is known as being the disperse or discontinuous phase. It is uniformly distributed throughout the water, which is known as the dispersion medium, or external or continuous phase. In a water-in-oil emulsion it is, of course, the water that is in a fine state of subdivision, and it is then known as the disperse phase, and the oil as the dispersion medium. Except with very dilute emulsions a third factor is present, known as the emulgent or emulsifying agent: sometimes also called the intermediate phase, or interphase.

A large variety of substances may be used as emulsifying agents. They are, however, invariably colloidal, and it is the emulgent that usually determines the type of emulsion produced. For example, the gums yield oil-in-water emulsions except when they have in certain cases deteriorated and become acid, when a water-in-oil emulsion may result. Again, the univalent alkalis invariably produce oil-in-water emulsions, whereas the bivalent alkaline earths and trivalent gases invariably give rise to water-in-oil emulsions. The widely used lanette wax SX produces the oil-in-water type.

It is not uncommonly assumed that the proportions of oil and water present determine the type of emulsion, as it is thought that a very high proportion of oil could not be dispersed throughout a very small volume of water. This is, however, a fallacy: it is the emulsifying agent that chiefly determines the type of the emulsion, and, in fact, oil-in-water emulsions containing as much as 99% oil have been produced.

Profuse Periods in Young Girl

Q.—*What is the correct treatment for a girl of 16½ who has profuse periods about every 12 to 14 days, lasting almost a week? There is no dysmenorrhoea and no evidence of organic disease; general health is good. When she started menstruating three years ago the periods occurred at intervals of five weeks, but have gradually got more and more frequent.*

A.—The use of the word " correct " makes this question difficult, if not impossible, to answer. There are many possible lines of treatment for cases of this kind, but none are uniformly successful and most are empirical in nature. In any case there is a natural tendency to spontaneous cure. Thyroid should be tried initially. Begin with 1 gramme daily and gradually increase the dose up to the limit of tolerance. Calcium in large doses can with advantage be given at the same time, and the treatment should be continued regularly for three months. If simple treatment of this kind fails, then try five to seven daily intramuscular injections of 5 mg. progesterone, commencing one or two days before the expected onset of a period. However, in order to be sure of the nature of the underlying disturbance and its appropriate hormone treatment endometrial biopsy may prove necessary.

Tryparsamide for G.P.I.

Q.—*Would you discuss the use of tryparsamide in G.P.I.?*

A.—Tryparsamide is a very useful drug in the treatment of G.P.I., but it should be understood that normally it is used only as a " second string " to artificial fever induced by malaria or physical means. After adequate fever treatment, tryparsamide should be given intravenously in doses of 3 grammes, dissolved in 10 c.cm. distilled water, once weekly for 10 to 12 weeks; this constitutes a " course," which should be repeated, with intervals of a month or thereabouts, over a period of 2 to 3 years or more. It is customary to give bismuth as well as arsenic; the two drugs may be given concurrently or alternatively. The dose of bismuth metal should be about 0.25 gramme per week, and a rest interval should be given when the total reaches 2.5 grammes. Tryparsamide is liable to cause amblyopia, and the patient's eyes should be examined by an ophthalmologist before arsenical therapy is initiated, and again after a few injections, in order to obviate this; if the eyes are not affected by the first five injections or so they are unlikely to be affected later.

Tryparsamide is supplied in powder form and should be dissolved immediately before use, though it has not the same tendency to become toxic on exposure to the air that neoarsphenamine has; apart from its effect on the eyes it rarely causes serious toxic reactions.

Stilboestrol for Premature Infants

Q.—*What is the rationale of administering stilboestrol (or other hormone) to premature infants? In what dosage is it given to such babies?*

A.—During pregnancy large amounts of oestrogen are present in the maternal circulation and pass through the placenta to the foetus. This is excreted from the foetus within two or three days of birth, so a baby born before term is prematurely deprived of its influence. There is nothing to show that the action of oestrogen on the baby *in utero* is specially beneficial, but, on the assumption that it is, it has been administered to babies born prematurely. Synthetic oestrogens such as stilboestrol are too powerful and toxic for this purpose, and the natural oestrogens are to be preferred. The usual dose is about 500 i.u. (0.05 mg.) in a little warm water, twice daily by mouth. For details see Mabel Potter, *Journal*, 1937, **1**, 1201.

Poisonous Fish

Q.—*My boy, while shrimping, was stung by a fish (probably a weever fish) he had caught in his net. Almost immediately his finger became very painful, red, and swollen. Shortly afterwards the swelling extended to the back of the hand. Treatment was on general lines, and the condition is settling. What stinging fish are likely to be met with round our shores? What is the nature of the poison of the weever fish, and what is the appropriate treatment?*

A.—There are two species of weever fish which frequent the coasts of Britain: the greater weever (*Trachinus draco*) and the lesser weever

(*Trachinus vipera*). The greater weever, though provided with a poison apparatus, does not cause many casualties, as it lives in fairly deep waters away from the shore; whereas the lesser weever inhabits the shallow waters near the shore, with the result that children and shrimpers are often stung. The stinging apparatus of the weever is contained in the spines of the anterior dorsal fin and also in the large spines which form a continuation of the gill covers. The glands which secrete the poison are lined with columnar epithelium and discharge the poison down grooves in the spines. The sting causes acute pain and local inflammation. Weever venom causes haemolysis and reduces the opsonic index of the leucocytes. This latter phenomenon is no doubt the reason for the inflammation which nearly always follows a sting from one of these fish. Other poisonous fish inhabiting our coasts are the spiny dogfish (*Squalus acanthias*) and the sting ray (*Trygon pastinaca*). Further information on stinging fish can be found in *Sting-fish and Seafarer*, by H. Muir Evans (Faber and Faber Ltd., 1943).

For immediate treatment an injection of a few minims of 5% solution of potassium permanganate at the point of entry of the sting is recommended. For the subsequent inflammation treatment should be on the usual general lines.

Sodium Amytal

Q.—*An intelligent middle-aged man, an active brain-worker, who is of an anxious worrying temperament and of the unstable vasomotor type, finds that life is made more comfortable and tolerable for him if he takes 1 grain of sodium amytal night and morning. He shows no sign of idosyncrasy to the drug and is perfectly fit otherwise. Apart from damage to his personality which would result from a feeling of dependence on any drug, what are the physical risks entailed in allowing him to continue this habit more or less indefinitely, and is there any risk of intellectual deterioration?*

A.—Experience of prolonged use of sodium amytal over years is still very small; but the drug seems to be very non-toxic, and in a small dose such as 1 grain twice daily there should be no physical risk whatever. Almost certainly it would have less undesirable effect than one small whisky night and morning. There is no risk of intellectual deterioration. Experience to date suggests that the risk of addiction—i.e., of requiring increasing doses to secure the same effect—is also minimal.

Fractured Femur in Child

Q.—*A child of 5 years has a fracture of the lower third of the right femur, not into the joint. There is good union, and anatomical position is good. Treated in gallows splint for six weeks. Must the child wear a walking calliper and, if so, for how long?*

A.—A gallows splint is not usually regarded as a good method for children of that age—the Thomas leg splint is much better. In this particular case I should advise the questioner to get the child up and about with crutches for a couple of weeks at least before allowing weight-bearing on the affected limb.

Bruising and Rheumatism

Q.—*Is the occurrence of spontaneous "bruising" of the skin a recognized feature of the rheumatic diathesis? The patient in question is a woman of 50, in good health apart from rheumatic pains, which she has had for the past 25 years, and a commencing mild atrophic arthritis of wrists and knees.*

A.—Anaphylactoid purpura may present bruising due to effusion of plasma from the blood vessels with a varying amount of cells, and a similar effusion may occur into the joints, giving rise to pain and swelling regarded as rheumatic. It would thus be more accurate to speak of a haemorrhagic diathesis with rheumatic symptoms than a rheumatic diathesis with spontaneous bruising as a feature. Lichtwitz, however, regards rheumatic fever as an allergic reaction, and erythema, urticaria, and purpura as skin lesions due to the small allergic reaction. In the case in question it would be desirable to have a complete blood examination, including the sedimentation rate as an indication of a possible infective focus; if the rate is not increased then the arthritis is presumably not of the rheumatoid type. The blood tests should include the clotting time, a count of the blood platelets, and the vitamin C content. As the condition has existed for 25 years, apparently without any ill effect on the general health, treatment does not appear to be urgently needed, and the more radical methods such as blood transfusion would not be justified. Injection of horse serum is often effective for a time.

The level of vitamin C in the blood is usually lowered in rheumatic diseases, and if this is found to be the case the administration of ascorbic acid is worth a trial; it may prove beneficial even if it does not directly affect the bruising tendency. Authorities differ on the question whether ascorbic acid is alone effective, and vitamin P is held by some to be the active agent, improving capillary resistance; it is present with vitamin C in lemon juice. If, on the other hand, there is a prolongation of the clotting time, the deficiency is probably in vitamin K, present in many green vegetables, tomatoes, soya bean, etc. Lowered capillary resistance is, however, the most probable cause in this case, and a substantial increase in the intake of vitamin-C-containing fruits and foods may be of general benefit and can do no harm. If the sedimentation rate is increased and the diagnosis of rheumatoid arthritis is thus confirmed, great caution will be desirable in the use of gold as a method of treatment.

Fear of Heights

Q.—*A patient very interested in architecture has an incomprehensible feeling of terror when he finds himself in any lofty building like a cathedral. I suspect that only psycho-analysis will discover the cause of this fear, but is there any general theory which would indicate possible causes?*

A.—A variety of causes, or contributing factors, is given for the fear of heights. It is said, for instance, that astigmatism, with its lack of visual co-ordination, plays an important part. Others find the cause to be a confusion of mental association, the sensation from the feet indicating that one is 6 feet from the ground, whereas the eyes indicate that one is 60 feet from the ground, which leads to a tendency to giddiness with a corresponding fear of falling. This does not occur in an airplane, because then most of the body is in contact with the seat, which is the prevailing factor, and the earth below is simply a distant view.

Biologically the fear of falling is an innate fear (Watson regarding it, and the fear of noise, as the *only* innate fears). It starts at birth and is possibly derived from our arboreal ancestry, with its danger of falling from trees. This naturally passes away; but if it is reinforced by an experience of falling in childhood one may become over-sensitive to this stimulus, and a later fall or threat of a fall may precipitate it into a conditioned fear. This is rarely a sole cause. More commonly the fear is symbolic. There may have been a primitive fear of falling, but this is transferred to a moral situation; so the fear of falling may come to represent a subconscious fear of a moral lapse (we talk of "fallen women"). Most commonly, in our experience, it is found in those who have a "power psychology," who are ambitious, who crave for power and achievement, to reach the heights. If we aim too high and live on a pedestal we have reason to fear falling from our heights of attainment, and the fear may take a physical form. In other cases it goes a step further, and occurs in people who, in their efforts to achieve, become overstrained, and therefore want to "let everything go" in passive abandon; this wish, taking a physical form, is then feared. Or it may, with less likelihood, be a sexual masochism: like the lady who had the desire to be "less than the dust beneath thy chariot wheel"! It is probably true that only analysis (not necessarily psycho-analysis, which applies only to the Freudian method) will discover and eradicate the cause. The true cause may be found in a combination of some of the factors mentioned: an actual fall in infancy produces a fear of heights; a reaction to this fear takes the form of assertiveness and self-sufficiency to overcome the fear, this overcompensation of power being a mechanism to keep the fear at bay; the fear of failure in attaining one's ambition of power then takes a symbolic form, and the desire to let everything go increases the fear. In the final resort the fear is therefore a fear of a wish, like most phobias.

Schick Test and A.P.T.

Q.—*In the* JOURNAL *of May 8, 1943 (p. 589), under the heading "Duration of Diphtheria Prophylaxis," it is stated that a reinforcing dose of A.P.T. should be given from 3 to 5 years after the first immunization against diphtheria. A note on Aug. 4, 1945 (p. 171) states that the boosting dose should not be given in "children of 7 and 9 years" without preliminary Schick tests; it is not clear whether this applies only to asthmatic children. Is Schick testing necessary before giving a reinforcing dose of A.P.T. in all children over 6 years of age, and unnecessary under that age?*

A.—If children are inoculated with diphtheria prophylactic at the age of 1 year or earlier, the artificial immunity thus induced may wane within the following 2 to 3 years, particularly if the child is not much exposed to "natural stimuli" from contact with other children who may be diphtheria carriers. Thus young children have been found to have very low levels of diphtheria antitoxin in their blood 2 to 3 years after the primary inoculations, and have developed diphtheria, usually of a modified type. When these children go to school they are more likely to receive natural stimuli to antibody formation from contact with cases of diphtheria and diphtheria carriers, although with high rates of immunization among school-children such stimuli will be less common in future. It is at this stage, when the child is partially immunized, that pseudo-reactions with the Schick test tend to occur, and pseudo-reactors are most liable to severe reactions after an injection of diphtheria prophylactic. While, therefore, there is little likelihood of untoward reactions to a boosting dose given to a child aged 3 to 5 years in whom the antibody titre has probably dropped to a low level, the chances of such a reaction are greater with older children at school. Obviously no precise age limit can be given at which it is safe to give the boosting dose without a preliminary Schick or Moloney test, since environmental conditions may affect the child's antibody response. A good guide might be to Schick-test all children who had been at school for a year or more, before giving a further dose of A.P.T.; or, alternatively, to use T.A.F., a less potent antigen, for the boosting dose in such children.

Housemaid-Receptionist and Unemployment Insurance

Q.—*An inspector of the Ministry of National Insurance called upon me and inquired about employees of myself or by the partnership. The surgery accommodation is at my house, and I employ one maid. She helps my wife with the work of the house, and, of course, answers door-bells, telephone, and so on. The inspector claims that the maid is employed as a receptionist and as such should have a card stamped weekly for unemployment benefit as well as N.H.I. benefit, and has requested a payment of £10-odd for arrears. This seems to me to be a new departure and one not lightly to be acceded to, and I should be glad of your comments and advice.*

A.—The question is whether the maid's employment as a receptionist is substantial or merely occasional. There are no hard-and-fast rules; each case has to be decided on its own facts. The doctor or the maid, or both, may appeal to the Minister, applying on the appropriate form, which can be obtained from the local office. The Minister will probably appoint a barrister or a solicitor to conduct a local hearing and report. An appeal against his decision can be brought to the High Court.

INCOME TAX

Indian Army Personnel

"I.A.M.C." asks (*a*) whether an officer in the Indian Army Medical Corps proceeding to the United Kingdom for permanent residence there will be liable to United Kingdom tax on allotments paid in this country in the income-tax year of his return if he maintains a residence here prior to return, and (*b*) what is the position as regards I.A.M.C. officers returning to their homes in Britain for 28 days' leave or longer.

⁂ (*a*) Yes, he is liable for the year of return on pay or allotments issued here. (*b*) Such officers are apparently liable in respect of their pay for the period spent in this country—assuming they are maintaining a residence here. *General Note:* As the liability turns on "residence" in this country, the normal personal and family allowances can be claimed on the full year's basis. Further, if tax is paid in both countries in respect of the same income, relief from the double income tax can be claimed.

Wife's Salary as Dispenser

D. W. pays his wife £104 per annum as dispenser. Payment is made quarterly. How should tax be paid on the salary?

⁂ Presumably the wife is an employee and her salary is charged against the profits of the practice. The payments made to her are "emoluments" falling within the P.A.Y.E. system, and tax should be deducted therefrom accordingly.

Liability on War Loan Interest

A. L. has had an income of £180 from war loans since 1941, when it was declared for income-tax purposes. He has now received a demand note for the tax on this interest for 1942–3 and 1943–4, though during those years it was entirely spent on university and college fees.

⁂ The tax is legally assessable. The liability is not affected by the purpose for which the income was expended.

Deduction for Use of Car

"INQUIRER" asks what deduction can be claimed for the use of a car required for transport to clinics and hospitals. What is the position if a mileage allowance is given by the employer?

⁂ A deduction can be claimed for the amount of the expenses incurred "wholly, exclusively, and necessarily" in travelling between the places where the duties of the office held have to be performed. No rule can be given of general application as to what that amount would be—it clearly depends on the circumstances of each case. If a mileage allowance is received no further claim can usually be made, as it is prima facie deemed adequate for the "necessary" expenditure, but of course it is not regarded as part of the chargeable earnings.

Tax Payable on Pension

A. B. inquires what tax would be payable on a pension of £512; he is married and has a niece, aged 17 years, for whom he is entirely responsible, though she is not legally adopted.

⁂ Unless the niece is receiving whole-time education of a recognized form no allowance for her is claimable. If she is receiving such education and no other individual is entitled to an allowance in respect of her the amounts of tax shown below as payable would be reduced by £25. The tax payable on the pension calculated as for the present financial year is £136 12s. 6d., of which £37 will ultimately be returnable as "post-war credit." It is of course possible that the tax for the year commencing April 5, 1946, may be the net amount—i.e., £111 13s. 6d. or less—but that depends on future legislation.

Sale of Car

"MEMBER" asks: If a car, used for professional purposes, on which depreciation has been allowed annually, is sold for more than the difference between the aggregate of the amounts allowed for depreciation and its original cost, is the excess subject to income tax or would any adjustment of past depreciation allowances be made?

⁂ The excess is not subject to income tax—the car being part of the professional equipment and not stock in trade—and no adjustment is due in respect of past allowances, which were presumably reasonable on the facts as then existing.

LETTERS, NOTES, ETC.

Sting-ray Poison

Dr. W. H. PALMER (Hayle, Cornwall) writes: Having just read Dr. R. H. Blair's letter (Aug. 25, p. 267) and Dr. Muir Evans's letter referred to (which I had previously missed), I am wondering if the sting-ray poison is analogous to that injected from the dorsal spine (with poison sac at its base) of a little transparent fish (I don't know its name) that hides in the sands here in shallow water, in such a way that the sole of the bather's foot can be punctured and receive the poison, giving intense pain and cramp all up that leg, with varying degree of shock, nausea, and malaise, but very little local signs of puncture. In these cases I find that subdermal injections of (1) 10 minims of adrenaline 1 in 1,000 repeated if found necessary, (2) calcium and vitamin D 2 or 3 c.cm.—put into different areas of the poisoned limb—give fairly quick relief. The idea came to me when wondering if the poison was allergic in nature. Anyway, whether that is so or not, this treatment seems to act well, and might be worth trying in cases of sting-ray and jelly-fish poisoning.

A Fatal Shot

Dr. ERIC GARDNER (Weybridge) writes: A man using a borrowed 12-bore shotgun in a harvest field, and standing at the top of the field, which was on a very steep slope, had just reloaded, and as he closed the breech the right barrel, the lock of which was defective, discharged. A farm hand standing 36 yards away at the bottom of the slope and looking upwards towards the gun received the full charge in front. He fell down and died almost immediately. The necropsy showed that 47 pellets had struck his chest, abdomen, and upper thighs, with a few scattered shot-holes on his arms and lower face, but only two of these pellets had even penetrated the skin and had done no harm. The brain was covered with a very large subarachnoid haemorrhage spreading up the sylvian fissures on to the surface of the hemispheres, with a good deal of subdural haemorrhage as well. The right posterior cerebral artery was severed, and between the cut ends a No. 5 pellet was lying. Of the 48 pellets that struck the body one only was responsible for death, and that one had entered the right nostril, passed through the sphenoid sinus just to the right of the middle line, emerged through its roof, and travelling backwards, had severed the right posterior cerebral artery.

Sensitivity

Major W. O. G. TAYLOR, R.A.M.C., writes: We have to thank Dr. A. C. Lendrum (Aug. 11, p. 198) for his remarks. Of course it is known that sensitiveness may occur to any substance under the sun—even to sunlight itself. So it has to be expected that cases or sensitiveness to the plasticizer of sensitive resin may quite well occur, and this should be borne in mind when reading the answer in the column "Any Questions?" on the effectiveness of phthalates (Aug. 18, p. 240).

Disclaimer

Dr. SIDNEY E. CROSKERY (Tunbridge Wells) writes: My attention has been drawn to the mention of my name as the doctor attending a premature baby in an article in the *Kent and Sussex Courier* of Sept. 7. This notice was put in without either my knowledge or consent.

Corrigenda

Dr. F. J. WILFRID SASS writes: In my letter "Tuberculous Persons in Prisons" which you kindly published on Sept. 1 I made two omissions: in the seventh line from the bottom of the page, after the words "on a mattress," "in the open air" should have been written; and in the last line of the letter I should have said "(greens, peas, carrots, parsnips, turnips, and onions were often served)."

In the *Journal* of Sept. 8 (p. 341) appears a question and answer under the heading, "Sex Hormones to Control Uterine Bleeding." In the last sentence of the reply the word "stimulate" should have read "simulate."

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B.L.A. SURGERY

BY

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Just eleven months of war surgery—from the tents and grubby outbuildings of the semi-demolished villas and farmhouses of the Normandy coast to the modern, well-equipped German hospitals of the Baltic coast. But what a fascinating series of surgical as well as tactical situations those eleven months produced! For let it be said at the outset that the closer the links between the clinical and administrative sides of a medical organization, the better the results. And the more the administrators keep the clinicians in the tactical picture, the more intelligent and productive becomes the co-operation. Such a happy state of affairs existed and persisted throughout the whole of this campaign; and when to this stimulating atmosphere are added excellent equipment, what can only be called lavish supplies, extremely well organized evacuation, a first-class transfusion and resuscitation service, and a group of young surgeons whose surgical efficiency and clinical common sense were equalled only by their loyalty to a common cause and a common policy, and whose patients were drawn from armies superbly led, with morale and health at their highest pitch, well equipped, well clothed, and well fed—it will be seen that N.W. Europe was indeed the war surgeon's paradise.

Results

To give some idea of what B.L.A. surgeons achieved in the time the following figures are quoted. Realizing that figures are essentially fallacious, we give them only approximately. During the campaign there were 406,000 admissions to medical wards; of these, 258,000 (64%) were treated in the theatre and 148,000 (36%) evacuated to the United Kingdom. Of these evacuations it is worthy of note that over 50% were by air. Of the total admissions 181,700 (45%) were battle casualties. Of these, more than 50,000 received their surgical treatment in forward areas (approximately 28%), two-thirds of this group being serious major wounds. Of the total battle casualties, 39% were evacuated to the U.K., 61% were treated in B.L.A., and only 6.7% died of wounds. One other interesting comparison may be made between this campaign and the last war. In the latter, 41 of every 1,000 troops became a casualty each month (i.e., killed, missing, prisoner, wounded, or died of wounds); in this theatre only 21. It will of course be realized that a surgeon's work in the Army extends considerably beyond the limits of battle casualties alone—accidents and "ordinary" surgical conditions accounting for a very large number of cases. There can be little question, therefore, of the quantity of work done by our 170-odd surgeons; of the quality, an overall recovery rate in an active theatre of war of approximately 94% seems to speak for itself.

History

Let us now briefly follow this campaign through its salient phases and observe the varying effects of different tactical situations on surgical organization and policy. Some 30 surgeons actually took part in the epic of D Day—surgeons of the forward units (C.C.S.s and F.S.U.s) which landed immediately behind the invading troops. Their adventures were legion and stirring, their work as arduous as it was excellent. In any building affording a minimum of cover to the cacophonous accompaniment of shells, bombs, mine explosions, artillery and anti-aircraft fire they worked steadily, fulfilling by rapid but careful selection of cases as important a function as they did by their excellent surgical technique. For even when tents could be erected the holding capacity of the beach-head—and for those first weeks a very thin beach-head it was, especially on the left flank by the River Orne—was minimal. Every case that had a reasonable chance of reaching the U.K. alive was evacuated, chiefly by the ubiquitous "ducks" to specially fitted L.S.T.s, and later by air. This amphibious evacuation proved up to the hilt the enormous value of the pre-D-Day practice landings when we got to know, and on the actual beaches to appreciate, the full and cheerful co-operation of the Royal Naval Medical Service—and, at that time, particularly of Surg. Capt. Miller. And yet in that first month of June, 1944, out of 21,000 surgical casualties, nearly 1,200 were operated on in Normandy. Five hundred of these were abdominal wounds, 130 chest wounds, 200 amputations, 150 compound fractured femurs, 60 penetrating knee-joint wounds, and 50 gas gangrenes. Under the conditions existing, that 80% of the 1,200 should have survived is a tribute to the surgical pioneers of B.L.A. Incidentally, they held and saved 70% of their 500 abdominal cases. At this stage it is fitting that we should remember the air-borne surgeons who dropped on D Day on the far bank of the Orne. Their results are included in the above excellent figures. And then gradually—very gradually—the beach-head became a bridgehead. Fighting was intense and continuous. The weather was hot, but there were few days without showers. Either mud or dust was always with us; the few roads, all the lanes, and most of the fields were full of transport; enemy air activity persisted at night, but most casualties were due to mines, mortars, and artillery.

In the midst of all this a medical organization soon took shape. The remains of the original beach units became evacuation centres; a line of small hospitals, their surgical potential boosted up by the addition of F.S.U.s, were established a few miles inland, and ahead of this the C.C.S.s and their attached F.S.U.s bore the main brunt of the surgery. These "surgical centres" consisted usually of two C.C.S.s lying together and working alternately—to each of which were attached 2 F.S.U.s and an F.T.U.—the whole being screened by an F.D.S. filtering off sick, exhaustion cases, and minor wounded. Such a set-up in the restricted confines of the bridgehead worked admirably and smoothly. Lines of evacuation were short and cases were dealt with relatively soon after wounding. At this period several other events of importance were taking place. Nursing officers started to arrive from D + 8 onwards, resulting in an immediate and obvious improvement in post-operative care. No words of praise can be too high for these sisters, who at that stage and throughout the campaign, often under the most uncomfortable and unpleasant conditions, cheerfully and efficiently carried out their excellent work. In the midst of the Second (British) Army, the First (Canadian) Army began to take shape, and their various medical units were fitted into the scheme of things to come. At the same time more and more general hospitals were filtered in and set up under canvas in the pleasant orchards of Bayeux—so that limited holding of cases became possible. In these hospitals—and during that period they were nothing but glorified C.C.S.s—the will to work was enormous, and is well exemplified by our lady physiotherapeutists, who, having no physiotherapy to practise, toiled long gruelling twelve-hour shifts to prove themselves first-class and invaluable receptionists.

Such was the picture for the first eight weeks—a gradually increasing orderly congestion which steadily reached bursting-point in early August. Meanwhile the battles of the Odon, of Caen, of Caumont and the woody Bocage country, and of the Orne, had been grimly fought and won. And so to the American break-out on the right flank, which wheeled left, advancing south and east. Much of the German Army was trapped in the resulting pocket; the rest poured out through the now famous "Falaise Gap," there to be decimated by Allied air forces. The carnage of men and animals, the litter of wrecked vehicles of every description, the masses of discarded equipment and arms, are sights which will never be forgotten by those who saw them. Then started the first "motoring war"—a rapid advance from Normandy into Belgium from Aug. 12 to Sept. 3. The Second Army pushed on steadily and rapidly across the Seine to Beauvais, Amiens, Lille, Brussels, and Antwerp. The Canadian Army's advance up the coast was more chequered by the "fortresses" of Havre, Boulogne and Calais, Dunkirk—which held out beleaguered to the end—and Ostend. Casualties were relatively light—morale was at its highest. Scenes of the greatest enthusiasm accompanied the advance, culminating in the tumultuous welcome given by Brussels on its liberation. The underground movement of both France and Belgium gave invaluable help during this period, harassing the retreating enemy, capturing and holding strategic bridges and buildings, clearing up residual enemy pockets, and giving information about mines and booby-traps. So precipitate was the advance that little trouble was given by these devices. Prisoners poured in—many of them wounded—and for the first time we took over and used German military hospitals. This was the beginning of the transition from tents to buildings. At that time we had not got used to the filthy condition in which the Germans left their evacuated hospitals—nor had we become acclimatized to the pitifully low standard of German war surgery. Chronic sepsis and toxaemia everywhere; pale, drawn patients and the all-pervading smell of pus; major joints drained; dozens, hundreds of empyemata; wounds sewn up, guillotine amputations, brain fungi, metallic fixation of compound fractures, heavy uncomfortable plasters, bed-sores galore—such was the German war surgery of 1944–5, for later in Belgium, in Holland, and in Germany itself we found the same sad state of affairs.

One surgical point of interest in the 300-mile advance was the different use of forward units made by the two armies. The Second Army kept its C.C.S.s "leap-frogging" one another; the Canadians used advance surgical centres (field dressing stations with attached field surgical units). Both in fact were eminently satisfactory. We feel that the principle of segregating forward surgery to C.C.S.s is still the right one in that conditions and facilities existing at this level are so much more suitable for both patient and surgeon; but there is no doubt that in a rapid advance the advanced surgical centre has a definite and valuable place. In this phase air evacuation really came into its own, and without it evacuation of casualties back over the war-scarred congested roads to Normandy would have been virtually impossible. As it was, the R.A.F., with the able guidance of Air Commodore Murphy and Group Capt. Bruce Harvey, appeared with a Dakota and almost magical regularity on what seemed quite impossible fields almost alongside C.C.S.s and surgical centres. We, as surgeons, then and on many subsequent occasions had every reason to be grateful to the R.A.F.—both its medical service and its air crews—for their whole-hearted co-operation.

Automatically the enormously stretched line of communication slowed up the advance, and in the pause a medical centre of forward units was established in the muddy fields of Diest (40 miles east of Brussels), a 600-bed hospital by herculean efforts was brought up from Bayeux and established in a luxurious Brussels hospital, and the Canadian units in Belgium increased rapidly. But air evacuation became a vital necessity, and it was provided either direct from Brussels to the U.K. or down the coast to Normandy.

Once again for a short period of two to three weeks the evacuation problems were almost those of D Day over again. During this period the lively battles—the recuperative power of the German Army then was extraordinary—of the Albert and Escaut Canals were fought and won and the way paved for the Second Army's dramatic drive through Eindhoven to Nijmegen and on towards, but sadly not to, Arnhem. The part of the air-borne troops, both American and British, in this operation is too well known to require comment. And so was established the "Nijmegen corridor," a narrow hazardous projection, several times cut by German troops escaping eastwards, which needed three months' solid fighting before it was sufficiently expanded to allow a further major advance, and at the top of which from the very beginning were two C.C.S.s whose work was a surgical epic in itself. There cannot have been many occasions when a C.C.S. actually formed part of an attacking column!

During those same three months of hard gruelling fighting the Canadians cleared the coast north of Ostend and the bloody pocket of the south Scheldt, they won through the toughest of all small amphibious operations—the taking of Walcheren—and they lined the south bank of the Meuse up to the corridor. So was the great port of Antwerp really freed to perform its vital function in the campaign, only to find itself almost immediately the chief target of Hitler's newest devilish device—the "V" bomb. Meanwhile to the east and the west the corridor was broadened, and such now famous places as s'Hertogenbosch and Tilburg, Venlo, Venray, and Sittard slowly fell; the line was firm up to the Meuse right down to our junction with the American Ninth Army at Maastricht. Many times we worked with our American colleagues—either alongside or actually under the same command—a symbiosis which was always as happy as it was fruitful. So also were our frequent meetings with Col. E. Cutler, the Chief Surgical Consultant of E.T.O.U.S.A.

These dour battles over the waterlogged flats of northern Belgium and south-east Holland produced a steady flow of casualties—chiefly from mortar fire and from the ubiquitous mine-fields. Forward surgical units were always in the van; evacuation was good, by air and by train; and a large and efficient organization of hospitals, transplanted from Normandy, became established in Belgium and northern France to deal with all except the long-term casualties.

And so to the brief hectic interlude of Rundstedt's break-through in the Ardennes and those weeks of heavy snow and freezing cold and bitter defensive fighting once again. The almost entire absence of "trench feet" during this time was a point of noticeable interest, as was the increased difficulty in resuscitating wounded previously exposed to the rigours of the weather.

Then a mounting crescendo of activity—tempered by a rapid thaw and the consequently appalling condition of the roads—until on Feb. 8, 1945, the First Canadian Army, heavily reinforced with units of the Second Army, began their brilliant drive down from Nijmegen through the mine-strewn heavily fortified (Siegfried Line) Reichwald Forest to clear the territory between the Meuse and the Rhine: fighting in Germany—a devastated belt as the result of previous R.A.F. bombings—and fighting as bitter as any since D Day. Large concentrations of forward surgical units at Nijmegen and Venray had a hectic time. One C.C.S. alone dealt with 5,000 cases in three weeks. But the result was achieved early in March, and we sat on the banks of the Rhine. A short period of regrouping and then the triumphant crossing of the Rhine on March 23, 1945, accompanied by its "biggest-yet" airborne landing—a "crossing so beautifully planned strategically that the resulting casualties were surprisingly and unexpectedly light."

And so to the "Second Motoring War"—a streaming out over the Westphalian plain north and east against weakening opposition; short pauses for determined isolated pockets of resistance and at the major rivers—the Weser and the Elbe; a relatively easy capture of Bremen and a simultaneous surrender of Hamburg and arrival on the Baltic coast—and the final surrender in the first week of May. Meanwhile the Canadians had crossed the Rhine, below the famous Arnhem, and pushed on to the North Sea, thereby cutting off the entire German armies in Holland. They rapidly advanced north to take part in the Battle of Bremen and so share the concluding victory.

All this last stage saw steady but relatively small casualty lists—being dealt with by the rapidly leap-frogging C.C.S.s and small hospitals, and with advanced surgical centres again in the limelight. Problems greater than surgical casualties soon emerged: masses of German prisoners, both wounded and unwounded, numbers of displaced persons of every conceivable nationality wandering in every direction in various stages of disease and starvation, and the ghastly horrors of Belsen, Sandbostel, and other smaller concentration camps. Even before hostilities ceased three large general hospitals had been moved into Germany to assist in dealing with these problems and to speed the last of our battle casualties on their way.

Units

It is not our intention to deal in any detail with the various surgical units involved in this stirring picture, but simply to stress some salient points that seem of importance. It was a great pleasure to us to note the increasing interest of divisional units (field ambulances and field dressing stations) in surgical policy. We firmly believe that the correct initiation of sound first aid and judicious but limited resuscitation at this level is of vital importance in the subsequent success of surgical treatment proper. Every possible effort was made by Army Surgical Consultants to contact and to advise forward medical officers.

The C.C.S., practically always with attached field surgical units, has borne the brunt of the serious forward surgery. As at present constituted, it is rather too small, but in any planned action two C.C.S.s were brigaded together and screened by a F.D.S., which took off lightly wounded, sick, and exhaustion cases. Such an arrangement worked admirably, the two C.C.S.s functioning in rotation according either to the number of admissions or, more frequently, to the number of cases awaiting operation. It was of interest to note that a steady 15 to 20% required operation at this level. To all such set-ups one or more of those invaluable little units—the field transfusion units—were added, and were responsible not only for the resuscitation of operative cases but also very largely for the choice of priority in operation and for assistance in post-operative care. Each C.C.S. carried 8 to 10 nursing officers, whose work, as already mentioned, was beyond praise. The type of case dealt with at this level became quite stereotyped: haemorrhages; severe multiple wounds; traumatic amputations; abdominal, thoracic, and abdomino-thoracic wounds; severe compound fractures, especially femurs; and suprapubic drainage for paraplegias. Of such cases the average surgeon could do approximately 15 in his tour of duty. This we found was optimum at "12 hours on and 12 hours off." The latter period included ward visits as well as rest.

The siting of C.C.S.s of armies varied with the tactical situation from 2 miles behind the "line" to 80 miles, but the vital time interval between wounding and surgical care remained at a remarkably steady average of just under 12 hours in all conditions. We believe firmly that the right place for forward surgical treatment—from the patient's, the surgeon's, and the nurse's points of view—is just out of enemy artillery fire and behind our own big guns. This ideal was by no means always achieved.

The advanced surgical centre (F.D.S. and F.S.U.s), as has been already pointed out, was used on many occasions, but as a surgical entity it is definitely "second best" to the C.C.S. Its value in a rapid advance of a very mobile type of warfare has become more and more appreciated, not only by medical administrators but also by combatant generals.

The 200-bed general hospital was in this campaign used as a glorified C.C.S.—and as such fulfilled a most valuable role. To allow this, surgical potential had to be boosted by the addition of F.S.U.s. We feel that this unit would be better employed in producing slightly larger C.C.S.s and that its intended semi-static functions might well be carried out by an F.D.S. On the other hand, the inclusion of a 1,000-bed convalescent depot in Army areas was of inestimable value in saving man-power and in ensuring rapid rehabilitation.

A word about the special neurosurgical and maxillo-facial teams. We officially had one each of these per army and we had one thoracic team per Army Group. In fact, by incorporating specialists in ordinary hospital establishments we possessed extra neurosurgical and thoracic teams. But compare this with the Americans' 12 to 15 neurosurgeons and 7 to 8 maxillo-facial surgeons per army! However, the work done by these few special teams was relatively as great in quantity as it was excellent in quality. The value of adding an otologist to maxillo-facial teams was amply proved. The advantage of the neurosurgical and maxillo-facial teams working close together, and with an ophthalmologist readily available, was already known—and the policy was adhered to. Luckily, the cases treated by these two teams do not require urgent operation; after preliminary first-aid surgery and the provision of chemotherapeutic prophylaxis they can safely await definitive operation for several days if necessary, without undue risk; and they travel well.

Hence in the Normandy days many cases were sent to the U.K. for definitive treatment; in the Belgian period the teams remained in Brussels and Antwerp almost until the Rhine crossing—air evacuation providing their pabulum in good shape and relatively quickly. Nevertheless, to cope with the urgent "special case," and more particularly with the special wound combined with another wound requiring immediate surgery, we felt that further "special" cover was necessary, and this was provided by training a proportion of F.S.U. surgeons in elementary maxillo-facial and neurosurgical work and by giving them minimal special equipment—a policy which in the latter part of the campaign paid good dividends. There is no doubt, too, that the base areas of any theatre of war require cover in these specialties as well as the armies.

The work of the thoracic teams was limited by our proximity to the U.K.; for their problems are essentially those of the complicated chest wound or the chronic case. It is essential that all forward surgeons should be able to deal with the preliminary treatment of a penetrating or sucking chest wound, and even more essential that well-trained chest physicians should be attached to forward units.

Clinical Lessons

What have we learnt clinically from the surgery of this campaign? We will not enter into a description of all the various types of war wound, but simply list a series of facts that have emerged from the mass of clinical material and of questions that have been raised and still await solution.

Extensive Flesh Wounds.—These have a high operative priority—at least equal to that of the "bellies." Massive tissue damage leads to a severe degree of "shock," against which resuscitation is often of no avail and for which urgent radical surgery is the only life-saving measure. One other valuable lesson learnt was the great importance of rest and immobilization in these cases, either in transport or post-operatively, and irrespective of whether they are complicated by bony injury or not.

Gas Gangrene.—Compared with previous campaigns this nightmare condition was conspicuous by its absence. The majority of the relatively few severe cases were in German prisoners, who often took some time to collect. In an operation of this magnitude, to have recorded something less than 300 cases of anaerobic myositis can only be described as phenomenal. The reasons which may possibly account for this different picture are discussed in general terms later. When it did occur it still carried a 20% mortality. "Gas-gangrene cellulitis," became recognized more and more as a clinical entity as experience increased. Some 70 cases were reported, with a mortality of 10%. Gas gangrene at hospital level was negligible.

Abdominal Wounds.—This group of cases—a large one of approximately 5,000—has also produced extraordinarily good results. An overall mortality of around 30%—a figure which reports from the United Kingdom suggest is not markedly raised in the later stages of treatment—is highly creditable. This improvement is, we feel, not due to any one factor. Little change has been made in actual technique, but principles of treatment have been both standardized and adhered to. Penicillin has been used, and has certainly favourably affected post-operative complications, but has probably had little to do with the lowered death rate, as two-thirds of deaths from penetrating abdominal wounds occur within two days of operation. A strict routine of post-operative care has undoubtedly been an important factor.

Suturing of individual small-intestine wounds as against resection, unless the latter procedure is demanded by mesenteric vascular injury or massive damage, remains a firm principle; as does also exteriorization of large gut wounds—although this on the right side is by no means the ideal answer. Latterly in the smaller right colon wounds, suture with drainage, attachment of the sutured gut to the peritoneum, and even ileo-colostomies have been performed with success in well-selected cases. The formation of a good spur in colostomies wherever possible greatly facilitates secondary procedures.

Liver wounds that reach surgery have not given great cause for concern, and what trouble there has been is from bile more often than from blood. Fibrin foam as a haemostatic in this region is worthy of more extensive trial. A more conservative attitude regarding wounds of the renal parenchyma has produced good dividends—and we have learnt that the thoracic approach to the spleen is as good as any when the nature of the wound allows it. Of approaches in general, the rectus muscle split has steadily grown in popularity; but the golden rule of an incision sited as far as possible over the suspected lesion and big enough to give good exposure still holds. The value of a posterior drain, if necessary after removal of the coccyx, in rectal and pelvic colon wounds became obvious; and of drainage in general we would say, "Avoid drainage if possible, but if in doubt, drain."

Radiological examination has, in the presence of the very common multiple small wounds of present-day explosive missiles, assumed a relatively far greater importance.

Burns.—The conspicuous absence of severe burns has been one of the welcome and noticeable features of this campaign. Only about 1,000 burns were admitted to forward units, and only one-third of these were identified as serious. In this latter class there was a mortality of 5%. From the hospital angle, burns accounted for 3% of all admissions (surgical) and for 2% of all battle casualty cases. This very marked difference in comparison with the M.E. campaign leads one to suppose that climatic conditions, both directly and indirectly, must have a very big effect on the incidence of burns.

Treatment was of the simplest, and was standardized: as a preliminary (apart of course from the necessary resuscitation), gentle cleaning and the application of an oily dressing containing a bacteriostatic (sulphonamides or, later, penicillin). Burns were immobilized so far as was possible, and dressed as infrequently as possible. Cases which were considered too severe to be treated under this regime were skin-grafted during a course of parenteral penicillin—the most severe being, whenever possible, referred to plastic surgeons for treatment.

Chest Wounds.—In this field improvement came from the better appreciation of certain simple facts rather than any new technique. For example:—(*a*) That chest wounds do *not* travel well in the first five or six days and should be held in forward units until stabilized. (*b*) That there is no danger in emptying a pleural cavity far earlier than was previously considered advisable—i.e., within 12 to 24 hours. This emptying applies as much to air as to blood. In certain units the use of an apical tube for draining a pneumothorax was proving "practical politics." Many surgeons were emptying the pleura by catheter previous to inserting the last stitches closing a sucking wound, and at the same time the anaesthetist would expand the lung by positive pressure. The slogan produced by our medical colleague (Brig. E. Bulmer)—"Having saved the life, save the lung!"—has governed our policy in these chest wounds, and by far the majority of cases have shown a reasonably well expanded lung before transference to base hospital. When it has been difficult to achieve this, the cause is frequently a lung haematoma—a condition, it is felt, not hitherto sufficiently appreciated. What the late effects of this early definitive treatment will be in comparison with those of the last war and previous campaigns only time can tell—but we are hopeful. (*c*) That once a sucking wound is closed, penetrating chest wounds are better dealt with and supervised by a physician. Considerable time is required to produce optimum results—and for the forward surgeon time is usually at a premium. The forward physicians have in this campaign done yeoman service. (*d*) That chest cases, like all other serious wounds, are shocked and require resuscitation. Admittedly, in view of the site of the lesion, this should be carried out carefully and rather more slowly than is now accepted as usual. For the immediate resuscitation of chest cases blood is much safer and more valuable than plasma. The risks of producing pulmonary oedema by giving intravenous fluids are infinitely less than the risks run by not giving them at all.

At the end of the campaign the general impression regarding thoracic wounds is that there has been a very marked improvement in treatment and results as confidence grew from increased experience. So much is this the case that we feel, and have the agreement of our thoracic surgeons, that forward surgeons might well, with suitable direction, be a little more ambitious in the early stages, both with safety and with advantage to the patient.

Vascular Injuries.—Here is a surgical field still in the throes of exploratory tilling—and a very important field in its inevitable (at the moment) wastage of limb and life. The majority of our fatal cases of gas gangrene have been those associated with vascular damage, and a considerable percentage of the total amputations have resulted from irremediable injury to main vessels. No fewer than 1,150 cases (i.e., 2% of the total) were specifically recorded by forward surgeons. This group carried a 5% mortality. And at the end of it all we were still relying on ligature as the mainstay of treatment. The success or otherwise of this procedure depended upon a number of factors, such as length of time between wounding and operation, amount of associated muscle damage (i.e., obliteration of potential collaterals), site of vessel injury, amount of sepsis in the wound producing the vascular damage, and, even more important in distal wounds on the same extremity, extent and severity of accompanying wounds elsewhere and the patient's general condition. Even allowing all these variables, one often saw almost comparable cases—one viable, the other gangrenous. Arterial spasm is most certainly an entity, and the individual's sympathetic response to various stimuli is undoubtedly yet another factor.

Little benefit was achieved in these cases either by sympathectomy or by local stripping of vessel coats. Sporadic good results following arteriectomy were reported in cases of so-called spasms. The local and primary repair of a partial tear of a major vessel was also occasionally successful, but one felt always that there was too much of an element of luck in these cases to make them of any scientific value. The calf fascia-splitting incision (as popularized in C.M.F.) was found useful, but only in selected cases—where the lower leg was markedly swollen and cold and the skin glazed. The most stimulating line of advance was the work of certain surgeons (in particular Major W. Mustard, R.C.A.M.C.) in performing primary intubation of damaged major vessels. Tubes of glass and acrylic resin were used, the rationale being to restore circulation through the main vascular channels of a limb at the earliest possible moment, with the idea of removing the tube and carrying out definitive treatment (e.g., suture, venous graft, ligature) within a few days when circulatory stability had been regained and collaterals opened up. Results of this technique produced some unexpected and occasionally disquieting secondary phenomena—e.g., the effect of suddenly washing into the general circulation the metabolites of a limb in which the circulation had been stagnant for several hours. However, it is felt that along this line there is most chance of a material advance.

In the meantime, ligature, with all its chanciness, is still the accepted treatment. The ligatured popliteal still gives far too many bad results, the femoral prognosis is fifty-fifty, and the brachial good. We have learnt that it pays to keep these cases in forward areas for several days, until a definite decision as to the future of the limb has been arrived at.

Knee-joints.—A series of 1,365 penetrating wounds of the knee-joint, with only 7 deaths, would have sounded like the worst kind of fairy-tale in 1940, and even in the Middle East a large proportion developed pyarthrosis, with subsequent toxicity and disability. And yet these are the B.L.A. figures. The cases were treated by careful excision, by suture of the synovial layers without drainage, by the instillation of local penicillin (50,000 units) into the joint cavity, and by careful immobilization in a Tobruk splint for transit. At the same time a course of parenteral penicillin was instituted. Practically all these cases were transferred direct to the U.K. Later reports from orthopaedic centres there underline the really amazing change in the picture of these cases. So good was their general and local condition on arrival that there was at first a tendency to push convalescence a little too fast. A series of local, but unimportant, flare-ups in the joints with an effusion were evidence of this quite understandable over-enthusiasm. As examples of the later results extracts from two reports from the U.K. may be given.

(*a*) Series of 78 cases in a transit E.M.S. hospital in the first month of June, 1944. 44 had serious accompanying bone injury, 4 required amputation (2 for joint infection, 1 for popliteal artery damage, 1 for gas gangrene). At eight months 33% had flexion better than 90%, and another 15% better than 45%.

(*b*) A later series of 101 cases at an orthopaedic centre: Normal knee, 67; expected to be normal, 10; useful range, 13; ankylosed, 11; no deaths; no amputations. Only 9 cases had suppurative arthritis; 4 of these were healed within six months, three of them much earlier. Of the 11 ankylosed knees, 9 had marked bone damage. No drainage of an actual joint was ever necessary.

This is a stimulating picture, for which, of course, we must undoubtedly to a large extent thank penicillin; but, as ever, this invaluable agent should be thought of only as the handmaiden of good surgery. A comparison with German knee-joints is tragic. They perform large numbers of primary excisions, they drain every joint with outsize tubes, and their immobilization is minimal. Hence all their knee-joint cases are septic, and those who do not die of toxaemia either have to lose a limb or accept a deformed and useless one. So there is credit due elsewhere than to penicillin!

Amputations.—Little need be said on this subject. Approximately 3,200 amputations (excluding digits) were performed in this theatre—2,600 in forward areas with 7.5% of mortality, and 600 in base hospitals with 1.3% mortality. The principles of flap formation, of avoidance of primary suture, and of the use of delayed suture have been strictly adhered to. We have considered a guillotine amputation a surgical crime (it is the accepted German method!), and we have preached that amputations through joints should be performed only in cases of dire emergency.

Delayed Suture (with which should be grouped simple skin-grafting).—There is nothing dramatic about these techniques, but the results achieved have led to a saving of man-power, a reduction in wound complications, and an economy in hospitalization, in supplies of drugs and equipment, and in surgeons' and nurses' time which it is quite impossible either to compute or to appreciate fully. As holding capacity increased towards the end of 1944 in Belgium, more and more cases of at first simple flesh wounds and later of more complicated wounds (e.g., compound fractures were rendered "simple" before evacuation to the United Kingdom) were sutured in base hospitals. During the last six months of the campaign these cases provided more than 50% of the work in base hospitals, and during the process a great deal of interesting and valuable clinical and scientific research was carried out. This has been fully reported elsewhere ("21 Army Group Penicillin Therapy"). Results were universally satisfactory—90% sutures being considered not quite good enough!

It is impossible here to enter into the many points of detail which have been of interest, but perhaps one example may be quoted as being indicative of the saving of time, equipment, and energy resulting from such simple measures. Let us always remember, however, that it is only the laying of the bogy of wound sepsis by good preliminary surgery and by penicillin and its allies which makes this mass repair a practical proposition. The simplest type of wound—a "through-and-through" bullet wound of the soft tissues of the thigh—was produced by an officer (accidentally!) shooting his batman through both legs. The surgeon applied local penicillin and a sterile dressing to one entry wound and one exit wound; the other entry and exit he excised and three days later sutured. At the end of 10 days (i.e., a week after suture) stitches were removed from the sutured wounds, leaving a linear pliable little scar. The other two wounds remained perfectly clean and ran a normal course of healing; but they took 23 days before dressings could be discarded, and left "threepenny" slightly depressed scars, one of which was adherent to deeper tissues. A simple example of a very important advance!

Post-operative Complications

Most of these are too well known to merit discussion here, but we would like to record the very noticeable absence of post-anaesthetic chest complications throughout the campaign—even in the bitter weather of last Christmas in the snow of the Ardennes and the mud and chill of eastern Holland—and at the same time to pay tribute to the very high standard of anaesthesia that was maintained. But two complications probably remain in the forefront of the minds of most B.L.A. surgeons—fat embolism and so-called "anuria."

(*a*) *Fat Embolism.*—The occurrence of a small series of 5 cases (4 of which were fatal and 3 proved by post-mortem examination) in the early battles around Caen aroused our interest and prompted the thought that this little-understood and rather dire complication of trauma (or should one say mechanical and surgical trauma, and even add anaesthesia to the list?) was perhaps more frequent than had previously been thought the case. Subsequent investigations have certainly confirmed this supposition—but have unfortunately done little to elucidate the problem. We have learnt to recognize fat embolism clinically with much more accuracy, and hence can say that a larger proportion than 20% (as in the "warning" series) survive. Over 100 cases have been reported during the campaign, and doubtless many more have occurred. It would seem that the mortality is approximately in the neighbourhood of 50%. The following facts of interest have been noted often enough to be worth recording:

(i) Although usually the sequel of a major wound involving large masses of soft tissue, this is by no means always so. Cases have been reported several times after retroperitoneal haematomata, once or twice following chest wounds, and once with a straightforward penetrating abdominal wound involving small intestine only.

(ii) The old theory that the embolic fat is derived from the marrow of a broken bone is quite exploded.

(iii) The predominance of cerebral symptoms over pulmonary has been a striking feature.

(iv) Petechiae, most commonly seen over the shoulders, upper chest, and neck, were the exception rather than the rule.

While a considerable amount of research has been done in the theatre on this problem, it must be admitted that little light has been shed on the possible aetiology. Apart from symptomatic measures, the only definitive attempt at treatment, to our knowledge, was the intravenous injection of 90% alcohol. The patient recovered, but whether from fat embolism or acute alcoholic poisoning is not related!

(*b*) *Anuria.*—This aetiologically vague but clinically very definite syndrome was seen all too often in many of our more serious cases. During the V-bomb raids on Antwerp cases of "crush syndrome" were relatively common, but, apart from this better-known variety, cases were continually being discovered in which there was no suggestion of "crush" but in which anuria developed. Not by any means all were fatal, but, once established, the outcome of the case appeared to be in the lap of the gods. As time went on we had reason to doubt the value of intravenous alkalis, which we at first strongly recommended. Likewise, no success was obtained from high-spinal anaesthesia or from splanchnic block. The consensus of opinion at the moment would seem to favour the conjecture (and that is all it is) that a circulating toxin is produced by massive tissue damage—the effects of which are widespread. The kidney tubules are possibly one of the affected parts. It has been noted that the same toxin may act on normal blood fat in such a way as to change its physical state and render it more likely to be deposited in pulmonary and cerebral capillaries.

Naturally, in war, trauma—and severe trauma—is very much with us; but the possibility of both the above conditions occurring relatively far more frequently in civilian life than was previously recognized should be borne in mind. They offer a rich field for future research.

The Surgeons

Two out of every three B.L.A. surgeons—the men responsible for the work described above—had never met a war wound face to face before D Day and their arrival in Normandy. The remaining third were veterans of the M.E. campaign. The effect of the latter on the former, the effect of six months' training as a surgical team before D Day, the value of a routine procedure standardized so far as was possible and based on previous practical experience, are all borne out by the recorded results. The conservatism and judgment of the smaller group and the loyalty and willingness to learn of the larger—and, let it be fairly said, the excellent surgical technique of both—produced an atmosphere which was as stimulating and provocative as it was efficient and friendly. War surgeons are really quite an individual class—and are bred as much as they are born. They must be essentially competent technicians, with a good anatomical background—not too slow, not *too* meticulous—capable of endurance, blessed with common sense (which gives sound judgment) and human understanding, adaptable and cheerful—doctors as well as surgeons! Naturally there are many varieties of this prototype, and most of them are good. The war surgeon acquires enormous confidence. If he ever aspires to become a good surgeon he must possess or acquire a corresponding amount of clinical and technical knowledge.

In this thought lies a description of the three main classes of war surgeon: the one who will always be a menace, possessing only confidence; the one who was a surgeon before he was a war surgeon and will only have to readjust on return to civil life; and the one who has become, or, even more important, *may* if properly handled become, a good surgeon on the basis of his war experience together with a desire to acquire a wider knowledge.

Such were the surgeons of B.L.A., though Class I was almost conspicuous by its absence. They were good war surgeons, they were good friends, and they made a good team.

Summary

It has intrigued us to probe into the reasons for these improvements and for the general high standard of surgery in this campaign, considering that very little new has been added in technique and very little new has been discovered in research. Many are the discussions we have had on this subject in many weird places. The following points summarize our opinions:

1. *Man-power.*—Probably no group of surgeons ever worked on better material. The men of 21 Army Group were fully immunized and fully trained; their morale was at its highest—"the last lap" feeling; they were well clothed and well fed, fighting in a climate to which the average British soldier is more accustomed; hygiene, both personal and unit, was exceptionally good; and welfare services were excellently organized to cope with the leisure hours.

2. *Tactical Situation.*—21 Army Group was always a winning army! It had the initiative and could dispose its units as required. Air cover was to all intents and purposes complete, enabling patients to be held or transported in safety more or less at will. The modern type of warfare—essentially mobile and rapidly moving—ensured that units were never overwhelmed with cases.

3. *Surgical Policy.*—The standardization of policy, based on practical experience and inculcated into a united team previous to the beginning of the campaign, has already been discussed. To obtain optimum results we have attempted so far as was possible to have the individual surgeon working with compatible people at the right type of unit and at the right level. Having laid down a policy, which must of course be elastic enough to cope with changing circumstances and not so hidebound as to throttle reasonable initiative, we feel this placing of personnel and the dissemination of clinical (and topical!) news by constant personal contacts to summarize the duties and responsibilities of a consultant to his surgeons.

4. *Evacuation.*—Speedy collection of wounded has made early surgery possible, and the remarkable development of air evacuation has permitted early and more definitive surgery to be performed sooner than in any previous campaign. Provision for interim treatment during evacuation, whether by road, rail, sea, or air, has been brought to a high pitch of efficiency—and in this respect we would stress the importance of adequate immobilization, wherever possible, of a wounded part during transit.

5. *Forward Surgery.*—The gradual pushing forward of surgical potential (a process initiated in the desert by the first "mobile surgical teams" of Major-Gen. D. C. Monro) until an optimum level has been reached, considered by us to be C.C.S. level or theoretically

just on the corps side of the corps-divisional boundary, has ensured the wounded man getting as soon as possible to surgical care—the latter being provided in circumstances which afford the maximum facilities for surgeon and nursing staff and the maximum comfort for patient. This potential to-day is provided by that invaluable little self-contained unit the "field surgical unit."

6. *Pre- and Post-operative Treatment.*—There is no doubt that on both sides of the operating table considerable, if not dramatic, advances have been made. Resuscitation as provided by the Blood Transfusion Service has been in every respect admirable. They were responsible not only for actual resuscitation, both pre- and post-operative, but also for the selection of priority cases awaiting operation—a task demanding the soundest clinical judgment and common sense. They also delivered to all units requiring them supplies of blood, plasma, saline, glucose, and penicillin as if by divine inspiration, no request ever having to be made and no notification having to be given of change of location—even to the most out-of-the-way spot. Indeed, the supply system as interpreted by our Base Transfusion Unit might well serve as a model for the cutting of red tape during action. The gay good humour of all the B.T.U. personnel, even under the most trying and difficult circumstances, was an inspiration to all with whom they came in contact.

So also was the presence of nursing officers in forward surgical units. Much of the vast improvement in post-operative treatment (and with its penicillin injections and drips, its intravenous infusions, its gastric suctions, its morphine, its sera, apart from all other routine nursing requirements, this is a complicated ritual to-day) was due to their excellent work. Added to this, too, is the undoubted value of a woman's presence both beside the bed of a recently wounded man and in the wards and theatres with the male personnel. In both spheres they have done much to raise morale, and their cheerful but quite obviously genuine enjoyment of their arduous and often dangerous work is deserving of the highest praise. In this connexion, too, mention must be made of our B.R.C.S. services, under the able and kindly direction of Major-Gen. Lindsay. They never failed, even in the most forward areas, to provide those little comforts and that personal attention which mean so much to a wounded man, and incidentally to his surgeon, who benefits from his patient's raised morale.

7. *Penicillin and Sulphonamides.*—Sulphonamide therapy was well established previous to this campaign, but in our lavish supplies of penicillin we have certainly been most fortunate, and to its beneficent effect must go considerable credit for the results achieved. Its prophylactic use on the scale employed in Normandy was an entirely new venture and paid handsome dividends. Since then both prophylactically and therapeutically it has been used to an increasing extent with consistently good effect. Among other clinical researches carried out in Army Group (and described in full in "21 Army Group Penicillin Therapy") was one which proved that penicillin alone offered as good protection against wound infection as did a combination of penicillin and sulphonamide.

8. *Surgeons and Surgery.*—By no means least has been the effect of consistently good surgery carried out by an enthusiastic and capable team of surgeons. We had but two women surgeons; we had many women anaesthetists, radiologists, and surgical general-duty officers—far more than any other theatre of war had ever dreamt of. Let it be said that their part in this saga was not one whit less praiseworthy than that of their male counterparts. We were very, and we think justifiably, proud of our whole team.

Conclusion

As was stressed at the beginning of this article the success of a medical service depends essentially on close collaboration and mutual understanding between the administrative and clinical sides, and it is with very genuine feeling that we express our gratitude for their unfailing and full co-operation, to our two Ds.M.S. (Major-Gens. Sir Percy Tomlinson and E. Phillips), to the D.Ds.M.S. Armies (Brigs. E. Phillips, Galloway, and Glyn-Hughes of Second British Army, and Brigs. Fenwick and Elder of First Canadian Army), to the D.Ds.M.S. Corps and to the Consulting Physician (Brig. E. Bulmer), all the clinical advisers of Army Group, and to the surgeons, nursing officers, and other ranks, both male and female—all of whom have contributed materially to making our task as pleasant personally as it was fascinating surgically.

B. M. Schwartz (*J. Amer. med. Ass.*, 1945, **128**, 704) records his observations on 14 cases of Vincent's angina treated with penicillin. The recommended dose is 100,000 units, administered intramuscularly in 20,000 units every three hours, and was found to be of definite value. P. L. Shallenberger, E. R. Denny, and H. D. Pyle (ibid., p. 796), who also treated 14 cases of Vincent's angina with penicillin, obtained equally good results from intramuscular injection.

THE MIKULICZ RESECTION OPERATION FOR GANGRENOUS INTUSSUSCEPTION IN INFANTS

BY

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When in an infant an acute intussusception becomes irreducible and gangrenous, not only is the choice of a suitable operation difficult but the results are usually bad. The operation commonly chosen in these cases is either resection of the gangrenous mass with end-to-end or lateral anastomosis, or exteriorization of the mass with the formation of an enterostomy, with a later attempt to close this if the child survives. Suture of the proximal part of the intussuscipiens to the intussusceptum has also been suggested, leaving the gangrenous mass to slough and pass per rectum. These operations are far from satisfactory; very few children survive.

In view of these results we have recently chosen to treat the irreducible gangrenous intussusception by a modification of the Mikulicz type of resection, and we are able to report here two successes. We recognize the danger of generalizing from two cases, but the results in these were so much better than we have experienced with other methods that we feel justified in publishing this report. At this point, however, we wish to make clear our view that no major operation of this sort in an infant will be successful unless the child is given special pre-operative and post-operative treatment by those who are experienced in modern paediatric methods and can judge from hour to hour what measures are required to be taken. A note by Dr. Brenda Morrison on these measures is included in this paper.

The Mikulicz type of resection which we recommend is made possible in infants because at that age the caecum, ascending colon, and transverse colon are very mobile. In both of our cases it was found easy, after a small incision of the peritoneum on the outer side of the intussusception, to mobilize the mass and to bring it out of the abdomen with very slight trauma, thus leaving the next steps of the operation to be performed expeditiously and with relative ease. The operative procedure followed in both cases was similar. A preliminary attempt at ordinary methods of reduction having failed, the intussusception was found to be gangrenous, and some form of resection was therefore necessary. The viable portions of the ileum and colon were quickly joined together, in the usual double-barrelled Mikulicz colostomy method, by two layers of continuous catgut sutures, and the abdominal incision was closed around the bowel by interrupted sutures. The condition of both cases at the end of operation was satisfactory. After six days the spurs were crushed and removed by the ordinary Mikulicz method with small crushing clamps. Six days later—i.e., on the twelfth day after operation—the stomata were closed after the bowel ends had been freed and inturned.

Case I has now made an excellent and permanent recovery. The patient has gained satisfactorily in weight, and a slight tendency to diarrhoea, due to loss of the ileo-caecal junction, has cleared up. The second case has made an excellent recovery after operation, and it is anticipated that this patient also will return to normal health.

Case I

On Oct. 11, 1944, two and a half days before admission to hospital, the patient, a female child aged 5½ months, started to cry suddenly and became deathly pale. Towards evening she became drowsy and difficult to feed. The doctor was sent for, and he put her on a glucose mixture. She was thought then to be suffering from a chill due to her teeth. The next day she appeared to revive to some extent. At 10 p.m. she was violently sick and the vomit was bright green. She looked very white and it was difficult to rouse her. She slept intermittently on the night of Oct. 12, and on the morning of the 13th she whimpered and vomited repeatedly, but did not appear to be in severe pain. Later in the day she was admitted to the children's department of the Royal Victoria Infirmary under Prof. Spence. No blood had been passed per rectum before admission and there had been only one small motion.

On admission she was found to be well nourished; her expression was anxious, eyes sunken, and tongue dry. The abdomen was slightly distended, and there was a readily palpable, sausage-shaped tumour in the left flank extending down into the pelvis. Per rectum no mass was palpable, but some foul-smelling blood-stained fluid emerged on withdrawing the finger.

After pre-operative treatment had been carried out, at 4.30 p.m. one of us (T. A. H.) opened the abdomen through the usual lower right paramedian incision. A large intussusception was found extending well down into the descending colon. Attempts to reduce the mass inside the abdomen were not successful, and it was delivered out of the wound with some difficulty. After a portion of the intussusceptum had been reduced it was found that the remainder was completely gangrenous. The mass was then rapidly mobilized and removed by the modified Mikulicz method described; the loop was brought outside the abdomen, and healthy portions of the lower ileum and transverse colon were sutured together side by side. After the abdomen was closed the gangrenous loop was removed, and catheters were tied into the ends of the ileum and colon for drainage purposes. The opening was later dealt with as previously described, and the child ultimately made an excellent recovery.

Case II

This patient was a male child aged 10 months. On May 9, 1945, four days before admission, he vomited, and later in the day had attacks of crying. Between the attacks he lay quiet and looked very weary. All that night he vomited everything he took and had spasms of crying. Early next morning he passed a small reddish motion. There was no visible blood. The vomiting and screaming continued all day and the child seemed to become weaker. He lay very quiet between the attacks. The doctor was called in and prescribed a stomach mixture. On the 11th he was still vomiting, but was not crying nearly so much; he appeared very exhausted and whimpered occasionally. He continued like this until his admission to the children's department of the Royal Victoria Infirmary on May 13. The bowels had not moved since May 10 and there had been no frank blood passed per rectum.

On admission he was an obviously ill baby, pale and worn out, lying quietly with partly closed eyes. There were obvious signs of dehydration, but the nose and extremities were warm. The heart rate was 140. The abdomen was distended and tympanitic. There was guarding in the right hypochondrium and a suggestion of fullness, but no tumour was felt. Per rectum no mass was palpable, but on withdrawing the finger a small amount of brownish fluid was passed.

An intravenous drip was started immediately, and three hours later one of us (A. W. S.) examined the child under an anaesthetic. A fullness was felt in the epigastrium but no definite tumour. The abdomen was then opened and a small ileo-colic intussusception was found, extending to the middle of the transverse colon. Reduction inside the abdomen was unsuccessful, and the whole mass was delivered outside the abdomen with some difficulty. Some ileum was then reduced, and it was found that the remainder was obviously gangrenous. The mass was accordingly mobilized in the manner previously described, and healthy portions of ileum and ascending colon were secured together by two layers of continuous catgut sutures. After the abdomen had been closed the gangrenous mass was excised and catheters were tied into the ends of the ileum and colon for drainage purposes. The opening was later dealt with as described.

Pre-operative and Post-operative Treatment

Case I.—An intravenous drip infusion was set up on admission and 100 c.cm. of 0.2% saline with 4% dextrose was given before operation. The drip was continued during the operation and afterwards for six days. The total amounts of fluid given over this period were: 350 c.cm. pooled human serum, 200 c.cm. fresh whole blood, 300 c.cm. normal saline, and 1,600 c.cm. 0.2% saline and dextrose. In addition substantial amounts were taken by mouth (see Table I). Her immediate post-operative condition was fairly good—the heart rate was 200 per minute, but she was hydrating up and the circulation was satisfactory. The ileostomy did not drain at all for the first 36 hours, although the tube was patent, but the baby vomited only twice and took small drinks well. On the evening of Oct. 14, however, she began to deteriorate, becoming restless, pallid, and anxious. By the next morning she appeared moribund; the temperature was 98°, but the heart rate 190. She was sunken-eyed and cyanosed, moaned continually, and was very restless. She vomited dark-green fluid, and a further 300 c.cm. was removed from the stomach by aspiration. During the morning the ileostomy began to drain, dark-brown fluid faeces coming down the tube in spurts with each peristaltic wave. Several ounces had drained after a few hours, and the child became more restful and less fluid was aspirated from the stomach. By next day (Oct. 16) the bowel was draining well and the child was considerably improved. Blood examination at 8 p.m. on Oct. 15 had shown a marked anaemia of post-haemorrhage type: haemoglobin, 50% (7 g./100 c.cm.); R.B.C., 2,800,000; haematocrit, 20%. Blood urea was 64 mg. per 100 c.cm.; plasma protein 6.4%, and plasma chloride 320 mg. Cl per 100 c.cm. plasma (normal range 340–380 mg.). A transfusion of 200 c.cm. of fresh blood plus 100 c.cm. of normal saline was given over 16 hours; after this the blood picture was: haemoglobin, 90% (12.7 g.); R.B.C., 5,200,000; haematocrit, 37%. Blood urea was 35 mg., plasma protein 5.8%, and plasma chloride 310 mg. Cl per 100 c.cm. (Oct. 18). She was able to take fluids by mouth from Oct. 16, and was given 1 oz. hourly for three days, then 2 oz. two-hourly for 4 days. She fed fairly well, with only occasional vomits. Fluids given were water at first, then 1 in 8 dilution Nestlé's milk, then humanized Trufood.

TABLE I.—*Case I. Showing Fluid Intake and Output, with Blood Chloride Levels, during the First Week*

Date	By Drip (c.cm.)	By Mouth (c.cm.)	Aspiration and Vomits (c.cm.)	Blood Cl Level (mg./100 c.cm.)
13/10/44	230	60		
14/10/44	300	450	100	
15/10/44	420	300	500	320
16/10/44	300	350	50	
17/10/44	400	600	45	
18/10/44	400	400	0	310
19/10/44	400	400	0	

The interesting features were (*a*) the marked anaemia, which was almost certainly a result of haemorrhage into the bowel, as she passed three large stools after operation, consisting almost entirely of altered blood; and (*b*) the low blood chloride level.

Case II.—On admission this baby was in a state of established dehydration, with sunken eyes, inelastic skin, and greyish pallor. He was given 200 c.cm. of plasma in 1½ hours before operation and improved considerably, his face and lips becoming pinker. 50 c.cm. of fresh blood was given during the operation, and the drip was continued afterwards at a rate of 100 c.cm. of fluid every six hours. Normal saline and 0.2% saline and dextrose were given alternately for the first 36 hours, then plasma and normal saline alternately, and later normal saline and 0.2% saline again. Altogether the drip ran for 4½ days, and the total amounts given were: 450 c.cm. plasma, 50 c.cm. fresh blood, 1,250 c.cm. normal saline, 950 c.cm. 0.2% saline and dextrose. The stomach was aspirated every 4 hours for the first 3 days. He was given fluids by mouth from the start and drank well throughout. At first there was very little fluid obtained by aspiration from the stomach and no vomiting, and the child appeared fairly fit. However, on May 14—i.e., 48 hours after operation—his condition deteriorated considerably. He became sunken-eyed, with cold extremities and frequent restless spasms. Dark-green fluid was now aspirated from the stomach in large quantities and nothing was draining from the ileostomy. The blood chloride level was 305 mg. Cl per 100 c.cm., plasma protein 5.6%, and blood urea 58 mg. per 100 c.cm. It seemed that large amounts of fluid and salt were accumulating in the small intestine, and, though peristalsis was audible, drainage was not yet established. The chloride intake per drip was increased. During the next 24 hours drainage via the ileostomy became established and the amount removed by gastric aspiration lessened steadily. The patient's condition improved considerably, but he still appeared very dehydrated. By 10 a.m. on May 16 he was drinking eagerly and not vomiting, but the blood chloride level was down to 285 mg. Cl per 100 c.cm. The blood urea was then 23 mg. and haematocrit 36%. He was passing very little urine and still looked dehydrated. Two oz. of normal saline was given by mouth, alternating with 4 oz. of Trufood and Prosol mixture every two hours; he drank all this eagerly, taking unusually large amounts of fluid and sodium chloride for a baby of his age (see Table II). By May 18 the chlorides were up to 321 mg. and he appeared much better hydrated. The ileostomy was now draining soft semi-solid faeces. By the end of the week he was definitely out of danger and appeared remarkably well and contented.

TABLE II.—*Case II. Showing Fluid Intake and Output during the First Week*

Date	Intake		Output		
	By Drip (c.cm.)	By Mouth (c.cm.)	Aspiration and Vomits (c.cm.)	Ileostomy (c.cm.)	Urine (c.cm.)
12/5/45	300				
13/5/45	400	90	50	10	30
14/5/45	600	720	560	30	90
15/5/45	700	540	360	300	60
16/5/45	600	580	0	140	60
17/5/45	100	1,230	0	?	
18/5/45	0	2,220	270	?	

The interesting feature of this case was the very low level reached by the blood chloride, and the amazingly high intake of sodium chloride by mouth and drip, which was very well tolerated; in fact, he showed great eagerness to drink the normal saline and never refused any of it during the period of chloride deficiency. The estimated intake of sodium chloride per day is shown in Table III. This does not include the salt content of the milk food (Trufood and Prosol).

TABLE III.—*Case II. Showing Estimated Sodium Chloride Intake (apart from the Salt contained in the Dried Milk) and Plasma Cl Levels during the First Week*

Date	NaCl Intake (g.)	Blood Chloride (mg./100 c.cm.)
13/5/45	2·9	
14/5/45	3·4	305
15/5/45	6·4	
16/5/45	4·8	285
17/5/45	10·8	
18/5/45	11·1	321

Comment

It is of interest that both these children were most profoundly ill about 48 hours after operation, with signs of intestinal obstruction, which was relieved when drainage from the ileostomy became properly established.

It is worth pointing out what large amounts of fluid, such as 0.2% saline and dextrose or normal saline, can be taken by mouth and retained by these ill children in addition to fluids given intravenously.

Summary

We report two cases of gangrenous intussusception, of two and a half and four and a half days' duration respectively, treated by a modified type of Mikulicz resection.

We consider that this method of treatment can be expeditiously carried out and that it offers a better chance of recovery in the "bad-risk" case than the ordinary methods of treatment recommended, such as end-to-end anastomosis or lateral anastomosis after resection or enterostomy.

We wish to emphasize the necessity for treating this type of case in a properly staffed and equipped children's department, as we feel that skilful pre-operative and post-operative treatment must play a major part in the recovery of these patients

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TRICHOMONAS VAGINALIS INFECTION IN THE MALE

BY

F. L. LYDON, M.B., M.R.C.P.
Major, R.A.M.C.

The frequency of *Trichomonas vaginalis* infection in the female has for many years been recognized, but the similar infection in the male has not received the attention it merits, since it is by no means an uncommon cause of urethritis. During the past few years I have seen numerous cases of this nature, some of which I was fortunate enough to observe over many months, and the results of my investigations are put forward in the hope that with a higher index of suspicion when confronted with a "urethritis," especially one showing a tendency to relapse and chronicity, other workers will discover that many of these cases are due to infection with *T. vaginalis.*

The Organism

The description of the organism as regards size, shape, flagella, etc., may be found in most laboratory textbooks, but I would like to add some personal observations.

(*a*) *Shape.*—Although usually described as round or pear-shaped, I have seen in some preparations what appeared to be a stoma at the flagellated extremity, suggesting that the organism is in fact globular when not subjected to pressure. The flagella therefore may act primarily as a means of directing food particles into the body of the organism and not for the purpose of locomotion.

(*b*) *Method of Reproduction.*—It is, I think, generally assumed that reproduction is by simple fission, but on two occasions I have watched for a period of two hours a process best described as "budding." In one case a large organism (parent cell) was attached to a much smaller one (daughter cell) by a bridge of clear cytoplasm, the outer covering of both organisms being continuous. Separation resulted by the stretching and final rupture of this bridge owing to the action of the flagella of each organism in opposite directions. After separation the daughter cell was morphologically identical with the parent, though much smaller in size (6–8μ). On the second occasion (one parent and two daughter cells) the same appearances and results were observed.

(*c*) *The Occurrence of a Resting Phase.*—In some of my cases the active organism disappeared completely from the discharge for periods varying from about one week to two months. During these intervals, however, cells with a "hard" limiting membrane could always be found on dark-ground examination, which suggested that the organism had entered an encysted stage. Differentiation between these cells and some medium-sized epithelial cells is extremely difficult, but a certain facility is acquired by experience. If confirmed this observation of a resting phase is obviously of great importance both in diagnosis and in assessment of cure.

(*d*) *Method of Demonstrating the Organism.*—For convenience and clarity the dark-ground method is by far the best for the clinician. A drop of normal saline is placed in the centre of a slide. A loopful of the discharge is now dipped into the saline until the fluid takes on a slight opalescence. Recognition of the degree of opalescence necessary comes after a little practice, and I find that holding the slide to the light and looking at the fluid through the glass is of great assistance. A cover-slip being applied, dark-ground examination is carried out in the usual manner.

Pathology

Much divergence regarding the pathogenicity of the *T. vaginalis* is found in the literature: some support its claim as the primary pathological cause, while others look upon it as a parasitic invader following a primary bacteriological infection. Undeniably this latter view is supported by the marked number of organisms found in stained smears of *T. vaginalis* urethritis even on the second day of the appearance of the discharge; in fact, in my department, in any case in which stained smears of urethral discharge show large numbers of organisms the presence of *T. vaginalis* is suspected, and often confirmed. In spite of this, however, I feel that at the moment the problem is best considered in the same light as a Vincent's infection of the mouth, where somewhat similar conditions are necessary for the development of the disease—i.e., dead or damaged organic tissue on which the two organisms flourish together, each being necessary for the development of the other owing to some mutual symbiotic characteristics. This view saves a great deal of useless argument, since either *T. vaginalis* must be first grown in pure culture (or one of the many bacteria present) and shown to produce the disease before the problem can be finally settled.

Turning to the condition in the female, the marked preponderance in young unmarried women is of great interest, and in my opinion one must consider the possibility of extension to the vagina from the bowel in spite of the insistence by some workers on the specific nature of this organism for the vagina. It is well known that cyclical changes (in the vagina) occur, which cause a denudation of the vaginal mucous membrane at regular intervals, and this fact must, owing to poor drainage in young women, bring about a favourable nucleus for the invasion of parasitic organisms. Again, organisms very similar to *T. vaginalis* are often found in the *intestine*, and unless evidence as to the specificity of *T. vaginalis* is beyond doubt, one feels that here at least is a reasonable explanation of the method of infection.

With regard to upward extension of the pathological process, recurrent attacks simulating pyelitis have been common in my experience, but there has been no involvement of the prostate, epididymis, or testis. Cases of prostatitis have been described in the literature, but I doubt if this occurs, since microscopical examination of prostatic fluid (obtained after previous posterior irrigation with two pints of normal saline) always yielded negative results even in the very chronic cases. The possible admixture of anterior urethral pathology with prostatic fluid due to the common, and to be condemned, practice of "milking" the penile urethra after prostatic massage has, I believe, led to such erroneous conclusions. The rarity of stricture (in only one case was a possible previous history of gonorrhoea obtained) is surprising when one considers the chronicity and the marked destruction of the urethral epithelium in this infection. In my opinion this indicates that the infection is localized purely in the mucous membrane, the submucous coat being unaffected. Concomitant gonorrhoea I have not seen, although I have examined gonorrhoeal pus by the dark-ground method on numerous occasions.

Description of the Condition

The incubation period is about three to four weeks, and the first sign is a feeling of irritation and itching in the anterior urethra. This is followed in 24 to 48 hours by a urethral discharge. On inspection the meatus is of a dull hyperaemic type rather than the brightly inflamed one found in acute gonorrhoea. The discharge, although abundant, is not so profuse as in Neisserian infection, and it has a characteristic "watered milk" appearance, due probably to the high proportion of epithelial cells relative to pus cells in the discharge, and this colour is in marked contrast to the yellowish pus of a true gonorrhoea. Dysuria is absent, and frequency is not a pronounced feature. Urgency I have not seen, even when the 2- or 3-glass test suggested upward extension. The appearance of the urine is rather typical. It is hazy, with innumerable small flakes or specks, this again being an indication of the denudation of the surface epithelium which is so common a feature in these cases. The subsequent course of the infection is one of great chronicity, characterized by waxing and waning of the objective signs and the microscopical picture as indicated earlier in this paper, whether treated by the many methods advocated or merely just allowed to go without any treatment. I am convinced that the discharge may be so slight that the presence of the infection is completely overlooked during the resting-phase period, leading to false optimism of cure until some factors, at present unknown, provoke a recurrence of the discharge. The chronicity of the infection is well illustrated by a case at present under my care, in which everything points to an infection contracted nearly four years ago and which has recurred with monotonous regularity over these years. It may be urged that there is the possibility of reinfection in this case and that the previous attacks may have been Neisserian, but the history of the condition since its origin leaves me in no doubt that the original infection was due to *T. vaginalis*. Other cases observed over two years also lend support to this view. The above description applies to the usual course, but I feel that there are many cases in which the initial infection is so slight that it is entirely overlooked by the patient, until conscience, after an exposure, leads to self-inspection and a slight morning gleet is discovered: examination at a V.D. centre dubs these cases as "urethritis," which leads to frequent attendances and many investigations, and often the correct diagnosis is missed unless the pathology of this disease is thoroughly understood.

It remains for the pathologists to discover the method whereby the *T. vaginalis* can be identified with certainty during its resting phase, as with experience I am finding that cases which showed many active organisms at one visit have for periods up to two months—as one at present under my care—shown nothing but the resting phase. Lack of time has prevented me from devoting much attention to this aspect of the disease. One last point in the clinical description of these cases is that in patients with a long prepuce the preputial mucous membrane sometimes shows the typical salmon-pink appearance often found in the female vagina. Urethroscopic appearances have varied in my hands and, so far as I can judge, there is nothing typical to be seen.

Treatment

Like all chronic conditions, especially when subject to remissions, one finds a multiplicity of "cures." Personally I do not think that at the moment we can claim to have any specific treatment for the condition, since, although many methods advocated do bring about amelioration of the signs, the propensity to relapse is similar to that in the female even when no further exposure is possible. It is essential, therefore, to prolong surveillance over many months, and in my hands the results to date of all treatments, including penicillin and the sulphonamides, have been most disappointing. Recently the administration of mepacrine hydrochloride, both by the usual dosage and by the intensive method now employed for malaria, has been tried, but although the discharge decreased to a very slight amount and the active organism disappeared from the discharge, the tell-tale resisting cell could still be found on careful search. That drug will, I believe, prove a failure, too, when subjected to the test of long surveillance.

Summary

The results of over two years' investigations and observation of cases of *T. vaginalis* infection in the male are presented above, and although it is only one part of the problem of "urethritis" its importance is stressed, since it has led to frequent invalidism and hospitalization, and the condition is as yet only dimly understood.

HERPES ZOSTER AND CHICKEN-POX

BY

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Herpes zoster is a condition which has excited interest at various times. It has been noticed to occur in epidemic form, and, as one friend in a large general practice observed to me, "If I see one case of herpes I always expect to see several."

Some years ago it was believed—and the belief was shared by that great clinical observer Sir Jonathan Hutchinson—that second attacks of herpes never occurred. This view is no longer upheld. Some years ago I saw at Moorfields a patient with herpes zoster. On being told that the condition was "shingles" he said, "Oh, I had an attack of shingles 18 years ago on my neck." On examining his neck I found the scars of what must have been a pretty severe attack of herpes. I also saw with Dr. Robertson Fullarton a patient with severe post-herpetic pain in the face. This patient had had an attack of intercostal herpes a year before. I saw, too, with the late Dr. Lewis of Hampstead a lady with facial herpes who a year earlier had had an attack of occipital herpes for which Dr. Lewis had attended her.

Herpes, it will be seen, occurs in several regions. The intercostal is probably the commonest, and the cases I have met with in children have all been in this area. It should be mentioned, however, that the condition is never so painful in children as in adults, and the post-herpetic pain, so often very troublesome and persistent in the latter, is usually slight and of brief duration in the former. Besides the intercostal area almost any other nerve area may be the site of herpes, such as the shoulder, the neck, the buttock or thigh, and the face. When it occurs in the face area there is always danger of affection of the conjunctiva and subsequent impairment of vision. In one patient whom I saw with Dr. Melvill Green—the most severe case I have ever seen—three areas were simultaneously attacked—the face area, the shoulder area, and the intercostal. This patient did not recover.

In 1917 Dr. W. P. Le Feuvre published a paper dealing with the association of herpes and chicken-pox, and summed up by urging that herpes, on account of the close and probably causal connexion between the two diseases, should be a notifiable disease. In four years he took notes of 7 cases of chicken-pox in children following herpes in a parent. Three of these cases occurred in his own practice, the others he met with accidentally. He refers to 17 cases noted in the correspondence columns of this *Journal* between May and Oct., 1913, and reference is also given to a paper read by Dr. Bokay at the International Congress of Medicine at Budapest in 1907 in which 9 cases were described similar to those mentioned. These cases, together with two of his own, were published by Dr. Paul Heim in the *Berliner klinische Wochenschrift* in Dec., 1912.

In an analysis of the cases seen or published Dr. Le Feuvre notes three classes: (1) chicken-pox in one individual apparently contracted from herpes in another—41 cases; (2) herpes in one individual who had been in contact with a patient with chicken-pox—5 cases; (3) herpes and chicken-pox occurring simultaneously in the same individual. He also mentions several cases in which a parent the subject of herpes had been warned to look out for chicken-pox in the children. In these cases confirmation of the justice of the warning occurred usually in 14 days.

Some years ago I published (Taylor, 1920a) a paper in which I recorded some cases showing the apparent connexion between herpes and chicken-pox. In a subsequent paper (Taylor, 1920b) I returned to the subject, and reference is there made to several cases communicated to me by the medical men who had observed them. In the years that have since passed I have had several experiences confirming the close association of the two diseases, and I have been impressed by the fact that very often isolated vesicles quite indistinguishable from those of chicken-pox will be found in different parts of the body in patients suffering from herpes. It was no doubt an extreme case of this nature which justified Dr. Le Feuvre in describing the third class of these cases—herpes and chicken-pox occurring simultaneously in the same patient.

There certainly seems to be a strong case for adopting Dr. Le Feuvre's suggestion for making herpes a notifiable disease.

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RAT-BITE FEVER DUE TO CAT-BITE

SATISFACTORY RESPONSE TO PENICILLIN AFTER FAILURE OF ARSENOTHERAPY

BY

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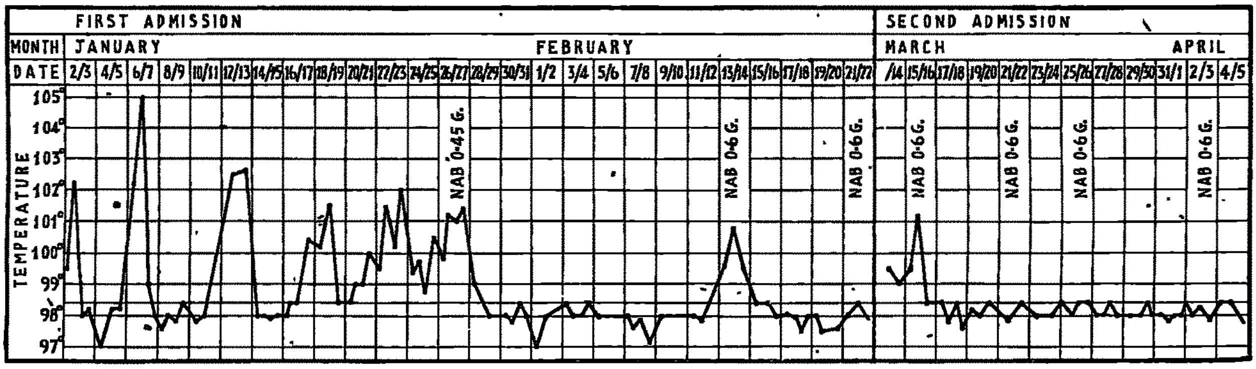
Rat-bite fever (sodoku), though common in some parts of the world, is a rarity in this country; even when cases occur here they are less likely to result from the bite of a rat than from that of another animal, most often the cat. The following report of a case of cat-bite fever is thought worthy of record, especially as it presented some striking, though less generally stressed, clinical features, and was cured by penicillin after the repeated failure of arsenotherapy.

Case Report

First Admission.—A lieutenant in the Royal Engineers, aged 36, was admitted to the Royal Masonic Hospital on Jan. 2, 1945, complaining of intermittent feverishness since Dec. 24, 1944. His history included one attack of benign tertian malaria in 1935 and two attacks of sandfly fever in 1940 and 1944 while in the Middle East.

During the first week of Dec., 1944, while in Taunton, he was bitten on the middle finger of the left hand by a kitten. The wound bled somewhat, and he applied a strong solution of iodine within a short time. Some desquamation followed, which he attributed to the iodine, but within four or five days the wound had healed completely. On Dec. 24 he suddenly began to feel very tired and generally unwell. The finger became painful and inflamed, and he complained of soreness over the left side of his chest, with pain in the left axilla and supraclavicular region; temperature over 100° F. He took to bed. Next day the temperature had fallen to normal by noon, but his appetite had gone, and by the evening he felt chilly, tired, and depressed. His condition remained more or less unchanged until Dec. 27, when his temperature rose to 103° F. and his doctor was called in. In addition to headache, pain in the left chest, and cough, there were rhonchi at both lung bases, with a pleural rub at the angle of the left scapula. On Dec. 30, though he felt no better, his temperature had fallen to normal and his chest was practically free from physical signs, but a macular non-pruritic rash had appeared. On the 31st there was an exacerbation of symptoms, with a rise of temperature to 103° F. and pain in the upper jaw, associated with some swelling of the gum around an upper molar. By Jan. 1 his condition had further deteriorated and some blood was observed in the sputum. A few scattered rales were heard over both lungs posteriorly. Next day he was sent into the Royal Masonic Hospital with the tentative diagnosis of pleurisy.



On examination the patient looked ill; his face was flushed and he perspired profusely. There were several roughly circular reddened urticarial patches, averaging 2 to 3 cm. in diameter, scattered irregularly over the body, mostly on the neck and shoulders, with a few on the forehead, trunk, and extremities. They blanched on pressure and showed slight central vesiculation. An enlarged tender lymph node was palpable in the left axilla, and there were also a smaller left epitrochlear and a left supraclavicular node. The fauces and posterior pharyngeal wall were somewhat reddened; the tongue was clean and moist. Apart from tenderness in the left pectoral muscles the chest presented no abnormalities, and the cardiovascular system was not abnormal. The spleen was felt two finger-breadths below the costal margin; it was not tender. The C.N.S. presented no abnormal signs. The healed cat-bite could be seen; it did not appear to be inflamed.

Investigations.—Chest radiographs: No lesion seen. Blood count: Erythrocytes, 4.5 millions per c.mm.; Hb, 87%; C.I., 0.96; mean cell diameter, 7.17μ; leucocytes, 5,000 per c.mm.—neutrophils 2,950, eosinophils 100, basophils 0, lymphocytes 1,750, monocytes 200. No malaria parasites or pigment seen. Urinalysis: Sp. gr. 1010, reaction acid, no albumin or sugar; trace of acetone. Blood cultures taken on Jan. 3, 6, and 12 grew no organisms after seven days' incubation. Cultures from skin lesions grew only *Staph. albus*. Stool negative. Blood W.R. negative. Routine agglutinations to enteric and dysentery organisms, and to Brucella, within normal limits.

The course of the fever is adequately shown in the accompanying chart. During the febrile periods there was an exacerbation of symptoms, with anorexia, nausea, and increased prominence of the skin lesions. On the fourth day after admission he had a rigor, and tepid sponging became necessary next day because of a rise of temperature to 105° F. With the recurrence of fever on the 10th day after admission stiffness occurred in the arms and legs, which felt as though they were swollen, though no swelling was detectable. This symptom persisted for many days. Examination of the patient at this time revealed a picture similar to that on admission, except that the spleen was no longer palpable and the lymph nodes were smaller and not tender. Blood examination for spirilla (direct film) while the temperature was elevated (16th day) was negative. During the next febrile period blood was inoculated into some mice, while scrapings from the skin lesions were inoculated into others; about a week later the mouse blood contained organisms morphologically indistinguishable from *Spirillum minus* (Carter). Neoarsphenamine, 0.45 g., was then given intravenously; next day the temperature fell to normal, accompanied by profuse sweating, nausea (with vomiting on one occasion), and a widespread macular rash on the trunk and arms. This last had the general appearance of a drug eruption, and was presumed to be due to the arsenic.

The patient remained afebrile for the next 15 days. He felt rather unwell for two days after the arsenic injection, but soon became symptom-free, while the drug rash and the specific skin lesions rapidly disappeared. On Feb. 12, however, the temperature began to rise again; symptoms were slight, and included some tenderness of the muscles of the right arm. A prominent skin lesion appeared on the forehead at the site of a previous lesion. An intravenous injection of 0.6 g. neoarsphenamine was given on Feb. 13, and by Feb. 14 the temperature had returned to normal, after only a mild reaction to the arsenical. The skin lesion was now fading. He remained afebrile until discharge on Feb. 24, having had a further 0.6 g. of neoarsphenamine on Feb. 21 (mild reaction only).

On March 9 he appeared quite well, but stated that he had been having attacks of paroxysmal tachycardia, especially at night, each lasting about an hour. His pulse was 110.

Second Admission.—On March 14 the patient was readmitted, complaining of pain, stiffness, and swelling in his right arm of four days' duration. The first symptom noticed was tenderness of the muscles, beginning with the right biceps but later spreading to the forearm and shoulder muscles. This was followed shortly by increasing swelling of the muscles, with accompanying pain and stiffness. On examination he did not look ill, but his face was flushed and his skin hot and moist. There was marked brawny swelling of the right forearm and arm, most pronounced in the biceps region. The whole arm was very tender, and movement of the limb caused great pain. There was some tenderness, though very little swelling, of the shoulder muscles. A blood count on March 15 revealed 11,000 leucocytes per c.mm.—neutrophils 8,910, eosinophils 110, basophils 0, lymphocytes 1,430, and monocytes 550; Hb 87%.

Neoarsphenamine, 0.6 g., was given intravenously on March 15 and the temperature rose to 101.2° F., but next day it had fallen to normal and remained so. The swelling of the right arm subsided rapidly; by March 19 it had disappeared, and movements of the whole limb were free and unaccompanied by pain, but there was still a little tenderness on deep pressure over the biceps. Further injections of neoarsphenamine, 0.6 g., were given on March 21, 26, and April 3. With the help of ferrous sulphate, 3 gr. t.i.d., and ascorbic acid, 50 mg. b.d., his haemoglobin had risen to 100% by April 5. He was discharged on April 6, apparently in good order.

He was seen as an out-patient on April 18. In the previous three days there had been some return of myositis in the right biceps, the right quadriceps femoris, and both gastrocnemii. There was not much pain or swelling, and constitutional symptoms were absent. Neoarsphenamine, 0.6 g., was injected intravenously. On April 25 he was seen again and felt quite well. The myositis had disappeared within a day or two of the injection. Another intravenous injection of 0.6 g. neoarsphenamine was given, and a week later (May 2) a final one of 0.6 g. He claimed to be feeling perfectly well.

Third Admission.—On May 22 he was readmitted with pain in the left calf, both thighs, and the left posterior cervical triangle, gradually increasing over the past eight days. Since May 18 he had noticed increasing swelling in the right thigh and the lower part of the left calf. He had had severe headache and had observed tachycardia. On examination he looked rather unwell. Both thighs were tender to palpation, with firm diffuse swelling on the right side. There was a firm tender swelling of the lower end of the left calf. The arms were unaffected. There was also a similar swelling in the left posterior cervical triangle. No other abnormalities were detected. Bood count : Hb, 108% ; leucocytes, 7,000 per c.mm.—neutrophils 5,740, eosinophils 140, basophils 0, lymphocytes 840, monocytes 280.

On this occasion he was treated with penicillin, 15,000 Oxford units three-hourly by intramuscular injection for five days (total, 600,000 units). The temperature on admission was 100.8° F., and it rose next day (after starting penicillin therapy) to 104° F., but within 24 hours it had fallen to normal and remained so. The myositis subsided rapidly, and within four days he was feeling perfectly well.

Discussion

Many of the manifestations of this case conformed more or less to the classical picture and need no further comment. Attention, however, may be drawn to certain less generally recognized features. Thus, the comparative lack of inflammatory changes at the site of the original bite is at variance with the usual description, most authors emphasizing the severity of these changes, as also the attending lymphangitis. It is stated, too, that the inflammation is apt to relapse and remit with the fever, but in the present case, though there was some slight initial inflammation, this soon subsided and did not recur. Splenomegaly is not generally described as occurring in this disease ; it was only transitory in this case and, as a matter of fact, led to some confusion in the diagnosis. But by far the most aberrant and striking feature was the severe and recurrent myositis. Whether this is really a rare accompaniment of the disease I am not in a position to state, but there can be no doubt that observers are unfamiliar with it. Beaumont and Gill (1935) seem to be the first to describe this myositis. In their case the patient was a 9-year-old girl who developed oval tender masses in various muscles, but at no time was the myositis so severe as in my patient on his second admission. Almost as remarkable as the myositis was the rapidity of its subsidence after injection of neoarsphenamine and after treatment with penicillin.

Although it is well known that rat-bite fever, when untreated, is liable to persist for many months, its tendency to relapse after arsenical treatment is much less commonly recognized. Most textbooks state that one to three injections of neoarsphenamine usually suffice. In the present case the inadequacy of three injections, or even of a further seven, requires no emphasis. The decision to use penicillin was based on the report of its success in treatment of experimental infection of mice with *Spirillum minus* (Lourie and Collier, 1943), and with *Spirillum minus* and *Streptobacillus moniliformis* (Heilman and Herrell, 1944 ; quoted by Herrell, Nichols, and Heilman, 1944). It would appear that the present paper is the first record of the clinical use of penicillin in *Spirillum* infections.

Apart from the case of Beaumont and Gill, already mentioned, which was also due to a cat-bite, very few similar cases have been recorded in the literature ; Laverick (1936) and Cole (1936) each described one case, while Yamamoto (1938) recorded two. The last-named was able to isolate spirilla from both patients, and Cole demonstrated the organisms in a guinea-pig after inoculation with a lymph-gland extract from his patient ; the other authors failed to isolate the organisms.

Finally, some comment on the name "rat-bite fever" or "cat-bite fever" seems justifiable. Neither of these names is satisfactory, nor is sodoku, which merely means "rat poison" in Japanese, because these two animals are not the only vectors of the disease, which remains the same, however conveyed. The term "spirillosis" is suggested as being less objectionable than others hitherto proposed.

Summary

A case of so-called rat-bite fever following the bite of a kitten is described. Some aberrant features are discussed, especially the occurrence of severe myositis, repeated relapse after arsenotherapy, and apparent final cure by means of penicillin. A plea for the use of the term "spirillosis" in preference to "rat-bite fever" or "cat-bite fever" is made.

My thanks are due to Dr. H. B. Russell for permission to publish this case.

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Medical Memoranda

A Case of Acute Dilatation of the Stomach

I recently met with a case of this rare condition, which occurred spontaneously in a woman aged 62 in apparently good health, actively engaged in domestic work, and which seems to be worthy of notice.

CLINICAL HISTORY

I was visiting the house to see a sick child on March 31, 1944, and saw the woman, who made no complaint regarding her own health. The next day she remarked to her daughter, who was out all day on war work, that she was not feeling well. On April 2 she said that she had vomited during the night. She had some hot milk and tea ; later, feeling better, she came down and had some bread-and-butter and tea. She went to bed at 6.30 p.m., complaining of great thirst. She took some milk, half a siphon of soda-water, some more milk, and a little whisky.

Her condition became so alarming that I was sent for at 9.30 p.m., and found her suffering from profound shock. The extremities were cold and cyanosed, and the pulse was imperceptible at the wrist and in the brachial artery. On auscultation the heart sounds were weak—rate 120, regular. Abdominal palpation at once revealed the diagnosis: the stomach extended down to the pelvis, succussion was easily obtained, there was no visible peristalsis, and the tongue was dry. She complained of great thirst. Hastily I went home two and a half miles for funnel and tube, and the district nurse. I gave rectal saline in the left lateral position with catheter and funnel. This the nurse continued while I passed the stomach-tube, in doing which the patient readily co-operated. Without any difficulty, and with very little retching, I siphoned off 4 pints of liquid gastric contents. The patient was much relieved, and asked for a cup of tea, which I refused. The nurse continued to give rectal saline, and as the patient seemed to be definitely improving I returned home, leaving instructions to the nurse to continue the saline and to give no drink by the mouth. At 3 a.m. I was urgently recalled and found the patient *in articulo mortis*. The nurse had left some hours previously, considering the patient to be well enough to warrant her departure.

Eight hours later I made a partial post-mortem examination. Rigor mortis had set in. On opening the abdomen I found the stomach apparently quite normal in size and position, no sign of injury from stretching being visible on its peritoneal aspect. The musculature was firm and elastic.

COMMENT

I publish this case because the condition is rare and the rapid recovery of the gastric musculature after such extreme dilatation, without apparent injury, seems noteworthy. The cup of tea which she so craved for might have been beneficial, and if intravenous saline had been given, or even the rectal saline persevered with for a longer period, it might have turned the scale and her recovery have ensued.

My previous experience of this condition relates to two post-operative cases, both fatal owing to the diagnosis being made too late, and in neither case was a post-mortem examination carried out. The cause of these post-operative cases has been variously ascribed to the anaesthetic, especially ether; to a kink in the duodenum; to the ileo-colic artery pressing on the duodenum. I believe it is due to the patient having too much drink when propped up in the Trendelenburg position. The stomach is then in an atonic condition and the liquid in it lies heavy, is not absorbed, and therefore does not quench thirst. The patient gets more drink and the stomach sags lower in the abdomen, soon reaching the pelvis; the extreme stretching of the stomach wall causes shock, which is rapidly fatal if not relieved. In neither of my cases was there any evidence of much gas under pressure in the stomach, which has been reported by some observers.

I am not aware, in such cases, of any report of a necropsy in which the stomach wall has been found in its normal position when relieved of the stretching due to the weight of the contents.

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The Initial Treatment of Tropical Ulcer

The purpose of this note is to draw attention to a method of treatment introduced in 1939 by Todd which in my own experience has been extremely effective and which apparently is neither widely known nor much used.

METHOD

On admission the patient undergoes a three-day course of local treatment with a saturated solution of potassium permanganate (approximately 5%), followed by the application of iodoform powder. Without any preliminary cleaning, the ulcer is painted freely with the permanganate solution, which is then allowed to dry as much as possible. In some cases there may be undermined skin at one edge of the ulcer, beneath which a collection of pus forms, and it is then necessary to incise the overhanging skin. This can be done quite adequately and rapidly with scissors and without any anaesthetic. The area thus laid bare should also be treated with the permanganate solution. The whole surface is then dusted lightly with pure iodoform powder and covered with cotton-wool without any intervening gauze. On the second day any loose sloughs are removed with scissors and the whole treatment repeated. The same procedure is followed on the third day. On the fourth day the ulcer is almost invariably clean and covered with healthy granulations, and no sloughs remain. Only in rare instances is it necessary to repeat the treatment more than three times, and I have not yet seen a case which has not been clean and healthy after six treatments. The subsequent treatment can be conducted on any of the familiar lines with antiseptic ointments, occlusive dressings, or skin-grafting.

The advantages claimed for this method of treatment are: (i) It is simple and can be carried out satisfactorily by a native dresser after two or three demonstrations. (ii) It cleans up even the most septic ulcers more rapidly than any other method which I have yet used. (iii) It requires no anaesthetic such as is necessary for curettage or excision. (iv) It is reasonably economical. (v) While of use in all cases of tropical ulcer, it has been found to be of especial value in ulcers in which the tendons are exposed and grossly swollen and which are very slow to respond to other lines of treatment; also in the acute and rapidly spreading type of ulcer. In the latter case the spread is arrested almost immediately.

The method outlined above differs from that originally described only in that pure iodoform powder is used instead of a 20% iodoform dusting powder. I have found the former more effective.

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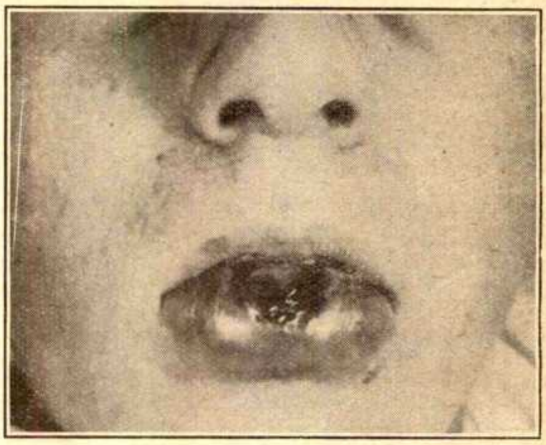
A Case of Rat-bite Fever

The following case appears to be interesting enough to warrant a report.

A youth aged 18 was awakened one night by a rat, which, before he was aware of what was happening, bit his lip twice. There was considerable bleeding at the time, but the wound healed rapidly and he continued in his usual health. Some ten days later the bitten area swelled, became very painful, and signs of general infection appeared, with headache, backache, rigors, and sweating bouts. He was admitted to hospital 18 days after the bite, the above symptoms having continued. On admission the lip was grossly swollen and very painful, with a large black slough marking the site of the bite (see Fig.). There was marked tender enlargement of the lymph nodes in the neck and in both axillae. He appeared ill, had a temperature of 101 to 103°, and was subject to frequent rigors. There was no rash or splenic enlargement. A blood count showed: R.B.C., 4,690,000; haemoglobin, 88%; W.B.C., 7,600, of which 66% were neutrophil polymorphs, 31% lymphocytes, and 3% monocytes. The Wassermann reaction was negative. On these findings a diagnosis of rat-bite fever was made.



Smears from the surface and fluid from aspiration of the lesion showed haemolytic streptococci and *Staph. aureus* only. Lymph-node puncture demonstrated several highly suggestive organisms. Blood was injected into white mice and guinea-pigs. While no growth was obtained from the former, in peritoneal exudate from the latter Dr. H. J. Slade found *Spirillum minus*. A blood culture was negative.

Three paroxysms of fever occurred during his stay. In the third his temperature reached 104.6°, when he was given 0.3 g. of N.A.B. Next morning it had sharply fallen to normal. His lip rapidly healed, the glandular enlargement resolved, and he was discharged well a few days later.

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Unusual Termination of Intestinal Obstruction due to a Gall-stone

The following case seems worthy of putting on record on account of its rarity.

On Dec. 20, 1925, I was called to see a woman, 60 years of age, with a history of intestinal obstruction for 8 days. The onset was heralded by pain in abdomen and repeated vomiting, and for about 5 days no nourishment of any kind was retained. The bowels refused to move, and repeated enemas produced no result. The vomiting and pain then ceased and sips of water were retained, but the bowels remained costive and no wind was passed. On examination the abdomen was not much distended, no tenderness was elicited, the pulse was good and not quickened, the tongue not too dry, and thirst, thanks to the sips of water, not marked. She was a fat woman, in comfortable circumstances, living a sedentary life.

She had undergone vaginal hysterectomy in 1920, and had a recto-vaginal fistula. There was no history of colic or jaundice. The woman stated that she had never any trouble with digestion and always fed well.

She was admitted into hospital and a sigmoidoscope passed to the fullest extent. A faint click was felt and heard and a stone was seen. The sigmoidoscope was withdrawn, 1/2 c.cm. of pituitrin injected, and an enema given. A few minutes later the bowels moved, bringing with the faeces a large single stone, the shape of a gall-bladder very much enlarged. It was of light weight and speckled. Presumably it was formed without infection, and left the gall-bladder through a perforation into the bowel without causing any signs and symptoms felt by the patient. This, however, is not unusual with these single stones. The woman is alive and active for her age.

Newtown, Waterford. A. J. D'ABREU, M.B., F.R.C.S.Ed.

Reviews

SEROLOGICAL REACTIONS, AND THE FORMATION OF ANTIBODIES

The Specificity of Serological Reactions. By Karl Landsteiner, M.D. Revised Edition. With a chapter on Molecular Structure and Intermolecular Forces by L. Pauling. (Pp. 310. $5.00, or 28s.) Massachusetts: Harvard University Press; London: Oxford University Press.

Immuno-Catalysis. By M. G. Sevag, M.D. With preface by Stuart Mudd, M.D. (Pp. 272. $4.50, or 25s.) Springfield and Baltimore: Charles C. Thomas; London: Baillière, Tindall and Cox. 1945.

The first edition of Dr. Landsteiner's book was published in 1936; the present edition was completed textually by him before his death in 1943, and has been left as it was except for minor changes in the structure of sentences. The new edition follows the general plan of the first, but two new chapters have been added: one on antigen-antibody reactions and one on molecular structure and intermolecular forces, by Dr. Linus Pauling. With these additions the book gives a complete account of the theoretical aspects of serological reactions brought up to 1943. As before, the specificity of proteins, modified by methods such as treatment with iodine or nitric acid, is dealt with in Chapter II, and the specificity of artificially conjugated antigens, such as those made by coupling proteins with diazonium compounds, is dealt with in Chapter V. This separation is somewhat artificial, but it brings out the relative importance of the two methods in the development of the science of immunology. By the second it was possible to attach to protein molecules a large variety of determinant groups. The wide range of examples given in Chapter V proves how valuable this method has been in showing the influence of composition and structure on specificity. But what was more important was that the method made it possible to demonstrate by the inhibition reaction the specific combination of determinant group and antibody. It looked as though Ehrlich's side-chains had been demonstrated objectively. It may no longer be possible to regard antibodies as broken-off "side-chains," as pointed out in the chapter on the nature and specificity of antibodies. But the modern theories of their formation discussed there are not so very different from that of Ehrlich.

In a way, however, the results obtained with these conjugated antigens gave a false outlook. For in the earlier experiments of this type specificity was determined mainly by the presence of certain characteristic chemical groups; the most effective antigen contained arsenic. But, as is clear in the case of the polysaccharides, specificity of natural antigens depends on the spatial arrangement of a limited number of common groups and the modification of their electronic structure brought about by their environment; Ehrlich's conception of side-chains must be modified. The difference between Ehrlich's and Bordet's theories has largely disappeared. Antigen-antibody reactions can be considered to be a matter of physical chemistry. But Ehrlich wins, for he rightly insisted that the essential stage of these reactions is the specific combination—*Corpora non agunt nisi fixata.* It would be interesting to meet the spirit of Ehrlich and find out whether he thought of those interlocking diagrams of his as representations of actual structures in space or merely as symbols of chemical composition.

As our knowledge of the relation of specificity to structure extends the reactions and cross-reactions of non-protein antigens (which are dealt with, none too clearly, in Chapter VI) and of proteins should become examples of a general theory. It is not surprising that any cell contains several substances which can themselves provoke the formation of antibodies or co-operate in the forming of antibodies. Cross-reactions between two types of cell may be due to the presence of the same antigen in both or to a sufficiently close resemblance between two different substances which they contain. Some of the reactions and cross-reactions of cells—for example, the iso-agglutinins—will continue to affect us intimately; others will find practical application in diagnosis. But as a whole the majority of those described in Chapters II and III and the multitude of others that may be worked out should in time become examples of the relation of specificity to structure and be recorded in tables or by a card system of practical value, like time-tables, but not matter for reading.

Chapter VII gives an indication of the way in which the theories of protein structure and behaviour are beginning to offer explanations of the antigen-antibody reactions, given the specific combination of antigen and antibody which is the essential. The last chapter, by Dr. Pauling, is the clearest exposition yet made of the nature of the intermolecular forces on which this specific combination depends. According to the theories current to-day the antigen acts as a kind of pattern on which the amino-acids of globulin molecules in process of synthesis are assembled or those of existing molecules rearranged. But these theories leave unsolved one aspect of the problem, which has become more puzzling since the work of Schoenheimer has shown that proteins in the body are not stable but in a continuous state of flux. How is it that the pattern can survive and keep up the formation of antibodies for years after its injection?

Dr. Sevag's book also deals with the formation of antibodies. His main thesis is that antigens act as catalysts, with antibodies as end-products of the process, and that the reactions of antibodies with antigens are comparable to the inhibition of enzyme actions by the end-products. This analogy may be justifiable, since both enzyme and immunity reaction depend on specific combination. But it is not an advance; the theories of Breinl and Haurowitz, of Mudd and of Pauling, quoted by Dr. Sevag, take us further towards understanding the formation of antibodies. The book contains a large amount of information about the relation of specificity to structure; the physical chemistry of antibodies and immunity to enzymes. Some of this is rather misleading. The fact that Block considered that the molecular ratios of four amino-acids are the same in the haemoglobin of horse, cattle, sheep, and dog, although these haemoglobins differ immunologically, is advanced as an objection to Bergmann's theory of protein structure; but the immunological differences may be due to differences in the ratios of the other amino-acids. And on page 221 it is stated that "there is practically no difference in the rates of sedimentation of immune and normal globulins ($S = 6.8$ to 7.2×10^{-13})"; while on page 12 Dr. Sevag quotes Kabat's figure of 18×10^{-13}) for the sedimentation constant of antibody in horse antipneumococcus serum.

ACUTE INTESTINAL OBSTRUCTION

The Treatment of Acute Intestinal Obstruction. By Judson T. Chesterman, F.R.C.S. (Pp. 116; illustrated. 10s. 6d.) London: J. and A. Churchill. 1945.

Since the appearance of Wangensteen's book on intestinal obstruction, which introduced some novel ideas on the handling of such cases by intubation of the intestine, there has been a revival of interest in the subject. A small book by Mr. Judson Chesterman has just been published which puts the whole subject very succinctly and forms an excellent introduction to the study of the condition. The author has himself carried out a considerable amount of experimental work on various aspects of intestinal obstruction, and his results are incorporated in the conclusions which he reaches.

Two of the chapters we found of particular interest: the first dealing with the factors which so frequently produce serious, and even fatal, symptoms after the release of the obstruction—a phenomenon which has worried surgeons since surgical treatment was first undertaken. The second special interest was in the chapter dealing with the radiographic diagnosis of acute intestinal obstruction—a method which is rapidly becoming of great importance. This section is illustrated by some carefully chosen and well-produced radiographs. There is also a good description of the suction treatment of obstruction, which correctly gives due weight to the difficulties and contra-indications of the method. In the rest of the book we noted with approval the author's preference for light spinal anaesthesia in the "good-risk patient," and also his advocacy of Lake's tubes in performing Paul's operation on elderly patients, thus doing away with the need for multiple-stage operations. There is a good chapter, too, on neurogenic ileus, both of the paralytic and of the spastic types.

The only criticism we have to offer is that the need for great condensation has led the author on occasions into a rather ambiguous type of composition which requires very careful interpretation before its real meaning is made clear. On the whole, however, the book gives a very favourable impression and can be strongly recommended.

RELIEF OF TENSION

Release from Nervous Tension. By David Harold Fink, M.D. Edited, and with an introduction, by Harry Roberts. (Pp. 246. 8s. 6d.) London: George Allen and Unwin.

As Dr. Harry Roberts says in his foreword, the chapter headings of this book are most intriguing: "Meet the Interbrain," "Let go—a Little More," "Treat Yourself to a Fresh Start." The author seeks to impress upon the public the need for relaxation, in colloquial and sometimes in facetious terms. He does not believe in human instincts and declares with a fine confidence that they do not exist, but he believes in conflict, though not much in unconscious processes. He does stress the fact, however, that you can't have mental tension without bodily tension, and that the secret of happiness is relaxation, both bodily and mental. He may possibly oversimplify the way in which such complete relief of tension may be achieved, but there is no doubt that people can do a lot for themselves in this way.

The medical profession can hardly look upon this book as a serious contribution to science, but it may be very useful to some of their patients. The following extract on massage may give some idea of its style.

> "Being massaged is another passive play activity that many people find most soothing. This is as infantile a pleasure as sun bathing, and as fundamentally human, perhaps subhuman, because even a cat likes to be stroked. Massage is scientific fondling. My only objection to massage is the expense, but a gentle massage by an expert is well worth the money. Twenty minutes of brisk rubbing and patting, followed by five minutes of gentle stroking, is good clean fun and fine for the nerves."

Bearing in mind that he is talking about the treatment of the psychoneurotic, he is probably not far wrong.

Notes on Books

Aids to Tuberculosis for Nurses, by Dr. L. E. HOUGHTON and Mr. T. HOLMES SELLORS, is published at 4s. by Baillière, Tindall and Cox. This excellent little book, suitable for the apron pocket, will enable nurses to find their way in the new tuberculosis nursing. Nothing in medical organization is more remarkable than the change that has come over our sanatoria during the last ten years. Active surgical treatment, psychology, and rehabilitation now fill the nurses' thoughts. Her patients are under care for many months at a time, and she must be well equipped to deal with their problems. This book gives a complete summary of tuberculosis, its pathology and treatment, with some excellent illustrations, *x*-ray pictures, and instrument diagrams. The nurse who masters its contents will be well equipped for examination. We should like to be sure that it would be read with equal attention by some senior members of the nursing profession, including those whose own sanatorium experience was very different from the modern outlook described in this book.

The 1944 Year Book of Industrial and Orthopedic Surgery, edited by Charles F. Painter, M.D., is published in Chicago by the Year Book Publishers, and in London by H. K. Lewis and Co. at 18s. The editor is again to be congratulated on having collected in concise and readable form short abstracts from current articles on a wide range of orthopaedic and fracture subjects. The illustrations are numerous and beautifully reproduced. This annual, like its predecessors in former years, should find a ready market amongst orthopaedic surgeons. It can be used as a bedside book, and one can "dip" into it at random and always find something interesting, often with constructive comment by the editor. Subjects which are especially topical are a series of abstracts on the Kenny method of treatment of poliomyelitis; intervertebral disk injuries; the scalenus anticus syndrome; primary bone-grafting for os calcis fractures; and many other topics. The book concludes with a section of about fifty pages dealing with industrial medicine and surgery. In the opinion of the reviewer this would be better omitted and, if necessary, made a separate volume in the series of Year Books.

No. 2 of *Notes of the Czechoslovak Medical Association in Great Britain* (published by the Czechoslovak Research Institute, Fursecroft, George Street, W.1, at 3s. 6d.) opens with a valedictory note headed "1938 to 1945." This editorial includes the following passage: "We salute our liberated countrymen and our gallant Allies! Thus our exile ends, but before we leave for our homes we want to express our affection and gratitude to the British friends with whom we have lived and worked during the course of the gigantic struggle. This spirit will always have our admiration." The Editor of the *Notes*, in saying "au revoir" to friends in Britain, hopes that the collaboration between medical men and women in our two countries is not ending but only passing into another stage.

The report of the Scientific Advisory Board for the year 1944 has been issued under the authority of the Governing Body of the Indian Research Fund Association. Copies, price 1 rupee, may be had from the Secretary of the Association, at the Imperial Secretariat, New Delhi, India. The report runs to 188 pages, and the longest sections are on nutrition, on cholera, on leprosy, on malaria, and on plague. There are also reports of inquiries into indigenous drugs and of a number of miscellaneous researches.

The Civilian Relief Overseas Section of the British Red Cross Society and Order of St. John has issued from 5, Lowndes Street, London, S.W.1, a little *Medical and Nursing Vocabulary in English and Greek* compiled by Miss HESTER VINEY and revised by Dr. N. C. Constantoulis, who writes a brief introduction. The user of the booklet must be able to read Greek characters. Words and phrases have been carefully chosen from those in most frequent use by the majority of Greek people to-day.

Preparations and Appliances

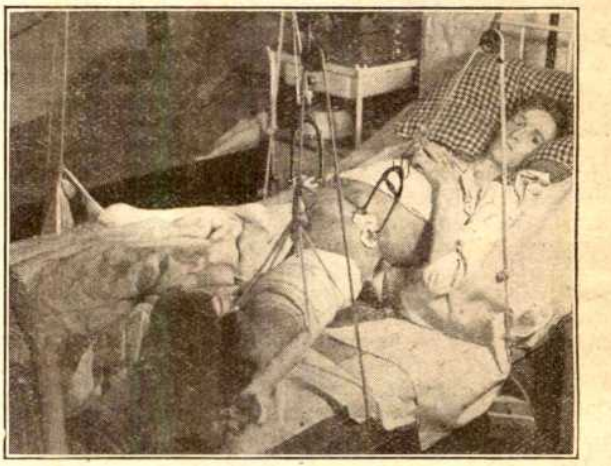
APPARATUS FOR TREATING BED-SORES

Capt. J. F. NEIL, R.A.M.C., writes:

While inspecting a German marine lazarette recently I found in use an unusual method of treating a bad bed-sore, in which the cardinal requirement of treatment (i.e., the avoidance of prolonged pressure on any part) is met by suspending the patient from his anterior superior iliac spines. I thought an account of the case and some details of treatment would be of interest.

Case Report (July 26, 1945).—The patient, a young German soldier, was wounded on May 4, 1945, by a shell fragment in the left knee. The joint became infected and a pyarthrosis developed. He became very toxic and anaemic, and about four weeks ago developed a bed-sore in the sacral region. This failed to respond to the usual treatment, using air-cushions and so on; frequent changing of his position was difficult because his left leg had to be splinted. The patient now has a deep bed-sore involving the medial half of both buttocks, spreading up over both ilio-lumbar ligaments and leaving the sacrum exposed in the centre of the lesion.

Treatment.—Ten days ago the surgeon put him up in the apparatus to be described. A Kirschner wire was put through each anterior superior iliac spine under local analgesia and fitted with the usual stirrup. Both legs were put on well-padded Kramer wire back-splints. He was then suspended from a Balkan frame by counter-weighted cords passing from the two stirrups and the two splints, over pulleys. His head and shoulders were rested on an air-cushion. He now lies suspended about 3 in. from the bed. The main weight of the trunk is taken by the two wires, and the splints carry only the weight of the legs, his head and shoulders alone undergoing any pressure. The photograph shows all the details of the arrangement. After a little initial discomfort he is now very comfortable, and his only complaint is that he is not able to move about much. The sore is improving and nursing is easy.



Comment.—The surgeons say they have used this method in several cases, and find that six weeks is about the maximum time a man can be left in this position without trouble. They have had one man treated for eight weeks with good results. Sometimes they use wires through the tibial tuberosity as well, especially if there are bed-sores on the legs.

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FOOD CONDITIONS IN POLAND

During the last three years opinion in Britain has swung between exaggeration and extreme underestimation of the degree of scarcity of food in occupied Europe. The result of this uncertainty has been disastrous, as there has been no steady demand for adequate plans for dealing with the crisis that inevitably arose as the fighting ended. The detailed report on food conditions in occupied Poland, published by the Polish Ministry of Labour and Social Welfare,[1] is still worth attention as example of the degree of privation in a large area before the final disorganization began.

After the German occupation all Western Poland and a large part of Central Poland were incorporated into the Reich, while the central and southern provinces formed the General Government. In the incorporated provinces Polish farmers were expropriated and hundreds of thousands of German colonists settled on the land. These provinces were under strict control as the granary of the Reich; but, in spite of the distribution of fertilizers, agricultural machinery, and seeds, and the improvement of the livestock, food production fell below the pre-war level. In the General Government area agricultural production deteriorated still more owing to loss of capital goods and livestock and shortage of fertilizers and draught animals. Before the war Poland exported well under 10% of the food produced, and maintained a mediocre standard of living on the remainder. After occupation the Nazis' requisitions were over 10% of the produce, in spite of lowered production. The inevitable scarcity was worst in the General Government area, for before the war this area had not been self-supporting but had imported food; after occupation it had to meet Nazi requisitions and feed a population swollen by people deported from Western Poland as well as the enemy garrison. There were therefore four ration scales—one for Germans (very similar to that in the Reich); one for Poles in the incorporated areas; one for Poles in the General Government; and one for Jews. The rations for Jews may be dismissed as an extermination ration. In the incorporated area the Poles were allowed about half as much meat, fats, and cheese as the Germans were; in 1942 rations of meat (100 g. per week) and of fats (50 g. per week) for Poles in the General Government were about 30% lower, and the sugar ration (70 g. per week) 70% lower, than in the incorporated area. At the end of 1944 meat and sugar rations had not risen and no fats were allowed to the normal consumer. As no extra cereals or potatoes were allowed, in order to make up for the deficit of animal products, the total of calories provided by the rations in the incorporated area were under 1,500 a day for an ordinary adult and about 1,200 in the General Government; and these rations could not always be obtained. Extra rations were allowed to heavy workers, and at the end of 1943 to their families as well. But even very heavy workers got under 2,000 calories a day. Only those engaged in work of military importance got these extra rations; the vast majority of Poles were rationed as normal consumers. The rations for young children supplied enough calories, though they were allowed skimmed milk only, and in 1943 this allowance ceased at 3 years in the General Government and at 6 in the occupied area. But the calories supplied did not rise with age, and amounted to no more than 758 per day at 10 to 14 years—about one-third of the League of Nations standard. The total protein at this age was 24 g., of which 2.6 g. was animal protein, and the calcium 91 mg. per day.

Throughout the greater part of occupied Europe foodstuffs that supplied over 90% of the day's calories have been rationed, and the official rations have supplied well under 2,000 calories per head per day. This has been known well enough; the uncertainty which has led to wide differences and fluctuations of opinion has been on the possibility of supplementing this scanty fare with unrationed food or by irregular means. It will never be possible to dispose of this uncertainty, because all data about production are untrustworthy, and conditions varied from one place to another and from one family to another. But, as the amounts of food requisitioned from Poland were about double the amounts exported before the war, food must have been scarce, even if production had not fallen below the pre-war level. Until scarcity of food becomes extreme the agricultural population invariably fare better than townspeople; it is probable that the actual consumption by peasants in Poland was more than the 2,000 calories a day calculated from statistics of production. About 70% of Poland's population is classed as "rural," but a large proportion of these are not engaged in producing food—lumbermen, for example—and may have been little better off than the people in the towns.

It is often claimed that people in occupied Europe made up the deficiencies in their official calories through the black market or by eating very large amounts of vegetables. But in an area in which food actually is scarce the black market can only aggravate the privation by causing unequal distribution. Prices in the black market in Poland were so high that the greater part of the population could not buy in it after their stock of disposable property was exhausted; in fact a good deal of the "black" trade was in coupons for meat, which the poorer people sold in return for bread or potato coupons; this trade altered the distribution of calories but did not increase the average per head. As Durig in Vienna pointed out, it was not possible to eat or even to cook enough vegetables (excluding potatoes) to make up a serious deficit in calories, even if enough land could be devoted to producing these quantities. In Warsaw a large number of open spaces were taken for allotments of about 1/12 acre; half were to be sown with potatoes. With a fair yield one of these might provide some 250,000 calories a year, or under 200 calories a day to each of a family of four. But owing to the limited amount of free space in towns few could benefit from the allotments.

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[1] *Food Conditions in Occupied Poland.* Analysis of the German Food-rationing System in Poland. By Leon Dmochowski, M.D. Published by the Polish Ministry of Labour and Social Welfare in 1944. London.

There can be no doubt of the serious undernutrition of the Poles, especially of children, during the period covered by this report. The final stages of the war—bombing and blowing up of railways, appropriation of the remaining transport by the military, consumption of seed and dislocation of harvest and sowing—all have accelerated the scarcity of food in Europe. In the Polish area the expulsion of the German settlers and the flight of Germans from the area east of the Oder will again set farming back. At the end of July the U.S. Office of War Information reported: "... Thousands of people will starve and freeze to death in Europe this winter unless help can be rushed from outside. Tens of thousands of others will be hungry and cold. They will be jobless. If no help were to be forthcoming from the outside, they would almost certainly riot, because the authorities could not enable them to get the vital necessities of life. Without this help they would succumb to disease, because their weakened bodies cannot stand up against further hardship. The economy of Europe has been running downhill fast. Production is already at unbearably low levels. Faced with a continued lack of food and incentive goods for workers, transportation for materials and, chiefly, lack of coal, it would continue to fall steadily. . . ."

Newspaper reports of the terrible plight of the Germans displaced by the Poles west beyond the Oder show that the goddess Nemesis is as remorseless as ever.

INFANT MORTALITY AND SOCIAL CONDITIONS

The causes of infant mortality and the methods by which it may be reduced have been medico-sociological problems of the first importance for several decades. Considerable progress has been made towards a solution, and the rate is now only one-third of that at the beginning of the present century. The continuous fall in the birth rate has made it even more imperative to reduce unnecessary wastage of infant lives, and it is generally acknowledged that a further reduction is possible, probably to one-half of the present level. Infant mortality exhibits associations similar to those of the general death rate—e.g., a progression with urbanization and with the social-class classification of the Registrar-General; but the former is more sensitive to adverse conditions than the latter, and this has led to its adoption as an index of the relative social and economic well-being of a community. Infant mortality has given a good approximation when used as a relative measure of these conditions, though it would be, perhaps, a bold person who gave unqualified support to Hersch's[1] recent contention that it is the best single index of the degree of civilization attained by a country. He stated that a high infant mortality shows a condition of poverty and inferiority, while a low mortality reflects the best hygienic conditions, the greatest advances in medicine, bacteriology, chemistry, public education, and intellectual progress. It has been suggested by Mitra[2] that infant mortality is less sensitive to social conditions than it was 20 years earlier, owing to the large decrease in the rate itself and to an improvement in general living conditions; but it is still highly correlated with social and environmental conditions.

The latest paper on this subject is by Woolf and Waterhouse,[3] who have used the infant mortality during 1928–38 in the county boroughs to assess social influences. Their finding that economic conditions are inversely related to infant mortality is well known and generally accepted, but their conclusions are not so well founded. They were, apparently, so enamoured of their lengthy arithmetical processes that they overlooked the first lesson in statistics—i.e., that correlation is not necessarily causation—and they conclude that "23.1 is the infant mortality that would prevail if our five poverty symptoms would be eliminated." This rate is much below 32.7, the rate for Social Class I, and we may safely assume that poverty was not a factor here. The many factors associated with infant mortality are highly interrelated, and one cannot assess their relative importance; but the authors have allocated one-sixth of the excess mortality to overcrowding, one-quarter to low-paid occupations, one-fifth to unemployment, and one-eighth to the industrial employment of women. Apparently public health workers and authorities have deluded themselves for years by assuming that infant mortality was influenced by complex factors and that medical science and improved mothercraft could affect this rate. But perhaps they were not so largely mistaken, since in 1943 and 1944, when enemy action had made the housing position worse and the employment of women in industry was on a higher scale than ever before, the figures for infant mortality were 49 and 46, the lowest values ever recorded in England and Wales. Between 1911 and 1931 the infant mortality of Social Class V was halved, due, the authors state, to improvement in environment. The mortality of Social Classes I to IV also declined at approximately the same rate, and it seems more reasonable to suggest that a factor independent of social class was responsible for a large proportion of this improvement. That social and economic conditions are of great importance in determining the size of the infant mortality has been established beyond doubt, but curious anomalies exist. For instance, Social Class II in the regions of Wales I and North I had in 1930–2 a larger infant mortality than any class in the South-East (excluding London) with the exception of Class V, which cannot be explained by differences in economic conditions.

Woolf and Waterhouse fail to appreciate the paucity of the data which the pioneer writers on this subject had at their disposal. The indices the earlier writers used were the best available, and they fully realized their imperfections. The use of the proportion of female domestic servants in the female population as an index of the residential nature of a district is not so foolish as the authors would have us believe. They state that "high proportions of domestic servants are found not only in well-to-do areas but also in those poverty-struck places like Newcastle-upon-Tyne and Merthyr Tydfil." In fact the percentage in these towns was only about one-third of that in Eastbourne and Bournemouth. Women in highly industrialized areas, where no opportunities exist for female labour, are not forced by circumstance into domestic service; they migrate, as a comparison of sex ratios would demonstrate. Among other statements that are open to question is the assertion that the use of the correlation coefficient is not valid unless the distribution is normal. The correlation coefficient involves no assumption of normality or indeed of any other type of distribution; it is a measure of linear relationship, being the coefficient of the straight line fitted by the method of least squares when the variables are measured in terms of their standard deviations. In several recent articles dealing with environmental indices the uninformed reader is likely to form the impression that the social-class classification of the Registrar-General is a caste system. This is not wholly true, since there is considerable migration from class to class. At ages 20 to 24 the proportion in Classes I and II in 1930–2 was 74 per thousand; this proportion was trebled by late middle life by promotions from the lower classes. This might be expected, for responsible positions are not generally obtained by young men. The constitution of the social classes varies much between the various regions of the country, and the correlation of general mortality and social-class classification is a feature of the life of large towns; the relationship is less clearly shown by the small towns, and not at all by the rural districts. No one can feel satisfied until infant mortality in this country is down to an irreducible level, but in seeking for the causative factors that may be attacked strict objectivity is needed.

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[1] *Médecine et Hygiène*, 1943, **10**, 1.
[2] *J. Hyg.*, Camb., 1937, **37**, 108.
[3] *J. Hyg.*, Camb., 1945, **44**, 67.

POTASSIUM THIOCYANATE POISONING

The use of potassium thiocyanate for the treatment of hypertension has continued now for many years, though it has not been widespread. Many physicians have remained doubtful of the value of this form of treatment, and others have regarded it as dangerous. Barker[1] in 1936 recommended that when potassium thiocyanate was given the amount in the blood should be determined, so that it could be ascertained that the amount was not too low to be effective or too high to be dangerous. Barker's paper gave an impetus to the use of thiocyanates, for it provided a means of avoiding toxic effects. No certain basis has been established for the mode of action of thiocyanates in lowering blood pressure, though it is known that thiocyanates, as does thiouracil, act on the thyroid gland and so depress the output of thyroid hormone. Since thyroidectomy has been found to be of value in the treatment of angina, it may well be that thiocyanates lower blood pressure by their action on the thyroid gland.

A number of deaths have resulted from the therapeutic use of thiocyanates, and del Solar, Dussaillant, Brodsky, and Rodriguez[2] have now brought the total to seven. Their patient was one among 73 to whom they gave the drug, and they ascribe his death to accidental overdosing, due to the patient's measuring his medicine with a dropper of which he had broken the tip. As a result he took, for 22 days, 0.9 gramme daily instead of 0.6 gramme. At the end of this time the blood contained only 2.5 mg. per 100 c.cm. and the intended dose was raised from 0.6 to 0.9 gramme—but in fact from 0.9 to 1.35 grammes. After six days he developed toxic symptoms, and the administration of thiocyanate was stopped; in spite of this the patient died 16 days later. The symptoms began with clonic contractures of the upper extremities, followed by some delirium and motor incoordination. After four days coma supervened, with tachycardia and Cheyne-Stokes respiration; the presence of a spastic right hemiparesis led to a diagnosis of a toxic encephalopathy. After a temporary recovery of consciousness, when the blood pressure had fallen to 130/90, coma reappeared and the patient died. Post mortem, an area of very recent haemorrhagic encephalomalacia was found in the left occipital lobe. Large amounts (20 to 30 mg. per 100 g.) of thiocyanate were found in the brain, heart, kidney, liver, lung, and muscle. The authors consider that the danger of a toxic encephalopathy may prove to be a contraindication to the use of thiocyanate in elderly persons, since in five other cases similar findings have been recorded.

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[1] *J. Amer. med. Ass.*, 1936, **106**, 762.
[2] *Arch. intern. Med.*, 1945, 75, 241.

ACTION OF MAGNESIUM ON THE UTERUS

The magnesium ion has been shown to possess a powerful depressant effect on all nervous and muscular functions. This is not seen when magnesium compounds are given by the alimentary canal, since the magnesium ion is not absorbed in sufficient amount unless massive doses are given. Magnesium by injection depresses first respiration and then cardiovascular function, with a fall of blood pressure and vasodilatation. It also has a curare-like action on muscle, operating, it is believed, on the neuromuscular junction. Magnesium could, in theory, be employed as an anaesthetic, but its use is limited by the fact that the effective dose is dangerously close to the fatal dose.

Abarbanel[1] has shown that the magnesium ion reduces the spasm of tetanic contraction of the human gravid uterus—an effect also observed in animals by several workers, in particular by S. R. M. Reynolds,[2] who demonstrated that magnesium chloride inhibited the uterine contraction caused by calcium and prevented a further response to it. In small amounts magnesium has no effect on spontaneous, rhythmic uterine contractions. Van Dyke and Hastings[3] had previously shown that magnesium ions, in an optimum concentration, inhibit the response of the guinea-pig's uterus to posterior pituitary extracts. In a case of sustained tetanic uterine contraction with severe abdominal pain, Abarbanel injected 10 c.cm. of a 20% solution of magnesium sulphate intravenously; the tetany and pain disappeared, and the uterus contracted spontaneously and rhythmically. Further work on these lines showed that magnesium abolishes uterine tetany induced by oxytocic drugs, and also prevents the onset of tetany if given a few minutes before or after the injection of an oxytocic drug. Various clinical applications of magnesium are suggested—for example, in the relief of tetanic contraction from oxytocic drugs given to induce labour or during the third stage of labour, in cases of Bandl's ring and abruptio placentae, and as magnesium gluconate by mouth for relief of after-pains. Injection of magnesium alleviates the pain of spasmodic dysmenorrhoea, and taken by mouth daily for two weeks before the onset of menstruation gives considerable relief.

This enthusiastic report must be received with the greatest caution. Abarbanel minimizes the danger of parenteral injection of magnesium salts: severe and sometimes fatal respiratory and vasomotor collapse may occur after their administration. Calcium, the antidote, should always be at hand, but even the prompt administration by the intravenous route of calcium chloride or gluconate may not save the patient's life. Severe sloughing with abscess formation has followed the intramuscular injection of magnesium. The use of magnesium salts in the manner suggested can hardly become a part of obstetric practice until further work has confirmed the value—and, above all, the *safety*—of this method of treatment.

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[1] *Amer. J. Obstet. Gynec.*, 1945, **49**, 473.
[2] *Amer. J. Physiol.*, 1933, **105**, 358.
[3] Ibid., 1928, **83**, 563.

AN EDUCATION "WHEREABOUTS"

Owing largely to the circumstances of its historical development, the educational structure of England and Wales is a confusing labyrinth. How many citizens who pay the education rate could pass an examination in the system with credit? It is a dull subject largely because of the number of imperfectly understood and ponderous terms which attach to it. How many could say what is an "excepted district," or what is the "agreed syllabus" or the "dual system," or in what respect a "controlled school" differs from a "voluntary school," or an "aided school" from an "assisted school"? Some terms, fortunately, such as "provided" and "non-provided," have gone into obsolescence with the passing of the Act of 1944. The Ministry of Education has done a real service in issuing a *Guide to the Educational System of England and Wales* (H.M. Stationery Office, 1s.)—60 pages of clear, informative writing, unencumbered by references to sections of Acts or to authorities. It shows the general reader how the new educational reforms will operate, and gives details of those aspects of the old system which will still continue, as scaffolding, while the new building goes up. Every stage of education is described from the nursery school to the university, though the university remains independent of the Ministry of Education, receiving its grants from the Treasury. The way in which the Ministry co-operates with local authorities and the duties of local authorities themselves are sufficiently described. There is also a brief history of English education, with the landmarks of 1870, which saw the beginning of the board school; of 1902, when the council school was created; of 1918 with the Fisher Act; and finally the comprehensive changes brought about by the Butler Act of 1944.

There is a short section on the school medical service, describing how it has been widened under the new Act to cover all children in primary and secondary schools maintained by local education authorities and also, when they are established, in county colleges (institutions provided by local education authorities and attended part-time on a compulsory basis by young people under 18). It is added that the setting up of a comprehensive national health service will eventually ensure that all forms of treatment which school-children require will be available to them through that service, and when that stage is reached it will no longer be necessary for local education authorities to provide treatment generally. Their functions will shrink again to medical inspection and to ensuring that children and parents are properly advised and encouraged to seek, through the new health channels, any treatment the children may need.

THE HOMELESS CHILD

The care of children who have been removed from their own homes is a major problem in this country and is likely to be a very much greater one on the Continent. Before anyone, however, can deal with children's problems he needs to know something about child development. Even the simplest knowledge cannot be taken for granted in a would-be helper. The Provisional National Council for Mental Health has found it necessary to publish a very simple and useful memorandum setting out the A B C of what a child needs.[1] For satisfactory development of the whole personality, it appears, a child depends on a combination of good relationships and individual achievement. Continuity of care by a loving adult is particularly necessary in the earlier years. Where there is a good relationship he absorbs the adult's standards within himself and is able to progress towards self-discipline. Opportunities for interests and activities and the fostering of personal responsibility are necessary for the wise training of children. Training a child for a job is of little value without a social adjustment that makes him spontaneously wish to play his part as a member of the community. The fundamental needs of the child are emotional. In the normal family emotional needs are satisfied with little or no thought. Where an unrelated person has to care for the child a special understanding is required. This is the least that should be demanded, not a fanciful addition to training. The most obvious lack of the homeless child is close personal relations with someone in place of a parent. The next lack, related to it, is a set of standards of his own, a satisfactory attitude to work, and a sense of social responsibility. Placing in a foster-home may and should provide the individual care required and offer a substitute family setting, but its value will be lost if the child is not fully assimilated into the home. Once a child is well placed it is disastrous to move him again. His power to adapt to change throughout his whole life afterwards may be devastated by a rooted feeling of insecurity. Every precaution should be taken to find the right foster-home for the child and to make the necessary adjustments. There is danger to the child's real welfare in placing him in a large group, as may happen in a children's home. Every effort should be made to organize within a large institution groups small enough to allow a personal relationship between each child and a member of the staff. Provision must also be made for individual freedom and responsibility by increasing contacts with the outside world, such as tea with school friends, shopping, and spontaneously joining clubs. The group should contain children of different ages, so that the younger may receive help and the older develop self-confidence. Boys and girls should be brought up in the same homes, and the staff should include men and women. A married couple can give the other members of the staff, as well as the children, a homely atmosphere. Adolescents may need to be separated from younger children when they begin to develop adult interests, and it may be advisable to separate the sexes because of their different needs. Boys and girls should, however, have the opportunity of sharing their activities at all ages. A good foster-home may solve the problem of a maladjusted or physically handicapped child. For difficult children it is better to classify homes according to the facilities they offer and the type of superintendent in charge, rather than by the cases admitted. A child with disorder of behaviour or personality should have his problem thoroughly investigated, and for this purpose it may be necessary to set up a reception centre, which would also be used for children who have broken down after being placed.

Dr. John Parkinson will give the Hunterian Oration before the Royal College of Physicians of London on St. Luke's Day, Thursday, Oct. 18, at 3 o'clock. His subject is "Rheumatic Fever and Heart Disease."

The Committee of Privy Council for Medical Research has appointed Dr. Patrick Alfred Buxton, F.R.S. (professor of medical entomology in the University of London), and Sir Alexander Fleming, F.R.S. (professor of bacteriology in the University of London), to be members of the Medical Research Council from Oct. 1, 1945.

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[1] *The Care of Children Brought up away from their own Homes.* P.N.C.M.H., 38, Queen Anne Street, London, W.1. See also *Children without Homes.* Proceedings of a Conference called by the Women's Group of Public Welfare. National Council of Social Service, 26, Bedford Square, W.C.1. (2s. post free).

HOUSING AND HEALTH*

BY

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There is overwhelming evidence that when people live in slum districts they develop higher sickness and death rates than when they are better situated. Vital statistics have proved this in the very many field surveys which have from time to time been undertaken in other countries. No such figures have yet been recorded among Europeans in South Africa. We do not even possess correct vital statistics for all non-Europeans, because native notifications are inaccurate. We *have*, however, correct figures for Europeans and coloured people. As the coloureds as a whole are much poorer than Europeans, these statistics, though not comparable in every respect, do afford a means of comparing health conditions of the poor and the better-off in South Africa. If figures for Europeans and natives had been available the contrast would have been still greater, because the natives as a whole are still poorer than the coloureds, and from the few figures which we have—inaccurate as they are—there is little doubt that health conditions are much worse among natives.

Some Statistical Evidence

Let us analyse some of the figures for Europeans and coloureds for the year 1938. This year is chosen for no other reason than because it was the year before the war.

The general death rate, which reflects the chances of survival from all causes of death, was 9.48 per 1,000 for Europeans and 23.74 for coloureds. The infant mortality rate—that is, the number of infants who die in the first year of their lives per 1,000 live births—is a very good indication of existing health conditions. This figure for Europeans was 51.69 and for coloureds 165.7 Tuberculosis, a disease directly associated with poverty and bad housing, had a death rate per 100,000 of 38.83 among Europeans and 506.4 among Cape coloureds. Similar conditions are found in all vital statistics of these two sections in South Africa.

From other countries we have the same evidence of higher sickness and death rates among the poor.

In 1928 the infant mortality figures in eight different cities in the U.S.A. were studied and analysed and published in the Public Health Reports of the U.S.A. It was found, on the basis of 23,000 records of birth, that:

(1) The infant mortality rates decreased in direct proportion to the amount of money which the population paid in rent. For example,

Rentals under 15 dollars, infant mortality rate	65
„ 15–20 „ „ „ „	43
„ 20–25 „ „ „ „	45
„ 25–30 „ „ „ „	31
„ 30–35 „ „ „ „	36
„ 35–40 „ „ „ „	18
„ 40–45 „ „ „ „	17

(2) The infant mortality rate in families who lived in homes with two or more persons per room was 2½ times that in families from homes with less than 1 person per room.

The M.O.H. of Manchester in 1931 applied to the Corporation for the demolition and clearance of the Hulme slum area. In substantiating his case, and in proof of the fact that the area, on account of the bad state of the dwelling quarters, was injurious to health and should be demolished, he had collected the following statistics.

	City		Slum
General death rate	13·9	....	21·8
Infant mortality rate	91·0	....	135 0

and similarly there were higher mortality rates in this slum area from diphtheria, diarrhoea, tuberculosis, diseases of the heart and blood vessels, bronchitis, and pneumonia.

From the very many surveys undertaken it has been established that cerebrospinal fever (meningitis) is closely associated with overcrowding, and in epidemics the incidence rate increases in direct proportion to the degree of overcrowding and amount of space between beds.

Overcrowding and Infection

It must be borne in mind that overcrowding in slum areas does not only mean too many persons occupying a dwelling, though this is of major importance. It also includes overcrowding of buildings in the area concerned, lack of open spaces, the so-called "lungs" of the city, lack of playing-fields, and too narrow streets. Apart from a higher accident rate these all create favourable circumstances for the spread of disease, particularly because such areas are always inhabited by the poorer section of the community, whose vitality is already lowered through the lack of sufficient protective foods, cold, sheer hunger, and all the misery associated with poverty. It is also true that poorer people have more children, which adds to the overcrowding. Under these conditions the human body, lowered in resistance, becomes fertile soil for the reception and cultivation of disease-germs, whose power of infectivity is further increased by the herding together in close proximity.

The most common communicable diseases spread by close personal contact are sore throat, bronchitis, pneumonia, influenza, scarlet fever, mumps, chicken-pox, whooping-cough, diphtheria, cerebrospinal meningitis, and tuberculosis. Many of these illnesses are preventable. In most cases, particularly for measles, whooping-cough, diphtheria, scarlet fever, and the other more common communicable diseases, the earlier in life they are contracted the more serious is the prognosis. The first year of life is the most dangerous age for children to become infected, and the danger lessens as the child grows older. Particular care should therefore be taken to prevent any of these illnesses occurring in the early years of life. The chances of such prevention being effective, however, are very much lessened in overcrowded slum areas. The result is a higher incidence among the lower age group with a correspondingly higher death rate.

The City of Glasgow published the following illustrative figures showing the difference in health conditions in homes according to the number of rooms per house. The figure 100 is taken as a comparative number applied to the house of one room (taken from the *Practitioner*, Sept., 1943).

House of	General Death Rate	Pneumonia and T.B. Death Rate	Infant Death Rate	Death Rate Children 1–5 Years
One room	100	100	100	100
Two rooms	64	72	78	74
Three rooms	44	32	61	44
Four rooms	41	38	49	25

The writer who submitted these figures stated that it did not really matter which year was taken for the statistical inquiry; the relative incidence remained the same.

The Lot of the Slum Dweller

The literature is full of similar statistical proof of ill-health and high mortality rate of the poor. Figures unfortunately cannot register the misery, unhappiness, and wretchedness of squalor, cold, and hunger—the lot of the slum dweller.

Think of the discomfort of leaking roofs, absence of adequate bathing facilities, sharing common dirty w.c.s for whose cleanliness no one seems to be responsible, the lack of proper cooking facilities, and more often than not nothing to cook anyway; and then sitting down in overcrowded hovels to a meal with the smell of cooking, with dirty plates and cooking utensils staring you in the face, and the noise of the neighbours coming from all sides. No wonder the sickness and mortality rates are so high. But we only know of the registered figures of physical illness. What of the mental condition of people who grow up in these surroundings? What do they think of the world they live in, and who can blame them if their souls become filled with hatred and animosity? What sort of citizens do we breed under such conditions and what is their outlook on life? Is it a wonder that "civilized mankind" has been plunged into the greatest effort towards exterminating itself that has ever been known in history? The rich have their animosities and hatreds born and bred in greed and selfishness, and the poor have their minds warped by squalor, hunger, and suffering. Strife and bitterness can surely never end until we "liquidate" these factors; and on their liquidation depend the future peace and well-being of the whole world. These, then, are the inescapable and undeniable physical and mental havocs wreaked upon the slum dweller written in the figures which register life and death, and in the incalculable suffering of poverty and misery which can only be measured in terms of drudgery, depression, and mental anguish.

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* Paper read at S. African Health Officials' Conference, Johannesburg, Nov. 28, 1944.

No wonder, then, that people in South Africa are anxious to rehouse the poor and to remove the slums. It would, however, be dangerous to seek a solution of this problem by merely providing new houses. It is true that rehousing is a very great factor, but by itself it does not offer a solution. Along with it must come social and economic reconstruction. We must ask what are the most pressing needs of the slum dweller. We do know that people who are badly housed have high mortality and sickness rates. We also know that people who are badly housed are the poorest section of the community. Bad housing is not the only evil which goes with poverty. Inadequate clothing, cold, and sheer hunger apart from malnutrition, are most important factors, and it is useless leaving this problem to those who can think only in terms of dilapidated buildings and overcrowding, and to whom rehousing only means providing new buildings and who think only in terms of bricks and mortar.

The Stockton-on-Tees Object-lesson

McGonigle and Kirby in their book *Poverty and Public Health* (1936) give in detail an example of the folly of looking to rehousing for improving the health of the slum dweller. They describe how the medical officer of health of Stockton-on-Tees once decided to apply to the Council for the demolition of an unhealthy area and for the rehousing of the inhabitants. As the area was too big to be dealt with under one scheme it was decided to divide it into two portions and first to rehouse one group, and to leave the rest until later.

The slums in the one area were demolished and the inhabitants removed to a modern self-contained housing estate. There was no appreciable difference in the original social, economic, and housing conditions between the people removed and those who remained behind. In this way 152 families and 710 individuals were moved to a newly constructed housing estate, and 289 families and 1,298 individuals remained behind. This offered very suitable conditions for the study of the results of rehousing, particularly as a thorough record of the total statistics of the area had been kept prior to the demolition of the one portion.

For the five years before removal of the one area the death rate for the whole of Stockton-on-Tees was 12.32, for the area not demolished 26.10, and for the demolished area 22.91. These figures show a higher death rate for the slum areas when compared with the whole city and a higher death rate in the area undemolished when compared with the area which was cleared.

Records were then kept for the next five years. The death rate for the whole of Stockton-on-Tees came down from 12.32 to 12.07, that of the people left in the slum area from 26.10 to 22.78, but the people who were removed to the new housing estate showed an increase in the death rate of from 22.91 to 33.55! It might be thought that the populations were not similar, and that there was, say, a preponderance of old people in one or other area. This can be dispelled, because all these rates were "standardized" to allow for any discrepancies in the make-up of the populations. There was also no untoward occurrence such as an epidemic in any particular area.

When these facts became evident it was necessary to determine the reason for such adverse conditions among the very people who had considered themselves fortunate in being rehoused in such attractive, new, well-appointed homes and under such pleasant conditions.

The cause was not difficult to find. The rentals in the old slum areas were about 4s. 8d. per family per week and the rentals for the new houses were 9s. per week. All these families were among the very low income group, and an increase from 4s. 8d. to 9s. is almost double. A survey was made of the income of the families in both areas, and it was found to range between 47s. 1d. and 30s. 5d. among the rehoused and 44s. 7d. and 30s. 9d. among those who remained behind. This shows that the income levels were about the same. But the occupants of the new homes were paying about 25% of their already meagre income in rent, and those in the old homes only 17%. To poor people this is a very big item in the family budget. In addition there were also new social obligations involving small extra expenditures among the rehoused. With an average weekly income ranging between 47s. 1d. and 30s. 5d. per family it goes without saying that these families never indulged in luxuries which could now be cut down to meet the increase in rentals. Their clothes already were of the bare minimum, and the only item on which they could save was food. They were actually dying of malnutrition—killed by the kindness of a well-meaning but short-sighted rehousing policy. This story serves as an object-lesson to all who deal with rehousing and slum elimination. It is a dangerous business unless all economic factors are taken into consideration.

A very interesting figure brought to light by this survey was the infant mortality rate. The authors hardly comment on it, but it really is of great significance and adduces further evidence of the importance of nutrition when coupled with rehousing.

Infant mortality was the only death rate which was reduced in the new estate. It came down from 172 to 117.8. As previously mentioned, infant mortality rate refers to deaths in infants under 1 year of age—an age period when for the most part nearly all children live on mother's milk, a perfect food for babies and the cost of which does not figure on the family budget, with the result that the general lack of food did not affect them. This substantiates two important findings. First, that malnutrition must have played a great part in increasing sickness and mortality rates among those over 1 year of age. There was actually an increase of 9.2% in the death rate of children between 1 and 10 years of age! And, secondly, that in the breast-fed and better-nourished infants under 1 year the healthy new surroundings and new homes played a great part in the reduction of the infant mortality rates.

Economic and Social Factors

Rehousing and slum elimination are essential. But what are the most urgent needs of the poor if we think in terms of mental and physical well-being? I would say without hesitation that it is at least as important to provide a sufficient supply of all the essential foodstuffs and adequate warm clothing. This provision must not be a "from-day-to-day hazard; it must be part of a social security system which will provide these basic amenities of life for all those who are prepared to do an honest day's work. It must also provide for the children, for the sick, and for the aged. Such a system will remove the anxiety and mental anguish associated with insecurity. With this there should be adequate free medical attention and hospital provision.

It is essential that *work* should be provided for all. There can be nothing more demoralizing than being on the dole. There should be a remodelling of our economic system. The primary object of production should not be for gain or exportation but to meet demands and provide the people with what they need. This would secure lasting employment for everybody, with incomes, and with goods to buy with these incomes.

Any attempt to increase wages without price control or, what amounts to the same thing, without control over the supply and demand factors, is merely the beginning of another vicious circle. We must have adequate wages, but we must also see that labour is directed towards the production of the things we need most. It is only in this way that the wages of labour will have a purchasing power which will at least permit of sufficient food and clothing as well as satisfactory housing. But we must not let housing by itself be considered as priority No. 1; other factors are at least as important.

I do not desire in any way to detract from the importance of and necessity for decent dwelling-houses. There is no doubt whatsoever that slums and bad housing are factors of the utmost importance in causing ill-health and disease. But they are not the primary factors. It is good that slum dwellers should be rehoused, but it must be ensured that the rentals of the new houses are not more than those of the old, and that persons rehoused will at least have sufficient money left after paying rent to provide for other essentials.

A Problem to be Tackled as a Whole

My main point is that we must not take for granted that rehousing is a cure for sickness among the poor. Unless the whole problem is tackled by a combined team of engineers, town planners, architects, social welfare workers, doctors, health inspectors, health visitors, qualified housing manageresses, economists, and medical officers of health the problem does not receive the attention which is necessary to attain the desired result.

Are we doing this in South Africa, or does rehousing to us still only mean putting people into new structures? Perhaps we *are "considering"* all these factors, but it cannot be said that there is a co-ordinated effort for its practical application. How can we have full co-operation when housing is dealt with by municipalities, and economics largely by the central Government? The production of foodstuffs is regarded as practically a purely agricultural problem, whereas we know that it can receive full consideration only from the point of view of what should and could be grown and distributed most economically in terms of "food value" for the people, when studied by a team of agriculturists, economists, veterinarians, and doctors.

It is quite evident that this question of health and housing is a problem which goes much further than most people realize. It requires to be viewed from a new angle and in its broadest aspects. It can be adequately dealt with only by a combined effort, based on knowledge and understanding.

THE R.A.F. MEDICAL SERVICE, 1939-45

On the formation of the Royal Air Force in April, 1918, medical officers who had served with the Royal Naval Air Service and the Royal Flying Corps were transferred or attached to the new Air Force and were granted R.A.F. ranks in November of the following year.

Although there were 415 officers in the medical branch when it was formed this number had dropped to 132 by the end of 1919, and the figure fluctuated with the rise and fall in strength of the Royal Air Force between the two wars. The formation of the R.A.F.V.R. in 1937 enabled a reserve of medical officers to be built up totalling 175 medical officers at the outbreak of war. The total strength on the same date was 554, including 91 officers from various reserves and the retired list. Recruitment for the R.A.F. as a whole had not reached any large proportions and the ratio of medical officers per 1,000 personnel was 4.5. This fell to 2.18 per 1,000 personnel by September, 1941, remaining practically at that level throughout the war.

The medical officers were faced with a formidable variety of duties, and lack of experience in total warfare placed an additional and unknown burden on them. The existing medical organization had to be expanded smoothly and rapidly, and facilities provided for the medical examination of entrants at medical boards all over the country. Health had to be maintained and sickness and disease prevented. Wounded had to be healed and rehabilitated and returned to their Service duties as quickly as possible, and the statistical organization had to be greatly expanded.

Organization

The R.A.F. Medical Services are in the Department of the Air Member for Personnel and are headed by the Director-General of Medical Services. The chain of medical liaison and control is maintained by the Director-General and his staff in the Medical Directorate through principal medical officers and senior medical officers down to the medical officers of units. The unit medical officer is a vital link in the chain. Being in close touch at his station or squadron with the practical problems of unit or station life he must maintain a constant watch over the physical and psychological health of all aircrews. All medical officers are given a series of lectures and demonstrations by experts on the psychological health of personnel. Psychologists visit stations and discuss problems with the unit medical officers and also explain to the squadron commanders the common-sense approach to the psychology of aircrews.

Sick Quarters and Hospitals

In 1940 there were seven R.A.F. hospitals at home and two abroad; by the end of 1944 there were 26 R.A.F. hospitals at home and 13 over-seas, as well as a number of mobile field hospitals abroad. The latter were well equipped and could provide all essential services for front-line medicine and surgery. In oversea theatres of war the value of R.A.F. hospitals of all kinds was not only in the first-class facilities for treatment which they afforded; equally important was the expert technical knowledge necessary for determining a man's fitness for his trade. 92% of aircrews and technicians treated in forward areas at mobile field hospitals were returned to their units in a very short space of time, after assessment by R.A.F. medical officers.

The R.A.F. has hospitals and sick quarters in the United Kingdom to look after all R.A.F. personnel—ground, technical, and aircrew. R.A.F. hospitals abroad are primarily for aircrews and technicians. The Army method of dealing with casualties is to evacuate them down the line as quickly as possible to keep the front line clear for action. In the R.A.F. it takes so long to train aircrews and technicians that it is necessary to save every man possible. If a member of an aircrew or technician is likely to be fit for duty in from 6 to 8 weeks he is treated in an R.A.F. mobile hospital in a forward area. Of selected cases approximately 92% have been got back to duty in the field. The R.A.F. treats its own cases, whether long- or short-term. It has instituted rehabilitation both in hospitals and at separate centres. Of rehabilitation cases, approximately 80% of all fractures have gone back to full duty, 60% of burns, and 46% of nervous breakdowns. It treats its own cases of tuberculosis and retains them in Service hospitals until local authorities can take them.

Dietetic Researches

A team of experts watched over the diet at hospitals both at home and abroad and advised upon any deficiencies in calorific value or vitamin content. This service also covered the dietetic needs of the whole of the R.A.F. at home and abroad.

All fronts were covered at different times, some fronts more frequently than others, to see that the nutritional state of the R.A.F. was satisfactory. In Europe there was an opportunity at the same time to ascertain the ill effects of under-nourishment on certain of the civil population, including children. By feeding these individuals with the substances that it was considered they were most lacking, not only was their condition improved or cured but valuable information was obtained for our own use. This information become useful sooner than we expected, as the sudden ending of the war cast on our hands a large number of prisoners of war who had been exposed to forced marches with little or no food and had suffered severely. The information gained previously in the treatment of civilians made it possible to give immediate and most satisfactory treatment to our ex-prisoners of war.

The results of the dietetic researches carried out in the R.A.F. are immediately passed to the sister Services, Ministry of Health, Ministry of Food, and the Medical Research Council for their benefit, as well as to the Dominions and the United States of America.

Sickness Figures

The highest incidence of sickness at home was during the years 1939 and 1940, and coincided with a severe winter under wartime conditions and the influx of a great number of men and women into the R.A.F. and W.A.A.F. from civilian life. In 1942 and 1943 sickness at home fell sharply to low level and the improvement in health has been maintained.

The worst years for incidence of sickness over-seas were 1940 and 1941. R.A.F. personnel were then being posted in substantial numbers to unhealthy climates, and the provision of preventive measures in the absence of the necessary materials was slow, laborious, and costly. The introduction of full preventive measures, including inoculation against a variety of diseases and the issue of drugs to personnel, and the improvement of hygiene and living conditions, produced a sharp fall in the rate of sickness in the R.A.F. abroad in 1943, and has persisted since.

Prevention of Disease

Hygiene during the war presented a variety of problems which had to be faced and overcome. Among them were the selection of personnel and the detection of disease, the maintenance of proper living conditions at home and abroad, the prevention of the spread of disease from one country to another by aircraft, control of hours and conditions of work, prevention of air-sickness, and the safeguarding of dental health.

The introduction of mass miniature radiography in the Royal Air Force in 1941 disclosed much of value and interest about chest conditions as a whole, apart from tuberculosis of the lung. By the end of the year 1944 a total of 480,492 examinations had taken place. The Royal Navy, which introduced mass radiography before the war, was the first Service to have it. The R.A.F. was the first Service to have mobile miniature mass radiography.

Evacuation of Casualties by Air

Great progress was made in 1942, 1943, and 1944 in the development of an organization for the evacuation of casualties by air. The figures for 1940 were about 300, and for 1941 some

2,000. Evacuation on a large scale began during the campaigns in the Western Desert and Libya; after Alamein the numbers reached 2,000 a month, and in November and December they were approximately 200 a day. 1943 saw the development of the casualty air evacuation units and sections, and the responsibility for the evacuation of casualties by air to Transport Command, 28,000 casualties being evacuated in that year, mostly from the Mediterranean Theatre.

In 1944, following the invasion of Europe, very much greater numbers were evacuated from Western Europe to Great Britain. During the second week of August, 1944, the daily total evacuated by air surpassed the daily number evacuated by sea, and after September the numbers evacuated by air were constantly higher than those brought by sea, except for two short periods in October and November. August, 1944, saw the introduction of a shuttle service from forward to base airfields. This service greatly shortened the time which sick and wounded had to spend in travel, and between August and the end of the campaign in Europe some 42,000 patients were evacuated by this service. Between June and the end of the war in Europe 82,000 cases were evacuated by air to the United Kingdom, and the total of cases throughout the world evacuated by the R.A.F. amounted to 300,000 for the year 1944. About 92% of these were Army personnel, and about 5% of cases evacuated from the European Theatre were American personnel. The R.A.F. brought out by air 60% of the British casualties in Western Europe, excluding prisoners of war, whereas in the Far East almost 100% in forward areas were brought back by air and the chances of recovery greatly increased. The number of ex-prisoners of war brought back to this country by air was 144,188.

HOSPITAL NURSING STAFFS

FACTORS IN ASSESSING REQUIREMENTS

The new Minister of Health has confessed that his Ministry is "haunted" by the dangerous depletion of hospital nursing staffs and by the fact that wards are closing down all over the country owing to lack of nurses. In this connexion a recent report by a committee (presided over by Dr. Morley Fletcher) of King Edward's Hospital Fund for London is very timely. The committee deplores the fact that too often questions of staffing are decided by financial considerations. "The salaries bill is looked upon as one of the heaviest items of expenditure, whereas in terms of value for money it is perhaps the most economical."

Factors to be taken into account in assessing staff requirements are: (1) space, such as the general lay-out of the hospital, length of corridors, and size of wards; (2) size of domestic staff; and (3) reserve or pool of nurses needed to replace those on holiday or sick leave. Further considerations apply to hospitals which are training schools, such as recognition of the student status of the nurse in training, and the block system of training whereby student nurses are withdrawn from ward duties for a term of theoretical work each year.

Estimated Ratios

To decide the optimum ratio of nurses to patients is not easy. A rigid standard of so many nurses for each 100 beds should not be imposed regardless either of the size of the wards or of the type of case to be nursed. Nevertheless, the committee does suggest the ratio of 70 ward nurses to 100 beds, the ward staff to be made up of 5 sisters, 5 trained nurses, 10 fourth-year student nurses, and 50 first- to third-year student nurses. This does not allow for the block system of training, and if the block system is introduced there should be an increase of one-fifth in the recommended number of first- to third-year student nurses, making their number 60 and bringing up the number of total nursing staff to 80.

As for the relations between numbers of ward staff and numbers of nurses engaged in other duties in the hospital, it has been ascertained that the total of nurses engaged in such other duties varies between 19 and 38% of the number engaged in the wards, the proportion being markedly higher in the smaller hospitals. If, therefore, the ratio for the wards is 70 nurses to 100 beds, not allowing for the block system, an addition of 38% for the administrative and departmental staff would give 96 as the total of the nursing staff for 100 beds. This leads to the conclusion that some general hospitals with out-patient and other departments may in future have to plan for a total nursing staff approximating to one nurse to each in-patient bed. In special hospitals the requirements might be even greater.

The King's Fund Committee recommends that those hospitals which can staff on adequate lines should not underestimate their requirements of nursing staff, but should set a standard of conditions of nursing care which would enhance the reputation of nursing as a career and help recruitment to the profession.

The report has several recommendations to make on hours of duty and on accommodation for nurses. With a more generous allowance of trained staff there is room for some modification of the shift system, and experiments in this direction are to be encouraged whenever sufficient staff is available.

QUEEN'S INSTITUTE OF DISTRICT NURSING

MIDWIFERY CASES IN 1944

The following report on midwifery cases attended by the Queen's Nurses and village and other nurse midwives shows the results for the year 1944.

The number of maternal deaths was 85, and the maternal mortality of 1 per 1,000 total births for the year was the lowest ever on record. This is an achievement of which the midwives may well be proud, particularly as it was in a year full of anxiety and strain for the mothers and themselves. It is puzzling to find that in spite of careful antenatal supervision the number of cases of eclampsia is still too high, and in many cases no symptoms could be detected prior to the eclamptic condition. It suggests that some further research on this complication would be valuable.

Among the maternal deaths in this report 58 occurred in hospital, of which 18 are classified under "accidents of labour," the term including ante- and post-partum haemorrhage, obstetric shock, heart failure, etc. Every patient booked with the midwife is followed up to the end of the case, whether the midwife completes the attendance herself as midwife, or it is transferred to a doctor or to a hospital. The maternal mortality, therefore, includes all complicated cases; many of these would have been doctors' cases had the patients been able to afford to pay the doctors' as well as the midwives' fee.

The number of cases attended (no doctor engaged for the confinement) was 85,153. The total number of midwives was 4,253, of whom 1,633 were Queen's Nurses and 2,620 were village and other nurse midwives. Of the patients attended, 20,664 were primiparae.

Analysis of Maternal Death Rates

Year	Puerperal Sepsis	Other Puerperal Causes	Total Puerperal Mortality	Non-Puerperal Causes	Total Maternal Mortality
			Per 1,000 *live births*		
1942	0·21	0·89	1·10	0·09	1·19
1943	0·33	1·01	1·34	0·04	1·38
1944	0·12	0·82	0·94	0·07	1·01
			Per 1,000 *total births*		
1942	0·20	0·87	1·08	0·09	1·17
1943	0·32	0·99	1·31	0·04	1·35
1944	0·12	0·81	0·93	0·07	1·00

The number of times medical aid was sent for was: For mother, 28,616 (33.6%) (during pregnancy 5,736, during labour 19,784, and during puerperium 3,096). For infant, 5,129 (6.0%). The number of forceps cases was 3,648 (4.3%).

Causes of the 85 Maternal Deaths

		Per Total Maternal Deaths	Per 1,000 Births
Sepsis	10 cases	11·8%	0·12
Accidents of labour ..	29 „	34·1%	0·34
Eclampsia	11 „	12·9%	0·13
Embolism	7 „	8·2%	0·08
Complications ..	22 „	25·9%	0·26
Non-puerperal ..	6 „	7·0%	0·07

There were post-mortem examinations in 18.8% of the maternal deaths, compared with 25.4% and 27.1% in the two previous years.

The figures for maternity nursing in 1944 were: Number of cases attended (doctor engaged, midwife acting as maternity nurse), 44,545. Number of maternal deaths, 57 (1.28 per thousand). Three deaths were due to miscarriage; these being doctors' cases the details were not verified.

VACCINE AGAINST SCRUB TYPHUS

A CO-ORDINATED EFFORT

The outbreak of war in the Far East brought many problems to the Allied High Command, particularly in relation to infective diseases. Among these was scrub typhus, a disease infecting rodents in Asia and Australasia, transmitted by mite larvae ("harvesters") and contracted by human beings living in jungle and grassland infested by the mite. As Allied troops pushed into Burma and New Guinea, and other regions where jungle warfare conditions prevailed, there was a marked rise in the incidence of the disease. It has a considerable mortality rate, and in most cases the illness is protracted and incapacitating. It is most prevalent during or immediately after the monsoon seasons.

Research work has been carried out in many parts of the world on scrub typhus vaccine, and as a result of the co-ordination of the efforts of scientific workers in the United States and the United Kingdom, medical research workers at the National Institute for Medical Research, Hampstead, were able in 1944 to work on lines which finally resulted in a suitable vaccine being prepared for clinical trials. By the end of 1944 the Army High Command in the Far East sent a request for 1½ million doses of this vaccine. It was asked that as large a quantity as possible should be made available for immunizing troops in combat areas before the onset of the monsoon and the accompanying increased risk of infection with mite-borne typhus fever.

Race against Time

To translate a laboratory technique into a manufacturing process requires time, but in the case of scrub typhus vaccine speed was the essence of the scheme. After discussion with the War Office, the Ministry of Supply, and the Medical Research Council, the Wellcome Foundation Ltd. was asked to undertake the work. The project was given a secret code name, and it was decided to erect the laboratories and animal breeding houses at the Wellcome Veterinary Research Station at Frant, Sussex.

In view of the extreme urgency of the required buildings and the difficulty of getting adequate civilian labour, as a result of bomb damage repair work going on in Southern England at the same time, the building operations were carried out by the Army. A company of Royal Engineers, with Pioneers and specialist contractors, began work on Jan. 14, 1945. On May 4 the laboratories were ready, including specialist equipment, much of which was of an entirely new design. The highest priority for materials and apparatus was afforded, and equipment not available in this country was obtained by air from the United States. The design of the laboratories, together with the responsibility for implementing the scheme and the production of the vaccine, was placed with a director loaned by the Medical Research Council to the Wellcome Foundation.

Supply of Essential Animals

The method of manufacture required the use of large numbers of cotton-rats. These rats are indigenous in the southern States of North America (Louisiana, etc.), and in order to establish breeding colonies in this country and get sufficent animals for producton of the first batches of vaccine, cotton-rats had to be obtained from the U.S.A.

Weekly shipments of animals were sent by air across the Atlantic in specially heated aircraft, these consignments having the highest priority. The rats on arrival in this country were brought down immediately to Sussex, sometimes by air but in most cases by Service transport.

Protection of Trained Personnel

To provide personnel for the animal houses and laboratory work, A.T.S. and R.A.M.C. were specially selected and trained in the work they had to carry out. Scientific officers were recruited from the R.A.M.C. and scientific bodies in this country. In view of the high risk to which all personnel would be exposed in the preparation of scrub typhus vaccine, great precautions were taken to reduce this risk to a minimum. Special equipment was designed and built, incorporating new principles of air sterilization. Further, all engaged on the work were immunized, and strict control was exercised over the disposal of infected material.

As a result of the co-ordination of all concerned it was found possible to prepare 100,000 doses of the vaccine for shipment to the Far East at the time required by the Army authorities. Preparation of additional quantities is proceeding.

JOINT TUBERCULOSIS COUNCIL

The Joint Tuberculosis Council held a special meeting on July 21 at the London School of Hygiene and Tropical Medicine, to consider some important reports prepared by committees, and the following statement has since been drawn up for the medical press.

Notification of Tuberculosis

The Committee on Notification of Tuberculosis, which has for some time been considering whether the present method of notification really achieved the best results, proposed some important changes in the system. The most notable is a suggestion that notification in the future be a two-stage procedure. The first stage would be that of *intimation*. A practitioner, suspecting that a patient might be tuberculous, would be able to send a non-committal intimation to the local authority instead of, as now, being compelled to make up his mind and decide upon a definite diagnosis of tuberculosis, which automatically puts the patient on the register of tuberculous persons. Under the new procedure the final diagnosis of the patient, and therefore the responsibility of placing him on the register, would rest with the tuberculosis officer. At the same time, there would be nothing to prevent the general practitioner who was certain of his ground from notifying the patient exactly as is done now. The value of the suggested new system would be that provision would be made for the doubtful case, whose illness could be thoroughly investigated by a tuberculosis consultant without any possible "registration stigma" in the event of his turning out not to have the disease. The Council decided to forward the committee's report to the Ministry of Health and to suggest that a meeting be arranged to discuss the best methods of achieving its objects.

Memorandum 266/T

The Council will shortly publish the interim report of the Committee on Ministry of Health Memorandum 266/T. This report raises three different kinds of issues arising out of that memorandum. First, there are administrative amendments, which could be authorized quite simply by an amending memorandum. Secondly, there are many points on which interpretative guidance is needed by bodies and officers administering the scheme; these could be dealt with by Ministry circulars, or guidance could be given by an authoritative body such as the Joint Tuberculosis Council itself. Thirdly, there are the matters in which information rather than specific action is necessary. Some method is urgently needed whereby administering authorities can exchange information and pool their experience. The committee believe that the basic monetary allowance under 266/T should be substantially increased and that dependants' allowances should be increased also.

Sanatorium Staff and Mantoux Test

The third main subject dealt with at the Council meeting was the conversion of hospital and sanatorium staff from Mantoux-negative to Mantoux-positive. It was decided to prepare a memorandum of advice on this subject, to be published shortly. The main points of the memorandum will include a month's "work and bed" for staff presenting no symptoms, no radiological evidence, and no significant increase in the sedimentation rate. For the symptomless with an increased sedimentation rate, a month's "half-duty and rest" is suggested, and if at the end of that time the sedimentation rate was normal, full duty would be resumed. For those without symptoms but with enlarged hilar glands and an increased sedimentation rate, a month in bed is the recommendation, to be followed by a month's "half-duty and rest" if this succeeds. Those who are actually ill, of course, are treated for as long as is necessary. It is most important, the J.T.C. believes, that Mantoux-negative staff should be told that they are negative, and that they are almost certain to become positive. They should also be told that just as most town dwellers go through a primary tuberculosis infection at some time in their lives and know nothing about it, the same uneventful course is probably the lot of the sanatorium nurse or maid changing from negative to positive.

Dr. Robert Young Keers has been appointed medical director of the Red Cross Sanatoria of Scotland, which are being established at Tor-na-Dee and Glen o' Dee by the Scottish Branch of the British Red Cross Society for the treatment of ex-Service men and women who have contracted pulmonary tuberculosis as a result of their war service. Dr. Keers, who is a graduate of the University of Edinburgh, has had a wide experience of tuberculosis work both in Britain and on the Continent. Since 1939 he has been medical superintendent of Tor-na-Dee Sanatorium.

Correspondence

Penicillin and Synthetic-Rubber

SIR,—Neither in papers describing different methods of giving penicillin by continuous intravenous or intramuscular drip, nor in hospitals one visits on returning home from the Services, does one see or hear any reference to the deleterious effect of synthetic rubber on a solution of the drug. This effect was known in B.L.A., and it was re-tested and confirmed by Major Craik, specialist pathologist, in Italy. Most of the rubber tubing now issued is of the synthetic variety, white or red; and it is a proven fact that contact with such tubing for an hour or two during the slow passage that a drip apparatus demands almost completely destroys the potency of the penicillin. Natural red rubber, on the other hand, has almost no ill effect. For this reason we in Italy used to collect all the natural rubber tubing we could lay hands on for continuous penicillin therapy. Some of the varying or disappointing results obtained in different centres, or even in the same centre at different times or in different hands, may well be due to the fact that natural rubber was used on some occasions and the synthetic variety on others.—I am, etc.,

F. A. R. STAMMERS,
Birmingham. Late Consulting Surgeon, Forward Areas, Italy.

Administration of Penicillin

SIR,—In assessing the relative merits of the administration of penicillin by continuous infusion and repeated injections (Sept. 1, p. 283) I think that much depends upon the nature of the cases being treated. My conclusions from a similar number of cases are the reverse of those found by Dr. E. C. Turton. Over 90% of the patients preferred repeated intramuscular injections. The main reason for this was that a continuous drip kept them confined to bed, and separate injections gave them a great deal more freedom of movement, and a chance to be up and about between doses. I must add, of course, that all the patients concerned were either primary or secondary syphilitics and mainly ambulant cases.—I am, etc.,

Grove Hospital, London, S.W.17. SYDNEY JONES.

Pituitary Snuff and Duodenal Ulcer

SIR,—For some years the use of pituitary snuff in the treatment of duodenal ulcer enjoyed a vogue, chiefly in Germany, and has more recently been encountered here. My notice was first drawn to it by seeing two cases of profuse malaena and one of duodenal perforation in patients undergoing the "cure."

Dr. John Stevenson (Sept. 1, p. 298) is optimistic, and writes that many hundreds of working hours have been saved by such ambulatory treatment. Its basis is as irrational as was that of histidine therapy, now nearly extinct. That, however, would be of small account if it really did what was claimed for it. But does it? We must discount Dr. Stevenson's own case, because all sufferers from duodenal ulcer, and doctors more than most, are prone to benefit from suggestion. We are then left with 75 men treated from Oct. 27, 1944, to April 2, 1945—i.e., five months and a few days. During this period 60 had no pain. Presumably 15 did suffer relapse. A five-months remission of symptoms in 71% of a series, made up of men who had had this trouble for from 1 to 20 years, is merely an indication of the natural history of the duodenal ulcer. If Dr. Stevenson had not been forced by circumstances to terminate his observations so early, and had he been able to produce an 18-months observation with the same results, then the discovery of a useful therapeutic agent would have been suggested. Even so, the phenobarbitone should have been omitted, and the results given in relation to the length of history of ulceration. I and many others obtained equally good "results" from the treatment of ambulatory out-patients with injections of histidine or, alternatively, distilled water! May it not be that the full diet and the confidence inspired by a new treatment were responsible for the apparent success?—I am, etc.,

London, W.1 A. H. DOUTHWAITE.

Routine Rh Testing

SIR,—The valuable article by Plaut, Barrow, and Abbott in the *Journal* of Sept. 1 indicates that routine Rh testing of women attending ante-natal clinics and maternity departments is becoming increasingly common, and it is hoped that ultimately it will become universal. The information that an expectant mother is Rh-negative is of value to the obstetrician in giving warning (*a*) of the risk of haemolytic disease in the foetus, and (*b*) if the mother should require a transfusion.

Plaut *et al.* record their results in two series, the first tested with standard anti-Rh_0 serum (anti-D or Δ), the second with anti-Rh_0, anti-Rh′ (anti-C or Γ), and anti-Rh″ (anti-E or H). The authors have followed the writer's practice of including in the Rh-negative groups those persons recognized in the second series as belonging to subtypes Rh′ and Rh″. In my opinion human red cells should be classified into 4 Rh-positive types comprising Fisher's Rh_z (CDE), Rh_1 (CDe), Rh_2 (cDE), and Rh_0 (cDe), and four Rh-negative types comprising Rh′ (Cde), Rh″ (cdE), Rh_y (CdE), and rh (cde). The possession of the dominant antigen D is the fundamental thing which should determine whether an individual requiring transfusion is called Rh-positive or Rh-negative; this is the component, identified by immune anti-Rhesus sera in Landsteiner and Wiener's original work, which most commonly gives rise to iso-immunization in the human subject.

From the therapeutic standpoint the individual who lacks antigen D should receive by transfusion only Rh-negative blood of genotype rhrh. In assessing the constitution of the prospective donor, however, all persons other than those of genotype rhrh should be excluded. About one-half of the Rh-negative (rhrh) women sensitized by an Rh_1 foetus react by producing agglutinins of both anti-Rh_0 and anti-Rh′ types (i.e. anti-Rh_1 sera); while those sensitized by an Rh_2 foetus may produce anti-Rh_0 and anti-Rh″ agglutinins (i.e. anti-Rh_2 sera). Individuals whose serum contains anti-Rh_1 or anti-Rh_2 agglutinins are likely to experience a sharp haemolytic transfusion reaction if given blood of subtype Rh′ and Rh″ respectively. Thus there is a small percentage of persons of subgroups Rh′ and Rh″ (totally about 2%) who must be counted as Rh-negative when recipients of blood but should not be used as Rh-negative donors. The provision of Rh-negative blood for transfusion is generally a matter for the blood bank and Regional Transfusion Officer, and the use of the three anti-Rh sera by this responsible authority is necessary to determine the completely Rh-negative character of the blood for transfusion. In the testing of the recipient only one potent anti-Rh serum need be used—namely, that of anti-Rh_0 type (anti-D or Δ)—and antisera containing anti-C or anti-E should be avoided, so that confusion of the subgroups R′ and R″ with the true Rh-positive types containing antigen D will not occur—I am, etc.,

The University, Glasgow. D. F. CAPPELL.

Diminution of Vision in Returned Prisoners of War

SIR,—It is now becoming more and more evident that the syndrome of sore tongue with cracked lips (cheilosis), dry furfuraceous skin, dry scaly scrotum, accompanied in many cases by various nervous manifestations, more particularly a retrobulbar neuritis (which if left untreated passes on to a partial optic atrophy of varying severity), has been an affection of many of our prisoners of war in Japanese hands—especially in some camps. Will you permit me to make some comments on this subject? First, the whole syndrome has been very fully reviewed by H. S. Stannus in his Lumleian lecture of 1944, of which abridged accounts appeared in the *British Medical Journal* of July 22 and 29, 1944, accompanied also by a very full bibliography. Therefore no useful purpose would be gained by making reference here to the more detailed description or the aetiology of the condition. But I would like to say a little about treatment—from personal experience in West Africa in the study of this condition there over a number of years (1930–8); and more particularly with regard to impaired vision (which, after all, can be the most serious of all residual effects).

As a general rule I found it worth while to treat all cases having a history up to 12 months. Over that period improvement was problematical unless, of course, the patient was still suffering from subacute effects of his malnutrition, as was so commonly the case among Africans who by virtue of their visual defect were often unable to earn a living. These cases, in which diminution of vision had become manifest in less than a year, generally showed good prognosis, and those with a history of six months or less an excellent one. It was usual, however, in cured cases to find some mild intolerance on the continued reading of small print; also there was often a *persistent* photophobia (more marked, of course, in a tropical country).

I gave 1 oz. a day of marmite, and continued this high dosage over a period of at least six months. In favourable cases visual response began to become evident within some three to six weeks, usually about "1 Snellen line a fortnight." Others were much slower, while a considerable number had reached an irreversible stage and did not improve. Occasionally, however, one obtained unexpected and unhoped-for results where all the signs suggestive of irreversible changes had intervened. For that reason alone persistence in treatment was always justified. With regard to irreversible changes, in Nigeria (as I have reported elsewhere) I was able in a number of cases to trace patients' histories back over many years: some as far back as 1907. From these inquiries it was evident that this syndrome was very prevalent indeed among the old Government *boarding* schools of those days. It is worth recording, perhaps, that none of these patients had become blind, their condition remaining practically stationary over the years, in contradistinction to progressive changes occurring in primary optic atrophy, with which this condition could be quite easily (in some cases) confused. It was also personal experience, as reported upon again elsewhere, that absolute blindness did not occur, though in many cases central visual acuity was often reduced to hand movements, and, in a number, permanently so.

With regard to mouth and skin lesions, it is necessary to stress how rapidly these (but not vision) clear up, with good food and with active therapy, in a space of 10 to 14 days. This point is of importance, because the vast majority of my own patients did have these signs in the first manifestation of their illness, but later these disappeared, so one must question patients with regard to their history.

In West Africa I did not use riboflavin—it was not available then—but there is little doubt that riboflavin "deficiency," as Stannus has shown, plays a major part in this condition. Probably, however, as he also agrees, other factors of the B^{2} complex are involved. Presumably, therefore, it would be wiser in general treatment to include the whole of the vitamin B complex. It is to be hoped, however, that extensive investigations with riboflavin will soon have been carried out, particularly with reference to visual response, in these other cases now that once more opportunities for further study have presented themselves. No doubt in this respect we shall also gain much valuable knowledge from our American colleagues.

Marmite was exceedingly well taken by Africans, because its salty taste also appealed to them. How far Europeans would accept marmite in these necessarily large doses is difficult to say. I found—in common with general experience—that brewer's yeast was not liked, though it was accepted in the hope of a cure. No doubt "food" yeast will play a valuable part in continued treatment of these European cases. But is it generally available, and, if not, can steps be assured that it would be available to this class of patient after he leaves hospital, as well as marmite?

I understand that, with regard to food itself, present allowances for an extra-nutritious diet are made only for a comparatively short specified period of time to repatriated prisoners of war. It is essential to view a highly nutritious diet for these cases as an integral part of treatment. Can we be assured that this will be available over any necessary prescribed period—say at least six months?

One further observation here might not be out of place. It was fairly certain this syndrome would become manifest under the conditions in which our prisoners of war have lived in Japanese hands. The dietary is, in fact, in many cases—especially those who were housed in jails—very similar to some of the dietaries experienced in West Africa—viz., rice and manioc, with occasionally some sweet potatoes, a little fish, some green food, and red palm oil—the latter fortunately rich in vitamin A precursors; and "what else they could pick up." In the *Journal of Tropical Medicine and Hygiene* of Sept. 1, 1942, I stressed the danger of certain staple carbohydrate foodstuffs when eaten to excess, where the general dietary itself also was poorly balanced. Such foodstuffs named were rice, manioc, sago, sugar-cane. One is convinced then of the need for better-class and more varied *carbohydrates* as an essential consideration, affecting dietary problems of local peoples over-seas. There is a grave danger in emphasizing the good qualities of rice among peoples of the poorer community there. It is not enough merely to demand more protein as the solution of their problems. It is of equal importance for us to realize, as McCarrison has done, the need for variation and availability of staple carbohydrate foodstuffs.—I am, etc.,

D. FITZGERALD MOORE.

Domiciliary Midwifery and the Family Doctor

SIR,—The joint authors of the above article (Sept. 1, p. 294) are representative of the thoughtful and experienced practitioners who view with concern any suggestion that the usual family doctor is not the proper person to conduct confinements. Whether their arguments apply to the majority of the profession to-day is another matter. Almost all the facts presented by the authors are true, but the reasons therefor are capable of other interpretation. They differ, for example, from those of the Royal College of Obstetricians and Gynaecologists and they are not held by maternity hospitals or by the majority of midwives. Who, then, is to judge what is best for the woman? She herself is seldom consulted, because it is presumed that her judgment is obscured by housing, domestic. and financial worries. The patient, however, pays the obstetric piper and her chosen theme is heard in local authority policy. It is not generally recognized that the bulk of midwifery practice is heavily subsidized by rates and taxes. In my own area approximately 50% of all burgh births occur in the municipal maternity hospital, and another 38% come under the domiciliary scheme. In other words, the burgh subsidizes over 80% of all confinements.

The popularity of the hospital is neither recent nor entirely due to bad housing, as the authors would suggest. Some of the beds are private, and many women who have had as many as six children in the hospital come from good houses. Most of the mothers in this burgh are seen at my office or in the burgh maternity hospital, and I can assure the authors that most prefer hospital to their own homes because (*a*) it is cheaper, and (*b*) it relieves them of nursing and domestic difficulties. It scores over the domiciliary scheme also in that they are maintained, and they know in advance their financial liabilities whatever complications may arise. It was only by very preferential treatment that the domiciliary scheme could be got going locally, and the non-enthusiasm was shared initially by patient and practitioner alike. It is very significant that the occasional applicant who considers her assessment too high invariably asserts that she would as soon have the *midwife* alone.

I agree with the authors that the risk of infection is infinitely greater in hospital than in the home, and I know from special investigations that sepsis—e.g., mastitis—may manifest itself after the patient leaves hospital. While the introduction of sepsis is often unavoidable, its spread is the most formidable problem which any epidemiologist can tackle. Much concerted and highly technical research into staphylococcal infections has been urged and is long overdue. Despite the fact that the presence of sepsis in the local hospital has been openly announced whenever it arose, there has never been any falling off in the clamour for admission to hospital.

The statement that local authorities think only in terms of institutions and clinics and that environmental factors are ignored is untrue. The local authority is very much concerned with environment (one of its major functions—and worries), but until recently it had little to do with practitioner services, although it had pioneered such adjuncts as ante-natal and child welfare services. That the practitioner realizes their importance since he has been actively associated in a local authority scheme is admitted—somewhat naively—by the authors, who state: "Under the Maternity Services Act the family doctor has already realized that the more careful and skilful his ante-natal examination is the less trouble he has at the confinement." I would also remind the authors that their domiciliary scheme was prepared by the local authority under the Maternity Services (Scotland) Act, 1937, and that it is very much the concern of the local authority that it should function properly. The public is very sensitive to deficiencies in the social services, and the medical officer of health who has prepared and integrated the domiciliary scheme with his other services must correct any maladjustment. Failure to do so is reflected in the results, of which the best index is the infantile mortality rate.

Success, as the authors say, depends on team-work: the midwife, the doctor, the obstetrician, the hospital, the health visitor, the clinics, and also the paediatrician. The authors would arrogate the chief role to the doctor, as is his right as family doctor, but, generally speaking, I would say that he has forfeited his right. In urban areas, at any rate, the family doctor in the old sense—the authors' sense—has almost ceased to exist. He is no longer the self-reliant man his predecessor was, nor is it in his own interests or that of his patients that he should be. Unhappily he has permitted, *inter alia*, what should normally be general practice to become a specialty.

Midwifery is time-consuming and relatively unprofitable. As trained midwives became more common the practitioner allowed her to occupy his seat at " the bedside of the woman in labour," to quote the authors, while he went elsewhere. Even under the domiciliary scheme the 1:4 ratio of expected attendance by doctors at confinements has been found to be much too optimistic. How often does one see practices advertised with a list of their desirable features, including " no midwifery " ? As a result the burden of real midwifery has had to be shouldered by the midwives and by the hospitals. Many practitioners are loath to adopt what I have referred to as adjuncts of midwifery, and in some areas the operation of the domiciliary scheme was held up because practitioners objected to calling in an obstetrician. I, personally, favour domiciliary midwifery conducted by the family doctor who knows his job, and I have been fortunate in having practitioner colleagues of the type suggested by the authors—men whose help and judgment have been freely involved and given in the absence of the obstetrician. They constitute a minority of the profession, however, and few are under 50 years of age. The front-line unit in the home and in the hospital is undoubtedly the midwife, and too often it is she who must decide when to initiate action involving the whole team. In England the general practitioner has almost dropped out of the team altogether, and, statistically at least, the results there are better than in Scotland.

I would endorse what I would call tendencies rather than faults imputed by the authors : in the midwife—a reluctance to send for the doctor ; in the doctor—a reluctance to be sent for (not mentioned by the authors); in the less experienced obstetrician—a tendency to dramatize and overtreat; in the hospital—a disinclination to recognize sepsis as such and to establish early bacteriological diagnosis ; and, finally, to return to the doctor—a somewhat casual regard for the anatomy of parts to be sutured.

In conclusion I would refer to the authors' statement that " in the proposed National Health Service the maternity services would not be under the direction of the local authority." That part of the maternity services of especial interest to the author —namely, domiciliary midwifery—*is* to remain with the local authority. The very necessary adjunct, the municipal maternity hospital, may go to an *ad hoc* authority, the Hospital Board, while no one knows whether the obstetrician remains to advise the practitioner without having beds at his disposal or whether he shuts himself up in the hospital. Doubtless this disintegration will be glossed over by reference to " liaison " and " the closest possible co-operation."—I am, etc.,

James R. W. Hay,
Kirkcaldy. Medical Officer of Health.

Sir,—In reply to the article (Sept. 1, p. 294) by Drs. D. Dale Logan and E. K. MacKenzie I should like to make the following observations:

In any large maternity hospital the maternal mortality for " emergency " cases is many times higher than for " booked " cases—i.e., mothers looked after from early pregnancy by the specialist have a much lower mortality in childbirth than those who are not.

Apart altogether from the question of the skill and experience of the accoucheur, what facilities are at the disposal of the general practitioner doing midwifery in the home when something goes wrong? How many carry a blood bank with grouping sera or even plasma? Drs. Logan and MacKenzie will admit that some cases at least of post-partum haemorrhage are not due to a mismanaged third stage.

Why is it that we obstetricians cannot but note that cases of " failed forceps "—commonly due to an incompletely dilated cervix—always come in from outside and never occur in hospital?

Why is it that in any large maternity hospital each year there are a number of cases admitted so far advanced in obstructed labour that the life of the baby is lost and that of the mother endangered and in some cases lost also?

Caesarean section has been proved to give the best results for mother and child in major degrees of placenta praevia, and the time to perform the operation is before the woman becomes exsanguinated. I have rarely seen exsanguination in a " booked " case which turned out to be placenta praevia, but I cannot say the same of the " emergencies." These few instances—and many others could be quoted—have to be explained.

I have many times been called out with the mobile resuscitation unit and have found parturients *in extremis*—this state of affairs being due not to any lack of conscientiousness on the part of the doctor but (*a*) to his lack of training in obstetrics, and (*b*) to the lack of facilities at his disposal. Until such time as all medical men practising obstetrics are trained in the art such a position will obtain.—I am, etc.,

Sheffield. D. C. Wiseman.

Sir,—Judging from the recent report of the Royal College of Obstetricians and Gynaecologists, suggesting a " specialist midwifery service," and from the very practical article on domiciliary midwifery and the family doctor (Sept. 1, p. 294), there appear to be two schools of thought on the creation of a sound midwifery service for the country.

Under the circumstances a commission composed of obstetricians and G.P.s should be set up to formulate a plan for an efficient type of midwifery service which would be satisfactory to both branches of the profession. Neither a specialist midwifery service nor a domiciliary one would be likely to solve the problem, as the first would appear to be rather an extravagant measure for the whole country, and the second might fail in the treatment of abnormal cases. The formation of such a service should be based on the treatment requirements of normal and abnormal cases rather than on the formation of a new specialist branch of the profession.—I am, etc.,

Freshwater, I.O.W. Carlisle Kelly.

Anaesthetic Risks

Sir,—Anaesthetists and surgeons will be grateful to Major Kremer for publishing the description of seven cases of meningitis following spinal analgesia (Sept. 8, p. 309). This report is really helpful as a guide to other practitioners who are anxious to assess the risks and advantages of various forms of anaesthesia and analgesia.

There has been a tendency of recent years for anaesthetists and surgeons to abandon the use of well-tried and approved methods of inhalation anaesthesia, and to adopt other techniques the dangers of which have not been properly understood. We have to a large extent banished chloroform from our theatres, and opened the doors wide to other devils worse than the first. The alarming increase in the incidence of anaesthetic mortality and morbidity shows us that new methods are not necessarily better methods.

After the publication of Major Kremer's report, that of F. T. Evans (*Lancet*, 1945, 1, 115), and other evidence now available, it will clearly be quite unjustifiable to use spinal analgesia for operations which can be properly performed under inhalation anaesthesia. I think it will be generally agreed, now, that spinal analgesia should be administered only by the full-time professional anaesthetist, thoroughly familiar with the technique and aware of the many possible dangers.

While it is right that new agents, and new methods of administration, shall be constantly investigated, it would be much wiser, as Flagg says, if they were allowed to ripen on the tree of experience before being extensively used. It would be helpful if there were established special centres of research where new drugs and techniques could be thoroughly investigated and from which practitioners could receive information and advice. Prof. Macintosh has already established a pioneer centre at Oxford. Major Kremer has indeed done us a great service, and I very much hope that other practitioners will also tell us of their misfortunes as well as of their successes, so that each and every method of anaesthesia and analgesia may find its proper place in modern anaesthetic practice. Then, perhaps, we shall hear no more of those too numerous tragedies which have been so frequently associated with spinal analgesia of recent years.—I am, etc.,

New Barnet, Herts. JOHN ELAM.

Trilene Analgesia in General Practice

SIR,—One of the many problems the single-handed practitioner has to face is how to make minor surgical procedures painless. To incise abscesses and whitlows under local freezing with ethyl chloride is crude and far from painless, especially during the thawing-out stage. Local analgesia solves many problems, but is limited in its application, and distinctly dangerous for operations on the digits, and for circumcision, owing to the risk of gangrene, although M. Arnold (*S. Afr. med. J.*, 1943, **17**, 222) and M. A. Magid and O. S. Culp (*J. Urol.*, 1943, **50**, 508) have evolved a technique for the latter which appears to have overcome this risk, and their method has been confirmed by no less an authority than Hamilton Bailey. It is unsafe for dilating urethral strictures because of the risk of absorption.

Gas-and-air or gas-and-oxygen has the disadvantage of requiring expensive apparatus cumbersome to carry. The basal anaesthetics have the disadvantage of rendering the patient unconscious, which is not justified for many of these very minor procedures, and the rate of recovery depends upon the amount of drug used, the rate at which it is injected, and the exactness of the venous puncture; any or all of which factors may be misjudged, leaving a drowsy patient who is quite unable to depart from the surgery under his own volition in less than an hour. Trilene, I thought, would solve these difficulties; for not only is its analgesic property very high, but the rate of recovery is rapid—a most important desideratum. It remained, then, only to find the most suitable and inexpensive apparatus—an apparatus preferably which would allow variations in strength of mixture rather than a fixed-percentage apparatus, for the latter cannot be used for full anaesthesia, and it is obvious that the mixture which will suit a full-blooded navvy will not be suitable for a frail anaemic woman. I happened to read a description by Mr. G. Thompson, F.R.C.S., of Sydney, Australia (*Lancet*, 1942, **1**, 324), of how to modify Clover's or Hewitt's inhaler so as to be able to use it for all types of anaesthetic without its bag. So I got out my old Hewitt, which had not been used for many years (the bag of which had perished), and sent it to A. Chas. King, Ltd., to make the necessary alterations. These are an inspiratory valve at the external end of the bore, and an expiratory valve on the face-piece. I had the inspiratory valve made detachable so that the inhaler could revert to its original design (the expiratory valve can be closed). Incidentally, it is a useful piece of apparatus, which, with a double bag and mixing-chamber attachment, can be used to give gas, oxygen, trilene, or ether sequence. The only occasion on which I tried ether in this modified inhaler—to suture a perineum—I failed to induce anaesthesia.

My practice is to put 1 oz. of trilene or less into the inhaler and begin steady induction (too rapid induction has been reported to cause various cardiac irregularities), having carefully explained to the patient that he is to have complete control of the apparatus, and to breathe evenly and slowly as if falling asleep. As soon as the analgesic stage is reached, which is estimated by pinching or pricking the patient's arm, he is given the inhaler to hold and told to continue breathing. All the time I keep up a slow monotonous conversation by way of encouragement and to get the patient to relax. It is important that there should be an atmosphere of calmness with no distracting noises. I have given no premedication, but I believe that a preliminary small dose of one of the barbiturates, or even bromide or aspirin, an hour or more beforehand would increase the effect. The patient is told to lift the face-piece off the face during the non-painful procedures (tying the knots, threading the needle, changing the bougie, etc.), and then is allowed to take five to ten inhalations of the anaesthetic before the operation is continued.

Though my cases are limited in number I have not had any cause for alarm or even adverse symptoms. I have used this method for incising whitlows, passing bougies, catheterization, and, in fact, for any painful procedure. I have also used it in midwifery and for suturing the perineum, but in these cases I have allowed the midwife to increase the strength up to loss of consciousness, interrupting the inhalation during the non-painful manipulations. For circumcision in infants I use a few drops of trilene on a piece of gauze laid over the baby's face, and wait a few moments for crying to cease and automatic breathing to begin before snipping off the prepuce. As this is the only painful part of the operation, no more anaesthetic is given.

All patients are in the recumbent position on the examination couch, and are so kept while I put away my instruments and clear up the mess. Then they are made to sit on the couch for a few moments before putting on tie, collar, etc. It is hardly necessary to say that dentures and all tight clothing are removed as in any other anaesthetic procedure, and no female is put through this process without a relative or friend of hers being present throughout the whole procedure.

Although the success of this method is largely due to the marked analgesic properties of trilene, there would appear to be some additional factor, which is probably a conversion of passive receptiveness for anticipated pain, which causes rigidity, into active co-operation, with resulting relaxation—rather like the inhibition of the reaction to one stimulus which can be brought about by the imposition of a more powerful or more distracting stimulus; or, again, like the part of the mechanism of the Jendrássik reinforcement of the knee-jerk which diverts the attention. For, as one patient (a case of urethral stricture) remarked, he had been much too concentrated on breathing into the inhaler to pay any attention to anything that I was doing.—I am, etc.,

Keighley. WRIGHT LAMBERT.

? Abuse of Sulphathiazole

SIR,—Like Dr. E. Brauer (Sept. 8, p. 333) I have often wondered at the frequent use of sulphapyridine and sulphathiazole in infections where sulphanilamide is effective. This particularly applies to streptococcal infections of the throat and *B. coli* infections of the urinary tract. Sulphanilamide is both cheaper and less toxic.

My own experience with sulphapyridine and sulphathiazole, though, is that sulphapyridine is not only very much more unpleasant but more toxic. In fact I foresee the not-far-distant day when the magic 693 of yesterday will not be used.—I am, etc.,

Bungay, Suffolk. P. G. LEVICK.

Air Embolism

SIR,—The report by Dr. P. H. Dalgleish of two cases of air embolism following artificial pneumothorax refills (Aug. 25, p. 256) prompts me to send you the following account of what such an occurrence may mean to the patient himself, given to me by a man recently discharged from sanatorium. It was so striking that I had it recorded verbatim.

> "It was my turn next for a refill, and I went into the treatment room with a sinking feeling. I usually felt like this beforehand, probably the dread of a needle being pushed in a tender spot. I stripped off, got up on to the couch, and put myself in the position the doctor liked to have me. He then felt for a likely spot in which to put the needle. He marks it with iodine, and then turns to prepare a 'local.' Although it was my 8th or 9th refill I still had 'locals,' because, so I understood, my A.P. was a poor one, due to what the doctor called 'frightful adhesions.'
>
> The 'local' finished he turns to the sister saying he wants the longest induction needle she can find. He selects one, remarking as he always did on the poor condition of the points. The needle goes in, and I jump a little; I always did; to me it felt as if it was going through something it should not have done. It wasn't a pain but a dull ache for the fraction of a second. The air tube is fastened and the doctor sits on his little stool with the apparatus in front of him. I was not feeling myself, but I was able to watch the coloured

liquid in the 'U' tube. I knew that if I saw that bobbing up and down everything would be right. But no, it wouldn't move, and then all at once I started to feel strange. I felt frightened and wriggled about. The doctor says, 'What's the matter?' I opened my mouth to try to tell him I felt funny, but no distinct words would come out, just jumbled-up babbling. He pulls the needle out very quickly. I'm rolled from my left side on to my back. By this time the feeling seemed to have gone completely out of my body, and my sight had, too, apparently gone. It was as if I was in a white fog.

I felt something being forced between my lips, and in the distance I could hear someone saying: 'Swallow it, swallow it.' But this didn't mean a thing to me; I could feel it oozing out of my mouth again, and I could do nothing to stop it. By now I did not care much. My breathing was quite normal, but my heart I could feel beating at a terrible rate. The doctor was now standing by me, and it was not until many minutes had passed that I realized he was holding my wrist. This went on for some considerable time. Now he said: 'Grip my hand,' and I felt his hand hold my right. I managed to grip it slightly. 'Now lift your right leg.' Yes, I could move that. 'Now your left leg.' But that will not budge. He tried to make me grip his hand with my left, but that also will not move; in fact, I could hardly tell his hand was touching me.

I could hear a lot of rushing about, and I found myself suddenly surrounded by hot-water bottles. During this time there was much talking, but it always seemed so far off, until I heard someone say 'It's brandy, try and swallow it'; but it was given to me in drops, and apparently this went down without much effort; anyway I couldn't feel it running from my lips. I was left alone for some considerable time after this, and I tried to distinguish things in the treatment room, but the only thing I could see was something white, which I took to be a nurse's cap. Now the sister brings in some coffee, and, raising my head a little, holds the cup to my lips and I manage to swallow some of this. She tells me the porters are bringing a stretcher along and they will carry me back to my bed. This duly arrives, and after some considerable trouble I'm placed upon it and am taken to my room and put to bed. My pyjamas had been torn in transit, and I decided I was well enough to change them, if my room mate got them out of the drawer, which he did. But no, I had not sufficient control over my hands, and in the end my 'cubie' had to do it. My sight by this time was coming back, but everything was upside down, so I thought the best thing to do was to try and sleep. Incidentally, I had been in the treatment room 1¼ hours.

About 4 p.m. the medical superintendent came round and wanted to know all about it, but although I tried hard to speak my words kept getting mixed up, and so I gave it up. 'These little things do happen, you know,' he said, 'and we cannot continue with your A.P., but anyway you will get on just as well without it.' The next day two or three fellows who had troublesome A.P.s were told it was far too dangerous to continue with theirs."

He made a complete recovery and is to-day alive, well, and working.—I am, etc.,

BRIAN C. THOMPSON,
Tuberculosis Officer,
Middlesex County Council.

March Fracture

SIR,—In answer to my question "What are the M.O.s doing about the evils of stamping?" your correspondent "Pedes Plani Dolentesque" replies: "Nothing because there is nothing to be done." His reply also shows that the M.O.s of the Brigade of Guards are incapable of exerting their authority in a matter they consider harmful to the men under their medical care. Some men in other branches of the Service are not so complacent and carry out the instructions of the drill book in a satisfactory manner. On the other hand, drill sergeants are teaching men to stamp and even to "smash the concrete" in doing so, and with harmful results. Stamping being an "integral part of the Brigade particularly" sets a bad example of want of discipline to the rest of the Army. It is a pity because it is a harmful, inelegant prancing about by over-drilled guardsmen.—I am, etc.,

Stanmore. G. LENTHAL CHEATLE.

Marching on Rubber

SIR,—I have no doubt but that the Army authorities have considered the issue of rubber-heeled ammunition boots to the soldier instead of the present iron-shod variety, and that only wartime scarcity of natural or synthetic rubber prevented its adoption.

All American Army soldiers are issued with rubber-heeled boots. I discussed the subject with some of them just before D Day, and they assured me that they can do the longest marches without foot fatigue or blisters. The particularly annoying blister around the edge of the heel, so often produced by long marches on hard roads when wearing iron-shod heels, is unknown to them. At that time I followed their example and had my marching boots converted to rubber heels, and have never had a blister since.

The effect on regimental foot drill following the adoption of rubber heels would be to make it comparatively silent—a rather revolutionary change. Whether the introduction would reduce the incidence of march fracture or not I cannot say, but it would most certainly add greatly to the foot-comfort of the soldier.—I am, etc.,

Edinburgh. I. G. CAMERON.

Milk and Adjectives

SIR,—The pros and cons of milk safety, purity, or cleanliness, are argued *ad nauseam*, till some readers must feel, "Why drink milk at all whatever the adjective?" If pure milk means only an unadulterated product, clean milk only one free from dirt, and safe milk one in which living disease germs do not flourish, cannot the public have such elementary virtues without highfalutin and meaningless names like "accredited" being attached to the article? As doctors must, more than ever before, be teachers in the brave new world, and as they do know more of tuberculosis, typhoid, etc., than other folk, it is well that Dr. Hawthorne should once again remind us that it is simple duty to our patients in every house we enter to assure ourselves that no one is being slowly and deliberately poisoned by the consumption of milk that is *unsafe*.—I am, etc.,

Moor Park. ESTHER CARLING.

Climate and Civilization

SIR,—Dr. Kenneth Black's letter (Sept. 8, p. 334) raises an interesting point. Though it is true that tropical and subtropical climates do not appear able to maintain a high degree of civilization for any great length of time, yet it is equally true that throughout the ages they have acted as nurseries for culture. For the New World there were the Aztecs in Mexico, the Incas in Peru, and the Mayas of Central America; in the Old World, to mention only a few, there was an advanced civilization at Mohenjo Daro, in India, at the same time as the civilizations of the Nile and the Euphrates were beginning to flourish. Subsequently, civilizations spread progressively westward to colder climates—Greece, Rome, Western Europe, and, finally, North America.

Many of these early races—e.g., the Mayas, Aztecs, and Greeks—originally came from colder climates, and the process seems to have started when the warmer and kinder climate gave more leisure for an originally strong stock to progress toward civilization. In subtropical and temperate climates I think it still remains open to question whether the ultimate and apparently inevitable enervation is directly due to the warmth of the climate or to the soft living produced by civilization itself.—I am, etc.,

Newbury. T. NORMAN.

Premedical Zoology

SIR,—Referring to the interesting article by Abercrombie and Johnson on this subject (Aug. 25, p. 262), may I suggest an important illustration of the principle of giving preference to those aspects of zoology that have a human relationship. The morphology and kinetics of quadruped, monkey, ape, and man might form the groundwork for studying the maintenance of posture and good skeletal form in the human being. Posture maintenance in the quadruped is a very different problem from that in the monkey and ape; and the ape differs from completely orthograde man largely in the extent to which the arms are used for suspension and support of the body weight. Not that man's orthograde nature should be made an excuse for his greater susceptibility to postural degeneration; but we need to give much greater medical attention to the subject. In accordance with another principle recommended by Abercrombie and Johnson, this zoological approach should be co-ordinated with the subsequent study of postural orthopaedics, which it is hoped will at last be incorporated in standard medical education. Up to the present medicine has sadly neglected the everyday mechanics of human physiology.—I am, etc.,

Birmingham. E. H. WILKINS, M.B., D.P.H.

Remissions in Disseminated Sclerosis

SIR,—While remissions are a well-known feature of disseminated sclerosis it is rarely that one sees reports of individual cases of prolonged remission or of a series of such, giving one an average idea of what can and does happen to many cases of this disease. The following account, therefore, of a case in which diplopia was the only subjective symptom and absent abdominal reflexes the only objective sign, and in which there has been a remission for 13 years, may be of interest.

Mr. X., aged 26, came in 1932 complaining of slight double vision only that morning. He felt perfectly well otherwise and there was nothing of interest in the history. Examination showed only absent abdominal reflexes. His vision was slightly blurred, but 6/6 both eyes; fundi normal, no ocular palsy noted. The visual disturbance had disappeared in 12 hours. Blood Wassermann was negative. The late W. Adie saw him on the next day, and reported that he could obtain just the slightest flicker in the abdominal reflexes and nothing else. He dubbed him "D.S. suspect," but said, "I am afraid further troubles are inevitable."

The patient returned for a quite trivial complaint in 1945, when he reported that he had had no further trouble. On examination the only sign was still absent abdominal reflexes. Knee-jerks equal and active, no Rombergism, plantar reflexes flexor. His fundi showed some temporal pallor, more marked in the left eye.

It is always a difficult problem to give any prognosis in such cases and, as Walshe[1] says, "to cloud with gloomy apprehensions the life of a young subject who may have many years of normal life before him demands careful thought." The patient whose case is quoted above had recently married. Should one have been justified in advising him against marriage? I temporized by stating that in 13 years, so far as one could judge, there had been no progression of the disease.

The incidence of disseminated sclerosis in the Forces during the present war would be of the greatest value and interest. I had recently seen three cases in which no previous symptoms had been noted before Army training. Here the question arises as to how fatigue, both mental and physical, can and does precipitate crises in this disease. One therefore wonders if some clue could not be obtained, by the back door as it were, to the aetiology of the condition. What are the metabolic effects of fatigue, what the pathology or the biochemistry? What might fatigue so considered be capable of activating?

No evidence has been adduced for accepting the infective theory, or if so, as Collier[2] remarked, it behaves like no other infective process. Indeed, it resembles more the crisis of diabetes as precipitated by extraneous infections, although in disseminated sclerosis it may be not only febrile illnesses but injuries which disable the patient for a very short period only, or surgical interventions of all sorts not necessarily serious in themselves. I therefore feel that a more detailed study of the causation of exacerbations might lead to some progress in the knowledge of the aetiology at the moment completely unknown.—I am, etc.,

Highgate, N.6. W. LEES TEMPLETON.

REFERENCES

[1] F. M. R. Walshe, *Diseases of the Nervous System*, p. 177.
[2] *Price's Medicine*, p. 1654.

Chronic Regional Ileitis

SIR,—I read with interest the case report of Drs. O. Wilson and T. D. Culbert (Sept. 8, p. 332). Characteristically their patient presented symptoms of intestinal obstruction relieved by a timely resection of the stenosed segment of gut. I think, however, the available evidence weighs heavily against their assumption that regional ileitis is a new disease and a rare one. They will find the report of a similar case to their own by Norman Moore (*Trans. path. Soc. London*, 1882–3, **34**, 112). In the ensuing fifty years papers by Braun (1909), Dalziel (1913), Moschowitz and Wilensky (1923), and Crohn *et al.* (1932) are milestones marking the gradual recognition of this lesion as a clinical entity. That of Crohn and his collaborators attracted so much attention that more than one thousand cases were reported from all parts of the world in the decade following its publication—a fact which dispels the concept of rarity. Even so, it is probable that some examples still escape record, because men hesitate to report cases of doubtful aetiology, preferring the cast-iron type of lesion to some *terra incognita*.

Regional ileitis, then, is an old disease with a new name—or names, for few morbid processes have acquired such a medley of synonyms, none of which has thrown light on its causation. As to this, Drs. Wilson and Culbert quote from an early paper of mine an opinion based on the naked-eye appearance of the lesion in the theatre. There it looks all over like an infective process, and I am still of the same opinion after further experience of it. But the authors of the present report regard some vitamin deficiency as the primary causal agent—in particular, vitamin C. This seems improbable in view of the sporadic incidence of regional ileitis. By analogy with a typical deficiency disease—e.g., pellagra—it should appear in epidemic form. Though far from rare, the lesion is not common enough to arouse suspicion of vitamin-lack in the community.

Lastly, the outline of a presumed case of acute ileitis treated solely by dietetic measures without abdominal exploration suggests that the precise diagnosis could be only a matter for conjecture. The resolution of a palpable mass during the administration of a daily dozen oranges raises some doubt whether this retrogression was truly *post hoc propter hoc*. Is it possible that the patient's "extraordinarily lax abdominal walls" had their counterpart in a similar laxity of her abdominal mesenteries, and that a self-reducing volvulus or intussusception accounted for the disappearance of the mass?—I am, etc.,

Ashton-under-Lyne. F. G. RALPHS.

The Filigree Operation

SIR,—Without entering into the merits or demerits of the filigree operation in the recent correspondence between Squad. Ldr. J. B. Kinmonth and Mr. W. Pickup Greenwood, I would like to mention that I published a case in the *B.M.J.* of April 12, 1924, under the title. "Repair of a Recurrent Inguinal Hernia by Means of a Gauze Filigree." I believe that this type of filigree inserted as described by me has many advantages over the metal filigree. I envy Mr. Greenwood his opportunity to have operated on 80 cases since 1938, in some of which I feel this method could have been used.—I am, etc.,

Durban, S. Africa. D. O'DONOVAN.

End-to-end Anastomosis in the Small Intestine

SIR,—I was very interested in Major J. Seton Pringle's description of end-to-end anastomosis of the small intestine (Aug. 25, p. 256). I do not know if his is the first record of the use of this method in the human subject, but some of your readers may be interested to know that this method was taught by J. G. Wright, F.R.C.V.S., Professor of Veterinary Surgery, University of Liverpool, some thirteen years ago when he was at the Royal Veterinary College, London.

I reported the successful use of this method in the dog in a communication to the *Veterinary Record* in 1939.—I am, etc.,

Basingstoke W. R. TURNBULL.

Doctors and the Social Trend

SIR,—What I thought when I read Dr. Shackleton Bailey's really admirable letter (Aug. 18, p. 235) has since been very aptly put by two other writers—namely, that Dr. Bailey has shown us the way out in one of the most constructive and understanding letters that has appeared in our *Journal*, and that it is a pity such clear thinking is not more common.

Only one statement in that letter needs modification—that no one can now fail to discern the signs of the times. Apparently there are a number, and some have since put their pens to paper. Dr. Duckworth, for instance (*Supplement*, Sept. 1, p. 55), tries to prove that the public gave no decided answer in favour of a whole-time National Health Service. He quotes Lord Quickswood in the *Sunday Times* in the argument that by proportional representation the Conservative and Liberal members together would have just outnumbered the Labour members. He makes the unjustifiable assumption that all the Liberals would be opposed to such a service. But in one of the main Liberal organs (*News Chronicle*, Sept. 7) their spokesman, A. J. Cummings (and who should know better than he?), states that in the main the Liberal vote "was a left vote." And since we are quoting peers, at the highest level, let me remind him of the statement of Lord Cranborne, Leader in the House of Lords of the Conservative Party—a party, incidentally, which opposed proportional representation. Lord Cranborne said (Lords, *Hansard*, col. 47 of Aug. 16): "Whatever our personal views, we should frankly recognize that these proposals were put before the country at the recent General Election, and that the people of this country, with full knowledge of these proposals, returned the Labour Party to power. The Government may fairly claim that they have a mandate to introduce these proposals. I believe that it would be wrong . . . for this House to oppose proposals which have been definitely put before the electorate. Moreover . . . it would be an error of the first water." This, coming from such a source, should be a warning to the B.M.A. not to commit mass hara-kiri. Furthermore, it seems safe to assume that if those disenfranchized by the hurried election, mostly industrial workers and members of the Forces, had been able to vote, the swing to the left would have been even more pronounced.

Dr. Harrower (Sept. 1, p. 302) is sure that "the medical profession, if united, can defy anything of which it does not approve." Supposing it were true, which it is not, that in that case we could act as dictator against the wish of the people, was the medical profession ever united? Far less so on these issues than on most. Is she aware, for instance, of the great extent of left sympathy among medical students, in the North, in the Midlands, and in London? They will become doctors during the present Government's term of office. Or of the very recent vote of the British Medical Students' Association on this point? Or of the fact that of the 13 medical M.P.s in the new Parliament 8 are members of the Socialist Medical Association? Or that a very able and respected member of our profession sits on the Executive Committee of the Communist Party—a party which includes a considerable number of doctors?

Compare all this writing on the wall with thought inside our profession at the time when many of us were still students, and we can better grasp the social trend among an ever-growing number of doctors at the present day—doctors, that is, who try to adjust their ideas of historical evolution in the same way that they strive to keep up to date with medical advances.

What worries me is how the Association is going to co-operate fairly and squarely with Mr. Bevan through the medium of leaders most of whom have already shown their hand as opposers of all but what Dr. Bailey so aptly calls "a Conservative filtrate of socialist doctrine." The public, it will be remembered, turned out of office, with no uncertain vote, and even in such a stronghold as Birmingham, most of these filtrate appeasers. They therefore have a clear field. But have we?—I am, etc.,

London. P. G. S. DAVIS.

SIR,—Dr. W. B. Pemberton (Sept. 1, p. 302), after going into the matter "with various sections of the community," has got down to brass tacks and decided that the minimum terms under which a "general practitioner of some years' standing" might accept State service include a salary of £1,250 a year with travelling expenses, and a pension of £500 a year at the age of 65. Though he does not say so, it is presumed from the context that this is the maximum salary to which a general practitioner may aspire.

Does Dr. Pemberton really think that the practitioner "of some years' standing," on duty 7 days a week and 24 hours a day, will be sufficiently remunerated by £1,250 a year? Does he forget that the pound to-day is equal in purchasing power to 8s. 4d. in 1914? How is he going to educate four children—i.e., send them to a public school and university? Perhaps he thinks that no medical practitioner should have any children, or if he does that they should attend a State school and that their education should end there. Then, again, is the pension of £500 a year after 65 (how many general practitioners will reach 65?) to cease with his death, and is his wife to live on the old-age pension should she survive him? One cannot but wonder regarding the type of man such financial prospects are going to attract into our profession.

The Goodenough report on medical schools recommends that the standard of training of medical students should be that for a university degree. How many parents who have themselves had a university education will advise their boys to undergo a hard training of six years' duration with such prospects at the end of it? I have not met a single medical man who will do so. Has anyone else? There is no doubt, however, that if the Government wants a cheap medical service it will get it and the men to work it. But it cannot have it cheap and good.

Whether the new service is a salaried one without any free choice of doctor, or whether it involves merely an extension of the panel system to the whole population with free choice retained, in my opinion matters little, provided remuneration is adequate and other terms and conditions of service fair. The terms outlined by Dr. Pemberton are grossly inadequate and are fair to no one, not even the patient.—I am, etc.,

London, W.C.1. F. J. BROWNE.

SIR,—Dr. Hugh Gainsborough's letter (Sept. 8, p. 344) aptly remarks how his years in the E.M.S. have taught him the pleasure of whole-time medical service. If a consultant of his standing comments on it, it will be echoed by a number of younger specialists in the E.M.S. and Forces who previously would have struggled to keep up appearances of a "successful consultant" for a number of years. How many medical research problems have been shelved, indefinitely, for the necessity of building up a private practice. It is the merit of the E.M.S. and of the men who created it to have supplied consultants and specialists to people and districts where from the private-practice point of view their permanent residence would not have been justified. Moreover, the E.M.S. has given the pattern for the new National Health Service. Dr. Gainsborough rightly calls for more understanding of inevitable social trends by the medical profession—or as it was said two thousand years ago: "Can ye not discern the signs of the times?" (Matt. xvi, 3).—I am, etc.,

Botleys Park. H. W. GILLESPIE.

SIR,—In the course of a letter on the prospective reorganization of the medical services Dr. N. P. Henderson says parenthetically that a full-time medical service has failed "to a large extent in Russia." What grounds are there for this statement? The most complete study on Russian medicine, that by H. Sigerist (*Socialised Medicine in the Soviet Union, 1937*), gives factual data which suggest that a full-time medical service has been exceedingly successful. The Anglo-American surgical mission which visited the Soviet Union last year hardly reported adversely, judging by the articles that appeared in your columns and elsewhere. Nor is the failure of Soviet medicine apparent in the sober and factual accounts that the most recent investigators, Prof. E. D. Adrian and Prof. Arnold Sorsby, contributed to *Nature* of Aug. 25. What is the evidence on which Dr. Henderson bases his opinion and what are his criteria of success and failure? Is his oracular pronouncement based on facts apparently exclusively in his possession or is it mere irresponsibility?—I am, etc.,

Highgate Hill, N.6. L. FIELDMAN.

A Plea for the Young Specialist

SIR,—It is generally agreed that there will be a shortage of specialists for some years, and that it will prove very difficult to fulfil in an efficient manner the demands which any National Health Service may make.

The hardship of the young medical officer in the Services who has specialist ambitions but who has been prevented from taking a higher qualification owing to the "exigencies of the Service" is also recognized. At present, if he has joined one of the Services in 1940 or 1941, but is only 29 years old, he is in the position that many months will elapse before he is demobilized. During his time in the Services he may have gained considerable specialist experience and may even have been graded as a specialist, but in competition with his civilian colleagues of the same age he will be at a serious disadvantage when the time comes for him to apply for some specialist appointment in civil life, as he will not possess the necessary higher degrees. Would not the following scheme provide one method of overcoming both these obstacles?

1. The scheme would be applicable only to medical officers who had been at least three years in one of the Services.

2. In both Home and Overseas Commands a list should be drawn up of those medical officers who wish to sit an examination for a higher degree. This degree must be of sufficient standing to give them an opportunity to apply for any specialist appointment which (we hope) will be advertised only when demobilization becomes more general.

3. The higher medical authorities of the Services and the Central Medical War Committee together would determine how many of these younger men were replaceable by civilian specialists, who would be called up for one of the Services.

4. Once this total had been determined, allocations would be made to the various Commands. In the event of an insufficient number of replacements being available for the demands of the scheme a ballot would be taken.

5. The successful medical officer would be allowed a three-months period of study leave on full pay and allowances. During this time he would be required to sit the recognized examination.

6. Should he be successful in his examination he would have the option of being placed in Class B and of securing demobilization. If he failed he would continue his Service career.

Surely now that hostilities are over the demands of the Services are not so great, and after an experience of nearly six years as an otologist in the Army I am convinced that it is these younger men who have been most severely penalized in their medical careers. The transfer to Class B of the candidate who passes the examination certainly places a premium on examination results, but that is inevitable. The fact that early demobilization can take place only by this means will prevent the scheme becoming a "racket." Once the successful candidate has been demobilized, every encouragement should be given him to take up a post such as a registrar in one of the larger hospitals under the Government rehabilitation scheme in order that he may widen his knowledge of his specialty beyond the rather restricted field that the Services give. Similarly, during his period of study leave no opportunity should be lost to visit the civilian hospitals.

Even if the medical officer is not successful he will have gained a lot, and will be more prepared to resit his examination when his turn comes to be demobilized with his proper group. Because of the number who may wish to take advantage of the scheme, it will probably be found that only one attempt at passing the examination can be allowed to each medical officer, but at any rate he has had a chance to catch up with his civilian colleagues.—I am, etc.,

Aberdeen. E. G. Collins.

Bitterness

Sir,—In the medical press of late there have been letters from Service doctors which savour of the bitterness many of them feel about their present circumstances and their future. In the Army there are some reasons for this, particularly between those who volunteered (T.A., S.R., and others) and those conscripted, and also towards young civilians who have served in the E.M.S. and private practice. Perhaps the lot of young doctors who volunteered and have spent all the war as battalion and field ambulance officers while their contemporaries stayed as civilians to gain some higher qualification and later entered the Army as specialists in a higher rank is worse than those of us who in middle age have lost our well-established practices. Let us hope that remedies will be found so that these grievous feelings may not be carried forward to spoil the team-work needed from our profession in the difficult play that lies ahead of us, for bitterness is bad and a hindrance.

Most of us who have been in the Services have gained much that outweighs material loss and even professional advancement. We have met some really fine men we would not have come across otherwise. Our consciences are quiet on the matter of what we thought was our duty. Many of us have been privileged to feel in times of military success and adversity that we were a small part of the national team on the field. Our casualties compared with the combatants have been relatively small in killed and wounded, and we have indeed to be thankful that the sea or six feet of African sand or European earth has not been the lot of most of us. Despite all the irritations and frustrations that I in common with most medical officers have felt during service, I know that I owe much to the Army. I may be accused of being more fortunate than the majority, for in 5 years and 11 months of service (mostly over-seas) I have had 2 years and 11 months first-class surgical work with excellent equipment. During the remaining 3 years such clinical work as I had to do touched rock-bottom with meagre equipment and under conditions that were unnecessarily squalorly. For 15 months my duties were concerned with P.T., games, and those of a company officer. However, even the doldrums of transit camps and troopships can be put to good use in writing papers, or even books, and in reading (congested humanity permitting).

Let us hope that those in charge of hospital and other appointments will do their utmost to sweeten the bitterness by giving a good chance, particularly, to the released M.O. whose patriotism and altruism led him to volunteer for the Services before he had taken the higher qualifications he had planned in peacetime. Also that public authorities may be sympathetic and find appropriate accommodation where the "released" doctor may live and practise.

On release from the Service it is, I think, considerably harder to resist bad feeling when unable to find accommodation in which to live and practise.

London. H. B. Stallard,
Major, R.A.M.C.(T.A.).

Medical Photography

Sir,—I have read with great interest the article on medical photography in hospital (Sept. 8, p. 328).

There is no doubt that in most hospitals throughout the country medical photography is done under the most difficult of conditions. Recently I have been conducting some investigations on the testing of the peripheral circulation by means of intravenous fluorescein. In order to keep a record of these cases it has been necessary to take photographs with kodachrome films or films of a like nature. In addition, in order that the photographs should be reproduced exactly an expert photographer is needed with a good camera and all the extra appliances which are required in the taking of a good film. Such conditions are impossible to obtain in a hospital these days. In carrying out the photography of my cases I was fortunate to have the collaboration of a local photographer. After explaining to him what was needed, he entered into the work with the greatest of enthusiasm.

I feel sure that an Institute of Medical Photography is urgently needed where photographers can be trained to carry out this expert work. These men could then be available to the hospital in the town where they reside. In addition, a photographic room should be available in every hospital, where electric fittings, lighting units, and all the extra requirements for good photography are at hand, and where the processing could be carried out.—I am, etc.,

London, W.1. Maurice Lee.

Banting Memorial Diabetic Convalescent Home

Sir,—The debt of life and health that the diabetic world owes to Banting's discovery of insulin is beyond words, and diabetics in this country want to recognize it adequately by a practical memorial. The Diabetic Association, a combination of lay patients and interested doctors, is planning to honour his memory by establishing a convalescent home, badly needed but so far non-existent, where diabetics leaving hospital after acute treatment can be fully restored to normal health by proper diet, insulin, and diabetic training. It will serve, too, as a holiday home for diabetic children.

This home must be started by voluntary effort. We have already collected £8,000, but we aim at a worthy memorial, and need £50,000. The people whose pleasure and duty it is to provide this money are obviously diabetics, especially the rich, who know the blessings of insulin for themselves or loved members of their families. It is difficult for us to get in touch with them, and there could be no better means of contact than the doctors who treat diabetics. We therefore beg, through the courtesy of your *Journal*, such doctors to acquaint their diabetic patients of this memorial scheme to Banting, and to urge them to support it handsomely. Subscribers should communicate with the Diabetic Association, 9, Manchester Square, London, W.1.—I am, etc.,

London, W.1. R. D. Lawrence,
Chairman.

Obituary

JAMES HENDRY, M.B., F.R.F.P.S., F.R.C.O.G.

We regret to announce that Prof. James Hendry, who held the Regius Chair of Midwifery at Glasgow University since 1943, died on Sept. 9 in his sixtieth year. He was chairman of the medical committee of the Scottish Advisory Committee to the Nuffield Provincial Hospitals Trust, and a member of the Medical Advisory Committee to the Secretary of State for Scotland. From 1927 to 1943 he was Muirhead Professor of Obstetrics and Gynaecology at Glasgow, and on his election to the Regius Chair he gave up private practice to become medical director of the Glasgow Royal Maternity and Women's Hospital.

James Hendry was born at Beith in Ayrshire on Sept. 25, 1885. He entered Glasgow University from Beith Academy as an arts student in 1903. After a distinguished career in science and medicine he graduated M.A., M.B., Ch.B., and B.Sc. in 1910, and then broadened his experience by a prolonged course of postgraduate study abroad. For two years he undertook research in Germany and Austria, and on returning to Glasgow in 1913 from the Clinique Tarnier in Paris received an appointment at the Royal Infirmary. When war broke out in August, 1914, Hendry was a captain in the University Contingent of the O.T.C., holding the post of adjutant for two years, and for this service was awarded the M.B.E. He served in France with the R.A.M.C. from 1916 until the end of the war, when he retired with the rank of major, and was appointed first assistant to the Muirhead Professor of Obstetrics and Gynaecology at Glasgow and resumed his work as operative surgeon and clinical teacher. Soon afterwards he became senior assistant physician to the Royal Maternity Hospital, and was promoted later to be chief obstetric surgeon there and chief gynaecological surgeon at the Royal Infirmary. He was elected F.R.F.P.S. in 1923.

Hendry had been a member of the Glasgow University Court since 1939, and undertook many administrative duties on behalf of the university. He was a Foundation Fellow and member of the original Council of the Royal College of Obstetricians and Gynaecologists, and was the sole representative of that branch of medicine on the Interdepartmental Committee on Medical Schools (the Goodenough Committee), which reported in 1944. His gift for teaching and administration marked him down for appointment to the Regius Chair two years ago. Hendry's capacity for work and eagerness to help in good causes were a byword in Glasgow and far beyond. His mind was constantly occupied with the problems of undergraduate and postgraduate teaching. When not in committee, in the classroom, or in the operating theatre, or examining candidates, he would visit Edinburgh for work on behalf of the Central Midwives Board for Scotland, of which he was deputy chairman, or would travel by night to London to give his services in wider spheres.

Hendry joined the B.M.A. in 1913, and held office as vice-president of the Section of Obstetrics and Gynaecology at the Annual Meetings in 1923 and 1939. He examined for the Universities of Aberdeen, Durham, and Edinburgh, and for Queen's University, Belfast, and he was joint author of *Midwifery Notes for Students* (1920), and of the well-known *Combined Textbook of Obstetrics and Gynaecology*, first published in 1923 and now in its third edition. He had been president of the Obstetrical Societies of Edinburgh and of Glasgow.

We are indebted to Mr. EARDLEY HOLLAND, P.R.C.O.G., for the following appreciation:

James Hendry was an important man in British medicine, and was one of the rare people who might be said with truth to have no duplicate. It is uncommon to combine great clinical skill with academic gifts and powers of exposition, in speech and writing, of a high order. This was the mingling of qualities that Hendry possessed, and when the proper authorities in Glasgow decided that the largest maternity hospital in Britain—the "Glasgow Royal"—should be in the clinical charge of one "chief," who should also be the director of teaching in the university, Hendry was there, ready and fully armed at all points. Whether he was made for the post or the post for him must remain a matter for conjecture. It was a radical change from the old tradition of hospital staffing, and it was perhaps fitting that the trial should be in the country of the see who worshipped the leadership principle. Hendry quickly won the affection of his junior colleagues and became the beloved chief of this immense hospital and teaching unit. He gave valuable help in working out for the Department of Health for Scotland the detail of the improved maternity service embodied in the Maternity Services (Scotland) Act, 1937; he was also a member of the scientific advisory committee that published the report in 1943 on infant mortality in Scotland. Hendry was chosen to be the representative fo his branch of medicine on that small but highly important body the Interdepartmental Committee on Medical Schools which, under the chairmanship of Sir William Goodenough, reported so resoundingly in 1944. The many long meetings in London, spread over the two most difficult travelling years of the war, in addition to heavy duties to patients and students in Glasgow, must have been a trial of strength even to so robust and equable a man as Hendry. His untimely death at a time when the teaching and practice of medicine are alike in the melting-pot is a sad loss to British, especially Scottish, medicine, and most of all to the City and University of Glasgow

Dr. R. A. LENNIE, chief obstetric surgeon, Glasgow Roya Maternity and Women's Hospital, writes:

In the death of James Hendry Scotland has lost one of her preeminent medical men and the world of obstetrics has suffered a grievous loss. His forceful personality was dedicated to the betterment of obstetric teaching and practice, and he was unswerving in his aims to this end. His energy and capacity for work were prodigious and caused amazement to his friends. Apart from his professional duties, which were his first interest and concern, his vast experience and well-balanced judgment were recognized by his country and his university, both of which valued his advice and guidance in matters pertaining to his specialty. He was held in the highest respect and regard by his students and house-surgeons, many of whom may well bless the day they came under his influence and teaching. Unsparing of himself, he expected a high standard of efficiency and sense of duty from his juniors, but his apparent austerity was tempered with an underlying friendliness.

Throughout the war years his sense of pride in having all three sons serving was leavened with the knowledge that one was wounded and a prisoner. During the period of uncertainty his suffering and anxiety were bravely masked, and he carried out his multitudinous duties with outward fortitude. This was typical of James Hendry and it was fitting that his last months of life were brightened by a happy reunion.

His main interests lay in his profession, and any leisure moments were devoted to problems of teaching and the furtherance of his ideals of an adequate maternity service. He thus had little time for recreation and seldom seemed to relax. He thoroughly enjoyed, however, the good fellowship and social attractions of an obstetric congress or a meeting of the Gynaecological Visiting Society. With a strong sense of humour he was a good raconteur, and was never seen to better advantage than at a dinner with his intimates and fellow-obstetricians from further afield. He had many friends throughout the kingdom, and many will mourn the passing of Jimmy Hendry. As his colleague in hospital over many years, I shall always remember a friendship which ripened as it endured. He has died at the peak of his power, and the country can ill afford to lose a man of his calibre and attainments, while so many new issues are at stake. He leaves a memory which will be an inspiration to those who follow him.

Dr. JAMES SMITH McCRACKEN, who died at Melrose on Feb. 22, was in his 84th year. He was in practice in Newcastle-upon-Tyne for nearly 40 years. One of a family of eight, he was the second son of James McCracken, farmer, of Altimeg, Ayrshire, and Blackhalls and Greenleighton, Northumberland. His father was a noted breeder of black-face sheep, and he was descended from a long line of Galloway farmers. A noted Covenanter, Matthew MacIlwraith, of Colmonel, was among his ancestors. No direct ancestor was a physician, but a collateral, Gilbert McCracken, took his M.D. at Edinburgh University in 1802. J. S. McCracken was educated at George Watson's College, Edinburgh, and Edinburgh University, where he spent a year in the Faculty of Arts before studying medicine; he graduated M.B., C.M. in 1885 and M.D. in 1906. He was physician and later consulting physician to the Fleming Memorial Hospital for Sick Children and visiting physician to the Newcastle Dispensary. He had a wide knowledge of English literature and a deep appreciation of poetry, and had acquired an extensive library during the course of his life and was something of a bibliophile. He had many fine editions, and format was of great importance to him, but he could quote appositely from a great range of poets, and there were many authors whose works he seemed to know in their entirety. He collected everything, from china and stamps to flint arrowheads and prints. Of engravings, etchings, and mezzotints he had a specialized knowledge and a remarkable collection. He had a nice discrimination, and early in life he came to appreciate the great merit of Samuel Palmer's work. His literary and artistic tastes naturally influenced his approach to medicine: he was always original, and no textbook explanation of disease which ran counter to the clinical facts ever influenced him in making a diagnosis. As a diagnostician of the old school—the school which had perforce to dispense with most of the laboratory aids—he was supreme, and his approach to a problem was always through physiology. He was essentially the family physician, though he was often called on as a consultant, especially in the case of children, and was a first-class psychologist. He was scarcely influenced at all by the modern school of psychopathology, but a wide knowledge of literature and sympathetic observation of his patients gave him the requisite background of knowledge. Mrs. McCracken survives him. He had four sons, of whom three are members of the medical profession and one is the present M.O.H. for Newcastle. Three of his sons were on active service throughout the war of 1914–18; they all held combatant commissions. In the recent war two sons returned to the Army. One served with distinction as D.A.D.M.S. of the 50th Division in France at the Dunkirk evacuation and later commanded a field ambulance in the Western Desert. One son, Lieut.-Col. Angus M. McCracken, D.S.O., *M.C.*, died of wounds received while commanding a field regiment of the Royal Artillery at Mount Camino in Italy.

We regret to announce the death on Sept. 5 of Dr. **Harold Ernest Watkins**, of Newton-le-Willows, Lancashire, a past chairman of the St. Helens Division of the B.M.A. Son of John W. Watkins, M.D., he was born at Newton-le-Willows on May 30, 1868, and from Manchester Grammar School went to study for the medical profession at Owens College. After qualifying M.R.C.S., L.R.C.P. in 1889, he served as house-surgeon at the Manchester Royal Infirmary and medical officer to the Liverpool Farm School. He returned to his native place and became part-time M.O.H. to the Newton-in-Makerfield Urban District Council and medical superintendent of the isolation hospital and the maternity and child welfare clinics. Dr. Watkins had been for some years district surgeon to the L.M.S. Railway, and during the war of 1914–18 was medical officer to the Garswood Hall Military Hospital. After his retirement he continued to take a close interest in the work of the Newton-le-Willows War Memorial Hospital.

Dr. **William Thomas**, of Larkhall Rise, Clapham, died in Westminster Hospital on Sept. 7, aged 57. A student of St. Thomas's Hospital, he took the B.Sc.Lond. (with first-class honours in chemistry) in 1907, and after qualifying in 1915 proceeded M.B., B.S. in 1920. At St. Thomas's he won an entrance scholarship in natural science and the William Tite Scholarship, was demonstrator in chemistry and toxicology and in biology, resident anaesthetist, and casualty officer. During his years of practice at Clapham Dr. Thomas served as divisional surgeon to the Metropolitan Police, medical officer to the Post Office and the Board of Education, and medical officer to the Clapham General Dispensary. He had contributed to the *Transactions of the Chemical Society*, and published papers on road treatment in relation to fish life, diseases of trout, and pollution of streams. He joined the B.M.A. in 1920.

The following well-known medical men have died abroad: Prof. **Carl von Noorden**, from 1906 to 1913 director of the First Medical Clinic at Vienna, and Honorary Fellow of the Royal Society of Medicine, aged 86; Prof. **Otto Veraguth**, formerly director of the Institute for Physical Therapy at the University of Zürich and honorary president of the Swiss Neurological Society, aged 72; Prof. **Cesare Pezze**, an eminent cardiologist at Milan, aged 70; Dr. **Michel Léon Kindberg**, the French phthisiologist, a few days after his liberation from a concentration camp in Germany, aged 62; Prof. **Fritz Seiler**, director of the Medical Polyclinic at Berne; Geheimrat **Adolf Dieudonné**, for many years professor of serology at Munich and author of a classical textbook on immunity; Dr. **Otfried Müller**, formerly professor of internal medicine and director of the medical clinic at Tübingen University, author of an important work on capillary microscopy, aged 71; Prof. **Joseph Trumpp**, a Munich paediatrician, and one of the pioneers of infant welfare, aged 79; Prof. **Gustav Aschaffenburg**, formerly director of the psychiatric clinic at Cologne and founder of the *Monatsschrift für Kriminalpsychologie*; Dr. **Lucas Ayarragaray**, ex-secretary of the National Department of Hygiene, Buenos Aires, aged 82; and Dr. **Logan Clendening**, professor of clinical medicine and director of the Library and Museum of the History of Medicine at the University of Kansas, vice-president of the American Association of the History of Medicine, 1942–3.

Universities and Colleges

UNIVERSITY OF EDINBURGH

Edinburgh University Court has appointed S. W. Challinor, Ph.D., B.Sc., Department of Bacteriology, and Harry Culumbine, M.B., Ch.B., M.Sc., Lieut.-Col., R.A.M.C., Department of Materia Medica, to Imperial Chemical Industries Fellowships for a period of three years.

ROYAL COLLEGE OF PHYSICIANS OF LONDON

The Harveian Oration on "Rheumatic Fever and Heart Disease" will be delivered by Dr. John Parkinson at the College, Pall Mall East, S.W., on Thursday, Oct. 18, at 3 p.m.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

Monthly Dinners

Monthly subscription dinners in the College will be resumed in October for Fellows and Members of the College, members of the specialist associations linked with the College through the joint secretariat, and their guests. The dinners will be held on the Wednesday preceding the second Thursday of each month. The dates for this year are Oct. 10, Nov. 7, and Dec. 12. Applications should reach the Secretary of the College, Lincoln's Inn Fields, W.C.2, one week before the date of the dinner, accompanied by the remittance of one guinea for each ticket required.

The Services

Surg. Lieut. W. J. Winthrop, R.C.N.V.R., has been mentioned in dispatches posthumously for gallantry, determination, and devotion to duty in H.M.S. *Campbeltown* in the raid on St. Nazaire in March, 1942.

Temp. Surg. Lieut. J. A. Cosh, R.N.V.R., has been mentioned in dispatches for good services in rescue work and fire-fighting after an explosion in a merchant ship in the Port of Bari on April 9, 1945.

Surg. Lieut. A. P. B. Waind, D.S.C., R.N.V.R., has been mentioned in dispatches for courage and devotion to duty during the defence of Calais in 1940.

The following appointments have been announced in recognition of gallant and distinguished services in Italy:

O.B.E. (Military Division).—Lieut.-Cols. E. C. Janes and J. S. McCannel, R.C.A.M.C.

M.B.E. (Military Division).—Majors R. Ferguson, W. M. G. Wilson, W. S. Gilchrist, and C. C. Henneberg; Capt. C. H. Conway, R.C.A.M.C.

The following appointments and awards have been announced in recognition of gallant and distinguished services in Burma:

C.B.E. (Military Division).—Brig. (Temp.) G. J. V. Crosby, T.D., R.A.M.C.

O.B.E. (Military Division).—Col. (Temp.) T. F. M. Woods; Lieut.-Cols. (Temp.) P. B. Longden, A. J. Martin, C. E. Roberts, and R. N. Tattersall, R.A.M.C. Col. (Temp.) M. S. Purvis; Lieut. Cols. (Temp.) E. J. Crowe and J. M. MacF. Drew, I.M.S. Lieut.-Col. (Temp.) J. Wakeford, S.R.M.C.

M.B.E. (Military Division).—Lieut.-Col. (Acting) D. A. Langhorne; Majors (Temp.) J. C. Gregory and J. S. McCrae; Capts. H. C. Campbell and R. G. McWhinney; Capt. (Acting) F. E. Hall, R.A.M.C. Major (Temp.) C. F. Vieyra, I.M.S. Capt. (Temp.) D. Singh, I.A.M.C.

D.S.O.—Brig. (Temp.) A. N. T. Meneces, C.B.E., R.A.M.C.

M.C.—Capts. G. K. Beatty, T. A. Taylor, and J. Weir, R.A.M.C.

Freed in the Far East.—Lieut.-Col. J. W. Malcolm, O.B.E., M.C., Major W. M. Stewart, and Capt. G. A. F. R. Gibson, R.A.M.C.

CASUALTIES IN THE MEDICAL SERVICES

Killed.—Capt. Albert Robson, R.A.M.C.

Wounded.—War Subs. Capts. T. P. Bliss, W. F. Carpenter, and R. E. Danckwerts, and Lieut. B. S. Crawford, R.A.M.C.

G. K. De Forest and L. M. Kerr (*Amer. J. med. Sci.*, 1945, **209**, 752) describe a small epidemic of streptococcal diseases among nurses attending a child with secondarily infected eczema who was a constant source of Type 14 haemolytic streptococci for many weeks. During a three-months period 50% of the nurses who attended the child became ill with sore throats or scarlet fever.

No. 35

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended Sept. 1.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London), (b) London (administrative county) (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1945					1944 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever	33	3	21	2	1	27	—	22	—	—
Deaths		—	—				—	—		
Diphtheria	377	18	144	97	15	445	6	147	88	15
Deaths	2	1	—	—	—	4	—	—	2	—
Dysentery	286	41	114	3	—	419	27	93	—	1
Deaths				1	—				—	—
Encephalitis lethargica, acute	3	1	—	1	—	1	—	—	—	—
Deaths		—					—			
Erysipelas			40	13	1			49	8	2
Deaths		—					—			
Infective enteritis or diarrhoea under 2 years				137					197	
Deaths	76	10	13	19	15	63	8	57	21	9
Measles*	851	48	56	28	2	1,669	27	65	39	16
Deaths	2	—	—	—	—	—	—	—	2	—
Ophthalmia neonatorum	59	4	11	—	1	59	2	20	—	—
Deaths										
Paratyphoid fever	13	—	5 (B)	—	—	13	1	3 (B)	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenzal†	265	9	5	4	—	297	13	5	—	2
Deaths (from influenza)	8	1	—	1	—	5	—	—	1	—
Pneumonia, primary ..			121	9				150	15	
Deaths		17		5	3		13		4	4
Polio-encephalitis, acute	3	—				7	1			
Deaths		—					—			
Poliomyelitis, acute ..	28	2	—	3	—	25	—	22	1	1
Deaths		—					—			
Puerperal fever		3	20		—		1	6		—
Deaths										
Puerperal pyrexia‡ ..	142	12	12	3	—	132	2	10	3	3
Deaths		1					—			
Relapsing fever ..	—	—			—	—	—			—
Deaths										
Scarlet fever	1,020	63	237	21	30	1,137	28	204	21	45
Deaths	—	—	—	—	—	1	—	1	—	—
Smallpox	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Typhoid fever	9	1	2	1	5	10	2	4	14	1
Deaths	1	—	—	—	1	—	—	—	1	—
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Whooping-cough* ..	1,244	73	52	42	10	1,389	44	61	82	11
Deaths ..	4	—	—	—	1	2	2	1	2	—
Deaths (0–1 year) ..	341	44	44	28	26	305	23	109	39	25
Infant mortality rate (per 1,000 live births)										
Deaths (excluding stillbirths)	3,869	543	477	153	98	3,649	414	569	170	106
Annual death rate (per 1,000 persons living)			10·8	9·9	§			13·1	11·0	§
Live births	6,479	796	828	485	240	6,167	410	822	339	227
Annual rates per 1,000 persons living ..			16 6	31·3	§			16·7	22·0	§
Stillbirths	219	25	23			216	12	23		
Rate per 1,000 total births (including stillborn)			27					27		

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

‡ Includes puerperal fever for England and Wales and Eire.

§ Owing to movements of population, birth and death rates for Northern Ireland are still not available.

EPIDEMIOLOGICAL NOTES

Discussion of Table

In *England and Wales* there were 300 fewer notifications of measles than last week, 53 fewer of pneumonia, and 32 fewer of diphtheria; while the incidence of whooping-cough rose by 92, of dysentery by 54, and of scarlet fever by 19.

In Essex whooping-cough notifications rose by 36, and in Yorks West Riding they went up by 33. The incidence of measles was lowered throughout the country, except for a rise of 30 in Lancashire and an almost unchanged incidence in Kent and Essex, these three counties having 36% of the total notifications. In Lancashire diphtheria notifications rose by 20. Only 21 cases of acute pneumonia were notified in the combined areas of London and the south-east and south-west counties.

Increases in existing outbreaks of dysentery were responsible for the rise in notifications, no fresh outbreak being reported. The chief centres of infection were London 41, Lancashire 35, Surrey 26, Middlesex 16, Essex 15, Lincolnshire 12, Derbyshire 12, Yorks West Riding 11, Glamorganshire 11, Dorsetshire 10, Gloucestershire 10.

In *Scotland* dysentery notifications rose by 41. Other rises over last week's totals were scarlet fever 43, whooping-cough 26, measles 20, diphtheria 10. The increase in dysentery was mainly due to the cities of Edinburgh and Glasgow, where the cases rose respectively from 16 to 27 and from 27 to 43.

In *Eire* the incidence of diphtheria was almost doubled, increasing from 55 to 97 notifications. This disease is widespread, thirty-one registration areas being involved. A further large rise, of 39 cases, occurred in notifications of diarrhoea and enteritis; 113 of the total of 137 cases were recorded in Dublin C.B.

Week Ending September 8

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,151, whooping-cough 1,177, diphtheria 423, measles 538, acute pneumonia 268, cerebrospinal fever 25, dysentery 278, paratyphoid 12, typhoid 12, acute poliomyelitis 25.

Medical News

Dr. David Adler will give a lecture on "Plastic Surgery in Rio de Janeiro" in the British Council Theatre at 6, Hanover Street, London, W., on Tuesday, Sept. 25, at 4 p.m.

The 244th meeting of the Biochemical Society will be held in the Human Nutrition Research Unit of the Medical Research Council at the National Hospital for Diseases of the Nervous System, Queen Square, London, W.C., on Friday, Sept. 28, at 11 a.m.

The opening of the 104th session of the College of the Pharmaceutical Society of Great Britain and the presentation of prizes will be held at 17, Bloomsbury Square, W.C., on Wednesday, Oct. 3, at 3 o'clock. The President, Mr. James Clements Young, Ph.C., will give the inaugural sessional address.

At a meeting of the Society of Public Analysts and Other Analytical Chemists on Wednesday, Oct. 3, at 6.30 p.m. at the Chemical Society's Rooms, Burlington House, Piccadilly, W., Mr. Eric C. Wood, B.Sc., will read a paper on the theory of certain analytical procedures, with special reference to microbiological assays.

There will be a clinical meeting of the Medical Society of the L.C.C. Service on Thursday, Oct. 4, at 3 p.m. at Lewisham Hospital, S.E.13, when members of the staffs of Lewisham Hospital and St. Alfege's Hospital will demonstrate cases.

In January next, subject to certain formalities, the name of the Charity Organization Society (Denison House, 296, Vauxhall Bridge Road, S.W.1) is to be changed to the National Family Welfare Association. It will have affiliated to it family case-work agencies in most of the large centres of urban population. The first task of the representative council which is to be formed will be to assist, in close co-operation with the Marriage Guidance Council, in the formation of centres for the handling of domestic problems. The new name of the C.O.S. is intended to recognize how much of its real activities are concerned with family case-work.

The annual general meeting of the Association of Industrial Medical Officers will be held on Friday, Oct. 19, at the London School of Hygiene and Tropical Medicine, Keppel Street, W.C., at 2.30 p.m. The programme consists of private business followed by an address by Dr. J. C. Bridge, and by Mr. H. E. Griffiths, F.R.C.S., who will introduce a film on rehabilitation. After the meeting members will meet for dinner at the Trocadero Restaurant, 7 p.m. for 7.30 p.m., morning dress. Applications for dinner tickets, price £1 1s., to be made to Dr. W. Blood, Cadby Hall, Kensington, W.14.

The Royal New Zealand Society for the Health of Women and Children, otherwise known as the Plunket Society, has now reached its 28th year. It was founded by the late Sir F. Truby King, whose influence still persists and whose name is honoured year by year in the annual reports. The Dominion Council in its report for the year ended March 31, 1944 (Stone, Son and Co., Anzac Square, Dunedin), records that it has offered through New Zealand's representative in Washington to provide personnel, literature, and supplies for the relief and help of mothers and young children in war-ravaged and occupied countries. The Plunket Society has always regarded the educational side of its work as of the first importance, and grasps every opportunity to inform parents, school-girls, and the public generally on matters pertaining to the health of women and children. Many of its nurses are doing splendid work lecturing to groups of mothers on parentcraft, paying particular attention to right diet as one of the foundations of health.

More than 50 cases of tuberculosis have been discovered as the result of an x-ray survey of the inmates and employees at the San Quentin Penitentiary, U.S.A. The survey was conducted by the California Tuberculosis and Health Association with a 35-mm. x-ray unit, and an examination of the 3,415 films made showed that there were 7 cases of very advanced phthisis, 15 moderately advanced, and 32 minimal. In addition some 60 cases of abnormal cardiac conditions were detected.

The new wing of the Queen Victoria Hospital, East Grinstead, presented by the Canadian Government as a Canadian R.A.F. memorial, was formally handed over to the hospital on Sept. 5 by Mr. Frederick Hudd, Acting High Commissioner for Canada. The wing was built by Canadian engineers at a total cost of £60,000, and accommodates 50 patients.

At the last quarterly court of the Governors of the London Hospital it was announced that the London County Council has agreed that the hospital shall retain the annexe at Brentwood for five years from VE-Day. On Oct. 1 the number of beds in Whitechapel will be increased to 580, and it is hoped to add a further 70 later.

The King has granted authority to Andrew McDowall, M.B., F.R.C.S., to wear the Insignia of the Fourth Class (Civil Division) of the Order of Al Rafidain conferred upon him by the King of Iraq in recognition of valuable services rendered in his capacity of professor of surgery in the Royal Iraqi College of Medicine.

Lieut.-Col. T. H. Leggett, M.D., R.C.A.M.C.(R.), was recently appointed honorary medical adviser to the Commandery in Canada of the Venerable Order of the Hospital of St. John of Jerusalem. Dr. Leggett's home is in the city of Ottawa, and he is a past-president of the Canadian Medical Association.

Dr. Arthur George Southcombe, of the Palestine Government Hospital, Jerusalem, left estate in Great Britain valued at £20,685. He bequeathed £1,000 to St. Bartholomew's Hospital for the neurological department, and £1,000 to St. Bartholomew's Hospital Medical School.

The British Orthopaedic Association is meeting at the Royal College of Surgeons of England on Friday and Saturday, Oct. 26 and 27. Further information may be obtained from the secretary at 45, Lincoln's Inn Fields, London, W.C.2.

The issue of the *Schweizerische Medizinische Wochenschrift* for Aug. 25 is dedicated to Prof. Ernst Hagenbach, director of the surgical department of the Basle Children's Hospital, on the occasion of his 70th birthday.

The name of Dr. Archie Samuel Ellis, ship surgeon, s.s. *Tanda* (Eastern and Australian Steam Ship Company Ltd.), appears in a list of commendations for brave conduct when their ships encountered enemy ships, aircraft, submarines, or mines.

Statutory Rules and Orders, 1945, No. 1076, relating to handicapped pupils and school health service in England and Wales, has been issued for the Ministry of Education by H.M. Stationery Office, price 4d.

The King has appointed Leonard Anthony Paul Slinger, O.B.E., M.B., to be a Member of the Executive Council of the Island of Grenada.

Dr. P. S. Selwyn-Clarke, *M.C.*, F.R.C.P., Director of Medical Services, Hong Kong, has been appointed C.M.G. The appointment is to date from Jan. 15, 1945.

Dr. C. G. Kay Sharp, of Leeds, who has been a member of the council of the Royal Eye Hospital, London, for some time, was recently elected a vice-president of the hospital.

Prof. Gustav Roussy, member of the Institut de France and rector of Paris University, has succeeded the late Prof. Achard as general secretary of the Académie de Médecine.

Dr. C. H. Kellaway, F.R.S., has been elected Deputy Chairman of the Board of the Wellcome Foundation.

Letters, Notes, and Answers

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: *Aitiology Westcent, London.* ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated

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B.M.A. SCOTTISH OFFICE: 7, Drumsheugh Gardens, Edinburgh.

ANY QUESTIONS?

Ophthalmia Neonatorum

Q.—*Are 1% silver nitrate drops still the best routine prophylactic against ophthalmia neonatorum?*

A.—The prophylactic measures against ophthalmia neonatorum may be divided into pre-natal and post-natal. The importance of the pre-natal elimination of all vaginal infection cannot be stressed too much, nor are the precautions which should be taken during birth any less important. In particular the lids should be thoroughly cleansed *before the eyes are opened.* Where these details are thoroughly and conscientiously carried out the necessity for post-natal prophylaxis immediately the eyes are opened becomes less imperative. In such cases silver protein 10% should be sufficient. If there is any doubt about the condition of the vagina or the thoroughness of the cleansing of the eyes before they are opened, silver nitrate 1% should be used.

Precautions are necessary in the use of silver protein and silver nitrate. There have been substitutes for silver protein which have contained varying amounts of solvents to dissolve the active principle which are harmful to the eyes. Its use should not be prolonged. Silver nitrate is a powerful drug and should be employed with care. It tends to decompose into substances injurious to the eye on being kept too long and under the influence of air and light. The solution should be freshly made up every three weeks and kept in a yellow-coloured bottle with an efficient stopper, which should not be left out longer than is necessary.

Cerebral Diplegia

Q.—*A twin boy of 8 suffers from cerebral diplegia. He is quite intelligent, but has a spastic gait with spasticity of arms and hands. The main trouble which worries the parents is dysarthria. He can pronounce simple monosyllabic words and names, his hearing is unimpaired, and he understands and carries out so far as he is able all commands given him. What advice should one give the parents as to the best means of overcoming the speech difficulty?*

A.—Spasticity in cerebral diplegia may seriously affect the muscles of articulation, although in some children without any real intellectual impairment it is remarkable how well they may overcome the disability. What is worrying in this case is that speech at 8 years of age appears to be limited to monosyllables. It raises the question of what "quite intelligent" really means. A period of speech training by a speech therapist (see list published by Board of Medical Auxiliaries, B.M.A. House) would be well worth while, but the results will be disappointing unless intelligence is normal. This is a case for consultation at a children's hospital or with a children's physician.

Marriage and V.D.

Q.—*Should a woman insist before marriage on a negative Wassermann and, possibly, other reports from the man she is to marry? Many girls and women in the Services form attachments with men about whose antecedents they know nothing. It was different in the days when their brothers, or other relatives and friends, knew all that was worth knowing about any of the men they were likely to get acquainted with.*

A.—Many people will think that a woman should trust the man she proposes to marry, and it would seem that insistence by a prospective bride on an examination to exclude possible venereal disease is hardly likely to conduce to future marital felicity; much depends on how the man and woman regard these matters. Certain countries and States require a premarital examination, including a Wassermann or similar test, but British Service authorities have not considered such a procedure essential. In any event a negative W.R. does not exclude early communicable syphilis, whilst recent penicillin or sulphonamide therapy might vitiate any clinical or bacteriological examination for the detection of gonorrhoea (should the man desire to conceal it).

As to the statement that "it was different in the days when their brothers . . . knew," a prospective bridegroom would hardly be likely to tell his future brother-in-law that he was suffering from V.D.; people are usually somewhat reticent about these matters.

Paroxysmal Auricular Fibrillation

Q.—*A woman aged 59 has in the past 18 months had attacks of auricular fibrillation. The arrhythmia averages much less than 24 hours' duration. One attack ended with unconsciousness. She looked ashen-grey and appeared to be about to die, but was lifted on to her bed, and soon became conscious with a regular pulse. She has always had a slow pulse, 60 or under. So far the attacks have begun on waking in the morning after her normal night's rest.*

A.—The diagnosis in this case appears to be paroxysmal auricular fibrillation. If the attacks are coming frequently, it would be worth while to try quinidine sulphate gr. 3 or 4 three or four times a day, according to the effect and the tolerance of the patient.

Dispensing Schedule 4 Drugs

Q.—*I was recently informed that it was illegal for me to supply patients with phenobarbitone tablets or any other drugs in "Schedule 4," except in such quantities as might be requisite in emergency for a single dose. I find this statement difficult to believe.*

A.—There are no special limitations on the supply by medical practitioners to their patients of substances in the Fourth Schedule to the Poisons Rules. Such substances are also in the First Schedule to the Poisons Rules, and so far as the supply in question is concerned are subject only to the requirements for First Schedule substances which relate to labels, prescription book entries, and containers, and which are presumably already being observed by the questioner.

Meniere's Disease

Q.—*Can you suggest any treatment which will give some hope to a well-marked case of Ménière's disease in a man of 64? He dates the tinnitus and partial deafness 30 years back, when he was knocked out by a shell in Gallipoli. Attacks of vertigo began to appear about three years ago, and are now the most distressing symptoms. They are accompanied by double vision, entire loss of balance, and occasional vomiting. Attacks last from a few minutes to several hours.*

A.—If this is a true case of Ménière's disease, and the usual medical treatment of restricted fluids and salt-free diet, with sedatives, has failed to relieve, the best treatment is to destroy the affected labyrinth by alcohol injection.

Anti-gas Ointment No. 2

Q.—*What is the formula of anti-gas ointment No. 2? Can it be used for any purpose other than giving first-aid treatment to gas-burn cases?*

A.—The composition of anti-gas ointment No. 2, as disclosed by the Ministry of Home Security, is an active principle, chloramine-T, in a base of vanishing cream. This is a specific ointment designed for a special purpose (i.e., the treatment of burns of the skin by liquid mustard gas), and it is considered unwise to use it indiscriminately for other purposes. Experiments have been carried out in the Army with this ointment as a treatment for tinea cruris, but with little success, and the Ministry of Home Security has always discouraged its use among civilians for purposes other than anti-gas.

Heartburn and Cholecystitis

Q.—*A woman aged 45 suffers from chronic cholecystitis and severe and intractable heartburn. A fractional test meal reveals a marked hypochlorhydria, and the heartburn does not respond to acids or alkalis. How can the heartburn be explained and what should be the treatment?*

A.—It is assumed that other causes of burning pain near the ensiform cartilage have been excluded—hiatus hernia or peptic ulcer of the oesophagus, the latter usually associated with congenitally short oesophagus; and cardiac disorders, possibly psychogenic in origin. Two theories are held as to the causation of heartburn—the first that it is due to regurgitation of irritating material from the stomach into the oesophagus; the second that it is due to reflex spasm of the lower oesophagus. Reflex spasm is the most likely cause in chronic cholecystitis. For the dyspepsia of cholecystitis the usual remedies are olive oil before meals, and effervescent sodium phosphate 4 to 5 grammes before meals. If these remedies fail antispasmodics should be tried, such as a barbiturate plus belladonna, atropine, or trasentin. If there is any suspicion of a climacteric element in the symptoms, treatment with natural oestrogen or one of its analogues should be tried. Cholecystectomy has presumably been considered, though it must be confessed there is little assurance that it will relieve a reflex disturbance of this kind.

Diminished Vaginal Secretion after Pregnancy

Q.—*A young married woman with one child of 6 months is complaining of complete absence of vaginal secretion during intercourse. This has occurred only since she was about three months pregnant, and previous to this there was a copious secretion. She has normal sexual impulses. There is no obvious abnormality of vulva or vagina.*

A.—There is not likely to be any local abnormality in this case. The secretion liberated during coitus comes mainly from Bartholin's gland and is discharged as the result of sexual excitement. The amount secreted in any one individual is to a large extent dependent on the intensity of sex desire present at the time, and the diminished secretion in this case should be regarded as indicative of decreased sex urge—and that in spite of the alleged normal impulses. Diminished sex desire in woman during pregnancy and for a period after delivery, if not the rule, is extremely common. The very fact that the fundamental object of coitus is achieved, the awakening of mother love, the extra work and anxiety associated with looking after the child, etc., all play their part in effecting this change. But it is usually only a temporary one, and the partners of this marriage should be reassured accordingly. It is the husband who by patience allied with skilled love-play can do most to arouse the wife's sex-desire again to the full. Until he achieves that there is no reason why they should not use an artificial lubricant.

Psoriasis

Q.—*An officer has suffered from psoriasis for two years. The parts affected are the scalp, thighs, and glans. He has had four courses of psoriasis filtrate vaccine and several different local applications. There have been many relapses. The present treatment consists of local applications with liq. picis carbonis incorporated in them, and vitamin E orally. What is the latest treatment?*

A.—If by psoriasis the questioner believes he is dealing with a specific disease entity it must be said that the cause is unknown and no recent work has discovered any specific cure or "latest treatment." If, as seems probable, psoriasis is a constitutional reaction of the rheumatic diathesis, then success in treatment is more likely to follow consideration of climatic factors, of toxaemia (metabolic or infective), of endocrine and psychological influences. There is no indication for vitamin therapy in the absence of other signs of deficiency. One cannot talk of cure of a constitutional reaction. The same reaction has different causes at different times. What is necessary is an understanding of the nature of the problem—by the patient as much as by the physician—and control of the tendency to react will follow understanding.

Snake Venom for Epilepsy

Q.—*I have recently heard of a series of cases of idiopathic epilepsy treated with snake venom. (1) What is the rationale of this treatment? (2) Has its efficacy been satisfactorily proved? (3) Are there any dangers in its use? (4) Has it any advantages over the barbiturates?*

A.—The treatment of epilepsy with snake venom originated in South Africa out of the belief that accidental snake-bite sometimes had a good effect on various chronic disorders. Rattlesnake venom is used. Its efficacy has not been proved. In a few cases the writer has used it at the request of patients, but without benefit. Focal reactions at the site of injection are not uncommon, but there seems no danger in giving recognized doses. Not only has it no advantage over the barbiturates, but it appears to be ineffective.

Treatment of Bronchial Asthma

Q.—*Hypodermic injections of 100 mg. pethidine are advised in the symptomatic treatment of an acute attack of bronchial asthma. Are there any contraindications to this treatment in acute cases? Are frequent light applications of the cautery to the "asthmogenic area" of the nasal septum, and intratracheal injections of lipiodol, of any value?*

A.—Pethidine hydrochloride "has a morphine-like action, though it is more antispasmodic and less narcotic than the opium alkaloid." Both these actions are made use of in the treatment of an acute asthmatic attack—the antispasmodic and analgesic. But with the relief of the spasm and the abolition of the cough reflex and the lowered ciliary action there is a tendency for the sputum to accumulate in the lungs and for the patient to become blue and drown in his own sputum. Otherwise its toxic effects are uncommon and not serious, but there is some risk of addiction. It should be used only when adrenaline has failed.

Nasal cauterization has been advocated for many years, and at times it appears to act miraculously for a short time, but usually recurrent applications are necessary, with less and less effect.

Scibold in 1940 reported a high increase of the mortality rate of asthmatics in a 12-month period following the therapeutic administration of iodized oil.

Varicose Veins in the Elderly

Q.—*Is age any bar to the division and ligature of a varicose internal saphenous vein associated with eczema of the leg in an otherwise healthy woman of 73, and do you advise very early sitting up after the operation? There has not been any tendency to phlebitis, and there is only slight swelling of the leg above the ankle.*

A.—Ligature of the saphenous may be carried out, provided the patient is not obese and is young for her age of 73. The patient should be ambulatory from the day of the operation; this is more important even in older patients because of the risk of femoral thrombosis. If there is excessive phlebitis in the superficial veins following ligature and injections, it can easily be controlled, without interrupting the ambulatory nature of the treatment, by elastoplast and padding, as in the treatment of spontaneous superficial phlebitis.

Iodochlorhydroxyquinoline

Q.—*A patient aged 45 is used to taking iodochlorhydroxyquinoline for its good laxative effect. Is its long-continued use likely to cause any intestinal or other malignancy, and would the iodine content upset thyroid or other endocrine mechanism?*

A.—This substance is commonly prescribed as a treatment for amoebic dysentery, and it has no generally recognized action as a laxative. Its laxative action in this patient is probably peculiar to him. Its long-continued use is unlikely to produce any harmful effect. The tablets contain 0.25 g., and three tablets would be 0.75 g. This contains much less iodine than is present in 1 g. potassium iodide, which is administered three times daily for four weeks at a time in the treatment of syphilis without harmful effect.

A Tourniquet

Q.—*The G.P. frequently has to give intravenous injections, and usually there is no assistant present. A small tourniquet which could be quickly released by the patient when penetration of a vein has taken place would be an advantage. The usual type takes a long time to release, and sometimes the limb is shaken in the process. Is such a tourniquet available?*

A.—Most pathologists find it adequate to use a length of soft rubber tubing, size 2, internal diameter 4 mm. This is wound once round the arm and the free end looped underneath. It is easily released by pulling on the free end of the loop. Even less disturbance is caused by using a sphygmomanometer and releasing the pressure in the cuff by turning the milled screw when the vein is entered. No tourniquet superior to this is known to the writer.

INCOME TAX

Purchase of Practice

"X. A. X." was from January, 1943, to June 30, 1945, a partner in a firm of 6 partners, but as from the latter date he took over, as a "sole" practice, a practice until then worked by two partners. On what basis should he calculate his income for the year ending April, 1946?

⁂ (*a*) As regards the three months to June 30, 1945, his taxable income will be the amount of his share of the firm's assessment for 1945-6—e.g., 1/4 of 1/6 of the gross amount assessed. (*b*) As regards the nine months to April, 1946, the practice should be treated as a "new" one, and the gross income and expenses taken on the basis of the current year.

It may be convenient to take out a nine-months account to the end of March, but if preferred any other date can be taken—e.g., if a year's account to June 30, 1940, be the first account for the new practice, the income for the nine months to April, 1946, can be calculated at 3/4 of that for the full year. "X. A. X." cannot claim the cost of two new cars as a renewal of his present car; the second or additional car represents an investment of further capital in the practice. But of course the depreciation allowance can be claimed for both cars.

Appointment: Car Expenses

W. H. has been receiving an allowance of £60 a year for the use of his car. He contemplates selling his present car and buying a more modern one—at a cost of, say, £150 on the exchange. Can a deduction be claimed for such an expense?

⁂ Fundamentally the question is one of fact—i.e., Does the allowance of £60 a year cover the expense which W. H. "necessarily" incurs?—and in considering that question it is to be presumed that it would have to be looked at over a period of years. Assuming that replacement of the car has become *necessary*, W. H. would seem to have good ground for claiming that the facts have proved that the £60 was insufficient, and that some annual deduction should be made from his salary for income-tax purposes. But it may be urged on the other side that he should first approach the employing authority for a further allowance, or alternatively for a supporting statement that the £60 allowance is insufficient in view of present costs.

Cash Basis

A. B. has bought a share in a practice from an outgoing partner who did specialist work. The firm has been assessed on the cash basis, and A. B. is buying a share of the debts outstanding, excluding a sum of £1,000 due to the firm for the, now discontinued, specialist work. This involves A. B. in paying tax on his share of the £1,000, although, so far as he is personally concerned, such receipts will not represent income. Is there any way of avoiding the inequity?

⁂ If the new firm is to maintain the cash basis of calculating their income-tax liability *all* professional receipts must be brought into the computation. There seem to be only two alternatives open to A. B.: (*a*) to persuade his partners to drop the cash basis—thereby putting the £1,000 out of the picture—and adopt the earnings basis for this and future years, or (*b*) to represent to them that in effect he, A. B., is being called upon to pay tax on sums which are not *his* income in order to preserve for the firm as a whole the advantages of the cash basis, and that the other partners might share the burden to some extent. It is evident that A. B. is in an unfortunate position.

Domestic Help

K. C. inquires whether a deduction can be claimed for the cost of a nurse whose employment to look after a baby is necessitated by the fact that his wife is working as an anaesthetist.

⁂ No. The point was taken on appeal to the High Court some years ago and decided against the taxpayer.

Starting Practice: Expenses

W. D. started practice in July, 1944. Can he claim as expenses (*a*) cost of removal of furniture, etc., and (*b*) cost of a nurse-housekeeper necessitated by family illness and the circumstances of removal?

⁂ (*a*) No. Such expenses are incurred not in carrying on the practice but in order to be in a position to carry it on. (*b*) No. The expense is of a private nature.

Deduction for Ownership of Premises

J. R. owns his house, subject to a ground rent of £10 a year. What can he deduct for "rent" and repairs?

⁂ *Rent.*—J. R. can deduct a proportion of the "net annual value" as assessed under Schedule A for income-tax purposes, but not the amount of the ground rent; the proportion being the ratio of the professional to the private use of the property. *Repairs.*—If the total expenditure can be divided as between the professional and private portions of the house, that part applicable to the professional portion can be deducted. If the expenditure cannot be so divided, probably a division on the same basis as for "rent" will be accepted.

LETTERS, NOTES, ETC.

Conditions in Iraq

The Baghdad British Community Council (Post Office Box No. 2, Baghdad, Iraq) sends the following note: In the past men and women have come to posts in Iraq with little knowledge of conditions in the country. This has caused dissatisfaction, which the Baghdad British Community Council is anxious to minimize. The Council has therefore prepared *Notes for the Guidance of those considering Employment in Iraq*, which it hopes may prove of value and reach as many as possible of those concerned. In order that it may do so the Council would be grateful if associations, institutes, societies, and other bodies would inform their members of the existence of this pamphlet and of whence it may be obtained. The price is 150 fils or 3s.

The Future of Populations

Dr. B. DUNLOP (Binfield, Berks) writes: Why would it be disastrous (Aug. 25, p. 258) to have, through low fertility, deaths exceeding births until our numbers in Great Britain were reduced to about 40,000,000? I believe those to be right who agree with the late Prof. Wicksell, the Swedish economist, that there is not a country in Europe and Asia which would fail economically to benefit greatly by halving its population. What I consider dangerous is that married couples in our poorest sections still have an average of more than two children per family.

Drug Treatment of Cancer

Dr. G. R. USMAR (Boston, Lincs) writes: With reference to the most interesting answer under this heading (Aug. 25, p. 271) on Oct. 17, 1944, I saw a patient suffering from a large fungating cancer of the right breast; operative treatment and radium, etc., were refused. She was given stilboestrol 1 mg. t.d.s. Within one week bleeding ceased. The district nurse noted that skin was beginning to appear around the edges. By January the skin had been completely re-formed. The general health of the patient was greatly improved. This was probably due to the external appearance of the cancer, for she did not gain weight, though her appetite had vastly improved. In May, 1945, she began to deteriorate in health, and in June, 1945, she died of cachexia due to secondaries in both lungs and secondaries in thoracic vertebrae. However, this drug treatment was most beneficial from the patient's point of view, and she was most happy in her last year. Of course I made a point of informing the relatives of the ultimate outcome (for they were inclined to hail stilboestrol as a miracle).

Constriction Ring

Lieut.-Col. F. R. W. K. ALLEN writes from the Indian Military Hospital, Poona: It appears from a case reported in the *American Journal of Obstetrics and Gynecology*, November, 1943, that adrenaline may sometimes relax a constriction ring of the uterus. Deep chloroform or ether anaesthesia may have a similar effect, but the rural practitioner may only have chloroform at his disposal. Vinesthene is alleged to have much less relaxing power on the uterus than chloroform. The pharmacologists tell us that a combination of adrenaline by injection and choloroform by inhalation is liable to induce auricular fibrillation. A number of textbooks on obstetrics recommend both injections of adrenaline and deep chloroform anaesthesia in the treatment of constriction-ring dystocia where delivery has become imperative. Is there really danger in a combination of adrenaline injections and deep chloroform anaesthesia in such a case? Could amphetamine (methedrine) be substituted for adrenaline to safeguard the parturient from the danger of auricular fibrillation without a reduction in the relaxation of the constriction ring? I have only once felt a constriction ring, and that was of a mild degree. After a forceps delivery I was waiting for the birth of the placenta. There was no haemorrhage, but we wished to return the patient to her bed and have the delivery table ready for the next case. I tried gentle expression without avail, so I passed my hand into the uterus and found a constriction ring about half-way between the external "os" and the fundus. The placenta was lying free above the ring and there was no difficulty in drawing it out. The parturient was not injured by either of my operations.

Ptyalism in Pregnancy

Dr. W. H. NELSON (Perth, Western Australia) writes: In the *Journal* of April 14 (p. 543) there was a query about ptyalism in pregnancy. Many years ago I attended a pregnant woman suffering from vomiting of an intractable nature and profuse ptyalism, so much so that her face was swollen and the skin in the mouth region was raw with the irritation of the spittle. She had already lost three pregnancies on account of this condition. I tried a few standard remedies—mist. bis. co., chloretone in capsule, etc.—without success. Then I gave her 20 drops of 25% benzyl benzoate in 90% alcohol, taken in water every two hours for three doses, and then every four hours. The effect was miraculous, and when I saw the patient the next day I did not recognize her, as the face was quite normal, only showing the burnt areas at the corners of the mouth. The ptyalism vanished with the first dose, and the vomiting also ceased. She had to continue taking the drug three times a day throughout the carrying period, as the condition recurred as soon as she stopped it. In the end she had a normal son, and everyone was happy.

Nocturnal Cramp

Dr. SIMONDS GOODING (Grays) writes: With reference to your correspondent's inquiry (Aug. 18, p. 240) about the prevention of nocturnal cramp, it may be of interest to him to know that following an attack of acute gluteal fibrositis I personally suffered with very acute attacks of nocturnal cramp in the calf muscles of the right leg. To remain in bed during an attack was quite impossible owing to the severity of the pain. Various preparations of morphine and codeine, nembutal, allonal, amytal, antipyrine, etc., all proved quite ineffectual. On the advice of my colleague, Mr. L. Casin, F.R.C.S., I finally tried prostigmin, taking half a 15-mg. tablet each night on retiring to bed. I derived considerable relief from this drug, which, though probably not a cure, certainly relieved the symptoms and made the nights more bearable.

Venereology

Lieut.-Col. HENRY RICHARDS writes: In Army medical jargon a venereologist is an officer with a special knowledge of the diagnosis and treatment of venereal diseases. I have been hoping that some classical scholar would register an authoritative protest against the use of the word in this sense. The persistence of the term would be a regrettable addition to medical nomenclature. In the first place the word is a hybrid, derived from Latin and Greek. Secondly, the word cannot possibly have the meaning now fastened to it. Venereologist can only mean a person with a knowledge of venery. An expert practitioner of the arts of love is not necessarily a specialist in the care of venereal diseases.

An Unusual Cause of Intestinal Obstruction in a Newborn Baby

Dr. H. R. UNWIN (Yeovil) writes: The following unusual case occurred recently in my practice. A baby boy 4 days old had not passed any meconium since birth and was starting to vomit. An examination of the rectum by the little finger showed that it was normal as far as could be reached, and no meconium was found on the examining finger. Gastric peristalsis was visible after feeds, but it was only on the fourth day that vomiting became a feature of the case. A laparotomy was performed and the following state of affairs was found. Torsion of the caecal end of the ileum had taken place through three complete turns. This had been made possible by a deficiency in the mesentery. Aseptic gangrene of the terminal 12 inches of the ileum had resulted, with section of the ileum at the upper limit of the gangrene, the ends of the divided intestine being completely occluded. The ileum above the section was very distended for about 6 inches. The treatment adopted was resection of the gangrenous and distended ileum with an end-to-side ileo-caecostomy. The baby lived for two days after the operation and then died with symptoms of unrelieved obstruction. No post-mortem examination was performed. It is probable that a paralytic ileus developed.

Anatomical Nomenclature

Mr. A. HOLLMAN writes from University College Hospital: Surely it is time that surgeons in general, and the authors of surgical anatomy books in particular, made an attempt to use the B.R. nomenclature. At present the student learns his anatomy in terms of the B.R. and then, on entering hospital, he has the further burden of learning obsolete synonyms. If this state of affairs were rectified it would materially ease the student's task of learning what is, anyway, an uninspiring subject.

Sleep-walking

Dr. M. N. PAI writes: Some suggestions have appeared in the *Journal* on the treatment of sleep-walking. The causes of sleep-walking may be classified as follows: (1) Psychogenic or partial sleep due to (*a*) anxiety states, or (*b*) genuine dissociation—e.g., hysteria. When not sleep-walking a patient often talks or shouts in his sleep. Sometimes he may open the door and walk a long distance before waking up. (2) Post-epileptic: (*a*) following a nocturnal fit, or (*b*) as an epileptic equivalent (instead of a fit). Here the patient usually gets up from his bed and almost immediately returns to it, or gets into another one if one is available. He seldom walks more than a few yards. A positive E.E.G. may confirm the diagnosis, but a negative one does not exclude epilepsy. (3) Hystero-malingering. Here, apart from walking, the patient carries out very complicated actions requiring careful thought and previous planning. There is always an immediate gain. Careful observation at night, hypnosis, or narco-analysis may help in the diagnosis. (4) Post-infective following meningitis, encephalitis lethargica, and chronic cerebral abscess. Here the patient may wander aimlessly in an apparently confused state. Other signs and symptoms help in the diagnosis. Treatment: (1 *a*) relieve the anxiety or give large doses of sedative at night; (1 *b*) psychotherapy and suggestion—e.g., hypnosis. (2) Epanutin at bedtime. 3 and 4 are difficult to treat.

Hospitals Day, Oct. 2

The Secretary of the London Hospitals Street Collections Central Committee writes: May I call attention to the first street collection in aid of London's hospitals since the coming of peace? Hospitals Day will be on Tuesday, Oct. 2. Collectors are urgently needed, and volunteers should offer their services to their nearest voluntary hospital or to Lord Luke, Chairman, Hospitals Day, 36, Kingsway, W.C.2.

Corrections

In the question and answer headed "Profuse Periods in a Young Girl," published in the *Journal* of Sept. 15, p. 374, the dosage of thyroid was given in error as 1 gramme daily. This should have read 1 grain.

In the question and answer on "Oil-in-water and Water-in-oil Emulsions" (Sept. 15, p. 374), it was said "the bivalent alkaline earths and trivalent gases invariably give rise to water-in-oil emulsions." This should have read, "trivalent bases."

In a question and answer discussing the use of tryparsamide in G.P.I. (Sept. 15, p. 374) it was said that bismuth and arsenic may be given "concurrently or alternatively." This should have read "concurrently or alternately."

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FURTHER REDUCTION IN HOSPITAL INFECTION OF WOUNDS

BY

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AND

WYLIE McKISSOCK, M.S., F.R.C.S.

(From an E.M.S. Neurosurgical Unit)

Assessments of incidence of hospital infection of wounds in the World War of 1914–18 were made by Fleming and Porteus (1919) and by Stokes and Tytler (1918–19). The investigations of the former workers showed that 15% of all admissions were already infected with *Streptococcus haemolyticus* and that after a further stay in hospital of a week or more the incidence rose to 90%. Stokes and Tytler (1918–19) showed a rise in incidence of infection with *Str. haemolyticus* from 18.2% in the first seven days to 42.1% at the end of two weeks. The table below gives the incidence of infection with other organisms over the same period.

Swab	No. of Wounds	Str. haem.	Staph. aureus	Coliforms	Diphtheroids
Initial swab ..	165	18·2%	14%	23%	7·2%
1 to 7 days ..	60	21·6%	15%	10%	3·3%
4 to 14 days ..	19	42·1%	36·8%	26·3%	

After Stokes and Tytler (1919).

At the beginning of the Second World War the rate of hospital infection was still unpleasantly high. In 1940 Miles and others described 74 cases in which the percentage rate of cross-infection (or hospital infection) reached 58 for a combination of *Str. haemolyticus, Staph. aureus,* Gram-negative bacilli, and diphtheroids:

	Str. haem.	Staph. aureus	Gram-neg. Bacilli	Diphtheroids
Group 1 20 cases ..	40%	45%	15%	10%
„ 2 30 „ ..	13·3%	6·5%	10%	10%
„ 3 24 „ ..	25%	8·5%	33·3%	33·3%

Of the 74 wounds, 43 acquired new infecting bacteria, giving a total hospital infection rate of 58%. (After Miles *et al.*, 1940.)

In 1940 McKissock, Wright, and Miles found a cross-infection rate with *Str. pyogenes* of 15.4% in a series of air-raid casualties under routine local and systemic treatment with drugs of the sulphonamide group.

It would thus appear that relatively little abatement of the risks of hospital infection had taken place between the two wars in spite of the increase in experience during the intervening period, when certain reports, notably by Cairns and Cowan, indicated some of the more striking points in theatre and ward infection, all of them examples of hospital infection. It was in the light of this accumulated knowledge of cross-infection that McKissock, Wright, and Miles made the experiment which they recorded in 1941. They devised a dressing technique to reduce some of the more obvious risks of hospital infection. No attempt was made to block *all* channels of infection, but a serious assault was made upon the many channels which were laid open during the course of the dressing of wounds as ordinarily carried out in the hospital ward. The result of the adoption of an improved dressing technique over a four-months period, contrasted with a previous four-months period, showed a reduction of cross-infection with *Str. pyogenes* from 15.4 to 1.1%.

The present paper records the prophylactic effect of the improved dressing technique, which, since our 1941 report, has been in continuous use over a period of three years. In the first four months of its trial *Str. pyogenes* was used as the sole indicator of hospital infection, but in view of the marked diminution of the streptococcal infection rate obtained in the original experiment the scope was subsequently widened to include all the potentially pathogenic aerobic bacteria commonly found in wounds.

Conditions of the Three-year Trial Period

The trial was made for 20 months in one hospital, after which the unit was transferred to another hospital, where the remaining 16-months trial was held. Neither building was in any way modern from the structural standpoint and no special facilities were available to render the conditions of the experiment unusually favourable. During the first 20 months the staff was composed mainly of voluntary aid detachments with a small number of civil nursing reserves, while in the second hospital the staff consisted mainly of nurses in general training. The theatre staff remained substantially unchanged throughout, and was composed almost entirely of voluntary aid detachments. One fully trained sister was in charge of the theatre and the 70 beds comprising the unit. Junior medical personnel changed at roughly yearly intervals.

No special precautions were taken to avoid airborne infection other than insistence upon the completion of bed-making and ward-cleaning at least half an hour before the performance of dressings and the closure of all doors and windows during dressings. The dressing technique demanded the employment of one doctor and three nurses at each dressing and followed exactly the routine laid down in the original paper, which was somewhat more elaborate than that recommended in the M.R.C. Memorandum on the subject.

Material

There were in the whole period 1,129 wounds at risk, of which 882 were clean surgical incisions and 247 traumatic wounds. Of the latter, 231 already contained pathogens at the time of admission, while in 16 cases cultures from the initial wound swab were sterile. It is probable that in the later months of the three-year trial period the risk of hospital infection was less grave than in the earlier period by reason of the smaller number of septic cases admitted to the wards. During this period, however, there were nearly always some infected wounds to swell the reservoir of infection permanently pro-

TABLE I.—*Details of Wounds*

Surgically Inflicted		Traumatic	
Ventriculography	433	Head and back	220
Craniotomy	251	Arm	12
Laminectomy	92	Leg	10
Burr-holes	60	Trunk	5
Leucotomy	12		
Trigeminal sensory-root section	10		
Arteriography	9		
Miscellaneous	15		
Total	882		247

vided by the respiratory tracts of medical and nursing personnel, the patients, and their visitors.

Technique of Investigation

Bacteriological Method.—Wound swabs were taken from all surgically inflicted wounds wherever there was a moist surface, gaping of the wound, eversion of a skin edge, or obvious clinical infection. A swab was taken from traumatic wounds at the time of the first dressing after admission to our department and again at *every* subsequent dressing (on an average about thrice weekly) until healing was complete. The initial swabs were cultured aerobically and anaerobically, but if no anaerobes were obtained on this occasion further anaerobic cultures were omitted.

Chemotherapy.—All patients with traumatic wounds were given a five-day prophylactic course of sulphapyridine, sulphathiazole, or sulphamezathine, amounting to 30 g. in all. Open traumatic wounds were dusted with sulphanilamide powder, and a small number of the clean surgically inflicted wounds were similarly dusted in layers as they were closed. Penicillin was not given to any patient in the series.

"Hospital" or Cross Infection.—Infection has been classed as "silent" or "clinical," according to the following criteria: *Silent infection* was indicated by the growth of organisms from a bacteriological swab taken from a healed or healing wound where no evidence of clinical infection could be found; *clinical infection* was considered present if there were local signs such as stitch abscess, purulent discharge, swelling and oedema, etc., or where there was general constitutional disturbance. An attempt has also been made to separate true theatre infection from ward infection, as will be seen in Table II. Theatre infection was presumed: (1) where organisms or evidence of infection was found beneath the silver-foil seal applied at the end of the operation; (2) where infection occurred within the first four days after operation; (3) where infection started in the deep layers of the wound, the superficial layers being healed.

Results in Surgically Inflicted Wounds

There were 18 cases of infection (silent and clinical) in the 882 wounds—an incidence of 2.4%.

TABLE II

Case	Where Infected	Day of Infection	Organism Infecting	Comments	Type of Infection
1	Ward	3rd	Staph. aur.	Bandage removed by patient	C.I.
2	"	10th	Staph. alb.	Constantly scratching wound	C.I.
3	"	34th	Staph. aur.	Incision penetrated by comb tooth	C.I.
4	Theatre	4th	Staph. aur.; Str. faecalis	Bone flap removed	C.I.
5	"	7th 1st dressing	Staph. alb.	Healed in 36 days	C.I.
6	"	4th 1st dressing	"	" 6 "	S.I.
7	"	4th 1st dressing	"	" 7 "	S.I.
8	"	7th 1st dressing	Not swabbed	" 18 "	C.I.
9	"	7th 1st dressing	"	" 16 "	C.I.
10	"	2nd	Staph. alb.; Bact. coli	" 11 "	C.I.
11	Ward	9th	Staph. alb.; diphtheroid	" 10 "	S.I.
12	"	10th	Staph. aur.; non-haem. strep.	" 75 "	C.I.
13	"	7th	Staph. aur.	" 100 "	C.I.
14	"	10th	Staph. alb.; diphtheroid	Not healed on discharge; C.S.F. leak	S.I.
15	"	8th	Staph. aur.; diphtheroid	Healed in 3 days; C.S.F. leak	S.I.
16	"	5th	Staph. alb.	Healed in 37 days	C.I.
17	"	10th	"	" 26 "	C.I.
18	"	7th	"	" 5 "	S.I.

Staph. aureus refers to coagulase-positive staphylococci, and *Staph. albus* to coagulase-negative staphylococci. C.I. indicates "clinical infection." S.I. indicates "silent infection."

Analysis of these 18 cases of added infection revealed that the patients themselves were responsible on three occasions. Two patients removed their bandages and scratched their own wounds, and one penetrated her healed incision with a comb on the 34th day after operation. Thus 15 cases only, of which 7 occurred in the theatre and 8 in the ward, may be considered as true examples of hospital infection of wounds—an incidence of 1.7%. The theatre infection rate is 0.8% and the ward cross-infection rate 0.9%.

None of the 18 cases cross-infected contained *Str. pyogenes*, and of the 8 cases infected in the ward 3 were silent infections and only 5 showed clinical evidence of sepsis. The high incidence of *Staph. albus* (5 out of 8 cases) was presumably due to the prevalence of this organism on the human scalp and hair.

Results in Traumatic Wounds

In the series of 247 traumatic wounds—most of which were due to enemy action and were of the heavily contaminated variety familiar to those who have had the care of air-raid casualties—231 were already infected on admission. *Str. pyogenes* was present on admission in 11.3% (28) of the infected wounds. A total of 27 of the 247 wounds later yielded additional organisms (of some type) as a result of hospital infection—an incidence of cross-infection of 10.9%. Of the 27 cases only 4 became cross-infected with *Str. pyogenes*—an incidence of 1.6%.

Comparing the figures with those of Stokes and Tytler, it can be seen that the increase in incidence of *Str. haemolyticus* in wounds from 18.2% to 42.1% in their series has not been in any way approached in ours. The rise, in our series, of infection with *Str. pyogenes* is only from 28 patients (whose wounds contained *Str. pyogenes* on admission) to 32 during the whole period of stay in hospital—i.e., a percentage rise from 11.3 to 12.5.

We can thus show complete protection from *Str. pyogenes* in 882 clean surgical wounds. In traumatic wounds the incidence was reduced from 1.6% from our own "pre-dressing technique" incidence of 15.4%. The total incidence of cross-infection of 11.3% shows a considerable reduction when compared with the figure of Miles *et al.* of 58% obtained in the early stage of the war.

Conclusions

A strikingly low rate of cross-infection of wounds has been maintained during the use of the improved dressing technique in our department over a three-year period. As no material alterations in the conditions of the experiment have taken place during the three years it is fair to assume that the improved dressing technique is alone responsible for the lowering of the rate of cross-infection. The continuation of the technique over so long a period of time, under the conditions of war, with all its shortages of material and man-power, proves that there is no essential difficulty in observing the rules laid down by us in our original paper.

As to the intensely practical value of this reduction of hospital infection one has but to consider the saving in hospital-bed days. A wound which breaks down as a result of added infection may easily lead not only to days but to many weeks or months of additional stay in hospital, with all its cost in food, bedding, drugs, dressings, and the time of nurses and doctors, apart from the unfortunate and sometimes lethal effect upon the patient.

Summary

An improved dressing technique designed to avoid cross-infection has been in use for a period of three years, during which time 1,129 wounds have been treated.

882 wounds were surgically inflicted, while 247 were traumatic and mainly the result of enemy action.

The total incidence of cross-infection in the 882 clean cases was 2.4% and in the 247 traumatic wounds 10.9%.

Str. pyogenes has been eliminated as a cross-infecting agent in the 882 clean surgical wounds and its incidence in traumatic wounds reduced to 1.6%.

The improved dressing technique is considered to be the sole factor in these striking reductions upon previously published figures for hospital (or cross-) infection of wounds.

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A SYNDROME RESEMBLING ADDISON'S DISEASE, WITH SEVERE ANAEMIA, STEATORRHOEA, AND MELANURIA

BY

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A case resembling Addison's disease with a severe normocytic normochromic anaemia, which was at first treated as a macrocytic anaemia of unknown aetiology, is here described. Addison (1855) in his original description of the disease mentioned anaemia, but it is not accepted nowadays as a common or characteristic feature of the syndrome (Goldzieher, 1939).

Case Record

Miss A., aged 22, had a sudden attack of stomatitis in Feb., 1943. At times it was so severe that for several days she was unable to eat or drink. It continued until her admission to a military hospital on July 5, 1943. She had post-prandial upper abdominal pain and loose motions. Amenorrhoea had been present for three months. She was extremely ill, had a lemon-yellow tint, and was wasted. Shallow ulcers were present inside the mouth. The spleen was not palpable and there were no changes in the nails. Blood picture on admission: haemoglobin, 36%; R.B.C., 1,600,000; colour index, 1.1; W.B.C., 2,000, with a normal differential white count; reticulocytes 0.1%; polychromasia; occasional Howell-Jolly bodies; marked anisocytosis; one primitive megaloblast, and one normoblast. Red-cell fragility was normal.

She was treated with liver extract intramuscularly, iron, marmite, vitamin C, vitamins A and D, nicotinic acid, and a high-calorie diet. The stomatitis recurred several times. She apparently improved, and on discharge the blood picture was: haemoglobin, 92%; R.B.C., 4½ millions; W.B.C., 9,000. A test meal showed that free acid was present. She was still feeling subnormal, however, and the amenorrhoea persisted. She was discharged from the Forces in 1943, all treatment being discontinued.

Two weeks before admission to the County Hospital, Pembury, on March 8, 1944, she had an attack of "influenza." A blood count showed R.B.C. 2,000,000. Liver injections were given without response. The temperature persisted.

On admission she complained of lack of energy, dizziness, especially on standing, cold hands and feet, and sore mouth. There were no previous illnesses. Her mother, two stepbrothers, and two stepsisters were alive and well. Her father died from an unknown cause.

Examination.—The temperature was 99.5°. She was a thin short girl, and lay in bed, making few spontaneous movements. She had a pale waxy appearance and there were numerous dark-brown pigmented spots on the limbs, trunk, and face, none exceeding 3 mm. in diameter. She stated that these spots first appeared when she became sick in Feb., 1943. They began to disappear when her condition improved in the military hospital, but have recently been increasing. The apex of the heart was 3½ in. from the midline in the fourth left intercostal space; there was an apical systolic murmur. The blood pressure was 86/34 mm. Hg. Lungs, normal. The tongue was clean and not abnormally smooth. There were a few shallow ulcers on the inner side of the lip, 3–4 mm. in diameter. They had a greyish base and red periphery, and in appearance were identical with those of aphthous stomatitis. Numerous pigmented spots were present on the hard palate. The liver and spleen were not palpable. C.N.S., normal. Urine: Albumin, *nil;* sugar (Benedict), *nil;* reaction, acid; specific gravity range, 1010–1030; volume, maximal 25 oz. daily, minimum 6 oz. daily; average daily volume of urine, 20 oz., dark orange-yellow with a tinge of brown; no blood and no casts. Blood examination showed: haemoglobin, 34%; R.B.C., 1.55 millions; colour index, 1.1; reticulocytes, 1%; mean cell diameter, 7.7 μ; W.B.C., 9,400—polymorphs 70%, lymphocytes 18%, large hyalines 4%, eosinophils 8%; anisocytosis and polychromasia present.

In view of the original diagnosis the patient was given 2 c.cm. of neohepatex daily for six days, and two pints of blood were transfused. No improvement followed. The blood pressure did not rise, there was marked asthenia, and the reticulocyte count remained at 1%. From the seventh day (March 15) 5 c.cm. of extract of suprarenal cortex (*B.P.C.*) was given intramuscularly daily for six days, and then desoxycortone acetate 10 mg. daily for eight days—i.e., until March 29. The blood pressure rose rapidly (March 23). The reticulocyte count began to rise between March 18 and 28. It was found that 15 mg. of desoxycortone acetate every other day maintained the blood pressure at 120/80 mm. Hg. The haemoglobin increased; and on discharge it was 80–85% (Haldane scale); R.B.C., 4 millions, and colour index 1.0 (Fig. 1).

The evening pyrexia fell to normal 11 days after there was clinical response to desoxycortone acetate, suggesting that the pyrexia was also due to the cortical insufficiency. This is at variance with the usually described "subnormal temperature" (Leyton, 1939), though Loeb (1940) describes pyrexia occurring pre-terminally in this disease.

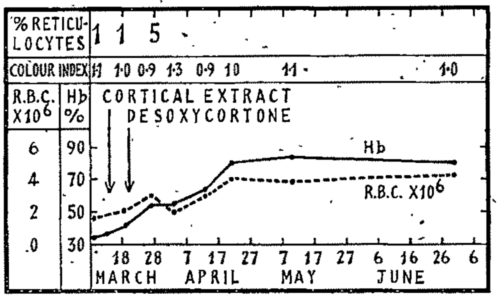

FIG. 1.—Showing haemoglobin and erythrocyte response to treatment.

On admission the sodium ion content of the blood was at a normal minimum, while the blood potassium ionic content was at a normal maximum. It is interesting to note in Fig. 2 the rise in the potassium ion as the sodium ion falls, and vice versa. Radiographs of the chest were normal. A test meal showed that free acid was present, and a barium meal and follow-through revealed nothing abnormal.

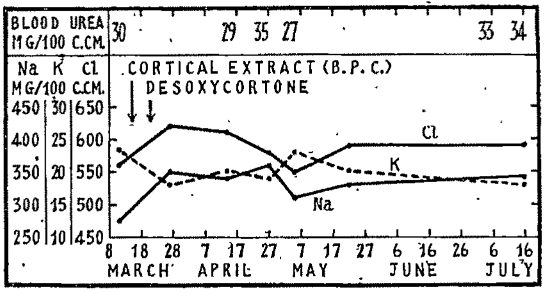

FIG. 2.—Showing blood ionic changes during treatment.

The patient rapidly became ambulatory; her appetite was ravenous and, except for occasional headaches, she appeared to be a normal active girl. Towards the end of April the blood pressure fell steadily from 120/75 to 105/60 (Fig. 3) and general asthenia returned; desoxycortone acetate and sodium chloride were pushed (NaCl 15 g. and desoxycortone acetate 30 mg. daily). She became drowsy in the second week in May, when the blood pressure rose to 140/90 mm. Hg and some oedema of the legs appeared (Loeb, 1940). Cutting down the salt intake to 4 g. daily and the desoxycortone acetate to 15 mg. every other day resulted in a marked improvement, with a fall in blood pressure. Although she would not drink much and the urinary output was not high (20 oz. daily) before treatment, the blood urea was never above 35 mg. per 100 c.cm.

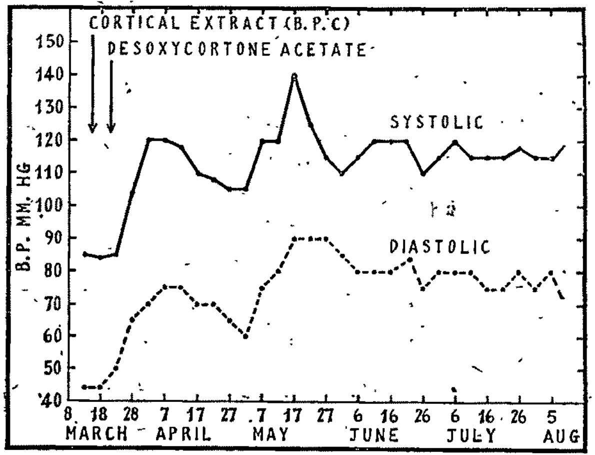

FIG. 3.—Record of blood pressure during treatment.

Subsequent Progress

On Oct. 26, 1944, 500 mg. of desoxycortone acetate was implanted subcutaneously under local analgesia at the West Glamorgan County Hospital, Neath. On Nov. 10 the blood pressure rose to 152/100 and there was some puffiness of the face. Her blood pressure thereafter remained at a satisfactory level until Jan. 8, 1945. A further subcutaneous implantation of 600 mg. of desoxycortone acetate was made on Jan. 17. The blood picture on Dec. 11, 1944, was: haemoglobin, 86%; red cell count, 4½ millions; reticulocytes, 0.11%.

She was readmitted to this hospital on Feb. 8, 1945. The blood picture was then: haemoglobin, 77% (Haldane scale); red cells, 3.53 millions; colour index, 1.1; white blood count, 7,400—polymorphs 67%; mean cell diameter, 7.4 μ; reticulocytes 3%. A test meal showed low free acid. Blood pressure range, 110–115/60–70. Blood ions: Na, 335 mg.; K, 22.5 mg.; chloride, 635 mg. (as NaCl); blood urea, 30 mg. per 100 c.cm. The urine contained melanin. Faeces: Neutral unsplit fat, 7.5%; free fatty acids, 13.1%; soaps, 39.3% (total fat, 59.9%). Of the faecal fat 12.5% was unsplit and 87.5% was split.

It was noticed during this admission that the incision where the crystals had been implanted was discharging a little pus. On various days during the follow-up period she discharged crystals of desoxycortone acetate equal to 300 mg. Investigations were carried out during this stage of her illness, without any further injections of desoxycortone acetate. On May 3 her blood pressure had fallen to 90/60. On May 14 asthenia was marked; B.P. 100/60. Two days later she complained of nausea, and then vomiting and diarrhoea began (May 19), and became quite persistent. Vertigo was marked. Injections of desoxycortone, 15 mg. every other day, were restarted on May 23, with rapid cessation of the gastro-intestinal symptoms. On May 25 300 mg. of desoxycortone acetate was implanted subcutaneously. On June 4 her blood pressure had risen to 120/90 and she was able to walk about the ward, feeling much improved.

Differential Diagnosis

That this patient is not suffering from *pernicious anaemia* is indicated by the presence of free acid in the test meal, the colour index range of 1.0 to 1.1, the mean cell diameter (halo method) in neighbourhood of 7.5 μ, the absence of response to liver, and the dramatic response to desoxycortone acetate. Against a diagnosis of *Simmonds's disease* is the absence of a history of past pregnancy and post-partum haemorrhage, no bradycardia, no loss of secondary sexual characteristics, and the presence of pigmentation. *Pellagra* would presumably respond to liver injections, owing to the high nicotinic acid content of the usual liver extracts. The absence of reducing substance in the urine and the normal colour of the cartilages of the nose and ears are against diagnoses of *ochronosis* and *alkaptonuria*. No evidence of a primary *melanotic carcinoma* was found. The choroid appeared normal; no glandular or hepatic enlargement was present; and there was a dramatic response to desoxycortone.

Mesenteric chyladenectasis and *steatorrhoea*, with features of Addison's disease, have been described (Glynn and Rosenheim, 1938). The patient improved for a while on extract of suprarenal cortex (*B.P.C.*), but ultimately relapsed and died. At necropsy no lesion of the suprarenals was found, and a functional deficiency of these glands was postulated. Suprarenal insufficiency was diagnosed in a case of non-tropical sprue by Holmes and Starr (1929), but the rapid improvement in their patient with daily parathyroid extract Collip made this diagnosis, in their opinion, untenable. Functional suprarenal insufficiency has also been suggested by Gloor (1929–30) in non-tropical sprue.

Tuberculosis of the Suprarenals and the Mesenteric Lymph Glands.—The rapid response to desoxycortone acetate indicates that the steatorrhoea is due to a functional failure of absorption and not to an organic obstruction.

Idiopathic Steatorrhoea.—Many cases of idiopathic steatorrhoea have been seen in this hospital in the last few years, and a further paper on these cases is in preparation. They differ from the present case in many features. They give histories of much longer duration, the weight loss is more pronounced, and anaemia varies from hypochromic microcytic to hyperchromic macrocytic. Stools are pale and greasy, and have a persistently high total fat and split-fat content. The tongue is smooth and may show aphthous ulceration. The blood pressure is variable, depending upon the age of the patient, but the systolic was not below 100 mm. Hg except terminally or when the patient was collapsed, and then there was no response to desoxycortone acetate. A high-potassium low-sodium diet with added potassium chloride did not produce an exacerbation of the condition or a fall in blood pressure. The blood calcium is usually low in idiopathic steatorrhoea and tetany is frequent, but there may be a hypercalcaemia in Addison's disease (Loeb, 1940). In the case under discussion the blood calcium was 10.6 mg. per 100 c.cm. Pigmentation of skin was variable, but was not present on mucosae. Test meals usually showed an achlorhydria. Oedema of the limbs, in many cases massive, was often present on admission before the onset of any treatment.

Discussion

Addison's disease is suggested by the history, pigmentation of skin and mucosae, ionic changes in the blood, low blood pressure, melanuria, and response to desoxycortone acetate—and also the fall in blood pressure and onset of vomiting, diarrhoea, and vertigo, on deliberately withholding the desoxycortone acetate (see progress notes). The marked improvement with desoxycortone acetate suggests that the entire clinical picture is a single entity.

In Addison's disease the sodium loss leads to dehydration, haemoconcentration, diminished glomerular filtration, and an increase in the blood urea. Increased protein destruction occurs in dehydration (Black, 1942), and this contributes to the raised blood urea. The normal blood urea figures in this patient suggest adequate glomerular filtration and a normal blood volume.

It was noticed that the urine was dark in colour, particularly after it had been standing for 24 hours. When at the end of April the blood pressure fell the urine became black with pigment identified as melanin. The urine eventually became paler, though its colour fluctuated considerably. The increased alkalinity of the urine on standing had resulted in the rapid oxidation of melanogen to melanin. At this time, too, it was noticed that the stools had a very foul odour, were of enormous volume, and looked like the stools of idiopathic steatorrhoea, being unformed and very greasy. In the cold they set like cooling fat; they were, however, dark and not clay-coloured. When the blood pressure rose the stools diminished in size and became almost normal in appearance, though now and again, with a bout of "general malaise" but no obvious fall in the blood pressure, blood sodium, or blood chloride ions, they would revert to a "steatorrhoeic" state. In three fat estimations of these stools—the third during a remission—the total fat was 48%, 73%, and 21% respectively, and in every instance over 75% was split fat.

Fat Analysis : % of Dried Faeces

			During Remission produced by Desoxycortone Acetate
Neutral unsplit fat	6·4%	16·6%	1·6%*
Free fatty acids	32·1%	24·4%	14·2%
Soaps	9·1%	32·2%	5·0%
Total fat	47·6%	73·2%	20·8%
% of faecal fat: (a) Unsplit	13·4%	22·7%	7·7%
„ „ (b) Split	86·6%	77·3%	92·3%

Steatorrhoea, with or without diarrhoea, has been demonstrated in Addison's disease (Zondek, 1944) and also in experimental adrenal insufficiency (Verzar and McDougall, 1936). It is suggested that the dark colour of the stools might in this patient be due to melanin.

Abnormality of cell permeability would account for the failure in fat absorption, the split fat indicating that the enzymes of the bowel were functioning normally. In adrenalectomized animals there is a marked delay in the rate of absorption of sodium, potassium, and chloride ions from the ileum (Hadfield and Garrod, 1942), and the production of a stool comparable to that in chronic jejuno-ileal insufficiency would be understandable. Actual atrophy of the alimentary canal comparable to that observed in idiopathic steatorrhoea appears to be uncommon in Addison's disease (Guttman, 1930).

A glucose-tolerance test showed a low curve but a normal fasting sugar. An intravenous glucose-tolerance test to find whether this apparent increased glucose tolerance was really due to poor intestinal absorption was not done. However, it is known that in Addison's disease there is a greatly increased glucose tolerance due to unbalanced action of insulin, and that this state of hypoglycaemia is not corrected by injections of desoxycortone acetate.

It is stated by some authorities that "anaemia may occur in Addison's disease but is not specific" (Whitby and Britton, 1942). According to Goldzieher (1939), "anaemia, originally mentioned as a feature by Addison, is actually not a symptom of the disease. The red cell count is not infrequently increased, and the haemoglobin higher, as the result of the inspissation of the blood." Other sources (Leyton and Simpson, 1936–41) tentatively suggest that the adrenal cortical hormones might be needed for adequate haemopoiesis, but still favour failure of iron absorption, possibly due to achlorhydria, as the more likely cause.

Brown and Roth (1925) found definite anaemia in one of 17 cases of Addison's disease they observed. It showed haemoglobin 50% and 53% (Dare scale) and R.B.C. 2,960,000 and 3,280,000. The patient died three days after admission. They quote a case observed by Neumann with a red cell count of 1,120,000. The lowest figures given by Goldzieher (1939) are Hb 67%, R.B.C. 3,450,000; and by Rowntree and Snell (1931) Hb 30% and 39% (Dare scale), R.B.C. 1.5 and 1.9 millions.

The rapid response to desoxycortone acetate in the present case suggests that this substance is here essential for the normal formation of red cells. That intestinal insufficiency, as indicated by the high fat content of the stools, was not the cause of the anaemia is shown by the persistent colour index of 1.0 to 1.1 (excepting one reading of 1.3); this argues against the absence of the pernicious anaemia haemopoietic factor being the primary cause, as also does the absence of therapeutic response to liver. The normal colour index suggests that the absence of iron is not the primary cause. As there was no achlorhydria, this too could not have participated in the causation of the anaemia. Indirect evidence of the specific action of the cortical hormones in haemopoiesis is that polycythaemia occurs in suprarenal cortical excess, due to cortical hyperplasia, adenoma, or carcinoma.

It is probable, therefore, that in this case of Addison's disease the anaemia is due to the direct specific effect on the bone marrow of an absence of suprarenal cortical hormone. This may often occur in Addison's disease, but, being slight, may be hidden. In addition, diminished bowel absorption may add the features of iron-, or "liver-," deficiency anaemia. To these factors must be added the effect of dehydration (probably absent in this case), acidosis, and ionic change on the individual and total red cell volume. A variable blood picture may thus result. A normocytic anaemia of this degree of severity will, in view of the failure of response to all the usual haematinics, resemble "idiopathic aplastic anaemia."

The presence of "one primitive megaloblast" in the earliest blood count does not make the diagnosis a macrocytic anaemia, as none have been seen since then. The 8% eosinophils on first admission to this hospital may have been due to the injections of liver before admission, though eosinophilia has been reported in Addison's disease by Zondek (1944).

Melanuria is rare in Addison's disease, and it is not more common or more pronounced in cases of the disease with deeper pigmentation. It is said to occur in severe cases (Karsner, 1938). This suggests that cell permeability is not dependent upon the same cortical hormone the absence of which results in pigmentation. A severe alteration in cellular permeability may therefore occur with slight or no pigmentation, and vice versa. Non-pigmented cases of Addison's disease have been described by Conybeare and Millis (1924) and White and James (1927). A severe alteration in cellular permeability might result in the liberation of melanin, and its immediate precursor melanogen, into the circulation; the melanin is then reduced to melanogen in the serum (Karsner, 1938), and excreted in the urine, where it is reoxidized to melanin.

In the present instance there was no direct relation between exacerbation of the syndrome and of the stomatitis, which, however, improved when the clinical condition responded to desoxycortone acetate.

Methods Used

Faecal Fats.—The Soxhlet extraction method, substantially the same as that of Holt, Courtney, and Fales, and referred to in Harrison's *Chemical Methods in Clinical Medicine*, 2nd edition, pp. 469 and 470.

Blood Chlorides.—Whitehorn's method (*J. biol. Chem.*, 1920–1, **45**, 449).

Serum Sodium.—Modification of method of McCance and Shipp described in Harrison's *Chemical Methods in Clinical Medicine*, pp. 379 and 380.

Serum Potassium.—Method described by Jacobs and Hoffman (*J. biol. Chem.*, 1931, **93**, 685).

The serum sodium and serum potassium methods are colorimetric methods, and a "Spekker" absorptiometer has been used in these estimations.

Summary

A case simulating Addison's disease with severe normocytic normochromic anaemia, steatorrhoea, and melanuria, and its treatment, are described.

A tentative explanation of the underlying mechanism of the syndrome anaemia, steatorrhoea, and melanuria is put forward.

The differential diagnosis is discussed.

The relevant literature is reviewed.

I wish to thank Dr. Osman for his kind help and advice in treating this case and writing this paper; Dr. Jones, of the County Laboratory, Maidstone, and Dr. Taylor and Mr. Rogers, of the Pathological Department, County Hospital, Pembury, for the haematological and biochemical investigations. Also Dr. Grasby, medical superintendent, and Dr. Ponder, County Medical Officer, for permission to publish this report; the military authorities for sending data obtained in a military hospital; and the medical superintendent of the West Glamorgan County Hospital, Neath.

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THREE CASES OF CLOSED INTRA-ABDOMINAL INJURY

BY

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Cases of visceral injury resulting from blunt injuries to the abdomen are interesting clinically. The exact mechanisms by which the lesions are produced have occasioned some discussion. The following are case notes of three such injuries produced by three different types of trauma. All three cases were seen within the latter six months of 1944.

Case I: Propeller Accident; Ruptured Jejunum

The patient—a young man of the Fleet Air Arm—gave a history of having been struck in the abdomen by the blades of a propeller, against which he was leaning when the engine of the aircraft was started. The only visible external injuries were abrasions in the right groin and over the lower half of the sternum. At first he appeared to have no serious internal injuries, and his general condition was good. He was admitted to R.A.F. sick quarters, where the medical officer wisely put him to bed and made half-hourly records of his pulse rate and blood-pressure readings. His pulse rate continued to be normal and constant, but he vomited twice. In view of his abdominal symptoms, the M.O. was not happy about him.

When I first saw the patient there were guarding and tenderness of the upper abdomen, but peristalsis was audible through the stethoscope. In view of this observation, his general condition, the pulse rate, and blood-pressure readings, it was thought at first that his pain and guarding were probably not due to a ruptured jejunum. However, a "straight" radiograph of his abdomen (taken with a portable machine while the patient was sitting erect) showed free gas under both cupolas of the diaphragm, and clinched the diagnosis. Conditions prevailing at the time prevented his admission to our mobile hospital, and he was transferred to the Royal Victoria and West Hants Hospital.

Laparotomy, performed by Mr. Markaby, showed a laceration about the size of a threepenny-bit in the jejunum, 10 in. from the duodeno-jejunal flexure. Prolapsed mucosa had effectively plugged the laceration. There was a small quantity of free fluid in the peritoneal cavity, and some local peritonitic reaction, with flakes of lymph round the site of laceration. The small gut was dilated proximally. Distally it was empty. The laceration was closed with a purse-string suture, reinforced with a row of Lembert sutures.

Mr. Markaby, in a letter, says that recovery was uneventful, and that the patient was discharged from hospital three weeks later. Up to the time of operation (16 hours after the accident) the pulse rate had been constant and the blood pressure had remained at 135/75 mm. Hg.

Case II: Crush Injury; Ruptured Stomach

This patient was crushed between two heavy lorries, the bumper of the moving vehicle striking him in the epigastrium. His abdomen was compressed with considerable force in an antero-posterior direction. Severe abdominal pain and distress immediately followed the injury. He was admitted to our hospital two hours after the accident.

On examination he was evidently in great pain. His whole abdomen was rigid. Resuscitative measures were begun forthwith, and these were continued during the operation. The abdomen was opened through a generous left upper paramedian incision. The left upper rectus abdominis was found to be partially ruptured. The peritoneal cavity contained blood and food debris in quantity. The stomach was ruptured 3 in. from the pylorus. The rent was about 7 in. long and ran at right-angles to the long axis of the viscus, extending from the anterior surface across the greater curvature on to the posterior surface. The transverse mesocolon was split in a vertical direction from its colonic attachment to near its root. The lesser sac was thus freely opened and contained blood and food debris. The colon was not injured and its blood supply not impaired. There was an extensive retroperitoneal haematoma in the region of the pancreas.

No other injuries were found. The rents in the stomach and mesocolon were repaired. As much as possible of the blood and food debris was removed from the peritoneal cavity. The retroperitoneal haematoma was left untouched, and the abdomen was closed without drainage. Gastric suction through a nasal tube was begun immediately. The intravenous drip was kept going with glucose-saline. Penicillin, sulphathiazole, and anti-gas-gangrene therapy was started as a prophylactic measure against infection of the retroperitoneal tissues.

The patient's condition next morning was satisfactory. He said that he was in no pain but felt thirsty. He had passed urine. Twenty-four hours after the operation, however, signs of cardio-respiratory failure set in relatively suddenly, and he died four hours from the onset of symptoms. During these four hours his colour remained fairly good and his extremities were not cold. His pulse was rapid and weak. His respiration became rapid and gasping, but there was no "bubbling" in the lungs and he did not complain of pain in the chest.

Post-mortem Examination.—There was a quantity of blood-stained fluid in the peritoneal cavity. The suture lines were sound. There was an extensive retroperitoneal haematoma extending from the region of the pancreas along the line of the great vessels to the pelvic brim. The quantity of blood lost into the haematoma was not sufficient to account for death. There was considerable haemorrhage around and a little haemorrhage into the pancreas. No areas of fat necrosis were observed. The kidneys were very congested, but were unruptured. There were no injuries to the spleen, liver, or intestines. The suprarenals showed no gross abnormality. There was a tear in the internal coats of the abdominal aorta, but this had not been the source of the haematoma. The heart appeared normal. Only post-mortem clot was found in the main branches of the pulmonary artery. The lungs showed no gross abnormality. The diaphragm was not ruptured.

Case III: Kick on Left Lower Ribs; Ruptured Spleen

An airman aged 23 was kicked in the left lower ribs while playing football. He was "winded," but after a few minutes continued with the game. Later he returned to his unit by motor coach. He noticed nothing much amiss, and after a good night's sleep arose as usual next morning. At 11 a.m.—he had been injured at 4.30 p.m. the previous day—he was straining at stool, when he was seized with acute pain in the left hypochondrium. He also noticed pain in his left shoulder. He was emphatic that these pains had not previously been experienced. His unit medical officer observed him for a short time and sent him in as a case of ? ruptured spleen.

On admission his pulse rate was 80 a minute and blood pressure 120/70. His haemoglobin was 90%. He was sweating and in pain. On examination he was tender over the whole abdomen, but especially so in the left hypochondrium and left loin. There was no rigidity. The area of splenic dullness was increased and there was shifting dullness. When the patient was turned on one side he complained of abdominal pain on that side. He was tender in the pelvic pouch. The urine was normal. Blood transfusion was started, and was continued during the operation. The abdomen was opened through an adequate upper left paramedian incision. The peritoneal cavity contained a quantity of free blood. The spleen was surrounded by a mass of blood clot and presented two large lacerations on its convex surface and on its upper and anterior border. Splenectomy was performed, and after removing the clot and free blood so far as was possible the abdomen was closed without drainage. The temperature did not settle for 10 days, but the patient felt and looked fit. Fourteen days after his operation the white cells numbered 21,000 per c.mm. (neutrophils 71%, lymphocytes 23%, monocytes 3%, eosinophils 1%, basophils 2%). He was evacuated to England, and I have no further information regarding him. The patient had been stationed in the Middle East for two years, but had never had malaria or any other illness. Histological examination of the spleen showed no pathology apart from the lacerations.

Discussion

In Case I the jejunum was ruptured as the result of a sharp glancing blow on the relaxed abdomen. The lesion produced was a small partial tear 10 in. from the duodeno-jejunal flexure. The appearance of the bowel and the near-by tissues was not such as to suggest that the bowel had been crushed against the spine by the blade of the propeller (personal observation). If this had been the mechanism responsible then one would have expected to find considerable bruising of all the tissues so forcibly compressed, and not only an isolated tear of the small gut.

The site of jejunal tears in cases of "subcutaneous" injuries is reported to be fairly constant ("near the fixed portions of the gut"). If the rupture is due to a localized crushing of the bowel, then it must follow that only those injuries in which the force is applied to these sites produce rupture, and in cases of blows elsewhere on the abdomen rupture does not occur. Can this view be accepted? (At present I have not access to the relevant literature.)

In Case II the force was of a powerful crushing nature, relatively slowly applied. Here it was the thick-walled full stomach which was ruptured, and there was extensive bruising of the tissues on the posterior abdominal wall, but no rupture of the other viscera and, in spite of the great compression of the abdomen, no rupture of the diaphragm.

In Case III the force was a sudden kick on the elastic ribs overlying the spleen. The ribs were not fractured, but they transmitted the sudden force to the organ, which was ruptured in two places. The mechanism here would seem to be the creation of a pressure wave in the semi-fluid pulp of the spleen and its contained blood, sufficient to burst open the capsule of the viscus. The length of the interval between the injury and the first onset of symptoms was striking.

In Case I the absence of any marked constitutional symptoms even 16 hours after the bowel had been ruptured was interesting.

For permission to publish these case notes I am indebted to Air Marshal Sir Harold Whittingham, Director-General Medical Services, Royal Air Force, and to Wing Commander H. F. Harvey, Officer Commanding our Mobile Field Hospital.

I wish to thank Air Vice-Marshal Stanford Cade, Consultant in Surgery to the Royal Air Force, for much help and encouragement.

W. M. Johnson and O. T. Davis (*South. med. J.*, 1945, **38**, 373) who record their observations on 22 cases of acute pancreatitis come to the following conclusions: (1) Pancreatitis is far commoner than is generally thought. (2) Pancreatitis can often be suspected clinically, and can be diagnosed almost invariably by the serum amylase test properly performed. (3) The aetiology of pancreatitis is still questionable; it may be due to a number of factors. (4) The fact that pancreatitis is far more often a medical than a surgical condition makes its recognition exceedingly important.

THE RISKS OF GASTROSCOPY WITH THE FLEXIBLE GASTROSCOPE

BY

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When Wolf and Schindler devised their flexible gastroscope they called it an "entirely safe" instrument (Schindler, 1932). They claimed there was no risk of lower oesophageal perforation, which had been the chief disadvantage of the older rigid gastroscopes. This claim appears to have been justified by later experience, and, to our knowledge, no instance of lower oesophageal injury with the flexible gastroscope has been reported. Other accidents, however, have occasionally occurred. Schindler (1940) published the results of a survey of 22,351 gastroscopies performed by many gastroscopists of varying experience in America. In this large series only one death had occurred after gastroscopy. This was due to hypopharyngeal perforation of the oesophagus. There were also eight instances of gastric and one of jejunal perforation without fatality. Later Schiff and Shapiro (1941) reported a further non-fatal case of gastric perforation. These perforations were attributed to the use of the sponge-rubber tip to the instrument, and no further cases of gastric perforation have been reported since the rubber finger-tip and plain metal end to the instrument have come into general use.

Since this large series was published three further cases of hypopharyngeal perforation with the flexible gastroscope have been reported—Paul and Lage (1943), Touroff (1941), and White (1941). One of these was fatal. So far as we are aware these are the only cases of a dangerous sequel to the passage of the flexible gastroscope that have been published.

Personal Experience with the Gastroscope

In a combined experience of 2,800 gastroscopies, about half of which were done with the Hermon Taylor gastroscope, we have had two fatalities attributable to gastroscopy and four cases that gave rise to some anxiety. We consider it right to publish details of these cases.

Case 1 (Central Middlesex County Hospital).—A woman aged 59. Admitted with diagnosis of scurvy. Considerable improvement after six weeks' treatment with full diet and ascorbic acid, and all cutaneous haemorrhages had disappeared. Gastroscopy was carried out to exclude malignant disease of the stomach. The Hermon Taylor gastroscope was used with a rubber finger-tip. The instrument was introduced as far as the cardia without any difficulty, but the patient had a slight kyphosis and the instrument was held up here. It was then passed on with slight difficulty by active flexion of the end of the instrument. An atrophic gastric mucosa was seen. The patient did not complain of unusual discomfort at the time, but was rather drowsy as a result of premedication with morphine gr. 1/6 and hyoscine gr. 1/150. She remained drowsy and unwell, and that evening surgical emphysema of the neck was noticed and the pulse rose to 130. She was treated with rectal fluids and sulphapyridine by mouth. Her general condition remained poor and swallowing was difficult and painful. An empyema developed on the right side and she died on the sixth day after gastroscopy. At necropsy a longitudinal tear, 1/2 in. long, was found in the posterior wall of the oesophagus, 2 in. from its upper end.

Case 2 (at a South London Hospital).—A woman aged 59. Admitted with diagnosis of gastric ulcer. The patient had been gastroscoped uneventfully three weeks previously by another gastroscopist, using the Wolf-Schindler instrument with a rubber finger-tip. On the present occasion the Hermon Taylor gastroscope with a plain metal end was used. The instrument was passed easily as far as the hypopharynx, where it was held up and did not slip on into the oesophagus when the patient swallowed. Slight pressure was applied, and the instrument passed on about 1 in. The patient then complained of pain localized to the upper thoracic spine. On looking through the gastroscope after one bulbful of air had been injected, a mass of froth was seen instead of oesophageal mucosa. The instrument was immediately withdrawn. Skiagrams of the neck showed surgical emphysema, which became obvious clinically shortly afterwards. The patient was treated with intravenous fluids and sulphathiazole. She remained very ill, with fever and dyspnoea, but without pain after the first 12 hours. She developed a right-sided empyema and died 12 days later. At necropsy a longitudinal perforation of the posterior wall of the oesophagus was found at the level of the cricoid cartilage, with suppurative mediastinitis and extension of the infection to the right pleural space. In the stomach there was a carcinomatous ulcer with secondary lymphatic deposits.

Both these fatalities may be said to be due to an error of judgment. In the first case gastroscopy was probably contraindicated, since the patient's tissues might have been expected to be in a fragile state as a result of her recent scurvy. No difficulty was experienced in getting the instrument past the site of the oesophageal tear. It is possible that the tear was the result of stretching the oesophagus by the rigid part of the instrument, since the patient had a slight kyphosis. In the second case extra pressure was exerted when the tip of the instrument was lying in the hypopharynx. When the patient swallows, the instrument should always slip on easily into the oesophagus, and it is clearly dangerous to apply any pressure if it does not do so.

Case 3 (at a North-East London Hospital).—A woman aged 62. Diagnosis: rheumatoid arthritis; dyspepsia with achlorhydria, but without radiological abnormality in stomach or duodenum. Gastroscopy was carried out to exclude malignant disease of the stomach, and was unusually easy. The Hermon Taylor gastroscope was introduced without any difficulty, and afterwards the patient sat up and commented on the complete absence of any discomfort. The gastric mucosa was atrophic, with erosions and the scar of a healed ulcer. The patient remained well for the next 12 hours, when she developed a slight sore throat and a little fever. This soreness increased, and 24 hours after gastroscopy she had severe substernal pain with dysphagia. Very slight surgical emphysema was detected in the neck and confirmed by skiagrams. She was treated with rectal fluids and intravenous sulphathiazole, and after a febrile course of one week made an uninterrupted recovery. We thought that she might have had an oesophagitis due to an allergic sensitivity either to the rubber sheath of the gastroscope (as in respirator dermatitis) or to the anethaine which had been used as a local analgesic, but skin tests with both these substances gave negative results. In view of the surgical emphysema it must be concluded that the patient had had a small oesophageal abrasion with a subsequent oesophagitis, but it is remarkable that such an abrasion could have been inflicted without any difficulty, pain, or even discomfort at the time of instrumentation.

We have had 3 other cases in which severe retrosternal pain and fever followed gastroscopy, without the development of surgical emphysema. These resolved uneventfully after 7 to 10 days' conservative treatment.

In addition to these cases of our own we have heard of five other fatal and two non-fatal cases of hypopharyngeal perforation of the oesophagus by the flexible gastroscope during the past two years. The Hermon Taylor gastroscope was used in five of the seven fatal cases.

Comment

Gastroscopy with the flexible gastroscope is proving to be an indispensable means of diagnosis of diseases of the stomach, and is rapidly becoming a routine procedure in almost every large hospital in the country. It is inevitable that many gastroscopies should be performed by inexperienced gastroscopists. We believe that some beginners have a false sense of security in their use of the instrument, based on the rarity of reported accidents. Both of our fatal cases were the result of over-confidence in the safety of the flexible gastroscope, which led, in Case 1, to the gastroscopy of an unsuitable subject, and in Case 2 to slight pressure being used to overcome resistance during the passage of the instrument. With our present realization of the risks of gastroscopy both these fatalities would probably have been avoided.

It is important that all users of the flexible gastroscope should realize that there is a slight but definite risk associated with the passage of the instrument, and that in this, as in all endoscopic methods, the greatest circumspection is needed. The main risk appears to be that of perforation of the upper part of the oesophagus and the hypopharynx. Both of our fatal cases, and three of our four cases of severe oesophagitis, occurred in elderly women, which might suggest that such patients carry a special risk; but Touroff's case was in a man aged 40, White's case was in a man aged 58, and two of the unreported cases were in young men. Schindler (1943) has criticized the Hermon Taylor gastroscope, which was used in both of our fatal cases, because of its long rigid portion, which might lead to dangerous stretching of the lower end of the oesophagus as it turns to the left just above the cardia. No accident of this kind has come to our knowledge. The flexible part of the Hermon Taylor gastroscope is 2 mm. wider (i.e., 14 mm. wide) and is appreciably stiffer than the corresponding part of the original Wolf-Schindler instrument. It is possible that extra care is necessary for its passage into the oesophagus. The Hermon Taylor model gives a much better view of the stomach than can be obtained with the Wolf-Schindler instrument, and we consider it is the gastroscope of choice provided it is passed with care.

Summary

Two cases of fatal hypopharyngeal perforation of the oesophagus with the flexible gastroscope are reported.

This accident appears to be the most serious risk of gastroscopy with the flexible gastroscope, and is not so infrequent as the rarity of reported cases suggests.

It is important that inexperienced gastroscopists should appreciate that caution is necessary in the passage of the flexible gastroscope.

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TREATMENT OF DENUDED EXTERNAL TABLE OF THE SKULL

BY

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This note describes a method of treatment of areas of bare external table exposed in deep burns and extensive injuries of the skull. It has been found satisfactory in the three cases in which it has been used. All these cases had complete loss of scalp and pericranium over the exposed bone, which was dry and eburnated.

The classic treatment for this condition is to make burr-holes through the exposed bone into diploe; to await the appearance of granulations from the burr-holes and their coalescence across the intervening outer table; and then, when the layer of granulations is complete, to cover it by a free graft. The particular disadvantage of this method is the delay between the operation to expose patches of diploe and final healing. The granulations may be slow to appear and slower to coalesce completely; 6 to 12 weeks may elapse between the initial operation and final healing of the free graft. It is clear that if skin can be made to stick consistently on freshly exposed diploe much time can be saved.

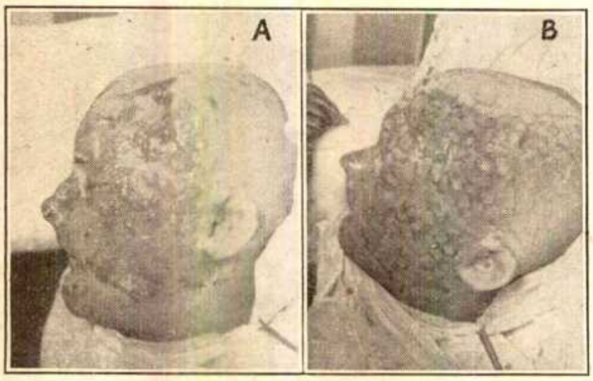

FIG. 1, Case 1.—(A) Contact burn destroying skin of face, nose, and forehead, and exposing 8 by 6 cm. of the external table of the frontal bone. (B) On the 24th day the external table was removed and the exposed diploe, together with face, forehead, and nose, was covered by thin patch grafts. Healing was complete six days later.

During the Cassino battle a case of direct-contact burn was admitted with destruction of part of the scalp, the forehead, one cheek, and half the nose. After clearance of sloughs, 8 by 6 cm. of frontal outer table was exposed. On the 24th day primary re-surfacing by patches was undertaken. These were closely packed over the soft parts, and it was decided to cover the bare skull at the same operation. The exposed outer table was totally removed and thin split skin applied directly to the diploe. The grafts took completely, and the whole skull, together with forehead, cheek, and nose, was healed by the 30th day. This patient has been under observation for 8 months during the late repair of his nose and cheek. The skin over his diploe has remained stable; the depression in the skull caused by removal of the outer table is slight and not easily noticeable; palpation of the area suggests a thin deposit of subcutaneous tissue between graft and diploe.

Technical Points

Burr-holes are made through the exposed outer table into diploe and connected by a groove made by a gouge. Small areas of outer table are thus enclosed and taken off with an osteotome. Near the sagittal sinus arachnoidal granulations might be lacerated; if they were, the bleeding could be easily controlled with a small muscle graft. The intervening bone between the burr-holes and back to the margin of the granulations is completely removed. When there is comminution of the outer table near the margin these flakes are removed together with overlying granulations. Haemostasis is obtained by pressure with hot packs. Wax was used in one case without apparent prejudice to the graft.

The cover is provided by thin patch grafts, 1 cm. square, packed close and spread on grease-proof paper. A well-incised thin sheet stuck on with sano extracts or gum acacia would probably be almost as certain to take. The grafts are fixed by tulle gras, P.F. wool, wool, and crêpe. The dressings are taken down at the fourth day and repeated daily with a careful technique. Crêpe pressure is maintained until final healing.

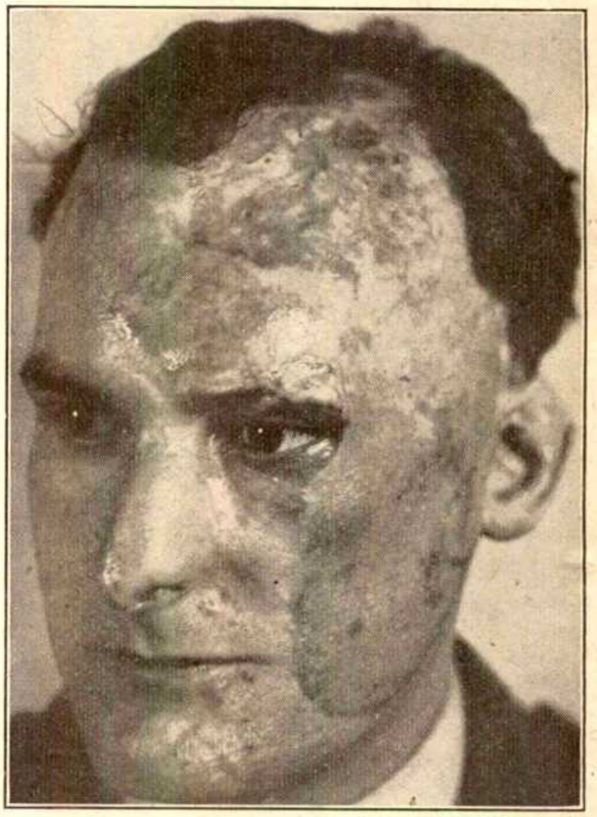

FIG. 2, Case 1.—The appearance of the skull eight months later. There is a shallow depression where the external table was removed. The diploe is covered by skin, which has been stable during exposure to Mediterranean sun and to cold. (The nose has been repaired by a forehead rhinoplasty, and the patch grafts on cheek and forehead replaced by thick dermatome sheets from the abdomen.)

Results

The accompanying Table shows that exposures of the outer table of 8 by 6, 12 by 10, and 7 by 6 cm. were healed in 6, 10, and 20 days respectively after removal of the whole of the exposed external table and immediate application of free grafts. The delay in healing in the mine wound (20 days after operation) was attributed to the presence of osteitis in the external table at margins of the defect.

Table showing Type of Case treated

Case	Site and Size	Cause	Day Grafted	Day Healed	Comment
1	Frontal, 8 by 6 cm. (Figs. 1 and 2)	Contact burn	24	30	Soundly healed throughout 8 months' observation
2	Frontal, 7 by 6 cm.	Mine	67	87	Extensive dirty multiple mine wounds. Gravely ill for many weeks before operation. Some osteitis of comminuted exposed external table. Case treated with Major Tutton, R.A.M.C.
3	Parietal occipital, 12 by 10 cm.	Electric burn	60	70	Had over 1,000 sq. cm. of full-thickness skin-loss of back also re-surfaced with patch grafts. Skull treated by Capts. Grossman and Jepson, R.A.M.C.

PERSPEX IN ORTHOPAEDICS

BY

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The suitability of plastics in orthopaedics has been under investigation at the Royal National Orthopaedic Hospital for some months, and this is an interim report on the work so far carried out. Methods previously used have involved the making of a positive from a negative plaster cast, and to this positive, perspex has been moulded. In order to reduce the time involved in the preparation of positive casts, a method was sought which eliminated this procedure. It has been found quite easy to make small moulded splints direct from the negative by hand. For large splints, however, the hand method was not adequate, and an apparatus was designed which could accurately mould the material to the large negative cast. For this type of moulding compressed air was found the most suitable means of applying pressure to the material.

Advantages of Perspex.—(1) Easy moulding by heat. (2) Light weight. (3) Durability. (4) Light-transparent, including ultra-violet band. (5) Permeable to *x* rays. (6) Cleanliness. (7) Waterproof—not affected by urine, etc. (8) Unbreakable—within limits. (9) Non-irritant to skin. (10) Reclaimable—material can be used again after reheating.

Disadvantage of Perspex.—Non-porous (see later).

It will be seen that this material offers many advantages over plaster-of-Paris, inasmuch as its durability, cleanliness, and light weight are features which have long been sought when patients are being treated for considerable lengths of time in orthopaedic splints. A patient can be nursed adequately, cleanly, and comfortably in a perspex shell without the disadvantages of softening by urine, reinfection of sinuses or wounds, and distortion or collapse of the shell, which are so often found when plaster-of-Paris shells are used. Moreover, for patients who cannot be moved—e.g., fractured spines—skiagrams can be taken *in situ*.

Method for Making Small Splints.—Suitably thick material (1/16 to 1/8 in.) of appropriate size is heated, pressed by hand into the negative cast (using asbestos gloves), and held until cool. The splint is trimmed with an electric saw, and the edges smoothed before fitting to the patient.

Method for Making Large Splints (Including Anterior and Posterior Shells).—A plaster cast of the part required, with 2-in. to 3-in. flanges on each side, is made (Fig. 1), and this is then placed in the lid of the moulding apparatus (Figs. 2 and 3).

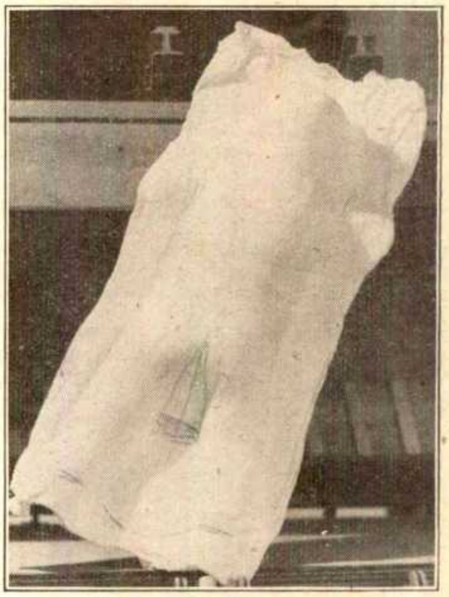

FIG. 1.—Plaster cast for perspex shell with 4-in. flange.

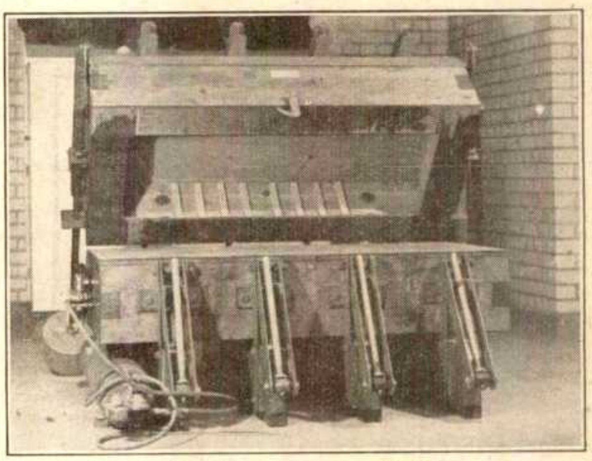

FIG. 2.—Moulding apparatus with lid open.

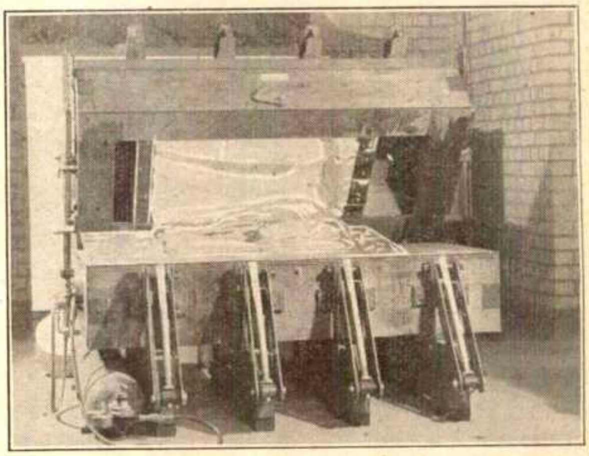

FIG. 3.—Moulding apparatus opened after perspex mould has been blown. Plaster cast seen in lid and mould lying on base.

The remainder of the compartment is packed with sandbags (Fig. 4). The perspex sheet (1/8 to 3/16 in. thick), having been previously softened in an infra-red oven, is laid on the base of the apparatus and the lid clamped down. Air pressure is applied (15 to 20 lb. per sq. in.), which forces the perspex into accurate contact with the cast. The air pressure is maintained for a short while to allow the perspex to cool, and the perspex mould is then removed from the apparatus (Fig. 3).

Mounting of Perspex Shells.—These are mounted in standard adjustable frames which, when the shell is discarded, can be used again. After cutting out the apertures for limb and toilet requirements the mould should be suspended from the frame by turning the remaining part of the flanges over the upper bars (Figs. 5 and 6).

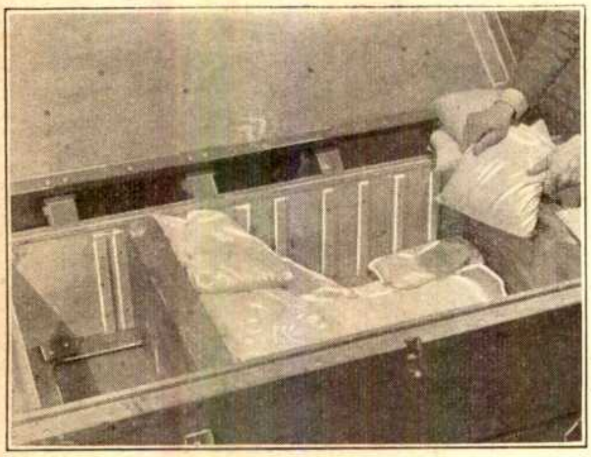

FIG. 4.—Sandbags being packed over plaster cast in lid of moulding apparatus.

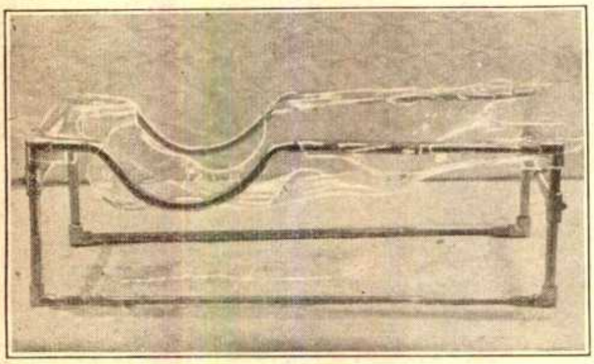

FIG. 5.—Perspex shell mounted on standard adjustable frame, showing suspension of shell.

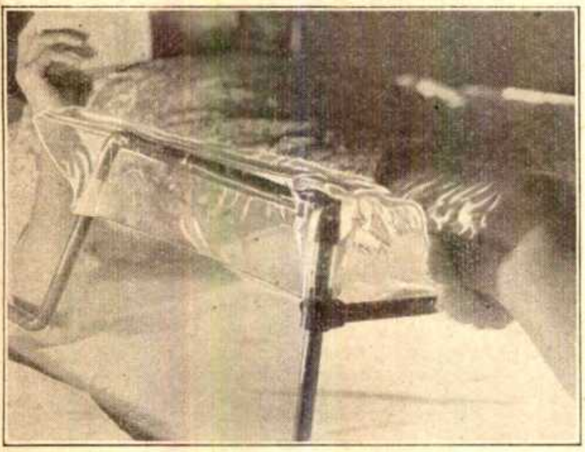

FIG. 6.—Adult patient being treated in perspex shell.

Observation.—It might seem that the method of pressing perspex into negative casts will reduce the diameter of the splint by double the thickness of the material used. It has been found that, while this is theoretically the case, in fact the "spring" in the material largely compensates, and a snugness of fit is obtained which is an improvement when compared with plaster-of-Paris casts.

Some Notes on Technique in Handling Perspex

1. The disadvantage of the material being non-porous can be overcome by drilling small ventilation holes in any area where moisture is likely to accumulate.

2. Cutting.—A high-speed saw is essential, otherwise the material is liable to fracture. Care must be taken that no saw cuts are left in the edge of the finished splint, otherwise stresses will cause such cuts to run into cracks. When an area has to be removed from the body of the splint large-diameter drill-holes should first be made at the apices of the intended meeting-point of the saw cuts.

3. Edges.—After cutting, all edges should be smoothed with a file or burred, and then sandpapered.

4. If local alteration in shape is required the area should be carefully flamed with a Bunsen burner on both sides till it softens, and then moulded by hand.

5. Cleaning and sterilization.—Cleaning should be done with soap and water (not boiling) or with cetavlon. After this the splints may be polished with any metal polish. Such cleaning agents as ether, benzine, chloroform, and xylol should not be used, as these are solvents.

6. Various methods of heating have been tried, but it has been found that the most satisfactory way is with radiant heat or infra-red ovens. These adequately soften the whole material, without overheating the surface.

Perspex splints are being used for cases of tuberculosis of the spine, osteomyelitis of the sacrum, anterior poliomyelitis, fractured spine, and Still's disease, and have been found most suitable. They are preferred by patients to plaster-of-Paris splints.

Our thanks are due to the Royal National Orthopaedic Hospital for allowing us to carry out this experimental work, and to Mr. J. A. Cholmeley and Mr. E. P. Brockman for their encouragement and help. We are indebted to the Triplex Safety Glass Company for the design and presentation of the moulding apparatus, and particularly to Mr. Anstey and Mr. Chart, for whom no trouble has been too much; to Messrs. British Thomson Houston, Watford, for the presentation of the heating equipment; to Imperial Chemical Industries Ltd., for a research grant and material; and to Mr. Desoutter, of Desoutter Bros., for technical help and advice.

USE OF THE CAUTERY IN PLASTIC OPERATIONS ON THE EYELIDS

BY

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The following technique used by me in some plastic operations on the eyelids may be of interest. The results are obtained with the electric cautery alone or in combination with the scalpel, but the major part of the work is done with the cautery. So far as I know the method is not commonly practised, and the subject appears to receive less attention than it deserves from the majority of ophthalmologists. This short paper does not deal with the causes of the conditions found, but only with their repair.

Conditions Dealt With

The main types dealt with are: ectropion, entropion, symblepharon, distichiasis, and ptosis. The aim is to produce just enough contracture, by scarring in the underlying tissue, to cause the lids to assume a normal position. I use the ordinary Weiss cautery, and the size of point used will vary with the condition—from 5 mm. to 1 cm. long and 2 mm. to 1/2 mm. wide at the base. It is astonishing how little scarring the skin and conjunctiva suffer, even after very vigorous treatment.

Perhaps the commonest condition met with is *entropion* of the lower lid. An injection of 2% novutox along the whole length of lid secures analgesia; a point 1 cm. long and 2 mm. broad at the base is selected, and sufficient current to make it red-hot along its whole length is applied. The point is pushed through the skin down to the base of the tarsal plate, 4 mm. below the lid margin. This is done five or six times along the whole length of the lid. The point is held in each puncture about three seconds. No dressing is necessary and the puncture wound heals in about five days. The patient is given boric lotion and cotton-wool to wipe away secretion, but I doubt if even this is necessary.

In mild *ectropion of the lower lid* the same technique holds, except that one applies the point inside the lid and directs it below the tarsal plate down into the connective tissue. The lid can easily be maintained with ordinary forceps. If the condition has been present for a long time and is fairly prominent, it is necessary to excise a longitudinal strip of conjunctiva, usually about one-third the width of the exposed membrane, taking the middle third. The amount taken, however, is largely to be determined by the condition present, and it may be necessary to go higher or lower. The red-hot point is then plunged deeply into the exposed tissue, going below and beyond the tarsal plate, in more places than would be used for entropion, and it is necessary to go beyond the limit of the ectropion. One is not likely to cause the contrary condition, and so it is advisable to be thorough. A drop of argyrol 5% and sterile liquid paraffin is then instilled and the eye kept bandaged for 3 days. The drops are repeated each day, of course. The two edges of the conjunctiva rapidly come together, and there is seldom any break in the continuity after 10 days.

Ectropion of the upper lid is usually more severe and requires to be done thoroughly. The middle third of the conjunctiva is resected along the whole length of lid and the red-hot point is plunged deeply into the connective tissue, to and beyond the tarsal plate, at a sufficient number of places. There is usually quite a lot of haemorrhage after the conjunctiva has been resected, but if the lid is controlled with forceps an assistant with swabs can keep the field fairly clear. The application of the cautery soon stops all bleeding. Argyrol 5% and liquid paraffin are then dropped in, and it is advisable to pass a stitch from upper lid to cheek. This stitch may remain for three days. Thereafter argyrol for a few days more will usually suffice.

Symblepharon is a difficult condition to treat by the usual methods and often recurs. I have only attempted to disengage adhesions, not to cure the condition, when the cornea is invaded. In addition to drops, some cocaine is injected subconjunctivally. The cautery is then applied to divide the adhesions at the most suitable spot, the point being carried down to the sclerotic. Each adhesion is thus treated and the usual argyrol and liquid paraffin instilled. It is seldom that the adhesions reunite.

The treatment of *distichiasis* and *trichiasis* by electrolysis is a long, laborious, and not very successful business. I have been able, with the cautery, to do both lids of an eye at one sitting of about 10 minutes, and the result proved satisfactory. The lids are anaesthetized with novutox and a drop of cocaine placed in the eye. Then a point 5 mm. long and as narrow as possible is used. I always employ the loupe to get a good view of where the point is going. This is used red-hot and pushed down each hair follicle in turn. It must be pushed down its full length and retained for two seconds. The lashes do not grow again and no damage is done to the lid margins.

I have treated a few cases of *congenital ptosis* in children, and if the results have not been brilliant they have at least been satisfactory in leaving the pupil exposed. The principle is to cause the levator to form fresh adhesions to the tarsal plate. The child will require a general anaesthetic, as it will not submit otherwise. A row of six punctures is made just above the tarsal plate, then going into each puncture again, passing the point upwards this time, and in the subcutaneous tissues as far as it will go. The point should be 1½ cm. long. No dressing is necessary, and in fact is inadvisable. I have also dealt with a variety of other conditions, of little consequence, such as warts, which are simply and permanently removed with the cautery.

I hope I do not give the impression of brandishing my cautery at every patient I see. I merely describe it as a very useful procedure in many conditions; it is not generally realized how simple and useful it can be. In my own practice the results are in almost every case superior to those of the scalpel and stitch. I have been practising it now for a number of years.

S. Zelman (*Amer. J. med. Sci.*, 1944, **207**, 461) determined blood diastase values in a series of 89 cases of mumps, on admission to hospital and on discharge, with the following results: 73% were above normal on admission and 9% on discharge; 3% were subnormal on admission and 20% on discharge; 15% of this series showed evidence of pancreatitis some time during the course of their illness.

Medical Memoranda

Large Fibroma arising from the Pulmonary Pleura of the Right Lower Lobe

The following case appears to be worthy of publication owing to its rarity and difficulty of diagnosis.

On Aug. 17, 1944, the patient, a man aged 48, consulted his practitioner for pain in the lower part of the right side of his chest on breathing. Examination revealed a dull area at the base of the right lung with weak breath sounds in the area. His temperature was 99.8° F.; he had no cough or sputum. A diagnosis of fluid was made. The basal sedimentation rate was found to be 32 mm. in one hour. His area of dullness increased rapidly, and three days after he was first seen he was screened and a large shadow was observed to move on respiration. It lay in the posterior part of the chest, above the diaphragm. Fluid was also present, and 20 c.cm. was aspirated and sent for pathological examination. It showed numerous endothelial cells, many of which were undergoing mitosis, and the pathologist suggested that these might be malignant in origin because of this. A tentative diagnosis was made that the tumour might be an endothelioma. Removal of another large collection of fluid caused a great deal of pain, presumably because the tumour was now rubbing against the thoracic wall. It soon ceased as the fluid reaccumulated. This rather tended to support the diagnosis of a malignant tumour.

The man was admitted to the Royal Infirmary, Sheffield, on Sept. 8 and was referred to me for further investigation. A thoracotomy was performed, and on opening the chest a large tumour was found occupying the lower part of the right pleural cavity. It was very nearly spherical, and was lightly attached to the parietal pleura on the one hand by a few adhesions, but arose from the visceral pleura, from which it received its blood supply. Only slight effort served to separate the tumour from the parietal pleura, and it at once fell back into the thoracic cavity. Owing to its size (12 cm. in diameter) it was difficult to manipulate, and it was necessary to resect a portion of a rib in addition to dividing another. On pressing the tumour into the wound from the thorax it shot through the opening in the chest wall and tore itself free from the lung. There was a little bleeding from the area of attachment, which was circular and measured 5 cm. in diameter. The lung was sutured and no further bleeding occurred. The man made an uninterrupted recovery and was able to go home a fortnight later.

The figure is from a photograph of the specimen after removal. The pathological report is that it is a simple fibroma undergoing hyaline degeneration.

I am indebted to Dr. George Herbert of Worksop, who sent the case to me and who also primarily investigated it; and to Dr. L. C. D. Hermitte, of the pathological department, Royal Infirmary, Sheffield, for the pathological notes and photograph.

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An Unusual Case of Ruptured Aortic Aneurysm

Syphilitic aortitis with rupture of a large saccular aneurysm of the abdominal aorta into the stomach is so rarely seen that it was considered justifiable to add the following to the large number of cases of ruptured aortic aneurysm described in the literature.

Clinical History

A civil servant aged 60 was admitted to the Essex County Hospital, Wanstead, on Feb. 16, 1943, complaining of pains in his shoulders, back, and legs; he also had difficulty in swallowing and had lost weight. The pain in his back was of a continuous drawing nature, but he had shooting pains down both legs, accompanied by occasional swelling of his knee- and ankle-joints. He had also noticed some weakness and unsteadiness of his legs. For the past two months he had complained of difficulty in swallowing solids, vomiting almost at once, but he was able to manage fluids and soft foods such as porridge. He lost 2 st. in weight in three months.

On examination he was found to be a very thin, wasted man. His tongue was clean and moist, his throat was normal, and there was no enlargement of his lymphatic glands. No oedema was seen. His pulse was regular, slow, and slightly collapsing. His apex beat was in the midclavicular line and no thrill was palpable in the mitral or aortic areas. Loud blowing systolic and diastolic murmurs were heard over the praecordium, loudest in the aortic area. Tracheal tugging was absent. His blood pressure was 115/70. Nothing abnormal was found in the lungs and the abdomen. A careful examination of his central nervous system did not give any abnormal physical findings. A skiagram of his chest revealed a large bulge on the right side of the heart shadow which suggested an aneurysm of the aortic arch. Cardioscopy showed a pulsatile aortic aneurysm affecting the aortic arch and thoracic aorta and displacing the oesophagus to the left. It thus caused narrowing and obstruction of the oesophagus, which could be well seen when the patient was given some barium. His left ventricle was much enlarged. The Wassermann reaction was strongly positive.

On Feb. 27 the patient developed diarrhoea, and blood was seen in the motions. On March 4 he suddenly collapsed, complaining of pain across the front of his chest He was pale and shocked, and his pulse was imperceptible. He died shortly afterwards.

Necropsy.—Acute adhesive pericarditis was present, obliterating the pericardial sac and giving rise to the typical "bread-and-butter" appearance. No pericardial fluid was found. The left ventricle was hypertrophied but not dilated. The mitral, tricuspid, pulmonary, and aortic valves were normal and the openings of the coronary vessels were patent. Half an inch above the aortic valves the beginning of syphilitic aortitis with aneurysm formation was seen. The aneurysmal dilatation extended along the whole course of the aortic arch and descending thoracic aorta down to the first two inches of the abdominal aorta. It was mainly tubular, but one large saccule full of laminated clot extended into the right lung from the aortic arch. In front of the first two inches of the abdominal aorta a saccular aneurysm, the size of a large orange and full of laminated clot, was seen. This aneurysm was pressing anteriorly against the posterior aspect of the left lobe of the liver, indenting it and forming part of the stomach bed. The oesophagus was markedly deviated to the left and compressed in its lower third by the aneurysmal dilatation of the thoracic aorta. On opening the stomach it was found to be full of blood clot. An area the size of a sixpence on the posterior wall of the fundus of the stomach was adherent to the large saccular aneurysm of the abdominal aorta, which had perforated into the stomach in this area. The intestines were normal. There was fluid in both pleural cavities. Many pleural adhesions which could be broken down only with difficulty were seen. The pleurae were thickened over the lower lobes. Both lungs were congested, but no evidence of pneumonic consolidation was found. The spleen was slightly enlarged and was soft. The kidneys and suprarenal glands were normal. The liver showed signs of venous congestion and fatty degeneration.

Dr. Gilmour reports: "Portion of aorta showing syphilitic aortitis. Portion of clot from aneurysm of abdominal aorta adherent to stomach wall containing many streptococci in one place. Portion of stomach with cardiac orifice showing acute and subacute pyogenic inflammation, intense on the outer surface of the stomach and oesophagus and in a small portion of the diaphragm attached. Nothing was seen to suggest a syphilitic inflammatory process." The perigastric inflammation must have preceded the final perforation of the thin stomach wall overlying and adherent to the saccular aneurysm.

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Essex County Hospital, Wanstead. E. FRANKEL, M.D., M.R.C.P.

Small-bowel Obstruction due to Dried Fruit

The following case of small-bowel obstruction may be found of interest.

The patient, a woman aged 60, was admitted on May 14, 1945, with the history of a sudden onset of abdominal pain and vomiting the previous day. The pain was colicky in nature and vomiting had persisted up to the time of admission. The bowel action had been quite regular until the previous evening. There was a history of acute appendicitis many years before, and following appendicectomy five abscesses in the scar had occurred.

On examination her temperature was 99.8°, pulse 120, and respirations 28. She was well nourished and not particularly dehydrated. The cardiovascular system was normal, but there was evidence of well-marked bronchitis. The tongue was coated. The abdomen was somewhat distended and showed an old adherent appendix scar. There was marked tenderness in both hypochondria and over a point at the left of the umbilicus, with guarding and audible peristalsis. Rectal examination revealed nothing abnormal. A diagnosis of small-bowel obstruction was made, thought possibly due to bands in the region of the old scar.

Laparotomy was performed through a right paramedian incision. On opening the peritoneum the omentum was found to be adherent to the old scar, but the small bowel, which was distended, was not involved. The distended small intestine was traced down to within two feet of the ileo-caecal valve, where a fusiform mass about 3 in. long filled the lumen. The gut below this was collapsed. The bowel was opened and the mass removed, the incision repaired, and the abdomen closed. She was discharged after an uneventful convalescence on June 5, 1945.

Examination of the object revealed it to be half a dried apricot, which was folded over on itself. Later questioning of the patient disclosed that eight days before admission she had been bottling some apricots and "may have eaten one or two." She wears artificial dentures.

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T. F. J. RYAN, M.B., M.Ch.
J. NAGLE, M.B., B.Ch.

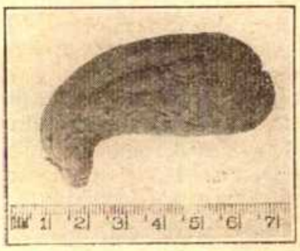
Acute Intestinal Obstruction due to Dried Fruit

This form of intestinal obstruction seems to be a post-war risk, judging by the cases recently recorded. In this case the obstruction was caused by a dried peach.

CASE REPORT

An edentulous old lady aged 64 was admitted to Hammersmith Hospital on May 18, 1945. Six days previously she had eaten dried peaches. As she had no teeth she had sucked the peaches before swallowing. She denied having gulped down any large piece. Four days later she was seized with colicky umbilical pain and began to vomit. This continued until her admission after a further two days. She then presented a picture of acute low small-intestine obstruction. Visible and palpable peristalsis was present in the centre of the abdomen. After a pint of intravenous saline and gastric aspiration by Ryle's tube, the abdomen was opened under regional block analgesia supplemented by nitrous oxide and oxygen. The small intestine was grossly distended. In the lower ileum about 18 in. from the ileo-caecal valve a firm object the size of a peach was felt. It was at the usual site of a gall-stone obstruction, but was not hard enough for a calculus. I could not push it on into the caecum through the contracted ileum below, but it was easily pushed back into the distended coils above. When it had reached a healthier portion of the ileum this was shut off with light intestinal clamps and incised vertically over the object, which was removed and the bowel sewn up transversely in two layers. The abdomen was closed in the usual way. The patient has made an uninterrupted recovery.

The object was yellow and of the characteristic size and shape of a dried half-peach (see photograph).



Peach removed from ileum

COMMENTARY

Elliot (1932) reviewed the cases reported during the previous 22 years and gave the following table:

Obstructing Material	Cases	Obstructing Material	Cases
Mushrooms	5	Poppy seeds	2
Cherry stones	4	"Ammunition bread"	1
Beans	4	Sauerkraut	1
Figs	3	Gooseberries	1
Oats	3	Raisins	1
Potatoes	2	Half an orange	1
Apples, pears, peas	2	Popcorn	1
Corn	2	Bran	1
Grapes	2		

Latchmore (1940) in an article on the cause of "ordinary stomach-ache," which he considers is usually due to bolus colic of the small intestine, reported four cases which required emergency operations for the removal of monkey-nuts, almonds, portions of coconut, and three segments of an orange. No fewer than five cases were recently reported in three papers in the *British Medical Journal* (Jones and Davies, 1945; Lyall, 1945; Radclyffe, 1945)—three due to oranges, one to dried apples, and one to unspecified dried fruit.

It seems that with the release of a considerable amount of dried fruit we should temper our delight with mastication, for the power of dried fruit to swell by the absorption of water is considerable. The risk would appear to be greatest when a portion of unprepared dried fruit is swallowed whole. But there is another risk in the case of edentulous people, who, unable to bite, chew and suck the fruit dry before swallowing. In either case it absorbs fluid in the alimentary canal. It usually has no difficulty in passing through the pylorus and jejunum, but gets held up in the ileum at its narrowest part at the junction of the mid- and hind-gut, one or two feet above the ileo-caecal valve. Often peristalsis is sufficient to pass the bolus on with no more symptoms than stomach-ache (bolus colic of Latchmore). Sometimes at operation it is possible to push the mass on into the caecum. Rarely, as in the case here reported, it has to be removed by enterotomy.

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Reviews

CLINICAL ELECTROCARDIOGRAPHY

Clinical Electrocardiography. By David Scherf, M.D., and L. J. Boyd, M.D., F.A.C.P. Second edition, revised. (Pp. 403; illustrated. 25s.) London: William Heinemann. 1945.

This small book, now in a second revised edition, contains a good deal of valuable information. The general arrangement is on the usual lines. It will be noted that the point of view tends to reflect the approach and experience of the Viennese and French schools, particularly the former, and the result is that a good many opinions held in this country and in the United States do not find expression.

The authors do not accept the theory of circus movement as an explanation of auricular fibrillation and flutter, but regard it as not yet established. They are inclined to hold reserved opinions on the interpretation of the curves of bundle-branch block. They prefer to speak of a common or a rare type, and not to accept the new terminology which locates the more common lesion on the left side of the septum. They doubt whether reduplication of the first sound is ever caused by asynchronous contraction of the ventricles. They hold that the curves showing wide, notched mitral deflections in the ventricular complex are due to arborization block; these are thought to indicate widespread severe lesions in the ventricles, and they believe that the differentiation from the local lesion of bundle-branch block is important. There is a full discussion of chest leads, and a clear account of the various technical difficulties and discrepancies which cause confusion at the moment. Scherf and Boyd prefer to use C R_2 and C R_4, but are cautious, for they regard the value of chest leads as exaggerated.

This book is well worth study, and even if the conclusions are not acceptable the discussion is full, fair, and stimulating. The illustrations for the most part are clear, though some are faint and indistinct, with an obsolete method of time-marking.

INTRAVENOUS THERAPY

Intravenous Therapy. By K. V. Thakkar, L.M.&S. Second edition; revised and enlarged. (Pp. 349; illustrated. Rs. 8/8.) To be obtained from the Kothari Book Depot, Parel, Bombay, 12.

This book begins with a description of apparatus, methods, and dangers of intravenous injection, and then follow chapters on arsenical therapy, blood transfusions, intravenous drip, intravenous anaesthesia, and intravenous injection of drugs. The book serves a useful purpose by gathering together a good deal of scattered information, but it is not up to the standard of English and American textbooks. The typography is clear but there are many misprints. The laudatory forewords to the book and the inclusion of advertisements of proprietary remedies are out of keeping with a scientific monograph. Many of the details about sterilization of syringes and transfusion of blood are not up to date. Apparatus is figured which went out of use in this country ten years ago, and homologous serum jaundice is not mentioned.

The second half of the book is essentially a compendium of details of most of the drugs which have ever been given intravenously. Some of this information is of purely historical interest, and much of it is presented uncritically. There can be little excuse to-day for treating Graves's disease by the intravenous injection of 5 c.cm. of 2% solution of sodium fluoride on alternate days. It is true that the *Extra Pharmacopoeia* mentions the treatment of paralytic ileus by the intravenous injection of 10 grammes of choline chloride in 180 c.cm. of normal saline, very slowly, but we would like to know how slowly; certainly it should not be more than 1 c.cm. a minute. It is not true that iron does not produce toxic effects when given intramuscularly. These, however, are minor blemishes. A more serious fault is the lack of any general consideration of the pharmacological principles of intravenous therapy and the effects on concentration and rate of excretion when drugs are given in this way. In many Eastern countries it is customary for an inclusive fee to be paid for a consultation and an injection, but custom can hardly be the basis for a scientific monograph.

SURGERY OF THE CHEST

Surgical Disorders of the Chest. Diagnosis and Treatment. By J. K. Donaldson, M.D., B.S., F.A.C.S. (Pp. 364; illustrated. 33s.) London: Henry Kimpton.

There is still need for a good and informative book on the surgery of the chest, and many readers eagerly look for one that will fulfil this need. It cannot be said, however, that Dr. J. K. Donaldson's work supplies the want. One striking deficiency is in the quality of the illustrations; the radiographs are particularly disappointing. Good radiographs are essential for the proper presentation of chest diseases.

The book is ill balanced in the amount of space devoted to rare or unimportant conditions; in contrast, the whole field of the surgery of pulmonary tuberculosis is dealt with in less than 70 pages out of 355. Many of the author's statements and conclusions are based on appraisal of the recommendations of others rather than on the authority of his own experience. Some recommendations are startling, such as the dictum that a haemothorax should be aspirated if the chest is still half full of blood after six weeks. Again, the recommendation that simple tuberculous empyema should be treated by needle-aspiration at the lowest level is one that will only tend to repeat the many crops of disasters that have followed this procedure in the past. No other tuberculous abscess in the body is aspirated in the most dependent area. Graham's cautery pneumonectomy is also discussed and advised, whereas to-day it is obsolete and of only historical interest. We agree heartily, however, with the author's statement that although the treatment of tuberculosis has not yet reached perfection the greatest need at the moment is not for improved methods but for a proper and full use of the methods already available.

HEAD INJURIES

Acute Injuries of the Head. Their Diagnosis, Treatment, Complications and Sequels. By C. F. Rowbotham, B.Sc., F.R.C.S. With foreword by Norman M. Dott, F.R.C.S.Ed. Second edition. (Pp. 424; illustrated. 30s. plus 9d. postage.) Edinburgh: E. and S. Livingstone. 1945.

A second edition of this monograph coming two years after the first is a testimony to its popularity. Notable advances have been made in the treatment of head injuries during the war, and although Mr. Rowbotham's book is an expression of the author's own practice and experience he has kept in close touch with new developments, and no important omissions can be found in the many references to recent literature. Several valuable additions have been made, notably in the account of rehabilitation methods, and this should be of as much interest to the general practitioner dealing with a few patients as to authorities responsible for rehabilitation schemes. The author writes in a homely style which is easy to read, but some of the clinical descriptions would be more valuable given in general terms than in single case reports, although the latter may be more interesting. The chapters on technique are clear and well illustrated, so that the general surgeon who is called upon to deal with an emergency should find the answer to most of his problems. For the specialist the book is a useful record of present-day thought and practice and a handy guide to the literature. It is likely to remain the standard British monograph on the subject of head injuries for many years to come.

Notes on Books

For the eighth edition of their popular *Modern Methods of Feeding in Infancy and Childhood* (Constable and Co.; 8s. 6d.) Drs. DONALD PATERSON and J. FOREST SMITH have chosen a new format, and the result is a more compact volume, easy to handle as it is to read. Great revision is obvious, with good use of all that has been learnt of nutrition in recent years. As it approaches its twentieth birthday this book improves upon what always was a sound exposition of an important subject.

Dr. ARTHUR C. GEE in *So You Have a Toddler* (John Wright and Sons, Bristol; 1s., or 10s. 6d. a dozen) follows his success with the ante-natal period and the care of the baby in two previous booklets. More might be said of milk in the diet (and safe milk at that), and it is unfortunate that the chapter on minor ailments starts off with measles and the other infectious fevers. But the approach is sound and helpful, and the stress is rightly on child management and character training. It is a safe book to put in the hands of mothers, and singularly free from fads.

A book on *Semi-Micro Quantitative Organic Analysis*, by R. BELCHER and A. L. GODBERT (Longmans, Green and Co.; 10s. 6d.), describes the apparatus and methods used and approved after selection by the authors from among the various plans of procedure which have been published. As these authors have an unusually large experience in this field, and as they have practised the methods extensively, this book has a special value. The use of semi-micro methods promises to fulfil the needs of an increasing demand, and in addition to the mastery of its accomplishment for its own purposes it provides an easier approach to the use of micro methods proper. The descriptions are lucid and precise and the illustrations are satisfying. It will be found a useful book of reference as well as a sound basis for a course of study.

There is nothing in English literature which takes the place of the German *Zentralblatt für Ophthalmologie*. The lack of these sources during the war years has been a real want, all the more exaggerated by the sudden emergence of problems relating to black-out, offensive air activity, and a whole series of visual difficulties that assumed new and forbidding aspects. The problem was sufficiently acute for the British Air Ministry to ask for the help of the United States Office of Scientific Research and Development in Washington, and of Yale University, in the compilation of a classified bibliography of the literature on the subject. Though belated as a public contribution to the war effort, *A Bibliography of Visual Literature, 1939–44*, compiled by J. F. FULTON, P. M. HOFF, and H. T. PERKINS, is a welcome addition to the bibliographical lists in ophthalmology. It is in no sense an index to the ophthalmic literature during the war years, but in the special field it is invaluable to the research worker. It is issued at $3.00 as Publication No. 11 of the Historical Library, Yale Medical Library.

Letters to a Nurse, by A Midland Doctor (London: Staples Press Ltd.; 3s.), is a fine little book. It would be well if these letters from a doctor uncle to his niece beginning her training in hospital were published by the thousand and supplied to every girl going in for nursing as a career. Every word he writes is true and sound, kindly and understanding, and would be of great help to the somewhat bewildered probationer. He stresses the three essentials to the making of a good nurse. First, it should be her vocation—not just a mode of making a living. Second, good health: a physically and mentally unhealthy nurse cannot bring comfort and health to her patients. Third, unselfishness, sympathy with, and an appreciation of, her patient's condition. He also insists that a nurse should be very kind, courageous, and cheerful. He thinks that the system of most British hospitals is wrong, in that they are understaffed and the nurses overworked, and this of course prejudices the patients' chances of recovery.

The National Baby Welfare Council has published a four-page leaflet dealing with menstruation which has been drawn up by medical experts on the Council's executive committee. The information and advice are given in simple, straightforward language. Copies of this pamphlet (2d. each or 1s. 9d. a dozen) can be obtained from the National Baby Welfare Council, 29, Gordon Square, London, W.C.1.

Preparations and Appliances

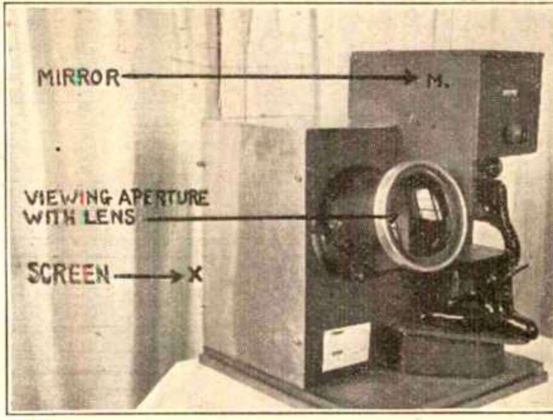
PROJECTION MICROSCOPE FOR USE IN DAYLIGHT

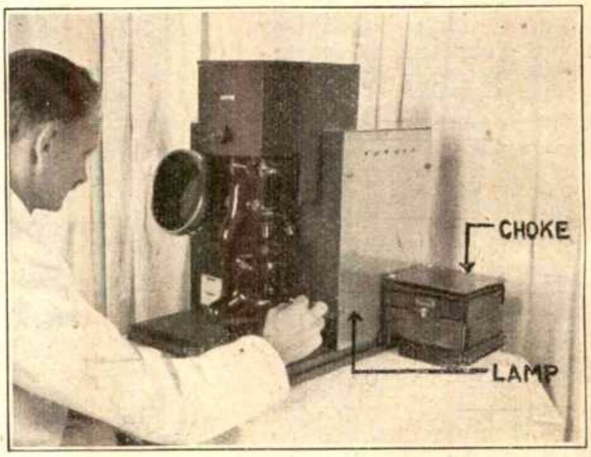
Dr. T. S. DAVIES, Hensol Castle, Pontyclun, Glam., writes:

After visiting a large London hospital recently, and being struck by the great inconvenience caused to the laboratory when it has to be blacked out to do any sort of projection microscopy, I thought that the projection microscope which was constructed locally and at no great cost might be of interest in that it operates in daylight and obviates the necessity for any sort of a dark-room.

The apparatus consists of a box measuring 15 × 14 × 11 in., which is divided into halves by a partition. In the right half is installed a projection lamp, which must be of great intensity and have a small light source. A hole is cut in the box in front of the lamp, and the microscope mirror is placed in front of the hole so that the rays of light are directed upwards through the microscope. On emerging from the eye-piece the light rays strike a mirror (M), which is placed above the eye-piece, and is inclined downwards and to the left, so that an image is thrown on to a screen which is situated at the back of the left-hand compartment of the box. This screen is viewed through a fairly large circular opening, into which is fitted a circular tube, and (to facilitate examination of the screen) a fairly large lens with a long focal length is placed at the examiner's side of the tube. The mirror above the eye-piece is housed in a box-shaped cowling to prevent extraneous light gaining entrance to the screen.

The microscope is not in any way attached to the box, and can be moved therefrom immediately and used in the normal manner. The operator sits in front of the apparatus, as shown, and there is much less fatigue in the use of the microscope thus than when used in the orthodox manner. The most crucial item in the whole apparatus is the projection lamp. After trying many lamps, by far the best has been found to be the new box-type mercury-vapour lamp which combines a small source with one of great intensity and can be run off the mains through a choke supplied with the lamp by the makers (B.T.H. Co., Ltd.).





In the matter of a screen, any simple white flat material—a piece of white paper—is satisfactory. Good resolution is obtained with the 2/3 and 1/6 in. objectives, but not with an oil-immersion 1/12 in. The apparatus has been found very useful for such work as the examination of urinary deposits, blood counts, etc., and greatly lessens the fatigue associated with long periods of microscopical work.

I wish to acknowledge the encouragement given by the medical superintendent, Dr. E. Lewis, with whose permission this article is forwarded.

FLAVAZOLE

"Flavazole" is an equimolecular chemical combination of 2:8-diaminoacridine (proflavine) and sulphathiazole. It has recently been reported (*Lancet*, July 28, 1945, p. 97) to have valuable properties as a wound antiseptic. It is less irritant than proflavine, neutral in reaction in solution, and combines the bacteriostatic powers of its two components; indeed, the action on Gram-negative bacilli, notably *Proteus* and *Ps. pyocyanea*, is apparently enhanced by the combination. It has been used chiefly in powder form, 2 parts being diluted with 98 parts of sulphathiazole. Insufflation of this powder eliminated the infection in a large proportion of wounds awaiting plastic repair and even in pressure sores. Flavazole may be used in the form of saturated solution in any infected cavity and even in the conjunctiva (solubility in water is 1 in 2,500). It is compatible with penicillin, which can therefore be added to flavazole-sulphathiazole powder if necessary.

Flavazole is prepared at Nottingham by Boots Pure Drug Co. Ltd., and is available in bottles of 25 or 100 g.; sterile compound flavazole powder (flavazole 2%, sulphathiazole 98%) can also be obtained in cartons of sifter packets each containing 5 g.

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MEDICINE'S DEBT TO PASTEUR

Fifty years ago, on Sept. 28, 1895, Louis Pasteur died in his 73rd year. Though not a medical man he contributed more, both directly and indirectly, to the advance of medical science in the second half of the 19th century than perhaps any other man. The first half had seen the building up of solid knowledge of the correlation between physical signs and morbid anatomy, but of the causes of disease there was, as Osler said, " Before Pasteur, Egyptian darkness." In the retrospect one is struck with the beautifully logical development of his ideas, which grew from a minor point to wider problems. He was impressed by Laplace's vision of " a Galileo or a Newton arising through a series of inductions from particular phenomena to others more far-reaching," and this characterized all his work. Thus, trained as a chemist he turned to crystallography, and (incidentally creating stereo-chemistry) by his studies of dextrorotatory and laevorotatory tartaric acids, showed that only the former underwent fermentation, and that by means of living organisms—a thesis persistently denied by Liebig. When asked what was the use of his more recondite researches, he retorted by repeating Benjamin Franklin's question, " What is the use of a newborn child ? "—a hint which might be taken by those present-day scientists who would restrict scientific research to subjects of " social value."

Pasteur quickly showed the social value of his researches in crystallography by curing the diseases of beet sugar, wines, and beer ; but what authority could have anticipated this ? Moreover he said, " What would be most desirable would be to push these studies far enough to prepare the road for a serious research into the origin of various diseases [such as] putrid and contagious ones," believing, as the far-sighted Robert Boyle had expressed it in the 17th century, that " he who could discover the nature of ferments and fermentation would be more capable than anyone else of explaining the nature of certain diseases." Accordingly Pasteur started the study of silkworm disease, which was devastating the industry in these worms in France, and restored it to prosperity by discovery of the parasite responsible. He was bitterly opposed by the believers in spontaneous generation—a theory which it might have been supposed had been killed by Redi in the 17th century ; but far from it, for this was the root of the opposition to the germ theory of disease. To do his opponents justice, they felt, as Piorry put it, " it is not the disease, an abstract thing, which we have to treat but the patient whom we must study with the utmost care." Their mistake was to deny the germ theory entirely ; if they had not done so they might have realized that Pasteur himself had presented them with a proof that the soil mattered as well as the seed when he showed that animals naturally immune to an infection lost that immunity if placed under unfavourable conditions. Undeterred by opposition Pasteur went on to investigate the epidemics of " splenic fever " which were destroying valuable flocks and herds throughout France. He proved that they were due to infection by anthrax and perpetuated through the action of earthworms bringing to the surface the bacilli and spores from the buried bodies of animals that had died from the disease. His studies of chicken cholera led him to the important discovery of methods of attenuation of viruses and thus to the preparation of vaccines. " Is it not permissible," he said, " to believe by analogy that a day will come when easily applied preventive measures will arrest the ravages " of epidemic diseases ? A dictum of his that " the best proof that an observer is on the right track lies in the uninterrupted fruitfulness of his work " was now to be strikingly illustrated by the application of his principle of attenuation to the treatment of hydrophobia. Early impressions persist, and one of Pasteur's childish recollections was the terror inspired in the Jura by the inroads of a mad wolf. He therefore attacked the problem with great energy and, as is well known, with great success, to which the foundation of the Pasteur Institute in Paris by public subscription was a striking witness. Here, with the assistance of Roux, Yersin, Chamberland, and Metchnikoff, his beneficent work continued and expanded, giving rise to similar institutes in various parts of the world. But there is no institute for hydrophobia in Great Britain, for the muzzling order stamped out the disease here. Pasteur's last years were rejoiced by the discovery of diphtheria antitoxin by Roux and Yersin at the Institute, and shortly after by Yersin's discovery of the plague bacillus in India. But perhaps his greatest pride in his followers was for Lister, whose earlier adaptation of Pasteurian methods to the control of sepsis after operation is recognized throughout the world as one of the greatest boons to suffering humanity—a striking instance of the fruitfulness of a single idea faithfully pursued.

Pasteur's work, here rapidly sketched, was the measure of the man, patient and indefatigable, remorseless in his criticism of his own findings, single-minded in pursuit of truth, and devoted to the welfare of mankind and therefore a firm believer in the internationalization of science. No man can have met with fiercer or more bitter opposition than this great benefactor. It is to be regretted that he spent so much time confuting adversaries who had only the flimsiest evidence to support them ; but for one of his temperament it was impossible to leave the battlefield against ignorance just as it was impossible to deny pity and help to real suffering. A hard hitter in controversy, he had also a gift for loyal and devoted friendship. Perhaps his creed was best expressed in words from his oration at the opening of the Pasteur Institute—words which are even more relevant to-day than when they were spoken : " Two contrary laws seem to be wrestling with each other nowadays : the one of blood and death, ever imagining new means of destruction and forcing nations to be constantly ready for the battlefield ; the other a law of peace, work, and health, ever evolving new means of delivering man from the scourges which beset him. . . . The latter places one human life above any victory, while the former would sacrifice hundreds and thousands of lives to the ambition of one. . . . Which of these two laws will ultimately prevail God alone knows."

FENESTRATION FOR OTOSCLEROSIS

Fenestration as a mode of relieving the deafness of otosclerosis has passed the experimental stage and has come to stay, though so far it has not been much practised in Great Britain; a technique which promises to give 80% of good results deserves close attention. The operation has now passed from the period when it was done in multiple stages, but it is long and tedious; the opening into the labyrinth must be made under magnification, with fine burrs, and it must remain in the hands of a few with special aptitude. The operation does not cure the disease, but it is the only means available, apart from hearing aids, of relieving the deafness. There is some evidence that the decompression may halt the progress of the disease, as it has been noticed that in cases of successful unilateral operation on the worse ear the hearing in the previously better ear has continued to deteriorate. During the past year or so the operation has had a good deal of publicity, and many inquiries about it have been sent to the *Journal*. A full review of the subject would therefore seem to be opportune.

The clinical conception of otosclerosis is not necessarily quite identical with the pathological, as the diagnosis must ordinarily be made from clinical signs and symptoms, which only on rare occasions can be checked by pathological examination, though much histological study has been carried out, notably by Albert Gray[1] and Felix Nager.[2] Clinically the principal symptom is progressive deafness of conduction type, generally with tinnitus, in an adolescent or young adult with normal tympanic membranes and unobstructed Eustachian tubes. This deafness turns occasionally in advanced cases into a total loss of hearing from perception deafness. In about half the cases there is a familial or hereditary history of deafness, which also in about half the cases begins between the ages of 16 and 30. Pregnancy and childbirth are known to aggravate the deafness sometimes, though Nager thinks that the influence of these factors has been overestimated. A symptom of this kind of deafness is the ability to hear better in a noise—the paracusis of Willis—which occurs in about one-fifth of the cases. Gray has explained how this is produced by the superimposition of one series of vibrations upon another of much greater amplitude, the vibrations of smaller amplitude acting when the system is passing through the position of equilibrium for the vibrations of greater amplitude. As this effect can be produced only by a partial fixation of the stapes, the symptom is of bad omen in prognosis. This fixation of the stapes has been found to be the essential physical factor in the deafness, and histological examination has shown that the ankylosis is only a part of a profound change which takes place in the temporal bone. This change begins with a continuous lacunar resorption in the bony capsule of the labyrinth, shown by finger-like processes of bluish tissue (so-called blue mantle) which have each a small blood-vessel in the centre. These blue mantles represent the first change—a condition of which the aetiology is unknown. The mantles turn into areas of dark-staining porous bone with large marrow-filled spaces and a good line of demarcation, shown by deep staining with haematoxylin and eosin. These changes often arise in mute regions, but the points of predilection are the angle in the outer wall of bony labyrinth between the cochlea and the vestibule, the round window, and the bone surrounding the internal auditory meatus. The extent of the pathological changes therefore bears no necessary relation to the severity of the deafness, which depends on the effect on the stapedio-vestibular ligament, on the frames of the windows, which may be closed by exostoses, and on the auditory nerves. No evidence of any general metabolic disorder of bone has been found, though Gray noted that many patients, of whom 8 out of 9 are females, are anaemic, and no treatment is known which will arrest, and still less reverse, the pathological changes.

A similar though not identical localized osteodystrophy has been observed in Paget's and in von Recklinghausen's diseases. It will be appreciated, therefore, that the clinical and pathological aspects do not precisely correspond, since the stapes may become fixed in the oval window by some other adhesive process and cause obstructive deafness. Attempts to relieve the deafness and tinnitus by extraction of the stapes have always failed, but it has been known for about thirty years that, if an opening be made into the lateral semicircular canal without damage to the membranous labyrinth, this decompression improves the hearing for about ten days, but it returns to the previous state in six or eight weeks, when the opening has closed. Much time and ingenuity have therefore been expended upon attempts to make an opening which will not close. Holmgren[3] in particular has been a tireless worker in his endeavours to achieve this. Thiersch grafts, fat grafts, mucoperiosteum, gold leaf, laminaria, rubber, platinum wire, have all been tried, as well as electrolysis and irradiation, as means of keeping the fistula patent. This has led eventually to the accepted plan of placing the fistula far forwards—so far forwards that Lempert claims it is actually in the dome of the vestibule—and covering the opening with a flap formed from Shrapnell's membrane and the adjacent skin of the external meatus. Shrapnell's membrane can be displaced for this purpose by removing the incus and excising the head of the malleus. As an example of the results claimed for this kind of technique, by which the so-called fenestra nov-ovalis is covered with a flap, Shambaugh[4] states that 182 out of 201 cases—that is, 90%—have improved hearing for more than one year, and in 33% the gain was more than 30 decibels. The most suitable subjects for fenestration, however, are just those most helped by a hearing aid, and this often amounts to over 40 decibels, so that a properly fitted hearing aid often gives greater amplification than the corresponding improvement by fenestration. The improvement obtained by fenestration, however, is not subject to the disadvantages of hearing aids, which amplify extraneous disturbing sounds and are a poor substitute for normal hearing. Further, the power of hearing for speech rather than for the sounds produced by a pure audiometer is the crucial test, so that the tests should be made by a speech audiometer rather than recorded in decibels for pure tones. An audiometric improvement of 10 decibels in a very deaf patient is of no value if it does not enable speech to be heard. Taking such points into consideration, Shambaugh claims for fenestration a 90% chance of lasting improvement, and a 70% chance that this improvement will equal or surpass that obtained by a hearing aid.

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[1] *Loose Leaf Medicine of the Ear*, 1939, p. 259, T. Nelson and Sons, New York and Edinburgh.

[2] *Diseases of the Ear*, 1910, p. 97, Baillière, Tindall and Cox, London.

[3] *Loose Leaf Surgery of the Ear*, p. 399, T. Nelson and Sons, New York and Edinburgh.

[4] *Arch. Otolaryng.*, Chicago, 1945, 41, 189.

It may be accepted that rather less than half (probably about one-third) of the patients treated by this technique have gained real benefit. An improvement which is revealed only by a number of decibels on an audiogram does not justify a claim to success, for the improvement must be great enough to bring the hearing within the conversational range. Unless this is achieved the operation is clinically a failure, so that an exact percentage of successful results, where the crucial test is subjective, is not easy to estimate. Lempert,[5] however, observed that, even when the new window was kept open and the fistula test for nystagmus remained positive, success was not assured, and that in a number of cases which appeared to be successful technically the improvement disappeared. A post-operative non-suppurative labyrinthitis was usually regarded as a tiresome complication, but Lempert concluded that on this account, although the hearing at first becomes better, it worsens after two or three days and does not improve again until two or three weeks have passed. There is then a rapid improvement corresponding to that which immediately follows the operation. The drop in hearing is due to a non-suppurative labyrinthitis, and the hearing does not remain better until this post-operative labyrinthitis has subsided; but it may cause permanent changes which would account for the failures in which the hearing does not return to the immediate post-operative level. Lempert found that this post-operative labyrinthitis occurred in nearly every case treated by this technique, and that if uniform results were to be obtained some means of eliminating it would have to be found, as the cases which preserved the improvement, without a drop followed by a secondary improvement, were very few.

The source of this post-operative labyrinthitis is presumably the flap of tympanic membrane and meatal skin which covers the new window and lies in contact with the perilymphatic space, so that an inflammatory extension to the membranous labyrinth could easily take place. Covering the opening with a slice of cartilage lying between the flap and the perilymphatic space was not found to be any protection against labyrinthitis; to obtain this the cartilage has to be shaped into a disk, which fits and closes the opening. As Lempert claims that in this way the improved hearing is retained and the post-operative labyrinthitis is avoided, it appears that it is not necessary to keep the fistula open and covered only with a thin membrane, but that it may be closed with what Lempert describes as a "mobile stopple" of cartilage, which is a substitute for the footplate of the stapes, from which indeed it is separated only by the facial nerve.

It is not possible to follow in detail here the numerous steps which led to the evolution of this new technique, but Lempert[6] now states that out of 10 cases in which the new window was made and filled with a disk of cartilage which on the one hand extends half a millimetre beyond the inner or endosteal surface of the bony rim into the perilymphatic space, and on the other protrudes the same distance outwards beyond the bony rim of the new window into the epitympanum, 8 retained the improvement in hearing without interruption by labyrinthitis. It seemed that in the other 2 the stopple did not retain its mobility, for the hearing returned to the pre-operative level. Since the stopple is squeezed into the opening like a cork it is difficult to understand how it retains the necessary mobility, and this point requires further elucidation, as it is hard to imagine that any structure comparable to the stapedio-vestibular joint with its annular ligament can be organized in this way.

AN EXPERIMENTAL STUDY OF A MAN AND HIS STOMACH

The second printing of *Human Gastric Function* by Wolf and Wolff[7] will gain a wider audience for a book which has already become a modern classic of medical literature. It is the report of a series of studies on a patient with a large and prolapsed gastrostomy through which the responses of the stomach could be intimately observed. A book of this kind naturally invites comparison with Beaumont's account of Alexis St. Martin, and we are again reminded how inspired and accurate Beaumont's work was. Nevertheless, changes occur in men's outlook. Beaumont was largely concerned with the mechanism of gastric secretion, and Carlson, in a similar case and at a later date, with gastric motility, whereas Wolf and Wolff have been most interested in the effects of emotion on the stomach. The physiological data which they have collected are also of much value. The gastric mucosa varies in colour from a faint yellowish pink to an intense cardinal red, or approximately the whole range of the Tallqvist haemoglobin scale. During the resting stage the stomach is pale and quiet, and acid is secreted in small amount. Colour, rate of secretion, and motor activity generally run parallel, and all increase in preparation for eating at the mention of appetizing food. The layer of mucus on the surface of the stomach is of immense importance in affording protection from the corrosive action of the gastric juice. The normal gastric mucosa does not respond to irritation or stimulation with pain; the only pains which can be induced are the pain of heartburn, which is due to irritation of the lower end of the oesophagus by acid juice or similar stimuli, and the pain of distension or strong contraction of the musculature. When, however, the mucosa is congested and inflamed, intense pain occurs on the application of the usual stimuli, and engorgement also lowers the threshold for muscle pain. The response of the stomach to drugs and other stimuli is much affected by the emotional situation, and the analysis of the effects of emotion forms the main theme of the book.

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[5] *Arch. Otolaryng.*, Chicago, 1941, **34**, 880.

[6] *Arch. Otolaryng.*, Chicago, 1945, **41**, 17.

[7] *Human Gastric Function*, Oxford University Press (New York), 1943 (second printing 1944). English price, 25s.

It is evident that the psyche of Wolf and Wolff's patient had been affected by his gastrostomy, which had been performed in childhood for a stricture of the oesophagus following a scald. It had given rise to a sense of insecurity and the fear of being humiliated, and had undoubtedly impaired his capacity to show or to respond to affection. He used to chew his food first and then put it into his gastrostomy, a procedure which caused him considerable embarrassment, and his world was divided into those with whom he could eat and those with whom he could not eat. With the former he was frank and intimate, but with the latter often detached and suspicious. His family training and his disability had combined to make him set up ideals which he was not always able to sustain in practice. For all these reasons he often suffered severe and protracted emotional disturbances which made him an ideal subject for the study of the effect of the emotions on the stomach. Sadness, discouragement, and self-reproach were associated with prolonged pallor of the gastric mucosa, hyposecretion, and hypomotility; anorexia and slight nausea were observed in these circumstances. With resentment and hostility the mucous membrane was turgid, engorged, and redder than usual, the gastric secretion was much increased, and vigorous contraction occurred. Prolonged anxiety and emotional tension were accompanied by sustained hyperfunction of the stomach which persisted during sleep. In these periods of anxiety appetite was often greatly reduced, showing that the physiological state of the stomach does not determine the presence or absence of appetite. The phenomena are comparable with data from patients with peptic ulcer, showing that symptoms are prominent during times of emotional conflict. The appearance of the hyperfunctioning stomach is identical with that of gastritis. The folds are thick, red, and succulent, and the slightest trauma or even vigorous contraction of the stomach results in the appearance of red haemorrhagic spots or erosions. If hypersecretion continues, and the mucous protection of the surface is diminished, erosions may develop into chronic ulcers. An inflamed area is in itself an adequate stimulus for hypersecretion.

The observations of Wolf and Wolff go a long way to show how mental impressions and feelings might lead to hypersecretion and chronic ulceration of the stomach or duodenum, though it must be noted that their patient had no ulceration within the stomach and that an ulcer was produced only in the prolapsed mucosa where the protective coat of mucus was reduced. Their book has wider implications also. Psychosomatic medicine is at present passing through a phase of uncritical enthusiasm, just as analytical psychology did a generation ago. There is the same tendency to unbridled speculation, to the interpretation of natural phenomena *ex hypothesi*, and to a rather primitive and pictorial type of thinking. The history of science records how often men have gone astray because they have not checked their hypotheses by controlled observation and experiment, and Wolf and Wolff's technique should be a pattern for workers in this field.

MODE OF ACTION OF VITAMIN D

Radio-active "tracer" or "tagged" elements have been used to study the metabolism of a number of elements, including iron, calcium, iodine, and phosphorus. The technique consists of making a radio-active isotope of the element by bombarding it with deuterons in a cyclotron and, after ingestion or injection, by following the course of the radio-active or "tagged" element through the body by means of a Geiger-Müller counter. This picks up the radiations emitted by the radio-active isotopes and serves for their detection and estimation. With this technique Cohn and Greenberg[1] [2] have studied the mode of action of vitamin D in rickets. It has been widely accepted that vitamin D acts by increasing the absorption of calcium from the gut and the urinary excretion of phosphorus, but that it has no effect on either the faecal excretion or the absorption of phosphorus. Many workers have felt this explanation to be inadequate, and believe that, apart from its action on the absorption and excretion of calcium and phosphorus, vitamin D has a direct influence on the mineralization of bone. Using radio-active phosphorus, Cohn and Greenberg[1] showed some years ago that vitamin D aids the conversion of organic to inorganic phosphorus in bone. Cohn[2] has now investigated the action of vitamin D in rickets by giving rachitic rats irradiated ergosterol and radio-active calcium by intraperitoneal injection or stomach tube. Three days later the animals were killed and the radio-active calcium estimated in the excreta, bones, teeth, and carcass. The excreta and the skeleton were found to contain the bulk of the radio-active calcium, the amount in the soft tissues being comparatively negligible. These observations confirmed the view that vitamin D promotes the absorption of calcium from the digestive tract, and also proved that it exerts a direct effect on the mineralization of bone in rachitic animals.

CANINE HYSTERIA

Canine hysteria—also known to veterinary surgeons as running fits, fright disease, epizootic hysteria, and infectious hysteria—is an ill-defined disease of dogs, the aetiology and treatment of which have long been in dispute. The symptoms associated with it are paroxysmal attacks of hyperexcitability, manifested by running, barking, or howling, defective vision and balance, dementia, and sometimes clonic convulsions, during which a heavy mucous saliva is secreted and the animal frequently urinates and defaecates. The affected dogs appear to be indifferent to pain or to attempts to calm them. It is thought that excitement, physical strain, and sudden stimuli, such as a sudden noise or flash of light, may precipitate attacks. Heredity has also been thought to be a causal factor. Many authorities believe the disease to be related to defective nutrition. Lack of vitamins A and B_1, of magnesium, and of lysine have been suggested as causes, and also a toxic factor or factors in wheat products.

Wagner and Elvehjem[3] have recently brought forward evidence to show that canine hysteria is dietary in origin. The terms "epizootic" and "infectious" to qualify the disease are ill chosen, as there is little evidence that an infectious agent is responsible. Well-fed animals kept alongside affected animals showed no signs of the disease. Wagner and Elvehjem produced the disease in dogs by feeding them on baked dog foods containing wheat gluten flour and on experimental rations containing the same material. Although the proteins in gluten are deficient in lysine, protein and lysine supplements did not prevent the onset of the disease. The fact that hysteria was caused by feeding wheat gluten flour to dogs receiving nutritionally adequate rations suggested there was some toxic factor in the flour, or possibly a deficiency of an essential food factor. It is possible that if the effect of the toxin were not too severe, correction of the deficient food factor might increase the animals' resistance to the supposed toxin. This might explain the curative effects reported in the past of supplements of casein, lysine, vitamin A, and vitamin B_1.

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[1] J. biol. Chem., 1939, 130, 625.
[2] Ibid., 1945, 157, 99.
[3] J. Nutrit., 1945, 28, 431.

LONGEVITY AND OLD AGE IN THE PUNJAB

BY

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(ABRIDGED)

To the medical profession hitherto the problem of old age has presented its chief interest in connexion with the methods of prolonging human life, such as Voronoff's technique of grafting slices of simian testes in the testes of man, Steinach's advocacy of vasectomy, and the use of testicular and ovarian extracts. From the eugenic, social, ecological, and other points of view, however, the question of longevity raises some serious and complex problems. For example, after a certain age, when man's productive capacity dwindles, he becomes a dependant and remains so until death. India is already supporting a large number of dependants—invalids, beggars, widows, and others—and might well ask whether an attempt to prolong human life and thus increase the proportion of the aged would not add to the heavy burden of her poor working population. In a leading article in the *British Medical Journal*[1] some interesting comments were made on ageing and the care of the aged, and the White Paper on Social Insurance was quoted to the effect that in Great Britain between 1965 and 1975 there will be an increase of about 800,000 in the pensioner population and a decrease of more than one million in the contributing population, supposing the present decline in the birth and death rates to continue. In India the question of pensioners is not yet important, but that of dependancy is present in many forms.

The Limit of Human Life

The limit given by the Psalmist to human life is often much exceeded both in the East and in the West. In India the Vedas [Brahman sacred writings] enjoined men to live 100 years, and this age is known to have been reached fairly often in the Punjab as well as elsewhere. There has been some speculation in scientific literature about the ideal duration of life. Rolleston[2] quotes Hufeland as laying down the law that animals generally live about eight times as long as they take to reach maturity, and Hufeland's figure of 200 years as the ideal span of life is obtained by regarding 25 as the termination of adolescence. Both figures—8 and 25—appear to be arbitrary. Flourens calculated that, throughout the animal kingdom, life was five times as long as the period taken to complete growth, as marked by the union of the epiphyses of the long bones, and as this union took place at 20 or 21 the the span of human life should be about 100.

It is of interest to recall some extreme claims for longevity, admitting, of course, a considerable lack of accuracy in age records. Rolleston[2] quotes the cases, among others, of Henry Jenkins, who lived from 1501 to 1670; Thomas Parr, who lived from 1483 to 1635; and Katherine, Countess of Desmond, who lived 145 years, though some have said that the ages of two Countesses of Desmond were telescoped into one. The question of the longest life to be reasonably attested is of interest to actuaries, and in an American actuarial publication Dublin and Lotka[3] cite the case of C. J. Drakenberg, a Danish seafarer, who was born in 1626 and died in 1772. It is declared that he was sturdy and robust and temperamentally very impetuous. At the age of 111 he married a 60-year-old widow, who died a few years later, and at the age of 130 he proposed to several women but without success.

In India an interesting case was recorded in the 1931 census report[4] of one Siddi Wastad, the son of a negro father and Arab mother, who lived in Nagpur. At the time of the census he was supposed to have passed his 150th year, but the census superintendent for the Central Provinces stated that, even allowing for much exaggeration, his age would then have been 130 years. We addressed an inquiry to Dr. R. L. Tuli, Director of Public Health, Central Provinces, who has informed us that Siddi Wastad died at the age of 158 years on August 14, 1943. He was a famous wrestler at the court of the Maharajah of Baroda. Until the influenza epidemic of 1918 he remained in perfect health, but he was attacked by that scourge and gradually lost his teeth and his hair turned white. Until then it had not been his habit to lie down or go to bed. A short nap in a chair at night was all that he needed, and he offered his prayers five times a day. His diet up to that time was six pounds of flour for one meal, as well as vegetables, rice, mutton, and four seers[5] of milk each day. When ill he never took drugs, but he prepared his own medicines and medicated oils and treated himself.

Outstanding Age Records in the Punjab

We sent a request to all the district and municipal medical officers of health in the Punjab for recent information concerning long-lived persons in the Province, and some very interesting replies have been received, enabling us to state that this Province has a good number of persons who have passed the century. We further requested the officers to throw light on the state of health enjoyed by persons who had lived to advanced ages. It is not possible to comment in detail on the information supplied; in some cases further inquiry seemed necessary. Only a few salient points may be briefly mentioned.

The maximum age so far reported to us as having been reached in recent times in the Punjab is 138 years. This was the age of a person named Khan Dadan Khan, who died of fever four years ago in the Rawalpindi district, a hilly part of the Province. The death also occurred last year of Khanam Jee, in Rawalpindi city, at the age of 135 years. Two more deaths each at the age of 130 years have been reported from Lahore and Lyallpur districts. An interesting account has been received of one Saleh Mohammed Khokhar, who died recently at the age of 120 years in the Rawalpindi district. The district medical officer of health reports of this man that his grey hair had grown black and that new teeth had appeared. He was accustomed to eat maize, meat, and leafy vegetables, and he never drank tea. Quite a number of other instances have been reported to us of persons who have died recently at the ages of 110 and 130. Generally the cause of death has been stated to be "fever" or "old age," both vague terms. Without further inquiry nothing can be stated as to the precise cause, though we have little reason to doubt that malaria has been an important one.

Among the living in the Punjab a person is reported to have reached 130 years of age in Sialkot, 70 miles from Lahore. His state of health is said to be good. A dhobi [low-caste Hindu] 125 years of age is reported to be living in Amritsar. He attributes his longevity to his habit of taking the gum of the pipal tree [the sacred fig]. Two women of 120 years are reported —one in Ambala, near Simla, in a satisfactory state of health, and the other in a village in the Gujrat district, who is blind, deaf, and bedridden. The number of persons who claim to be over 100 years of age is fairly large. Most of these living persons claim that their longevity is due to the inclusion of ghee [clarified butter], milk, and dairy products in their diet. Some have been taking a few seers of *lassi* daily during both summer and winter. Abstention from tea and tobacco, moderation in sexual life, and plenty of exercise when young are some of the other factors which these persons claim to have contributed to their longevity. Among the diseases from which they suffer in their old age malaria, eye troubles, bronchitis, and pneumonia are mentioned, but these, of course, are just those affections which constitute the recognized general causes of ill-health in the Punjab.

Expectation of Life in the Punjab

[The authors then turn from the discussion of a few cases of exceptional longevity to the length of life of the population of the Province as a whole, and they explain what is meant by the phrase "expectation of life" as used in census returns and by insurance corporations. The estimate is made by actuaries for each age and shows, on the average, the added number of years for which people of that age are likely to survive. They state that there are some objections to the use of expectation-of-life figures relating to India for making long-term comparisons, but for the immediate purpose of studying longevity in the Punjab such estimates may be regarded as fairly useful.]

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[1] *British Medical Journal*, 1944, **2**, 634.
[2] Rolleston, H., *Medical Aspects of Old Age*, 1932, Macmillan.
[3] Dublin, L. I., and Lotka, A. J., *Length of Life. A Study of the Life Table*, 1936, Ronald Press, New York.
[4] *Census of India*, 1931, **1**, 106.
[5] The Government seer in India is just over 2 lb. avoirdupois.

The latest estimates of expectation of life in the Punjab, as in the rest of India, followed the census enumeration of 1931.

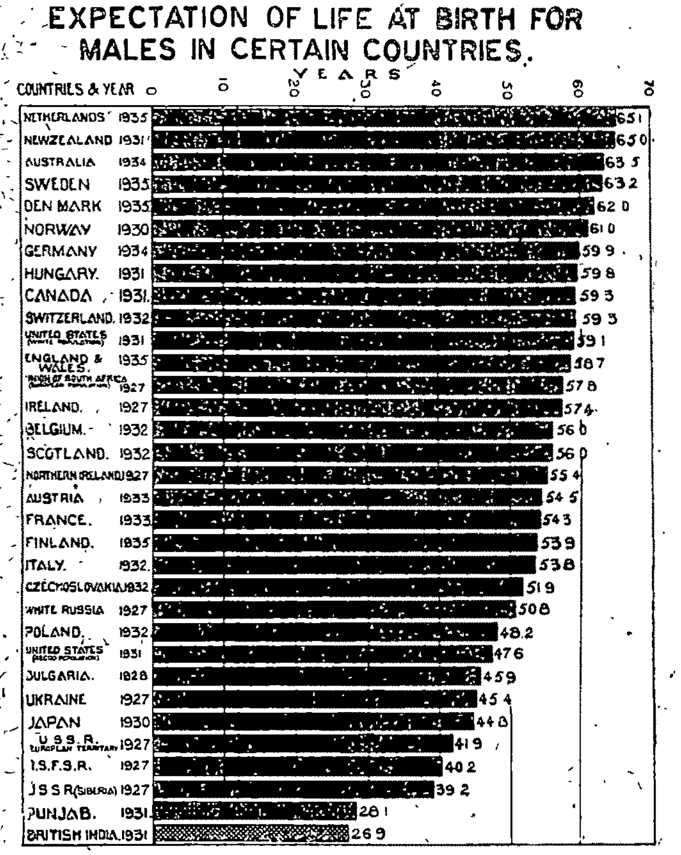

CHART I

The war has stood in the way of obtaining more resent estimates. We have obtained figures for a number of countries corresponding to the 1931 estimates for the Punjab and for British India, and these are presented in Chart I, the countries being arranged in decreasing order of expectation of life at birth for the male inhabitants. The Netherlands are at the head of the list with as high an expectation of life as 65.1 years, and New Zealand and Australia rank next. British India is lowest in the chart, with 26.9 years, and the Punjab is only slightly higher (28.1). Generally speaking, all the advanced countries of the world, especially those in the West, have an expectation of life far in excess of the Punjab and British India. Among Eastern countries, the figure for Japan (44.8) is interesting; it is more than one and a half times the British India figure.

Within India itself the Provinces show variability, though not as large as that seen in the comparison of countries. Chart II gives the figures for the Provinces, and for males and females in each Province. The Provinces are here arranged according to an increasing expectation of life for females. The highest estimates are for Madras, where the females show a figure of 30.04 years (the only instance in which 30 years is reached). The lowest estimates are for the area adjoining Bengal, comprising the North-West Frontier Province, Sind, and Baluchistan. The Punjab figures are exceeded by those of Bihar and Orissa, the Central Provinces, Berar, and Hyderabad, and Madras.

Lower Female Longevity

It is almost a universal experience that females are longer-lived than males, but the Punjab affords a striking exception, as also do the North-West Frontier Province, Sind, and Baluchistan, Bombay Presidency, and Bihar and Orissa. Probably the lack of adequate facilities for maternal relief and care, coupled also perhaps with a rather unfavourable attitude towards the weaker sex in the Punjab, are responsible for keeping female longevity at so low a level. In making the statement about an unfavourable attitude towards females we are supported by the great amount of evidence pointing to the practice of female infanticide in this Province in the past.

The attention of the British Government was directed to this subject immediately after the annexation [1849]. Lord Lawrence, while Commissioner of Trans-Sutlej States, promulgated three commandments, the second of which was, "Thou shalt not kill thy daughter." But writing in 1895 Sir James Douie recorded that "fifty years after Lawrence denounced the murder of female infants we are still discussing the best method of putting down that inhuman practice." Several causes tended gradually to restrict the extent of female infanticide, but while in recent years the killing of female infants may have altogether disappeared, the social customs and mental traits which found expression in such inhuman action may still exist among certain classes, with the result that females generally may lead a more neglected life than males.

A low expectation of life for females, which implies a higher mortality rate among them, affects indirectly the male population, because a large number of women die as the result of pregnancy and childbirth, which involves the potential loss of male as well as female children.

In order to illustrate the point that lack of maternity facilities, together with, perhaps, a general neglect of the female population, has brought about reduced longevity for females in the Punjab as compared with males, we quote the mortality statistics for the sexes at different age periods. The figures set out in Table I are based on the average experience of the quinquennium 1935–9, and the death rates are given per 1,000 of the corresponding populations (except that in the first age group the mortality rates have been calculated per 1,000 live births).

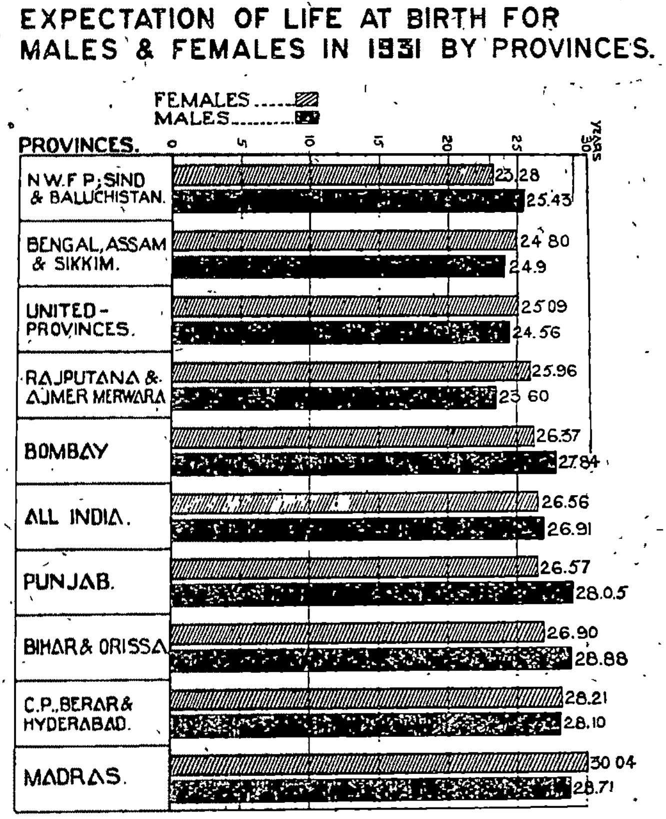

CHART II

Female infants show a lower mortality than male infants; this is also true of the next age group. But from the age group 10–15 years onwards the female population must be considered to have started the reproductive span of life, and they are found subjected to adverse mortality rates. The difference persists throughout the reproductive period—namely, up to about 40 years. In the ensuing two age groups the difference between male and female mortality rates becomes less, though the females still have the higher rate, and beyond 60 the difference again increases, to the disadvantage of the female population. On the whole, therefore, this table presents the picture of a female population born stronger than the male, but subjected during the prime of life to adverse circumstances, and continuing to live thereafter the life of a weaker sex, in the real sense of the word.

TABLE I.—*Death Rates per 1,000*

Age Group	Males	Females
Under 1 year	172	157
1–5 years	37	34
5–10 "	9	9
10–15 "	7	8
15–20 "	8	10
20–30 "	7	9
30–40 "	9	11
40–50 "	14	15
50–60 "	24	25
60 and upwards	61	64

Further Deductions from Tables of Mortality

Mr. L. S. Vaidyanathan, the actuary appointed by the Government of India at the 1931 census, studied the same point—namely, the comparative mortality figures for each year of age.[6] He did not believe that the recorded births and deaths afforded reliable information concerning mortality conditions in the population, and he proceeded to calculate mortality rates by making use of the indirect evidence available in the 1921 and 1931 census enumerations only. He found that the females started life with a relatively low mortality rate, and maintained this advantage for a few years. Thereafter the female mortality reached a higher level than the male, and this relative disadvantage continued until about the age of 50. After that; according to Mr. Vaidyanathan's calculations, the females scored over the males again and showed low mortality experience almost to the end of life.

Our own deductions from the recorded deaths in the Punjab agree in the main with Mr. Vaidyanathan's differently derived deductions with respect to women in the prime of life. We differ from him concerning the relative position of the male and female at advanced ages. The census enumeration figures of 1921 and 1931, from which he sought to deduce death rates by age and sex, were by no means entirely reliable. We are therefore unable to decide which estimate is subject to the greater error and which must accordingly be preferred.

Mr. Vaidyanathan is an eminent Indian actuary, and in this discussion of longevity and old age we would quote further from his figures. In Table II are set out the figures for the expectation of life for each decennium from 50 to 90 years. They are shown separately for males and females for the Punjab, for the whole of India, and for England and Wales, and they relate to the year 1931.

TABLE II.—*Comparative Expectation of Life at Decennial Ages*

Age	Males			Females		
	Punjab	India	England	Punjab	India	England
50	15·09	14·31	21·36	16·14	14·65	23·69
60	10·22	10·25	14·36	11·48	10·81	16·22
70	5·98	6·23	8·75	7·03	6·74	9·95
80	2·91	3·13	4·93	3·43	3·25	5·56
90	1·19	1·12	2·82	1·31	1·18	3·13

The table affords many interesting comparisons. At the higher ages, in India as well as in England, females enjoy a longer expectation of life. The reason usually given for this generally favourable position of older women is the fact that they have already passed the dangerous period of their reproductive life. From a biological point of view here is the evidence that, once the period of excessive maternal mortality is over, women again present a picture of a more favourable make-up for survival. This argument also points the necessity for making maternity in the Punjab as easy and risk-free a process as is practicable.

While in England the rate of maternal mortality is as low as 2 or 3 for 1,000 births, in the Punjab it is generally believed to be from eight to ten times this figure.

Survival at Late Ages

Another point revealed by a study of Table II is that, although the figures showing the expectation of life at the higher ages are greater in England than in the Punjab, the difference is not as great as that between the figures for the two countries for the expectation of life at birth. Once, therefore, a person in the Punjab has reached an advanced age, he finds himself in a somewhat more favourable position, and may look forward to living to that greater age which his contemporaries reach in the more advanced countries of the world. At the age of 60, for instance, a male in the Punjab can on the average expect to live another ten years, while a similar expectation in England is about 14 years. Females at the age of 60 in the Punjab may hope to live another 11 years, and in England another 16 years. At the advanced ages females in the Punjab enjoy a longer expectation of life than the average for all India, but Punjabi males show no such appreciable advantage. In fact, at the ages 60, 70, and 80 the expectation of life for males in the Punjab is somewhat lower than that for males in India as a whole.

The smallest area within India for which separate figures for the expectation of life have been worked out is the province; but in order to study the variations existing within the Punjab itself we have calculated the proportion of persons above 60 years of age in the different districts to the total population. The highest proportion of old persons to the total population is to be found in the hilly or sub-montane tracts of eastern and northern Punjab. In fact, four fairly well marked regions are seen as we proceed south and south-west. The lowest proportion is found in the dry and hot districts of the extreme south-east and south-west of the Province—Karnal and Rhotak on the one side and Muzaffargarh on the other. In a general way this geographical pattern lends support to the view that a cooler climate is conducive to the preservation of life. For example, Kangra, a district of 10,000 square miles in the north-east of the Province, although it has a relatively higher number of old people, is not a satisfactory area from the public health and nutritional points of view. The incidence of tuberculosis, pneumonia, dysentery, and diarrhoea is comparatively high, and goitre, rickets, and osteomalacia are peculiar to this area. Yet in spite of such unfavourable circumstances the population includes a higher proportion of older people, and we are led to the conclusion either that the population statistics are entirely unreliable or that the colder climate is a governing factor in this relative longevity.

Changes in Mortality Conditions

When is a person old? In other words, what age should we choose for a study of mortality conditions of old persons in the Punjab and the manner in which these have changed during, let us say, the present century? It is generally believed that when the period of reproduction wanes that of old age begins. In women this is marked by the menopause; in men the onset of senescence may occur at considerably varying periods and be so stealthy as to be undetected by the individual. A philosopher has said that the information that he is old may be suddenly conveyed to a person on overhearing the chance remarks of others, by catching the reflection of his bent back in a mirror, or by finding some girl offering him her seat in an omnibus. But statisticians and biologists have given ages ranging from 45 to 60 as indicating the onset of old age in man.

Vital statistics for the Punjab give mortality figures for ages over 60 in only one group. All we can study, therefore, is the group of persons aged 60 and above in a single combined estimate. The deaths occurring during each year from 1901 onwards in males and females over 60 have been made into rates per 1,000 of population in that particular sex group and are shown in Chart III for each year. The dotted curve is for the females and the continuous line for the males. In spite of considerable fluctuations occasioned by epidemics of plague, cholera, malaria, and influenza, the general indication is that from 1900 onwards the mortality rate among old male and female populations have been on the decrease. Separate trend lines have been fitted by the method of least squares to the mortality experience of the sexes over the entire period of 41 years (1900–40), and these are shown on the chart. Both these lines are sloping downwards, which is an indication of a general improvement in the health conditions of the old. The significance of this decline has been tested statistically, and it has been found that chance alone cannot explain such a marked downward tendency.

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[6] Vaidyanathan, L. S., Actuarial Report annexed to Census of India, 1932, Vol. I.

TRENDS OF DEATH RATES AMONG MALES & FEMALES OVER 60 YEARS OF AGE IN THE PUNJAB FROM 1900 ONWARDS.

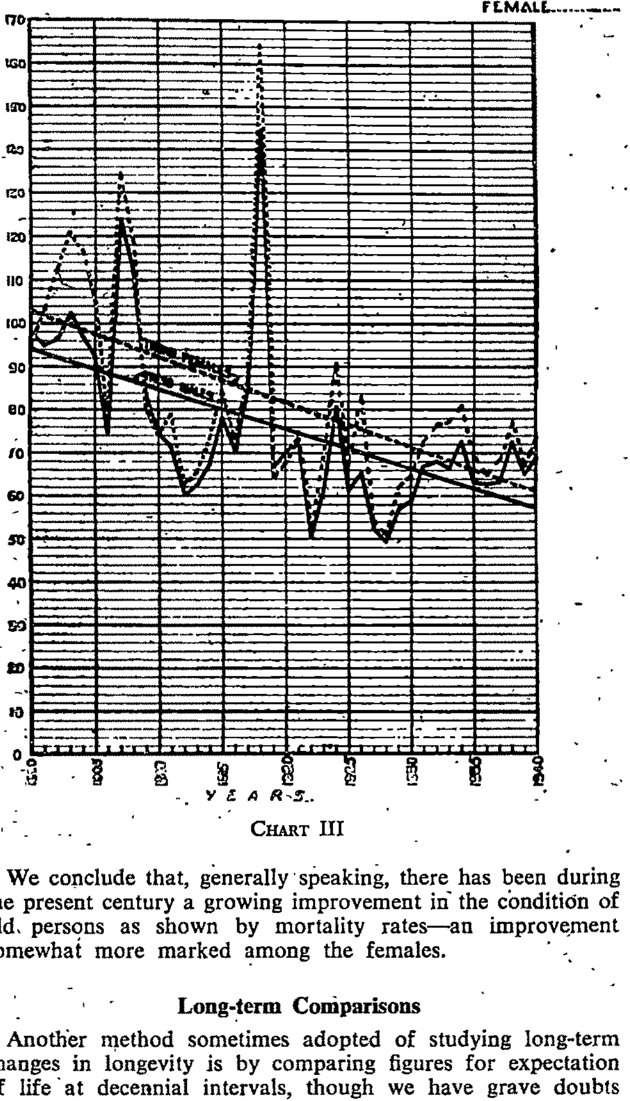

Chart III

We conclude that, generally speaking, there has been during the present century a growing improvement in the condition of old persons as shown by mortality rates—an improvement somewhat more marked among the females.

Long-term Comparisons

Another method sometimes adopted of studying long-term changes in longevity is by comparing figures for expectation of life at decennial intervals, though we have grave doubts whether the Punjab or, for the matter of that, the all-India figures can be quoted with the same degree of confidence as the figures for Western countries.

Table III.—*Expectation of Life in Years for Males at Ten-yearly Age Intervals from 1881 to 1931*

Age	1881	1891	1901	1911	1931
0	25	27	23	21	28
10	36	38	35	31	38
20	30	32	30	26	31
30	25	27	25	22	25
40	20	20	20	18	20
50	15	16	15	14	15
60	10	11	11	11	10
70	6	8	6	7	6
80	3	5	3	3	3
90	1	2	1	1	1

Several factors tend to detract from the value of these figures for long-term comparisons. (1) The figures for 1921 are missing, as the actuary did not consider that they would be of any use. At that time the population had not fully recovered from the effects of the great influenza pandemic of 1918. (2) The estimates after each census were made by different actuaries who used varying methods of estimation. (3) The areas for which the estimates have been made have not always been the same. In 1931 the area included not only the Punjab but also the adjoining smaller Indian States, together with Kashmir, the biggest in area of the States, and noted for its highly salubrious and temperate climate. (4) There is some doubt, particularly for the figures for 1901, as to the precise year or period to which the estimates relate.

It is not possible to say how much allowance has to be made for these factors. However, if the broad indications have any significance it can be stated that the degree of improvement noticed at the lower ages between 1911 and 1931 has not been maintained at the advanced years of life. The 1931 census estimates were arrived at without any regard to the recorded death statistics. On a survey of the mortality rates among the aged in the Punjab during the period 1900–40 we have, however, demonstrated already a downward and statistically significant tendency. We therefore conclude that there has been some improvement in the mortality conditions of old people, and that females have had a somewhat greater advantage.

Summary and Conclusions

The present position of longevity in the Punjab has been studied in relation to other countries and different Provinces of British India. Some relevant information regarding remarkably long-lived persons has been set out, together with figures for the expectation of life for different countries and Provinces. An investigation has also been carried out separately for the two sexes.

As compared with the advanced countries of the world, the Punjab has pitiably low figures of longevity. Further, contrary to the general experience that females have a longer duration of life than males, the women in the Punjab, having been subjected to relatively more adverse circumstances, have not been able to enjoy that duration of life with which Nature equips them. This means the potential loss of male as well as of female children. The study indicates that one of the urgent needs is the making of reproduction an easy and risk-free process by all possible means, not excluding a general social improvement of the female population. Improvements in these directions will be doubly beneficial in that not only will there be a saving of the lives of mothers but the chances of survival of their offspring will increase.

It has been shown that some improvement has been occurring in the mortality rates at the advanced ages of both males and females.

MANCHESTER'S VITAL STATISTICS

Manchester in 1944 had the highest recorded birth rate for twenty years, the lowest general death rate for any year of the war period, and the lowest infantile mortality and puerperal causes mortality on record. Comparing the Manchester of seventy years ago with the Manchester of to-day, both the birth rate and the death rate have been almost precisely halved; the marriage rate has been considerably higher during the war years than during the previous sixty years, and the birth rate, although nothing like what it was before the war of 1914–18, has gone up steadily in each war year. Sixty years ago in Manchester the death rate from measles was 0.71 for every 1,000 persons living, it is now 0.02; from diphtheria it was 0.10, and is now 0.01; from whooping-cough it was 0.68, and is now 0.04; from pulmonary tuberculosis it was 2.42, and is now 0.80; from other diseases of the respiratory system it was 5.41, and is now 2.04; and from diseases of the digestive system it was 1.23, and is now 0.58. On the other hand, the cancer mortality has gone up from 0.50 to 2.09, and the mortality from diseases of the heart from 1.37 to 3.17. Nevertheless, the death rate in Manchester is higher than in England and Wales, and the infantile death rate is 54 per 1,000 births as against 46 for the whole country. But Manchester is in the proud position, not for the first time by any means, of having a maternal mortality rate distinctly lower than for England and Wales as a whole. In 1944 it was 1.83 per 1,000 births, the first time it has ever been below 2.0.

CONGENITAL DEAF-MUTISM IN SCOTLAND

The results of an investigation to determine with a reasonable degree of accuracy the extent to which congenital deaf-mutism varies in its incidence in Scotland are described in a report published by the Department of Health for Scotland. Prepared by Dr. J. A. Grant Keddie, one of the medical officers of the Department, the report, which is a factual survey accompanied by appendices giving statistics of the position in the 35 Scottish counties, was submitted to a subcommittee on nutritional problems of the Scientific Advisory Committee. The full committee considered it to be a valuable contribution to the meagre literature on congenital deaf-mutism and recommended its publication.

In the final stage of this investigation Dr. Keddie submitted to detailed analysis particulars he had secured of 928 sufferers from congenital deaf-mutism who had received tuition at one or other of the schools for the deaf in Scotland during the course of the 20 years ended April 30, 1944. Particular attention was paid to the 781 deaf-mutes born in Scotland during the period 1918–37.

Variable Incidence

The results show that the relative incidence of congenital deaf-mutism is very high in Zetland and Caithness; substantially high in Moray and Nairn, Kircudbright and Aberdeen city; and appreciably high in Wigtown, Ayr, Lanark, Inverness, Angus, Dundee city, and Aberdeen county. At the other end of the scale is Roxburgh, where the relative incidence is extremely low. In Ross and Cromarty, Peebles, Berwick, and Midlothian the incidence is very low; and in Stirling, Orkney, Argyll, Dumfries, Perth, and Kinross, Fife and East Lothian, it is appreciably low. Although it was not the intention of the investigator to draw from the results of the survey conclusions as to why the relative incidence of congenital deaf-mutism is high in certain areas and low in others, Dr. Grant Keddie does direct attention to the following facts: (1) The areas shown to present a high relative incidence are for the most part situated either in the north or north-east of the country on the one hand or on the extreme south-west on the other; (2) many of the areas in question have within their boundaries a considerable number of fishing communities; (3) a number of the areas sparsely populated are at a distance from relatively dense centres of population; (4) the areas presenting a low relative incidence are, on the other hand, situated in the main either on the south-east or in the eastern part of the "Central Belt" and are in most instances predominantly rural in character, while being in the position of convenient access to comparatively large centres of population.

In a preface Dr. Andrew Davidson, Chief Medical Officer of the Department, states that the report "furnishes valuable data which, it is hoped, will point the way to those desirous of prosecuting investigations aimed at finding out any biological or other factor that may contribute to congenital deaf-mutism." Dr. Davidson also emphasizes the fact that "an increasing amount of research into the problems of social medicine is being carried out, and there is a general awakening to the need for the collection and collation of material data by which the nature and extent of such problems may be assessed and lines of approach to their solution suggested." The Department has already published reports on "Health and Industrial Efficiency—Scottish Experiments in Social Medicine" (1943); "Infant Mortality in Scotland" (1943); and "Report on Venereal Diseases" (1944). Copies of Dr. Grant Keddie's report (price 3d.) may be obtained from H.M. Stationery Office, 13A, Castle Street, Edinburgh, or through any bookseller.

S. Siegal (*Ann. intern. Med.*, 1945, **23**, 1) records five cases in patients aged from 13 to 27 presenting an unusual syndrome consisting of paroxysms of intense abdominal pain and fever as high as 105° F. Severe prostration, marked signs of peritoneal irritation as well as melaena and vomiting were invariable accompaniments. Urticaria and pain in the chest of a pleuritic character might occur. The onset of the disease was characteristically in early life and attacks recurred over many years. The general condition remained unimpaired. The disease was probably related to allergy.

Nova et Vetera

WILLIAM PROUT: PHILOSOPHER-PHYSICIAN

Though the atomic bomb has renewed interest in the history of atomic theory, no reference has been made to the pioneer work of the physician William Prout. Yet his hypothesis of recurring characteristics in the elements which could be seen when they were placed in the order of their atomic weights led to the formation of Mendeléeff's Periodic Law, which in its turn received its rational explanation in the electronic structure of the atom. Moreover, just as Le Verrier and Adams were enabled to predict the finding of the planet Neptune in the solar macrocosm, so the periodic law predicted the characters of as yet unknown elements in the atomic microcosm. And there can be little doubt as to which discovery most influenced human thought and action.

William Prout was born in 1785 of an old Gloucestershire family. His education was entirely neglected until he was 17, when on his own initiative he placed himself under the tuition of a clergyman in Wiltshire, who sent him on after a time to the Redland Academy at Bristol, where he made such progress that he was advised to go to Edinburgh to study medicine. He graduated M.D. in 1811, and then worked at the twin hospitals of St. Thomas's and Guy's. Always interested in organic chemistry, he gave a course of lectures there on "animal chemistry," which Sir Astley Cooper diligently attended. He proved the chemical nature of urinary calculi and applied this to the treatment of urinary disorders. He was first to show that the kidney does not form urea but merely removes it from the blood.

In 1831 he delivered the Goulstonian Lectures before the Royal College of Physicians, of which he had been elected a Fellow in 1829. His subject was "The Application of Chemistry to Physiology, Pathology, and Practice," in which he showed himself a pioneer in the biochemical approach to medicine. In 1834 he published the final version of his views in his book *On the Nature and Treatment of Stomach and Urinary Diseases.* This was rightly regarded as marking an era in the history of the subject. He showed that the acid of the gastric juice was hydrochloric acid. That the stomach secreted a mineral acid came as a great surprise, and it was not until a good many years later that Maly explained it as the result of the interaction between sodium chloride and acid sodium phosphate. Prout's discovery, added to Wöhler's synthesis of urea, helped to break through the previously existing barrier between organic and inorganic chemistry.

Prout was also greatly interested in meteorology and spent much money in devising elaborate apparatus for his researches. The English standard barometer now in the possession of the Royal Society was designed by him. Throughout, his work was marked by two main characteristics—the power of accurate observation and the capacity for forming wide generalizations. But so little self-seeking was he that he often allowed others to take the credit for his ideas. Particularly so was it with Liebig, who adopted many of his views and sometimes marred them in the taking. Thus on the chemical and physiological relationships between urea and uric acid Liebig was wrong and Prout was right. But the fame of Liebig was so great that for years it obscured the merits of Prout, even in England, which, however, has so often hesitated to accept a scientific discovery made at home until it is re-imported from abroad.

Prout was reserved and retiring, and this was increased by the deafness which afflicted his later life. He was described as of middle height and of slim figure, with delicately chiselled features which expressed "benevolence with great intelligence." He inspired confidence in his patients by the gentleness of his manner. Always scrupulously dressed and groomed, he was a striking figure in any assembly.

He died in 1850. Considering the width of his philosophic generalizations and his many important discoveries, posterity has done scant justice to his merits. We have gathered the fruit of his labours but forget the debt we owe to the gentle philosopher-physician of Sackville Street.

W. L.-B.

Reports of Societies

NORTH OF ENGLAND OBSTETRICAL AND GYNAECOLOGICAL SOCIETY

Papers and Cases

An Ordinary Meeting of the Society was held in June, when a number of interesting communications were made.

ARTERIAL THROMBOSIS AFTER ECTOPIC PREGNANCY

Dr. **ROBERT NEWTON** described a case of femoral thrombosis after an operation for a simple ectopic pregnancy. The patient, aged 36, was sent to hospital because of mild pelvic pain. Three weeks before, she had had for 24 hours right-sided abdominal pain, a temperature of about 99.5° F., and vomiting. The practitioner diagnosed mild appendicitis and kept her in bed. Menstruation was due at that time but she did not bleed until ten days later, which continued from then until admission to hospital nine days later. She gave a history that the pain, which had settled down, had recommenced six days before in the left iliac fossa. On admission the pain had disappeared and there was no rigidity. The cervix was softened and the blood pressure 110/80; she was admitted to a gynaecological ward. Two days later a mass was palpated in the left iliac fossa and a tentative diagnosis of ectopic pregnancy was made. Under anaesthesia the mass was confirmed and was felt to rupture during palpation; a needle in the pouch of Douglas produced fresh blood. On opening the abdomen a left ectopic pregnancy was found, and the left tube and ovary were removed. The actual mass was quite small; it was formed of the ovary and tube infiltrated with old blood clot and adherent to the left side of the pelvis. A moderate amount of fresh blood was found free in the abdomen. The patient showed signs of collapse half-way through the operation and again on reaching the ward. Sedatives and salines were given in the early afternoon, and again in the evening. It was probably these sedatives which concealed the onset of the thrombosis. She made no complaint, sleeping through the night, but in the morning, on awakening, she felt some mild pain around her knees and could not feel her feet and legs. When examined she was found to have rigor mortis from the lower part of the thighs downwards. There were no femoral pulses, and she had anaesthesia to a level corresponding to the second lumbar nerve on the left side and the third lumbar on the right. The picture was of obstruction at the aortic bifurcation of both common iliac arteries. It was obviously a desperate case, and the treatment was considered from the point of view of whether life could possibly be saved; which really depended on the presence of an embolism at the aortic bifurcation. If this were removed it might be possible to amputate the legs at a very high level. Indirect approach was used. Both femoral arteries were exposed, both were contracted and filled with blood clot. The blood clot was removed and ureteric catheters passed into the aorta. No fresh blood could be removed by suction. The left internal iliac artery was exposed. No pulsation was felt and no clot could be milked down it. The patient died next day. Post mortem, thrombosis involving both femoral arteries and the lower end of the aorta was found, and there was no embolus. An old clot could be made out on the inner side of the internal iliac artery where the ectopic mass had been adherent.

Points of interest were the rarity of the occurrence, the importance of making early diagnosis, the simple way in which this was frustrated in this case by the shock and the giving of mild sedatives; the difficulty in making a diagnosis between embolism and thrombosis; the decision as to the direct or indirect approach; and, in the case of early diagnosis, whether heparin and dicoumarin (which were given in this case) would be of use.

ALDRIDGE'S OPERATION

Dr. **J. W. A. HUNTER** read a paper on Aldridge's operation for urinary stress incontinence. The problem of the cure of imperfect urinary control has yet to be solved. There were many operative procedures, and this denoted all the more the uncertainty of cure of any one of them. Varying degrees of cystocele were often found to be present, but it was by no means an invariable accompaniment. Inelastic scar tissue sometimes replaced the urethral supports and sphincter. Probably the commonest procedure was the simple plication of the urethral sphincter by the method of Kelly or Baldy. Two cases treated in this way with a good result were described by Dr. Dougal in 1926. More elaborate operations of a similar nature had been described by Royston and Ross. Advancement of the urethra was devised by Pawlik, and twisting the urethra through many degrees was advocated by Gersuwy—the latter a highly dangerous procedure. Failure of these operations led Miller to devise the use of the pyramidalis muscles as a sling, being pulled down behind the pubis and united around the bladder neck. The pyramidalis often being of poorly developed structure, Aldridge in 1942 devised a modification using strips of abdominal fascia drawn through the rectus muscle and sutured to form a sling under the bladder neck. With this technique Dr. Hunter treated the two cases which he reported.

A median incision was made just below the external urinary meatus to the bladder neck, and the vaginal epithelium widely dissected on either side. With a transverse incision across the lower abdomen about 2 in. above the symphysis two strips of fascia were raised on either side about 4 in. long and 1 in. wide, leaving a median attachment of about 1 in. The gaps in the fascia were sutured. A curved sinus forceps was passed up on either side of the bladder and through the rectus muscle. The strips were drawn down and united under the bladder neck with fine silk sutures. The vaginal epithelium and abdominal wound were closed and a self-retaining catheter inserted and left in for about seven days. Sulphadiazine was given to prevent urinary infection.

UNILATERAL DYSMENORRHOEA

Prof. **A. M. CLAYE** reported a case of unilateral dysmenorrhoea associated with congenital abnormality. The patient, aged 27, was first seen in August, 1944. The cycle at that time was $\frac{4-5}{42-56}$ with somewhat excessive loss and clots. She had always had dysmenorrhoea confined to the right side of the body, felt chiefly in the right iliac fossa and radiating down the right thigh; it began with the onset of menstruation and persisted through the first two days of the period, associated with vomiting and frontal headache. Pelvic examination showed a small mass on the right side, apparently to the right of the uterus. A skiagram after lipiodol injection revealed the body of the uterus lying to the left, and only the left tube filled satisfactorily. On opening the abdomen a double uterus was found, the left half being continuous with the cervix and the right half apparently ending blindly and having no connexion. The right ovary was three times as large as the left. Small blebs of (?) endometriosis on the surface of the left ovary were cauterized. Right salpingo-oophorectomy was performed and the right portion of the double uterus excised. The pathological report was as follows: "The right ovary contains at least six follicular cysts in the cortical stroma, and a blood cyst 1/2 in. in diameter with a thin lutein margin. The right portion of the uterus was 1½ in. long, apparently lined with normal endometrium. There was no outlet apart from the tube and it contained no blood." Histologically the uterus showed mural endometriosis. In conclusion the speaker noted that Prof. Miles Phillips had in 1935 described unilateral menstrual pain occurring in the case of localized cornual adenomyoma and haematometra in the rudimentary horn of a double uterus. In each case the right side was involved, as in this one, in which the mural endometriosis might have contributed to the pain. Operation resulted in complete cure.

WATERS'S OPERATION

Mr. **C. McINTOSH MARSHALL** showed two colour films of Waters's operation (extraperitoneal Caesarean section). He had no desire, he said, to win support for this type of Caesarean section. Had it appeared some twenty-five or thirty years ago it must have won a definite place for itself and much less would have been heard of the "lateral approach"—the operations of Latzko, Döderlein, Kustner, and others. But with the advent of the sulphonamides and penicillin the use of all extraperitoneal operations would probably tend to decrease rather than increase. E. G. Waters described the operation in 1940 (*Amer.*

J. Obstet. Gynec., **39**, 423). Waters wrote thus: "Theoretically the most highly desirable extraperitoneal operation would (1) avoid opening the peritoneum during or after extraction of the baby, (2) avoid injury to the ureters, (3) avoid the easily infected cellular tissue lateral to the bladder, (4) give full view of the separated tissue and the operative field, (5) give ample room for extracting any size foetus, (6) permit careful two-layer closure of uterus and thorough inspection of venous bleeding, if any, (7) leave the patient with a good uterine and abdominal wall."

The operation derived from the Physick principle and from the attempts of Frank and Sellheim to dissect the peritoneum off the front and top of the bladder. In contradistinction to these attempts the reason why Waters's operation was so successful and technically simple rested on the fact that not only was the peritoneum raised but with it the whole thickness of the bladder fascial covering. The operator was no longer dealing with a thin translucent and diaphanous membrane, but was raising by dissection a relatively thick mass of tissue. Apart altogether from the question of infection, certain positive claims could be made for the operation: "burst abdomen" would never occur, intraperitoneal adhesions would not arise, ileus would be less likely, swabs and instruments could not be left behind. In conclusion, Mr. Marshall stated that he had no intention of using this operation extensively or of wavering in his loyalty to the transperitoneal lower-segment operation with a deeply placed transverse incision. On rare occasions, however, he would meet a truly mismanaged and gravely infected case; it was in such that he would put to use his acquaintance with the Waters operation, and by doing so he believed he would be conferring on the patient a greater degree of safety than he could offer her by any intraperitoneal operation.

Correspondence

The Shackled Mind

Sir,—Dr. F. M. R. Walshe in his thesis published in your issue of May 26 (p. 723) gives a very interesting annotation of the deficiencies of modern medical practice in its attitude towards constructive thought. But he apparently suffers from similar deficiencies. He explains the deficiencies of the medical mind—his collection of the superficial facts is excellent; however, his analysis of them and subsequent conclusions are hardly integrating thoughts as they are so incomplete.

With the superficial facts before us (Dr. Walshe mentions that they have been expounded by former prominent medical men) we must in the light of modern knowledge analyse them. In so doing we find that there are few members of our profession whose minds are free from the shackles of "blind acceptance of authority." Our claims to have made medical practice a science are false, as we have failed even to develop a scientific outlook. Medical graduates rarely develop a scientific mind—a mind which can question all except absolute truths, a mind which will not accept as absolute truths dogmas and doctrines laid down by so-called "authorities." Collectively we are still as tardy to accept new, scientifically proven fundamentals as were our forebears in accepting Pasteur's or Lister's work. Dogmas and customs sway our judgments, far too often negating scientific advances. How few of us stop to analyse the physiological basis of a symptom or a sign. If we do not make such simple deductions and integrations how can we hope to analyse and integrate facts in the as yet relatively unexplored jungles, such as brain function or the problem of cancer?

Why should we not all have an unshackled mind, thinking and reasoning in a truly scientific way? We have all had a tertiary education in the sciences. Our very training in present society from the time we first learn to understand our parents is not along scientific lines, but is to make us believe in the dogmas of "authorities," as, for example, the idea of blind acceptance with which we are imbued during our religious training. Medicine does not suffer alone from the stultifying influence of the unscientific mind. The whole social and economic structure of our society is retarded in a similar way. The "shackled" mind is a disease of our present social, economic, and educational systems, just as is the ingrown toenail or constipation a product of modern civilization.

Do we all realize the profound influence of money on medical science? The medical practitioner has a high standard of living in depression or boom—a big incentive to many to enter the profession. A verbal census of students at Sydney University in 1940 showed that of the first-, second-, and third-year students approximately 80% were in the faculty because M.B., B.S. offered either a very sound economic security or a prominent social status—these ideas being imparted by parents. (Apparently few study medicine because they are interested in it.) So within our ranks are a majority who, during their student days at least, sought only technical knowledge and not a scientific training. These seek to conserve their economic interests, so developing a conservation as opposed to a scientific outlook towards medicine. New ideas are irksome unless readily commercializable. Hence the profession, at least subconsciously, slowly progress.

Then there is the economic position of our true scientists. The salary of the researcher is so small. A scientist must live. He, or she, desires normal associations with fellow men and women, a home and a family. So much time is wasted in planning ways and means of meeting essential economic commitments and ensuring economic security. Too often the research is cast aside.

By educational and social reform we must break the shackles of the mind from within and without, producing unbiased minds in an unbiased world, encouraging original integral thought among our young scientists instead of blanketing their ideas. We can only hope for integration to keep abreast of the compilation of facts if we, the present generation at the helms of society and science, steer our ships into the calm waters of a world where money is no longer our overlord, a world where our minds think and reason scientifically, released from the serfdom imposed by economic exploiters of superstition and prophecy. To succeed with the integration of medicine we must bring an inquiring mind to all our problems. The researcher with a trained scientific mind sees his specialty in its true perspective. It all resolves itself into the fact that the failures of medical science to interpret its jargon of facts is a sign of a faulty educational system, the product of our present economic and social structure.—I am, etc.,

Cairns, Queensland. Ronald B. Wiles.

Medical Education: Need for Personnel

Sir,—The present change-over from war to peace brings into focus the educational conditions in our universities and medical schools. They form a "key" position in our reconstruction programme. For this reason they need special consideration by those responsible. This need is reinforced by the report of the Goodenough Committee on Medical Education of 1944, and the recommendations of the University Grants Committee now being made to the universities and medical schools that they shall increase their efficiency by creating new departments, by enlargement of establishment, and by greater expenditure on salaries, equipment, and maintenance, with particular reference to research. During the war the establishments have been depleted, postgraduate and clinical training cut down or abolished, and honours science degrees in medical subjects (physiology, biochemistry, anatomy, and pathology) practically abolished in all universities except Oxford and Cambridge. In addition, the Services have rightly had first call on the newly qualified and better graduates.

If the recommendations of these two committees are to be fulfilled (the first stage of these changes operated from Aug. 1, 1945) the present policy governing the direction of medical graduates must be modified. There must be a recognition that with the change from war to peace the requirements of medical education take priority over those of the fighting Services. This means that medical scientists should be demobilized as early as possible, in virtue of their specialist knowledge. It means that newly qualified practitioners who desire to specialize in scientific medicine and who are qualified to do so should be given every encouragement to apply for university posts. Since the graduates from Oxford and Cambridge are too few to meet the demand it is only in this way that suitable individuals can receive a training in laboratory subjects. We can then, at least, commence to make up the grave lack of young medical scientists which has resulted from the paramount needs of the

Services during the war period. Recently, numerous appointments have been advertised in your columns, of chairs, lecturers, and demonstrators. The universities concerned go to considerable trouble and expense to select the most suitable candidate from the limited fields available. Having made their selection, the Central Medical War Committee on the recommendations of its Services Committee not infrequently calls up the selected candidate, regardless of the work and grave trouble they are causing to those responsible not only for medical education and university research but also for carrying out the recommendations of the Government.

We do not now desire to dispute the wisdom or the necessity of such decisions in the past. We do, however, most strongly urge that the change from war to peace in its first phase—namely, the phase of reconstruction—requires a different policy. The essential difference is that in this stage of the peace reconstruction and its needs take precedence over the fighting Services and their requirements. Among the needs of reconstruction the staffing of our universities and medical schools is not the least important, since it is only by attention to this aspect that a continuous adequate supply of well-trained medical graduates can be provided for the general-practitioner, consultant, and public health services. It must be noted that during the war not only has the establishment of the medical schools been depleted and stream-lined, but also the period of compulsory clinical training reduced from 3 to 2½ years. There is no peacetime justification for this policy, but rather for its immediate reversal in the interests of the community.

The needs of the universities and medical schools must, therefore, be regarded as having the same degree of urgency as the needs of other branches of civil medicine. This applies whether in determining the order of release of medical men and women from the Navy, Army, and Air Force or in allocating newly qualified practitioners between the Services and the various types of civilian medical practice. If the universities and medical schools are to play their part in giving the best possible training to students their needs in personnel must be fully appreciated not only by their own governing bodies but also by those Government Departments which guide the general policy of the University Grants Committee and the Central Medical War Committee.—We are, etc.,

A. ST. G. HUGGETT,
Professor of Physiology, University of London,
St. Mary's Hospital Medical School.
ESTHER M. KILLICK,
Professor of Physiology, University of London,
London School of Medicine for Women.

Trichlorethylene

SIR,—From a persual of your correspondence columns during the past six months it would appear that some misapprehension exists among occasional anaesthetists as to the effects and limitations of trichlorethylene. I should therefore be grateful if I might summarize the position very briefly.

It is now recognized that trichlorethylene is an admirable agent for the induction of general anaesthesia (preferably with nitrous oxide and oxygen) and for the maintenance of a light phase of narcosis when complete muscular relaxation is unnecessary—for example, for many dental and cranial operations, radical mastectomy, multiple excision of varicose veins, etc. The maintenance dose is much less than is often supposed and rarely exceeds a few minims per hour. The characteristic smell of the drug should be just perceptible in the inhaled mixture, and it may be difficult on some types of apparatus to give a sufficiently low concentration. When administered in this way respiration is quiet and slow while recovery is extremely rapid, with gratifyingly few after-effects as compared with ether. On the other hand, if attempts are made to "push" trichlorethylene in order to secure relaxation for upper abdominal or orthopaedic surgery, tachypnoea and other signs of overdosage will soon become evident and recovery may be delayed. Relaxation should be obtained by recognized methods, such as suitable nerve or field blocking, the intravenous injection of pentothal (probably soon to be ousted by curare), or by a change-over to some other inhalation anaesthetic such as ether. It is worth noting, with so many fire hazards in modern operating theatres, that trichlorethylene vapour can be regarded as non-inflammable under normal conditions in this country.

As a general analgesic the drug is probably unsurpassed in efficiency by any other in use at the present time. Two types of inhalers, using air as the vaporizing agent, are in common use. One is the "draw-over" type—e.g., Marrett's and Freedman's—and the other the "blow-through" variety, such as Hill's. Both can be used by the patient himself and are most efficient for many minor surgical procedures and in midwifery.

As regards post-anaesthetic toxic effects, nerve palsies have followed trichlorethylene given in a closed circuit with unsuitable soda-lime which became unduly hot. Under these circumstances a chemical reaction between the two substances can occur and toxic products be formed. To be on the safe side it is therefore recommended never to use a closed circuit with trichlorethylene. One case of suprarenal haemorrhage and liver necrosis has been reported after trichlorethylene had been given as an analgesic in labour. It is doubtful, however, if the drug played any part in the condition.

Arrhythmias are common during narcosis with trichlorethylene as with all inhalation agents. Recent work with the electrocardiograph suggests that the only arrhythmias to have much significance during anaesthesia are the multifocal ventricular type, which, in the case of chloroform, are known to be occasionally followed by ventricular fibrillation. Although this type of arrhythmia occurs in about 10% of patients anaesthetized with cyclopropane or with trichlorethylene, primary cardiac failure is almost unknown with either agent, so that it seems reasonable not to take pulse irregularities too seriously. After using trichlorethylene continuously for over 5 years I have yet to see any serious harm caused to a patient by it, but it is essential to recognize and respect its limitations.

May I conclude by suggesting that the occasional anaesthetist should at least read the literature relating to new drugs and methods before embarking on their use. Failure to do so results at best in disappointment and at worst in disaster.—I am, etc.,

Hill End Hospital, St. Albans. C. LANGTON HEWER.

Ludwig's Angina

SIR,—In cases of Ludwig's angina Major J. H. West (Sept. 15, p. 369) advocates nitrous-oxide–oxygen anaesthesia as a preliminary measure to facilitate the passage of an intratracheal tube. In the same communication he describes my warnings as to possible failure of intratracheal intubation as theoretical. I should like to assure Major West that my objection to any form of general anaesthesia in this emergency is the direct outcome of practical experience.

Regarding N_2O, many years ago my anaesthetist was severely reprimanded. The words of the coroner are engraven on the tablets of my memory: "Surely you now realize that nitrous oxide is a spasmotic anaesthetic, and should never have been given in a case of threatened obstruction to the air passages."

Since my communication in the *Journal* of March 17 (p. 384) I have received letters from three surgeons and a verbal communication from another describing fatal issues as a result of employing inhalation or pentothal anaesthesia in cases of Ludwig's angina. Consequently I feel impelled to plead that my advocacy for regional block anaesthesia in this condition is not, as has been suggested, an arm-chair theory, but so highly practical as to merit the term "vital."—I am, etc.,

London, W.1. HAMILTON BAILEY.

Sciatic "Neuritis"

SIR,—Dr. MacDonald Holmes and Mr. Sworn (Sept. 15, p. 350) quote my remark that in no case of sciatica had an inflamed and swollen sciatic nerve been visually demonstrated as the cause. At the time this was made I had been looking in the journals for some such observation, which I thought might have been recorded when one of the methods of treating sciatica was to mobilize the sciatic nerve after exposing it by operation. I could find no instance in which changes characteristic of active inflammation were described. My search was by no means complete, and I thought that my provocative statement might bring to light some case record which I had missed, but so far as I am aware none has been forthcoming.

Whether the statement for which I am responsible is correct or not, Dr. Holmes and Mr. Sworn err in applying it to the lumbo-sacral nerve roots. Congestion and swelling of the lower lumbar or first sacral roots have been previously noted in cases of sciatica in which the roots have been exposed at operation. Dr. J. S. Barr (Dec. 17, 1938, p. 1247) drew attention to this finding in association with prolapsed disk, and I have seen it demonstrated, as Dr. Holmes and Mr. Sworn describe, when no protrusion has been discovered. Whether in these latter cases the congestion and swelling are due to oedema from pressure by a protrusion which is not apparent at operation or is of true inflammatory origin is a question which has not been finally settled.

However this may be, Dr. Holmes and Mr. Sworn are mistaken in supposing that they have observed a lesion which, in the paper to which they refer, I considered had not yet been seen by human eyes. Lumbo-sacral "radiculitis" would, I submit, have been a more appropriate title for their paper than sciatic "neuritis."—I am, etc.,

London, W.1. C. P. SYMONDS.

SIR,—I was interested in the article by Dr. MacDonald Holmes and Mr. Sworn on sciatica. I am an orthopaedic surgeon, but, in common with some others, I take a great interest in the physiotherapy side of our work, and thus I have not a confirmed surgical bias, and in the course of a year of both orthopaedic and physiotherapy practice I see and deal with a large number of cases of sciatica. I am not, myself, entirely convinced with the latest idea that all cases of sciatica are caused by a prolapsed disk. I was present at the Royal Society of Medicine meeting when Dr. Symonds and Mr. Pennybacker put forward the above views, which were later strongly criticized in subsequent correspondence in the *Journal*. Anyone who reads American literature would be led to assume that the diagnosis of the disk prolapse is easy, yet I find myself able to cure most cases of sciatica by manipulation or physiotherapy, though, as a surgeon, it would be equally easy for me to perform laminectomies. Thus it is with great interest that I note that Mr. Sworn found that in only 55% of the cases which he subjected to laminectomy was a prolapsed disk found. I think the explanation of the three cases that he describes, which certainly present the picture one would expect from a prolapsed disk and in which, upon operation, none was found, were cured because Mr. Sworn, in performing his laminectomy, had necessarily cut through the ligamentum flavum.

In an excellent article in the *Journal of the American Medical Association* in February of this year Mr. Keeghan describes a series of similar cases in which he noted that the free edge of this ligament in some persons may form a thickened band which may rub against the dural sheath of the outgoing lumbar spinal nerve. Mr. Keeghan ascribes the cure of numbers of his cases where no prolapsed disk was found to the fact that the surgical approach of itself cured the friction on the nerve. This article, and a previous one by the same writer in the *Journal of Bone and Joint Surgery* for April, 1944, are worth more notice in this country.—I am, etc.,

London, W.1. G. O. TIPPETT.

SIR,—In their article on sciatic "neuritis" (Sept. 15) Dr. J. MacDonald Holmes and Mr. B. R. Sworn have described the results of three cases of operation for ruptured intervertebral disks. While adhering to the belief that the most common cause of chronic pain in the distribution of the lumbo-sacral nerve roots is the result of a ruptured disk, they cite these cases as being instances in which a sciatic neuritis has occurred idiopathically and not in the presence of a traumatic lesion. Two of the cases described gave a history of severe strain at some time prior to the onset of the symptoms. The third, that of the housewife, could probably also have given a history of severe strain or, at any rate, of a series of lesser strains giving rise to a cumulatively traumatic effect.

With such histories it would seem correct to assume that some tangible lesion other than that of a ruptured or prolapsed disk had occurred. It is probable that this lesion was a simple minor rotatory displacement of the fifth lumbar vertebra on the sacrum; in other words, a lumbo-sacral strain had been produced. This would give rise to all the symptoms of a sciatic neuritis which could not be explained in any other way. Contingent on the injury, the vertebral strain, spasm of muscle bundles would take place, and, by pressure on the spinal nerves themselves, cause an inflammatory process ascending to the nerve roots. A radiculitis with its attendant symptoms would result.

The theory of the mechanical compression of a nerve root from narrowing of the intervertebral foramen offers no better an explanation for the causation of radiculitis following a vertebral strain than it does in the case of a ruptured or prolapsed disk. The spines of patients suffering from marked scoliosis show very appreciable diminution in the size of their intervertebral foramina on the side of convexity without the development of peripheral symptoms.

On the assumption that the three cases referred to were examples of lumbo-sacral strain the initial steps taken for their cure and for an accurate diagnosis might well have been manipulative rather than operative. In any event the label does not seem to matter very much. Clinically and radiologically the diagnosis of a prolapsed or ruptured disk is surmise. The diagnosis is only confirmed or negatived after operation. Radiologically the diagnosis of lumbo-sacral strain is also surmise. Clinically there are such guiding signs as tenderness to the affected side of the spinous process of the fifth lumbar vertebra and accompanying muscle tension. The suggestion is that, in order to establish a diagnosis and, more pertinently still, probably to effect a cure, a specific manipulation or series of manipulations if necessary should be carried out before operative measures are considered.

A brief description of the technique of the manipulation recommended has been given elsewhere ("Vertebral and Sacro-iliac Strain in the Soldier," *J. R.A.M.C.*, Jan., 1944). If the manipulative procedure succeeds, the diagnosis—that of sciatic neuritis due to lumbo-sacral strain—becomes apparent *post hoc*. If it is unsuccessful resort may have to be made to the hazards of laminectomy.—I am, etc.,

St. John's Wood, N.W.8. E. GORDON FLEMING.

Domiciliary Midwifery and the Family Doctor

SIR,—I read with interest the article on domiciliary midwifery and the family doctor (Sept. 1, p. 294). I fully realize that the sentiments expressed are strongly held by its authors, and also that their intention in writing it was to stress their disagreement with the report of the Royal College of Obstetricians and Gynaecologists. On the contrary, they put forward a detailed argument in favour of a scheme similar to that outlined in the Maternity Services (Scotland) Act, 1937. At the outset I would like to point out that I have no personal knowledge of the workings of this Act, and equally to stress that this letter is not written as a result of any preconceived prejudices of my own, but merely in a spirit of honest inquiry. I am rather surprised by some of the statements which they so confidently make, and in order to save space I have put my queries in tabular form.

"*Doctors all over the country are perturbed.*"—What proof can they give that this is in fact the case? My own experience has been that a large proportion of medical men, in England at least, have little liking for midwifery, and are only too pleased that some of the burden should be taken from them in the manner suggested by the College.

"*Increased hospitalization.*"—They imply that patients prefer to have their confinement at home. Most of my own private patients, on the contrary, express a strong preference for a hospital, and the main difficulty is to find sufficient accommodation.

"*We have also tried to show that many of the adverse criticisms of our work as practical obstetricians have not the support of recent investigation.*"—I have most carefully read and re-read their article, but cannot find any proof of this statement. Such proof would require massive statistics, and without such support a statement of this sort loses its meaning.

"*The family doctor has already realized that the more careful and skilful his ante-natal examination the less is the trouble he has at the confinement.*"—Surely this is the very argument in favour of ante-natal care being carried out by doctors with some extra training. I am firmly convinced that *adequate* ante-natal care requires much more practice than can be obtained by the average general practitioner.

"*We contend that successful midwifery depends upon a sense of confidence and an absence of fear.*"—I find it difficult to see how such a state can influence the incidence of posteriors, breeches, transverse lies, toxaemias, ante- and post-partum haemorrhages, cephalopelvic disproportion, and so on. But surely it is these very conditions which so strongly influence the outcome for both mother and baby.

"*Mastitis, phlegmasia alba dolens are more common in hospital practice than in general practice.*"—With the first statement I disagree. In the last three years I can call to mind 2,500 confinements which were conducted at hospitals with which I am connected, and in one case only did a puerperal mastitis develop. This was remarked upon at the time by the ward sister concerned as being something quite abnormal. On the contrary, I have seen in the same time several very severe breast infections which occurred in domiciliary practice. As to phlegmasia, etc., it is obvious that any deviation from the normal is likely to occur more frequently in hospital than in domiciliary practice, as difficult cases on the whole tend to be sent there. One might as justifiably maintain that maternal deaths are practically unknown in the private practice of midwives, as a medical man has invariably been summoned long before such an occurrence, and the onus is transferred to him.

"*All are agreed that forceps were frequently used when they should not have been.*"—This is, I think, only too true. One general practitioner whom I know very well admits that in his lifetime he applied forceps well over 2,000 times. In that time he attended about 3,500 confinements. What I cannot understand is the argument that many general practitioners now go to the opposite extreme because of the campaign against this wholesale abuse of forceps, and as a result allow suffering, and even the loss of infant life, to occur. Surely this implies lack of knowledge, confidence, or conviction.

"*Tears of the cervix.*"—It is suggested that anaesthesia may act as a preventive of such cervical injuries. Can the authors produce any really adequate evidence that this is in fact the case? On the contrary, can they give any definite proof that forceps application before full dilatation of the cervix is not still only too common in some quarters?

"*The widespread and unnecessary use of Caesarean section or of induction of labour . . . led to protests from influential quarters.*"—This is of course true, though it does not by any means follow that such unnecessary use is by any means limited to obstetric specialists.

"*Errors of judgment.*"—The writers state that, although anyone, however experienced, may make an error of judgment, yet such do "not happen in the commoner difficulties, but in sudden and unforeseen emergencies." All will agree, I think, that posterior positions of the occiput and deep transverse arrests of the head are among the commonest obstetric difficulties. It is my experience—and I am certain that other obstetricians must have had a similar one—that it is these common conditions which so often remain undiagnosed, and to which one is called in consultation.

"*Domiciliary midwifery . . . is safer in all but a small minority of cases than institutional midwifery.*"—I would only counter this statement, made without statistical backing, by another statement, also based on opinion alone. My own experience has been that the hazards of any obstetric difficulty, however slight, assume greatest proportions in the patient's own home, greater proportions in a nursing home, and smallest proportions when the delivery is in a hospital. All obstetricians of my personal acquaintance have repeatedly made a similar observation.—I am, etc.,

London, W.1. D. G. WILSON CLYNE.

SIR,—I have read with interest the paper by Lieut.-Col. Dale Logan and Dr. MacKenzie, with some of which I am in agreement. I do feel, however, that many of their arguments are open to criticism. Their opening paragraph is a misrepresentation of the object of the Royal College of Obstetricians and Gynaecologists. The object before the Council was to provide a *uniform standard* of obstetrics for the whole country. No one in the profession can deny that the standard of treatment varies considerably in different parts of the country and with different individuals.

The writers suggest that the Royal College is usurping the functions of the General Medical Council. I would suggest that they read the Lloyd Roberts Lecture by Sir Comyns Berkeley, published in 1929 in the *Journal of Obstetrics and Gynaecology of the British Empire*. The record of the General Medical Council regarding obstetric teaching is bad. Any improvement in obstetric teaching has been the result of the General Medical Council's yielding to pressure brought to bear by the teachers and teaching schools.

Had either Lieut.-Col. Logan or Dr. MacKenzie been a resident in a maternity hospital in the early '20s (as they may have been, although it is not noted in the *Medical Directory*) and had the opportunity of seeing many women admitted mutilated as the result of misapplication or lack of judgment in the use of forceps, the ruptured uteri following abuse of pituitary extract, etc., they might view domiciliary practice with a less friendly eye. Midwifery has improved in the interval for, I believe, the following reasons: (1) Better training of medical students. (2) Better training of midwives. (3) Better co-operation between family doctors and consultants. (4) Efficiently managed maternity hospitals. The most marked improvement has occurred since the outbreak of the war. Is this not due to the fact that because so many practitioners were serving with H.M. Forces it was necessary to concentrate maternity cases in institutions where the greatest number of expectant and parturient women received skilled attention from the limited specialist personnel available?

In the paper the fear is expressed that the general practitioner is being excluded from midwifery. My experience may be purely a local one and not representative of the British Isles in general, but in recent years fewer of the younger practitioners are undertaking midwifery. If they wish to avoid the irregular hours, loss of sleep and family life, who can blame them? Many of the younger doctors who are practising midwifery have, unlike their predecessors, held resident obstetric appointments before embarking on domiciliary practice. I feel sure that this type of practitioner will be encouraged and included in the maternity service suggested by the R.C.O.G.

Personally I find the relation between the obstetric consultant and the family doctor remarkably improved. Now, a consultation is called for in most cases of doubt, not, as in the past, to cover a mistake already made. I admit there is a small minority of obstetric consultants who view a case with a surgical rather than a physiological eye, and thereby bring discredit on some life-saving operations, but it is unfair to suggest that consultants have not enough experience of normal midwifery. Their training and appointments of necessity ensure that they have this experience. No man has the right to regard himself as a consultant unless he has lived for at least two years as a resident in a large maternity hospital with an extensive domiciliary practice attached.

The paper raises a most important point regarding the relief of pain. I agree with the writers that this should not be delegated to nurses. I feel sure that if in every area a team of skilled obstetric anaesthetists—for obstetric anaesthesia is a very skilled branch of anaesthetics—were available for either midwife or doctor one would have gone a long way towards solving many of the difficulties and removing some of the dangers of obstetric practice.

I agree with the authors that a patient is safer, from the point of view of sepsis, in her own home than in some institutions. To improve the standard of efficiency of every maternity institution—nursing home or hospital—must be the object of everyone concerned with midwifery. The authors cannot surely be serious when they suggest that a confinement at home is safer than in an institution. Who can tell which patient, even at a normal confinement, will not have a post-partum haemorrhage or retained placenta? The ease with which a blood transfusion can be obtained in an institution must have saved many lives. The presence or absence of neonatal infection is an indication of the efficiency of the nursing in any institution. I know one private department with which I am connected where the maternal mortality in 1,243 cases has been 1.6 per 1,000 (one of these a pulmonary embolus) and where the neonatal mortality is 14 per 1,000. This department is in the sole charge of a skilled nursing staff and five of the much-maligned consultants.—I am, etc.,

Belfast. C. H. G. MACAFEE.

SIR,—The lack of any proposals in the White Paper for improving the existing maternity services made it inevitable that some such report as that of the Royal College of Obstetricians and Gynaecologists should be produced. If "doctors all over the country are perturbed by the recent report" it should be realized that just as many who were looking forward to seeing new ideas on the maternity services incorporated in the White Paper were bitterly disappointed at the omission. It seems to me that the article by Lieut.-Col. Dale Logan and Dr. MacKenzie has been written by men who work predominantly in rural areas, and, of course, rural midwifery is on a very different footing from urban practice. In rural midwifery a doctor has to be good, but modern urban practice has moved very far from the patriarchal scheme of things outlined by Dr. MacKenzie in his contribution to the discussion on ante-natal care in the *Journal* of Aug. 16, 1924 (p. 271).

Surely the report of the College is eminently reasonable. It is mainly a statement of the shortcomings of the present services in both training of personnel and the conditions in which they have to work; how some of these defects of training and working conditions have been remedied and how they could be still further improved. (I, myself, up to the day I qualified had never applied forceps to a living person, and some of the house-surgeons who come to the hospital where I work have not done so either and the best have done so only a few times, and this in 1945.) We ought to support wholeheartedly any scheme that helps us to increase our training and competence and provides better facilities for us to work under. Let us see how the present system does work.

I have been many years in practice and have attained to a semi-specialty on the staff of a hospital that last year catered for 1,085 admissions and 961 deliveries. These figures are not loaded with emergencies sent in from outside. They are practically all booked cases—i.e., a totally unselected section of the community of the same category as those who decide to have their baby at home with a municipal or private midwife. It has always been my contention that no one knows that any given patient will have a normal labour till that labour is safely over. The following list shows the number of things that happened to our patients and that one assumes would happen to an equivalent number having their babies at home:

Number of patients delivered	961
Number admitted for toxaemia	116
Forceps	88
Caesarean sections	23
Hysterotomy at 28 weeks	1
Breech deliveries	21
Manual removal of placenta for P.P.H.	13
Blood transfusions	20
Induction of labour: medical	25
„ „ surgical	32
Eclampsias	3
Pathological laboratory investigations	315
Rh-negative patients discovered	5
X-ray examinations	136
Episiotomies	67
Total perineums sutured	267
General anaesthetics	161
Ante-natal attendances	7,759
Post-natal attendances	1,102

Number of patients attending post-natal clinic 808 out of the 961.

There was a very extensive use of analgesics: pethidine, sodium amytal, N_2O and air, etc. How does this list compare with one's knowledge of domiciliary practice as carried out among working-class patients and those attended by municipal midwives?

In 1943 in this city 1,535 confinements were attended by municipal midwives.

1. *Forceps Rate.*—This is very much reduced in domiciliary practice. Midwives tell me they rarely "need" to send for a doctor more than once or twice or 2 to 3 times a year in about 90 deliveries. I consider the forceps rate in the hospital too low. Many more women who are becoming tired might be helped out with low forceps. In my private practice every patient has a forceps delivery except in those cases where labour is so rapid that I simply do not arrive in time. The New York Lying-in Hospital had a forceps rate for 1942 of 571 in 3,151 deliveries. A few years ago I addressed a questionary to the doctors in this area on how they conducted a forceps delivery in a working-class patient's house; 60% replied and the vast majority did it single-handed with only the midwife to help them—i.e., to give the anaesthetic and hold up the legs, etc.; no sterile towels or gown. In this area neither the city or county health departments nor the hospitals provide a sterile outfit of towels and gowns for doctors doing a confinement.

2. *Analgesics.*—Practice varies, no doubt, but in this area very little is given by midwives, even bromide and chloral. Gas-and-air is now available, however, for any patient wishing it. It should be clearly understood that C.M.B. rules preclude any attempt at adequate sedation when only a midwife is in attendance, and even if a doctor is called in for that purpose it is doubtful if more than one dose would be prescribed, which is hardly adequate.

3. *Suturing of Perineums.*—It is, of course, notorious that midwives call for medical aid in a ridiculously low percentage of cases. Every obstetrician knows how far up the posterior vaginal wall a tear may extend without the external skin tear being very great. It simply means that many tears which should be sutured are left, with the consequent tendency to a rectocele. The common practice of simply putting stitches through the skin of the perineum as deeply as possible means an inefficiently sutured perineum. How many patients have an anaesthetic, local or general? I sutured a perineum for a midwife three weeks ago and she told me it was about the very first time she had ever seen anyone use any kind of anaesthetic. She is a municipal midwife of very long experience. It should be realized that a doctor is not always available at the time of the birth. This frequently means that the midwife leaves things ready and the doctor comes when he can and works single-handed. At the other end of the scale the New York Lying-in Hospital in 1942 had 1,876 episiotomies in 3,151 deliveries.

4. *Ante- and Post-natal Care.*—The vast majority of women who decide to have their babies at home attend a municipal ante-natal clinic. After all these years these are still being held in church rooms, disused shops, empty houses, etc., where patients undress behind a couple of screens and everything is makeshift. These clinics are commonly conducted by doctors who do no midwifery themselves and may have had no special training in obstetrics. The post-natal examination of these domiciliary patients presents difficulties because a great many will not go to a strange clinic or hospital to be examined by a new set of people.

What happens to the patients who ought to have a blood transfusion after a P.P.H.? No doubt the "bad ones" were sent to hospital, but the "flying squad" was called out only twice last year, both times to the county. Are the inductions of labour done for toxaemia? I feel only the severe cases go to hospital. Pyelitis and urinary infections are common; are all the urinary investigations done that are necessary? Are all the stillbirths and jaundiced babies investigated for the Rh factor? I doubt it. The City General Hospital ante-natal clinics do routine Wassermann tests on every patient, but these are not done at the municipal clinics. While making these frank criticisms of some aspects of the domiciliary service I would not withhold my share of praise of those men who, through the years, have attained great skill, nor of the midwives who work long hours at all times of the day and night in all weathers and who between them achieve very great results and bring care and help to the very poorest. I do maintain, however, that much more could be done for doctors, midwives, and patients.

The trend for more and more patients to enter hospital for their confinements is not a war phenomenon only, for the numbers have progressively risen year by year long before the war. It is not surprising. Maternity hospitals provide greater and more skilled ante-natal care by the men who are going to be responsible for the confinements, a higher standard of obstetrical judgment and technique. They provide relays of nurses, a doctor on the spot, senior consultants on the telephone, properly equipped theatres and labour wards, and plenty of analgesics; professional anaesthetists, plasma and blood on tap, oxygen and skilled resuscitation measures awaiting the baby; special care for premature infants, a visiting paediatrician, *x*-ray and laboratory facilities on the spot.

Everything is by no means perfect. I do not like the usual method of staffing hospitals by young house-surgeons and senior visiting consultants. Whole-time senior specialists resident in or near the hospital seem preferable. I am not enamoured of labour wards, where there may be several patients at different stages or of different temperaments, where the young and apprehensive is neighbour to someone noisy. Ante-natal clinics should not just be a frantic search for abnormalities. Talks could be given there to patients on some of the commoner things that go wrong in pregnancy; the importance of diet and vitamins, the coming baby, hygiene, suckling, etc. With the patients grouped together it is easier to prepare them psychologically for their coming labour, and there would be time for them to get to know the doctors who were going to be in charge, and time for them to feel at home in the hospital so that it would seem a friendly place. Progress will, I feel sure, be on these lines.—I am, etc.,

Leicester. C. L. SOMERVILLE.

Women in Labour

SIR,—There will always be pain in labour and tearing of the cervix and perineum so long as the unnatural position of lying down is enforced. The native woman squats, as did our ancestors, and so does the country woman when left to herself. Perhaps this is only seen now in remote parts of the British Isles as in the Islands and Highlands of Scotland. Peasants all over the Continent squat for defaecation and for parturition; hence little constipation and easy childbirth.

Reading Engelmann's *Posture and Practices During Labour* one realizes how recent is the now common practice of confinement on side or back. If you want to get a bullet out of a bottle you do not lay it on its side but turn it upside down, that the weight of the pellet may assist, not hinder, the evacuation. The difficulty attendant upon the use of the bed-pan is similar. In this position the pressure of the motion is exerted *unequally* on the circular wall of the bowel and hinders the process, because the normal reflexes are thrown out of gear. The same thing happens in a confinement when the patient is recumbent: the normal stimulus exerted by the weight of the on-coming head is applied on one side of the passages only;

unequal swelling of the parts results, which delays the advance of the child and increases the distress of the patient. Eventually the foetal head is forced past a circular opening now swollen out of shape and often blue with congestion—a condition most favourable to laceration.

My first squatting case in England was at Paddington L.C.C. Hospital. A primigravida of 42 belonging to a medical family, after doing ante-natal exercises designed to make her pelvic joints supple, was willing to forgo chloroform and be confined in the squatting position as an experiment. She talked to us during the proceeding, and said that as the head was passing the vulva (crowning) she felt no pain down there but only in the abdomen. (All went well, perineum intact; she made a good recovery and was able to nurse the child.) Presumably equal pressure numbs the parts exposed to it. But even more important than the actual position at the moment of delivery is the free movement allowed beforehand. This hastens matters and prevents the unnatural one-sided congestion so often seen that we become accustomed to it.

The idea that childbirth must always be so painful is held as an article of faith by many. In the East the psychology of this belief is thus explained. They say that all women are jealous of the child-bearing woman, and many expectant mothers there will tell you they do not go out for fear of ill-luck caused by envious eyes. Can this be the reason that almost every expectant mother in Britain seems to have friends like Job's comforters who discourse on the dangers and agonizing experiences that lie before her? For fear, so often subconscious, inhibits relaxation, and will turn a normal easy labour into a prolonged and difficult one.—I am, etc.,

London, N.W.11. KATHLEEN VAUGHAN.

Physiotherapists and Other Medical Auxiliaries

SIR,—I think it is time to ask whether the arrangements for training, qualification, national control, and social welfare for these important medical aides are entirely satisfactory. I ask this, not only from the point of view of the community as a whole, but on behalf of the interests of the societies concerned in particular.

Let us take the physiotherapists as an example of other societies, which all, incidentally, are tending to compete with the more fundamental sister service of nursing. The physiotherapists train in a variety of schools approved by the Chartered Society of Physiotherapy, which lays down the standard of training and arranges the examinations and standards of qualification. It conducts the examinations and confers the diploma upon successful candidates. The Society forms a register of approved physiotherapists. All of these functions are covered by the terms of its charter. In addition, it is a body which arranges for the postgraduate education of its members and for their social welfare, and takes part in political activity for the establishment of conditions of work and standards of pay.

In other words, the Chartered Society of Physiotherapy covers the functions which in medicine are those of the General Medical Council, the Universities and other examining bodies, the British Medical Association and other more social medical bodies, together with the Medical Defence Union. I have no reason to believe that the Chartered Society does not deal with all these functions satisfactorily, but the situation is an unusual one in the British social-political sphere and does not offer the safeguards which we usually find. It would, perhaps, be wrong to suggest that the various functions of such medical auxiliary societies should be split up into the compartments which we find in medicine as a whole; but some split-up, I do feel, is necessary. The standards of education, examining, and registration should be the function of one body, and perhaps should cover all medical auxiliaries. Conditions of work with social and political problems should be the function of a separate association. This was a problem which had to be faced by a similar body with which I am concerned—namely, that dealing with the training and examining of the special group of nurses employed in orthopaedics. The Joint Examining Board of the British Orthopaedic Association and Central Council for the Care of Cripples has made it perfectly clear that it will refuse to have anything to do with any aspect of the welfare of these people apart from standards of education, examining, and registration.

What has been said about physiotherapists applies also to such sister bodies as those concerned with occupational therapy, radiography, etc.—I am, etc.,

Exeter. NORMAN CAPENER.

Press Publicity

SIR,—Every one of Dr. Leak's colleagues will sympathize with his annoyance at the publicity which has been accorded to his recent contribution on the subject of impending dissolution, and none will require his assurance that such publicity was both unexpected and unwanted. But as in his letter to your columns (Sept. 15, p. 368) he raises the question of newspaper reporting in general, it may not be inappropriate to attempt a dispassionate examination.

Dr. Leak was challenged, so to speak, by a reporter with the charge that he was the first doctor in this country to put into print that he practised euthanasia. Presumably Dr. Leak was concerned not so much with renouncing a claim to a perhaps undesirable priority as in repudiating the practice of euthanasia as this term is understood. He says he found it no easy job to make the reporter understand the difference between *that*, and the action he undertook in the interest of his suffering friend. With all respect for Dr. Leak's sincerity and his dialectic powers, I should have thought he was attempting to do something not only difficult but impossible. For although the extraction of a sentence from its context may on occasion lead to distortion and even complete misinterpretation, the statement that he administered an intravenous injection to the patient "because he felt justified in putting him out of his misery" can hardly be open to alternative explanations. That Dr. Leak, in fact, failed to implement his intention does not invalidate that intention, and it is not surprising to find the reporter accepting this conclusion and utilizing it for presentation to a public avid for such information. Need I add that I am not criticizing Dr. Leak's principles nor considering the subject of euthanasia in general, whether ethically, legally, or otherwise?

Perhaps our profession does not adequately appreciate that the doctor and all his doings are "news," attractive material for the provision in the lay press not of instruction but of entertainment. It is the *métier* of a journalist of a certain section of the Press to select outstanding features *ad captandum vulgus*. I do not suggest that he will deliberately misrepresent, but it is the dramatic, the spectacular, the sensational that he is seeking, and with scientific accuracy he has no concern, more especially as in that respect he has no responsibility. No wonder that the innocent contributor to a professional journal is on occasion amazed and indeed appalled by the startling repercussion of something that has been extracted and cleverly presented, perhaps with pretentious head-lines. It is best for us to recognize the inevitable. I do not think that anything can avert such occurrences. Dr. Leak himself expresses the opinion that we should help to educate the public in some of the facts of health and medical practice. A fine ideal; but as a humble amateur I cannot but fear that we can never compete successfully with the professional whose very livelihood depends upon diversion and not instruction.

I doubt if any necessary or useful purpose is served by the "disclaimer" which is published by the doctor who has incurred publicity whether through some innocent inveiglement or quite gratuitously. To all who know him his protestation is quite superfluous, and to any who are uncharitable enough to suppose that publicity was sought or encouraged, the disclaimer may provide additional evidence in support of their belief.—I am, etc.,

London, W.1. ADOLPHE ABRAHAMS.

SIR,—In his letter on press publicity Dr. W. N. Leak speaks of the good will which he has encountered in the newspaper world and calls for greater co-operation between his profession and the journalist profession. As one who has for ten years been a scientific journalist and who has always included medicine within the category of science, I would like to make a plea for closer co-operation than exists. There are, I believe, three reasons why the medical profession should welcome publicity in the ordinary newspapers:

1. Without informed news about medical matters the only medical information received by the common reader is con-

tained in advertisements of patent remedies—at best a one-sided, probably lop-sided, education in the art of healing.

2. Without a clear, though doubtless elementary, knowledge of the body in health and disease and of the rationale of treating it, your patients can give you no help in your task and you cannot rise in intellectual status above the medicine man of a primitive community.

3. In a democratic community you are rightly at the mercy of your patients as a voting body. Through no fault of your own you cannot claim as yet 100% success in your art, and it is well that the general public should realize that it suffers from acts of God far more often than from medical incompetence.

I would add that the voluntary hospitals seem to me much to blame for their neglect of an obvious weapon in their hands. On every day of the year something is happening in some hospital which could be the basis of an article which would interest the public and yet be perfectly accurate and in medical good taste. It is only when an outstanding event—such as the discovery of penicillin—is allowed to "break" that we laymen get any idea of the work being done for us.

What is needed from your profession is the appointing by hospitals, by research laboratories, and by medical learned societies, of officials with publicity sense to whom the lay press can refer for information. So far as the newspapers are concerned, they must appoint men on their staffs with a scientific education, authorized to control all news items and other articles having to do with scientific or medical matters (not least they must be able to control the head-line writers). Such journalists must work out a code of ethics for themselves, and I suggest that the following points are among those to be included: (1) Articles on medical research and discoveries should not appear in the lay press before they have authoritatively appeared in the technical press. (2) "Feature" articles written by journalists who are not medical men should be submitted to a referee for "vetting" as to accuracy. (3) Personal publicity should in most cases be avoided. (4) The encouragement of false hopes of cure and the giving of a false perspective by wrong emphasis must be avoided. The social rather than individual implications are those that should be stressed.

What is needed from the medical profession is a habit of giving generous publicity in a steady day-to-day stream. This is the only way to avoid the "head-line" technique too common to-day. Visualize what happens in a Fleet Street office: an enterprising reporter with only one qualification, "news sense," turns over the pages of the *B.M.J.* or the *Lancet* and notes that somebody's prostate has been treated with a hormone preparation. He rings up a few doctors, who treat him with alarmed contempt; falls back on his own ingenuity and a family medical guide, and the results come out as "cancer cure found." The way to stop this is for the medical profession to develop "news sense" on their part and to co-operate with the well-educated men that Fleet Street can provide.—I am, etc.,

Burwash, Sussex. JOHN LANGDON-DAVIES.

Doctors and the Social Trend

SIR,—I always find Dr. Shackleton Bailey obscure. Such pontifications as "Whereas retention of private practice might have been tolerated as an anachronism best left to die a natural death, it might now be hailed as a certain indication that the Government intended to cater for sectional interests generally and in a way that would perpetuate the reservation of a super-service in life's essentials for the benefit of a small and wealthier minority" (Aug. 7, 1943, p. 181) are too much for my simple mind. I don't see what he is getting at. But to the plain man it would seem to be fairly obvious that amid the mass of verbiage there runs, and has always run, the single thread of a confirmed and convinced acquiescence to lay political pressure, or "defeatism" as Drs. Pemberton, Harrower, and Henderson call it (Sept. 1, 1945, pp. 302 and 303).

"The electorate," as typified by the man in the street, has very little interest in the adumbrated regimentation of the doctors, and a patient of mine crystallized the mass of opinion that I have listened to for the last year or so when he said, "Well, doctor, *we* don't know anything about it. It's up to you, and if you doctors have anything to object to you ought to up and say so. *We* can't help you."

On Feb. 27, 1943, p. 266, Dr. Bailey offers "the whole resources of modern medicine to 100% of the population," and invites us to "see to it that every one in that profession is adequately paid for his services." But the 100% issue was flatly turned down last December by the A.R.M., at which I was present, by 147 votes to 88; and it is painfully obvious to anyone like myself who has for forty years been closely watching the "social trend" as it affects medicine that *no* Government, however able, patriotic, and democratic, will *ever* offer the doctors adequate payment for anything they do for them; witness the miserable fees paid for N.H.I., Factory Act examinations, and Service men and women sick on leave. In refutation of this Dr. Bailey produces the following astonishing argument (Oct. 2, 1943, p. 436): "I agree with Dr. Gaskell that remuneration under the Factory and N.H.I. Acts is very low, but I do not think that this is a sample of Governmental valuation of our professional services." In Heaven's name, then, what is it a sample of? He goes on to say, "In my view it represents the valuation we have set upon ourselves by lack of corporate idealism and the debasement of our members to the level of competitive business units." If this means anything, it means that we have in the past and in certain cases been slavishly following the very footsteps of surrender which Dr. Bailey is now inviting us to tread, in response to his "world force," "electorate," and "social trend." On Sept. 4, 1943, p. 311, he takes Dr. Leak to task for saying that "the doctor's duty is to speak and act as he thinks right, without fear or favour," opining that he "fails to see how this ideal can be achieved in any system where the doctor's remuneration is directly proportional to the extent to which he pleases each individual patient." But here I, and I believe the vast majority of my colleagues, are definitely "on the side of the angels"—i.e., Dr. Leak.

Either because we have not the time, or are too lazy, or too much interested in our job, most of us cannot be bothered to be always, or at any time, laying ourselves out in sycophantic manner to "please" our patients in any other way than by being pleasant to them and doing our best to cure them of their diseases, which is after all what they want. On Feb. 27, 1943, p. 266, Dr. Bailey says: "If the medical profession offers every citizen full medical services under the 100% proposal and at the same time announces that it is prepared to accept a higher rate of payment by private arrangement *for the same services* [my italics] the public must conclude either that we think it worth while to exploit the type of person who will pay £2 for what he can get for £1 (but if he were paying £1 to his doctor he presumably would not be in the 100% free scheme), "or else that we are conniving at the suggestion that patients treated under the 100% proposal are not really enjoying the whole resources of modern medicine at all." What dreadful nonsense! I am sure Dr. Bailey does not believe it. Imagine saying to a patient, "Here is a prescription for a bottle of medicine which you can get made up for nothing under the N.H.S. at a chemist, but if you like you can take it down to my own private dispenser and get it made up there, in which case my fee will be 7s. 6d., and the medicine will do you much more good!" Neither Dr. Bailey nor anybody else is such a humbug as that. It is obvious that, even looking at the matter from the most mercenary and commercial point of view, it is to our interest to get our N.H.I. patients well and off our hands as quickly as possible, and in order to do this we give them the best possible treatment.

As to his strenuous objections to any patient "contracting out" of any National Health Service if he so wishes, suppose that the furniture dealers and butchers were foolish and weak enough to allow themselves to be paid salaries and turned into Government Departments. I am a member of the N.F.&B. Service, and I want a new armchair and a leg of mutton. If I do not quite like the look of either of the two commodities offered me under the "take-it-or-leave-it" rules of the N.F.&B.S., why, supposing that I have saved up the necessary money, should I not have the chance of dealing with a furniture shop and a butcher who are not members of the service, and who have a "vested interest" in selling me an armchair which is a joy to sit in and a leg of mutton which looks to me very good?

"The medical profession can no longer defy a force that has swept Mr. Churchill aside" (Aug. 18, 1945, p. 235). But the swing-over to Labour and the temporary eclipse of the greatest leader we have ever had had nothing whatever to do with any feeling for or against the medical profession or medical services. Dr. Bailey might just as well say: "Now that the Japs have given in and the Americans have become so powerful we really must put our house in order and give in all round. Let no one think he can obstruct the course of events."

It is quite on the cards, however, that the new Ministry will see the light, and will realize that tinkering with the doctors now will not reduce the incidence of sickness and ill-health by one iota, and that their true mission is to remove the causes of disease, malnutrition, and national debility not by salaries and bottles of medicine, but by improving housing, environment, conditions of work, and facilities for outdoor recreation.—I am, etc.,

Stowmarket, Suffolk. H. S. GASKELL.

Humanitarianism and the European Situation

SIR,—The recent reports in the press that graves are already in preparation for those who are going to die of starvation during the coming winter in Europe must have brought some realization, even in a world immunized against horror, of the ghastly aftermath of war. Nor to a great many of us does the fact that the greater proportion of those already doomed are our recent enemies alter the tragedy and fundamental "wrongness" of the situation. For whatever the causes and wherever the responsibility lies for this economic and social chaos the result of helplessly watching the slow death of friends and relations can only be the breeding of hate in those who survive. There lies the danger, for there is already enough hate in the world, and in it lies one of the many causes of wars.

I am well aware that the results of war in Europe are inescapable, and that in a world where food and transport have been decreased and disorganized death from starvation is inevitable. I am equally well aware that a great deal is being done both by the United Nations (U.N.R.R.A., etc.) and by individual and voluntary organizations throughout the world to mitigate the disaster. But I believe there is another method which could be applied which not only would save at least some lives, be it only a small proportion, but would also make a great and very real contribution towards world peace. It would involve personal sacrifice, difficulties, and perhaps even hardship on the part of many families, but within the few hours that I have been thinking and talking of this idea four families among my immediate circle have indicated their willingness to make the attempt.

Is it not possible for a considerable number of families to undertake the care of one European child, under the age of, say, 10, for a period of one year? I am quite convinced that we could find without difficulty at least ten thousand families willing to do this in Great Britain, and furthermore to accept this responsibility without an increase in the present ration scale. This could be extended to other countries, who, I am sure, would do likewise—Canada, South Africa, America, Eire, Sweden would all accept a quota. "Quota" is not perhaps the correct word, since the first essential for such a plan to be successful would be for the homes to be offered with absolute certainty before any attempt was made to find the children to go to those homes. Difficulties would be great—language, transport, opposition from those we wish to help even—but they are not insurmountable. Apart from world shortage, the greatest single difficulty in the European food situation is the transport and distribution of food in Europe. That problem is relieved by the suggested solution of taking the child to the food instead of the food to the child. There is ample food in this country alone, low as the fat and protein ration already is, to feed at least 100,000 more children without issuing any more rations than are issued at present and without any real hardship to anyone. I know that to be true from both my knowledge as a doctor and my experience as a prisoner of war. The transport difficulty could possibly be overcome by the use of heavy bombers for transporting the children; it would be a great thought that the use of one of the instruments of liberation was being extended to the salvation of Europe.

If such a plan can be put into operation the long-term effects are incalculable in their potentiality for good. It would be a real step towards fostering that internationalism which so many of us realize is the only hope of survival and progress of the human race. I trust, too, that German children would not be excluded from the plan; indeed they must be included; for apart from all humanitarian ideals the educational value of even 1,000 German children spending a year in British homes would be greater than twenty years of attempted control of education in Germany.

I am writing this letter to the daily press and to the *British Medical Journal* in the hope that someone will investigate the possibility of putting this idea on a practical basis. I am unable to do this myself as I am leaving for the Continent within the next few days to take up work with U.N.R.R.A.—I am, etc.,

ERIC TOWNSEND,
Late Lieut.-Col., R.A.M.C.;
Skipton. Ex-P.o.W., Oflag 79, Stalag Luft 3, etc.

Obituary

Burnley loses a senior practitioner by the death on Sept. 2 of Dr. JAMES HAWORTH, who had been in practice there for over forty years. Dr. Haworth, who was a native of Bacup, was educated at Manchester Grammar School and Edinburgh University, graduating M.B., Ch.B. in 1898. After holding resident appointments at Oldham, Sunderland, Lancaster, and other places, he entered general practice in Burnley in 1902. During a long period of service his activities were numerous, but his anaesthetic work was that nearest his heart. At the time of his death he was senior anaesthetist to Burnley Victoria Hospital and anaesthetist to Burnley Municipal Hospital; from 1916 to 1919 he had been anaesthetist to the Military Hospital at Whalley. Though latterly not active in the B.M.A., he had at one time been secretary of the local Division. James Haworth was not one of those practitioners who "do anaesthetics"; he was a student of his subject. He paid particular attention to the American literature and became a Fellow of the American-sponsored International College of Anaesthetists. Thoroughly expert in the older methods, he modified or discarded these when convinced by personal trial of the advantages of a newer procedure. He welcomed progress, but viewed change in that canny manner that helps so much in its correct assessment. He leaves a widow, a daughter, and two sons who were both abroad with the Forces. He was one of the many of our profession who, carrying on till the end of the war, have not survived to welcome home their sons and successors.—A. D.

Dr. RONALD CATHCART OZANNE, who died after a short illness on Sept. 14, aged 58, was well known and much liked at Harrogate, where he had been honorary physician to the Harrogate and District General Hospital for many years, and also honorary anaesthetist. From Haileybury College he went to Oxford, and thence to Guy's Hospital after gaining first-class final honours in the School of Physiology in 1909. He graduated M.A., M.B., B.Ch. in 1913. During the war of 1914–18 he served in the R.A.M.C. with the temporary rank of major and was surgical specialist at No. 22 Casualty Clearing Station. On returning to civil life he settled at Harrogate, where his late father had been in practice. Dr. R. C. Ozanne joined the B.M.A. in 1919, and was an active member of the Harrogate Medical Society. He was for some time medical officer for Dr. Barnardo's Homes in Harrogate and at Hollins Hall. The funeral on Sept. 18 was attended by many medical colleagues and representatives of the Harrogate General Hospital and other institutions.

Mr. A. Ernest Sawday writes to supplement the notice published on Sept. 1: I should like to pay a tribute to the memory of Dr. ALEXANDER BROWN, whom I met only once, though I had previously spoken to him on the telephone and corresponded with him a few times. Some weeks before his death I had occasion to visit a patient with him. I picked him up at Bartholomew Road and took him to the patient's house. I found him a very spruce, alert man. He took the greatest pains over the patient, who was suffering from malignant disease. Later he told the patient's wife (to cheer her up) that he himself had had an operation for similar trouble. As we drove away he informed me in the most cheerful manner that he had secondary deposits in his liver. He said that he realized that he could do nothing about it and that he did not propose to let it worry him and that he hoped to go on working. I am left with the memory of a very fine doctor, a great gentleman, and a very brave man.

A dispatch from the Canberra correspondent of the *Times* states that information has been received from trustworthy Chinese and local sources, and confirmed by the Japanese, to the effect that, on the night after the Americans' first bombing of the island of Nauru, the Japanese executed, among others, the Administrator of Nauru, and the Government medical officer, Dr. B. H. Quin, and his assistant. Bernard Haselden Quin was born in 1894 and graduated M.B., B.S. of the University of Melbourne in 1920. In 1920–1 he was assistant medical officer at Nauru, and on Ocean Island. After practising in Victoria he returned to Nauru as second medical officer in 1935, and was promoted to the senior post five years ago.

The following well-known medical men have died abroad: Prof. Antonin Gosset, an eminent French surgeon, Fellow of the Académie de Science, Académie de Médecine, and Académie de Chirurgie; Dr. Fernand Arloing, professor of bacteriology at Lyons University and an authority on tuberculosis; Prof. Karl Frick, director of the Röntgen department of the Charité Hospital, Berlin; and Geheimrat Prof. Emil Kruckmann, emeritus professor of ophthalmology at Berlin University, aged 78.

The Services

Temp. Surg. Lieut. K. W. Dodd, R.N.V.R., has been awarded the D.S.C., for gallantry, skill, and devotion to duty while serving in one of H.M. ships on the East Indies Station, in operations which brought about the destruction of a Japanese heavy cruiser of the Nachi class and the probable destruction of a Japanese destroyer.

Col. (Acting) G. M. Warrack, D.S.O., R.A.M.C., has been appointed O.B.E. (Military Division) and Capt. J. Lawson, R.A.M.C. has been mentioned in dispatches in recognition of gallant and distinguished services in the field.

Lieut.-Col. (Temp.) A. T. Marrable, R.A.M.C., has been awarded the D.S.O., and Lieut.-Col. (Temp.) W. C. Alford, O.B.E., Capts. C. C. M. James and V. D. R. Martin, and Capt. (Temp.) G. F. H. Drayson, R.A.M.C. (since killed in action), have been mentioned in dispatches in recognition of gallant and distinguished services at Arnhem.

Major (Temp.) F. I. Evans, R.A.M.C., and Capt. E. B. Naug, I.A.M.C., have been awarded the M.C., and Capt. J. Jacobs and Lieut. F. S. Stubbs, R.A.M.C., and Capt. J. P. Chesney, R.C.A.M.C., have been mentioned in dispatches in recognition of gallant and distinguished services in Burma.

Freed in the Far East.—Surg. Cmdr. R. W. H. Tincker, R.N.V.R. Majors G. O. Gauld, R. P. Graves, and P. E. F. Routley; Capts. G. M. Davies, J. A. Falk, H. D. T. Gawn, J. Hendry, J. D. Lodge, and J. Richardson, R.A.M.C. Lieut.-Col. F. H. A. L. Davidson. Major J. W. D. Goodall, and Capt. A. W. B. Strahan, I.M.S.

Repatriated.—Col. J. T. Simson, A.M.S., and Major W. J. E. Phillips, R.A.M.C.

CASUALTIES IN THE MEDICAL SERVICES

Died.—Surg. Lieut. Ian Gordon Forbes, R.N.V.R.

Wounded.—War Subs. Capts. A. J. Briggs, D. L. Harbinson, and L. G. J. Pitt-Payne, R.A.M.C.

Universities and Colleges

ROYAL COLLEGE OF SURGEONS OF ENGLAND

The following lectures will be delivered at the College (Lincoln's Inn Fields, W.C.) at 5 p.m. each day: Thursday, Oct. 4, Imperial Cancer Research Fund Lecture by Dr. Leslie Foulds, "Observation and Theory in Cancer Research." Thursday, Oct. 11, Lister Memorial Lecture, by Sir Howard Florey, "The Use of Micro-organisms for Therapeutic Purposes." Erasmus Wilson Demonstrations: Monday, Oct. 22, Mr. R. Davies-Colley, Specimens illustrating cysts and innocent tumours of the breast; Wednesday, Oct. 24, Mr. Davies-Colley, Specimens illustrating malignant tumours of the breast; Thursday, Oct. 25, Mr. L. E. C. Norbury, Certain conditions of the kidney, illustrated by specimens and lantern slides. Thursday, Nov. 1, Thomas Vicary Lecture by Sir Arthur MacNalty, "The Renaissance: its Influence on English Medicine, Surgery, and Public Health." Thursday, Nov. 8, Bradshaw Lecture by Mr. C. Max Page, "A Survey of Fracture Treatment."

Medical News

The R.A.F. has announced that medical officers in age-and-service groups 15 to 20 inclusive will be released in November and December.

The Medical Department of the Navy has stated that Naval medical officers in Groups 1 to 7 who have not volunteered for further service will either be released or be on their way home for release by the end of October, and a start will be made on Groups 8 to 15. The Admiralty is awaiting information as to the number of medical officers who wish to remain in the Service before making a further announcement; the aim is to release all groups up to 15 by the end of the year.

The annual luncheon of the Society of Medical Officers of Health was held at the Holborn Restaurant, London, on Sept. 21, with the president, Prof. R. M. F. Picken, in the chair. The principal guest was the Right Hon. Aneurin Bevan, Minister of Health. There were only two speeches—one by the Minister proposing the toast of "The Society," and the President's reply. Mr. Bevan's informal address (which by his wish is not reported) touched on five matters of major importance to public health officers and made a very good impression. He did not discuss the Government's plans for a National Medical Service. Prof. Picken thanked the Minister for his felicitous words and welcomed the official guests, beginning with the Parliamentary Secretary to the Ministry and Sir John Maude, the Permanent Secretary, who, to his regret, was attending for the last time as holder of that office; also representatives of associations of local authorities, the Mayor of Holborn, and officers of the Royal Sanitary Institute. The professional guests whom he saluted were the Presidents of the three Royal Colleges, the President, Chairman of Council, and Secretary of the British Medical Association, the President of the General Medical Council, and the editors of the *Lancet*, the *British Medical Journal*, and the *Medical Officer*. Speaking briefly on the origin of the Society of Medical Officers of Health and the bigger and bigger part it had taken in the promotion of progress, he paid tribute to the early influence upon himself of his teachers at Glasgow—Samson Gemmell and William Macewen—for their emphasis on the importance of social and environmental conditions as factors in the causation of disease. He said that clinical and preventive medicine spoke the same language, though perhaps with slightly differing accents. The success of a medical service would depend on the quality of its men and women, and it must therefore attract the best brains. Lastly, Prof. Picken assured the Minister that his efforts to safeguard the milk supply would have the wholehearted support of the profession in overcoming obstruction by vested interests.

Dr. J. R. Rees, F.R.C.P., medical director of the Tavistock Clinic, will give the opening sessional address at the Welsh National School of Medicine, Cardiff, on Tuesday, Oct. 2.

The Ex-Services Welfare Society (Temple Chambers, Temple Avenue, London, E.C.4) has arranged a medical conference to be held in the Hall of the Royal College of Physicians of Edinburgh on Friday, Oct. 5, beginning at 10.30 a.m., under the chairmanship of Prof. Henderson.

Sir Robert Hutchison will preside at the prize distribution and conversazione to be held at the Royal Dental Hospital of London School of Dental Surgery on Saturday, Oct. 6, at 3 p.m.

Dr. Kate Friedlander will give a lecture on "Mental Ill-health: The Problem of Its Prevention" before a meeting of the Whipps Cross Hospital Medical Society at the hospital on Friday, Oct. 5, at 8.30 p.m.

The following members of the medical profession have been released from internment in Japanese hands: Dr. William Ainslie, Dr. Harry Allan, Dr. Richard Thomas Bonfield Green, Dr. Robert Stevenson Hardie, Dr. Frederick Viel Jacques, Dr. Robert Barr MacGregor, Dr. Nicol Campbell Macleod, Dr. Robert Allan Macnab, Dr. David Morrison McSwan, Prof. Eric Cameron Mekie, F.R.C.S.Ed., Dr. Gordon Alexander Ryrie, and Dr. Henry Scrimgeour.

The Right Hon. Walter Elliot, F.R.C.P., F.R.S., has been elected President of the Royal Institute of Public Health and Hygiene in succession to the late Sir Stanley Woodwark.

Dr. Carl Gustav Jung, professor of psychiatry and psychology at Zürich, celebrated his 70th birthday on July 26.

Dr. C. Ainsworth Mitchell retires from the editorship of the *Analyst* on Sept. 30, after twenty-five years in that position. He was secretary of the Society of Public Analysts and Other Analytical Chemists from 1925 to 1937.

The Empire Rheumatism Council has now permanent offices at Tavistock House (Entrance B), B.M.A. House, Tavistock Square, London, W.C.1. Correspondence is invited from all interested in the campaign against rheumatism. Donations and bequests are welcomed.

From Paris, where the Academy of Medicine in plenary session made him an honorary member, Sir Alexander Fleming went on to Italy to visit medical establishments of the R.A.F., and the University of Rome took the opportunity to confer on him an honorary degree. He was received by General de Gaulle in Paris, and in Rome the Pope gave him an audience.

The Public Health Committee of the Manchester City Council has appointed a deputation to the Ministry of Health to call attention to the serious position which has arisen in the municipal hospitals in the city as a result of the shortage of staff. Unless additional help is forthcoming, many beds will cease to be used in the near future.

The King, on the recommendation of the Secretary of State for Scotland, has approved the appointment of Brigadier Thomas Ferguson Rodger, M.B., Ch.B., M.R.C.P., D.P.M., to be a Medical Commissioner of the General Board of Control for Scotland in room of Dr. Aidan G. W. Thomson, who has retired. Brigadier Rodger is at present consulting psychiatrist to the India Command, and was formerly senior assistant superintendent, Glasgow Royal Asylum, Gartnavel.

EPIDEMIOLOGICAL NOTES

Discussion of Table

In *England and Wales* there were respectively 131 and 46 more cases of scarlet fever and diphtheria than last week, but 313 and 67 of measles and whooping-cough. In London the incidence of scarlet fever rose by 27. The largest local outbreak of diphtheria was in Oxford C.B., 10 notifications. In Lancashire the incidence has increased by 50% in the last two weeks, and the 103 cases were a quarter of the total notifications of the country; 38 were recorded in Liverpool C.B. There were 26 fewer notifications of whooping-cough in Lincolnshire. The incidence of measles continues to go down; it has fallen more slowly in the east and south-east (excluding London) than in the rest of the country, these areas having slightly more than one-third of the total notifications.

Dysentery notifications were 8 fewer than last week. The chief centres of infection were Lancashire 40, London 39, Warwickshire 25 (Birmingham C.B. 16), Lincolnshire 15, Yorks West Riding 15, Glamorganshire 15, Middlesex 13, Suffolk 13, Essex 12, Bedfordshire 11.

In *Scotland* scarlet fever notifications went up by 23; the incidence of this disease has risen by 70% during the past four weeks. Twenty-one fewer cases of dysentery were recorded—the first decrease for four weeks; the largest returns were those of Glasgow 43, and Edinburgh 26.

In *Eire* notifications of diphtheria, which rose by 42 cases the previous week, fell by 46 to the level prevailing during August. The notifications of diarrhoea and enteritis were 40 fewer than last week, but the incidence is still very high, 80 cases being recorded in Dublin C.B. A small outbreak of infantile paralysis, involving 7 persons, with one death, has been reported from the Foxrock district of Co. Dublin.

In *Northern Ireland* diphtheria notifications increased from 15 to 23, the largest total of recent months.

The Health of Gloucestershire

The County Medical Officer, reviewing the health of the county during 1944, drew the disquieting conclusion that the health of the people of Gloucestershire has deteriorated and is progressively getting worse. This statement was based on the rise in infant mortality and in tuberculosis and general death rates. Infant mortality increased from 40 in 1943 to 46 in 1944. The number of cases of tuberculosis notified during the year was 533, compared with 386 in the preceding year. The C.M.O. stated that, while it was dangerous to draw conclusions from general impressions, the information obtained from visits to homes, schools, and institutions suggested a general increase in minor ill-health and in major conditions. The most urgent need was an increased and more varied diet, with more protective foods.

Week Ending September 15

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,381, whooping-cough 1,159, diphtheria 495, measles 551, cerebrospinal fever 39, acute poliomyelitis 31, dysentery 292, paratyphoid 15, typhoid 17.

No. 36

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended Sept. 8.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1945					1944 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever ..	25	2	22	2	—	41	—	18	1	1
Deaths		—	—				—	—		
Diphtheria	423	20	135	51	23	481	14	158	79	26
Deaths	14	—	1	—	1	3	1	2	1	—
Dysentery	278	39	93	1	—	622	76	111	—	—
Deaths				—	—				—	—
Encephalitis lethargica, acute	2	—	—	1	—	—	—	1	—	—
Deaths		—					—			
Erysipelas			38	5	—			30	10	2
Deaths		—					—			
Infective enteritis or diarrhoea under 2 years				97					72	
Deaths	64	9	9	25	11	102	6	31	22	12
Measles*	538	36	53	10	2	1,138	14	84	13	27
Deaths	—	—	—	—	—	—	—	—	—	—
Ophthalmia neonatorum	74	6	21	1	—	63	3	15	2	—
Deaths										
Paratyphoid fever ..	12	—	—	—	2 (B)	3	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenzal†	268	4	6	1	1	303	10	7	—	2
Deaths (from influenza) ..	8	2	—	1	—	4	—	1	1	—
Pneumonia, primary ..			126	7				155	11	
Deaths		12		6	4		11		8	5
Polio-encephalitis, acute	3	—				3	—			
Deaths		—					—			
Poliomyelitis, acute ..	25	2	1	5	3	24	—	12	3	—
Deaths		—					—			
Puerperal fever		2	10		—		1	11		—
Deaths										
Puerperal pyrexia‡ ..	160	8	9	2	—	117	11	11	—	1
Deaths		1					1			
Relapsing fever ..	—	—			—	1	—			—
Deaths										
Scarlet fever	1,151	90	260	14	26	1,251	30	224	27	44
Deaths	1	—	—	—	—	1	—	—	—	—
Smallpox	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Typhoid fever	12	—	2	8	1	7	1	2	10	1
Deaths	1	—	—	—	1	—	—	—	—	—
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Whooping-cough* ..	1,177	59	65	53	2	1,223	47	130	33	7
Deaths	7	3	2	1	2	6	2	2	1	1
Deaths (0–1 year) ..	305	42	48	41	21	338	29	77	60	30
Infant mortality rate (per 1,000 live births)										
Deaths (excluding stillbirths)	3,663	541	549	177	128	3,621	399	577	224	114
Annual death rate (per 1,000 persons living)			12·5	11·4	§			13·3	14·5	§
Live births	6,528	802	842	356	233	5,843	361	811	389	263
Annual rate per 1,000 persons living ..			16·8	23·0	§			16·5	25·2	§
Stillbirths	182	18	24			185	9	21		
Rate per 1,000 total births (including stillborn)			28					25		

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

‡ Includes puerperal fever for England and Wales and Eire.

§ Owing to movements of population, birth and death rates for Northern Ireland are still not available.

Letters, Notes, and Answers

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: *Aitiology Westcent, London.* ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated.

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ANY QUESTIONS?

Lanette Wax SX

Q.—*One frequently sees lanette wax SX used nowadays as the base for various emulsifying creams. I should be grateful for information regarding this substance's properties; and also regarding the meaning of the letters SX.*

A.—Lanette wax SX is a somewhat variable mixture of the partially sulphated or phosphated higher fatty alcohols, chiefly hexadecyl and octadecyl alcohols. The product originally on the market was sulphated, but it was later found that a phosphated product was superior. Limitation of supplies during the war necessitated, however, a reversion to the sulphated product, and it is this that is on the market at present. We expect the phosphated product to reappear when supplies and material again become available.

It is a white, or creamy-white, wax-like substance, with a melting-point of about 50° C., the sulphated product being somewhat darker in colour, softer and more unctuous to the touch than the phosphated. It readily emulsifies with water, and is used in the preparation of the oil-in-water type of emulsion in the manufacture of cosmetics, toilet articles, and pharmaceutical creams, ointments, etc. The SX was used to indicate an approximate 10% sulphation of the original alcohols and serves to distinguish the sulphated or phosphated product from lanette wax itself, which is simply the mixed alcohols.

Low Blood Pressure

Q.—*Could you suggest a routine line of treatment for a man, aged 40, suffering from low blood pressure—fallen from 100/70 to 90/60 in the last three months? A three-weeks holiday has had no beneficial effect. Electrocardiograms show some myocardial degeneration. There is no evidence of Addison's disease or anaemia, and no loss of weight. He has been taking vitamin B and other vitamins, ephedrine and methedrine tablets.*

A.—It would appear that this patient needs further prolonged rest. Probably such a fall in blood pressure is not in itself important but an indication of defective vasomotor tone. On the other hand, the hint that myocardial degeneration is present, as shown in the electrocardiogram, might be another factor. In such a case as this full doses of strychnine might be worth while.

In Addison's disease the external appearances are sometimes rather late in developing, and investigation of the blood chemistry might be done with advantage.

Whoop after Vaccine

Q.—*I have recently given two injections of prophylactic whooping-cough vaccine—one six weeks ago, the second two weeks ago—to a boy of 3 years. There is no whooping-cough in this area, and I can discover no possible contact, but the child has been whooping merrily for the last four days. Is it possible to cause signs and symptoms of whooping-cough with vaccine, and if so how long will they persist?*

A.—In a recent article Sako and colleagues (*J. Amer. med. Ass.*, 1945, **127**, 379) state that "following inoculation an occasional infant developed a paroxysmal pertussis-like cough which disappeared in a short time." It is not stated how soon after inoculation the paroxysmal cough appeared, and in the present instance onset two weeks after the second dose seems rather a long interval for the cough to be ascribed to the vaccine. If, however, there is no whooping-cough in the district and the child has not been exposed to the risk of infection from an outside source, a post-inoculation reaction seems the likeliest diagnosis. If the characteristic cough persists for more than a week, pertussis would have to be excluded by, for example, a white-cell and differential count. Enlarged tonsils and adenoids or sinusitis may also cause a persistent type of cough in a child.

B. proteus Infection of Prostate

Q.—*Is there any cure for prostatic infection by B. proteus?*

A.—Cure lies in the first instance in careful examination of the urethral aspect of the prostate with a posterior urethroscope. This will almost certainly reveal dilated ducts, with septic material exuding on pressure from the rectum; for after this long time it is most unlikely that the acini are all normal. In all probability many of them are now lined not by normal mucosa but by granulation tissue. The next step, when this is established, is to lay the ducts open by incision with a diathermy knife, or to resect part of the gland with a prostatic resectoscope. This reply is on the assumption that the investigations are first carefully carried out, and, secondly, that they reveal the abnormalities alluded to.

Pain in Ulnar Nerve

Q.—*Since December, 1943, a woman aged 34 has had pain and tenderness of the left ulnar nerve, which came on without known cause. She has had intensive vitamin therapy and physiotherapy, and also local injections of novocain, the latter with transient relief only. X-ray examination of elbow and shoulder was negative, and the scalenus syndrome ruled out. She has been immobilized in plaster-of-Paris for six weeks, without relief.*

A.—The cause is a local one and does not call for general treatment. The two most likely possibilities are a local tumour—neuroma or neurofibroma—or local irritation in the ulnar groove. The second condition is the result of repeated trauma in a shallow groove, often associated with an increased carrying angle of the elbow. In either case treatment depends on the degree of damage which has been done to the nerve. If there is evidence of wasting of the intrinsic muscles of the hand it may be advisable to explore the nerve with a view to excising a neuroma or transplanting the nerve to the front of the internal condyle, depending upon the cause.

Cancer and the Blood

Q.—*What changes are to be found in the blood of patients suffering from cancer, apart from a secondary anaemia?*

A.—A detailed analysis of changes in the blood in cancer has been made by O. C. Gruner, whose book, *A Study of the Blood in Cancer* (London, H. K. Lewis), was reviewed in the *Journal* of Aug. 8, 1942. This book deals with macroscopical and microscopical changes in the cells and plasma. Many serological tests have been introduced, and a number of these were reviewed and rejected by Panton in the *Lancet* of April 3, 1937.

Nearly all serious students of the subject have concluded with Ewing that the various reactions in the blood in cancer are non-specific and the diagnostic reactions are equally so. The search for a universal test for cancer is gradually being replaced by the discovery of specific properties belonging to individual forms of tumours, such as the phosphatase reaction in prostatic carcinoma. The secondary anaemia of cancer is an anaemia with no special characteristics to distinguish it from other anaemias resulting from haemorrhage and toxaemia. If the tumour metastasizes to the bone-marrow a leuco-erythroblastic blood picture may occur, but this is also met with in a variety of conditions besides cancer.

Acidaemia in Gas Gangrene

Q.—*(1) In Sir Almroth Wright's book, "The Pathology and Treatment of War Wounds," a series of experiments is recorded "showing that the growth of the bacillus of Welch in the blood fluids is promoted by the addition of acid." In the latest edition of Illingworth and Dick's "Surgical Pathology" there occurs this statement: "It is interesting to note that the acid produced by saccharolytic organisms such as Cl. welchii tends to inhibit the growth of the organisms in vitro, but in wounds the acid is partly lost in the profuse discharge and partly neutralized by the inflammatory exudate, by calcium salts, and by the alkaline products of the proteolytic organisms." Sir A. E. Wright deduces, from his findings of a constant acidaemia in patients with gas gangrene, the usefulness of intravenous sodium bicarbonate and of sodium lactate by mouth. This method does not seem to be recommended at present. I should be glad to have the difficulty cleared up.*

A.—Insofar as these statements are contradictory, the truth lies in the former. The second appears to overlook the difference between growth in an artificial medium containing a large quantity of fermentable sugar, in which, indeed, saccharolytic bacteria may produce so much acid as to prevent further growth or even to ensure their own destruction, and growth in tissues where the available sugar is considerably less in amount. There is in fact no need to assume the operation of any of the factors mentioned—and the third, the presence of proteolytic organisms, is often absent in true gas gangrene—to account for the continued growth of *Cl. welchii* in the tissues. There is an acidaemia in gas gangrene, and this is an aspect of the disease which deserves more attention than it has received. To what extent correction of the acidaemia could contribute to recovery is uncertain, but it would perhaps be unduly optimistic to regard the administration of alkali as anything more than an adjuvant to chemotherapy and antitoxin treatment.

Dysmenorrhoea in Middle Age

Q.—*May I have advice on the treatment of dysmenorrhoea in a woman aged 43 years? She is somewhat highly strung and inclined to be introspective.*

A.—Is the woman married or single, parous or otherwise? Where is the pain felt? What is its character? And does it occur before, during, or after menstruation? At what age did the dysmenorrhoea begin? Without knowledge on points such as these, comment on the case is not likely to be very helpful. Dysmenorrhoea of the types common in girls and young women is unusual at this age, and although the symptom may appear to be related to the patient's nervous disposition, local organic disease—especially endometrioma or pelvic infection—should be excluded before any decision is made as to treatment. The presence of some such local condition is even more likely if the dysmenorrhoea has *begun* late in life.

Infection of Skin of Hands

Q.—*A married woman suddenly developed reddening and burning on the right hand, across the palm at the bases of the fingers and also up the sides of the fingers and thumb. Later some desquamation occurred, together with cracks, but no bleeding or sepsis. No other part of the body has been affected. Treatment with various ointments has done no good. There is no itching. The patient has had, like most housewives, cracked fingers. As a child she had a "goitre," but the skin generally is normal now. Could, for example, plunging the hands once a week or so into waterglass when preserving eggs, or handling the baby's nappies and washing them and other household linen, start and maintain such a condition?*

A.—Much more information and investigation would be necessary to give a firm diagnosis, but a probable explanation is that an original damage from household or other irritants has favoured an infection of the skin. This may be of coccal or monilial or other fungous character. Protection from water and household irritants for a period and the use of a gentian-violet ointment at night and a cod-liver-oil cream by day should help:

Acid. salicyl.	gr. 5
Gentian violet	gr. 2½
Halden's emulsifying base	gr. 120
Paraff. moll.	ad 1 oz.

Ft. ung.

If the patient does not object to the colour by day, the cod-liver oil can be added to the violet cream in the proportion of 1 drachm to the ounce.

Explaining Mass Radiography to Workers

Q.—*A factory medical officer has been asked to do a five-minute broadcast to the workers asking them to volunteer for mass radiography. Many of the employees are non-cooperative; they fear that disease may be detected. What lines should the broadcast take to emphasize to all the workers the benefit of being examined?*

A.—Employees are undoubtedly somewhat apprehensive, and consider that any procedure advocated by an employer must be viewed with some suspicion. At the outset of the broadcast it should be stressed that:

1. The mass radiography scheme is a public health measure which, although indirectly beneficial to industry, has as its primary object the health and future welfare of the individual.
2. The result of the examination is strictly confidential between the mass radiography unit and the individual, and will not be disclosed or used in any way without the individual's consent.
3. Should an individual not wish to take any steps for treatment, no further action will be taken and the medical report will remain entirely confidential.

A few remarks on the reasons for mass radiography should follow, emphasizing the silent nature of the disease in the early and most easily curable stage. An analogy might be drawn between an incendiary bomb promptly and effectively tackled and one which by neglect has wrought irreparable damage.

The beneficial results of mass radiography should be elaborated as follows:

(*a*) *Benefit to the Individual.*—If present, the earlier the disease is detected the greater is the prospect of permanent cure, which in some cases can be accomplished without either sanatorium treatment or the necessity for leaving work. Delay in diagnosis frequently means permanent impairment of health, or at best a prolonged period of hospital treatment, before working capacity can be restored.

(*b*) *Benefit to the Wife, Family, and Fellow-workers.*—An undiscovered infectious case in their midst is a continual source of danger.

To alleviate anxiety about the examination, it could be pointed out that, of every thousand persons examined, approximately only ten show evidence of tuberculosis, and of these ten only four require sanatorium treatment. Should sanatorium treatment be necessary, financial allowances are available for both the individual, while under treatment, and his dependants. Last, but of no little importance, is the management's policy to an employee who may have to undergo treatment. If it can be said that his post will be kept open, or, if necessary, more suitable employment offered, this will greatly help in overcoming opposition. Propaganda on these lines has been found to elicit a response from between 70 and 90% of employees.

LETTERS, NOTES, ETC.

Car Without Foot Pedals?

Dr. J. RAMMELL writes: I should be grateful to hear from one of your correspondents as to the possibility of a patient's obtaining a car controlled without the use of foot pedals. The case in question is one of disseminated sclerosis in a young wife and mother, whose legs are insufficiently under control to render driving a possibility, but whose arms and mentality are such that she can drive a motor car. The chance of doing so would solve many domestic problems for her.

Unusual Complication of a Wasp Sting

Dr. B. WYLLIE (Harrogate) writes: A man 80 years old, while going to bed on the night of Aug. 11, 1945, was stung on the left side of the back of his neck by a wasp. As nearly as can be ascertained, the position of the sting was about one inch behind and slightly below the mastoid process. The following day there was marked reddening of the skin over a large area, but there was no great pain and movements were free. The same evening at 5 p.m. he noticed that the left side of his upper lip had fallen and that he was unable to move it. By 9 p.m. he had developed complete paralysis of the left side of his face, with retraction of the face to the opposite side and complete inability to close the eye. He complained of some pain behind the mastoid process. The inflammation round the area of the sting disappeared in a couple of days. Within a few days he started to recover, and now, fourteen days after the onset, there is a marked improvement. He can close the eye and move the muscles of the forehead, although the lower part of the face is still paralysed. The rest of his C.N.S. appears normal and, apart from a moderate degree of hypertension, he is remarkably healthy for his age. Bell's palsy is very rare at the extremes of age. It must be distinguished from peripheral facial paralysis, but the rapidity of recovery in this case helps the diagnosis. It is generally accepted that the paralysis is the result of a local inflammation of the nerve sheath, as it emerges from the stylomastoid foramen. In this case it would appear that the inflammation set up by the wasp sting reached the nerve sheath and thereby caused the palsy.

A Misnomer

Dr. G. J. JONES writes: Cannot something be done to stop this practice of referring to the sulphonamide group of drugs as "m and b tablets"? It seems to me to be a slovenly kind of slang unworthy of a profession. Moreover, the patient is usually told, "I am going to give you m and b tablets." Recently I saw a young woman who is a chronic neurasthenic of the first water. She had just returned from a convalescent home. Her fortnight at the sea had done us both good. She looked well and beaming. In the gayest manner possible she told me she had had a lovely time and had been ill and got m and b tablets. I assumed an air of ignorance and asked her what they were. She told me, "They were the same as Mr. Churchill got." I am sure she still thinks she battled with death. Possibly an aspirin tablet would have sufficed to reduce the slight pyrexia, but the beating of the wings of the angel of death would have sounded more like the unpleasant drone of an angry bluebottle.

Why "Hyperbaric" and "Hypobaric"?

CIBA LTD. write: With reference to the letter from Lieut.-Col. H. Williamson (Sept. 15, p. 368), we fully endorse his plea in the interests of accuracy and of patients' lives for the adoption of "heavy" and "light" in connexion with spinal anaesthetic solutions. In the *Nupercaine Handbook* and other literature, on labels, invoices, etc., the "nupercaine" spinal solutions have for some time been designated "heavy" and "light" in order to avoid any possible confusion resulting from the use of the terms "hyperbaric" and "hypobaric."

Wellcome Medical Diary, 1946

The 1946 Wellcome Medical Diary is now being printed. A considerable number of doctors have ordered copies, and these will be distributed early in December; any change of address since ordering should be notified to the address below. Shortage of paper has again resulted in a limited edition—only a few copies remain unallocated. Doctors who have not yet asked for a copy may apply to Burroughs Wellcome and Co., 183, Euston Road, London, N.W.1. Every effort will be made to ensure that medical men returning to civilian practice receive their diary.

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ARTERIAL ANEURYSM FOLLOWING INJURY TO ILIAC VESSELS

REPORT OF TWO CASES, WITH A COMMENTARY ON LARGE TRANSFUSIONS

BY

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The cases recorded below have several points of interest in common. They are examples of arterial aneurysm following war wounds; they involved in each case ligature of more than one iliac artery; the operations were accompanied by profuse and rapid haemorrhage, to combat which profuse and rapid transfusion was necessary; recovery of life was undoubtedly due to the promptness and completeness with which the blood loss was made good, and recovery of the limb, in the second case at any rate, to the application of the principle of physiological sympathetic release. Both patients were treated in the Eastern Command—one at a military, the other at an E.M.S., hospital.

Case I: Aneurysm of the Buttock. By H. Agar

During the night of Sept. 3, 1942, Gnr. W. J., aged 29, was wounded in the right buttock by a mortar-bomb splinter. He bled considerably and was unable to walk, and lay in the Desert until found by the Germans next day. Dressings were applied until three weeks later, when he reached hospital in Italy, where the wound was explored superficially without an anaesthetic. The patient was not told of any unusual feature. By December the wound had healed and he could walk with a limp, but a swelling about 2 in. in diameter remained. He was transferred to a prison camp, but soon the leg began to feel heavy and he was admitted to hospital. He reports that a diagnosis of aneurysm was made. In Aug., 1943, the buttock rapidly increased in size and became painful. Thereafter he was bed-ridden and had to lie on his left side with the right thigh flexed. There was further enlargement with increase of the pain in June, 1944, and afterwards he could not extend his right thigh.

He was repatriated and admitted to a military hospital on Oct. 11, 1944. He looked ill and the right buttock was painful. It was enormously enlarged, projecting about 4 in. beyond the left, and the skin over it was tense and buff-coloured. It was impossible for him to lie in any position other than on his left side with the right thigh flexed. Palpation revealed extreme tenderness, and a little pulsation could be detected at the periphery. There was no bruit. The thigh could not be moved more than 5°. The muscles of the thigh and leg were wasted but not paralysed, and sensation in the limb was normal. Blood count: R.B.C., 3,280,000; Hb, 62%; C.I., 0.95; W.B.C., 24,800 (polymorphs 85%, lymphocytes 10%, mononuclears 5%, eosinophils and basophils *nil*). Wassermann reaction negative. Radiography did not show any bone defect and the lung fields were normal. There was evening pyrexia up to 99.6°. Aspiration in two places revealed fresh blood under pressure but no old blood.

During the next week pain and pyrexia increased and the haemoglobin fell to 40%. The foot became anaesthetic, with paralysis of both flexors and extensors of the leg, which showed impaired response to faradism.

The differential diagnosis appeared to lie between sarcoma—that on which he was repatriated—and aneurysm. Points in favour of sarcoma were the late appearance of the swelling after wounding, the huge size and preponderatingly solid consistency of the tumour, the brown discoloration of the skin, and the small amount of pulsation that could be detected. Those supporting aneurysm were that the enlargements had occurred at intervals, that radiography revealed no bone destruction and no metastases in the lungs, and that aspiration had disclosed blood under pressure in two places.

It was decided that operation alone could help the patient. After three pints of packed red cells and two pints of whole blood had been given in three days, the haemoglobin rose to 70%. Although he had a temperature of 103.5° on the day of operation, it was decided to proceed. Anaesthesia was induced by 10 c.cm. of 1/1500 spinal nupercaine, given with the patient on the left side, and supplemented by inhalation gas-and-oxygen. The right external and internal iliac arteries were exposed retroperitoneally and tapes passed round each. A long incision was made across the buttock in the direction of the fibres of the gluteus maximus, which were pale in colour and did not bleed. They were separated carefully, but there was a sudden gush of both fresh and old blood. The cavity was fully opened and packed. Blood pressure fell immediately to 70 mm. systolic, but three pints of blood, given rapidly, produced considerable improvement. The arteries were controlled, but severe bleeding recurred when the pack was removed. Rapid exploration revealed bare bone near the sacro-iliac notch and that most of the bleeding came from that region. The wound was repacked, the right internal iliac artery was tied, the right external iliac released, and the left internal iliac artery exposed retroperitoneally and tied. This greatly reduced the bleeding, but it was not possible to stop it altogether. The wound was finally packed and the patient returned to the ward with a pulse rate of 130 and a systolic blood pressure of 70, 14 pints of blood and 4 of plasma having been given during the operation.

Blood drip was continued, and after two hours the pulse rate was 120 and the blood pressure 130/80. The circulation in the right leg was noticed to be deficient, and in spite of keeping the limb cool there was early necrosis of skin over the tendo Achillis and os calcis as well as of all the toes. A further two pints of blood and two of plasma were given by drip during the 24 hours following operation.

After 36 hours his condition was deteriorating and a foul-smelling discharge from the wound was observed. Under gas-and-oxygen anaesthesia it was reopened and gas gangrene of the remnants of muscle and laminated aneurysmal wall was revealed. A large amount of necrotic muscle and capsule was removed. The deep part of the pack was not disturbed, but the rest of the wound was left open. Penicillin was given by continuous intramuscular drip at the rate of 15,000 units three-hourly for seven days. During the second operation it was noticed that the circulation in the leg improved when the hip was flexed. Thereafter the thigh was gradually extended over several days and the circulation remained adequate. The pack was removed on the seventh day without any recurrence of bleeding. At the same time some slough was removed from the surface of the deep muscles, and secondary suture was successfully performed on Dec. 22, 1944.

By February most of the slough had separated from the heel; some superficial necrosis of the os calcis was revealed by radiography, but the bone was covered with healthy granulations. There was full and controlled movement of the knee and sensation in the leg was returning, but the muscles below the knee reacted only to galvanism. Abduction and hyperextension of the hip were limited. In spite of persistent daily efforts to maintain full movements of the toes and ankle, all joints have gradually stiffened and dorsiflexion of the ankle beyond 90° is not possible. This suggests that fibrosis has occurred in the muscles of the leg, probably as the result of the post-operative ischaemia.

The treatment demonstrated the importance of giving sufficient blood before, during, and after operation. In spite of having 27 pints in four days there was no reaction. It is satisfactorily shown that ligation of both internal iliac arteries can be performed without anxiety for the circulation in the rectum and pelvic organs, and there was no evidence that it was a factor in reducing the circulation in the limb. The efficiency of penicillin together with adequate surgery in the treatment of gas gangrene is well shown, as no serum or other treatment was given. The rapidly increasing anaemia and pyrexia, which were difficult to explain before operation, were probably due to infection in the wall of the aneurysm.

It is intended to apply small Thiersch grafts to the heel and replace them later by a pedicle flap in the hope that it will withstand weight-bearing. Should it fail, a below-the-knee amputation will be considered, although the limited control of the hip-joint will weigh heavily against such a decision.

I wish to express my thanks to Lieut.-Col. T. Scott-Law, R.A.M.C., for permission to publish this case.

Case II: Retroperitoneal Aneurysm. By John Rowlands

This patient, Lieut. U. M., a German prisoner of war, was wounded at 14.00 hours on Feb. 8, 1945. He appeared to have been hit by a bullet which entered on the lateral aspect of the right buttock and emerged from the left flank at a slightly higher level. His condition on arrival at a field surgical unit was poor, but his abdomen was soft and tender. He was given two pints of blood and one of plasma, after which laparotomy was performed (30 hours after wounding). The operation notes state that there was an extensive retroperitoneal haematoma "everywhere," but that no perforation of bowel or mesentery was found, the bullet having apparently passed behind the base of the mesentery. Routine post-operative treatment was given, and the patient was evacuated as a lying case on Feb. 19.

On arrival at a British general hospital two days later he was found to have a distended abdomen and a large mass palpable in the pelvis. His temperature was 99.6°, but his general condition was satisfactory. He had paralysis of the anterior group of thigh muscles on the left and some anaesthesia on the inner side of the thigh.

He was seen by Lieut.-Col. McArdle, Neurological Adviser, who reported complete paralysis of the left quadriceps group, a flicker in the abductors, and good contraction in the hip flexors. The anterior and posterior tibial muscle groups were normal. There was complete sensory loss over the distribution of L 2 and 3 roots, and marked impairment over the sensory area of L 4. The knee-jerk was absent. He bent the hip to 30° with the knee flexed. The recorded diagnosis was a lesion of the upper roots of the lumbar plexus—complete of L 2 and 3 and partial of L 4.

He was evacuated to England, and reached an E.M.S. hospital on March 4. He was in fair general condition, but looked thin and pale and slightly jaundiced. He complained of thirst and of inability to keep down solid food, and said that his bowels, previously regular, had not been opened for five days. The laparotomy wound and the small entry and exit wounds were well healed. On the left side of the abdomen a large mass could be seen, which seemed to be rising from the left side of the pelvis, but no pulsation was visible. On palpation it appeared to be about the size of a foetal head. A thrill was present and a well-marked systolic souffle could be heard. The paralysis recorded in his Army notes was still present, and, in addition to the physical signs there described, there was complete absence of pulsation in any of the great vessels of the left leg: there was no venous congestion of the leg, but a few dilated veins could be seen over the upper part of the thigh and the side of the pelvis.

The patient complained of pain on any attempt at extending the hip, which was held in flexion, but was unaware that he had sustained a severe hot-water burn on the inner thigh. After an enema he passed a good constipated motion with no blood or pus. Examination of the rectum revealed no abnormality. The urine was normal. A blood count showed 3½ million red cells per c.mm., 56% haemoglobin, and 14,350 white cells per c.mm. with 80% polymorphs. A straight radiograph showed no bony injury. An intravenous pyelogram and barium enema were carried out in an attempt to define the tumour; the ureter could not be seen, but the iliac colon was observed to be displaced forwards and medially. A provisional diagnosis of "a leaking perforation in the external iliac artery with a gradually increasing retroperitoneal haematoma" was made.

On March 9 two pints of fresh blood were given, and though the patient's general condition improved after the transfusion it was clear that the abdominal swelling was increasing in size. Major-Gen. Ogilvie saw the patient in consultation on March 13, and performed laparotomy on March 15, six weeks after the injury.

The abdomen was opened through the old paramedian incision, which was considerably lengthened. A large retroperitoneal tumour was seen to occupy the whole left side of the lower half of the abdomen. The colon and small intestine were displaced towards the midline. The abdominal aorta in its lower half and the origin of both iliac vessels were covered by the tumour. The aorta was exposed by dissection at the upper margin of the tumour, on the body of the second lumbar vertebra, and found to be slightly displaced to the right; it was isolated, and a tape was passed behind it to allow digital compression to be applied.

The tumour was then opened by a wide curved incision one inch outside and parallel to the displaced iliac colon, while the aorta was compressed by an assistant. A large quantity of fluid blood escaped, after which several handfuls of clot were scooped out, exposing a large cavity with an endothelial lining. At this point the vertical laparotomy incision was extended by a transverse one running outwards from its mid-point. On dissection in the inner wall of the cavity towards the pelvic brim, a rent was seen on the lateral aspect of the internal iliac artery just below its origin, from which copious haemorrhage took place as soon as digital compression of the aorta was released. This rent was closed above and below by silk ligatures, but so near was it to the origin of the vessel that its upper end could not be properly controlled, even though three successive ligatures were applied. The tear could be excluded by a haemostat placed obliquely without shutting off the passage of blood from the common to the external iliac arteries, but the alternatives that then presented themselves, of attempting arterial suture of a lateral opening in a large vessel already considerably traumatized or of returning the patient to bed with the haemostat in position, seemed to carry greater danger than ligature of the vessels. The common, internal, and external iliac arteries were therefore ligatured, and the haemorrhage satisfactorily controlled. The lumbar plexus was not inspected. The cavity was lightly packed with vaselined gauze and drained with a strip of corrugated rubber—gauze and drain being brought out at the lateral end of the transverse incision. The posterior peritoneum was closed over the operation site, and the abdominal incision was sutured in layers. During and immediately after the operation 5½ pints of stored blood and 1 pint of fresh blood were given.

The condition of the patient on his return to the ward was satisfactory, though the left leg felt very cold. When consciousness was recovered, sensation in the limb was present apart from the previous areas of anaesthesia. There was slight bluish discoloration of the big toe and medial side of the foot for the first 24 hours only. The blood pressure rose steadily, and 24 hours after operation was 178/135, but there were no signs of circulatory overload.

Subsequent progress was satisfactory. The laparotomy incision healed well. The drain was shortened in 48 hours and removed on the fourth day, and the vaselined gauze was taken out in stages during the first week. There was some distension and hiccup during the first 24 hours, but thereafter distension decreased rapidly and the bowels began to move. The leg became warmer, and pulsation was recognizable in the tibial vessels after 10 days. A small collection of pus presented at the drainage opening 18 days after operation; a penicillin-sensitive *Staphylococcus aureus* was grown on culture, and the infection yielded rapidly to a short course of penicillin. There has been no improvement in the power of the paralysed muscles, but sensation has returned over the area supplied by L 4. Exploration of the lumbar plexus in the line of the track may be undertaken at a later date.

I should like to thank Col. W. L Watson, O.B.E., I.M.S., for permission to publish this case.

Commentary on the Above Cases. By W. H. Ogilvie

In each of these patients the surgeon was faced, during the course of the operation, with haemorrhage at a rate with which transfusion could not possibly keep pace, and the only way to avoid an immediate fatal issue was by applying a temporary packing and interrupting the operation till the circulatory volume had been restored to a reasonable level. In the first case the injured vessel, which lay deep inside the pelvis, was never in view, and during alternate search and resuscitation the patient received an amount of blood that exceeds that in any report of which I have knowledge. In the second case the tear in the artery was soon defined, and, after some tentative ligatures on the origin of the internal branch, finally arrested by ligature of the common, internal, and external iliac arteries.

In each patient the affected limb was left uncovered outside the bedclothes at room temperature, while the body and the other limbs were warmed under an electric cradle. The vasodilatation obtained in this way probably exceeds that following injection or resection of the sympathetic chain.

In the first case, in which both internal iliac arteries were tied, the pelvic organs, which should have suffered maximum deprivation, did not give any evidence of damage. The heel, on the other hand, supplied by the external iliac artery which was not tied, showed arterial gangrene. This mishap was apparently caused by spasm or actual mechanical obstruction of the external iliac and femoral arteries when the limb was straightened on return to bed. The vessels had probably become shortened by prolonged flexion of the thigh during the period when the patient was bed-ridden, and the events indicate the necessity for gradual change in position after a limb has been held in an unusual attitude for a long time.

In the second case the nutrition of the limb never seemed to be in danger, even though not merely all the iliacs, but the epigastric anastomosis which forms the most obvious collateral channel, had been tied. The compensatory circulation must have been by blood entering the ligatured internal iliac through anastomoses with the lower lumbar arteries, the middle sacral, and the branches of the opposite internal iliac artery, and passing into the external iliac and femoral arteries through anastomoses between the ilio-lumbar and the deep circumflex iliac, the gluteal and the external circumflex, the obturator and internal circumflex, the sciatic and the superior perforating, and the internal pudic and the deep external pudic.

The most striking advance in surgery during the last four years is, without question, the progress that has been made in the use of whole blood. Improvements in operative technique have allowed us to do many things a great deal better than we used to do, sometimes with half the mortality. The sulphonamides and penicillin have increased the cure rate in venereal disease and allowed the early closure of war wounds in a high proportion of cases and with greater certainty than was formerly possible. But blood, used in the quantities and at the speed that we have been taught to use it, has introduced a new therapeutic principle, allowing us to save useful lives that have never been saved before. Without the provision and adequate administration of large quantities of blood a man with an injury to a large artery will certainly die; with it he can recover, and recover with perfect function. Loss of blood is not, like loss of any other tissue of the body, irreplaceable: bone and skin defects can be compensated by borrowing from other parts of the body, but the result is a good repair, not a normal restoration; blood, though it is the fuel of the corporal machine, is not an individual tissue, but one that can be replaced in any quality and quantity from a well-equipped filling station. Injury to an artery is not, like injury to any other structure, irreparable: for whereas muscles and nerves are unique, an artery is one of many alternative channels, the remainder of which will take over and supply the same areas with the same substance when one is gone.

Yet there seems to be a temperance campaign against blood, as if it were a fluid as disreputable and as liable to abuse as beer. We are constantly told that it is used too often and in too great quantities, never that it is used too seldom and too timidly. Articles without number are written about the dangers of blood, about Rh factors and reactions; none about the thousands of men who are alive to-day only because blood was ready for them as they came out of battle and given courageously. Post-traumatic anuria is discussed in every journal, the writers taking the line, "We can't prove that transfusion was responsible, but it looks mighty suspicious": the more rational interpretation—that "the patients who developed an anuria were men who had been in severe shock of sufficient degree to produce a relative renal ischaemia and that this ischaemia was maintained for sufficient time to cause a large amount of kidney damage,"* that is that the men developed anuria not because they were given too much blood but because they were given too little or it was given too late—though one widely held by forward surgeons, is apparently suppressed as running counter to the views of the haemophobes.

It is often said that few patients need more than three pints of blood; it would be truer to say that patients who need only three pints of blood do not need blood at all. A loss of two pints can be made up by fluid administered by mouth. A loss of three pints can be remedied reasonably well by transfusion of plasma. A loss of even four pints need not end fatally if the volume is restored fully and promptly by plasma, though with a haemorrhage of this extent some at any rate of the replacement should be by blood. But when not only is the blood loss considerable but further, considerable loss is expected, it is necessary to have large amounts of reliable blood ready for immediate administration. And this means a blood bank. To rely upon a group of donors, however ready they may be, is to court failure in cases where large amounts of blood could really save life. For no haemorrhage, however profuse, need be fatal if the rent from which it is pouring can be stopped. Blood loss, even from a vessel the size of the common iliac, can be stopped by packs and firm pressure; and though transfusion cannot possibly keep pace with the loss while bleeding is going on, the blood can be run in at the rate of a pint in two minutes by using both arms simultaneously, and the circulatory volume can be restored while the surgeon presses the pack in position, ready, at a signal from the transfusion officer, to remove it and make another attempt to control the bleeding hole more permanently.

Blood transfusion has undoubtedly got its dangers, but they are for the most part associated with the giving of blood to those who are gravely ill and who have been repeatedly transfused over a long period. Good blood prepared by a good transfusion service, and given by a good transfusion officer who can detect a doubtful bottle at sight and stop an incompatible transfusion at the first sign of reaction, seems to have no dangers in the type of massive post-traumatic haemorrhage in which it offers the only means of saving life.

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*R. A. Phillips, Rockefeller Institute of Medical Research: personal communication.

CUTANEOUS SCHISTOSOMIASIS INVOLVING S. HAEMATOBIUM EGGS

BY

K. O. BLACK, M.D., M.R.C.P.
Major, R.A.M.C.

Although the eggs in human schistosomiasis are deposited chiefly in the bladder and bowel, they are known to occur elsewhere, and may be found in organs drained by the systemic system. Deposits of the eggs of *Schistosoma haematobium* in the lungs, brain, spinal cord, heart, and kidneys are well recognized, and are mentioned in the textbooks. Deposits in the skin have, however, rarely been recorded in the literature, and are not referred to in the standard textbooks. Madden (1919) described deposits of eggs in the subcutaneous tissues, especially in the perineum, but also in the "bathing-drawers area" and rarely elsewhere, giving rise to fibrous nodules. He pointed out a resemblance to tuberculous subcutaneous nodules in the earlier stages, and continued as follows: "These nodules, or chain or irregular collection of nodules, are at first hard, then gradually enlarge and soften, and ultimately burst through the skin and discharge a thick dirty cheesy material and persist as a sinus, or as a fistula in more or less free communication with an adjacent organ or mucous surface." Girges (1934), in an account of the various sites affected in the case of *S. haematobium*, says: "Small, deep-seated, separate, multiple, elevated, dark-coloured deposits occur in the subcutaneous connective tissues in the perineum, penis, and scrotum, over the sacrum and coccyx, and particularly over the pubis, forming hard nodules closely resembling tuberculous glands. They may grow and become adherent to the skin, soften and open to the exterior, forming sinuses," which "are not as a rule connected to the neighbouring viscera." Garcia *et al.* (1940) described the case of a Filipino child with a chronic ulcer of the leg, sections of which showed the presence of *S. japonicum* eggs. The present paper describes two cases of schistosomiasis which developed a distinctive skin lesion, from which eggs of *S. haematobium* were recovered by aspiration, identical with those seen in the stools and urine in the course of investigating 130 European cases of schistosomiasis admitted to a West African general hospital in 1944. Two other cases are included because they had similar lesions, although ova were not recovered from the skin.

Case I

A British N.C.O. aged 21 had bathed in a freshwater lagoon in Southern Nigeria every day for five weeks from Jan. 23, 1944, in the course of training for jungle warfare. He frequently had to leave the water because of skin irritation, and had periods of itching during the nights after bathing. The itching affected his whole body, but was worst on the legs. He remained well until March 12, when he developed cough, aching in the back of the neck, and nasal discharge which lasted for three days. On the fourth day he had a feeling of extreme weakness with diarrhoea, and his temperature rose to 101.2° F. On the fifth day he developed widespread urticaria and was admitted to hospital. The urticaria faded after three days, but an irregular pyrexia persisted for two weeks, during which the symptoms gradually subsided. The white cell count was 8,400 per c.mm., with an eosinophilia of 12%. Examinations of urine, faeces, and blood films were negative. After this illness he remained well except for the cough, which persisted, and occasional diarrhoea and abdominal discomfort. On May 3 the stool was found to be streaked with blood-stained mucus, in which eggs of *S. haematobium* were found. The white cell count was 9,000 per c.mm., with 19% eosinophils; the urine deposit was normal and contained no ova. The symptoms at this time were diarrhoea, abdominal pain, and cough which invariably troubled him at night.

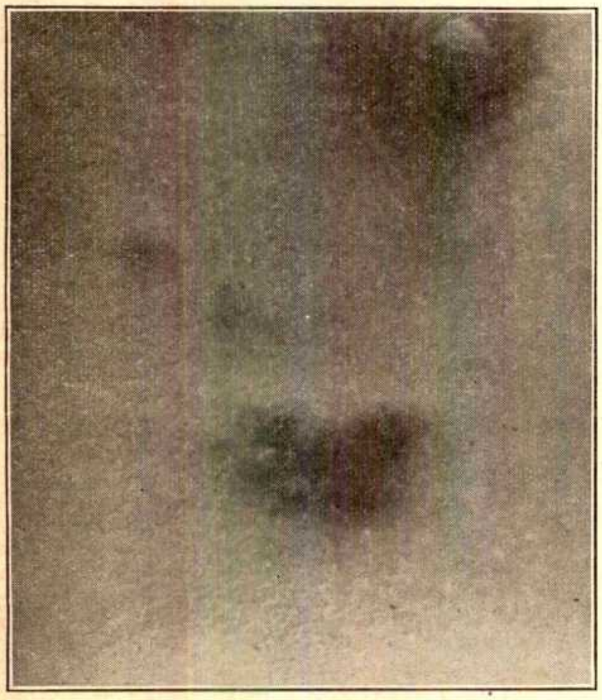

FIG. 1.—Case I. Cluster of skin deposits.

Treatment with 40 c.cm. of stibophen, given by intramuscular injection over a period of 15 days, was started on May 6. On May 13 the patient drew attention to a skin lesion below the right nipple, which rather resembled and was at first thought to be herpes zoster. He had previously (May 1) noticed some spots on the scrotum, which cleared up within 10 days. The lesion below the right nipple had appeared about May 3 as a small group of pink spots which could be felt with the finger and gave a sensation of slight soreness but not pain. As fresh spots occurred in the same area they were first pink and later violet. When examined on May 13 the lesion (shown in Fig. 1, at a later stage) consisted of a crowded cluster of shotty papules of a violet colour and two outlying pink papules which had been the last to appear. Fresh clusters of papules developed during and after the stibophen course. In the latter part of the course each group contained fewer papules, many of which remained pink and small, and shrank and atrophied although some induration was detectable for several weeks. The lesions were confined to the lower chest and upper abdomen in front, and the lower part of the back and upper part of the buttock behind.

The appearance of unrecognized skin lesions in a proved case of schistosomiasis, at about the time when eggs were first discovered in the faeces, suggested that they might be a manifestation of this disease. Accordingly tissue juice, sucked from the lesions by means of a small needle and syringe, was examined. On May 15 no eggs could be found. On May 21, after several attempts, scanty *S. haematobium* eggs were seen. By June 8 some of the violet indurated nodules on the right flank had developed a whitish apex resembling a small pustule. The contents, removed with a needle, were white and pasty, and contained large numbers of *S. haematobium* eggs, as many as five being seen in some low-power fields. Some were degenerate and opaque, but others seemed healthy and structurally perfect. After the stibophen course the stools remained normal and free of eggs for three weeks, but on June 14 blood and mucus reappeared, eggs were found, and sigmoidoscopy showed active disease in the rectum. Fresh skin lesions began to appear on the scrotum (Fig. 2) as clusters of nodular pink papules which were soon surmounted by a white spot the size of a pinhead. On June 26 the contents of one of these spots were examined and two degenerate eggs of *S. haematobium* were seen, the shell and spine being intact, but the contents granular and structureless. By the middle of July there were numerous papules on the scrotum, perineum, and root of the penis, mostly arranged in groups. Eggs were obtained from these on numerous occasions. The papules were less regular in shape and more variable in size than those on the trunk; they were nodular and took on a distinctly violet colour. On the trunk two groups of lesions which had appeared during treatment and had atrophied without passing through the violet papular stage were still distinguishable as definite elevations at the sites of the original papules. The remainder had become rather softer but were still definitely nodular, with a shiny, pearly top and some wrinkling of the overlying skin. Constipation and abdominal pain became troublesome and pain on micturition developed for the first time. Eggs, with pus and red cells, now appeared in the urine as well as in the faeces. The liver edge was palpable on inspiration, smooth, firm, and not tender. There was tenderness on palpation of the right and left iliac fossae. The white cell count was 11,000 per c.mm., with 9% of eosinophils. A second course of 40 c.cm. of stibophen was given, during which no further skin lesions appeared.

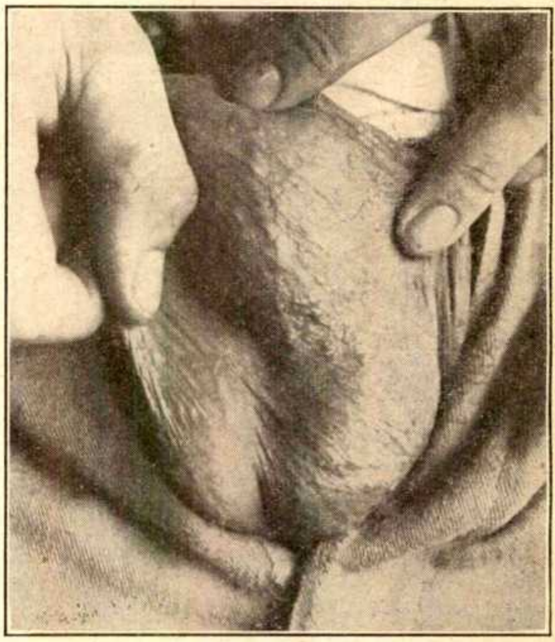

FIG. 2.—Case I. Scrotal lesions.

Case II

A British N.C.O. aged 28 had bathed almost every day for a month from Jan. 24, 1944, in the same lagoon as Case I. He itched all over the body after leaving the water, and towards the end of the month was troubled with an itchy and prickly rash which he described as like little pinheads, some watery, faint in the morning but red and irritating at night-time. He remained in normal health until March 3, when he was admitted to sick quarters with headache, shivering, and a temperature of 102.6° F. His temperature fell gradually to 100° F. during the first five days, with a daily fluctuation of less than one degree. In the next 10 days his temperature was 99 to 100° F. most evenings, and normal in the mornings. There was no further shivering after the onset, but headache continued, and on the fifth day he developed a dry cough and a rash on the front and back of the chest. He was transferred to hospital, with a tentative diagnosis of dengue, on the eighth day, by which time the rash was fading rapidly. The eosinophils rose in this illness from 1 to 34%, the total leucocyte count remaining between 5,000 and 7,000 per c.mm. Examination of stools, urine, and blood films was negative. After the temperature reached normal he felt quite well and was allowed to return to his unit. Weekly stool examinations were negative and the eosinophil count fell to 15%, but he began to have periodical looseness of the bowels and abdominal discomfort, and was readmitted to hospital on May 4. He now complained of itching of the penile urethra, and the abdominal pain was worse. The stools were formed, with strands of mucus on the surface which were found to contain eggs of *S. haematobium*. The urine deposit remained normal. The eosinophil count had risen to 39%.

On May 8 treatment with stibophen was started. On May 13 a group of pink papules was noticed in the left lumbar region. The papules were about 3 mm. in diameter, and were palpable as small shotty nodules. On May 15 a second group appeared on the lower left chest in front. A small amount of milky fluid was obtained by aspirating one of the nodules and found to contain one perfect healthy-looking ovum of *S. haematobium*. Four further clusters and some scattered papules subsequently appeared on the left lumbar, sacral, and gluteal regions (Fig. 3). A course of 50 c.cm. of stibophen was given, after which the skin eruptions ceased. The skin lesions in this case were similar to those in Case I. Starting as firm nodules which projected above the surface as pink papules, they developed red areolae which became confluent. By June 6 the clustered papular lesions had taken on a dull-red colour. On June 16 the nodules had become soft and the overlying skin was atrophic, shiny, and somewhat wrinkled, and of a violet or purplish colour. No ova could be found by aspiration at this time. The patient remained well, and repeated stool examinations were negative for five weeks. The eosinophil count, however, remained high (38–39%), and early in July ova appeared for the first time in the urine, and shortly afterwards again in the stools, and a further course of treatment was started.

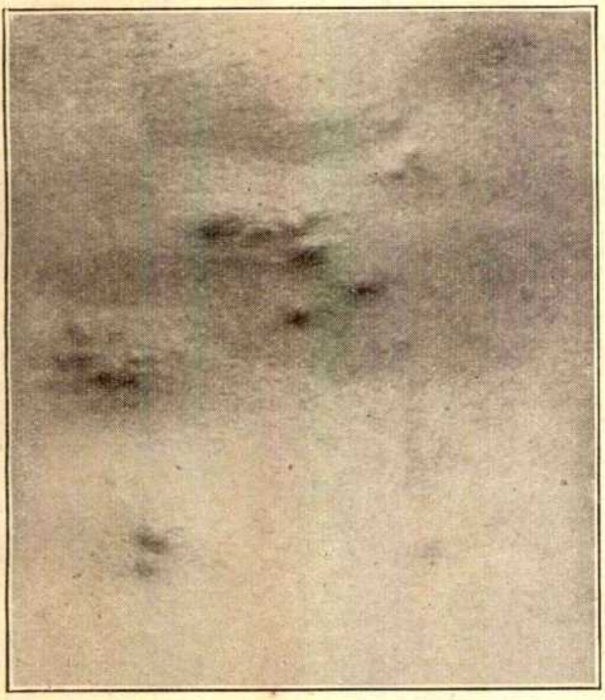

FIG. 3.—Case II. Skin deposits. (The shadows are due to uneven developing of the negative.)

Case III

A British N.C.O. aged 27 had bathed in the same lagoon every day for four weeks from Feb. 4, 1944, and had a slight tingling sensation of the skin at the time of bathing. Toxaemic symptoms started on March 12, and nocturnal cough, diarrhoea, and abdominal pain persisted until admission to hospital on May 9. Ova of *S. mansoni* were found in strands of russet-coloured mucus on the surface of the stools. The urine deposit was normal and there was no eosinophilia. A course of 50 c.cm. of stibophen was given, after which the stools were free of ova and the patient was allowed to rejoin his unit, to remain under out-patient surveillance. He still had nocturnal cough, and when seen on June 16 there were two clusters of pink papules in the lumbar region which, he said, had been present for three days. Ova could not be found in the faeces, but there was now an eosinophilia of 11%. When seen again ten days later the spots were still present and *S. haematobium* ova were seen in the faeces. The urine contained pus and red cells, though repeated examinations failed to disclose ova. The patient was readmitted and given a second course of stibophen, after which the spots gradually atrophied. The lesions in this case lasted for over six weeks, and closely resembled those seen in Cases I and II, though ova were not found in them.

Case IV

A British N.C.O. aged 21 had bathed in the same lagoon every day for a month from Feb. 13, 1944. He had a prickling sensation after bathing, and noticed a rash like "prickly heat" on the limbs and trunk. He first felt ill about March 20 with headache and tiredness, followed by irritating cough and abdominal pain. On April 25 blood and slime were noticed in the stools and he was admitted to hospital. *S. haematobium* ova were present in large numbers in the mucus, and there was an eosinophilia of 55%. A course of stibophen was given, the last injection on May 18, after which the stools were macroscopically normal and free of ova. The symptoms were relieved and he was discharged, to be kept under out-patient surveillance. Soon, however, cough, headache, and abdominal pain returned, and two weeks after the end of treatment he developed a group of spots to the right of the umbilicus. On June 21 he was readmitted, and *S. haematobium* ova were found in the stools and later in the urine. An unusual symptom, haemospermia, was reported, and the prostatic fluid was found to contain pus, red cells, and ova. Fresh skin lesions continued to appear on the lower chest up to and during the second course of treatment, after which the symptoms were relieved. Stools, urine, and prostatic smear showed no abnormality, sigmoidoscopy was negative, and no further skin lesions appeared. The lesions in this case persisted for two months, and were similar to those seen in the foregoing cases.

Discussion

The four cases described were heavily infected by repeated bathing over a period of a month or more. Each developed a definite toxaemic stage after an incubation period of several weeks; and local disease, indicated by the passage of eggs, about three months after the first bathe. In each case the eggs appeared first in the faeces, and in three cases later also in the urine. Skin lesions appeared when local disease was established—in Cases I and II at about the time when eggs were first found in the faeces, and in Cases III and IV some two weeks after a course of treatment which was followed by the reappearance of eggs in the excreta.

The characteristics of the lesions, though apparently modified as to the degree of local tissue reaction by antimony treatment, were sufficiently constant and striking to be easily recognizable, and distinct from the more familiar skin complaints. In each case they first appeared as deep, shotty pink papules 3 to 5 mm. in diameter, arranged singly or in clusters which appeared successively. There was sometimes transient local oedema with itching at first, which passed off in a few days, after which there were no symptoms, or merely a slight soreness. An area of erythema developed round each papule, and these areas became confluent within the clusters. The original papules remained distinct, and their nodular character was perceptible for six weeks or more. They changed to a dull red and then to a purplish or violet colour. Some groups and scattered papules which appeared during treatment failed to develop beyond the pink stage and slowly atrophied. The others enlarged somewhat and became softer, with wrinkling of the overlying skin. Finally a white spot appeared at the apex, the contents of which were white and pasty. The resemblance of the lesions at some stages to those seen in the bladder and bowel at endoscopy was striking.

The lesions described here correspond fairly well with the early stages of those described by Madden and by Girges—viz., small subcutaneous nodules, at first hard and later enlarging and becoming softer. Madden refers to the arrangement of the nodules in chains or irregular collections, and Girges mentions that they are elevated and dark in colour, and may discharge a cheesy material. The later stages of ulceration and sinus formation, as described by these authors, were not seen in the cases recorded here, which came under treatment at an early stage.

Madden gives the distribution on the body as: especially in the perineum, but also in the "bathing-drawers area," and rarely elsewhere. Girges includes the perineum, penis, scrotum, over the sacrum and coccyx, and particularly over the pubis. The scrotum, perineum, and root of the penis were heavily involved in one of the cases described above. Posteriorly, the majority of lesions were in the lower part of the back and upper part of the buttocks, though occasional ones were seen as high as the scapular angles. So far the agreement is quite close, but anteriorly the distribution was rather different, the area affected being higher—chiefly between the levels of the nipples and navel.

Paired *S. haematobium* worms may wander from their habitat in the pelvic plexuses of veins into the inferior vena cava, and Fairley (1919) found them in the inferior vena cava in necropsies on infected monkeys. From the iliac veins and vena cava they might ascend the scrotal, gluteal, and lumbar veins by their normal process of travelling against the blood stream. The lesions in the lower part of the chest and upper part of the abdomen are more difficult to account for: possible routes would be via the venous communications between the lumbar and epigastric veins, or from the external iliacs via the inferior epigastric veins.

The nature of the nodules remained in doubt until eggs were obtained by puncture with a fine needle and withdrawal of a little tissue juice by suction with a syringe. The eggs were identical with those seen in a large number of examinations of stools and urine. Some were structurally perfect, while others, especially after treatment, showed no miracidial structure and had granular contents or were opaque. Tissue was obtained by biopsy from two of these cases, but when examined later the embedded material was found not to include any of the actual tissue from the nodules.

Compared with the skin affections due to cercarial penetration, and the urticaria of the toxaemic stage, cutaneous lesions arising during the stage of established local disease and associated with deposits of eggs have attracted little attention. The lesions described here were practically symptomless, and were noticed only because the white patients, being fastidious about skin complaints in the Tropics, drew attention to them. It seems quite likely, therefore, that this condition might fail to arouse the comment of native patients. Large outbreaks of schistosomiasis among Europeans are unusual, and with an incidence of only about 3% in, for the most part, heavily infected cases under observation in hospital, this complication would no doubt be of rare occurrence in normal practice.

Summary

In a series of 130 cases of schistosomiasis in Europeans, four cases were seen with a distinctive skin lesion. In two of these the lesions appeared at about the time when eggs were first discovered in the faeces. Tissue juice, aspirated from cutaneous nodules, was found to contain eggs of *S. haematobium*, identical with those seen in the urine and faeces. The skin lesions in the other two cases appeared about two weeks after unsuccessful treatment with stibophen, which was followed by the reappearance of eggs in the excreta. The lesions were similar, but eggs were not recovered from them.

The lesions and their distribution are compared with those previously recorded, and the way in which eggs may reach the skin is discussed.

I wish to thank Major-Gen. A. G. Biggam, C.B., O.B.E., for his help and for permission to publish this paper; Prof. R. T. Leiper, C.M.G., for his interest and for two of the references to the literature; and Dr. George Graham for much stimulating advice and help.

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METHODS FOR DETERMINING PLASMA PROTEINS

VALUE IN A GROUP OF BOYS AGED 14 TO 15

BY

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We have determined the plasma proteins of a group of 45 normal schoolboys aged 14 to 15. Information as to the social condition and diet of the boys is given in a previous publication (Cook, Davidson, Keay, and McIntosh, 1944). As a considerable volume of plasma was obtained there was an opportunity of testing various methods of estimation. The standard method is the gravimetric estimation, in which the total proteins are isolated and weighed. To this method all others should be subservient. It should be stressed, however, that whether plasma "proteins" can be regarded as a distinct chemical species is a moot point. Particularly is this so in the mixed form in which they occur in the blood. In view of the importance of the determination of plasma proteins in clinical medicine and in nutrition surveys we present our results with some practical details in the hope that they will be of value to other workers in this field.

Methods

Collection of Blood and Preparation of Plasma.—Since other blood constituents such as vitamin A and ascorbic acid were to be determined it was necessary to withdraw 40 ml. of blood from each boy. As an anticoagulant potassium oxalate was used. Into a tube prepared to contain 20 ml. of blood 1.5 ml. of 6% (w/v) solution of potassium oxalate was placed. The tubes were put on a metal tray and the solution evaporated to dryness (leaving a deposit of oxalate crystals) by gentle application of heat from a Bunsen burner. Overheating, which converts oxalate into carbonate, must be avoided (Harrison, 1937). The syringe used for withdrawing blood was previously flushed out several times with sterile saline. The small amount of saline left might be regarded as a diluent of the blood, but experiments on haemoglobin determinations using a completely dry and a saline-moistened syringe show that at most a dilution altering the results by 1% is obtained. The boys were seated during the puncture of the vein, a rubber tourniquet being loosely applied round the middle of the upper arm. As soon as the vein was entered the tourniquet was slackened. It was sometimes found necessary to apply slight pressure during the withdrawal of the sample. The oxalated tube was gently rotated during the addition of the blood. In no case was there any coagulation. Haemolysis to a slight degree occurred with three samples. Within three hours the blood was centrifuged for 20 minutes at 2,500 r.p.m. and the plasma pipetted off.

The micro-Kjeldahl determinations and gravimetric estimations were carried out within 24 hours of collection. In the case of the specific gravity method the plasma had been stored for two months at −4°C.

Micro-Kjeldahl Method.—As this method, though often used, is open to a number of fallacies, we propose to describe our procedure in detail.

(i) *Total Nitrogen.*—The method advocated by Peters and van Slyke (1932) is to dilute 1 ml. of the plasma to 10 ml. with 0.9% (w/v) NaCl and then to digest 1 ml. aliquots of the diluted plasma. This procedure, in our opinion, involves unnecessary manipulation and may introduce errors. The procedure adopted was to pipette from a standardized pipette 0.1 ml. of undiluted plasma into the digestion flask and wash it in with 1 ml. of saline. Comparison of this procedure with the dilution method gave substantially the same results. Each sample of plasma was set up in duplicate. To the digestion flask were added 0.5 g. of digestion mixture described by Chibnall, Rees, and Williams (1943) and 2 ml. of conc. A.R. H_2SO_4. In view of the findings of these writers that low N values may be obtained for proteins if the heating is not continued for a number of hours after clearing, as a normal procedure all digestions were carried on four hours after clearing, which normally took place in about half an hour. It may be added that preliminary experiments showed no difference in the results between 2, 4, 8, and 16 hours' heating. "Blank" digestion flasks containing saline, acid, and digestion mixture were set up for each 6 determinations. The liberation of the ammonia was carried out in a Parnas-Wagner type of apparatus. The NH_3 was determined by back-titration of N/100 HCl.

As a check on the apparatus and standard solutions frequent controls, using known amounts of NH_3 as a solution of ammonium sulphate, were carried out. Recoveries of 98 to 102% of theory were always obtained.

The "blank" determinations were approximately 3% of the experimental value. It would appear that this blank is largely due to carriage over of alkali from the distillation flask, as it is little altered if the digestion mixture is omitted from the flask, and becomes negligible if distilled water is substituted for the soda. As a normal procedure a constant measure of 15 ml. of 40% (w/v) NaOH was added to the flask. This stabilized the blank at a maximum value of 0.028 mg. N. All our results are corrected for the blank determination. Any results that did not agree to within 2% were repeated.

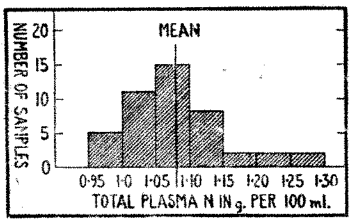
(ii) *Plasma N.P.N.*—This was determined on the Folin-Wu filtrate (see Peters and van Slyke, 1932) in 11 samples of plasma.

Gravimetric Method.—The method used was that of Guillaumin, Wahl, and Laurencin (1929). This procedure involves considerable manipulation and is very laborious. In the series only two of the determinations were carried out in duplicate. Two ml. of plasma was used for each determination. A point that must be strongly emphasized in the gravimetric method is care in drying the coagulated protein to constant weight. This often takes a considerable time.

$CuSO_4$ Method of Phillips et al. (1943).—As an indication of the ease and speed of this method it may be remarked that once the saturated solution of copper sulphate had been prepared the whole procedure of making the separate dilutions and finding the specific gravities of the plasmas took only four hours.

Results

The values for the total plasma nitrogen of the 45 boys are given here in the form of a distribution diagram.



The distribution of total plasma nitrogen in a group of 45 boys.

Taking these figures and multiplying by the factor 6.25 (on the assumption that the protein contained 16% N), the values obtained by the micro-Kjeldahl method are shown in contrast with those obtained by the copper sulphate method (Table I).

TABLE I.—*Total Plasma N, Protein (N×6.25) and Protein as estimated by the $CuSO_4$ Method in the Plasma of 45 Boys aged 14 to 15. N.P.N. in 11 Samples of Plasma is also given : Values as g. per 100 ml.*

	Total Plasma N	Protein (N × 6·25)	Protein by $CuSO_4$ Method
Range ..	0·95–1·26	5·80–7·80	5·50–8·25
Mean ..	1·078 ± 0.14	6·65 ± 0·42	6·97 ± 0·73

N.P.N. (11 samples): Range 0·022–0·033. Mean 0·025 ± 0·0048.

The discrepancy between the values given for N content and those given for protein (i.e., after multiplying N by 6.25) is due to the fact that the latter were obtained from N values taken to one significant place of decimals only. An error of not more than ± 2% may be assumed for the N values. We now regard these values as the more accurate expression of the protein content.

Table II shows a comparison of the results in respect of 12 specimens of plasma in which the proteins were determined by three different methods. It will be seen that collectively the agreement is fairly good, but individually the agreement is far from perfect.

TABLE II.—*Plasma Proteins (g./100 ml.) by Different Methods*

Micro-Kjeldahl (Total N × 5·25)	Gravimetric	$CuSO_4$ Method
7·70	6·30	6·85
7·20	6·23	6·85
6·45	7·05	6·15
6·55	6·84	7·20
6·70	7·46	8·20
6·15	6·19	7·20
6·25	6·13	6·50
6·30	6·56	7·20
6·55	6·00	7·10
7·30	6·75	7·35
7·50	7·39	7·15
7·10	7·24	7·00
Mean 6·81 ± 0·53	6·68 ± 0·48	7·06 ± 0·51

In the Tables ± is the standard deviation calculated by the method of Bradford Hill (1942).

Discussion

One of us has determined the nitrogen content of the acetone-treated heat-coagulated plasma proteins and finds it to be 15.2%. This value gives a protein factor of approximately 6.6 (Cook, 1945). The nitrogen distribution of plasma is so complex that a conversion of any part of it into protein by multiplying by a simple factor is not justifiable. For example, the view that only proteins are precipitated by acid tungstate can easily be shown to be erroneous, because in this precipitate are brought down the N-containing phosphatides. Another important factor is that the N content of globulin and albumin may well be different. Such a state of affairs may explain the individual differences seen in Table II. The whole subject merits reinvestigation. If methods dependent on N determination are used it would be advisable to express results as g. protein N or as g. N precipitated by some particular precipitant—say acid tungstate or trichloracetic acid. For all practical purposes, however, multiplying total N by 6.25 produces a reasonably accurate result and one that is now generally accepted as giving an exact value, even if of the pseudo variety, to the proteins of plasma. It should be stressed, however, that the final court of appeal ought always to be the gravimetric method. Probably on account of its laborious nature this will never be popular.

These experiments also indicate that, for a quick and reasonably accurate method of analysis, determination of the plasma proteins by the specific gravity method is of great value.

Summary

The plasma proteins of 45 boys aged 14 to 15 have been estimated by (*a*) determination of nitrogen by the micro-Kjeldahl method, and (*b*) the $CuSO_4$ specific gravity method. The values obtained are shown in Table I.

In 12 cases the results from the above two methods were compared with those of the gravimetric method. Collectively, agreement between the three methods is good, but there are considerable individual differences.

The gravimetric method is the most accurate. It is considered that if a method dependent on N determination is used the result should be stated as g. N per 100 ml.

As a rapid approximate determination the $CuSO_4$ method is justified.

We are grateful to Dr. W. L Burgess, C B.E., and Prof. R. C. Garry for their interest in this work, and to Mr. H. Macdonald for able technical assistance.

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EARLY TREATMENT OF BELL'S PALSY

BY

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AND

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It is said that 75% of cases of Bell's palsy recover spontaneously, and therein we think lies the cause of lifelong disfigurement for many people. It seems to be always hoped, sometimes presumed, that the particular case in hand is or will be one of the 75, in spite of the fact that there is often no means of knowing if it will turn out to be so. We should regard Bell's palsy rather from the point of view of those who do not recover spontaneously, and say that in 25% of cases the present usual line of treatment results in complete failure and the patient is permanently disfigured ; this is a more arresting point of view, and is likely to result in a considerable diminution of such failures. In every fresh case of Bell's palsy we suggest that it should be assumed not that it will probably get well if little or nothing is done, but that it is possibly one of the 25 which will not recover by itself, and measures should be taken accordingly. That the treatment nowadays of any surgical condition should have so high a failure rate as 25% should of itself call for attention and inquiry. In every case of Bell's palsy the only safe procedure is to presume that it will not recover unless something more than an attitude of masterly expectancy is adopted. We are concerned primarily with cases due to exposure to cold and not with cases due to disease or trauma of the temporal bone or to central causes, though the treatment to be advocated will be beneficial and helpful in all, even when from the start no recovery can be hoped for in such cases as severe intentional or accidental trauma. This paper is not intended to be a dissertation on "facial paralysis," but simply a contribution to assist the general practitioner, for we are convinced that the possibility of reducing the present 25% failures rests in his hands.

Probably the chief factor in non-recovery of what should be the temporarily paralysed muscles is their immediate and continued overstretching by the non-paralysed muscles of the opposite side of the face. A common method of attempting to overcome this is by the use of a hook in the corner of the mouth attached by a loop to the ear; but, as will be shown, this is often worse than useless. A more simple and effective method of restraining the overaction of the muscles of the sound side is by means of strapping. It is applied thus.

The Strapping Method

The lower half of the paralysed side is first smeared thinly with vaseline or oil. Two strips of half- or three-quarter-inch strapping are then applied to the clean sound side on a level with the upper and lower lips, starting about three-quarters of an inch in front of the ear (Figs. 1 and 2). The sound side is pushed across to the paralysed side, and while in this position the other ends of the strapping are firmly stuck down to the mastoid process on the paralysed side (Fig. 3). Good and very adhesive rigid strapping must be used—not elastoplast. The strapping, once on, must be left indefinitely on the sound side. If it is removed the skin becomes sore and there is difficulty in reapplying it firmly; moreover, the patient is discouraged from persisting with the treatment. When it gets soiled another piece may be placed on top of it, and only in some real necessity should it be removed, gently, by the surgeon or nurse, with the aid of a solvent, and reapplied immediately. Non-adhesion to the paralysed side is necessary in order to avoid the possibility of a pull on the paralysed muscles and so that gentle massage may be given; also so that the patient may endeavour to make voluntary movements of the affected side in front of a mirror at the end of a week or ten days. The latter method is probably the most effective that can be employed to aid recovery, but it must be done while the normal side is out of action. That is to say, conditions must be such that the only thing the paralysed orbicularis oris or zygomatic muscles have to do is to respond, even if ever so feebly, to the will to contract; they must not be concerned also with opposing the pull of the muscles of the opposite side. The probable reason why massage and exercises are so often ineffective is that in the early stage of recovery the muscles are overpowered with work by having two jobs to do at once, and, again becoming overstretched, anything gained is soon lost. The paralysed orbicularis oculi muscle should be supported by a sling composed of two quarter-inch strips of strapping running downwards from each end of the eyebrow and meeting below the centre of the lower lid, as shown in Fig. 1. This serves to keep the lid in apposition to the eye, to prevent epiphora, and to counteract the weight of the paralysed cheek and so prevent the orbicular muscle from losing tone. Fortunately this muscle is not concerned with opposing its fellow on the opposite side, and so this method of strapping is nearly always successful in its object; it may be said that if it is applied early enough, and persisted in, there will certainly be no ectropion to follow in simple Bell's palsy.

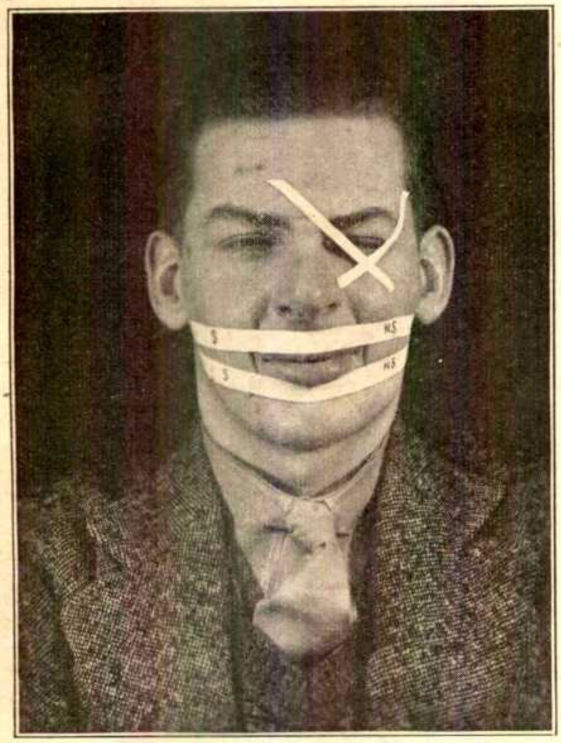

FIG. 1.—Showing method of applying strapping. S=strapping stuck to skin on sound side. N.S.=strapping *not* stuck to skin, on paralysed side. Also showing sling for paralysed orbicularis oculi muscle to prevent ectropion.

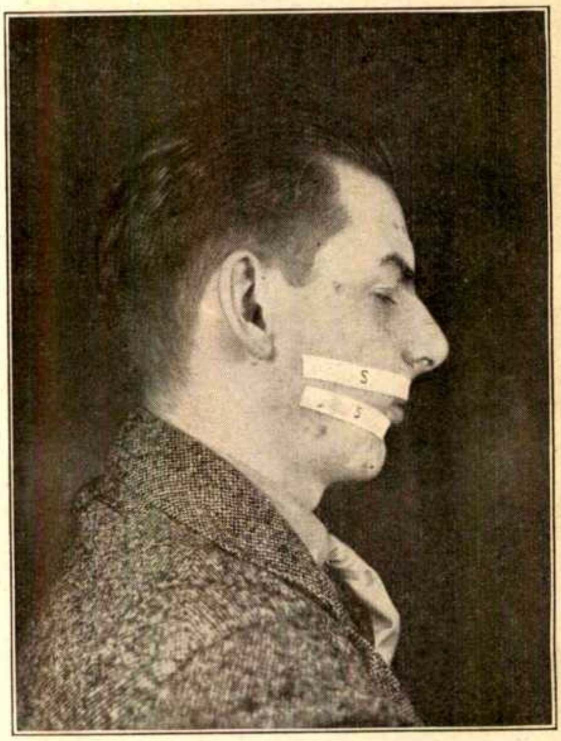

FIG. 2.—The strapping stuck to the skin on the sound side; it should not be carried back further than shown.

Electrical Measures.—During the third week, if recovery is not obvious, the muscles may with advantage be stimulated with weak faradic currents. Minimal doses only should be used—just sufficient to cause visible contractions in the orbicularis and zygomatic muscles. The aim should be just to maintain tone and not to tire the muscle with violent contractions. A current which causes any painful sensation is much too strong, and will do harm. The current should be tried first on the operator himself and then on the sound side of the patient before being applied to the paralysed muscles. If a current which causes contraction on the patient's sound side causes no contraction on the paralysed side, no attempt should be made to produce contraction by using a stronger current. Short daily treatments with very weak current should be ordered. The strapping should be kept on and the above treatment continued indefinitely. It may be for only a week or two, but it may be for two or three months. The patient must be handled very strictly, and be impressed with the serious risk of taking the strapping off even for one occasion, no matter how seemingly important it may be. One laugh without the strapping may undo weeks of treatment, and to leave it off for several days just when recovery is beginning will almost certainly result in partial failure.

The Mouth Hook.—From what has already been said it will be obvious that if the point of decussation of the orbicularis oris muscle on the paralysed side is made a fixed point, then, when the overacting sound fibres contract, the effect on the paralysed fibres will be to stretch them still more—much more than if there were no hook. If the hook is so adjusted that it actually pulls the angle of the mouth back, not only will the stretching be more severe but the fasciculi radiating from it, the depressor and levator anguli oris muscles will be stretched too. The only muscles which the hook really rests are the zygomatics, and in cases in which the hook has been used we often see that these are the only muscles which have recovered, the orbicularis being particularly flaccid. The rule should be, "Look after the sound side—leave the paralysed side alone ; it is the sound side which does the damage."

Other Methods of Treatment

Nerve grafting in traumatic (mastoid) cases is obviously the method of choice and, equally obviously, should be employed early if it is to be successful, as also should decompression of the aquaeductus fallopii if thought necessary ; these operations, however, fall within the sphere of otolaryngology and will not be discussed here.

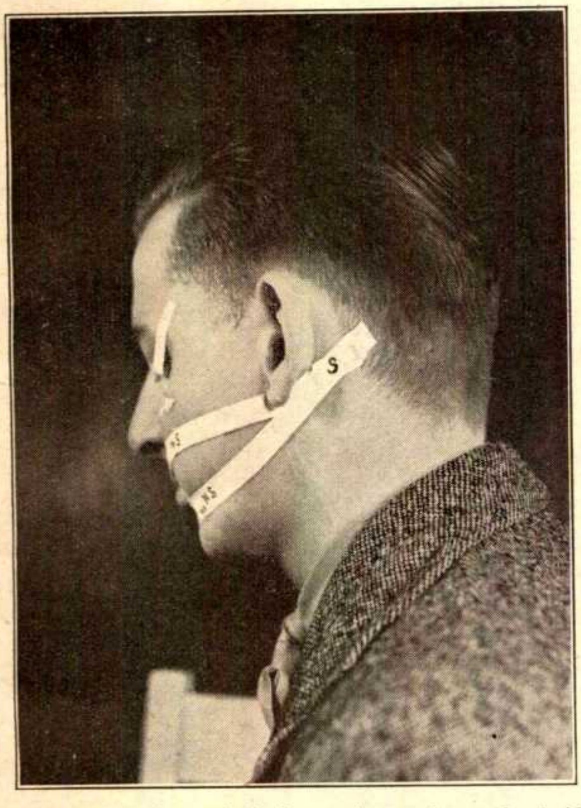

FIG. 3.—Showing method of strapping on the paralysed side. N.S. = Not stuck. S = Stuck very firmly to the mastoid process and a little way beyond the hair line.

Fascia Lata and Muscle Grafts.—These are the plastic surgeon's methods of dealing with facial paralysis in cases usually referred in the later stages, when R.D. is complete. We would, however, like to advance a plea that all traumatic cases (even those few for which nerve grafting is chosen) should be referred to the plastic surgeon as early as possible after the injury. Slings of fascia lata to take the weight of the paralysed cheek, to restrain the overacting muscles of the opposite side, are ideal for the purpose ; they are permanent and invisible, and should be used instead of strapping, which can be regarded as only a "tide-over" method in this class of facial paralysis, but which should nevertheless be adopted *immediately after the trauma,* and replaced as soon as possible by fascia lata. For instance, if the facial nerve is implicated in a parotid tumour and the surgeon judges that it is better to sacrifice the facial nerve and save the patient's life, the strapping described above should be applied at the end of the operation, and the case referred to the plastic surgeon in three weeks' time. There is nothing to be gained by waiting, but much to lose. It is surprising how little tone the muscles seem to lose when they receive early and permanent support in this way. Here as elsewhere it is easier, and the result is infinitely better, when deformity is forestalled than when reliance is placed on correcting it after it is well established. The difference between the results of the same operation (fascia lata grafts) done three weeks after total facial paralysis and three years after is almost incredible to those who have not had the opportunity of such comparison. There is some strange persistent urge to "wait and see" if recovery will take place or whether the paralysis will become bad enough to need operation. The answers to this are: (1) recovery will be hastened and not retarded by the fascia lata operation, which may make recovery possible in some cases where it would otherwise be impossible ; (2) if nothing is done in the case of total paralysis it is *certain* to become bad enough to require operation, and the golden opportunity of obtaining the best result has been lost.

In well-established long-standing cases (which in future we think should not be permitted to exist) the choice lies between (1) fascia lata slings for the orbicular muscles, and perhaps temporal and masseter muscle slips to give some voluntary movement after re-education, and (2) anastomosis with the hypoglossal nerve. The former methods give balance to the face, with a little muscular movement of the angle of the mouth and full closure of the eye ; while the latter method, when successful, provides mass movements only, and facial balance in repose is not often so good as in the sling method.

OSTEOMYELITIS OF THE SKULL DUE TO SALMONELLA TYPHI

BY

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Cases of osteomyelitis due to the typhoid bacillus are uncommon ; the following case is also of interest owing to the great length of time that elapsed between the initial infection and the occurrence of osteomyelitis, the site of infection, and mode of onset of the condition.

Case History

A man aged 40, a linesman on the L.P.T.B., was admitted to this hospital with a history of headaches for two years. These had occurred almost daily, and were of a stabbing character lasting varying times from one hour to a whole day. They did not interfere with his work ; he had accepted them as part of his life and did not seek medical advice.

For the three months before admission they had been getting steadily worse ; he had been losing sleep and was beginning to feel weak and exhausted. On Dec. 24, 1944, he was sitting in his kitchen when he felt a tingling sensation in his right hand. He rose from his chair and found that he had lost control of his right leg, which was useless. This attack lasted one hour and then passed off, leaving him apparently normal in every respect. He consulted his doctor and was admitted to hospital, where he had a similar attack. Investigations proved negative and he was discharged. He still lacked energy, however, and the headaches had increased in severity. Shortly after this he had a severe pain in the back of the head, agonizing in nature ; he consulted his doctor, who found a soft fluctuant swelling in the occipital region, and he was again admitted to hospital.

During the next four days the swelling increased steadily in size, but the severe pain passed off, to be replaced by a dull ache. On admission to us, 10 days later, he had a soft, diffuse, smooth, very tender, hot swelling 2½ in. in diameter over his occipital region, mainly on the right side, and considerable oedema of the surrounding overlying scalp. This was a typical Pott's puffy tumour, and in addition he showed early papilloedema, a slight facial palsy of upper motor neurone type, and increased reflexes in the right arm and leg.

Radiographs of the skull showed definite osteomyelitis, with a roughly circular defect 1½ cm. in diameter lying over the midline in the occipital region and extending to the left in the post-parietal area. In addition there were a number of other small scattered areas of rarefaction on the right side in the mid-parietal region, and a number of small sequestra could be seen. The pineal lay in the midline and the accessory sinuses and mastoids were clear.

Operation.—On turning back skin flaps over the swelling a large quantity of thin, brownish pus escaped. On exposing the bone thick areas of granulation tissue were seen, particularly on the left side, and just to the left of the midline was a small opening in the bone through which pus was pouring. The infected bone was nibbled away, to reveal a large extradural abscess and the dura covered with thick granulation tissue. All infected bone was removed and the granulation tissue scraped off ; the dura was not opened. The wound was filled with hydrogen peroxide, powdered with sulphanilamide, lined with gutta-percha, and packed. The patient's condition deteriorated slightly during operation, but not appreciably.

He was put on a post-operative course of succinyl sulphathiazole 2 g. four-hourly, and blood estimations next day showed a sulphonamide level of total 3.38 and free 2.02 mg. per 100 c.cm. His further course was smooth and uneventful.

The following bacteriological investigations were carried out:

March 21.—Pus aspirated from swelling ; direct smear—no organisms seen ; culture (horse-blood agar) yielded growth of "coliform bacilli" only. Urine: test for Bence-Jones's protein, negative ; no albumin present.

March 26.—Swab (operation) culture (blood agar), pure growth of "coliform bacilli" ; a penicillin-sensitivity test (cylinder-plate method) gave no inhibition of growth. At the request of Mr. McKissock further investigations were carried out to identify the organism, and the usual routine sugar tests gave the following results: Production of acid only with glucose, mannitol, and dulcitol ; no fermentation of lactose or saccharose. The organism was a Gram-negative motile bacillus, did not give a positive indole reaction, and did not liquefy gelatin. This pointed to *B. typhosus.* An agglutination test of the suspension of the organism with standard agglutination sera of *B. typhosus* H and *B. typhosus* O did not give definite agglutination to standard titre. It was therefore decided to send a culture to the Lister Institute at Elstree for confirmation

March 27.—Patient's serum agglutinated with standard suspensions of *B. typhosus* H and O. Agglutination with *B. typhosus* H to titre of 1 in 80. *B. typhosus* O no agglutination. B.S.R.: 1st hour, 65 mm.; 2nd hour, 105 mm. Hb, 54%; R.B.C., 3,400,000; W.B.C., 1,400 (polys 90%, lymphs 8%, monos 2%).

March 31.—Swab taken from wound at the first dressing showed no organisms in direct smear and no growth on culture. The wound was granulating slowly and the condition of the patient was excellent.

April 9.—Wound swab yielded on culture a few colonies which in suspension now gave positive agglutination with standard agglutinating serum : *B. typhosus* H, *B. typhosus* (Vi). No agglutination with serum *B. typhosus* O.

April 11.—Report from the Curator of the National Collection of Type Cultures, Lister Institute, confirms the biochemical findings, with these additions: "It gives acid but not clot in litmus milk and does not give a positive carbinol reaction ; it also gives a positive O agglutination with typhoid antiserum. Taking these findings as a whole, I think there is little doubt that this Salmonella is indeed *Salmonella typhi.*"

Subsequent investigations on samples of duodenal contents, urine, and faeces failed to isolate *B. typhosus* on three occasions, and cholecystography showed a normal gall-bladder.

Discussion

In view of the very great rarity of osteomyelitis due to *B. typhosus* (Murphy (1916) quotes three instances in 700 cases) the true nature of the "coliform bacilli" isolated from the aspirated pus and from the field of the operation was not suspected. "Coliforms" are a frequent causative organism of osteomyelitis either alone or in conjunction with other organisms, and no significance was at first attached to this. The request for fuller identification with the resultant biochemical reactions opened up further inquiry into the patient's history. He then disclosed an attack of enteric fever at the age of 7—he is now in his 41st year. He had previously not mentioned this illness, nor had it been recorded ; though, even so, after the very long interval of time it most probably would have been considered of no significance. On inquiry at the hospital concerned no documentary corroboration could be obtained—all the papers of so remote a period had been consigned to "war salvage—but it was stated that at that period routine bacteriological and serological tests would most certainly have been done to confirm the clinical diagnosis.

His subsequent illnesses were malaria in 1927 and a further relapse in 1929 during military service. There is a record in his pay-book of two injections of T.A.B., on Nov. 23 and 30, 1927 : no dosage was mentioned. These do not appear to have succeeded in completely ridding him of his carrier state. He had been entirely free from illness from 1929 until his attacks of headaches two years ago as described above. There can be no doubt that he has harboured *B. typhosus* for 33 years.

Of great significance is the history given by the patient of repeated injuries to his head sustained while working in a low room. He had definite recollection of such injury, over approximately the site of the subsequent abscess, on at least six occasions during the past few years, although on no occasion was the injury severe enough to render him unconscious.

This association of localized injury and subsequent typhoid abscess formation is a very frequent feature in cases in which an acute focus of infection has appeared after a long interval of time in the typhoid carrier. This is borne out by the following cases reported in the literature. Van Dyke (1933) described a case of typhoid osteomyelitis of the femur occurring 24 years after the original attack of typhoid fever—the precipitating cause being a kick on the thigh from a horse. Wardle (1935) describes a case of Brodie's abscess of the tibia occurring 10 years after an attack of typhoid fever. Here again there is a definite history of injury to the shin. There is also quoted from Keen's *Surgical Complications and Sequelae of Typhoid* a case reported by Buschke in which a pure culture of *B. typhosus* was obtained from a tibial abscess 7 years after the fever, the condition having been precipitated by injury. The points of interest in these cases are the length of time elapsing between the attack of typhoid fever and the formation of localized osteomyelitis from which *B. typhosus* was recovered in pure culture—in our case 33 years. It is interesting to speculate as to the precise lair wherein the organisms are lying in wait during these years. A search of the faeces, urine, and duodenal contents failed to isolate them. And what particular part does trauma play in initiating the morbid processes leading to local settlement of *B. typhosus,* resulting in the formation of a localized abscess ? A further point of interest is that we have been unable to find in the literature any previous cases of osteomyelitis of the skull giving pure culture of *B. typhosus.*

Summary

A case of osteomyelitis of the skull is described with full bacteriological investigations, in which the infecting organism was found to be *B. typhosus* occurring 33 years after the original infection.

This case demonstrates the importance of not omitting any illness of childhood from the records of previous illnesses, the very long interval of time after the original fever that can elapse in pyogenic conditions due to *B. typhosus,* and the surprising results which may on occasion arise from more intimate identification of "coliform bacilli" isolated from localized septic conditions.

Our thanks are due to Mr. McKissock for permission to publish this paper and to the Curator of the Lister Institute of Type Cultures, Elstree, for his co-operation. Also to Dr. Lyle for his help in taking the history and clinical examination, and to Mr. Ellis, laboratory technician.

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The Scientific Films Committee of the Association of Scientific Workers has now revised and printed its catalogue of scientific films. A grading system shows the suitability of each film for various types of audience. This catalogue can be bought for 2s. 6d. from the head office of the A.S.W. at Hanover House, 73, High Holborn, London, W.C.1. The Scientific Films Committee was set up in 1938 with the object of furthering the interests of the scientific documentary film, encouraging the making of more such films, and sponsoring the exhibition of scientific films.

Medical Memoranda

Aetiology of Pancreatic Apoplexy

Acute haemorrhagic pancreatitis is usually due to a fulminating infection which either gives rise directly to a haemorrhagic exudate or does so indirectly by the liberation of pancreatic ferments which destroy the walls of the small blood vessels. A few cases, however, of so-called pancreatic apoplexy appear to originate with massive haemorrhage, and the following report throws light on the pathogenesis. The necropsy was one of three similar necropsies seen by me in the last 20 years.

Pathological Report on a Case

A housewife aged 52 (Case No. 179480) was admitted to the City General Hospital, Sheffield, suffering from acute pancreatitis of 10 hours' duration, and she died 26 hours later.

Post-mortem Examination, Feb. 26, 1945 (relevant details only).—The body was that of a very obese female. The peritoneal cavity was full of blood-stained fluid, and the omentum and mesentery were diffusely spotted with fat necrosis. The body and tail of the pancreas were diffusely infiltrated with blood and there was considerable retroperitoneal clot in the left perirenal region. The head and neck of the pancreas were diffusely suffused with blood in their posterior portion, but the anterior parts were only slightly affected, though blood clot surrounded the entire organ. The spleen appeared normal, though surrounded by blood clot, and on dissection it was evident that the haemorrhage had originated in a rupture of the inferior of two large splenic veins before they united to form the main splenic vein about 4 in. from the hilum of the spleen. There was cholesterosis of the gall-bladder, but no calculi or other abnormalities were found in the biliary or pancreatic ducts. No fat necrosis was present in the thorax.

Comment

These three cases all suggest that the primary lesion in the final catastrophe was haemorrhage from rupture of a splenic vein, and that the effused blood injured the pancreas, leading to secondary autolytic digestion, etc., in the region. That the process is not in the reverse direction is suggested from observations on other necropsies of the same condition, which are of primary autolytic or infective origin and which never, so far as I know, lead to the opening of the wall of a large blood vessel. It may be that the initial process is a mild inflammation which produces adhesions between the usually mobile splenic veins and the pancreas, and that some movement may precipitate the final rupture, but I am unable to adduce any proof of this.

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A Case of Achalasia of the Cardia

In a typical case of achalasia of the cardia the symptoms are accompanied by radiological evidence of enlargement of the oesophagus. It is uncertain, however, whether the enlargement follows the onset of symptoms or whether the sequence of events is reversed. The case described below throws light on this point because enlargement of the oesophagus followed the onset of symptoms.

Case History

Mrs. A., aged 59, a housewife, was admitted to hospital on April 5, 1944, with a history of dysphagia and bouts of vomiting since Oct., 1940. She dated the symptoms from the time when her house was bombed. She had lost 34 lb. in weight and her appetite was poor; her diet consisted mainly of soft foods, including milk. There were no abnormal signs on physical examination. The vomitus contained no free hydrochloric acid.

Her oesophagus was *x*-rayed in Oct., 1941, a year after the onset of dysphagia, and was found to be normal. About the same time Mr. F. C. Ormerod examined it endoscopically with the same result. In April, 1942, radiography of the oesophagus showed that no barium passed into the stomach for five minutes and that there was a fusiform dilatation of the oesophagus. These radiological findings were confirmed in April, 1944, the dilatation being somewhat greater than two years previously.

Commentary

The following conclusions can be drawn from this case. (i) Achalasia was probably present for a year before the patient was first investigated in 1941, and yet the oesophagus appeared normal to clinical test. (ii) Definite oesophageal dilatation occurred quite rapidly over a period of six months (Oct., 1941, to April, 1942).

Hurst and Rake (1929–30) have set out in detail their view of the manner in which the oesophageal enlargement comes about. It may be summarized as follows. (*a*) As a result of inflammation of Auerbach's plexus in the region of the cardia, the neuromuscular mechanism is upset and a functional obstruction to the transfer of material from the oesophagus to the stomach is produced. (*b*) The obstruction becomes progressively worse, but for a time hypertrophy of the circular muscle fibres of the oesophagus "compensates" for the obstruction. (*c*) Finally, further compensation can no longer occur and the oesophagus enlarges. In very advanced cases it may also lengthen.

There is a good deal of evidence to support this hypothesis. Many cases with clinical and radiological evidence of achalasia of the cardia show, post mortem, few or no ganglion cells in Auerbach's plexus in the region of the cardia (cf. Rake, 1927). Hurst and Rake (1929–30, p. 499) refer to three cases in which the wall of the oesophagus was found at necropsy to be hypertrophied though the lumen was of normal size, and in which the changes referred to above were present in Auerbach's plexus. This lesion of the oesophagus was symptomless and was thought to represent the stage of "compensation." Hurst (1943) records a case (Case 4, p. 70) in which the dilated oesophagus in the course of a few years became S-shaped, so that the patient could no longer use a mercury bougie.

The missing link in this chain of evidence was the demonstration that an oesophagus with a lumen of normal size could enlarge. Bockus (1943) has described this change, though oesophagitis with ulceration of the mucosa in the region of the cardia complicated his case. The present case shows that the enlargement can occur in an organ which appears normal radiographically and endoscopically.

We wish to thank Dr. C. M. Hinds Howell for permission to publish this case, and Mr. F. C. Ormerod for letting us use his endoscopic observations.

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Neurological Complications in Tropical Macrocytic Anaemia

In view of the statements made by several authorities (Wills, Clutterbuck, and Evans, 1937; Trowell, 1943), that nervous symptoms and subacute combined degeneration have never been found in nutritional macrocytic anaemia, a report of the following case may prove interesting.

Case Record

A coloured woman aged 22 was admitted to the Belize Hospital on Feb. 2, 1943. At the time of admission she was in the seventh month of pregnancy. Her illness had begun three months previously with an attack of fever, which was followed by the onset of numbness in her hands and feet and a sensation of tightness around the waist. Trembling and weakness ensued whenever she tried to stand up, and gradually she lost the ability to walk. Temperature 99° F. on admission. The fundus of the uterus was felt 2 in. above the umbilicus. On examination there was marked loss of power in the upper and lower limbs. Sensation for pain and touch was diminished on the inner aspects of both legs, and there was considerable impairment of the sense of position in the upper limbs and in the left leg. The abdominal reflexes and knee- and ankle-jerks were all absent, and no plantar response could be elicited. Physical examination was otherwise negative. Urine: trace of albumin. Stool: no ova. Blood count: red cells, 2,810,000 per c.mm.; Hb, 68% (Dare), or 11 g. per 100 c.cm.; C.I. (corrected to Haldane), 1.4; M.C.V., 128.5 c.μ; M.C.H.C., 35.5%; white cells, 5,400 (no differential count done); icterus index, 5. Alcohol–histamine test meal: free HCl present. Kahn reaction, negative. Treatment consisted of 6 c.cm. of anahaemin (B.D.H.) during the first week, followed by 18 c.cm. of liver extract (Lilly) during the next three weeks. On March 18 a blood count showed: red cells, 2,730,000 (reticulocytes 3%); Hb, 70% (11.2 g.); C.I., 1.5; M.C.V., 118.5 c.μ; M.C.H.C., 35%; white cells, 7,240. Subsequent treatment consisted of 7 c.cm. of liver extract weekly, acid. hydrochlor. dil. m. 10 t.d.s., and thiamine 9 mg. daily, up to the time of delivery on April 11. The patient's mental attitude during this period became more cheerful, and she said she felt stronger, but no demonstrable improvement in her neurological condition could be detected until she gave birth to a somewhat premature baby weighing 5 lb. After that time her symptoms improved rapidly, and by the end of a month she was able to walk. When last seen, in Nov., 1944, she was in good health, and there had been no recurrence of her nervous symptoms.

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Reviews

PENICILLIN THERAPY

Penicillin Therapy, Including Tyrothricin and Other Antibiotic Therapy. By John A. Kolmer, M.S., M.D., F.A.C.P. (Pp. 302. 25s.) London: D. Appleton-Century Company. 1945.

It was to be expected that the now enormous literature on penicillin would soon undergo condensation into book form, and the first product of this process which we have received is *Penicillin Therapy* by John A. Kolmer. This handy volume not only is a trustworthy practical guide to treatment, but deals equally thoroughly with the laboratory and purely theoretical aspects of the subject. There are very full instructions about methods of administration, not omitting the numerous forms of local application and devices by which systemic effect may be prolonged. In the purely clinical section, disease is classified aetiologically—the only rational system in dealing with a chemotherapeutic agent so selective in its action—and the importance of a bacteriological diagnosis and laboratory control generally is emphasized.

Apart from those conditions in which the therapeutic efficacy of penicillin is fully established, there are many references to others in which the indications are not so clear, and very full lists of micro-organisms divided into three categories according to their susceptibility. The author is perhaps a little unduly pessimistic about the treatment of actinomycosis, and *H. pertussis* and the Morax-Axenfeld bacillus deserve promotion from the third to the second category ("moderately susceptible"). There is also a chapter on other chemotherapeutic agents of microbic origin, dealing chiefly with tyrothricin, and one on the use of penicillin and tyrothricin in dentistry and oral surgery. The text is fully documented, with lists of references at the end of each chapter. Although there is an appendix evidently dealing with developments after the main text was written, the whole book is remarkably up to date, and the author is to be congratulated on producing so serviceable an epitome of the whole subject at this stage of its evolution.

UNCOMMON SENSE ABOUT COMMON FOODS

Cooking and Nutritive Value. By A. Barbara Callow, M.A., M.Sc. (Pp. 156. 7s. 6d.) London: Oxford University Press. 1945.

As the family physician comes more and more to be consulted on matters of diet, in health as well as in disease, so he will need increasingly to be able to lay his hand on sources of information that are balanced and up to date. He will wish to avoid those authors that look down their academic noses at every old wives' tale not yet submitted to the searching critique of laboratory test; he will equally desire to shun those purveyors of dogmatism and obscurantism who seem to think that they have supplied the final justification for a food material or a dietary habit if they have called the one living and the other natural. He will know that the practical nutritionist—at any rate, the nutritionist who can help him in his daily task—is one who steers a sane middle course between the Scylla of scepticism and the Charybdis of obfuscation. In Mrs. Callow's book he will find abundant evidence that she is just such a practical nutritionist. She writes with simplicity and clarity, enlivened by occasional touches of humour; her account of modern views about the composition and nutritive value of foods before and after cooking and processing—for that is what her book is about, although the title may suggest a somewhat narrower delimitation of the subject—is as accurate as any one writer can make matters that have been investigated by a large number of specialists. Her book deals, in separate chapters, with meat (including poultry and game); fish; vegetables; fruit and nuts; milk, butter, and cheese; eggs; and cereals, following an introductory chapter on "The Nutritive Value of Food." A short literature list at the end gives some 70 references: it is significant, and not merely an indication of local university patriotism, that McCance and his colleagues are responsible for seven of these—easily the largest single score. Mrs. Callow's other references are of the same order of authority. The back end-paper and the inside back cover give respectively a comparative table of British and decimal weights and measures and a diagram for conversion of degrees centigrade to Fahrenheit.

In a book of this kind there must inevitably be statements to which some reviewer or other will take exception, for the element of personal judgment still enters to no small extent into many of the findings of modern nutritional science. Examples here are the inclusion of cod-liver oil (p. 50) as a rich source of iodine, when many of the very best oils, potent in vitamins A and D, contain none at all, and when none is required by any pharmacopoeial standard; again, the attribution to wheat of any vitamin A activity (p. 132) is not consonant with the findings of Zechmeister and others, who have shown the wheat carotenoids to be biologically inert. A review, however, is no place for the enumeration of critical minutiae, which are better communicated direct to the author. Especially is this so when, as here, the reader often finds his criticism forestalled by the author within a few lines of the passage that gave rise to it.

Although this book is intended primarily for the non-specialist, Mrs. Callow has wisely thought well, right at the beginning, to indicate the shape of modern views about the fluid nature of the body's amino-acid stores; one can also whole-heartedly welcome her insistence that statements about the nutrient contents of a food are of little value without consideration of the quantities of that food likely to be consumed. Valuable also is her objective account of the nutritional differences between flours of different extraction.

When this book goes into the later editions that it deserves and will doubtless get, Mrs. Callow might perhaps consider slightly modifying certain of her presentations. For instance, the low nicotinic acid content of maize can no longer be held solely—or even mainly—responsible for its pellagragenic nature, now that we know milk and whole wheat—recognized anti-pellagric foods—to contain little if any more of the vitamin than maize. Again, various statements about the "gains" in energy value of foods after frying could be clarified by relating these gains with the increases in weight due to the absorption of fat. Further points of comment arise from her reference to the value of wheat offals for ruminants: it might be wise to remember H. D. Kay's remark that the cow "would not care a whisk of her tail" if she never tasted bran again, and to note that it is pigs and poultry, rather than milch cattle, that compete with man for part of the wheat grain. It might also be well to lay rather more stress on the part played by the intestinal flora in supplying essential nutrients to man and other animals, though it is realized that much of the work bearing on this has only been published since the time when Mrs. Callow must have completed her manuscript. The matter may not seem immediately germane to the subject of her book, but it is of importance for two reasons at least: first, as a warning against too glib interpretations of many clinical and laboratory findings; secondly, as offering a possible explanation of certain nutritional deadlocks hitherto unresolved. The maize-pellagra paradox is a case in point.

Mrs. Callow would no doubt be the first to insist that her book makes no new contribution to scientific knowledge, but it does something just as important, and sometimes much more difficult. As a survey in a short space of what is known over a wide and varied field, in which the data are often confused and seldom easy to find, it is perhaps the best book on its subject in the English language, notwithstanding the existence of a number of excellent publications from the U.S.A. which cover similar ground. Furthermore, apart from the information Mrs. Callow has succeeded in presenting on food values, her book contains many useful "tips" on such diverse subjects as the gelling of jams and the splitting of herrings. Its price may at first sight seem a little out of proportion to its size: when one has had an opportunity of studying its contents in detail one realizes that it is a bargain.

PHYSIOTHERAPY

Physical Treatment by Movement, Manipulation and Massage. By James B. Mennell, M.D. Fifth edition. (Pp. 512; illustrated. 30s.) London: J. and A. Churchill. 1945.

The present reviewer, who had the privilege of reviewing the fourth edition of this book in 1940, notices with pleasure that this fifth edition comes out almost in the 20th year since the original production. That it is still produced by the same author after all these years is a remarkable tribute to Dr. Mennell and to the value of the book. It follows very largely the lines of the previous editions, after due allowance has been made for the change forced upon him by the restrictions of war publishing.

In Dr. Mennell's preface to the present edition he draws attention to his Chapter 39, which he calls his "Postscript," and apologizes for the omission in previous editions of any specific reference to the treatment of "tennis elbow." He has, however, made up for previous omissions by a delightful survey of the variety of conditions that can give rise to the painful joint commonly called "tennis elbow." He has a facility for impressing upon his readers care and detail in any technique, thereby imparting to them a sense of confidence in his powers of differential diagnosis and treatment.

In his discussion of the diseases of the central nervous system, including infantile paralysis, sutured motor nerves, and conditions of peripheral nerves, no reference is made to the now generally accepted work and implications of Guttmann and Gutmann, and of the practical and clinical support given to these findings by Prof. Seddon and Dr. Bowden and their team of co-workers at the Peripheral Nerve Injury Centre at Headington, Oxford. The author's comment on the relative value of Sister Kenny's and Mrs. Guthrie-Smith's contributions in the treatment of paralysis and debilitated muscles is worth quoting in full:

> "It yet remains to be proved whether the introduction of Mrs. Guthrie-Smith's sling apparatus will prove to be the really great advance in the treatment of flaccid paralysis as a whole. Personally I have very high hopes, and proof should not be long delayed. For what it is worth, my own opinion is that Mrs. Guthrie-Smith's contribution to the subject far transcends that of Sister Kenny."

This book has so much of genuine value to general practitioner, consultant, and physiotherapist alike that one could wish that Dr. Mennell, with all his years of experience, should now edit a book on physical medicine—using this term in its wider sense.

NEISSER ON SYPHILOLOGY

On Modern Syphilotherapy. With Particular Reference to Salvarsan. By Albert Neisser. Translated by Isabelle von Sazenhofen Wartenberg. Biography and bibliography by F. T. Gardner. (Pp. 42. $1.00.) Baltimore: The Johns Hopkins Press. 1945.

This little volume, besides a translation of a discourse by Neisser on modern syphilotherapy, contains a short biography and an extensive bibliography of this famous syphilologist. The address is well worth study; written in 1911, much of it is as true to-day as it was more than 30 years ago. Neisser must have been one of the first to insist that one injection of salvarsan was not enough, that multiple injections must be given, that mercury should be used concurrently, and that treatment should be continued over long periods; he insisted that Wassermann tests should not be done in small numbers by all and sundry, but must be performed by experienced workers and in large batches if errors were to be avoided. (Would that his teachings were observed more nowadays!) He it was who insisted that the earlier the treatment the greater the chance of cure, that in the early stages the blood reaction could be reversed more easily than in the late, that it is dangerous to rely on a single negative serum reaction, and that spirochaetes may persist in inaccessible situations or assume relatively invulnerable forms.

The modern syphilologist will do well to study this booklet, for not only is it of historic interest but it contains many pearls of wisdom.

The Health Services in Austria: Problems of Medical Reconstruction and Rehabilitation is a group of essays collected by the Committee for Post-War Medical Relief in Austria and the Association of Austrian Doctors in Great Britain. It can be had for 3s. from 14, Craven House, 121, Kingsway, W.C.2. A preface by Prof. F. Silberstein is followed by articles on the past and future of the health services in Austria, on maternity and child welfare, and on dental services, organization of the medical services in liberated Austria, rehabilitation and welfare for the disabled, post-war neurology and psychiatry, and a proposed campaign against venereal diseases in post-war Austria. Opposite the title page is the welcome announcement that the Vienna Allgemeines Krankenhaus had been saved from Nazi destruction by partisan groups consisting of doctors, medical students, and hospital staff.

Preparations and Appliances

A SIMPLIFIED METHOD OF APPLYING THE THOMAS SPLINT

Major LIPMANN KESSEL, R.A.M.C., writes:

The method of applying a Thomas splint for use as a first-aid measure for an injury of the lower limb is described with the diagrams below. It was developed in a parachute field ambulance and was used by some of the medical orderlies of the field ambulance in Europe. The method would appear to be of some value in first aid under any conditions, and may be considered as an alternative in the teaching of first-aiders to replace the present elaborate method of applying a Thomas splint which is taught in both military and civil spheres.

The method is very simple and I had no difficulty in teaching it to men in a field ambulance in a single class of an hour's duration. It is far more difficult to describe the procedure in a paper than it is to demonstrate it in practice. The essence of the method is to leave the injured limb at rest during most of the manipulation by using the material of the trousers from the injured leg rather than the various triangular cotton and flannel bandages now employed.

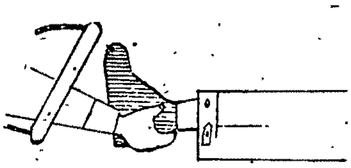
Fig. 1

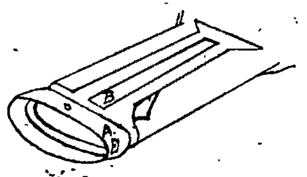

Fig. 2.

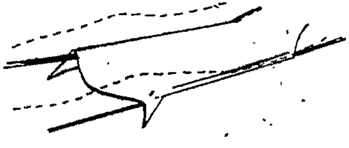
Fig. 3.

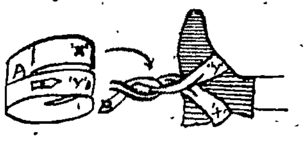

Fig. 4.

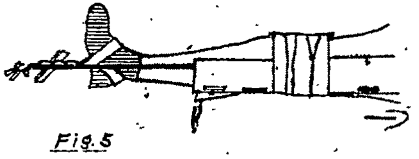
Fig. 5

FIG. 1.—The assistant puts his hand through the ring of the splint, grasps the heel of the injured limb, and exerts steady traction throughout, holding the limb about 6 in. off the ground.

FIG. 2.—The splint is run up to the tuber ischii, and the trouser-leg is pulled well down. A 4-in. cuff is cut off the bottom of the trouser (A), and a strip of material 2 in. wide is cut from the midline anteriorly. The proximal end of the cut is extended to each side as shown (B).

FIG. 3.—The two pieces of material A and B (see Fig. 2) are laid aside, and the cut edges of the trouser-leg are swung round the limbs of the Thomas splint, pulled taut, and fixed together by safety pins behind the limb.

FIG. 4.—The cuff (A) is divided through half its length, and the two "lips" so formed are slipped over the boot, one over the heel and the other over the toe, and twisted several times to stop slipping off the boot. It is fixed to the end of the splint by the 2-in. strip (B).

FIG. 5.—Extension is increased by the usual "Spanish windlass," and a circular dressing is applied above the knee to include the splint. The same dressing may often be used to cover any wound in the area.

The advantages of the procedure are: (1) The injured limb is kept extended and at rest during the procedure, with obvious comfort to the patient and minimized danger from shock and haemorrhage in severe cases. (2) Two men only can easily apply the splint. Only one of these needs to have special knowledge of the method. In the procedure taught at present, three or four trained men are required. (3) The time taken to apply the splint is 3 to 5 minutes. It is doubtful if a splint can be applied in less than ten minutes by the usual method. (4) The materials required, in addition to the Thomas splint and any dressings for an open wound, are a pair of scissors and four safety pins.

The disadvantages of the proposed method are: (1) "Boot-traction" is definitely dangerous, and will cause pressure-sores on the dorsum of the foot if maintained for too long. (2) It is less stable than the usual method, but this can be improved upon by applying the footpiece and further immobilizing bandages at any time after the splint has been applied. (3) The method cannot be considered as anything other than a short-term first-aid measure.

I am greatly indebted to Pte. E. F. Mumford, R.A.M.C., for his illustrative sketches.

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MODE OF ACTION OF PENICILLIN

Penicillin is a remarkable substance with a hold on the popular imagination which even the atomic bomb has failed to loosen. We are, however, very little further towards understanding its mode of action than we were when Fleming published his original discovery 16 years ago. Penicillin has an amazing specificity, being intensely toxic for certain bacterial cells and almost without effect on those of animals. Though its specificity is rather like that of the sulphonamides, its mode of action is different. For example, it is not antagonized by *p*-aminobenzoic acid, peptones, or pus; the sulphonamides are. Further, penicillin can prevent the growth of sulphonamide-resistant organisms, and the sulphonamides can inhibit the growth of penicillin-fast strains; and, whereas the sulphonamides act principally by slowing down the rate of growth, penicillin can cause rapid death and lysis of susceptible micro-organisms. Although Fleming's original observation was that penicillin lysed bacteria, early workers[1] on its mode of action emphasized that it was essentially bacteriostatic. Lately, however, its bactericidal and lytic properties have been widely recognized, and Chain[2] even doubts whether penicillin is ever bacteriostatic. It is generally held that penicillin has three phases to its action. It may be bacteriostatic, bactericidal, or lytic, according to conditions. Very small amounts, down to one-tenth of the bacteriostatic dose, may cause pronounced morphological changes.[3] Cocci swell to a great size, and bacilli elongate to many times their length. Penicillin is here interfering with the power of the bacteria to divide, and its action would appear to be bacteriostatic.

The assay of penicillin is based on its bacteriostatic action—that is, on the amount which prevents the growth of staphylococci. Sulphonamides help this action,[4] and the presence of even two parts in a million of sulphathiazole markedly increases the apparent titre of penicillin.[5] On the other hand, sulphonamides interfere with its killing and lytic actions. Garrod[6] found that sulphathiazole halved the rate of disinfection of staphylococci by penicillin. This may mean that the "static" and "cidal" actions are different, though it seems more logical to assume that they are different degrees of the same action. Bacteriostasis is a loose term, since a stationary population may result from inhibition of growth or from the killing of a fraction of each new generation. The powerful killing and lytic actions are exercised only against dividing bacteria, as Todd,[7] Knox,[8] and Chain and Duthie[2] have demonstrated in investigating the effect of penicillin at different growth phases of the staphylococcus. Chain and Duthie showed that if it is added during the early lag phase the total number of bacteria remains constant for three hours, with a greatly increased turbidity and a decrease in the number of viable organisms. This is due to the production of enlarged forms and to a gradual killing without lysis. If the drug is added at the logarithmic phase of growth when division is rapid it causes a rapid diminution of total and viable bacteria by death and lysis. They found that penicillin becomes effective after a ten-minute lag period, and they assume that this is the time required for one division of the cocci, which having divided are rapidly lysed. When added to an older culture which has reached the stationary phase of growth penicillin does not lyse the culture or affect its respiration. Conditions which increase the rate of division—optimal temperature, use of young cells, or rich medium[7]—all increase the rate of killing and lysis. Conversely, lowering the temperature, dilution of the medium, or presence of growth inhibitors like sulphonamides or boric acid[9] or helvolic acid[2] decrease the killing power.

Penicillin-resistant bacteria are important in considering the mode of action. First, there are the naturally resistant species of bacteria, such as the anaerobic spore bearers, which owe their resistance to their possession of penicillinase, an enzyme which destroys penicillin. A small proportion of the normally sensitive species—for example, staphylococci—are also resistant[10] and also secrete penicillinase. The power of the bacteria to divide is an important factor in resistance, because any strain with an impaired power of division will be classed as penicillin-resistant. Resistant strains may be obtained by subculturing sensitive organisms in broth containing penicillin. The resistant strain so obtained has lost its virulence; it is more easily killed by the body mechanisms[11]; it grows very much more slowly than the parent strain, and it does not secrete penicillinase.[12] It can withstand up to 3,000 times the concentration of drug tolerated by the parent strain.[13] The resistance is only temporary, and after a few cultures in drug-free broth it becomes sensitive and recovers its normal rapidity of growth. This "reverted" form has a slight residual resistance, up to ten times that of the original culture.[13] The ability of these strains to withstand such high concentrations may not be entirely due to a specific penicillin resistance, but to their greatly reduced growth rate. This view gains some support from Demerec's[14] statistical demonstration that such resistance is not brought about by the action of the penicillin, but that the resistant forms arise as a chance mutation and are selected by the drug. Another type of penicillin-resistant staphylococcus is seen in the minute colonies which appear in the otherwise clear zones produced by penicillin in the ring test[15]: these grew slowly, and quickly reverted to a sensitive form on subculturing in normal broth. Other resistant strains are produced by the action of barium chloride on bacteria.[15] This salt is known to destroy or inhibit enzymes,[16] and the resistance of these variants is due to their lowered metabolic activity and slow growth.

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[1] Chain, E., *et al.*, *Lancet*, 1940, **2**, 226.
[2] Ibid., 1945, **1**, 652.
[3] Gardner, A. D., *Nature*, 1940, **146**, 837.
[4] Bigger, J. W., *Lancet*, 1944, **2**, 142.
[5] Taylor, J. Private communication.
[6] Garrod, L. P., *Lancet*, 1944, **2**, 673.
[7] Todd, E. W., *Lancet*, 1945, **1**, 74.
[8] Knox, R., ibid., 1945, **1**, 559.
[9] Bigger, J. W., ibid., 1944, **2**, 497.
[10] Kirby, W. M. M., *Science*, 1944, **99**, 452.
[11] McKee, C. M., and Houck, C. L., *Proc. Soc. exp. Biol.*, N.Y., 1943, **53**, 33.
[12] Bondi, A., and Dietz, C. C., ibid., 1944, **56**, 135.
[13] Todd, E. W., *et al.*, *British Medical Journal*, 1945, 1, 111.
[14] Demerec, M., *Proc. nat. Acad. Sci.*, 1945, **31**, 16.
[15] Schnitzer, R. J., *et al.*, *Proc. Soc. exp. Biol.*, N.Y., 1943, **53**, 75.

It is stated that, unlike the strains made resistant *in vitro*, those obtained during treatment of animals and patients with penicillin are permanently resistant. This statement needs modification before it can be accepted. Schmidt and Sesler[17] claimed to have made a strain of staphylococcus permanently resistant in animals, but it had only four times the resistance of the original culture. Anderson and others[18] isolated resistant strains of staphylococcus from five patients after one week's treatment with penicillin, having shown that the original strains were sensitive. These resistant strains had sixty times the penicillin tolerance of the original strain, and the authors adduced some evidence that the resistance was permanent. The degree of resistance obtained by treatment in animals and patients is of the same order as the residual resistances of the " reverted " forms from the strains made resistant *in vitro*. It may be that much of the very high resistance obtained *in vitro* is due to non-specific effects on growth, and that the residual resistances obtained after reversion are a true measure of the specific permanent resistance of the strain. Such an effect on growth has been observed,[9] and results in the formation of " persisters," which, having temporarily lost the power to divide, were not killed by penicillin. These, on being placed into fresh broth, grew normally and were easily killed by the drug.

Very little is known of the mode of action of penicillin. It is inactivated by cysteine, but this appears to be by chemical action on the penicillin and not by interference with its mode of action. Nevertheless, it has been suggested that penicillin may act by interfering with the utilization of thiol groups by the growing cell.[19] It may interfere with an essential enzyme system in bacteria. It seems, however, to play a more positive part than a mere interference with growth.[9] It may itself form part of an enzyme system and usurp the functions of the normal bacterial enzyme. The fact that penicillin lyses only dividing cells is an important clue. The cell may become susceptible only at the time of division, or penicillin may become activated by bacterial substances produced at that time, or the cell may kill itself by its own products at the time it divides. It is difficult to absolve the cell from the charge of collaboration in its own death.

SULPHONAMIDE TREATMENT

One of the most useful of the M.R.C. War Memoranda is that entitled " The Medical Use of Sulphonamides " : since its first issue in 1943 over 50,000 copies have been sold. A second edition[20] has now appeared, to which considerable additions have been made. These are concerned not only with new sulphonamide compounds and with recent experience in the use of these drugs generally, but with the profound change in the chemotherapeutic situation which has been wrought by penicillin. Although the therapeutic use of penicillin is not within the scope of this monograph it was a subject which clearly could not be ignored, since the sulphonamides and penicillin are alternative treatments for many conditions, and the latter is often much the more effective. On the other hand, in the present state of availability of penicillin dogmatic assertion that it should be used, without mention of any alternative, would unfortunately not always be helpful. These difficulties have been met both by insertions in the text dealing with the individual treatment of many conditions and by a new section on the relation of the main subject to penicillin therapy; in this the spheres of the two forms of treatment are outlined, and in the wide domain where these overlap their respective merits are discussed. The strongest injunctions to use penicillin if possible are naturally given in connexion with severe staphylococcal infections of all kinds, most forms of purulent meningitis, and gas gangrene. Acknowledgment of its superiority to the sulphonamides is made in the treatment of wound infections, diseases and injuries of the eye, anthrax, bacterial endocarditis, gonorrhoea, and Vincent's infection, but instructions for the sulphonamide treatment of most of these conditions are nevertheless given. This is the only possible attitude to take at present, but it will be interesting to see how therapeutic policy will develop when penicillin becomes freely available. That penicillin will entirely supplant all other forms of treatment for gonorrhoea seems certain. Apart from the other conditions named it may well come to be regarded as the ideal treatment for most forms of pneumonia, and, as Helmholz and Sung[21] have pointed out, its concentration in the urine during systemic administration is such that even urinary infections due to some of the more resistant bacteria may be controllable. These and other possible spheres of penicillin treatment remain to be explored further.

The title of this memorandum is too modest: it deals not only with medical conditions in the narrower sense of the word, but also with surgical. The section on wound treatment is particularly thorough, although no attempt is made to pass judgment on the now disputed value of sulphonamide powder treatment as a preventive of wound infection. Several alternatives are offered, including proflavine–sulphathiazole powder—to which might have been added similar preparations of flavazole, a new compound the properties of which have recently been described by McIntosh and others[22]—a microcrystalline suspension of sulphathiazole, and marfanil. This last is one of the three principal new sulphonamides of which mention is made; it is suitable only for local application, peculiarly active against the organisms causing gas gangrene, and not inhibited by *p*-aminobenzoic acid or by pus. A mixture of marfanil (4-aminomethylbenzenesulphonamide) and sulphanilamide was extensively used by the Germans as a wound prophylactic. General instructions, condensed from other publications, including M.R.C. War Memorandum No. 2, are given for the treatment of gas gangrene, and the section on burns follows the lines developed in the Burns Unit, Royal Infirmary, Glasgow, and published in full elsewhere.[23] The two other sulphonamide drugs described for the first time are sulphamerazine and phthalylsulphathiazole, the latter being the latest addition to those drugs which remain largely unabsorbed and exert an action in the lower bowel. Among other additions is an interesting discussion on the value of group prophylaxis—i.e., the large-scale administration of small doses as a purely preventive measure in the presence of an epidemic. This measure has been used effectively against bacillary dysentery and streptococcal infections of the upper air passages; a short course will also eliminate meningococcus carriers, and a very prolonged course has been found to prevent relapses of rheumatic fever. The problem of sensitization to sulphonamides is also discussed, with emphasis on the peculiar liability to this of patients treated by applications to the skin. New proceedings are also described in the section on laboratory methods. A limited number of selected references is given in the text to recent papers or those dealing with matters on which the reader may wish to inform himself more fully. This memorandum remains a model of condensation and judicial appraisal: it contains as much information as the average book of many times its size, and possesses far more authority. It will doubtless remain the standard guide to its subject.

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LEPROSY CONTROL IN INDIA

The largest number of leprosy cases in the British Dominions is met with in India on account of the immense population, though the rate per 1,000 is much higher in Africa in such Colonies as Nigeria. In 1941 the Central Advisory Board of Health of the Government of India issued a report on leprosy and its control in India. This dealt with the efforts of the two previous decades to apply recent advances in our knowledge of treatment and of incidence and epidemiology, furnished by the surveys of E. Muir and I. Santra, in controlling the disease by treating early cases on a large scale in numerous leprosy clinics, and in isolating the most infectious cases in leprosaria to keep down the number of new infections arising each year. The committee pointed out that dispensary out-patient treatment alone would not solve the problem and that little progress had recently been made in supplying the more expensive agricultural colonies for infective cases. The total number of leprosy cases in India is now estimated at 1,200,000, but fortunately only about one-tenth of them are highly infectious ones in urgent need of isolation. Only about 14,000 cases, including many uninfective nerve ones, are now isolated in India, but much remains to be done in this connexion before leprosy infections can be controlled and a start made in reducing the incidence of the disease. A paper by R. G. Cochrane[24] on leprosy control, with special reference to the Madras Presidency, is therefore timely. The first essential is the appointment to each Province of an experienced leprologist, with status and emoluments that will attract suitable men. Where this has not already been done surveys are needed to ascertain the usually limited areas in which the high incidence of the disease constitutes it an important problem. In each of these a large agricultural colony should be established for the isolation and efficient treatment of as many as possible of the infective patients, who alone should be admitted to them. Seven such areas have been defined in the Madras Presidency, so the cost will be high, and it is lack of funds that has hitherto prevented this essential step being taken. The Lady Willingdon Leprosy Sanatorium should be developed as a centre for the Madras campaign, with provision for postgraduate teaching and research. In rural areas the isolation of infective cases at night in special houses should be arranged for each infected village, because there are very few Indians who are well enough off to have the necessary accommodation to supply adequate home isolation. The care of uninfective crippled nerve cases, who constitute most of the beggar class, is a philanthropic rather than a public health matter; they should be looked after in separate institutions or in distinct sections of colonies. The Mission to Lepers provides for many of them with the help of Government maintenance grants. In the Madras Presidency orders have been issued to ensure that lepers requiring in-patient or out-patient treatment are to be cared for at all Government hospitals and dispensaries. Children's sanatoria are also required. Wherever well-equipped agricultural colonies are provided there is no difficulty in filling them with suitable voluntary admissions, but instances occur in which highly infectious patients refuse such accommodation. The Madras Government is therefore amending the law to provide for the compulsory isolation of these few refractory patients to prevent the whole scheme of control being stultified by their obduracy. Now that the vast expenditure by Great Britain and the U.S.A. in defending India and recovering Burma has converted India from a debtor to a creditor country, funds should be forthcoming in support of a determined effort to solve the leprosy problem by putting into effect the comprehensive measures above outlined.

BRONCHITIS AND PNEUMONIA IN LONDON INFANTS

The high death rate from bronchitis and pneumonia among infants under 2 years presents a serious problem in public health: in the decade preceding the war one-fifth of the deaths in this age group in London were assigned to these causes. The number and diversity of the micro-organisms responsible for these conditions add to the difficulties of finding a solution and put the problem in a different category from that of diphtheria or measles. G. Payling Wright and Helen Payling Wright[1] found in the London boroughs large correlations between the mortality and three indices of housing—the social class index, incidence below the poverty line, and number of children per family. It is difficult to establish the relative importance of these indices of social, economic, and environmental conditions because of the high correlation between them. Seasonal conditions seem to be the most important predisposing cause of fatality; the weekly death rate in winter is about seven times that of late summer. The correlation is largest between mortality and low temperature of two weeks earlier; the relation is such that mortality rises sharply when the mean temperature of the coldest day of the week falls below 40° F. It is suggested that the chilling of the infant's body, with a consequent lowering of the efficiency of the defence mechanism of the respiratory tract, permits the nasopharyngeal bacteria to extend to the bronchi and bronchioles and there set up foci of bronchopneumonia. The association between temperature and mortality may be the explanation of the less striking relation between mortality and substandard housing found in London and that found in Glasgow. The centre and more densely populated boroughs of

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[23] M.R.C. Spec. Rep. Ser. No. 249, 1944, H.M. Stationery Office, London.
[24] *Ind. med. Gaz.*, 1944, **79**, 438.

[1] *J. Hyg.*, Camb., 1945, **44**, 15.

London enjoy a higher minimum temperature than the outer boroughs, and the beneficial effects of a higher temperature may mask to some extent the relation between overcrowding and mortality. In their examination of other hypotheses of the winter rise the authors found that there was little evidence of seasonal variation in the virulence of pneumococci, streptococci, staphylococci, and haemolytic streptococci, and that it was improbable that the winter epidemics of bronchopneumonia could be adequately accounted for by a rise in the carrier rate. There is no support for the idea that susceptibility to the disease increases during the winter in consequence of the progressive depletion of protective nutrient substances in the body, since corresponding low temperatures in spring and autumn are associated with the same order of mortality.

Specific prophylactics can at present do little to prevent the disease; active immunization, even if possible, would not be practicable because the varieties of bacteria responsible are too numerous and too widely distributed in the community. Among the possible ways to reduce mortality from bronchopneumonia the authors suggest that educative measures directed towards the better protection of infants against chilling and exposure would have substantial success. Adequacy of clothing and the physiological reactions underlying the susceptibility of infants to cold are important questions in infant hygiene that require investigation. The chance of surviving an attack of bronchopneumonia largely depends on the promptness and efficacy of the treatment. If full advantage is to be taken of chemotherapy and oxygen therapy institutional treatment is necessary, and it is suggested that if certain hospitals had trained persons specializing in pneumonia, and if practitioners were encouraged to co-operate by sending patients promptly to such experienced medical teams, the mortality might be largely reduced. Of the various non-specific measures it is certain that progressive improvement in social conditions will be accompanied by a fall in the incidence of the disease.

WARTIME WORK OF PSYCHIATRIC CLINICS

The annual report of the Tavistock Clinic for 1943 is one of which those responsible may be justly proud. The admirable work of the clinic has been rewarded by increased support, especially from donations, so that the credit balance is now appreciably greater than it was. Working in their temporary premises at Westfield College in Hampstead the staff have dealt with increased numbers of both adults and children, more of the latter having been sent by local authorities and courts than ever before, showing that the official mind, perhaps rightly slow to adopt new methods and ideas, is beginning to recognize the value of skilled psychological treatment. Depression has been found to be the principal symptom, no doubt owing to the overwork and natural anxieties of wartime. Many people break down because they have been directed to unsuitable work. Again, it has been found that the children referred tend to be either retarded or specially gifted. Many who are sent because they fail at school are found to be of high intelligence, and their failure may well be due to the frequent change of school owing to war conditions. Its present success is undoubted, and with the removal to a permanent home at 2–4, Beaumont Street, London, W.1 (its own premises in Bloomsbury were destroyed by enemy action in 1941), the clinic will, we hope, continue to flourish as it deserves.

The Liverpool Psychiatric Clinic is to be congratulated on its coming of age and especially on the fact that this anniversary is reached with a satisfactory financial position. For all such enterprises, however, the future is uncertain, and continued and increased support is necessary. The report should persuade the public that money given for this cause is an excellent social investment. During the war the nature of the clinical work reflects the experiences of the population. States of anxiety associated with bombing, with casualties or possible casualties among relatives at home and over-seas, and with strange work and conditions of work, including direction away from home, are all reflected in the problems to be dealt with. Among children the " broken home " problem is now more acute than ever, and the increase in delinquency has brought a greater demand from courts and Home Office and educational authorities for the help which such a clinic as this can give. There is no lack of work, but staff is short at present. Financial aid and moral encouragement are the essentials for the continuance of this excellent service.

HEALTH OF THE SUDAN

The state of public health in the Sudan remains satisfactory in spite of the constant threat of the spread of epidemic disease from neighbouring countries. During 1943—the year which saw the end of the North African campaign—according to the report of the Sudan Medical Service, ten separate infections of smallpox were introduced—eight from Egypt and two from Saudi Arabia. The number of cases reported was 182, with 36 deaths. Over 750,000 vaccinations were carried out during the year, bringing up the number of vaccinations during the last seven years to 4,500,000. It appears, on the whole, that the Sudan is well immunized against smallpox and compares favourably with similar African countries in this respect. Four infections of typhus were introduced from Egypt, and the most energetic precautions were at once taken to prevent the disease, which had broken out in a frontier village, from obtaining a hold. The frontier was closed to land traffic except along the river on approved routes, and all persons entering the country by any of these routes were deloused and kept under surveillance. All civil and military passengers travelling third class on the Egyptian railways or on the Sudan Government steamers were deloused on embarkation and kept under surveillance. (Lice, one gathers, are too humble or too shy to travel first class.) Intensive delousing of the whole population—numbering about 35,000—of the Wadi Halfa area, where some cases of typhus had been reported, was carried out at 20-day intervals. In the result only nine cases occurred, with two deaths. Of the other epidemic diseases in the Sudan, cerebrospinal meningitis showed an increased number of cases, though a diminished death rate; diphtheria appears to be more prevalent in the Sudan as contact with the outside world grows, and relapsing fever, with 10,500 cases and 668 deaths, doubled its incidence as compared with 1942, and multiplied its death-roll by six as compared with 1941. The total number of lepers in the Sudan is given as 3,879, of whom 1,598 are under treatment, the remainder only under observation. In Northern Sudan, where the incidence of leprosy is low, lepers are dealt with by a system of home isolation; in Central Sudan small leper colonies have been established near hospitals and are supervised by the hospital staff; and in Southern Sudan, which is the only area where leprosy is of public-health importance, large settlements have proved satisfactory. Malaria, except in the north, is one of the principal scourges in the country. Nearly 15,000 cases were admitted to hospital in 1943. This report of the Sudan Medical Service includes short accounts of the work of the Stack Medical Research Laboratories, the Wellcome Chemical Laboratories, and the Kitchener School of Medicine. The Service, including these bodies, has an establishment of 846, of whom 585 are assigned to hospitals, 135 to the public health department, and 67 to research.

NUTRITIONAL DEFICIENCIES IN HONG KONG BEFORE THE JAPANESE INVASION

BY

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Much has been written about deficiencies in the diet of Chinese; indeed, the deficiencies described seem to be so widespread, severe, and multiple that one might well wonder how the Chinese nation was able to propagate and increase to the extent of 450 millions. However, in an article on the subject of nutritional problems in China (Heng Liu and Chu, 1943) the authors explain that, hitherto, all the research on diets in China has been undertaken in large industrial cities (i.e., Shanghai, Peiping, and Chungking), where the problem of inadequate diets was due to the low purchasing power of the average person. It is not surprising that undernourishment, or even plain starvation, was rampant (and still is rampant) sporadically in parts of China, the main causes being the lack of irrigation with resultant droughts and floods, persistent internal warfare, and, latterly, the Japanese invasion. Thus millions of displaced persons, in search of work or food, converged on large industrial cities, and the resulting saturation and unemployment, coupled with inadequate relief measures, gave rise to conditions of undernourishment or even plain starvation, associated at times with one or more specific deficiencies. Thus in one refugee camp in Shanghai the inmates were given only a bowl of gruel (of imported white rice), with a few vegetable leaves, twice a day. Naturally, severe cases of nutritional oedema and vitamin A, B, and C deficiencies began to appear in due course, but such food cannot be regarded as the customary diet of the Chinese.

High Mortality in Hong Kong

The conditions in Hong Kong were entirely different from those of cities on the Chinese continent. Until 1941 Hong Kong was spared from war and hostilities, its population enjoyed a relative economic prosperity, there were adequate relief measures, and, in addition, the climate did not show extreme variations of heat or cold, there were no droughts or floods, the soil produced three crops a year, while the neighbouring waters were rich in fish. Nevertheless, the total death rate in Hong Kong was higher than that reported in cities in China, and the infantile mortality rate (345 per 1,000 live births in 1939) was one of the highest in the world. Mainly on account of this high infantile mortality, the total death rate in Hong Kong (27.6 in 1939) was surpassing the birth rate (26.7 in 1939); indeed, but for immigration Hong Kong would have faced depopulation.

High Mortality and Immigration

The commonly accepted explanation of the high mortality and morbidity in Hong Kong was that, owing to unrestricted immigration, "the lame, the halt, and the blind" from the whole of South China might congregate there. However, this explanation, as shown below, is not convincing.

Owing to overpopulation in the interior of China, the Chinese, even without *force majeure*, were obliged to emigrate, with preference for over-seas or Shanghai and Hong Kong. When relieving a surgeon on an emigrant ship I was able to observe that, while the exiles returning were human derelicts (mostly victims of beriberi or opium-smoking), the emigrants, on the outgoing voyage, were in good physical health. Therefore I concluded that the fittest and ablest went abroad in order to procure the necessary funds to support their family at home. However, later on (in 1942), while travelling through Kwanchewan and the provinces of Kwangtung, Kwangsi, and Yunnan (all in South China), I noticed that the physical health of the population in general was excellent, and in six weeks' travel through those provinces I was unable to detect any obvious signs of deficiency diseases or gross undernourishment. On the contrary, the stamina of the natives there was astounding and could not easily have been surpassed by any other nation: coolies clad only in cotton singlets and shorts were carrying, on daylong marches in cold November rain, loads up to 200 lb. each, while the greatest part of the population, under similar conditions, were working in paddy fields, knee-deep in water. Obviously such feats could be undertaken only in perfect health and on a well-balanced and adequate diet.

Moreover, Chinese, when sick, do not leave their native land, but, on the contrary, ailing and aged Chinese seek to return to their ancestral homes so that their bones may be laid there and their spirits be gathered unto their forefathers.

To prevent dissemination of infectious diseases, persons arriving in Hong Kong were medically examined and were required to produce valid vaccination and inoculation certificates, unless the ports of origin or of transit were free from quarantinable disease; but in spite of these precautions, cases of infectious disease were imported, especially from neighbouring ports, such as Canton and Macao. However, the infectious disease rate, although some diseases were endemic in Hong Kong, constituted only a minor part of the total death rate.

Admittedly, considerable numbers of destitute and unemployable persons arrived from the hinterland and from the neighbouring ports of Canton, Macao, and Swatow, but they seem to have been easily assimilated, as the number of beggars and destitutes was proportionally much lower in Hong Kong than in Chinese cities. Consequently the unrestricted entry of Chinese into Hong Kong would not seem to be an adequate explanation of the high morbidity and mortality figures there, especially as entry is unrestricted into all Chinese cities, which, moreover, have more primitive sanitation and water supplies, less extensive medical services, etc.; but, in spite of that, as stated above, the recorded death rates in these cities are lower than those in Hong Kong. Thus in Peiping, according to statistics compiled by the Peking Union Medical College (a Rockefeller institution), the death rate is approximately only half of that in Hong Kong.

High Mortality and B_1 Avitaminosis

It may therefore be more justifiable to ascribe the main cause of high morbidity and mortality in Hong Kong to the choice and condition of the staple food. While the rural population in North China consumed such staples as gaolian (brush-wheat), millet, maize (all home-grown, whole-grain cereals), or soya-bean flour or lightly milled wheat flour, and that in South China used as staples home-grown lightly milled (mostly hand-pounded) rice, and urban Chinese were supplied either wholly or partly with the above-mentioned cereals, Chinese in Hong Kong consumed only imported machine-milled rice of low extraction. As a result of such a staple, B_1 avitaminosis was widespread and manifested itself mainly in lack of resistance, especially against respiratory diseases (which topped the list as causes of death), or beriberi (which, since 1940, was second on the list). In lactating women, however, B_1 deficiency (mainly latent) resulted in high infantile mortality (Fehily, 1940, 1944). When the symptoms of beriberi appeared Chinese in Hong Kong frequently attributed this condition to "bad" water (i.e., chlorinated) and, when possible, tried to return to their native villages to be cured, but often only to be buried there. After the occupation of Canton and the Kwangtung coast by the Japanese their return was cut off, and this resulted in a sudden increase in the numbers of cases of and deaths from beriberi. In addition, since 1939, in view of the danger of hostilities in Hong Kong, large stocks of imported and, unfortunately, milled rice were stored in the colony. This milled rice, which had been deprived of most of its vitamins as well as protective husks, was subject to more rapid deterioration, and the remnants of vitamin B complex were the first to disappear. In 1940 this long-stored rice began to be distributed to the population and, as was to be expected, this caused a further increase in B_1 avitaminosis and the appearance of pellagra and ariboflavinosis. Influx of refugees and consequent deterioration of living standards were blamed for this occurrence, and to improve conditions price control was instituted and all those who were destitute or unemployable were segregated, often forcibly, in refugee camps established by Government. However, the incidence of B_1 avitaminosis steadily increased (in direct proportion to the deterioration of rice), and just before the Japanese aggression the hospitals in Hong Kong were unable to cope with all the cases of B avitaminosis (mainly B_1) and its complications.

After the occupation of the colony by Japanese this long-stored rice was supplied to the prisoners of war and civilian internees, and within three months vitamin B deficiency, in the form of beriberi, began to appear among them. Fortunately, the prisoners of war, followed by civilian internees, managed to grow yeast, and thus saved themselves from this disease, to which most of them otherwise would have succumbed in due course.

Vitamin C Deficiency only Secondary

One of the early symptoms of B_1 avitaminosis is gaseous distension of the abdomen. In search of an explanation for this symptom, Chinese came to the erroneous conclusion that fruit and vegetables, being gas-producing, were the cause, and it became customary for them to abstain from fruit and vegetables on the onset of this and other symptoms. Hence one occasionally encountered vitamin C deficiency but, in my experience, it was always secondary to a deficiency of vitamin B, mainly B_1. (Inability to absorb vitamin C, due to gastric disturbances encountered in B avitaminosis, might be an additional factor.)

Occasional Vitamin A Deficiency in Unwanted Female Infants

Vitamin A deficiency was sometimes encountered in infants fed on rice paste or masticated cooked rice, but it also was secondary to the deficiency of vitamin B, and was often associated with infantile scurvy. In all such cases the infants were unwanted baby girls, who had either been "adopted" by unscrupulous women or left in the care of old grandmothers or elder children, who did not consider it worth while to apply for free condensed milk (which, in any case, is preferable to masticated rice). So far as I know, vitamin A deficiency in adults has not been observed, probably owing to the extensive consumption of fish, which often, in the form of sprats, etc., were taken whole.

Absence of Other Deficiency Diseases or Starvation

For the same reason there were no manifest signs of protein deficiency and no clinical or radiological symptoms of rickets, although the absence of the latter might be also attributed to the abundance of ultra-violet rays. (One case of rickets among approximately 5,000 infants and children observed by me might have been due to faulty assimilation.) The requirements of fat were supplied by cooking fat (of vegetable origin) and by fish and meat (mostly pork). It would seem that the fat requirement and tolerance for fat in the case of Chinese in Hong Kong are below those of Europeans. Certainly, full-cream dried milk, reconstituted in accordance with the recognized formulae, is not tolerated by Chinese infants. Although water in Hong Kong was rather poor in calcium, deficiency of this salt was not observed by me, possibly because of its excellent assimilation; dentition in infants was normal, and in general the teeth of Chinese were good.

Although undernourishment was not uncommon, real starvation should not have occurred. Free food kitchens, maintained by missionary and benevolent institutions as well as by Government, were available for the poor, and as a general rule the cost of food was reasonable. There was an abundance of cockles, clams, and mussels on many Hong Kong beaches, and at low tide one saw hundreds of women and children quickly filling up their baskets with them and selling the surplus for almost nothing.

Variety and Wholesomeness of Supplementary Food

In South China, as a matter of choice and not from necessity, 70 to 80% of the diet of Chinese of the lower and lower middle classes consists of rice. They explain that only rice satisfies their hunger, and even well-to-do Westernized Chinese demand a bowl of plain cooked rice at the end of a sumptuous banquet, otherwise "they still feel hungry." A Chinese manual worker can eat up to 2½ lb. of rice a day, and the supplementary foods —"sung"—were taken rather as appetizers. The number of "sung" dishes varies with the occasion and the number of persons partaking of the meal, and they include such nutritious foods as bamboo shoots, sprouting beans, and soya-bean curds. It is usual for a single person to have two "sung" dishes: one of lightly fried vegetables and the other of fish (often sprats) or sometimes meat (mostly pork). The ingenuity displayed by Chinese women in procuring an additional dish of "sung" is remarkable: those living on the hills removed from the sea collect snails, and women of the floating population collect roots of the grass which grows on sandy beaches. In addition they prepare the food (except rice) in the most vitamin- and mineral-saving way: thus green vegetables are only lightly fried with oil, and are eaten while still crisp. Indeed, I do not remember any dish whose cooking water was thrown away (unlike some European methods), and the Chinese, as a rule, are not guilty of overcooking. Unfortunately rice, before cooking, was washed in a few waters and occasionally it was soaked, but Chinese explain that otherwise rice in Hong Kong, being machine-milled and not fresh, tastes of polishing powder and smells of mould. It would seem that the supplementary food was not only well cooked but was varied, tasty, and wholesome, and contained the required amount of all food factors except vitamin B. However, for the complete oxidation of such great quantities of refined carbohydrates (in the form of highly milled rice) assimilation of the amount of vitamin-B_1-containing supplementary food would be beyond the physical capacity of Chinese. If any reduction in the intake of rice was suggested it was not uncommon for Chinese to retort: "But for centuries my ancestors and the people in our village lived mainly on rice, and they were rarely sick, and some lived to be over a hundred years old." This attitude is perfectly comprehensible, taking into consideration the fact that most people in the British Isles still cannot be made to realize the beneficial qualities of the "national loaf."

B Avitaminosis and the Economic Position

It has been stated by Wilkinson (1944) and others that B avitaminosis is associated only with poverty, and consequently one might believe that improved economic conditions would lead to eradication or at least mitigation of this disease. My own observations, however, have led me to believe that this is not the case, as improved economic conditions often resulted in Chinese of the labouring classes consuming larger quantities of the "best" rice—i.e., of the lowest extraction possible. Indeed, the few cases of acute cardiac beriberi seen by me occurred in prosperous people of the lower middle class. Apparently similar results were observed on the island of Nauru (Bray, 1929), in South Africa (Kark, 1943), and the Netherlands East Indies (Wilcocks, 1944). On Nauru the natives, on receiving royalties for their phosphate mines, ceased to work, and replaced their native agricultural produce with imported foodstuffs, such as white flour, refined sugar, and tinned meat. In due course infantile mortality (caused by latent maternal B_1 avitaminosis) rocketed to 40%. In South Africa the natives abandoned agriculture for more profitable work in war industries and changed to a diet consisting mainly of imported white flour and tinned meat, with the result that pellagra has considerably increased. In the Netherlands East Indies, at the time of the rubber boom, beriberi was widespread, but before the present war this disease was encountered only in urban areas among well-to-do classes, who consumed large quantities of refined carbohydrates (mostly imported rice). Indeed, Western civilization would seem to have been of doubtful benefit to Far Eastern peoples, so far as their health was concerned, as the introduction of this civilization was usually marked by the importation of refined carbohydrates—e.g., rice, white flour, sugar, and alcohol—or the machinery for refining their native products.

Prevention of B Avitaminosis. — Although suggested measures for the prevention of B avitaminosis in Hong Kong have been discussed elsewhere (Fehily, 1941), it might not be superfluous to stress once again the need for prohibiting the importation of highly milled rice into the colony. It was suggested that rice which retains approximately 25% of the external layers (i.e., pericarp and aleuron with adhering embryo) would be B-avitaminosis-preventing rice, and at the same time it would be the most suitable rice as regards taste, appearance, and time required for cooking.

Summary

Widespread vitamin B (mainly B_1) deficiencies have been observed in Hong Kong—due to the consumption of imported highly milled and, latterly, long-stored rice.

The vitamin C deficiency occasionally encountered in Hong Kong was commonly associated with primary vitamin B (mainly B_1) deficiencies.

Practically no other deficiency diseases were observed.

It is suggested that the high mortality in Hong Kong (the highest reported on the Chinese continent) may be due to the fact that in Hong Kong, unlike Chinese cities, practically all the rice consumed was imported machine-milled, and of very low extraction.

The effects on the health of Far Eastern peoples of importing refined carbohydrates are pointed out.

The necessity for prohibiting the importation of highly milled rice into Hong Kong is stressed.

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CHRONIC RHEUMATISM IN SCOTLAND

MEDICAL ADVISORY COMMITTEE'S REPORT

The Department of Health for Scotland issued last week a report on chronic rheumatic disease by the Scottish Medical Advisory Committee. The preparation of this document was entrusted to a subcommittee consisting of Sir John Fraser (chairman), Sir Alexander S. M. Macgregor, Prof. Adam Patrick, Dr. D. Dale Logan, and Dr. A. F. Wilkie Millar, with Dr. J. M. Johnston as medical secretary. The report is published at 6d. by H.M. Stationery Office.

In the course of its investigations the subcommittee obtained evidence from representative clinical and technical experts of wide experience in the treatment of chronic rheumatism; its members visited the principal rheumatism clinics in Scotland and had an opportunity to observe the distressing terminal stages of rheumatism as seen in patients within a hospital reserved for the care of the infirm and incurable. In its opinion many of the severe deformities were the result of ineffective treatment or lack of treatment in the early stages of the disease. Its report forecasts a long-term programme of carefully co-ordinated research "from which speedy or spectacular results must not be expected." Its chief recommendation—the setting up of small investigational units at the teaching hospitals, linked with beds at country hospitals for long-term treatment—may be acted upon in the near future, even if on a limited scale. Early in its discussions the subcommittee decided that acute rheumatism, a subject of the first magnitude, lay outside its terms of reference.

In recommending to the Secretary of State that the report should be published, the Medical Advisory Committee stresses its anxiety that publication should not give rise to expectations which cannot quickly be fulfilled. "Any publicity which it may receive should not prejudice the position by raising false hopes in respect of results or in hindering the scientific control of the experiments by inappropriate selection of cases." Summing up present-day knowledge regarding the causation and results of treatment of the chronic rheumatic diseases, it emphasizes that too little is known on the subject. The medical profession is conscious of a serious deficiency in reliable knowledge and a lack of facilities whereby patients can be properly investigated and adequately treated. Substantial contributions to knowledge have been made, however, in the last twenty years, and it is thought opportune to bring the problem of rheumatism into proper focus in relation to imminent developments within the National Health Service.

A Social and Economic Problem

In general, mild attacks of "rheumatism" are so common that many people look upon it as "almost a benign infirmity." Formidable figures are quoted, however, to show the more serious aspects of rheumatism as a social and economic problem. Statistics for the industrially insured population of Scotland show that in the year 1937-8 one in every 37 males was incapacitated by rheumatism, and one in every 50 females. In each year it is estimated that (for men) one in every 21 miners, one in every 29 general labourers, and one in every 37 transport workers have to cease work for some period or other on account of rheumatic affections. For women, corresponding figures show one in every 37 domestic workers (including charwomen) and a similar proportion for agricultural and fishing workers. The committee notes as significant that at one busy rheumatism clinic the number of housewives attending for treatment was fully twice that of men.

A wider and more accurate form of statistical information is needed to survey properly the magnitude of the question. From early adult life onwards, irrespective of age, sex, and occupation, no one can be considered immune. "If to the total invalidism were added the loss in wages, and the expenditure in sickness benefit and treatment, the cost to the nation would in itself prove large enough for rheumatism to rank as a major problem." Referring to earlier investigations into the problem, the report quotes from a 1937 survey of Aberdeenshire, where it was discovered that nearly 10% of all professional work carried out by doctors was concerned with the diagnosis and treatment of rheumatic and allied conditions. Similar figures were forthcoming from the experience of one Army convalescent depot during the war.

There are strong indications, the report states, that the incidence of rheumatism is influenced by occupational environment. Over 80% of the cases are located in the industrial and large burghal areas; the Highlands and Islands show an all-round low average rate, though the period of incapacity is prolonged, due, it has been suggested, to the lack of facilities for adequate modern treatment, and a tendency for many patients to remain at work until severely crippled. Drawing attention to the inadequacy of existing facilities in Scotland for the diagnosis and treatment of rheumatism, the report commends the work of the three orthopaedic and rheumatism clinics at Glasgow, Dundee, and Edinburgh. Problems of accommodation are illustrated by reference to the buildings occupied by these clinics—a terrace house in Edinburgh with every available corner used for some form of therapy; the high standard of work maintained in Glasgow in a church building, where even the organ loft and underground basement are utilized; a factory building in Dundee, converted into a highly efficient clinic, but there are too many stairs for the comfort of patients and staff.

Reference is made to the "large number of remedies and nostrums advertised to the public as specifics for all kinds of rheumatic complaints . . . many of them sold under obscure trade-mark names at a price far above the market value of the ingredients. . . . The anxious or depressed person is especially susceptible to advertisements for antirheumatic remedies." The report also draws attention to the readiness with which the continued use in rheumatism of even such simple drugs as aspirin or phenacetin may lead to a form of addiction to remedies containing them, and reminds medical practitioners to be on their guard against the danger which may follow the continued administration of morphine or related alkaloids for the relief of pain in chronic rheumatic conditions.

Some Recommendations

In addition to the 20-40-bed units recommended to be associated with the four Scottish universities, long-term accommodation on a regional basis should be reserved for rheumatic patients for whom there is a reasonable prospect of alleviation or cure. Medical supervision and research must have continuity. No special building programme is necessary, hutted accommodation of the type employed under the E.M.S. scheme being sufficient for initial needs.

Hospital facilities should be available for the investigation of every case of articular rheumatism to establish the diagnosis and determine the appropriate treatment. There is need for an authoritative review of the whole field of therapy to assess the value of the various methods and to initiate research for new and more effective remedies. These investigations should take into account the question of diet in relation to rheumatism and the therapeutic value of bacteriological and immunological products. Discussing possible improvements in methods of treatment one recommendation is that in the training of physiotherapists more emphasis should be laid upon active exercise and less upon elaborate apparatus. Every medical student as part of his course in therapeutics should be given an outline of the principles of physical therapy supplemented by practical demonstration within the department of physical medicine. In postgraduate courses for general practitioners more instruction should be given in the methods of physical therapy and the indications for their use in the field of general therapeutics, with due reference to their application in the treatment of rheumatic diseases.

There is a definite place for peripheral clinics, provided that a start is made on modest lines. These clinics should be associated with the orthopaedic service and linked with the hospitals. An essential part of the policy should be the discouragement of haphazard local effort. In accordance with the principle that the subject of rheumatism ought not to be divorced from general medicine by the creation of a narrow specialty the committee is opposed to the establishment of clinics designed solely for the treatment of rheumatism. Recommendations are made on the staffing of peripheral clinics and the follow-up and care of cases after discharge.

The provision of expert information and assistance to medical practitioners will do much to overcome the prevailing feeling of helplessness in regard to the treatment of rheumatism. On the other hand, it is inadvisable to make rheumatism the subject of a propaganda campaign addressed to the general public when so many people suffer from the disease and the existing facilities for treatment are so inadequate. "The best publicity in our view will be a good service with good results."

FACULTY OF OPHTHALMOLOGISTS

The following statement has been received for publication:

Meetings between representatives of the Council of the Faculty, the Council of the Association of British Ophthalmologists, and the Council of the Ophthalmic Group Committee (British Medical Association) have been held. Agreement has been reached regarding the constitution of the Faculty, including new criteria for membership and associateship, and revised arrangements for the election of Council. For the original statement on the formation of the Faculty reference should be made to the *British Journal of Ophthalmology* of February, 1945, to the *British Medical Journal* of Feb. 3, 1945, or to the *Lancet* of Feb. 3, 1945. As a result of this agreement the Council of the Association of British Ophthalmologists were enabled to urge all their members to join the Faculty, and to approve the dissolution of the Association in order that it may be merged into the Faculty. A postal ballot of members of the Association has revealed the necessary majority in favour of dissolution. A new Council of the Faculty is to be elected after due time has been allowed for all, including serving ophthalmologists, to join the Faculty; in the meantime any applications for membership or associateship which present any doubt are to be scrutinized by a joint committee representing the Council of the Association of British Ophthalmologists and the present Council of the Faculty.

The following are the new criteria:

Membership.—(1) Any ophthalmologist of the status of ophthalmic surgeon or assistant ophthalmic surgeon who holds an appointment on the staff of a voluntary or municipal hospital with a recognized eye department. (2) Any ophthalmologist, no longer on the active staff of a hospital, who has held such an appointment. (3) Other ophthalmologists of consultant rank approved by the Council, including those in the Services or holding Government appointments, and those of the British Commonwealth and Empire over-seas.

Associateship.—(1) Full-time ophthalmologists of two years' standing. (2) Part-time ophthalmologists of two years' standing, holding a hospital appointment or possessing a special diploma. (3) Practitioners who on June 1, 1945, were on the N.O.T.B. list.

Council.—The Council shall be increased in number to 25; the number of regions to be increased to 6, to correspond with the regions defined by the British Medical Association. The Council shall be constituted as follows: (1) One member elected from each region by a local regional vote of members. (2) Twelve members elected by a national vote of members. (3) One associate elected from each region by a local regional vote of full-time associates, representing the full-time associates. (4) One part-time associate elected by a national vote of part-time associates, representing part-time associates. (5) Any member of Council shall be free to stand for election indefinitely, if properly proposed and seconded.

The outline of the constitution, functions, and management of the Faculty included in the statement published in the medical press and as amended above will in general terms remain valid. As soon as the new Council is elected, the constitution and by-laws will be legally drawn up.

Forms of application for membership or associateship of the Faculty may be obtained from the honorary secretary, 45, Lincoln's Inn Fields, London, W.C.2.

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FRANK W. LAW, *Secretary*,
Faculty of Ophthalmologists.
J. N. TENNANT, *President*,
H. R. BICKERTON, *Secretary*,
Association of British Ophthalmologists.

BRISTOL AND DISTRICT HOSPITALS

The Bristol and District Divisional Hospitals Council has published its fourth annual report. The Council consists of representatives of the voluntary, municipal, and county hospital authorities and medical organizations in the city of Bristol and the counties of Gloucester and Somerset. It includes a representative (Dr. H. M. Golding) of the Bristol Division of the B.M.A., and a representative (Dr. C. Dix) of the Bristol Panel and Local Medical Committee. Recently the Council has decided to grant a representation of eight members to the three public contributory schemes operating in Bristol and Kingswood and to two private works' hospital funds. It is stated in the report that the area covered by the Council, expanded to include Wiltshire and the cities of Bath and Gloucester, has been largely accepted as the suitable one for the planning of the West of England Hospital Services. It is proposed to cover this three-counties area with four local joint consultative committees, and then to set up a co-ordinating committee for the area of which Bristol is the natural medical teaching centre.

The standing committee of the Council has devoted much time to the important subject of rehabilitation, and convened a meeting of directors of leading Bristol industries to whom it suggested that something more must be attempted forthwith to facilitate the recommendations of the Tomlinson report than so far it has been possible to achieve. The Bristol Council for the Disabled has already laid down a basis for a service, and the meeting of manufacturers decided to call together a committee formed on the initiative of the Bristol Chamber of Commerce and Shipping to examine the financial questions involved in carrying out the plans which the Bristol Council for the Disabled has suggested.

The Council, besides a grant for its administrative expenses, received a fourth grant, amounting to £1,000, from the Nuffield Provincial Hospitals Trust. Both the Council and the Trust doubted, however, if the distribution of the grants in small sums to constituents was a desirable policy to be continued, and accordingly it was recommended to the Trust, and agreed, that the grant be made to the University of Bristol—half for research into the treatment and prophylaxis of acute rheumatism in childhood, and half for research on Ménière's disease.

Many other matters of interest are referred to in the report, including a meeting with the city engineer concerning the proposed new lay-out of roads in the replanning of Bristol, in so far as these might affect hospitals in the central area.

THE WELLCOME MEDICAL MUSEUMS

The Wellcome Foundation has appointed Dr. E. Ashworth Underwood as Director of the Wellcome Historical Medical Museum and the Wellcome Historical Medical Library; he will take up his new duties as soon as he can be released from his present post of medical officer of health and chief school medical officer of the County Borough of West Ham. During the past five years Dr. Underwood has been honorary secretary of the History of Medicine Section of the Royal Society of Medicine. He has contributed to the *Proceedings* of that Society, and to other journals, studies on the history of certain infectious diseases, on the medical importance of Lavoisier and the French chemists, on the earlier anatomists, and on other subjects. He has for some time been collaborating with Prof. Charles Singer in work on Vesalius. Wing Commander C. J. Hackett has been appointed Director of the Wellcome Museum of Medical Science in succession to Dr. S. H. Daukes, who has been responsible for the development of this museum during the last 26 years. Dr. Hackett, who was a Research Fellow in Tropical Medicine of the Medical Research Council and has done work on yaws and other tropical diseases, will take up his new post as soon as he has been released from the Royal Air Force.

OPENING OF MEDICAL SCHOOLS

LONDON SCHOOL OF MEDICINE FOR WOMEN

Lord Moran's Philosophy

The inaugural address at the London (Royal Free Hospital) School of Medicine for Women was delivered on Sept. 28 by Lord Moran, P.R.C.P. The Dean, Dr. Elizabeth Bolton, who presided, paid a tribute to Lady Barrett, who was president of the School at the time of her recent death. She also mentioned that the students this session in the first medical course numbered 70, and in the second 30.

Lord **Moran** began by asking why it was that so few old students remembered anything that was said in inaugural addresses by distinguished persons. Partly it was because the student had not much use for improving discourses, and partly because the student soon perceived that the orator was not saying what he thought, but what he was supposed to say on an occasion. Lord Moran himself, therefore, adopted an unconventional line, forsaking the usual reference to Florence Nightingale and the emancipation of women, of which that School had heard much, and confined himself to some practical "Don'ts." He advised the students, in the first place, not to be too gregarious. In this thickly populated land we lived too much on the top of one another. Our very thoughts were borrowed thoughts, and even teachers did not always encourage their students to think for themselves. Much was heard of the shortcomings of examinees, and little about the frailty of the examiner. So often examiners tried to find out what a student did not know, so that the student tried to acquire a smattering of everything, whereas if the examiner tried to find out what he did know the student would be content to miss some things in order to know others really well. Examination was a form of criticism, and as in the criticism of a book or play the examiner or critic should not try to be clever in an obstructive way but rather to put his finger on what was best.

In spite of all discouragement, however, the student, when qualified, would have to think for himself, the more so because at the present time the Government was putting a fundamental question to the nation: Was the stimulus of competitive life, with its prizes for the successful, the right or only spur to bring out the best in men and women, or would they do equally well in a national service? "If you have been taught to think for yourself, then worry out the answer impartially and let us have it." What were the spurs to endeavour? It was foolish to underrate the money motive, but it was easy to exaggerate it. In science some of the most critical minds were eager to work in a service, often poorly paid but rich in happiness, because it enabled them to do the work they wanted to do and under the best possible conditions.

Another of Lord Moran's "Don'ts" was "Don't become a drudge. Don't dull your wits by too much work." After all, they had only one life to live, and might as well be happy in it. What was it that made a man happy? First and last and all the time, it was temperament. A cowman whom he knew worked early and late, but was always singing snatches of song, and although he was always in the same little spot he "seemed to get more kick out of life than I who have wandered over half the Western world these last five years." Another piece of advice was not to make a god of security. "Don't think always of safety first. I do not want you to tilt at windmills as I have done, because you get a good deal bruised, but take some hazard." Another warning was against the dangers of publicity to the doctor. The late Wilfred Trotter once said to him, "When the poison of publicity once gets into a doctor's veins there is no cure, medical or surgical." The general practitioner should choose his consultant because he had been impressed by his teaching or by what he had written or done, and not because some uninformed public clamour had brought him to the front.

Finally he paid a tribute to the dean of the school, Dr. Bolton, who had served in that office for 14 years, and was shortly retiring. A dean had the task of selecting the entry. "Give me the choice of the school entry and anybody else can have all the rest." A great school was a school with exceptional students. After all, the medical profession was what its individual members made it, and those members were chosen by the deans, so that the deans had the health of the profession in their hands. That was why he sometimes hoped that deans would have a prestige in the future which they did not enjoy at present, would hold a prized appointment, what was considered a great office in the State, so that they would talk of a great dean as they talked of a great headmaster or headmistress. Deans had an immense opportunity. If they could speak to young people twenty or thirty years their junior in such a way that the difference in years was not noticed on either side the effect on the school would be beyond all estimation.

"Perhaps young people to-day who feel that somehow all the greatness of life has gone and that beauty has vanished from the earth, and have a sense of grievance that their lives should have been matched with such ill times, may have a word of reassurance. A few days ago I was in one of the loveliest of Italian bays, and 36 hours later I was at my cottage in England. I put my bags in the hall and went out to the meadow where the cows were whisking the flies away with their tails, and the rooks were rising with a great cawing, a black cloud against the blue sky, and the mowing machine was heard in the distance, and it came upon me all at once that there is no country in the world which is a patch on England, and with their tolerance and good nature and fair minds no people half so civilized as our own countrymen."

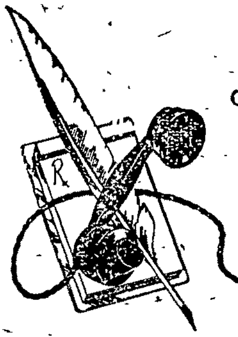
A vote of thanks to Lord Moran was proposed by Mr. L. E. C. Norbury and seconded by Dr. Hazel Chodak Gregory.

MIDDLESEX HOSPITAL SCHOOL DINNER

Middlesex Hospital men past and present to the number of 200 dined together at the Savoy Hotel on Sept. 28. It was recalled that the previous reunion was held on the fateful night in September, 1938, when Mr. Chamberlain flew back from Munich. The speeches were largely a recounting of hospital and school happenings during seven eventful years. The Hon. J. J. **Astor**, who presided, spoke in thankfulness of the survival of the hospital amid the hazards of war. The total casualties were one member of the Friends Ambulance Unit killed, one seriously wounded, a number of patients injured, chiefly by flying glass, and a certain amount of structural damage. The plans for the future of Middlesex which had been worked out before the war had not been altered except in minor details. The celebration of the bicentenary of the hospital, due this year, had been postponed until 1946.

According to tradition, the responses to the toast of "The School" were made by the Dean, Dr. H. E. A. **Boldero**, and the senior Broderip scholar, Mr. A. S. **Burgen**. Dr. Boldero described wartime vicissitudes, the early migration of the preclinical school to Bristol and the dispersion of the clinical students among the sector hospitals. He said that there were now eleven vacancies on the medical and surgical staff, some of which had arisen owing to normal retirements, but others, unhappily, through the cutting short of promising careers. These were vacancies that must be filled, but wisely and not hurriedly. Sir **Alfred Webb-Johnson**, P.R.C.S., in proposing the health of the Chairman, mentioned that twenty-five years ago Col. Astor, by a most generous gift, which remained anonymous for a very long period, endowed the chair of physiology. Since then he had been a benefactor to the hospital on many occasions. In him, as chairman of the hospital, the staff felt that they had a true friend, one who understood the spirit of the voluntary hospital whereby the staff were part of it, and not in the mere relation of employed to employer. He hoped that in the future plans for Middlesex there would be a centre where the members of the staff could carry on their private consultations with the background of the hospital behind them. It was not very important that a surgeon should have Chippendale chairs in his consulting-room, but he could render better service if he had at his immediate command the best and most modern aids in diagnosis and treatment.

Among the guests at the dinner were the President of the Royal College of Physicians, the Directors-General of the Medical Services of the Royal Navy, the Army, and the Royal Air Force, Sir Lionel Whitby, Regius Professor of Physic at Cambridge, Sir Allen Daley, chief medical officer of the L.C.C., and the Mayor of St. Marylebone.



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Correspondence

The Urgent Needs of Civil Medicine

Sir,—In your current issue you publish a letter from Professors Huggett and Killick on the educational conditions of our universities and medical schools.

The letter is a temperate one, and will command a very considerable degree of assent. Incidentally it would appear to make complaint of action by the Services Committee which is not justified, but the sentence on which I wish specially to comment is that in which it says, "The needs of the universities and medical schools must, therefore, be regarded as having the same degree of urgency as the needs of other branches of civil medicine."

From my experience of the demands made upon the Services Committee the time for this is premature. The needs of civil medicine which are most urgent are those of the general practitioner. Hundreds of aged general practitioners are continuing to work long after they both wish and ought to retire. Many have broken down, more are breaking down, not a few have died, a few have committed suicide. Their patients are suffering from lack of attention, and this quite unavoidably. Only just less urgent are the needs of hospitals, and these may be regarded as including the needs for consultant and specialist services. Hospitals are short of staffs as they have never been, this also when the demands upon them are greater than they ever were. Public health services are stripped to the bone, and the necessity for their reinforcement is very great.

The needs of these services are present and everyday, those of universities and teaching schools are more for the future. It is my considered opinion that until this winter, at least, is over, and probably well into next year, the urgency of the needs of teaching must rank behind that of these everyday services. After then things may be different.

There is a further difficulty in allowing, not to say encouraging, newly qualified practitioners to take university posts. Recruitment of practitioners into the Services is continuing, and is likely to continue. The only source for recruitment is the young practitioner. This difficulty may not be insurmountable, but it does exist. It must be remembered that any diversion of young practitioners to university or other civilian posts would mean a corresponding retardation of demobilization.—I am, etc.,

PETER MACDONALD,
York. Chairman, Services Committee, C.M.W.C.

Neurologist and Neurosurgeon

Sir,—The Society of British Neurological Surgeons is about to draw up a scheme for the training of the neurosurgeon. I must take the letter by Dr. F. M. R. Walshe and Dr. C. P. Symonds (Sept. 15, p. 364), who will always be heard with respect, as an invitation to express my own views, even though time proves that they do not coincide with the consensus of my brethren.

Your correspondents are concerned about an ideological concept of the neurologist, but since this does not admit of realistic treatment they resolve the problem into a statement of the relative function and required training of the medical neurologist and the neurosurgeon. They regret that the medical neurologist has lost too much valuable clinical material to the latter, and believe that this stunts the growth of the physician. It is a fact that the neurological physician no longer sees each and every case of suspected brain tumour before it goes to the surgeon, as was the custom in former days. It needs little imagination to comprehend that this is disappointing to the physician; but it has happened in many branches of medicine and is a sign of (at least) commencing maturity.

What Dr. Walshe and Dr. Symonds do not say is that the state of affairs which causes them anxiety has not been brought about as the result of a deliberate policy of exclusion laid down, or likely to be laid down, by neurosurgeons, but has occurred as a natural process which needs a new adjustment—that of partnership. I am well aware that the emancipation which the neurosurgeon now enjoys carries with it heavy responsibilities. He is called upon to make the greatest contribution that he can to our knowledge of the nervous system (for which he has exceptional opportunities), and, more important from the humanitarian point of view, to avoid the infliction of unnecessary trauma.

On this latter point Dr. Walshe and Dr. Symonds have a good deal to say. It is true that the neurosurgeon may sometimes apply surgical means of diagnosis too soon; much more often he is called upon to apply them too late. His recollections of such instances are unquestionably an important factor in his occasional unnecessary recourse to his own special methods. However, no one needs to speak of the successes won by these means. Your correspondents adduce certain figures of Harvey Cushing's to show how much clinical material of a non-surgical type may come into a neurosurgical ward and run the risk of being operated on through mistaken diagnosis. On page 6 of the book to which they refer they will find a clear statement as to what comprised a "histologically unverified tumour." It should be borne in mind that the 2,000 tumours which formed the basis of Cushing's review were spread over the years 1901–31—i.e., during the years of growth of knowledge of the natural history of tumours. This was mostly long before the date of pneumography and the like, which Cushing was slow to adopt. It would be unwarrantable assumption that Cushing was not fully assisted in some of his errors as well as in many of his successes by the best available medical neurological opinion of the day. Neither medical neurologist nor neurosurgeon is impeccable, and it would be a fatal error to try to build the future on any other understanding. I do not believe that the idealistic concept of the neurologist set forth in your pages is free from such danger.

What deeply concerns us all is so to educate ourselves and our successors that mistakes shall be minimized. This will be done by the freest possible interchange of opinion between physician and surgeon (and, I would add, sometimes psychiatrist) in neurological material. The loadstone that draws the surgeon into neurosurgery is not surgical technique but neurology. We must do our utmost to see that the younger generation has a balanced training and adequate remuneration to enable a man to obtain it, a vital condition on which many planners are silent. I know from a long personal experience that a happy relationship, mutually educative, to say nothing of friendship, between the medical and surgical subdivisions of neurology is possible, and is, moreover, already exemplified in many neurological centres in this country and elsewhere. Any further schism, if such it be, will be prevented by the development of Regional Neurological Institutes with common laboratories and services, such as is planned for Manchester. No good will come of repressive action in which one branch seeks to dominate the other.—I am, etc.,

Manchester. GEOFFREY JEFFERSON.

Treatment of Duodenal Ulcer

Sir,—I am glad to read Dr. A. H. Douthwaite's vigorous criticism (Sept. 22, p. 400) of this, that, or the other "cure" for duodenal ulceration as an incident in ambulatory treatment. As he points out, inadequate attention to the natural history of the lesion is responsible for much unwarranted attribution, and I am sure he will agree with me that almost incredible remissions are a familiar experience, not only through the apparent influence of such forms of therapy, but even despite what might be stigmatized as a criminal disregard for all orthodox precautions.

If patients (and doctors) are prepared to gamble on the chances of remissions and spontaneous cure there may be no harm in the administration of anything which contributes through its suggestive value. But if such ambulatory treatment is advanced as a reliable substitute for accepted orthodox procedure the danger can hardly be exaggerated, especially as it is only natural that the invitation to a procedure so much less irksome and inconvenient will be warmly welcomed.—I am, etc.,

London, W.1. ALDOPHE ABRAHAMS.

Nerve Injuries in Children

Sir,—I was most interested to read Mr. H. S. Souttar's article on nerve injuries in children (Sept. 15, p. 349). In my limited experience I have had to deal with one such case which proved dramatically the truth of his statements and conclusions.

While acting as R.S.O. at the Bolton Royal Infirmary in 1937 a child was brought in to me one evening with a history that her mother had attempted to kill her by cutting her radial artery with a small knife. The child was aged about 4. On examination there was a small wound over the lower end of the radius, and it was obvious that extensive damage had been done to blood vessels, tendons, and nerves. An immediate operation was performed, and when the wound had been enlarged it was found that, with the exception of the ulnar artery, every single structure on the front of the wrist had been severed. The gash even extended into the pronator quadratus. With some reluctance, as I had seen enough of the sequelae of these injuries to discourage me, I set about the seemingly endless task of suturing all the tendons and the two nerves. I believe it took me well over two hours. The wound healed by primary union and the child went home after a reasonable stay in hospital.

After this I lost track of the case until about a year later I was sent for to the orthopaedic O.P.D. by the orthopaedic surgeon (Mr. S. M. Milner, of Manchester) and asked to examine the child. He asked me what the original injury had been, and I remember he expressed polite disbelief when I told him the extent of the damage. The record card, however, which was produced shortly, contained the notes made immediately after the operation. The child had made a full functional recovery, and the only evidence of what had happened was a transverse scar which was slightly adherent to the underlying tendons.

I can clearly remember the ease with which the nerves were found, and that chiefly by reason of their size; also the difficulty with which the tendons were identified and sutured, so much so that on several occasions during the operation I remarked on the apparent foolishness of the procedure I was indulging in. The result is all the more remarkable if one pauses for a moment to consider the usual aftermath of such an injury in an adult. I think it would be most interesting if others were to recount their experiences in this sphere, as the textbooks, with their usual reticence, have got but little to add to our knowledge of the subject.—I am, etc.,

Tralee, Co. Kerry. M. J. HORGAN.

SIR,—Mr. H. S. Souttar (Sept. 15, p. 349) did well to stress the value of operation upon nerve injuries in children and adolescents. The results in cases at this age are so much speedier and more successful than similar operations performed in adults. The following is a brief case history which illustrates this point.

The patient was a girl, aged 14, who had sustained a complete lesion of the median nerve 20 months previously. The nerve had been sutured at the time, but neither motor nor sensory recovery was evident on examination. The lesion was 1½ in. above the wrist. Operation was undertaken and an inch of scar tissue excised. The freshened nerve ends were sutured, and the limb plastered with the elbow- and wrist-joint in flexion, to relieve tension, for 9 weeks. Return of sensation occurred over the thenar eminence at the sixth week. This was confirmed clinically. The rate of recovery far exceeded 7 mm. a day, being approximately 15 mm. a day. The patient had stated that sensation was returning after 4 weeks, but I did not believe this and failed to examine her at this stage. General sensory recovery had occurred by the twelfth week. By 3 months motor recovery of the thenar muscles was evident, and was well established by 6 months.

No adult case in which the median nerve has been repaired at this site in this peripheral nerve unit has recovered so quickly or so thoroughly; 5 mm. a day is the maximum rate of recovery.—I am, etc.,

E. HAMBLY,
Surgeon E.M.S., Royal National Orthopaedic Hospital.

Action of Rubber on Penicillin

SIR,—The experience of your correspondent F. A. R. Stammers (*Journal*, Sept. 22, p. 400) that synthetic rubber tubing used in a drip apparatus completely destroys penicillin in an hour or two, while natural rubber has almost no ill effect upon penicillin, seems to be at variance with the results of the work of S. T. Cowan (*Lancet*, Feb. 10, 1945, p. 178), whose experimental study of this problem indicates that natural rubber tubing can "in certain circumstances" inactivate some of the penicillin, especially after it has been repeatedly sterilized. Cowan points out that the validity of conclusions drawn from experiments of this kind depends upon the absence of contamination and the accuracy of the penicillin assays. He concludes that during continuous intramuscular infusion there is ample time for the destruction by contact with some kinds of tubing of 25 to 50% of the penicillin. He gives a simple method of testing the effect of rubber tubing upon penicillin.

Clearly there is room for more work on this problem, and it should be undertaken at once. It would be valuable to know, for example, whether any of the tubings now being made from plastic materials for surgical use have any effect upon penicillin. If they had not, these could be used for penicillin administration.

Perhaps I should add that I have myself no experience of the use of penicillin. I have merely had occasion to follow a good deal of the literature on penicillin, and Cowan's paper and Stammers's letter are the only ones on the effect of rubber on penicillin that I have seen.—I am, etc.,

Cambridge. GEOFFREY LAPAGE.

Air Embolism

SIR,—Dr. P. H. Dalgleish (Aug. 25, p. 256) gave an interesting account of two cases of air embolism, both having occurred during refills. It may be of interest to remember that Dr. Clive Riviere, in his book *The Pneumothorax Treatment of Pulmonary Tuberculosis* (1st edition), written as long ago as 1917, states that most of the recorded cases of fatal gas embolism have occurred at refills and not at the initial operation. He also states the chances of gas embolism are increased by the use of tubing of too wide a bore, and he advised an internal diameter of 4 mm., and (p. 68), under refills, his instructions are: "Where a manometer reading fails at a refill, unless due to a blocked needle which can be cleared by a suitable stylet and a clear reading thus obtained, the needle should be withdrawn, resterilized, dried, and entered elsewhere."

Riviere's six rules for the prevention of air embolism stand the test of time. His Rule 6 is, "Do not use rubber and manometer tubing of needlessly large bore, nor have tubing of needless length." To his Rule 5, "Never pass a blunt stylet for clearing the needle without the use of stuffing box or rubber cap," I would add, "Make sure that the stylet does not project beyond the needle opening but is just the correct length and shape to plug the opening." Nurses occasionally mix up stylets, and I have seen many misfits and been presented with an apparatus with delivery tubing 6 ft. long.

Every possible precaution to avoid the dangerous results of lung puncture and air embolism has to be taken before any induction or refill. This takes time. Riviere's book perhaps gave fuller and better instructions on the actual technique of A.P. work than many later authors, and I believe many present A.P. workers would still find his book very helpful, although naturally in parts it is out of date. It was a very practical and wonderful book, and the first on A.P. treatment in our language, so that I think it deserves to be regarded as a classic. It certainly was an excellent guide and vade-mecum to many who started doing A.P.s in the early years of this century.—I am, etc.,

A. NIVEN ROBERTSON.

Stovaine Anaesthesia

SIR,—Spinal anaesthetic drugs are considered heavy or light as compared with the specific gravity of the cerebrospinal fluid, which ranges between 1.003 and 1.007. Stovaine ampoules which are available in the market are Barker's and Chaput's, the specific gravity of the former being 1.025 and of the latter 1.080. Both are, therefore, definitely heavy, as well from the clinical findings as by virtue of their specific gravity. If the injection of stovaine is given with the patient in the sitting position, even between the second and third lumbar vertebrae, it at once gravitates down to the lowest part of the spinal column and into the sacral canal, and quickly settles down there in less than a minute and readily gets fixed. It is then difficult to get the solution to move upwards to affect even the lowest lumbar nerves, if there has been a little delay in making the patients lie down.

In a considerable number of cases it has been observed by me that even if the table is later on tilted in the Trendelenburg position, slight or steep, the stovaine solution afterwards does not move towards the head. This proves that stovaine is heavier than cerebrospinal fluid. It is therefore regrettable that in certain popular textbooks, particularly in *Manual of Surgery* by Rose and Carless, it is stated: "It can be used as either light or heavy solution." It needs to be pointed out that even when dissolved in alcohol the sp. gr. is not definitely lightened, and it cannot be safely treated as a light solution. Hence students are misled about the properties of stovaine, and some surgeons are also not sure of the qualities of stovaine, and so might meet with a disaster. It should be definitely stated that stovaine always forms a hyperbaric solution. The maximum dose mentioned as 0.8 c.cm. can be exceeded. It is also stated: "It tends to give a rather big fall in blood pressure"; but it is not explained that this can be prevented or lessened by vasoconstrictors and other means.

In final M.B., B.S. examinations the students have been answering, if asked about stovaine, that it could be either light or heavy, and quoting the authority of Rose and Carless; so the examiner has to agree and mark them right. This is, therefore, to draw the attention of the authors and others to this wrong impression produced on the readers. Incidentally it shows the necessity for the lecturer in anaesthetics being appointed an additional examiner for at least viva-voce examination in anaesthetics in the final M.B., B.S., as at present the surgeons, who generally know precious little about the subject, pose before the candidates as experts in anaesthetics also, and the anaesthetist is deprived of his right as an examiner in the subject.

The toxic effects of stovaine together with the nerve-destructive action of alcohol would make the solution very undesirable for use in operations, and, in fact, an alcoholic solution should be condemned as a spinal anaesthetic with whatever drug it is used.—I am, etc.,

Lahore. K. E. MADAN.

Rehabilitation of Fractured Limbs

SIR,—In the *Journal* of Sept. 8 (p. 332) there appears a short letter from Dr. R. Murray Barrow of the greatest importance. In one pregnant sentence—"the putting of fractures into plaster, leaving the soft tissues immobile for several weeks"—he exposes a disastrous turn of medical practice. I now shortly recount a few of the shocking results encountered in my practice.

(1) A woman of 55 with a tibio-fibular fracture close to the ankle was fitted in a London hospital with a tight plaster for weeks; when removed so shocking a position was disclosed that operation was required; result: death of the foot, amputation below the knee. (2) A street accident; simple fracture of both bones about 4 in. above the ankle was put in plaster; later, gangrene of the foot, amputation below the knee. (3) Colles's fracture in plaster for weeks; when released, semi-paresis of the arm; never recovered. (4) An old lady was knocked off her bicycle by a lorry, and her arm was fractured midway between wrist and elbow; for weeks it was in plaster, and when released was so weak and painful that she scarcely slept; at subsequent operation the median nerve was found to be held down by adhesions.

Under first-rate guidance with continuous watching good may be done, but as a common practice the results are terrible to contemplate. Your correspondent most truly writes: "The modern method seems to me to be distinctly retrograde and entails weeks of convalescing after union."

I was house-surgeon at Guy's 50 years ago. Arm fractures were splinted; femurs were fixed up with Hodgen's splints; fractures below the knee were all treated in Croft's splints—that is, two separate segments of flannel impregnated with plaster-of Paris held together by starch bandages, which were cut two days later and the plaster cast secured by bandages then. The modern craze for restoration of a limb to the "precise line" neglects the need for restoring the limb to use as quickly as possible. Surely a slight displacement of bone or a "hob" is a very small matter compared with loss of a limb or of function for months or years. With Colles's fracture the wrist was moved at least three times a week and the arm restored to use in about a month. The legs in the Croft splints were moved about in 10 days or so, after the bones were united, which, in my experience as house-surgeon, always occurred in under a fortnight.—I am, etc.,

Tilford, Surrey. VAUGHAN PENDRED.

Mediastinal Emphysema after Tracheotomy

SIR,—The *Journal* of July 14 has just reached me in Košice, Eastern Slovakia, and I read with interest the memorandum by Mr. J. R. M. Whigham on mediastinal emphysema and bilateral pneumothorax after tracheotomy (p. 47). In this connexion the following notes might be of some interest.

An epidemic of diphtheria has been spreading in this region. There have been many severe cases of laryngeal diphtheria, some requiring tracheotomy. An 18-months-old boy was brought in suffering from diphtheria of the tonsils and the larynx. Tracheotomy was performed soon after admission for acute asphyxia. Breathing improved, but he died 6 hours later. The necropsy showed: (1) widespread swelling of the face and neck due to subcutaneous emphysema; (2) extensive mediastinal emphysema covering the heart, that looked as if it were bathed in soap bubbles; (3) thick diphtheritic pseudo-membranes covering the epiglottis and the mucosa of the larynx blocking the air passage; (4) purulent bronchitis and bronchopneumonia of the lower lobes of the lungs.

Subcutaneous and mediastinal emphysema is not very rare after tracheotomy and is due largely to technical reasons. Mr. P. Steiner, F.R.C.S.Ed., senior surgeon, General Hospital, Košice, points out that it is unavoidable for some air to leak out between the cannula and the edges of the tracheotomy opening in the trachea. If the skin were tightly closed round the cannula the patient would press air into the tissues when coughing or breathing forcibly. This could be avoided by not suturing the skin tightly round the cannula so that air escaping from the tracheotomy wound could get away freely.—I am, etc.,

I. FRIEDMANN,
Pathologist, 1st Czechoslovak Medical Mission from England.
General Hospital, Kosice.

Acute Inversion of the Uterus

SIR,—I would like to add my experience in a case of acute incomplete puerperal inversion of the uterus in support of the simple method of replacement under hydraulic pressure described by Mr. J. V. O'Sullivan (Sept. 1, p. 282).

The patient, a primipara aged 35, was admitted to our maternity department in a condition of severe shock after a forceps delivery outside. Credé's expression had been attempted unsuccessfully for post-partum haemorrhage. On arrival the patient was extremely pale, collapsed, restless, and almost moribund. Her pulse was not perceptible and her blood pressure could not be recorded. She complained of severe lower abdominal pains and made efforts to expel the retained placenta. Treatment for shock was instituted. Abdominal examination revealed a deep funnel-shaped excavation where the fundus should have been. There was moderate vaginal bleeding and the ligated cord was protruding from the vagina. The perineum showed a deep laceration extending into the sphincter ani.

Forty minutes after admission the patient showed improvement from her almost moribund condition. Soon afterwards she started bleeding freely again, so I was forced to perform a manual removal of the placenta under light general anaesthesia. Vaginally, an incomplete inversion of the uterus was confirmed. The placenta was adherent to the apex of the inversion and was stripped off easily. On the advice of Mr. O'Sullivan I employed the method he recommended. A warm "dettol" douche, from a douche-can 2½ feet above the level of the patient, was run into the vagina with a Bozeman catheter and the vagina ballooned out. The right forearm blocked the vulva. It was interesting to feel how the over-distension of the vagina with the fluid caused the dilatation of the constricting cervix. Gentle digital pressure against the inverted fundus, together with the fluid pressure, replaced the uterus with ease in a very short time. The complete perineal tear was sutured speedily. After reposition and further shock therapy, including methedrine 30 mg., the patient improved dramatically. She made an uneventful recovery, and was discharged in perfect health on the 22nd day after delivery.

There must be several such serious cases annually in every country. O'Sullivan's simple method meets the desperate situation better than any other I have known; to encourage its further practice and lower the present high mortality I considered it most important that this further case should be reported.—I am, etc.,

WALTER SPITZER,
Senior Obstetrician and Gynaecologist, Kingston County Hospital, Kingston.
Kingston-on-Thames.

Toxicity of Magnesium

SIR,—May I be allowed to answer your annotation (Sept. 22, p. 393) on this subject. I believe I was the first and original proposer of intravenous injection of magnesium sulphate for angiospasm (*Lancet*, 1933). Since then I probably performed more than a thousand of such injections without any distress or alarm to myself or to the patient. Briefly the rules are: start with the patient in a recumbent position; never use a solution more than 10% in strength; add glucose; start with 1 gramme of magnesium.

So far as I know, in one of the voluntary hospitals an elderly patient died during the intravenous injection of magnesium; he suffered from coronary sclerosis. I do not know if all of the above-mentioned precautions were observed. Nor did I have any complications with intramuscular injections, providing the strength is 10%. It is very well tolerated.—I am, etc.,

London, E.1. N. PINES.

Chronic Pulmonary Tuberculosis

SIR,—The primary tuberculous infection of the lung does not usually lead to this form of disease, though it may break down with the formation of pneumonic tuberculosis, which can persist into the chronic stage. I have seen one such case in an adult and three in children during the present year. Usually the primary infection is recovered from. Later, due to reinfection or breakdown from an apparently healed lesion, when circumstances are suitable, chronic pulmonary tuberculosis begins.

I was interested to discover whether a patient who becomes cured can ever get the disease again. After five years' experience in large sanatoria (300 and 500 beds respectively) and five years' dispensary work at five busy tuberculosis dispensaries in an area with a population of 250,000 I am still unable to give a definite answer. Of course, few patients recover so completely that there is no remaining *x*-ray evidence of disease. I have, however, seen two such cases in the last year. Usually cure is shown by fibrosis and calcification. When cure is thought to be certain, live tubercle bacilli may persist even in calcified foci (Pagel). So difficult is the problem of deciding when a case is cured that guidance is provided in Ministry of Health Memorandum 37 T. revised, as follows—*Quiescent:* No clinical evidence of activity, and any signs present are compatible with a healed lesion. *Arrested:* A lesion quiescent two years. *Recovered:* Arrested three years. Only then may a case be removed from the register. Statistics show that if a patient has been apparently cured for five years, then he is likely to remain so. Pottenger years ago arrived at a similar conclusion.

Now, disease may be "arrested" with either little or gross *x*-ray evidence. In the latter case it is of course not possible to be certain the disease is in fact healed: it is more than likely that active lesions are shut off from the rest of the lung by fibrous tissue. Of the few cases returned to the register during the last five years the majority would come into the above category. Two patients who were returned to the register with active lesions had been classed as recovered when taken off the books. Unfortunately these two cases were diagnosed in the days before *x* rays were in universal use. As their sputa had never contained tubercle bacilli it is impossible to prove the original diagnosis.

I have searched through thousands of records and *x*-ray films in pursuit of a recurrent case of pulmonary tuberculosis of the adult type. In conclusion, I have to admit that I have yet to come across such a patient. As a "recovered" case rarely breaks down, a patient whose disease is actually cured probably has such a high resistance to disease that he will never suffer again from this scourge of mankind.—I am, etc.,

Pontefract. C. PONIEDEL, M.B., Ch.B.

B.L.A. Surgery

SIR,—The authors of the excellent article on B.L.A. surgery (Sept. 22, p. 377) repeat an error (non-medical) when they state that Walcheren was captured by the Canadians. This "toughest of small amphibious operations" was carried out in grand style by the 52nd Lowland Division under Gen. Hakewill-Smith, attacking across the Scheldt and along the causeway. I happened to be present in a passive role and can testify to the excellent work under terrible conditions done by the medical units and R.M.O.s of that division. It is only right that they should have the credit.—I am, etc.,

"EX-A.D.M.S."

Safe Milk

SIR,—I have just opened the *Journal* of Sept. 8 with Dr. D. J. Gair Johnston's most pertinent plea (p. 330) for the domestic sterilization of milk. But he omits to mention the weightiest reason for preferring the method—which is that it greatly increases the probability that the sterilized milk will still be sterile when it is drunk. It is too often forgotten that the attendants at pasteurization plants are not bacteriologists. A colleague told me that he had been taken to see a machine which poured the sterile milk into the bottles and covered them automatically with a sterile cover. The bottles were sterilized in a separate machine and fed into this pasteurization and bottling apparatus by a boy, who picked them up three at a time, with one dirty finger in each of two and a dirty thumb in the third. Within the last few years I have myself had pasteurized milk, delivered at my house, go sour within twelve hours in cold weather in the unopened "sterile" bottle; but of course with pasteurized milk there is no guarantee that lactic acid will appear as a danger signal as the flora multiply.—I am, etc.,

C.M.F. N. P. BRUCE.

Doctors and the Social Trend

SIR,—At the ninth International Congress on Dermatology, held in Budapest in the autumn of 1935, I was chairman of the sixth commission, dealing with general medical problems. One of these was whether "socialization of medicine is desirable." The Congress attracted over 1,000 members from every part of the civilized world and there was a very representative gathering of delegates to discuss this question. A "good round no" was recorded by all the delegates except the three coming from Russia, and the dislike of socialization was especially marked in those countries, outside Russia, in which the experiment had been tried.

We are informed by Dr. P. G. S. Davis (Sept. 22, p. 405) that of the thirteen medical M.P.s in the present Parliament eight are members of the Socialist Medical Association. This association has been described by its president in a letter to the Press as a "solely political organization." I am informed that its medical membership is less than 1% of the whole body of practitioners on the British *Medical Register*, contrasting in this respect with the membership of the B.M.A., which now, it is stated, represents a membership of something like 75% of the registered profession. The present Government will doubtless accept its medical guidance largely from the Socialist Medical Association, which is in effect an annexe of the Socialist Party, and it is important for doctors to realize that political and not medical considerations will be the motive of the changes in medical practice which, it is said, form part of the programme of the Socialist Party. That political aim may, I think, be summed up as the pursuit of "social equality," to be achieved, if it is indeed at all possible, by achieving uniformity at the lowest existing level.

That has been, I submit, the aim and, already in some measure, the effect of the Education Act, which is floundering helplessly towards a standstill by reason of the critical shortage of teachers. It is not, I think, altogether surprising that the Minister of Education in the late Government seized the first opportunity of exchanging his post for another department in the short-lived "caretaker" administration. For fulfilment of the promises of the Act from 70,000 to 100,000 new recruits to the teaching profession are called for. To meet this demand Mr. Butler *two years ago* inaugurated a scheme of emergency training of teachers by which recruits after one year's training and without passing any examination would be introduced into the schools as "qualified teachers." The present position of this supply was described in a recent answer to me (*Hansard*, Aug. 22, 1945): "18 teachers so trained have been admitted to the schools and 360 are in training." It is a simple arithmetical calculation to forecast how long it will take at this rate to meet the demand!

The supply of doctors to work the proposals of the White Paper, it has been calculated, would have to be three times as large as the present available total of qualified practitioners, and doctors, I submit, cannot be improvised on the same lines as have been proposed for teachers. During one of the debates on the health services a "back-bencher," on the Socialist side urged the Minister of Health to side-track the doctors and proceed with his proposals without their co-operation, but whether the public will be satisfied with any such solution is quite another matter.

The position of medicine in Soviet Russia is extremely difficult to ascertain because of the "iron curtain" (as Churchill called it) which shuts out Russia and countries occupied by it from observation by the rest of the world. But the position of research in medicine as well as in general science is, I would suggest, a reliable index of the position of both medicine and science, and publicity for research is clearly an aim of Soviet Russia. An analysis of that position in various countries has been offered in a recent publication (*Science and the Planned State*) by Dr. J. R. Baker, lecturer in zoology in the University of Oxford. On that analysis Russia is by far the most backward of all European nations in research both in medicine and in science. By this argument socialization of medicine, in force in Russia for more than two decades, has conspicuously failed. —I am, etc.,

House of Commons. E. Graham-Little.

Training for Released Service Doctors

Sir,—Mr. H. S. Souttar in his Presidential Address before the B.M.A. on the return of the doctor (*Journal*, Aug. 4, p. 163) refers to the scheme for training released doctors. His Class III provides for men who wish to hold registrar jobs, for which they will receive £550 a year. There are many M.O.s who are keen to undertake such work in the near future and have been seeking advice about the best centre for which to apply. But are these posts available? It seems to depend on who is paying for the scheme. If the Government pays for each registrar, the teaching hospitals will no doubt accept a considerable number and may be able to provide for all the applicants. If, however, the medical schools are expected to provide the funds from their own grants, it seems unlikely that the required number of such posts will be available.

As this is an urgent problem and one is being asked about it by those who are soon to be released, could some authoritative statement be issued so as to avoid a lot of keen young doctors being disappointed?—I am, etc.,

F. F. Hellier,
Lieut.-Col., R.A.M.C.

Bitterness

Sir,—Major H. B. Stallard's letter (Sept. 22, p. 407) comes like the calm voice of reason amid the cacophonous sounds of a family squabble. Those who, like myself, saw the war coming, joined the Territorial Army or the equivalent, and served throughout all or most of the time in field units, have no wish to fling away in bitterness what they have gained by seeing where their duty lay and doing it.

Maybe we have lost professionally; maybe we can never hope to compete with our brethren who stayed on at hospital and rose through higher degrees to junior honorary posts. But a man cannot have everything in life; and where we have lost on the one count, perhaps we have gained something in the sphere of less ponderable qualities. Certainly, speaking for myself, I feel I have gained something which I find it hard to define; perhaps it is most closely related to what I have seen of self-sacrifice and the "mucking-in" of the ordinary soldier for the common good.

I shall always remember the words of a friend, written to me shortly before he was killed, in answer to a rather carping letter of mine: "Don't let's spoil the first fine careless rapture of having been in from the beginning by calculating now whether it was worth the cost or not." A man is a certain kind of person, who does certain kinds of things. Bitterness that those things do not always bring in the kind of return we should like will get us nowhere. Therefore, thankful that my lot has not been, as Major Stallard tells us, the sea, six feet of African sand or European earth, I and, I think, very many of my fellows are content to do some good where we find it to be done, without bitterness or malice towards our more highly qualified contemporaries.—I am, etc.,

J. M. G. Wilson.

Sir,—In the *Journal* of Sept. 22 (p. 407) there is a timely letter from Major Stallard. As he says, there is much bitterness felt by Service medical officers, and the bitterness is too often more than justified. For a long time now your correspondence columns have carried letters complaining of the utter wastage of medical man-power in the Services, the hardships and gross overwork of general practitioners, and the relatively fortunate position of the young specialists in E.M.S. hospitals. These are facts, and bickerings among ourselves will not alter them. Our only hope is in closer unity, preferably through the B.M.A., whose greatly increased membership during the war shows that most of us do want some central medical body to which we can give loyalty in exchange for the strongest possible presentation of our cause, anywhere and always.

Major Stallard was fortunate in spending nearly half his service in hospital. For seventy-three barren months this had eluded me and many of my colleagues. The time wasted on so-called sanitation, administration, and stores accounting is a dead loss and must be written off as an offering to the war effort; perhaps it might rank as honourably as a minor wound. At least these things were done, and it is better that they should be done by a doctor than left undone. The folly of wasting doctors on such work is not ours. Stallard's experience in meeting fine men has been mine also. A medical officer meets high and low alike, and I have had the privilege of serving with some of the finest men and women imaginable. High among these I would place my own colleagues. They also were usually on uncongenial work, but, as a rule, they have done that work well, and shown professional skill, friendliness, and ethical conduct, which made the fact of our meeting transcend the circumstances. These doctors have been Naval, Army, and Air Force, British civilians, and medical officers of the American, Canadian, Australian, South African, and Polish Forces. Many times have we exchanged grumbles about our several lots, but we have worked and played together in harmony.

I suggest that as each is released he should become an active member of his local Division of the B.M.A., and make known to his representative just what he thinks can be done to make Service medicine attractive. If this were done, your committees would receive all the constructive ideas bred of our individual search for better things; and a strengthened Association could put before the Government a scheme for a medical service so good that the competition would be to get into it, not out of it. Unanimous support for our own Association would greatly improve our professional relations with each other, and would forestall any measures of coercion based on lack of unity.—I am, etc.,

Waterbeach, Cambridge. J. L. Brown,
Squadron Leader, R.A.F.

Infant Mortality and Social Conditions

Sir,—The leading article in your issue of Sept. 22 (p. 392), headed "Infant Mortality and Social Conditions" is mainly occupied with comments on a recent paper (Woolf and Waterhouse, 1945) of which I am senior author. Every statement it makes about our paper is untrue and worded in the way most calculated to arouse prejudice in the mind of the medical reader. To prove this it is only necessary to give parallel quotations. Your contributor writes:

> "Apparently public health workers and authorities have deluded themselves for years by assuming that infant mortality was influenced by complex factors and that medical science and improved mothercraft could affect this rate."

Nothing could be more calculated to antagonize medical men than the insinuation that we regard their devoted efforts as of no value. But the truth is that we give a detailed discussion, including six diagrams, of the fall in infant mortality over the past 70 years, that we pay a well-deserved tribute to the fight for maternity and child welfare put up by the late Sir Arthur Newsholme against the obscurantists of his day, and that we clearly state this conclusion:

> "The whole improvement can be attributed to such things as better housing, feeding, mothercraft, and sanitation, reduction of the virulence of pathogens, and so on—all those agencies covered by the word 'environment' when it is used in opposition to 'heredity'."

Again, your contributor writes:

> "Between 1911 and 1931 the infant mortality of Social Class V was halved, due, the authors state, to improvement in environment. The mortality of Social Classes I to IV also declined at approximately the same rate, and it seems more reasonable to suggest that a factor independent of social class was responsible for a large measure of this improvement."

In our paper we give a vivid diagram and a detailed discussion of the fall of infant mortality in all social classes, and the effect is plainly ascribed to "such things as more adequate public health measures, more efficient choice of foodstuffs, better mothercraft," all of which are improvements that manifestly apply to rich as well as poor.

Your contributor pours heavy scorn on our conclusion that a rate of 23.1 could be attained by the elimination of deleterious environmental influences. Yet he himself points out that the present rate, for 1944, is 46, and also states that "it is generally acknowledged that a further reduction is possible, probably to one-half of the present rate." One-half of 46 is 23. That is the very figure that emerges from our statistical analysis.

Your contributor quotes our conclusion that many infant deaths are associated with four social agencies—overcrowding, low-paid occupations, unemployment, and industrial employment of women. He casts doubt on these results, "since in 1943 and 1944, when enemy action had made the housing position worse and the employment of women in industry was on a higher scale than ever before, the figures for infant mortality were 49 and 46, the lowest values ever recorded in England and Wales."

Your contributor says that "strict objectivity is needed." It certainly is. We specified four social factors. During the war two got worse—overcrowding, and work by women. Your contributor mentions these. But how about unemployment, which was completely eliminated? How about wage rates? During the war, what with the levelling up of the pay of the lowest-paid workers, what with extensive overtime, and what with the extra milk and dietary supplements available to all babies and to pregnant and nursing women, the nutritional level of the baby in the poorest home was probably raised to a level similar to that of the highest-paid workers before the war. Low wages as a causative factor in infant mortality can be regarded as having been virtually eliminated. In his zeal for "strict objectivity" your contributor chooses to ignore both unemployment and wage levels. Overcrowding and work by women have got worse, and unemployment and low wages have been knocked out. The net result is a fall in the rate from 61.7 (the average for 1928–38, to which our calculations relate) to 47.5 (the average for 1943–4), being a decline of 14.2. Here is a useful test of our quantitative conclusions. Let us see how they fare.

In our paper we give the following estimates of the reductions in the rate to be expected by complete elimination of the poverty symptoms concerned: overcrowding, 13.8; unemployment, 8.0; low wages, 10.3; work by women, 5.3. Elimination of unemployment and low wages would give an expected reduction of 8.0+10.3, which equals 18.3. There are good reasons for supposing that the rises attributable to housing and work by women will not be very big.

Overcrowding.—The destruction of houses can be partly offset by the absence of a large part of the population on war service. Probably more important is the effect of evacuation. Infant mortality in big towns before the war averaged more than 10 points above the rural rate. A substantial proportion of babies were withdrawn to the country, reducing their mortality risk by a figure of this order. On housing, the pluses and minuses probably pretty well cancel out.

Work by Women.—The deleterious effect on the infant was largely due before the war to lack of care while his mother was at work. Wartime nurseries and other arrangements minimized these dangers for babies of munition workers; and, in any case, pregnant and nursing women escaped industrial conscription.

The summing-up is as follows:

Expected fall by elimination of unemployment and low wages	18.3
Observed fall	14.2
Attributable to worse housing and work by women ..	4.1

I think any reasonable person will agree that our peacetime analysis passes with flying colours the test of extrapolation to wartime conditions.

One final sample of your contributor's methods. He writes: "They were, apparently, so enamoured of their lengthy arithmetical processes that they overlooked the first lesson in statistics—i.e., that correlation is not necessarily causation." Your contributor falters in his quest for "strict objectivity." For the facts are that we did not venture to use our regression equations as the basis of social or medical conclusions until we had carefully examined every reasonable objection to their validity. The greater part of our first section is taken up with eliminating the possibility that our effects are due to hereditary differences in viability at different social levels. In our fourth section we critically examine our social indices with respect to their accuracy and relevance. In our seventh section we discuss seriatim the statistical and social objections that might be advanced to regarding our equations as a valid description of the phenomena under discussion. Only after a full examination of possible contraindications do we proceed to draw up a final balance-sheet.—I am, etc.,

Usher Institute of Public Health, Edinburgh. B. WOOLF.

REFERENCE

Woolf and Waterhouse (1945). *J. Hyg., Camb.*, 44, 67.

Alien Doctors

SIR,—Copies of the *Journal* take some time to arrive in India, so this letter will appear somewhat out-dated. I have followed with interest the correspondence on alien doctors practising in Great Britain, and would like to voice the great anxiety felt by members of the profession over-seas about their continued presence in the United Kingdom now that hostilities have ceased. The feeling is that, unless the Government asks them to leave now, they will become so firmly entrenched that they may become a permanency.

In spite of the views expressed by Capt. Joseph (July 14, p. 66) it is well known that a very large number are entrenched in and around Harley Street and all over London, and that of these a disproportionately small number have featured in the Services during the war. Incidentally, Capt. Joseph's attack on Dr. Wm. A. O'Connor and on Irish doctors generally was greatly resented here, where many Irish doctors from both Eire and Great Britain have volunteered for service and have done excellent work. I am not Irish, so I speak without bias.

I hope you will publish this letter, which represents the views of many Service doctors in Burma and India with whom I have discussed the matter.—I am, etc.,

JOHN NESFIELD,
Deolali South, India. Capt., R.A.M.C.

An Institute of Medical Photography

SIR,—The article on medical photography in hospital (Sept. 8, p. 328) will be welcomed by all who are interested in photography. While agreeing with the urgent need for a body such as the proposed "Institute of Medical Photography" I would point out the undesirability of unnecessary duplication of institutions devoted to photography. The Royal Photographic Society is a national body whose aim is the advance of photography in all its aspects, and at the present time it has under consideration the formation of a group devoted to medical photography. I would suggest that before an independent Institute of Medical Photography be inaugurated, the possible advantages of functioning as a group of the Royal Photographic Society should be investigated.—I am, etc.,

H. BAINES,
President,
16, Princes Gate, S.W.7. Royal Photographic Society.

SIR,—While endorsing a few of the statements mentioned in the article on medical photography in hospital, I would like to point out a few facts, which, from personal experience as well as experience of others, I would like your correspondent and others interested in medical photography to know.

To say "the first thing needed for a medical photographic department is a complete system of air conditioning" is absurd. The first thing needed is a competent photographer. Equally so it is absurd to employ the staff recommended. There is not the slightest use trying to send patients away to some other place to have their photographs taken; either they cannot or will not go. Quite a lot of work is urgent and requires a photographer to be always on the spot. An institute of medical photography would no doubt be very desirable, but is there any need for yet another such photographic organization, when already three bodies exist in the Royal Photographic Society, the Association for Scientific Photography, and the Institute of British Photographers? If mobile units are to go "wherever they are wanted" is this the most economical and efficient way?

What is most urgently required is a powerful aid towards trying to get hospitals to provide a competent photographer with the necessary apparatus and accommodation, rather than writing about "utopian schemes" such as those indicated in the article in question.—I am, etc.,

H. Mandiwall,
Chairman, Medical Group, Association for Scientific Photography.
Tavistock House North, London, W.C.1.

Medical Supplies for Singapore: An Appeal

Sir,—Singapore has fallen and the aftermath of war must now be fought. The Japanese (or Nipponese as we call them in the Far East) did literally nothing for Allied prisoners of war, internees, and the local population. I spent a week in Singapore while serving in H.M.S. *Sussex*, so my information is first-hand. By the time this letter is published the majority of Allied prisoners and internees will have left, but the local civilians remain and are being looked after by former internees who have volunteered to stay. The chief of these is the Anglican Bishop of Singapore, and he has arranged for the distribution of any medical supplies that may be sent. Malaria, dysentery, beriberi, pellagra, other deficiency diseases are but a few of the many diseases present. As an illustration of how rampant some diseases are: there is among the local population 80% chronic malaria and 1,000 fresh cases a month. Many need urgent attention, which only the necessary medical supplies can ensure. You can make no finer contribution to their welfare than by aiding the work of the Bishop of Singapore. Many are the humane calls made upon the good in heart, so may I appeal to institutions and individuals for any drugs they can spare, especially those used in the treatment of the diseases mentioned above? Please send them direct to the Bishop of Singapore, The Cathedral House, Singapore, who will be more than pleased to receive them.—I am, etc.,

Iain M. MacLean,
Surg. Lieut., R.N.V.R.
Admiralty, S.W.1.

The Services

Major (Temp.) R. Stuppel, R.A.M.C. (died of wounds), has been mentioned in dispatches in recognition of gallant and distinguished services in the field.

Capt. A. W. Lipmann-Kessel, R.A.M.C., has been appointed M.B.E. (Military Division) in recognition of gallant and distinguished services in the field, and has been awarded the M.C. in recognition of gallant and distinguished services at Arnhem.

Lieut. E. Gartside, R.A.M.C., has been mentioned in dispatches in recognition of gallant and distinguished services in the defence of Calais in May, 1940.

Acting Wing Cmdr. J. P. Huins, O.B.E., A.F.C., A.A.F., has been awarded a Bar to the Air Force Cross, and Acting Wing Cmdr. R. H. Winfield, D.F.C., A.F.C., R.A.F.O., has been commended for valuable service in the air.

The following appointments and awards have been announced in recognition of gallant and distinguished services in Italy:

C.B.E. (Military Division).—Brig. (local) H. C. Edwards and Col. (Temp.) T. D. Inch, O.B.E., M.C., R.A.M.C.

O.B.E. (Military Division).—Col. (Temp.) J. Kinnear, T.D.; Lieut.-Cols. (Temp.) W. N. J. Clarke, R. T. Grant, J. A. MacDougall, F. H. Taylor, A. W. S. Thompson, and E. S. Watson, R.A.M.C.; and Col. (Temp.) Dev Datt, I.A.M.C.

M.B.E. (Military Division).—Majors (Temp.) J. Leiper, K. C. Mallen, E. L. May, E. R. R. Mellon, A. S. Ramsey, and F. E. Wheeler; Capts. I. Camrass and J. McLean; Lieut. J. Hill, R.A.M.C.; and Major (Temp.) L. C. R. Emmett, I.A.M.C.

M.C.—Capts. G. R. Evans and M. S. Howe, R.A.M.C.

The following medical officers have been mentioned in dispatches in recognition of gallant and distinguished services in Burma:

Col. (Temp.) J. P. Macnamara; Lieut.-Cols. (Temp) H. J. Croot, C. L. Hay-Shunker, J. F. Heslop, R. C. Langford, and J. R. Owen; Lieut.-Col. (Acting) J. M. McIntosh; Major G. W. Greig; Majors (Temp.) G. T. Ashley, J. Brown, J. M. Clow, M.B.E., J. O. Collin, T. E. Henderson, E. L. O. Hood, C. H. Hoskyn, G. J. G. Keys, J. D. MacCallum, W. O'Callaghan, and W. H. Wolstenholme; Major (Acting) T. K. Howat; Capts. G. M. Abraham, N. C. Burnley-Jones, M. Caturani, R. G. Forrest, J. B. Great-Rex, J. K. Hampshire, J. Harris, T. B. Harrison, M. H. Hughes, G. Kilgour, H. A. Kreiser, J. K. H. McCullough, P. H. Nankivell, B. Rado, J. H. Rees, R. W. Tibbetts, W. T. Walker, and G. L. Whitmore; Capts. (Temp.) J. M. McLean and J. A. McPherson, R.A.M.C. Lieut.-Col. T. J. Davidson; Lieut.-Cols. (Temp.) V. D. Gordon, W. McN. Niblock, and A. E. Stevens; Major W. C. Templeton; Majors (Temp.) L. M. Kelly, M.B.E., M. K. Krishnamurti, R. I. Krishnaswamy, and G. B. R. Walkey; Major (Acting) J. G. Webb; Capts. B. R. Irani, K. S. Grewal, K. B. R. Rao, L. N. Budhraja, M.B.E., N. N. Narayen, P. Singh, P. C. Nedungadi, S. Ranganathan, and Capt. Nuruddin; Lieuts. D. Barua, P. Gogoi, and R. J. Chandra, I.M.S. Major (Temp.) J. Edwards; Capts. B. G. Kiddle, M.C., M. P. McMurray, M. Imamuzzafar, and R. P. Bhatia; Lieuts. A. Rashid, C. M. Patnaik, and O. P. Trehon, I.A.M.C.

Freed in the Far East.—Lieut.-Col. J. Huston, Capts. R. H. Cuthbert, E. J. Emery, R. L. Lancaster, L. D. Stone, and R. G. B. Young, R.A.M.C.; Fl. Lieuts. A. N. H. Peach and A. F. Rutherford, R.A.F.V.R.

Obituary

ERNEST WARD, M.D., F.R.C.S.

Members of the British Medical Association, especially those engaged in its central work, will learn with regret of the death on Sept. 21 of Dr. Ernest Ward of Paignton, Devon, a familiar figure at its Annual Representative Meetings for fourteen years. For a long time past he had been suffering from a hopeless malady, but he had fought against it with characteristic stubbornness and had continued much of his public work.

Ernest Ward was born in Yorkshire in 1877, the son of Sir John Ward, who was closely associated with the municipal life of Leeds, was twice mayor of that city and one of its earliest lord mayors. He entered Clare College, Cambridge, in 1896, gaining first-class honours in the Natural Sciences Tripos, Parts I and II. He received his clinical training at the London Hospital and qualified in 1903, becoming a Fellow of the Royal College of Surgeons in 1906 and taking the M.D. of his university in the following year. After serving for a time as clinical assistant at the Belgrave Hospital for Children in London and as assistant medical officer, Queen Alexandra Sanatorium, Davos, he settled in general practice in Devonshire. He was proud to be known as a general practitioner, though on some subjects, notably surgical tuberculosis, he was a specialist. For many years he was tuberculosis officer for South Devon. He interested himself in tuberculosis in all its aspects and was president of the Tuberculosis Society of Great Britain and honorary secretary of the Tuberculosis Group of the Society of Medical Officers of Health. His outstanding achievement was the foundation of the Joint Tuberculosis Council in 1924—a body intended to co-ordinate all tuberculosis activities—and he guided its work for 14 years. Many reports of its proceedings issued from his pen, and he was associated particularly with its investigation into the status of nurses engaged in tuberculosis work and in the evidence which it gave before the Royal Commission on Local Government which preceded the Act of 1929. In the Society of Medical Officers of Health, of which he was at one time president, and in the B.M.A., Ward rendered conspicuous service. He was twice chairman of the Torquay Division of the Association, in 1927-8 and in 1940-1, and he served as its representative from 1927 until the early 'forties. He did good work also on some headquarters committees. When the Annual Meeting of the Association was held in his own locality in 1938 he was president of the Section of Tuberculosis. Locally he was held in great esteem by his colleagues, over ninety of whom subscribed to a testimonial presented to him in 1943 on his retirement from the post of tuberculosis officer. He had been president of the Torquay and District Medical Society. In his earlier career he did a good deal of translation; he was responsible for an English edition of Broca's *Ligations and Amputations* and was co-translator of *Urgent Surgery* by Félix Lejars. In 1929 he published *Medical Adventure: Some Experiences of a General Practitioner*, and followed it up the next year with a similar work of professional reminiscences.

On the platform Ernest Ward appeared a somewhat aggressive personality. Debate when he rose was apt to show an acid edge. But to his friends no man was more lovable, and his friends were many. Incidentally they included the birds of Devonshire, on which he was an acknowledged authority. He was president of the Devon Bird-watching and Preservation Society and of the South-Western Naturalists Union.

H. A. GILKES, *M.C.*, M.D.

The death of Lieut.-Col. Humphrey Arthur Gilkes, R.A.M.C., in an air crash was a great loss to the medical officers who served under him in his capacity as Principal Medical Officer of the British Somaliland Military Administration. In the war of 1914-18 he fought as a serving officer on the Western Front, and was awarded the Military Cross and three bars. After the war he studied medicine at Oxford and St. Bartholomew's

Hospital and qualified in 1922. Subsequently he took his M.A., M.D., D.P.H., and D.T.M.&H. He spent most of his medical career in the Colonial Medical Service. He was for a number of years in Northern Rhodesia, and then went to Trinidad as D.D.M.S. In the recent war, after serving with a field ambulance during the advance into the Somalilands and Ethiopia, he was sent to Somalia (the former Italian Somaliland) as A.D.M.S. There he laid the foundations of the civil medical services during a peculiarly difficult time.

Col. Gilkes (writes T. S. E.) was an outstanding personality and a steadfast believer in the potentialities of the Somali peoples. He was single-mindedly determined throughout the nearly five years he served in Somali countries that the Somalis should have a square deal, and particularly that they should have a good medical service. He was always ready to see even the humblest sweeper in the medical department, and to give him a courteous interview. In administration he had the courage to make it his guiding principle that justice to an employee must never be subordinated to administrative convenience. Col. Gilkes had many other sides to his character than the purely medical one: He was a violinist of distinction and was proud of his "Gilkes violin," which was made by one of his ancestors. He had also had two novels published, and was in the middle of a third at the time of his death.

Rather over two years ago Col. Gilkes came to British Somaliland, first as A.D.M.S. and then as Principal Medical Officer. Here he performed the difficult task of piecing together the medical services after the Italian occupation, and expanding them. He also made a singularly complete plan for the future medical development of the country. It was his personal relation with the Somalis which impressed us, who were new to Colonial conditions, so much. He seemed an example of the highest traditions of the Colonial Service, and it was surprising how many nomadic Somalis whom one talked to in the bush would know the "General daktari," as he was called. It will be a great loss to the country that he has gone while he was still at the beginning of his work here.

Dr. JOHN MATHESON died at Plockton, Ross-shire, on Aug. 30 at the age of 81. He was born at Plockton on Oct. 1, 1863, and attended school there. The present schoolmaster, addressing the pupils after his death, said, "In the passing of Dr. Matheson Plockton School has lost a life-long friend. He was one of Plockton's most distinguished pupils, and it was in keeping with his kindly nature that he should choose for his life work the alleviation of suffering." In 1884 he entered Aberdeen University with the intention of becoming a teacher, and graduated M.A., having won prizes in Greek, Latin, English, and moral philosophy. A year, however, spent in teaching decided him that that was not his *métier*, and he returned to the university to study medicine. He had a brilliant career in medicine, obtaining prizes in botany, junior and senior anatomy, practice of medicine, and medals in chemistry, physiology, operative surgery, surgery, and medical jurisprudence. He qualified M.B., C.M., with highest honours, in 1893. After serving as house-surgeon and house-physician in Aberdeen Infirmary and doing sundry locums, he went in 1894 to Greenwich as assistant to the late Dr. McGavin, later to become partner, and on McGavin's death his successor. For 40 years he carried on practice in Greenwich and Blackheath until he retired in 1934. He joined the B.M.A. in 1910 and was chairman of the Greenwich and Deptford Division, 1931–3. A keen Celt, he was an active member of the Caledonian Medical Society, and president in 1932–3 when the Society met in Windermere; "The Celtic Empire and its Decline" was the subject of his address on that occasion. On giving up practice he retired to his estate, Rudha Mor, Plockton, in the land of his birth. Here, looking over Loch Carron to the mountains of the north and to the Cuillins of Skye and the misty isles in the west, he spent the remainder of his days; happy in looking after his farm, entertaining his friends, and taking a lively interest in local affairs as a member of the district council and active member of the kirk. He was frequently called on, and always willing, to relieve practitioners in the district, and, being well known to the people, was welcomed by the patients. He was a man of decided opinions and dearly loved an argument. Widely read and possessed of a retentive memory, his conversation was always interesting and instructive. Dr. Matheson was predeceased by his wife in 1940, and suffered another grievous loss when his younger son, an officer of the Seaforths, was killed in Madagascar. He is survived by a son, Ian H. Matheson, F.R.C.S., a surgeon with the L.C.C., and three daughters. The funeral was attended by many of the neighbouring lairds and a large number of the people. After the service, partly in Gaelic, which was conducted in the open in front of the house, the coffin was carried through the village, each of the mourners alternately acting as bearers. A most impressive service.—G. W. M.

PROMOTION OF DENTAL TEACHING AND RESEARCH

To promote dental teaching and research the Nuffield Foundation has decided to make grants totalling £9,000 a year for 10 years to the Sutherland Dental School, the University of Durham; the University of Leeds Dental School; the Turner Dental School of the University of Manchester; and Guy's Hospital Dental School. In addition the Foundation is instituting Nuffield Dental Fellowships to an annual value of between £400 and £800, "to improve the supply of dental research workers and teachers." The fellowships will be awarded for one or more years; as a rule not longer than three years. Finally, the Foundation will make scholarships available to provide tuition fees and a subsistence allowance of not more than £200 a year. The scholarship will normally be tenable for only one year, but may be renewed for a second. Forms of application may be obtained from the Secretary of the Nuffield Foundation, 12–13, Mecklenburgh Square, London, W.C.1.

Universities and Colleges

UNIVERSITY OF LONDON

Mr. J. Z. Young, M.A., F.R.S., has been appointed to the University Chair of Anatomy tenable at University College as from Oct. 1. He is a Fellow of Magdalen College, Oxford, and university demonstrator in zoology, and since 1940 has been a member of the Nerve Injuries Committee of the Medical Research Council.

Prof. F. G. Young, D.Sc., Ph.D., has been appointed to the University Chair of Biochemistry tenable at University College as from Oct. 1. Since 1942 he has held the Chair of Biochemistry at St. Thomas's Hospital Medical School.

UNIVERSITY OF LEEDS

The following candidates have been approved at the examinations indicated:

M.D.—E. K. Blackburn, J. W. L. Crosfill (with distinction), J. R. Edge, M. Gordon, C. E. Stuart.

FINAL M.B., CH.B.—*Part II*: *J. M. Benjamin, *R. Goldberg, *Henriette Lackner, Katharine M. D. Bailey, J. G. Benstead, C. R. Berkin, N. H. Birch, Annette M. Brooks, A. S. Carey, D. E. Fletcher, R. L. Gibson, J. R. Groves, D. G. Hardy, Nancy Heron, Lilian Hodgson, C. T. Hough, Patricia Hudson, S. Z. Hulman, J. M. Inglis, B. G. Isaacs, F. D. Lumb, Mary M. Matheson, J. Price, A. I. S. Share, Mary R. Sykes.

* With second-class honours.

UNIVERSITY OF LIVERPOOL

Mr. Charles Alexander Wells, M.B., F.R.C.S., has been appointed to the Chair of Surgery and Mr. Thomas Norman Arthur Jeffcoate, M.D., F.R.C.O.G., F.R.C.S.Ed., to the Chair of Obstetrics and Gynaecology in the University of Liverpool. Prof. Wells was lecturer in practical surgery and clinical lecturer and Prof. Jeffcoate gynaecological tutor in the university.

These appointments, the *Manchester Guardian* says, mark a new departure in the history of the Liverpool University Medical School. Hitherto the professors of clinical subjects in that school have been consultants whose time has been divided between the claims of professional practice, both public and private, and the duties of the chair. The responsibilities, however, falling upon the clinical professors in the Medical School have grown considerably in recent years, and it has been thought desirable in the interests of both medical teaching and research to modify the conditions of appointment in the case of the two chairs now filled, and to require their occupants to give whole-time service to the duties of the chairs. Arrangements have been made with the Liverpool Maternity Hospital and the Women's Hospital for the professor of obstetrics and gynaecology to have beds at his disposal in those hospitals, and it is expected that the professor of surgery will have beds in the Royal Liverpool United Hospital.

UNIVERSITY OF SHEFFIELD

The following candidates have been approved at the examinations indicated:

FINAL M.B., CH.B.—*Parts II and III*: J. Edwards, with second-class honours, Aileen K. Adams, H. Debovitch, C. Gething, A. P. Hayhurst, R. Horn, J. F. Hudson, G. M. King, J. Mackinnon, J. B. Maxfield, Cora H. M. Middleton, Monica H. Roper, Margaret M. P. Ryan, Joan Simon.

SOCIETY OF APOTHECARIES OF LONDON

Diploma in Industrial Health

In view of the importance attached to the study of the health of the worker in relation to both occupation and working environment in their widest sense, and the development of this study as a special branch of medicine, the Society has decided to institute a Diploma in Industrial Health. The examination for this diploma will be open to all registered medical practitioners who have (*a*) been engaged in the practice of industrial medicine in a whole-time capacity for a period of not less than two years, or (*b*) been engaged in the practice of industrial medicine in a part-time capacity for a period of not less than four years.

The Society understands that courses in the subject are to be held in the future, and, subject to their fulfilling the requirements laid down in the Society's regulations, these will be recognized as qualifying for admission to the examination. Candidates who produce evidence of having completed the course, and who have the requisite experience in the practice of industrial medicine, will be eligible. The syllabus and regulations covering the examination will shortly be obtainable from the Registrar, Society of Apothecaries, Black Friars Lane, Queen Victoria Street, E.C.4.

ROYAL COLLEGE OF PHYSICIANS OF LONDON

Dr. W. Russell Brain, F.R.C.P., will deliver the Bradshaw Lecture at the College (Pall Mall East, S.W.) on Thursday, Nov. 8, at 5 p.m. His subject is "Speech and Handedness."

EPIDEMIOLOGICAL NOTES

Discussion of Table

In *England and Wales* notifications of scarlet fever rose during the week by 230, those of diphtheria by 72, and of acute pneumonia by 58.

The greatest increases over last week's figures in scarlet fever notifications were 47 in Lancashire, and 39 in Yorks West Riding. The largest local outbreak of diphtheria was that of Worcestershire, Martley R.D. 12, and the other large local rises were 18 in Northumberland (due to a general rise throughout the county), and 53 in Yorks West Riding (mainly contributed by the county boroughs). Although the total notifications of whooping-cough fell by only 18, there were several fairly large variations in the trends for the counties, the largest being decreases of 47 in Lancashire and 36 in Essex, and a rise of 25 in Staffordshire. Lancashire reported 34 more cases of pneumonia than last week.

The largest returns for dysentery were London 57 (St. Pancras 14), Surrey 47 (Banstead U.D. 13, Coulsdon and Purley U.D. 10), Lancashire 40 (Liverpool C.B. 18, Manchester C.B. 11), Warwickshire 38 (Birmingham C.B. 16, Warwick R.D. 17), Glamorganshire 21 (Cardiff C.B. 18), Essex 14.

In *Scotland* scarlet fever notifications were 33 higher than last week, and those for acute pneumonia were 32 higher; notifications of dysentery and diphtheria rose by 9 and 6 respectively. The largest local increase in diphtheria was one of 10 in the city of Dundee. The chief centres of dysentery were Glasgow 50, and Edinburgh 22.

In *Eire* notifications of diphtheria were 35 higher, and of diarrhoea and enteritis 50 higher, than last week. Cases of the latter disease rose from 80 to 114 in Dublin C.B.

In *Northern Ireland* scarlet fever notifications rose by 7, while those for diphtheria fell by 8.

Quarterly Returns for Eire

During the June quarter the birth rate was 24.0 per 1,000, and was 0.4 above that for the corresponding quarter of the previous year. Infant mortality was only 59 per 1,000 births, being 11 and 18 below the rates for the two preceding second quarters. Deaths under the age of 2 attributed to diarrhoea and enteritis were 204, including 97 in the city of Dublin. The general death rate was 14.4 per 1,000, being 0.7 below the June quarter of 1944. The death rate per 1,000 from pulmonary tuberculosis was 1.1, and for other forms 0.4; the rates for the corresponding quarter of last year were 1.2 and 0.4. Diphtheria was the cause of 55 deaths, and whooping-cough of 48.

Week Ending September 22

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,361, whooping-cough 1,903, diphtheria 496, measles 397, acute pneumonia 347, cerebrospinal fever 39, acute poliomyelitis 45, dysentery 270, paratyphoid 8, typhoid 11.

Quarantine for Scarlet Fever in New York

The Board of Health of the City of New York decided in December, 1944, to include scarlet fever in the larger classification of "streptococcal sore throat, including scarlet fever," and recommended isolation of such cases to the duration of the acute stage, the *minimum* period being seven days. The application of restrictive measures to scarlet fever and not to other streptococcal throat infections has always been a weakness of public health regulations which called for revision. Considerable argument can be advanced, too, for a short isolation period. Scarlet fever patients are usually clinically recovered within 10 to 14 days. Does isolation beyond that point decrease the risk of infectivity? Most fever hospital clinicians would agree that it does not. Indeed, under open scarlet fever ward conditions the reverse is probably true.

No. 37

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended Sept. 15.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1945					1944 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever	39	6	20	3	1	37	2	15	4	1
Deaths		—	1				—	—		
Diphtheria	495	28	141	86	15	541	13	183	100	15
Deaths	7	—	2	—	—	12	—	3	3	—
Dysentery	292	57	102	6	1	351	24	104	—	—
Deaths				—	—				—	—
Encephalitis lethargica, acute	3	1	1	1	—	—	—	—	—	—
Deaths		—					—			
Erysipelas			58	11	—			53	10	2
Deaths		—					—			
Infective enteritis or diarrhoea under 2 years				147					185	
Deaths	77	4	16	19	5	91	7	39	31	9
Measles*	551	46	66	17	6	1,155	29	128	18	24
Deaths	—	—	—	—	—	—	—	—	—	—
Ophthalmia neonatorum	80	5	8	—	—	71	3	21	—	1
Deaths										
Paratyphoid fever ..	15	1	3 (B)	2 (B)	—	8	—	—	1 (A)	—
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenzal†	326	14	6	1	1	291	7	2	1	—
Deaths (from influenza)	11	2	1	—	—	11	—	—	—	—
Pneumonia, primary ..			158	5				168	12	
Deaths		17		3	7		14		8	5
Polio-encephalitis, acute	2	—				2	1			
Deaths		—					—			
Poliomyelitis, acute ..	31	2	1	9	1	14	—	4	2	—
Deaths		—					—			
Puerperal fever		2	16		—		1	16		—
Deaths										
Puerperal pyrexia‡ ..	140	4	13	1	2	130	3	9	5	2
Deaths		—					—			
Relapsing fever ..	—	—			—	—	—			—
Deaths										
Scarlet fever	1,381	92	293	22	33	1,591	28	253	31	59
Deaths	1	—	—	—	—	—	—	—	—	—
Smallpox	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Typhoid fever	17	—	1	12	1	5	—	6	14	3
Deaths	1	—	—	—	—	—	—	1	—	—
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Whooping-cough* ..	1,159	76	57	21	7	1,083	55	91	61	7
Deaths	5	1	1	1	—	10	4	2	—	—
Deaths (0–1 year) ..	337	35	43	42	12	355	30	94	46	28
Infant mortality rate (per 1,000 live births)										
Deaths (excluding stillbirths)	4,021	595	540	157	119	3,931	435	650	181	131
Annual death rate (per 1,000 persons living)			12·3	10·1	§			14·9	11·7	§
Live births	6,494	903	779	456	230	6,271	413	822	373	304
Annual rate per 1,000 persons living ..			15·6	29·4	§			16·7	24·2	§
Stillbirths	203	21	28			191	15	40		
Rate per 1,000 total births (including stillborn)			35					46		

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* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

‡ Includes puerperal fever for England and Wales and Eire.

§ Owing to movements of population, birth and death rates for Northern Ireland are still not available.

Medical News

The annual general meeting of the Research Defence Society will be held at 26, Portland Place, W., on Friday, Oct. 12, at 3.15 p.m., when the fourteenth Stephen Paget Memorial Lecture will be delivered by Sir William Savage. His subject is: "Public Health and its Debt to Experimental Medical Research."

The inaugural address of the 209th session of the Royal Medical Society of Edinburgh will be given by Dr. Charles Hill, Secretary of the British Medical Association, at 7, Melbourne Place, Edinburgh, on Friday, Oct. 12, at 8 p.m. His subject is "The Future of Medical Practice."

The inaugural lecture of the Faculty of Medicine of the University of Leeds will be given by Dr. Raymond Priestley, *M.C.*, M.A., D.Sc., Principal and Vice-Chancellor of the University of Birmingham, in the Riley-Smith Hall of the University Union on Monday, Oct. 15, at 3 p.m. His subject is "Scott's Northern Party: A Study of Survival in the Antarctic." Members of the medical profession are cordially invited to be present.

A meeting of the Society for the Study of Inebriety will be held at the Medical Society of London (11, Chandos Street, W.) on Tuesday, Oct. 16, at 4 p.m., when Sir Adolphe Abrahams will read a paper entitled "A Layman Looks at Alcohol." A discussion will follow.

A members' meeting of the Eugenics Society will be held at the Rooms of the Royal Society (Burlington House, Piccadilly, W.) on Tuesday, Oct. 16, at 5.30 p.m., when Dr. W. Mayer-Gross will speak on "Mental Health Problems in a Rural Area." All interested are invited to attend.

A series of lectures will be given at the Royal Institute of Public Health and Hygiene (28, Portland Place, W.) on Wednesdays at 3.30 p.m., as follows: Oct. 17, Mr. F. D. Saner, "Cancer of the Breast—Its Diagnosis and Treatment"; Oct. 24, Dr. Doyne Bell, "Some Aspects of the Public Responsibility for Child Health"; Oct. 31, Major Joseph Minton, R.A.M.C., "Eye Diseases in the East"; Nov. 7, Mr. R P. Osborne, "Modern Methods in the Treatment of Burns"; Nov. 14, Mr. Anthony Green, "Uses of Radiology in Medicine"; Nov. 21, Mr. J. C. Ainsworth-Davis, "Urology: Some Common Symptoms and their Significance"; Nov. 28, Dr. W. W. Payne, "Diabetes in Childhood."

The annual general meeting of the Scottish Group of the Association of Industrial Medical Officers will be held at the Institute of Hygiene, University of Glasgow, on Wednesday, Oct. 17, at 3.15 p.m.

Mr. Aneurin Bevan, Minister of Health, has appointed Lord Rushcliffe to be chairman of the Advisory Committee on the Welfare of the Blind in succession to Lord Blanesburgh, who has resigned on account of ill-health.

The Minister of Supply has made an Order revoking the Control of Pyrethrum (Nos. 1 and 2) Orders, which prohibited the acquisition, disposal, treatment, use, and consumption of pyrethrum and pyrethrum products except under licence. The Ministry of Supply holds stocks of pyrethrum flowers which were acquired for war purposes and are now available to meet civilian requirements.

The Minister of Health, after investigation by officials on the spot, has found no grounds for the allegation that there has been gross maladministration at Moor Park Hospital, North Shields, Northumberland, or negligence by the medical and nursing staffs. These findings follow an inquiry into complaints contained in a diary of a former patient. The report of the Minister says, however, that, disregarding the complaints of an individual patient, it appeared that the general condition of the premises used for tuberculosis treatment left much to be desired. He was aware that the Tynemouth Council contemplated replacement but was prevented by the war from proceeding with a new sanatorium. The Council at its meeting on Sept. 26 agreed to take steps to obtain a prefabricated building to accommodate 40 to 50 patients, and to proceed with the scheme for permanent buildings.

An exhibition of the peacetime uses of "perspex" will be held at the regional office of Imperial Chemical Industries Ltd., at the Chamber of Commerce, 95, New Street, Birmingham, from Oct. 8 to 13, from 10 a.m. to 6 p.m. daily. The various sections include one showing medical applications of "perspex."

Mr. F. Le Gros Clark, M.A., secretary of the Children's Nutrition Council, will speak on "World Famine this Winter? Analysis of the World's Food Situation" at a meeting arranged by the Socialist Medical Association, to be held on Friday, Oct. 12, at 7.30 p.m., at Friends House, Euston Road, London, N.W.

The following members of the medical profession have been released from internment in Japanese hands: Dr. Ralph Stockman Begbie, Dr. George Ian Hector Braine, Dr. Edward Wilfrid Kirk, Dr. Robert Michael Ballantyne Lowis, Dr. John Norrie McArthur, Dr. Margaret Henderson Thomson, M.B.E., and Dr. Cicely Delphine Williams.

Letters, Notes, and Answers

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: *Aitiology Westcent, London.* ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated.

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ANY QUESTIONS?

Pamaquin in Benign Tertian Malaria

Q.—*It is stated frequently that in the treatment of malaria pamaquin reduces the number of relapses. Since the only specific advantage of pamaquin is that it destroys the sexual forms of the malignant tertian parasite (which presumably play no part in relapses), how is this action accounted for?*

A.—It is true that pamaquin has a selective action on the sexual forms of the malignant tertian parasite, but it has in addition some action on other forms. There is evidence that in the treatment of relapses in patients suffering from benign tertian malaria a combination of quinine and pamaquin has much more effect than quinine alone. The treatment consists of giving 10 grains of quinine and 0.01 g. of pamaquin three times a day; these doses are given for 10 days. This treatment appears to be much more effective than treatment with mepacrine, but it should be emphasized that it applies to patients having relapses from benign tertian.

Lumbar Puncture in Infants

Q.—*What are the special anatomical relations in the spinal column of a young infant which must be borne in mind when doing a lumbar puncture on the very young? Does the procedure differ from that in the adult?*

A.—The position of choice for puncturing the spinal membranes is the same at any age: that is to say, between the fourth and fifth lumbar vertebrae. The anatomical differences from the adult in a small baby are two: first, that the spinal canal is proportionately closer to the surface than in the adult, owing to the comparative shortness of the spinous processes; secondly, that the bones are much softer—in fact, almost entirely cartilaginous for the first few months. The consequence is that it is possible to miss tapping the fluid owing to pushing the needle right through the minute spinal canal. In a strong and resistant infant it is usually worth while to give a light anaesthetic in order to stop the sudden movements which will otherwise inevitably hamper a delicate process. As in adults, the spinal needle should never be thrust through the skin owing to the danger of punching out a piece and infecting the meninges with it. The skin should always be incised with a small sharp knife.

Varicose Ulcers

Q.—*A woman aged 71 has suffered from varicose veins for 35 years, accentuated after the birth of a son (primipara) at the age of 39. She wore elastic stockings and occasionally bandages up till 1929, when venous injections enabled her to do without artificial supports. Eight years ago there was a return of varicosity, and she has had to resume elastic stockings. Three months ago a small ulcer, which does not respond to local treatment, appeared on the right internal malleolus.*

A.—The patient seems to have had great benefit from injections 8 years ago, so that concentrating on the local treatment of the ulcer without attacking the fundamental cause seems to be the present mistake. The combination of ligature of the main trunks and injections will close the veins, and the ulcer will heal with no local applications at all.

Liver Extracts

Q.—*Which liver extract would most likely benefit cases of aplastic anaemia or essential thrombocytopenia? I am told the crudest is the best. What doses and for how long continued would constitute "intensive liver treatment"?*

A.—There is no evidence that any liver extract benefits aplastic anaemia or essential thrombocytopenia. Both diseases are characterized by a tendency to spontaneous remissions, and any apparent improvement under treatment with liver extract can be attributed to this phenomenon. Nevertheless, it is a good rule that no patient with a blood disease should be denied the opportunity of responding to liver therapy, though the ordinary dosage for pernicious anaemia should be sufficient for this purpose—i.e., 4 c.cm. of any reliable intramuscular extract twice weekly for a month.

Liver extracts can be classified as "crude" or "dilute" on the one hand, and "refined" or "concentrated" on the other. Experience shows that the refined extracts are more reliable than the crude, presumably because greater care is taken in clinical testing and assay. Intensive liver treatment, such as would be administered in a refractory case of pernicious anaemia, would formerly have implied 4 c.cm. of refined extract of liver intramuscularly every day for six weeks. To-day the injections would be supplemented or even replaced by proteolysed extract of liver, 1/2 oz. three or four times a day by mouth, and the proved superiority of oral therapy of this kind to any form of parenteral therapy has quashed the arguments that have been advanced on behalf of crude intramuscular extracts.

Dermatitis of Palms

Q.—*Please advise on treatment of dermatitis of both palms. There is intensive itching, then a cracking and desquamation of the skin. Duration off and on for nearly 20 years at intervals, now constant for the last 12 months and extending to the palmar surface of fingers and thumbs. Very unsightly; various ointments tried; patient's age 74.*

A.—In the absence of a more detailed description the following general rule is offered as an aid to diagnosis and treatment. Chronic skin diseases of the palms may be approximately divided into three groups.

1. Local or general infection—i.e., ringworm or syphilis. The first is confirmed by microscopical detection of the fungus in the scales, or in exceptional cases by culture; the second, by a positive Wassermann reaction. Appropriate treatment includes (*a*) Whitfield's ointment, and (*b*) antisyphilitic remedies.

2. The second group represents certain generalized skin diseases in which the palms may be affected, such as eczema and psoriasis; the presence of the eruption elsewhere provides the key to diagnosis. The treatment is that appropriate for the general condition.

3. In the third group the non-committal diagnosis of idiopathic hyperkeratosis or dermatitis is allowable.

In the second and third groups *x* rays given in small doses by an expert familiar with the very special technique are often curative. Crude coal tar 6% in zinc paste, a rather dirty but valuable remedy, can also be tried. As the palmar skin is constantly in motion and also constantly subjected to various degrees of trauma, rest and protection may be required—by an occlusive dressing of linen or gauze spread with 3% ichthyol ointment held in place with elastoplast and kept in position unchanged for a week, unless there is evidence of intolerance. Rare or comparatively uncommon processes such as arsenical hyperkeratosis or acrodermatitis are not covered by the above. The allergic dysidrotic eruption of fingers and palms secondary to ringworm between the toes does not seem to fit into the clinical picture as described in the question.

Penicillin and Virus Infections

Q.—*Has penicillin ever been used in the treatment of chronic encephalitis, or the sequelae of encephalitis, such as Parkinsonism, and if so with what result?*

A.—Parkinsonism and other sequelae of encephalitis are degenerative conditions on which neither penicillin nor any other anti-infective agent could conceivably have any effect. Even in the acute stage virus infections of the central nervous system are, so far as is known, unaffected by penicillin; there is very little evidence that penicillin has any action on filterable viruses.

Nervous Reaction after Bombing

Q.—*A patient was in his house when it was bombed two years ago. He now complains of being very tender to touch; his arms and neck are red at times and burn. He cannot hold anything, and feels at times as if his skin was coming off. He gets very itchy when he touches any part of his body. He is healthy in other respects. Can you advise on treatment?*

A.—In such cases we almost invariably find that there is a period of amnesia; it may be the actual explosion, it may be the thought that this was the end. Part of the experience is therefore dissociated, and it is this dissociated part which perpetuates the nervous condition. The symptoms of tenderness and burning are almost certainly experiences which he felt at the time, and which, because they are dissociated, tend to recur. In other terms, there is an unsolved problem in his personality which will not allow him to rest till he solves it—a problem of fear. The best form of treatment in such cases is "abreaction"—namely, to recover the forgotten part of the experience with all its terror and pain, and when it is brought to the light of consciousness the patient is relieved in himself and cured of his symptoms. This requires the skilled treatment of a psychotherapist, either by hypnosis or by free association. But if such is not available, "narco-analysis" may be tried, and an attempt made to recover the experience under light narcosis of evipan or pentothal. The patient should be put only just over, and then urged to remember the whole experience and live it through again. Several treatments are usually required by whatever method.

Extrasystoles

Q.—*Why should a meal produce premature beats? What are the significance and cause of extrasystoles in a man of 68 with arteriosclerosis and blood pressure 220, and in a young female patient who is disturbed after meals and at night (preventing sleep) by a sensation as if the heart gave a kick or turned over, and by occasional long pauses? What is the treatment of the elderly and the young?*

A.—Premature beats may result after a meal because of the increase in work due to the increase in cardiac output, or perhaps reflexly from the stomach, possibly through gastric distension.

The cause of extrasystoles in a man of 68 is probably ischaemic changes in the myocardium consequent upon sclerosis of the coronary arteries. In themselves they have but little significance, although a patient with them is, perhaps, in slightly worse case than a similar patient without. In a young patient the cause cannot be ascertained without further investigation. A source of toxin should be sought for; the intake of tea and coffee considered, the consumption of tobacco remembered, and the diet perhaps regulated. The treatment of the extrasystoles themselves consists in possibly removing the cause, if it can be found, and in using sedatives to reduce the irritability of the myocardium. Bromide, barbitone, quinidine (not now obtainable), are most likely to be successful. Removal of anxiety caused by extrasystoles is most important. Many patients have them unaware; treatment is only needed if they cause annoyance.

Instruction about Menstruation

Q.—*What are the current views, both gynaecological and psychological, regarding the wisest approach to the subject of menstruation on the part of those responsible for girls' boarding schools? I refer in particular to the questions of (a) games-playing, and (b) instructional guidance.*

A.—Instruction should have two main objects—to give the girls a simple but truthful account of the physiology of menstruation and its significance, and to impress them with the fact that it is not an illness but a natural process which is not incapacitating in any way. The achievement of such aims will of necessity also require the discrediting of the many false ideas and superstitions which are still widely current.

There are many ways of approach, and those responsible for giving instruction will naturally choose one which they can best handle, and they may with advantage vary it to suit the individual child. Information on reproduction is often the best starting-point—information which the child may already have received before entering school. The next step is to point out that the young of all species are incapable of reproduction, which capacity only comes when they are fully developed in other respects. The onset of menstruation then becomes a sign that genital development is taking place, a sign of approaching womanhood. Having received a reasonable explanation, most girls will accept menstruation as a feminine characteristic and cease to take much further interest in it, but, lest they should discuss it among themselves and compare notes, it is perhaps wise to point out that, as in other features, individuals vary widely in their menstrual function—the age of menarche, the periodicity, duration and amount of flow, etc. It is important that they should also realize that the menstrual discharge consists essentially of healthy blood, and not of any noxious material or waste product the excretion of which is necessary for bodily well-being. It follows from this that the suppression of menstruation does not have any of the general ill effects which popular fallacies allege.

The management of girls during menstruation should follow the teaching that it is a normal process which should not interfere in any way with their ordinary life. They should be expected and encouraged to continue their studies, games, and other activities of all kinds (including washing of hair, taking baths, etc.), and only in exceptional circumstances should a girl be allowed any relaxation from the ordinary school routine. Games and other forms of exercise are especially valuable, because they not only distract the girl's attention and discourage any idea that she is "poorly," but also prevent any tendency to pelvic congestion. The only exception is perhaps swimming—not because cold water is harmful, but for aesthetic reasons only.

Instruction should also be given in the matter of personal cleanliness, and the girls made to bath daily and to change sanitary towels and underclothing frequently. Douching at the conclusion of menstruation as taught in some Continental schools is, however, to be deprecated as both unnecessary and potentially harmful.

There remains the ever-debatable question as to who should give information on these matters—parent, doctor, or teacher? The answer varies, no doubt, with different cases, but surely the ideal is that it should be given by the mother, informally and piecemeal, as the occasion presents, and before the girl reaches puberty or enters boarding school. Unfortunately some mothers omit to give any information, and many more, through ignorance, give wrong advice. The omission can be remedied fairly easily, but the school staff may find it very difficult to eradicate false impressions which a girl has received from someone in whom she has implicit trust.

Large Vitamin Dosage

Q.—*Is there any proof that large quantities of vitamins are of any value? In the early days I was taught that Hopkins regarded the vitamin action as catalytic and only minute traces were necessary for life and health. Is this view no longer held? This is a humble inquiry to those who are better informed from a practitioner confessing ignorance.*

A.—I assume that the questioner means by "large," quantities above those recommended by, for example, the National Research Council, U.S.A. On the whole the reports indicate that no benefit is derived from the addition of extra vitamins to a diet that is already adequate. The following are examples.

Cowan, D. W., *et al.* (*J. Amer. med. Ass.*, 1942, **120**, 1268): no difference in incidence and severity of colds when extra vitamin A, aneurin, riboflavin, ascorbic acid, and vitamin D given.

Keys, A., and Henschel, A. F. (*J. Nutrit.*, 1942, **23**, 259): no difference in young men taking strenuous exercise when extra aneurin, nicotinamide, calcium pantothenate, riboflavin, pyridoxine, and ascorbic acid given.

Bierman, W. (*Arch. physical Therap.*, 1940, **21**, 267): colour vision not improved by large doses of vitamin A.

Johnson, R. E., *et al.* (*J. Nutrit.*, 1945, **29**, 155): no improvement in physical capacity in man receiving 300 mg. of ascorbic acid in addition to a diet supplying 56 to 109 mg. per day.

The subject is discussed by Keys, A. (*Fed. Proc.*, 1943, **2**, 164).

In deficiency diseases large doses are needed in order to make up the deficit. Also it is possible that large doses may have some stimulating effect comparable to that of large doses of iron, which may raise the haemoglobin in the blood of apparently normal people.

English Qualifications in Canada and U.S.A.

Q.—*Is an M.R.C.S., L.R.C.P. allowed to act as locumtenent in general practice in Canada? What is the minimum time during which an M.R.C.S., L.R.C.P. can qualify as a medical practitioner in any one State in the U.S.A.? Is any concession made in respect of an English diploma?*

A.—There is a separate medical licensing law in each Province of Canada. Reciprocal agreements with regard to medical practice exist between this country and the Provinces of Alberta, Manitoba, Nova Scotia, and Prince Edward Island, and a holder of the diplomas of M.R.C.S.Eng. and L.R.C.P.Lond., who is registered in the *Medical Register* kept by the General Medical Council, should be able to obtain licences to practise in these four Provinces without further examination. In the remaining Provinces he would probably be required to pass an examination held either (1) by the Provincial Licensing Authority (usually entitled the College of Physicians and Surgeons), or (2) by the Medical Council of Canada and accepted by the provincial authority in lieu of its own examination.

It is understood that a majority of the United States accept the Diploma of the National Board of Medical Examiners of the United States, and that the English Conjoint Board have an agreement with the National Board of Medical Examiners whereby holders of the diplomas of M.R.C.S.Eng. and L.R.C.P.Lond. are admitted to the examinations of the National Board without any further course of study.

Albuminuria in Pregnancy

Q.—*I have noticed that in cases of advanced pregnancy with albuminuria the onset of labour was immediately preceded by an increase of the amount of albumin in the urine. Is there any connexion between albuminuria and onset of labour?*

A.—Albumin is frequently found in the urine during the course of labour, and is said to occur in one out of every three labours and to be especially common in primigravidae. Prolonged and difficult labour, a rise of temperature, and the administration of anaesthetics during labour are said to predispose to albuminuria. The amount is usually slight and should not exceed 1 part per 1,000. The cause of the albuminuria in labour has been variously attributed to the hard muscular work involved, to the rise of blood pressure which is a normal concomitant of labour, and to the escape of chorionic villi into the maternal circulation, the result of the powerful contractions of the uterus. Whatever the explanation may be, I know of no observations on albuminuria immediately prior to the onset of labour.

The causes of albuminuria in pregnancy are well known. It is, of course, important to ensure that it is a true albuminuria and to exclude contamination of the urine by vaginal discharge. In most cases some cause can be determined—e.g., toxaemia, pyelitis, chronic nephritis, etc.; in which case there will usually be some other sign, such as a rise of blood pressure.

INCOME TAX

Replacement of Car: Allowances

The present high cost of motor cars and the increased amounts which have been obtainable recently for second-hand cars have raised questions on which some general guidance may be desirable. When a practitioner decides to dispose of a car and buy a new one it frequently happens that the amount he receives for the old car—by way of set-off against the cost of the new one—is considerably greater than that portion of the cost of the old car which has not been allowed against his past earnings in the form of a depreciation allowance. For instance, the old car may have cost £500, and £400 may have been allowed over a period of years as "depreciation"; if the car is now sold for £225, the practitioner is in the position of having been allowed to deduct £400 depreciation although over the life of the car the cost has been only £500−£225=£275. The question which arises is whether any adjustment should be made for what may appear to have proved an excessive allowance of £400−£275=£125, either by altering the past or future normal allowances or by treating the £125 as in some way amounting to an assessable profit. The answer is quite simple. The £125 is an untaxable advantage which has accrued through the capital appreciation of an asset used in the practice. If the owner were trading in cars the position would be different, but as the car was part of the equipment and not part of a trading stock no assessable profit arises from the advantageous sale. The depreciation allowances in past years may be assumed to have correctly represented "the diminished value by reason of wear and tear during the year," and the subsequent sale price of the car is relevant only as regards any claim to "obsolescence" allowance. In the circumstances no such claim arises, but the statute affords no authority for the conception of a *negative* allowance, and therefore no adjustment of past or future normal depreciation allowances would be justified. In such a case, therefore, as the instance suggested above the practitioner has, in the result, been fortunate enough to obtain some untaxable advantage in connexion with the old car, and is entitled to claim depreciation on the full cost of the new car, and not on the cost as reduced by the quasi-profit on the old one.

Additional Share of Partnership Profits

J. W. acquires an increase in his share of the profits of the practice as from Oct. 1, 1945. How does this affect the tax payable for the year ending April 5, 1946?

⁂ The profits of the practice are assessable on the basis of the amount of the profits for the year preceding April 5, 1945. But that assessment is divisible between the partners according to their respective shares for the current financial year. J. W. will therefore be responsible for tax on his increased share as from Oct. 1, 1945, and the share of the tax payable by him in January and July, 1946, will be increased accordingly.

LETTERS, NOTES, ETC.

Doctors and the Social Trend

Dr. Geoffrey Duckworth (London, W.1) writes: Possibly Dr. P. G. S. Davis (Sept. 22, p. 405) read my letter hastily. Had he read it thoughtfully he would surely not have omitted the essential qualification, now in italics, ". . . *the Labour Party's idea of* . . ." Dr. Davis imagines I assumed that all the Liberals would have opposed the (Labour) measure. I merely reminded readers that under proportional representation the Labour Party would not have had a majority. How can this be called a decisive vote in favour of the Labour Party's idea of a National Health Service?

Alphabetical Pride

Dr. Kenneth McFadyean (London, S.E.24) writes: I wonder if you can enlighten me as to the purpose, if there be one, of the newly developed and nauseating habit of our profession signing their personal letters with the appendage of all the qualifications which they possess. I recently received a letter from a colleague starting with "Dear Dr." and ending "yours sincerely," and following his signature appeared these qualifications: M.B., B.S., D.A., D.C.H., D.P.H., D.M.R., D.M.R.E.

Tuberculosis Death Rate in Wales

In our issue of Sept. 15 (p. 363) appeared a short account of a report issued by the Northern Ireland Branch Council of the B.M.A. We quoted from this report the figure for the annual death rate from tuberculosis for Wales as 958 per million. We are informed, however, by the Principal Medical Officer of the King Edward VII Welsh National Memorial Association that the most recent death rate from tuberculosis in Wales—namely, for 1944—is 715 for all forms of the disease. In 1938 it was 812, and to reach a figure approaching the 958 quoted in our article one has to go back to 1934, when the death rate in Wales was 913.

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INFLUENCE OF GALVANIC STIMULATION ON MUSCLE ATROPHY RESULTING FROM DENERVATION

BY

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For many years the role of electrical stimulation in the treatment of lower motor neuron lesions has been the subject of lively controversy; and since the beginning of the war interest in this form of treatment has been quickened by the occurrence of thousands of cases of peripheral nerve injury. The results of animal experiments and of observations in man, though at times conflicting, are now consistent enough to warrant the formulation of certain conclusions.

1. Muscle atrophy begins very soon after denervation and proceeds rapidly at first, the rate gradually decreasing the longer the time after denervation.
2. Interstitial fibrosis is a constant feature of denervation atrophy and, should re-innervation occur, the greater the atrophy and fibrosis the poorer the ultimate functional recovery (Bowden and Gutmann, 1944). It is therefore logical to assume that if atrophy can be prevented or at least controlled there is a greater likelihood of recovery being satisfactory.
3. Furthermore, since there is as yet no evidence that fibrosis is irreversible, the treatment designed to prevent it should be started as soon as possible after denervation and continued until re-innervation has occurred.
4. The precise nature of denervation atrophy is still undetermined. It is reasonable to suppose that disuse and a consequent impairment of nutrition play an important part, but this is not the whole story. Fibrillation, the unceasing irregular contraction of individual muscle fibres—a phenomenon always observed in denervated muscle—has been regarded as an important factor; it has been supposed that this incessant activity tires out, and so causes atrophy of, the denervated muscle. From this it would follow that artificial stimulation of the muscle could only make matters worse.
5. Nevertheless it has been conclusively shown that muscle-wasting can in fact be controlled to a very considerable extent by repeated electrical stimulation, using a stimulus of comparatively long duration. Although galvanism has several disadvantages—the discomfort it causes being one of the most important—it is still the only type of stimulus of long duration generally available, and it was for this reason that it was used in the investigation to be described.
6. To be effective the treatment must be intensive, both in the strength of stimulus and in the number of contractions elicited at each session; it must be continued over a long period.
7. Galvanism is of greater value in the prevention of wasting when it is applied soon rather than late after denervation, though Gutmann and Guttmann (1942, 1944) found that even the most intensive treatment did not altogether prevent the atrophy that occurred in rabbits during the first few weeks after denervation.
8. In the treated muscle (Gutmann and Guttmann, 1942, 1944) the muscle fibres remain comparatively large, the interstitial tissue does not increase to any great extent, and if re-innervation occurs functional recovery is good. In untreated muscle the fibres shrink rapidly, fibrous tissue appears between them, and recovery is poor.

Unfortunately a number of factors must make us pause before concluding that equally satisfactory results will follow the employment of galvanism clinically—so much so that without some positive demonstration of its value in the treatment of patients with lower motor neuron lesions there would be little justification for recommending the general application of a treatment which is uncomfortable, time-consuming, tedious, and expensive. The rate of wasting in man at various periods after denervation is unknown. Adequate stimulation is limited by the large size of many muscles, by the pain produced by powerful electrical stimuli, and by an intolerance peculiar to certain patients whose skins are naturally sensitive or who are suffering from a nerve lesion that has itself caused cutaneous hypersensitivity.

Almost all of the methods used for the assessment of the value of galvanism in animal experiments are inapplicable in man, and it was therefore necessary to be content with a comparatively simple and not very accurate method of estimating muscle-wasting. The work about to be described was carried out by one of us (E. C. S. J.) during the period Jan., 1942, to July, 1944. The results will be reported in full elsewhere, but the importance of the conclusions to which they have led seems to be such as to warrant the immediate publication of a short undocumented account of the findings

Method

Measurements of the volume of the hand by a simple fluid displacement method* were made in a number of cases of paralysis of muscles of the hand. In all, 164 patients were examined; in only 92 was it possible to obtain readings with sufficient frequency to be of value, and of these only 54 were suffering from complete nerve lesions. The results reported are concerned with these 54 cases. Some were treated with galvanism; in the rest stimulation was withheld though in other respects the treatment was identical.

Ulnar paralysis was present in every case; in 18% of those treated with galvanism, and in 20% of those not so treated, there was also paralysis of the muscles of the hand supplied by the median nerve. The cases were divided into groups according to the type of lesion and the time that had elapsed between injury and the first volumetric measurement. Each small group was subdivided as evenly as possible; half of the cases were treated with and the other half without galvanism. In the treated group galvanism was given on six days in each week, and each treatment consisted of 90 stimuli to each small muscle group (e.g., a pair of interossei in an intermetacarpal space), the current used being sufficient to produce a good contraction. The stimuli were given at the rate of 30 a minute, with short intervals between each group of 30 stimuli so as to avoid fatigue. Records were kept of the return of voluntary power, the electrical reactions (using Bauwens's machine), and electromyographic changes. The wasting was measured by immersing the hand in industrial alcohol up to a tattooed mark on the wrist and weighing the amount of fluid displaced. With a co-operative subject there was an error of only 0.5%. There were greater errors due to physiological variations in the volume of the hand and in some cases to unsteadiness of the patient's arm; these, however, were insignificant when compared with the changes in volume due to wasting. Since most patients were first seen some time after the original injury no attempt at absolute estimations was made; we concerned ourselves only with the changes between one examination and the next. The results reported are limited to the period of complete paralysis. When voluntary power is returned the progress of re-innervation is subject to so many variable factors that no definite conclusions can be drawn from the volumetric changes that occur during recovery.

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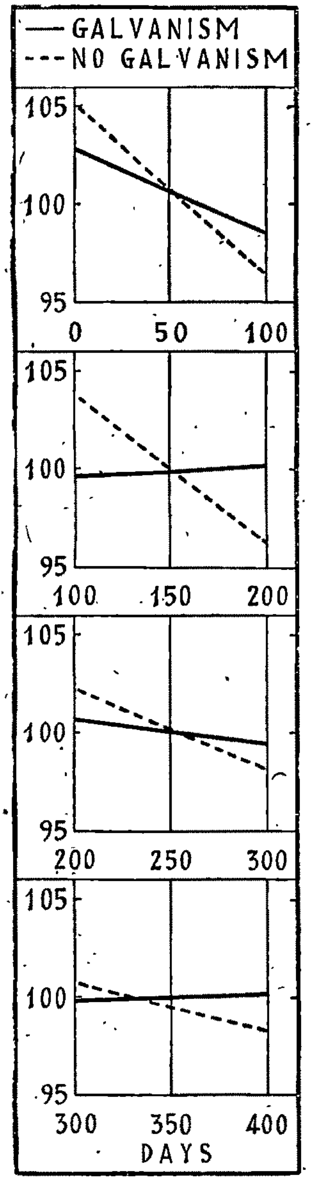
* The machine which we devised was hopelessly inaccurate, and it was impossible to proceed until a much more accurate, but still very simple, machine had been designed and made for us by Dr. K. Mendelssohn and Dr. D. S. Evans—to whom we are greatly indebted

Each reading was expressed as a percentage of the mean volume of the hand during the total period of observation.

Results

The results have been summarized and are shown in the accompanying Charts.

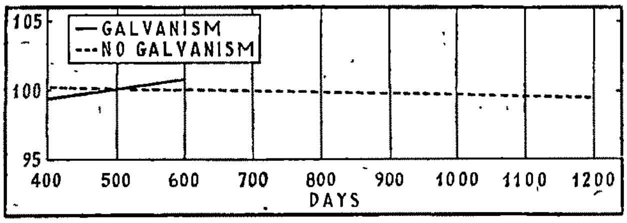


Comment on Charts.—In each period up to 400 days there was a steady loss of volume in the untreated muscles, the rate of loss gradually diminishing until, after 400 days, there was little change, the muscles having by this time wasted to such an extent that further shrinkage could hardly occur. Except during the first 100-day period, galvanism was almost completely effective in preventing wasting; but there was no increase in volume except in the 400 + day period, and here the apparent increase may have been due to chance.

Discussion

In spite of inaccuracies due to vasomotor changes, oedema, and the like—though their significance is greatly reduced when frequent volumetric measurements are made—there is no doubt that the volume of the hand is better maintained where the paralysed muscles receive regular galvanic stimulation. At first sight the differences in volume seem disappointingly small, but they are very striking to the naked eye and are great in relation to the volume of the muscles alone. It has not yet been possible to establish the relation between the volume of the musculature of the hand and that of the hand as a whole, but it is tolerably certain that the muscles constitute less than one-quarter of the total volume of the hand. Thus it is safe to multiply the observed differences by four—perhaps five or six.

From these experiments it was clear that the general course of wasting is similar to that seen in experimental animals. The beneficial effect of galvanism is most noticeable soon rather than late after denervation, so the earlier treatment is started the better. However, galvanism does little if anything towards increasing muscle volume—at best it prevents the otherwise inevitable decrease—so that whatever has been lost through delay cannot be regained. During the first 100 days galvanism does not prevent wasting, it only retards it; and, although the results in the 0–100 days group are not so reliable statistically as in the other groups, detailed study of the few very early cases bore out the conclusion of Gutmann and Guttmann that the wasting that occurred soon after denervation could not be entirely prevented. At the same time it must be remembered that without galvanism wasting proceeds faster in the first 100 days than at any other time. The lesson to be drawn from this is that it is never too soon to begin galvanic stimulation, and if the paralysed part has to be enclosed in plaster windows should be cut so as to permit the early application of electrodes to the affected muscles.



Although it was not possible to formulate any general conclusion, the observation of individual cases strongly suggested that recovery was better in cases treated with galvanism than in those in which no attempt was made to check muscle-wasting. Furthermore, electromyographic observations showed that the delay between the appearance of motor units in a paralysed muscle and the first flicker of voluntary contraction was less in cases in which regular galvanic stimulation had been carried out. Recordings were also made in cases treated three times a week—most of them at other hospitals, where it may be assumed there were considerable variations in technique. The results were intermediate between those found in cases treated six times a week and those receiving no treatment at all.

While it is comforting to know at last that galvanism is of real value, it is indeed unfortunate that success depends so largely on the frequency of treatment. However, it is possible to train patients in the use of a galvanic machine, and if suitable apparatus can be manufactured at a reasonable price intelligent and co-operative patients might be encouraged to treat themselves at home. In a few cases this has already been done with success.

Another important problem awaits solution. In this investigation ulnar paralysis was chosen because of the ease with which the volume of the hand may be measured. But one cannot overlook the fact that the muscles of the hand are more accessible to stimulation than the much larger muscles of forearm, arm, leg, and thigh. When large masses of muscle are stimulated with tolerable currents the contractions observed are often confined to the more superficial fibres; thus it may well be that here the influence of galvanism on wasting is less striking than in the intrinsic muscles of the hand. This point is now being investigated in cases of radial paralysis, with the help of a larger and more elaborate machine capable of measuring the volume of the hand and forearm.

Summary

It has been proved experimentally that the wasting of denervated muscle—a process prejudicial to recovery—can be prevented to a considerable extent by regular electrical stimulation of the muscle with stimuli of long duration, such as are provided by a galvanic battery.

A fluid-displacement method was used to measure the volumetric changes in the hand in cases of ulnar paralysis, some treated with, others without, galvanism.

It was found that the application of 90 stimuli daily for six days a week was almost wholly effective in preventing wasting except during the weeks immediately following denervation, though even during this period such treatment reduced the rate of wasting. The stimuli were strong enough to produce a brisk contraction, and were given at the rate of 30 a minute, with an interval of one minute between each group of stimuli to permit recovery from any possible fatigue.

There was no evidence that electrical stimulation increased muscle volume, and hence it is important to start treatment as soon as possible, since whatever has been lost through delay cannot be regained.

There is no doubt that in ulnar paralysis daily galvanic stimulation is well worth while, and that the treatment should be continued until voluntary power returns.

It is not yet known whether galvanism is equally effective in preventing wasting in large masses of muscle, since a tolerable stimulus does not affect all parts of a large muscle mass equally, the deep fibres tending to escape altogether.

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CHANGES IN HUMAN VOLUNTARY MUSCLE IN DENERVATION AND RE-INNERVATION

BY

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A study of the changes in human voluntary muscle during denervation and re-innervation is essential for a proper understanding of lower motor neurone lesions, especially peripheral nerve injuries. There are significant changes in structure and physiological properties. The subject will be considered from the point of view of histology, electrical reactions, electromyography, and treatment of paralysed muscles.

Structural Changes

For the sake of clarity some of the characteristics of a normal muscle must be mentioned first. A voluntary muscle is composed of numerous fasciculi made up of cross-striated fibres arranged in compact parallel bundles. The nuclei are for the most part arranged at the periphery of the fibres. Some preparations show minute granules regularly spaced at the level of the dark bands. The nerve fibres can be clearly seen, and the axons are myelinated to the point where they enter the motor end-plates. A single nerve-cell, its axon, and the muscle fibres innervated by it constitute the motor unit. The branching of the axon occurs close to the point of entry into the muscle. The blood supply is plentiful, for the capillary network is rich. All these structures are supported in delicate and sparse connective tissues.

In the early stages (one to three months after denervation) there is a loosening of the compact arrangement of the fibres, an apparent numerical increase of the nuclei, and little change in the connective tissue. The blood vessels appear to be dilated, indicating stasis of the circulation. The nerve fibres undergo Wallerian degeneration, and when all the debris of the disintegrating fibres has been removed the empty Schwann tubes remain and can be traced to the empty motor end-plates.

From three months onwards there is a progressive shrinkage of the muscle fibres, cross-striation fades from the earliest days, and the granules become increasingly apparent and irregularly arranged. The vessel walls thicken and some are completely blocked. There is an increase of connective tissue, apparently beginning around the vessels and spreading throughout the muscle, invading and finally obliterating the terminal Schwann tubes and motor end-plates. As the muscle fibres atrophy they are replaced by fat and connective tissue. Ghosts of fibres, a few capillaries, and the larger nerve trunks may be seen surrounded by fibrous tissue, and finally the muscle may resemble tendon, or there may be a few scattered connective-tissue tubes containing granules—all that remains of the muscle fibre.

The time course of these changes is of great importance, for upon the reversibility of the changes in the muscle fibres depends the recovery of function. The changes are predominantly those of atrophy and not degeneration. Fibrous tissue seems to wage a war of attrition upon muscle fibres. Up to one year after denervation it is possible to expect a fairly good degree of functional recovery; from then onwards the prognosis deteriorates, and as a rule from three years onwards the prospects are exceedingly poor. The fibres are atrophic and have lost their characteristic structure; connective tissue is strangling and obliterating the contractile tissue, vessels and empty motor end-plates, and Schwann tubes. There are exceptions to this statement, for there are notable individual variations: sepsis, age, mobility of the limb, and physiotherapy influence the rapidity of the changes.

The nature of the lesion in the nerve influences the degree of functional recovery profoundly, as this determines the number and maturity of the axons which ultimately reach the end-organs. In axonotmesis (Seddon, 1942, 1943; Gutmann and Sanders, 1943) the supporting tissues of the nerve at the site of the lesion are intact, although the trauma has been sufficient to cause complete peripheral degeneration of the axons. There is minimal intraneural scarring, and regeneration of the fibres occurs spontaneously and without obstruction down the original pathways. The time of denervation depends almost entirely upon the level of the lesion above the muscles (Gutmann, Guttmann, Medawar, and Young, 1942; Seddon, Medawar, and Smith, 1943). The motor end-plate is intact, cross-striation is visible, and atrophy of the fibres is slight. Good powerful independent muscle action is restored in such cases and there is an apparent complete reversal of the atrophic changes in the muscle although the pattern of innervation is slightly abnormal. Where the nerve has been more seriously damaged there may be partial disruption of the Schwann tubes and scar formation. Here some nerve fibres will be obstructed and there will not be an even advance of regenerating axons. Some permanent weakness and atrophy may be expected and there may be impairment of independent action of the muscles.

In complete division of the nerve no recovery can take place without surgical intervention. There is inevitable delay in re-innervation: at the site of the suture scar tissue is present in varying degrees. Moreover, there is unavoidable confusion of the axons at the suture line; therefore regeneration cannot take place down the original Schwann tubes. Some axons from the central stump may never penetrate the scar, others may escape laterally, and those that reach the peripheral stump may enter abnormal channels. The number of nerve fibres reaching the end-organs is diminished. If the muscle has been denervated for some considerable time the finer Schwann tubes are blocked and the motor end-plates will have disappeared. The regenerating nerve fibres may escape from the Schwann tubes, and they run for long distances between and across the muscle fibres seeking to make new connexions; some fail completely, and are therefore wasted (Gutmann and Young, 1944; Bowden and Gutmann, 1944). The reversal of changes in muscle fibres is hampered by the time of denervation and by incomplete and sometimes incorrect re-innervation. Full power and independent action can never be restored. Where delay has been too great the muscle may be incapable of recovery and the best degree of re-innervation will be of no avail (Bowden and Gutmann, 1944).

Electrical Reactions

Associated with the structural changes there are certain important changes in the function of the denervated muscle. Loss of tone and voluntary and reflex action is immediate and there is a more gradual change in electrical excitability. Each tissue has a characteristic excitability. Some are quick tissues—that is, they respond to electrical stimuli of low intensity and short duration: nerve is an example of such a tissue. Others are slow—that is, they will respond to stimuli of short duration only if the intensity is great.

A normal muscle responds to percutaneous faradic stimulation at low intensities; this stimulus is of short duration. The muscle contracts because it is receiving impulses via the intramuscular nerve twigs. As the nerve degenerates its excitability decreases and is ultimately lost. At the same time the muscle is losing the power of responding to faradic stimulation. The muscle fibres themselves are being stimulated, and the faradic response either disappears or is obtained only with a high current; the galvanic response, however, is much more easily elicited and the contraction becomes sluggish. This quantitative and qualitative change was described by Erb (1876) as the reaction of degeneration (but, as we have seen, the early changes in the muscle fibres do not merit description as degenerative). The sluggishness of the galvanic response is possibly due to the stimulus being conducted by muscle fibres and not by nerve; the rate of conduction in muscle is slower and all the fibres cannot contract simultaneously. During denervation the threshold to galvanic stimuli rises with loss of contractile substance and may finally disappear altogether if atrophy is advanced. The failure to elicit a galvanic response in the absence of oedema indicates serious atrophic change in a muscle. During re-innervation there are changes in excitability as the nervous element reappears, but it is possible for there to be a good functional recovery while the electrical reactions are still abnormal. (Reports of a further clinical survey will be published in due course.)

Electromyography

There is another interesting alteration in electrical activity which is of great significance in diagnosis ; but, unlike electrical reactions, it can be of considerable prognostic importance. The action currents of contracting muscles can be recorded—the electrocardiogram is a well-known example. By electromyography it is possible to record the action currents in a voluntary muscle.

For about 12 to 28 days after denervation there is no recordable electrical activity in human muscle on attempted movement or at rest. From 12 to 28 days after denervation fibrillation occurs: this is shown by rhythmic fine spikes totally unrelated to attempted voluntary contraction. The exposed surface of such a muscle if observed by reflected light will show numerous small scattered twitches. Fibrillation persists as long as any contractile denervated fibres remain, or until re-innervation is taking place, but in the early stages of re-innervation a muscle which has previously shown vigorous fibrillation becomes silent. Motor-unit action potentials may precede recovery of voluntary function by as much as three months, and an isolated observation of this sort is no guarantee that further re-innervation is going to occur.

The finding of both fibrillation and motor-unit action potentials indicates a partial or recovering degenerative lesion of the lower motor neurone (Weddell, Feinstein, and Pattle, 1943, 1944 ; Bowden, unpublished).

Treatment

We have seen that electrical reactions and electromyography may be of help in diagnosis and to some extent in prognosis. The histological findings have shown that in the muscle itself atrophy of the muscle fibres and connective-tissue proliferation are the enemies of recovery. Surgical repair, if necessary, should be undertaken as soon as possible. There is experimental and clinical evidence that atrophy of muscle can be retarded by activity induced by adequate electrotherapy. The contraction of the muscle is essential ; therefore faradic stimulation of denervated muscle is useless and a waste of time. Denervated muscle responds to galvanism, and this is therefore one method of treatment.

In a series of rabbits both the left and right tibialis anterior were denervated for the same length of time. One side was treated daily with galvanism, the other was untreated ; and there was considerable difference in the naked-eye appearance of the muscles. The histological picture was even more impressive: the diameter of the treated muscle fibres is much greater than that of the untreated side and the formation of fibrous tissue is minimal (Gutmann and Guttmann, 1942, 1944). This is a most convincing proof of the value of regular adequate electrotherapy. Can this experimental finding be applied clinically ?

Dr. Shirley Jackson investigated the value of galvanism in a series of cases of ulnar nerve palsies (personal communications ; work in press). Volumetric measurements were made at intervals. It was seen that atrophy is most rapid in the early stages of paralysis, and that electrotherapy does not wholly prevent atrophy ; it can only retard the rate. At no time was there an increase in volume of the hand in the absence of re-innervation. Therefore it is essential that electrotherapy not only should be regular and adequate but should begin as soon as possible after injury.

Connective-tissue formation is retarded by physiotherapy, but it cannot be entirely prevented. The late sequel of connective-tissue formation is contracture of the paralysed muscle. Whilst contractures can and do form in active unopposed muscles, they may occur in paralysed muscles, either early or late in the course of denervation. They can be wholly prevented by daily movements throughout the whole range of the joints of the limb. Splinting of paralysed limbs is never done to obtain immobilization unless there is a fracture or an unhealed wound ; the object is to prevent overstretching and to encourage activity by compensating for the paralysis, if this is possible.

The author is indebted to the British Orthopaedic Association for permission to publish this paper, which was read at the association's meeting on Dec. 15, 1944. The work discussed has been carried out by members of the peripheral nerve injury unit, Department of Orthopaedic Surgery, Oxford, under the direction of Prof. H. J. Seddon, and in conjunction with members of the Department of Zoology and Comparative Anatomy, and of the Department of Human Anatomy, University of Oxford. A fuller discussion, and bibliography, will be found in the papers quoted.

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VALUE OF SUPPLEMENTS OF VITAMIN C IN PREVENTING LACTATIONAL MASTITIS

BY

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One theory put forward for the high incidence of lactational mastitis in an industrial Scottish town (Fulton, 1945) was that a deficiency—probably due to wartime restrictions—in some food factor, or factors, was a predisposing cause. Nixon (1941) has suggested that there is a relationship between dietary deficiencies and puerperal infections, and has cited as evidence the fact that during the last war mortality from puerperal fever in Germany was almost doubled as a result of the blockade. One of the most obvious of wartime food curtailments in this country is shortage of fresh fruits and vegetables, the chief source of vitamin C. Widdowson and Alington (1941), in studying middle-class diets, have shown that in 1935 fruit supplied ten times as much vitamin C as it did in 1941 and that the average vitamin C intake in 1935 was more than double what it was in 1941.

At the time when this experiment was begun (Dec., 1941) the following assumptions could reasonably be made.

(1) There was a high, if not an increased, incidence of mastitis.

(2) The incidence of mastitis appeared to be greater in the winter months (Moon and Gilbert, 1935).

(3) Some degree of vitamin C deficiency was common. Many writers had brought forward evidence to support this view (Harris and Ray, 1935; Abbasy *et al.*, 1935; Orr, 1936; Harris *et al.*, 1936; Portnoy and Wilkinson, 1938; Harris, 1940a; Youmans, 1941)

(4) Hypovitaminosis C was likely to have increased under wartime conditions. This has since been proved by Widdowson and Alington (1941), Harris (1942), Francis and Wormall (1942), and Widdowson and McCance (1942).

(5) Hypovitaminosis C is more likely to occur during pregnancy and lactation. There is evidence that vitamin C requirements are increased during these periods (Harris and Abbasy, 1937: Smith, 1939; Neuweiler, 1935).

(6) There is a seasonal fluctuation in the intake of vitamin C, as fresh fruits and vegetables are more plentiful in the summer and autumn months. Evidence of this has since been published by Harris (1942), McNee and Reid (1942), Harris and Olliver (1943), Prunty and Vass (1944), and Craig *et al.* (1944).

(7) The time of seasonal increase in the incidence of mastitis (the winter and spring months) roughly corresponds to the period when intakes of vitamin C are lowest.

(8) Lack of vitamin C diminishes the resistance to infection (Harris, 1937; Smith, 1939; Harris, 1940b; Youmans, 1941).

If these assumptions were accepted there seemed to be some justification for postulating that vitamin C deficiency might be responsible, at least in part, for the occurrence of mastitis. An experiment was devised to attempt to verify or disprove this hypothesis. Although, admittedly, a diet functions as a whole and deficiency of one constituent only is unlikely to occur, it was thought better to investigate the effects of varying the intake of one single factor in order to attempt to obtain a clear-cut result regarding that factor. The project was to give one group of pregnant women supplements of ascorbic acid and to compare them, especially as regards the incidence of mastitis, with a group of women, similar in other respects, who did not receive supplements.

Plan of the Experiment

There are two ante-natal clinics in the town concerned, each serving approximately half the town and attended by patients similar in most respects, including social status. The expectant mothers attending one of the clinics (Clinic A), who had booked to be delivered in the Maternity Hospital, were given a daily supplement of ascorbic acid from the sixth month of pregnancy until the end of the sixth month after delivery—i.e., over a period of nine months covering the later months of pregnancy and almost the whole period of lactation. The supplements consisted of 50-mg. tablets of ascorbic acid, and the patient was requested to take one tablet a day for the nine-months period. The tablets were given out at the ante-natal clinic, and supplies were renewed at subsequent visits, in the Maternity Hospital, at the child welfare clinics, or delivered at the home. The dosage chosen was based on a daily requirement of 30 mg. for an adult as recommended by the Technical Commission on Nutrition (1938), but some surplus (20 mg.) was allowed owing to the increased demands of pregnancy and lactation. The total daily intake was probably in the region of 70 mg., as these women were presumably consuming some vitamin C in their ordinary diet—probably not less than 15 to 20 mg. a day—and the 50-mg. tablet was considered to be in the nature of a supplement to bring what might be an inadequate intake up to a satisfactory level. Graham and Cameron (quoted in the Departmental Report on Infant Mortality in Scotland, 1943) found that in Glasgow the average values of vitamin C in the diets of 300 pregnant women varied from 30 to 42 mg. a day.

The great disadvantage in dealing with out-patients is that it is impossible to be sure that the tablets are actually ingested. Most experiments of this nature have been carried out in hospitals, schools, and other institutions, where the subjects are under direct control and supervision, and where supplements can be added to the diet. In this experiment the difficulty could not be overcome in any way; but tests were carried out on every patient while in the Maternity Hospital to estimate the degree of saturation, and this was very helpful in assessing the previous regularity of ascorbic acid consumption.

The group of patients attending Clinic A, who received supplements of ascorbic acid, will be referred to as Group A, and consisted of 124 women. The patients attending Clinic B did not receive any supplement, and acted as controls; they numbered 126, and will be referred to as Group B. Comparisons between the two groups as regards age, parity, and income levels were made. The average age of Group A patients was 27.30 years, which was very much the same as the average for Group B—namely, 27.62. The average weekly income per household was slightly higher for the Group B patients, being 75s. 10d., as compared with 68s. 9d. for Group A. There was a greater proportion of primiparae in Group B (52.4%) than in Group A (47.6%).

On admission to the Maternity Hospital, where Group A patients continued to have a daily dose of 50 mg. of ascorbic acid, all patients in both groups were examined and particulars taken as to previous diet, with special reference to the consumption of fruit and vegetables, weekly incomes, and number of members in the household. In the case of Group A inquiries were made as to the regularity of the tablet consumption. The vitamin C nutrition of both groups was assessed by means of the saturation test devised by Harris and Abbasy (1937).

In the early part of 1943 the Maternity Hospital had to be closed owing to an outbreak of puerperal infection and, for this and other reasons, 15 women in Group A were delivered at home instead of in the hospital, as had been originally intended. Supplies of ascorbic acid tablets to these women were continued, but it was not possible to carry out saturation tests. As the Group B patients were only "enrolled" on admission to hospital all in this group were tested.

It was found that a fair number in Group A were not saturated for several days, which suggested either that the tablets had not been taken regularly or that the demands were greater than the amount of vitamin supplied.

It is considered by Harris (1943) that subjects who saturate on the second day of test-dosing have a satisfactory intake as judged by the League of Nations standard, and that with daily intakes of 50 to 75 mg. saturation will occur on the first day. On the other hand, when intakes are appreciably below the League of Nations standard, three days or more are required for saturation.

According to this standard, only one-half (50.5%) of the 109 women in Group A who were tested could be considered to have had an adequate intake prior to testing. This state of saturation of the women in Group A was judged to be not entirely satisfactory, but the degree of saturation in Group A was much better than in Group B, in which only 10 women (7.9%) were saturated by the second day. It may also be noted that, whereas 20 (18%) of Group A were unsaturated by the end of the fourth day, 87 (70%) in Group B took more than four days to reach saturation level.

The average amount of ascorbic acid required for saturation was 1,673 mg. for Group A—just a little more than half of the 3,076 mg. required for Group B. These figures may be compared with the average number of milligrammes of ascorbic acid required to saturate members of the staffs (nursing and medical) of two municipal hospitals (1,165 mg. for the staff of one hospital and 1,421 mg. for the staff of the other).

TABLE I.—*Number of Days of Test-dosing required to Attain Saturation*

Days	Group A		Group B	
1	31	55 (50·5%)	3	10 (7·9%)
2	24		7	
3	21	54 (49·5%)	19	116 (92·1%)
4	13		10	
5	12		32	
6	6		24	
7	2		22	
8	—		6	
9	—		2	
10	—		—	
11	—		—	
12	—		—	
13	—		*1	
Total	109		126	

* This patient showed no evidence of scurvy. The gums were healthy, but she was completely edentulous.

It would appear from the results of the saturation tests that pregnant women require supplements of vitamin C to bring the intake up to a satisfactory level; but Harris (1943) is careful to point out that saturation is not necessarily desirable and that "sub-standard" is not synonymous with "clinically deficient." Although many members of both groups were found to be deficient in vitamin C there was a big enough difference in the saturation levels of the two groups to allow some comparisons to be made.

Effect of Vitamin C Administration on Incidence of Mastitis

The incidence of suppurative mastitis in both groups was very high, and more than double the rate found by a notification scheme elsewhere described (Fulton, 1945). It must be remembered, however, that these patients were very carefully observed and followed up for a period extending to the end of the first six months after delivery, whereas under the notification system referred to cases may have been missed. It was impossible to complete the follow-up of five patients (four in Group A and one in Group B) who left the district before the six-months period had expired and could not be traced, and two in Group B who died. Consideration must also be given to the fact that the great majority (all but the 15 in Group A who were delivered at home) were hospital patients, and most authorities agree that patients delivered in hospital are much more prone to develop mastitis.

Table II shows that the incidence of mastitis, including cases which resolved without abscess formation, was almost equal (30% in Group A and 30.9% in Group B), but there was a slightly greater percentage of suppurative mastitis in Group A (26.7%, as compared with 23.6% in Group B). It would not have been surprising if these figures had been reversed, as Group A was more favourably situated as regards two factors considered to be predisposing causes —viz., primiparity and delivery in hospital.

TABLE II.—*Incidence of Mastitis in the Two Groups*

	Group A	Group B	Total
Mastitis (suppurative) ..	32 (26·7%)	29 (23·6%)	61 (25·1%)
„ (non-suppurative) ..	4 (3·3%)	9 (7·3%)	13 (5·3%)
No mastitis	84 (70·0%)	85 (69·1%)	169 (69·5%)
Untraced	4	3	7
Total	124	126	250
Primiparae	59 (47·6%)	66 (52·4%)	
Number confined in hospital	109 (88·0%)	126 (100·0%)	

From these results it would appear that vitamin C administration *per se* has no influence in reducing the incidence of mastitis, and this is borne out when the available information is analysed more fully.

The number of patients with mastitis in whom the state of vitamin C nutrition was estimated by means of the saturation test was 69—57 with abscess formation and 12 in whom the condition subsided.

Mastitis Cases tested by Saturation

It can be seen from Table III that the average amount of ascorbic acid required to saturate the patients with suppurative mastitis was 1,221 mg. in Group A and 3,167 mg. in Group B; the comparable figures for non-suppurative mastitis were 1,600 mg. for Group A and

3,067 mg. for Group B. These may be compared with the average amounts required to saturate all the members of each group.

Table III.—*Average Amount of Ascorbic Acid in milligrammes required for Mastitis Cases to Attain Saturation*

	Suppurative Mastitis	Non-suppurative Mastitis	Average for Whole Group
Group A ..	1,221 (28 cases)	1,600 (3 cases)	1,673 (109 cases)
Group B ..	3,167 (29 „)	3,067 (9 „)	3,076 (126 „)
Both groups ..	2,210 (57 „)	2,700 (12 „)	2,425 (235 „)

As regards the time required to attain saturation of the patients who developed mastitis, 17 (29.8%) of the suppurative cases (all in Group A) and 3 (25%) of the non-suppurative cases (two in Group A and one in Group B) were saturated by the end of the second day—i.e., they could be considered to have a satisfactory intake according to the League of Nations standard. Therefore the attainment of a satisfactory level of saturation by itself did not prevent mastitis in one-quarter of the cases (Table IV).

Table IV.—*Number of Days of Test-dosing required to Attain Saturation of Mastitis Cases*

Days	Group A		Group B		Total	
	(*a*) Suppurative Mastitis					
1	13	60·7%	0	0%	13	29·8%
2	4		0		4	
3	9	39·3%	6	100%	15	70·2%
4	1		2		3	
5	1		7		8	
6	0		6		6	
7	0		7		7	
8	0		1		1	
	28		29		57	
	(*b*) Non-suppurative Mastitis					
1	0	66·7%	0	11·1%	0	25%
2	2		1		3	
3	0	33·3%	0	88·9%	0	75%
4	1		1		2	
5	0		4		4	
6	0		1		1	
7	0		2		2	
8	0		0		0	
	3		9		12	

The incidence of suppurative mastitis in 62 patients of both groups who had reached a satisfactory level of saturation by giving a response before the third day was 27.4% (Table V).

From the results of the experiment it would appear that supplements of vitamin C, or a level of saturation denoting a satisfactory intake of this vitamin, had no beneficial effect on the incidence of mastitis.

Table V.—*Incidence of Mastitis in Patients who Reached the "Satisfactory" Standard—i.e., Response Before the Third Day*

	Group A	Group B	Total
1st and 2nd day responses ..	55	10	62
Suppurative mastitis	17	—	17 (27·4%)
Non-suppurative mastitis ..	2	1	3 (4·8%)
No mastitis	33	9	42 (67·7%)
Untraced	3	—	3
Total	55	10	65

Discussion

The results of this experiment would seem to indicate that a deficiency of vitamin C is not the factor concerned in the high incidence of mastitis. There is no doubt that a large number of the women, when admitted to the maternity hospital, showed marked deficiency as judged by saturation tests, but they did not seem to be more susceptible to mammary infections than did those showing no deficiency. It was possible to carry out the saturation tests only when the women were in hospital, and these tests were done with two objects in view; (1) to assess the degree of saturation of the women receiving supplements, in order to get some indication of the regularity of ingestion of the tablets; (2) to estimate the degree of saturation of the ordinary hospital patient who had had no vitamin C apart from what was obtained in the ordinary diet.

It is not claimed that one testing during the period under consideration would necessarily indicate the general saturation level for the whole period; the state of vitamin C nutrition may have varied—some women improving their intake after delivery, and vice versa. However, as the normal individual tends to be conservative in the matter of diet the tests probably gave a broad indication of the vitamin C nutrition of the subjects concerned. Apart from the difficulty of carrying out tests except under hospital conditions, it must be remembered that the controls—Group B, who had no supplements—entered the lactation period in a "saturated" condition as a result of the test-dosing. This was unavoidable, and it was assumed that these women would not materially change their dietary habits and would therefore soon revert to their former state of low vitamin C intake. In this connexion it is of interest to note that, in an endeavour to find out the duration of the state of "saturation" following test-dosing, some members of the hospital staff were tested at intervals of three weeks. Although, when considered over a long period, some seasonal fluctuation was noted, there was very little change from one testing to the next—e.g., a subject who in mid-December required three days of test-dosing to attain saturation required as many days in the beginning of January. It was thus reasonable to assume that the effects of saturation from test-dosing did not last longer than about three weeks.

If, however, it had been feasible to make more frequent tests and these had been carried out, the use of Group B as controls would then have given rise to a possible fallacy, in so far as these subjects could no longer have been considered to be having no supplements. As it was, the effect on the results of the experiment of Group B women entering the lactation period in a state of saturation is not likely to have been important, since the state of "saturation" following test-dosing does not appear to be of long duration. Moreover, the experiment was designed as an attempt to assess the possible part played by the administration of *supplements* of vitamin C, and Group A women, who were also saturated on the completion of the test-dosing, continued to have extra vitamin C in the form of a daily tablet containing 50 mg. of ascorbic acid. It can be argued that if vitamin C does increase resistance to infection, only in the event of the women in both groups already having such optimum intakes that they were in a state of full "saturation" and their vitamin C nutrition incapable of further improvement could additional supplies have been expected to yield no result. As test-dosing showed that this was far from being the case, Group A subjects, who had additional supplies of ascorbic acid, should have shown a lessened incidence of infection, which was not borne out by the results of the experiment.

It is apparent from the results of the saturation tests that many members of both groups, consisting of pregnant women of the type normally delivered in a maternity hospital, were deficient in vitamin C, and many, if testing had not been carried out, would normally have entered the lactational period with a gross deficiency. Judging by the average amount of ascorbic acid required to attain saturation, women in Group B showed a high degree of deficiency, while those in Group A, even with a daily supplement of 50 mg. of ascorbic acid, barely attained the level reached by institutional staffs on an ordinary diet without any supplement. Two factors may have been responsible for this deficiency: (1) greater utilization of the vitamin, due to the increased demands of pregnancy; (2) low intakes due to poverty, ignorance, or faulty methods of preparation and cooking of food.

Although many members of Group A showed some deficiency, it would be unfair to suggest that the daily supplement of ascorbic acid was necessarily insufficient, as there was no guarantee that all the women in this group actually ingested the supplements, and any defaulters in this respect would raise the apparent level of deficiency for the whole group.

In considering these negative results it must be remembered that the experiment was concerned with the intake of a single food factor. Proof of a possible relationship between mastitis and deficiency of any single dietary constituent may be difficult to obtain on account of the almost inevitable coexistence of other deficiencies. If a deficiency of one factor is present the simultaneous existence of other deficiencies is extremely likely. To increase the supply of one deficient factor without at the same time increasing the supply of the others may not be sufficient to affect the health and resistance of the subjects concerned. It is also to be remembered that the supplement used was a synthetic product, and the maximum benefit of the protective substances may be obtained only when given in the form of natural foods.

Summary

When comparing two groups of women for a period extending from the later months of pregnancy until six months after delivery, one of the groups being supplied with supplements of ascorbic acid, it was found that there was a deficiency of vitamin C, as measured by saturation tests, in both groups; the deficiency was naturally greater in the group without the supplements.

The incidence of suppurative mastitis in both groups taken as a whole was very high. When approximately 250 expectant mothers were followed up over a period of six months following delivery it was found that 25% suffered from breast abscess. It is to be noted that, with few exceptions, these patients were delivered in hospital.

There was no reduction in the incidence of mastitis in the group receiving the supplements or in those who gave evidence of a satisfactory intake as judged by saturation tests.

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ACUTE IDIOPATHIC PORPHYRIA

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In the porphyrias uroporphyrins are excreted in the urine, in contrast with coproporphyrinuria, which occurs in many diseases. The porphyrias have been reviewed in detail by Mason *et al.* (1933), Waldenström (1937), Chandler *et al.* (1939), Roger *et al.* (1939), Dobriner and Rhoads (1940), and Nesbitt (1944).

Waldenström (1937) has described five types of acute porphyria: (*a*) Latent porphyria—an asymptomatic form in which uroporphyrin is excreted continuously or intermittently, for years, in the urine. (*b*) Abdominal type—onset sudden, with colic, vomiting, obstinate constipation, and tympanites. (*c*) Nervous type—onset sudden, with pareses of the extremities, convulsions, confusional states, coma, or bulbar paralysis. (*d*) "Classic type"—both abdominal and nervous symptoms. (*e*) Comatose type—abdominal colic, rapid onset of coma, and death.

In all types tachycardia and hypertension occur during the acute attack. In nearly all cases the urine contains uroporphyrin-III, with but traces of the series-I isomer; occasionally the latter predominates (Turner, 1938; Golden, 1943). Sometimes acute porphyria occurs during the prolonged administration of trional, tetronal, or sulphonal, and these have been regarded as "toxic" porphyrias (Mason *et al.*, 1933; Nesbitt and Watkins, 1942), but Waldenström considers that the division between toxic and idiopathic groups is very questionable.

The diagnosis is established by the demonstration of porphyrin in the urine. In some cases the freshly voided urine is normal in colour and contains porphobilinogen (Vahlquist, 1939), which changes to porphyrin on standing or heating. The presence of porphobilinogen is recognized by Watson and Schwartz's test (1941). The reddish-brown colour of the urine which contains porphyrin is due to the formation of coloured substances such as urofuscin, urorosein, and indirubin from colourless chromogens (cf. Turner, 1938; Watson, 1939).

The porphyrin may be present as a zinc complex (Turner, 1938; Chandler *et al.*, 1939; Nesbitt and Watkins, 1942) which has absorption bands indistinguishable in position, if a hand spectroscope only is used, from those of oxyhaemoglobin—differing, however, in that the β band is more intense than the α band, whereas in oxyhaemoglobin the reverse is true.

A few cases have been reported (Backer-Gröndahl, 1935; Schie, 1939) in which the symptoms closely resembled those of the "abdominal type" of the disease but the dark-coloured urine contained no detectable traces of porphyrin. Waldenström (1939) described a similar case, but during a remission of the disease the patient excreted pathological amounts of porphyrin.

The case described below is put on record for three reasons: (*a*) it was under continuous observation for two years, during which four exacerbations of the disease occurred; (*b*) in one of these the porphyrin output was followed quantitatively from day to day; and (*c*) in several relapses the clinical picture varied.

Case History

The patient, a sheet-metal worker aged 19, was admitted to St. Bart's for investigation on April 4, 1942. He was quite well until June, 1941, when he had a fairly sudden onset of dull aching pain round and below the umbilicus. This soon became colicky in nature and severe, but the pain did not radiate. Attacks lasted for two or three hours and had no relation to food or exercise. Nausea, vomiting, and obstinate constipation were prominent features of the illness. Some two weeks later he had five "fits" in one morning and was admitted to a hospital with a *Bact. coli* infection of the urine and a B.P. 150/110 but no other abnormal signs. The urine was free from lead, and the C.S.F. and a radiograph after a barium enema were normal. The urinary infection cleared satisfactorily, the B.P. returned to normal, and he was discharged in three weeks.

Second Attack.—In Jan., 1942, he was readmitted to hospital with symptoms similar to those in the first attack. The urine was reported as normal, but the colicky pains persisted for a few days. B.P. 160/100. He was discharged within three weeks.

Third Attack.—On March 28, 1942, he complained of aching in the limbs followed by colicky abdominal pain, vomiting on one occasion, and obstinate constipation. On April 4 he was admitted to this hospital for investigation, when, in addition to the above history, he reported having lost a considerable amount of weight during the past six months. On examination the fauces were injected, there was slight tachycardia (pulse 90), and the B.P. was 160/120. There was slight tenderness in the abdomen below the umbilicus and the liver margin was just palpable. The urine was dark brown in colour, of sp. gr. 1032, without protein, ketone bodies, or blood. It reduced Benedict's reagent, and Schlesinger's test for urobilinogen was strongly positive. Examination of the fresh urine with the direct-vision spectroscope showed no abnormal absorption bands, but on standing for some hours it darkened and the two-banded spectrum of porphyrin became visible in a half-inch layer. An amyl alcoholic extract of the fresh or of the stale urine showed the α, β, and γ bands of alkaline porphyrin, converted by hydrochloric acid to acid porphyrin. Toluene-soluble red pigments were also present.

Investigations.—Hb, 118%; R.B.C., 5.5 millions; W.B.C., 6,800, with a normal differential count. There was no punctate basophilia. E.S.R., 1 mm. in the first hour. Serum bilirubin was normal. Blood W.R. and Kahn tests were negative. The reducing substance in the urine was proved to be glucose. A glucose-tolerance curve gave the following result (blood sugar in mg. per 100 c.cm. followed by time in hours, in parenthesis, after the test dose of glucose): 88 (0); 148 (1/2); 140 (1); 125 (1½); 115 (2). Urine specimens before the test dose and two hours afterwards contained sugar, which indicates a low renal threshold for glucose. Radiographs of the lungs, abdomen, and kidneys were normal. The skull was normal except for a small pituitary fossa (transverse, 8 mm.; vertical, 3 mm.; and interclinoid measurement, 1 mm.).

Course of the Illness

Nausea and constipation were marked, but abdominal pain did not amount to more than discomfort below the umbilicus. The patient lost weight very rapidly, as shown by Fig. 1; and on April 28 (fourth week after admission) he had an epileptiform attack associated with cyanosis and widespread clonic movements but no incontinence. B.P. remained about 150/110, and tachycardia persisted. By the sixth week increasing weakness of the large muscle groups of his arms and legs was apparent, and there was fibrillary twitching in the deltoid and pectoral muscles. Reflexes were absent in both arms, and pain sensation was blunted on the trunk and face. Within two weeks he became so weak as to be unable to move his hands or arms, and his voice was very hoarse and feeble. There was gross wasting of all muscle groups in the arms, forearms, and hands; fibrillary twitching had ceased. He had difficulty in standing because of weakness of the legs. Knee- and ankle-jerks were present and equal, with the plantar responses Babinski-negative. He sustained a burn from a hot-water bottle on his leg, and it was found that sensitivity to pinprick was impaired in both legs (it had been normal a week earlier), but position sense was normal. For a period of six weeks he was unable to feed himself. By the tenth week his voice was stronger, his weight was increasing, and there was some return of power to the flexor muscles of the arms. Six weeks later there was still gross wasting of the pectorals and deltoids, biceps and triceps groups, forearm muscles, especially the ulnar group, and of the intrinsic muscles of the hands. The arms could not be abducted. Full flexion and extension of the elbows were possible, but without power. There was bilateral wrist-drop. Touch, vibration, and position sense were normal, but there was blunting of pinprick sensation, especially on the hands, and the tendon reflexes were absent. Abdominal reflexes were absent. The muscles of the legs were of good tone and there was no wasting. All leg movements were weak but incomparably stronger than those of the arms. Tendon reflexes were normal.

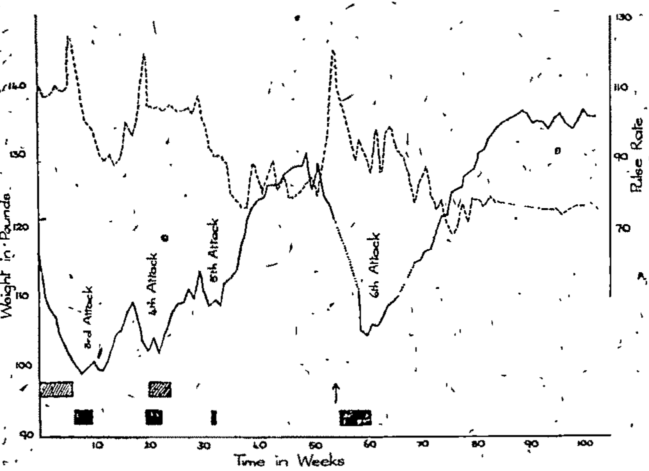

FIG. 1.—Weekly variations in the patient's weight: ——. Average weekly pulse rate: - - - - -. No observations made: . . . . . . Black rectangles: Duration of abdominal symptoms. Shaded rectangles: Time during which barbiturates were given. The arrow: Sulphathiazole given.

Fourth Attack.—From the 20th to 22nd weeks he complained of much abdominal pain and was constipated. His weight decreased considerably (Fig. 1), but there was no extension of paralysis. By the 30th week his legs were normal, but his arms were still grossly wasted and weak, without tendon reflexes yet with enough power slightly to abduct the arms and dorsiflex the wrists. Sensation in the arms was normal, but there were no abdominal reflexes. Within two weeks marked improvement was apparent. The arms could be moved relatively easily and all the tendon and abdominal reflexes had returned.

Fifth Attack.—During the 32nd week he again complained of slight abdominal pain and constipation and, though this was associated with loss of weight, there was no extension of paralysis. From this time there was gradual but continued recovery of muscular power and the wasted muscles regained their normal contours. By the 52nd week the patient was able to help in the ward and could support the weight of a laden tray and perform fine movements with his fingers.

Sixth Attack.—On April 16, 1943 (54th week), a small pustule appeared on the ring-finger of the right hand and lymphangitis developed next day. Sulphathiazole was started, but was discontinued after 9 g. had been given. On April 21 he vomited and experienced severe abdominal colic, and his limbs felt very heavy. He had been losing weight for four weeks. The only abnormal signs were tachycardia and a B.P. of 160/130. During the succeeding week he suffered from marked insomnia and was at times mentally confused. The power of his shoulder-girdle muscles diminished rapidly and in 10 days he was practically unable to move his arms. Simultaneously, the muscles wasted rapidly and there was a further marked loss of weight. The distribution of the weakness and wasting was as in the third attack, but in addition he had tenderness of both quadriceps and knee-jerks were absent. At this time there was no hepatic involvement as judged by the bromsulphthalein dye excretion test. The legs soon recovered their normal power, but even after three months—long after the abdominal and mental symptoms had disappeared—there was gross weakness and wasting of both arms (the right more than the left), abduction being very poor. By the 73rd week movements of the large joints of the arms were good and reasonably strong. The dorsal interossei of the hands, especially the first, were still very weak and wasted, and the power of the lumbricals was poor. Eighty-seven weeks after admission the small muscles of the hands had recovered to a considerable extent—enough to enable him to weave. Improvement continued until his discharge on April 8, 1944, when his weight was steady. He was then working at occupational therapy for several hours a day and could write without difficulty. His urine still contained considerable amounts of porphyrin and of urobilin.

Five months after his discharge the patient was working as a clerk for six hours a day; weight 138 lb., pulse 72, B.P. 124/72. His urine contained a great deal of porphobilinogen and urobilinogen, and yielded much porphyrin and moderate amounts of the associated red pigments on standing. At this time a single specimen of the urine of each of his parents was examined, but neither contained porphyrin.

Comment

Fig. 1 records the patient's weight and pulse rate throughout his stay in hospital—that is, from soon after the start of his third illness until his discharge. The gross loss of weight which preceded each relapse is well shown, as was the recovery of weight when the symptoms subsided. The fourth and fifth attacks, which were minor episodes clinically, were also associated with a definite fall in weight. The greater loss of weight associated with the sixth attack was in keeping with the fact that it was comparable in severity with the third illness. Each point on the pulse-rate curve represents the average reading for the week. Tachycardia was a marked feature of the condition, with peaks in the curve of pulse rate corresponding to each relapse. The black rectangles indicate the duration of abdominal symptoms—namely, pain alone, or with vomiting and nausea. The shaded rectangles denote the duration of administration of phenobarbitone. The arrow represents the point at which sulphathiazole was given.

Excretion of Porphyrins.—Prof. C. Rimington kindly investigated quantitatively the output of porphyrins in the urine by methods which he has published elsewhere (1943). He found that uroporphyrin-III predominated in the urine, the isolation of which as its octamethyl ester completed the clinical diag-

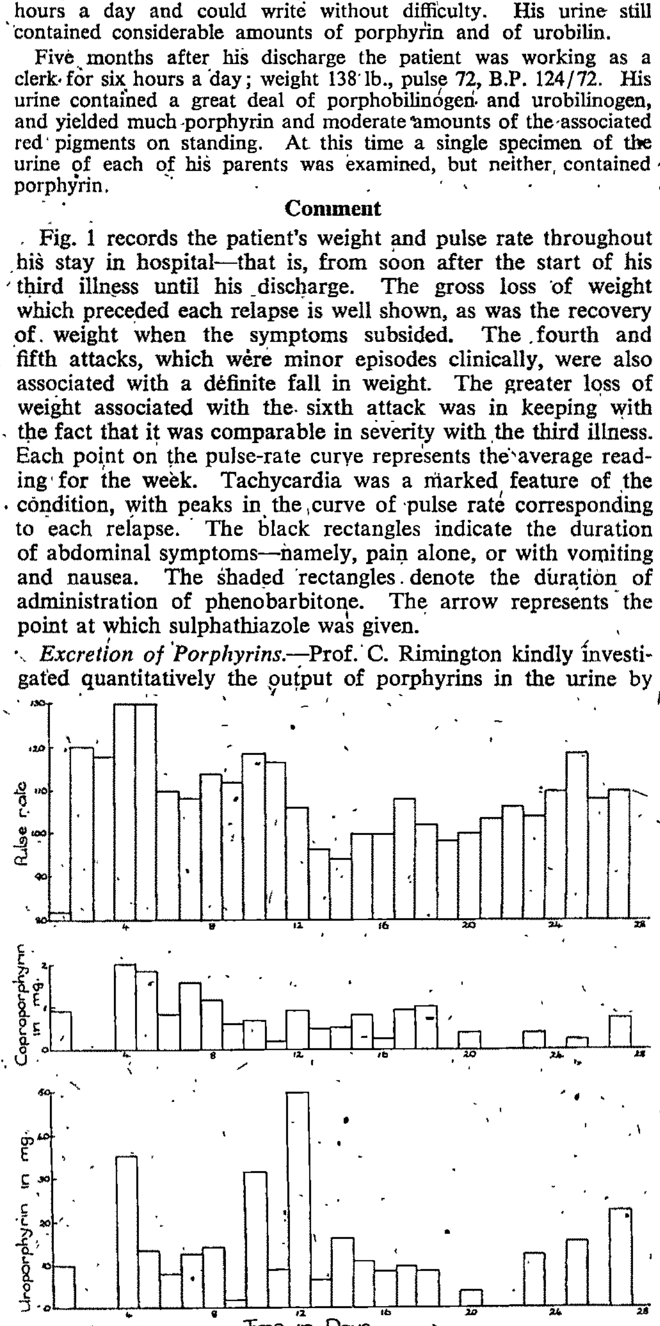

FIG. 2.—Lowest chart: Day-to-day excretion of uroporphyrin in mg. during the fourth attack (cf. Fig. 1). Middle chart: Corresponding excretions of coproporphyrin in the urine. Upper chart: Daily variations in pulse rate.

nosis. Coproporphyrin-III and a very small amount of coproporphyrin-I were also found. Fig. 2 represents the day-to-day excretion of uroporphyrin and of coproporphyrin from the 19th to the 23rd week after admission. The daily variations in pulse rate are also charted. An increase in porphyrin excretion was associated with a rise in pulse rate, though the correspondence was not exact.

Conclusion

The administration of sulphonamides or of barbiturates may precipitate an attack (Mason *et al.*, 1933; Waldenström, 1939; Nesbitt and Watkins, 1942). Phenobarbitone, 1 gr. twice daily, was given for periods of several weeks during the third and fourth attacks, but there was no evidence that the drug affected their course adversely. The onset of the sixth relapse cannot be attributed to the administration of sulphathiazole, as the patient had then been losing weight for about four weeks—a sign, in his case, of pending relapse. A noteworthy feature of the disease is the degree of restoration of function of the paralysed muscles, which in this patient appeared nearly complete.

Summary

A patient complaining of attacks of abdominal pain, constipation, and fits was found to be excreting uroporphyrin-III in his urine and to be suffering from acute porphyria. A marked decrease in body weight preceded the onset of symptoms.

In the course of three years he experienced six relapses, in each of which the symptomatology varied. Recovery now appears to be complete although porphyrinuria persists.

In one attack the daily variation in porphyrin excretion was determined.

The clinical features of the disease and methods by which the diagnosis may be confirmed in the laboratory are described.

We wish to thank Dr. Geoffrey Evans for permission to publish this case.

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SIMMONDS'S DISEASE DUE TO POST-PARTUM NECROSIS OF THE ANTERIOR PITUITARY: CARCINOMA OF STOMACH

BY

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Although the papers by Sheehan (1938, 1939, 1940) and Sheehan and Murdoch (1938, 1939) have clarified knowledge as to the causation of Simmonds's disease and stimulated interest in this condition, descriptions of cases due to necrosis of the anterior pituitary lobe resulting from post-partum collapse are still rarely seen in the clinical journals. The following case may therefore be of interest. It is reported alone, although other presumptive cases have been seen in this department during the past few years, including that of a woman who had amenorrhoea dating from the birth of her last child when she was 30, and who died, aged 39, of carcinoma of the bladder, with an extensive neoplastic spread in the pelvis. Post-mortem examination revealed splanchnomicria and (both to the naked eye and in serial sections) the typical atrophy in the anterior pituitary. Owing to her general condition, however, few investigations had been done during life.

Case Report

Mrs. W., aged 59, was referred for investigation on Feb. 23, 1943, by Dr. F. M. Rose, of Preston. She gave a history of progressive tiredness and loss of 1 st. in weight over the past year, and anorexia and numbness of the fingers since an attack of influenza in 1942. She had mentioned epigastric pain to her doctor, but told me that there had been no pain, vomiting, epistaxis, or dysphagia. She had had four pregnancies; her son was aged 37, the middle two children had died at 11 months and 2 years old, and her daughter was 27. The first three confinements were uncomplicated, but at the birth of the last child, when the patient was 32, there was severe haemorrhage and she was in bed seven weeks or more from weakness. She menstruated 5 months later, and again, for the last time, four months after that. After the delivery she did not lactate, and the breasts, from being large, became very small. Loss of hair was soon noticed (especially axillary and pubic), and she gained 1½ st. in weight. A year passed before she regained her strength. Sensitivity to cold developed, becoming more pronounced during the last year. No change in sex feelings could be recalled. The patient's daughter-in-law said that she had been pale for 15 years or more, but the pallor had become more grey over the past year, and the cheeks were sunken. No psychological changes had been noted, such as peevishness, unkindness, absentmindedness, faints, fugues, or attacks of coma.

Examination.—Height, 5 ft. 1 in.; weight, 6 st. 11 lb. The pallor and wasting gave the clinical picture of cachexia; face wrinkled, cheeks sunken, no glossitis; axillary and pubic hair absent; scalp hair thin; eyebrows very thin; breasts flat and atrophic; soft quick pulse, with occasional dropped beats (B.P. 100/60); oedema of lower legs; nothing abnormal felt in abdomen. Physical examination otherwise negative.

Blood Counts, 1943

	Hb Haldane	R.B.C. (mills.)	Anisocytosis	M.C.V. (c.μ)	Mean Diam.	Leucocytes	
						Total	Neut.
Feb. 23	100	4·4	Slight	86	7·7μ	6,400	2,900
Mar. 17	95	4·2	,,	—	—	8,400	4,500
April 2	74	3·7	,,	—	7·8μ	—	—

Blood Chemistry

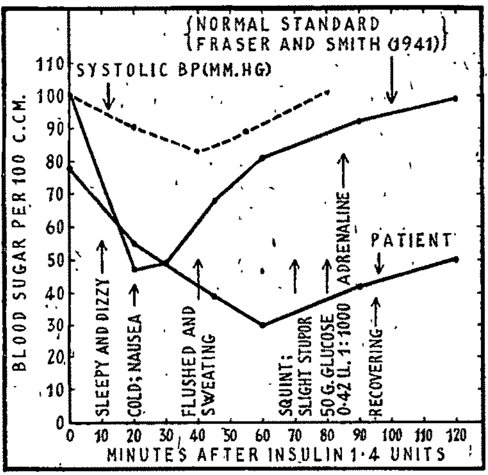
	Feb. 23	Mar. 12	Normals
Bilirubin (mg./100 c.cm.) ..	0·7	—	—
Calcium ,, ..	—	8·5	9– 11
Chlorides ,, ..	568	570	560–620
Cholesterol ,, ..	125	132	120–230
Phosphate ,, ..	—	4·2	3– 4·5
Phosphatase ,, ..	—	15	3– 13
Potassium ,, ..	25	24	18– 21
Protein (g./100 c.cm.)	—	7·1	6– 8
Sugar (true) fasting (mg./100 c.cm.)	65	—	65–100
Glucose-tolerance test (50 g.) ..	80–150–70	—	—
Urea (mg./100 c.cm.)	25	—	—
Sodium ,, ...	297	—	300–325

Progress.—Feb. 23: Urine normal. Feb. 25: B.M.R., –9%. Fractional test meal: Histamine-fast achlorhydria without evidence of stagnation or organic lesion. March 9: Glucose-tolerance test—normal curve; electrocardiograph, "T_3 inverted" (Dr. Harold Isaacson). March 12: B.M.R., –37%. March 24: Insulin sensitivity test (Fraser and Smith, 1941). As there were clinical grounds for suspecting pituitary insufficiency, one-third of the standard dose of insulin was used—i.e., 0.1 unit per 3 kg. of body weight. After 1.4 units of insulin had been given intravenously the blood sugar fell from fasting level of 78 mg. per 100 c.cm. to 38 mg. per 100 c.cm. in 45 minutes and 30 mg. per 100 c.cm. in 60 minutes. In the healthy subject symptoms of hypoglycaemia should not persist after this one-hour point. As the patient then showed slight clouding of consciousness and a slight squint, the test was cut short by 50 g. of glucose orally, and an intramuscular injection of 0.42 c.cm. of 1: 1000 adrenaline. The lowest figure for the systolic blood pressure was 82 mm. Hg 40 minutes after the insulin. She was admitted to hospital for a rest and was discharged two days later feeling no ill effects.

[The following explanation of the insulin sensitivity test is quoted from Fraser and Smith (1941): "The rate of the initial fall in the blood sugar differentiates normal or increased insulin sensitivity from insulin resistance; and the speed of the subsequent return to the fasting level will indicate any tendency to persistence of hypoglycaemia—that is, a delay in return will indicate 'hypoglycaemia unresponsiveness,' which may be found mainly in hyperinsulinism, hypo-adrenocortinism, or panhypopituitarism. Thus the characteristic result of this test in panhypopituitarism is a normal rate of fall associated with an abnormally slow return to the fasting level, or 'hypoglycaemia unresponsiveness'."]

The accompanying Graph shows the slow and prolonged fall of the patient's blood sugar and the typical delayed rise. Fraser and Smith's "index of hypoglycaemia unresponsiveness" is 320 (normal 550 ± 70). The result of this test, therefore, was further evidence for the presence of a lesion in the anterior hypophysis.

May 1.—Urinary 17-ketosteroid assay (Fraser and Smith, 1941): result—zero figure in 24-hour sample of urine, using Callow and others' (1939) modification of the method of Dingemanse, Borchardt, and Laqueur (normal value for women, 1.7 to 12.6 mg. in 24 hours). After attending for a blood count on April 2, Mrs. W. was unable to report here again. She received no specific treatment and slowly weakened. She died on Oct. 6, 1943, of cachexia and heart failure.



Necropsy (Oct. 6, 1943).—Dryness and desquamation of the skin, oedema of legs; moderate amount of clear fluid in pleural and pericardial sacs; very small thyroid (6.5 g.); thymus not seen; small heart (150 g.); fibrosis at apex of left lung (right 380 g., left 240 g.); thin intestinal wall; small liver (650 g.); spleen, 65 g.; cancerous ulcer in pyloric antrum of stomach 1 in. across and puckering the peritoneum; no metastases or neoplastic glands; adrenals atrophic—combined weight 5 g., cortices very thin, medullae not obvious; kidneys 85 and 100 g., capsules strip smoothly, fine cortical cysts, cortices slightly narrow; tiny uterus (25 g.) and ovaries (3 g. the pair). The base of the brain was hardened *in situ* by formalin in the skull overnight. The pituitary, when removed still attached to the brain, appeared as a collapsed empty shell.

Histology.—Thyroid: Increase of fibrosis. Adrenals: Partial atrophy. Uterus: Atrophy of endometrium and myometrium. Ovaries: Atrophy. Left lung apex: Fibrosis; anthracosis. Liver: Fat ++ ; variable size of cells and nuclei. Kidneys: Exudate in glomerular spaces; some tubular debris. Spleen: Follicular fibrosis. Pyloric ulcer: Adenocarcinoma. The pituitary was not sectioned; the base of the brain, with attached hypophysis, was given to the Royal College of Surgeons.

Summary

A case of Simmonds's disease is described in a woman aged 59, due to necrosis of the anterior pituitary dating from a confinement 27 years before.

Attention to the obstetrical history makes the presumptive diagnosis simple in this condition.

Among other clinical pathological tests the results of the insulin sensitivity test and the urine 17-ketosteroid assay added weight to the diagnosis.

Necropsy revealed a general splanchnomicria as expected, but also an "early" pyloric carcinoma which was not expected. Was this a coincidence, or was it another result of the pituitary lesion?

I am grateful to Drs. F. M. Rose and F. B. Smith for their co-operation and permission to publish, and to Mr. G. E. Delory, M.Sc., for help with the biochemical tests. I wish also to thank Lieut.-Col. H. L. Sheehan for much interesting advice and correspondence.

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J. D. Durance (*J. R.A.M.C.*, 1945, **84**, 280) maintains that, though there are other causes of subconjunctival petechiae, it is safe to treat as positive all cases of pyrexia or mental disturbance exhibiting these signs on the first day of the disease during an outbreak of cerebrospinal fever, and begin chemotherapy immediately. The absence of subconjunctival petechiae is a good prognostic sign.

HAEMOLYTIC DISEASE AND CONGENITAL SYPHILIS IN SIBLINGS

THE ROLE OF THE Rh. FACTOR

BY

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It has been alleged that congenital syphilis may give rise to a clinical picture identical with erythroblastosis (Holt and McIntosh, 1933). A history of neonatal jaundice, foetal dropsy, or intra-uterine death in successive pregnancies has been regarded in the past as confirming the diagnosis of syphilis. On this supposition, even in the absence of serological and histological evidence of the disease, women with such unfortunate obstetric histories have been subjected to prolonged courses of antisyphilitic treatment. Syphilis and erythroblastosis foetalis (or haemolytic disease of the newborn, as it is now called—Parsons, 1943) resemble each other in that each may cause the repetition of obstetric disasters; but the obstetric histories differ characteristically in the two conditions, the earlier children usually being spared in haemolytic disease but dying in syphilis. Levine *et al.* (1941) discovered that the chief cause of haemolytic disease lies in iso-immunization of the mother to the blood-group factor Rh, present in the foetal cells and absent from her own. Tests for the Rh factor are thus of value in differential diagnosis, and provide a criterion by which the importance of syphilis, umbilical sepsis, or other alleged cause of erythroblastaemia may be assessed. Since the discovery of the possible results of blood-group incompatibility between mother and foetus the formerly alleged causes of erythroblastosis can no longer be accepted until it has been clearly proved that there is no evidence of, or basis for, iso-immunization. There does not appear to be any published example of erythroblastosis in a newborn syphilitic infant in which a concurrent Rh incompatibility between the mother and child has been excluded. Henderson and Macgregor (1943) reported a case of hydrops foetalis (haemolytic disease Type I) in the child of a syphilitic primigravida with anti-Rh agglutinin in her serum and with unequivocal histological evidence of erythroblastosis in the foetal tissues. This case supports the new concept that the foetal condition was attributable to the Rh incompatibility rather than to the syphilis.

I have recently observed a family in which haemolytic disease and congenital syphilis have appeared in siblings. This family illustrates well the value of tests for the Rh factor in confirming the diagnosis of haemolytic disease in the presence of maternal syphilis.

Case Notes

Mrs. C., aged 34. Group A_1 Rh-negative (rr). Husband overseas. Obstetric history: (1) 1935: female, premature, alive, Group A_1 Rh-positive. (2) 1939: male, full-time, died of icterus gravis neonatorum (haemolytic disease Type II). (3) 1941: six-months miscarriage. (4) Female, full-time, alive, Group O Rh-negative.

In 1939 the patient gave birth to a full-time male child who became jaundiced some hours after birth and died two days later. This infant was put to the breast, and on account of jaundice and petechiae in the skin he was given an intramuscular injection of 18 c.cm. of maternal blood. During this pregnancy the diagnosis of maternal syphilis had been made, and the mother continued to receive antisyphilitic treatment more or less regularly from that time until early in the fourth pregnancy. Post-mortem examination of the second infant revealed widespread erythroblastosis of the organs with abundant extramedullary haemopoiesis, the appearances being characteristic of haemolytic disease Type II. Histological evidence of syphilis was entirely lacking in all the organs and tissues.

In 1942, in the course of a study on haemolytic disease of the newborn, this patient's blood was first examined for the Rh factor and found to be Rh-negative. It was then disclosed that she had had a miscarriage about 20 months previously, and, in spite of the lapse of time since her last pregnancy, powerful anti-Rh agglutinins were present in her serum (titre 1/128).

In 1944, during the fourth pregnancy, the maternal serum was tested repeatedly from the fourth month onwards, from which time the patient remained under observation in hospital on account of her cardiac condition. The Wassermann reaction was positive, and the serum contained anti-Rh agglutinin type anti-Rh_1 (i.e., rho and rho_1) throughout the remainder of the pregnancy (titre 1/128).

In view of the previous occurrence of haemolytic disease in this family preparations were made to give the fourth baby a transfusion of Rh-negative blood immediately after birth if its cells were shown to be Rh-positive or agglutinable by the irregular antibody in the maternal serum. The fourth child, a female weighing 8 lb. 10 oz., was born spontaneously at term; tests on the cord blood within an hour of birth showed that this baby was Rh-negative and that its cells were not agglutinated by the mother's serum. The cord blood gave a positive Wassermann reaction, its haemoglobin content was 140%, and there was no erythroblastaemia. As the maternal and foetal bloods were compatible as regards the Rh factor, blood transfusion was not given and signs of haemolytic disease never developed.

Comment

This family provides a valuable commentary on the supposition that congenital syphilis may cause erythroblastosis. In the second child erythroblastosis was present, but naked-eye and histological evidence of syphilis was lacking. The presence of powerful anti-Rh agglutinins is proof that iso-immunization to the Rh factor had occurred and may reasonably be supposed to have been responsible for the foetal haemolytic disease and possibly for the subsequent miscarriage. The outcome of the fourth pregnancy, however, shows conclusively that serological evidence of syphilis in the mother and infant may be present without foetal erythroblastosis, even in a family in which haemolytic disease has previously appeared. Haemolytic disease did not develop in this child, in spite of the powerful anti-Rh agglutinins in the mother's blood, owing to the lack of the Rh-positive antigen in the foetal cells. From the persistently positive Wassermann reaction it may be inferred that syphilis was not eradicated from the mother, and time will show whether the infant develops signs of congenital syphilis other than the positive Wassermann reaction. There is at present no satisfactory evidence to show that congenital syphilis or other infection can bring about, by itself, the clinical and pathological features of erythroblastosis foetalis, and blood-group incompatibility is the only proved cause of this neonatal disorder.

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GLANDULAR FEVER WITH NEUTROPENIA

BY

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AND

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Lieut.-Col. Shirley Smith and Major Trevor Shaw in their valuable article in the *British Medical Journal* of April 28, 1945, on treatment of anginous forms of glandular fever with intravenous arsenic, stress the fact that neutropenia is present in many cases. In the series they quote, only two cases have a marked neutropenia; the others can be considered low normals. The case reported below shows an even higher degree of neutropenia than any referred to in their paper. Like them, owing to exigencies of oversea service, we have not had full access to literature, but neither of us remembers neutropenia of a marked degree associated with glandular fever; nor is it mentioned in any of the standard works on medicine or haematology we have consulted.

Case History

Lieut. A., aged 27. Previous history: malaria, 1943 (type uncertain; ? B.T.). The patient was admitted to a military hospital, C.M.F., with the diagnosis of "loose body in left knee-joint." After a period at a convalescent depot, Major Bickerton operated on March 3, 1945. That evening, while on routine sulphathiazole by mouth, Lieut. A.'s temperature rose and continued to swing from 97° to 104.4°. His only complaint was tightness of the throat. Many blood slides were negative for malaria. Quinine (10 gr. t.d.s. for 3 days) had no effect on the fever. A few crepitations appeared at the right base. Sulphathiazole was discontinued on March 8 (total 30 g.). On March 13 he complained of a sore throat, and both tonsils were found to be enlarged, with a follicular exudate. Enlarged glands, not tender on palpation, were present in both axillae and the right side of the neck. The spleen became palpable (one fingerbreadth) in the next few days, but was never tender. By March 19 the fever began to abate by lysis. Crepitations were present over both bases. No exudate was now found on the tonsils. Painless enlarged glands, never tender to palpation, were present in groins, axillae, right side of neck, supracondylar regions along the brachial arteries, and just posterior to the right nipple. His only complaints at this time were of slight tenderness over the roots of both canines and tingling of a throbbing nature in the fingers, in the ulnar distribution, which disappeared as the glands subsided, but could be reproduced by pressure over the still slightly enlarged glands above the elbow. On March 22 temperature was normal. Since then the glandular enlargement has disappeared, but the spleen even now (June 5) is still palpable half a fingerbreadth on full inspiration, and up to three weeks before that date the moist sounds persisted in both lower lobes. As the neutropenia first noted on April 2 persisted, the effect of pentide was tried on April 15. Three injections of 10 c.cm. I.M. caused fever, shivering, flushes, nausea, and splenic contraction. Blood slides were negative, and the symptoms were without doubt directly attributable to the injections, as he noticed them after every injection, becoming more marked each time. Injections of adrenaline failed to cause splenic contraction or alteration in the blood picture.

Investigations.—(1) White blood cells (see Table). Hb 80% (Haldane) on April 6. (2) Blood slides × 12—negative for malaria parasites. (3) Blood culture—negative after 14 days. (4) Paul-Bunnell (Stitt's technique) on March 20—negative; April 13—sheep cells agglutinated to 1/128. (5) Agglutinations to *B. proteus* OX 2 and OX 19—negative. (6) Kahn—negative. (7) Formol-gel—negative.

White Cell Counts

	W.B.C.	Polys.		Lymphs.		Monos.		Eosins.		
		%	No.	%	No.	%	No.	%	No.	
8/3/45	5,700	64	3,648	28	1,603	7	399			
11/3/45	11,800	38	4,484	50	5,900	8	944	1	118	
20/3/45	7,600	33	2,508	66	5,016	1	76			
2/4/45	5,000	17	850	74	3,700	8	400	1	50	
4/4/45	5,550	16	880	78	3,900	5	275	1	55	
6/4/45	5,300	23	1,219	72	3,816	4	212	1	53	Hb 80%
12/4/45	6,200	12	740	72	4,495	5	310	0·5	31	
15/4/45										
	Pentide, 3 × 10 c.cm. I.M.									
17/4/45	7,100	55	3,940	42·5	3,017	3	213			
18/4/45	4,600	33	1,518	56	2,576	10	460	1	46	
19/4/45	4,800	29	1,392	64	3,072	6	288	1	48	
21/4/45	6,600	15	990	73	4,818	8	528	4	264	
	10 mins. after 7 minims adrenaline subcutaneously									
	8,750	13	1,131	78	6,786	8	696	1	87	
26/4/45	5,850	27	1,566	61	3,538	7	406	5	290	
24/5/45	5,300	25	1,325	69	3,657	3	159	2	106	
6/6/45	8,400	25	2,100	66	5,544	4	336	3	252	

Of interest is the persistent neutropenia since April 2, apart from the immediate effect of 30 c.cm. pentide I.M. The patient was perfectly well and making a normal convalescence all this time, and throat and mouth were normal. Crepitations were so persistent at both bases that atypical pneumonia was suspected, but two skiagrams of the chest were normal. The persistence of splenic enlargement is not unusual in these cases; in this instance it will be of interest to see if the blood count returns to normal at the same time as the spleen.

It is thought sulphathiazole therapy played no part in the production of any of his signs, as he had had only a few doses at the time of operation, which was also the time of onset of his fever. Nevertheless, neutropenia, splenomegaly, and glandular enlargement are known to occur as toxic reactions in sulphonamide therapy, and it is just possible that the drug alters the body's response to the infection of glandular fever. The whole course of the disease, however, and the persistence of the neutropenia are against a drug intoxication.

Comment

Sulphathiazole, given as a routine in clean knee cases as pre-operative preparation, was discontinued 5 days before the onset of throat symptoms. The neutropenia was not permanently affected. The effect obtained by injections of pentide lasted only 36 hours. Moist sounds occurred in the chest—a feature we have noted in other cases of glandular fever. They are similar to those heard in atypical pneumonia, except that they are bilateral. These signs persisted for some weeks. The spleen is still palpable, about half a fingerbreadth below the costal margin, 3 months after the onset of the disease, though the patient is now completely symptomless and has been so for seven weeks.

We should like to emphasize the association of persistent neutropenia and splenomegaly with infectious mononucleosis.

Medical Memoranda

Paratyphoid Ulcer of Rectum

The following case is noteworthy from the point of view of the differential diagnosis of diseases of the rectum and because of the rarity of its occurrence.

History of Case

On June 27, 1944, a sergeant air gunner, aged 21, was admitted from sick quarters to an R.A.F. hospital as a case of neoplasm of the rectum. On rectal examination the unit medical officer had felt a "mass." The patient gave a history of constipation for 7 days while on leave. On return to his unit he passed blood and mucus per rectum. He did not feel well, but he had no pain. He stated that he had lost weight and that his relatives told him while on leave that he looked much thinner.

On examination the abdomen was slightly distended and resonant. There was no tenderness or rigidity, and the liver and spleen did not appear to be enlarged. Per rectum a friable adherent mass was felt on the left side. The ulcer had a raised irregular edge, and blood was present on the examining finger. No unusual enlargement of inguinal nodes was felt. Heart and lungs were normal. The oral temperature was 100.4° F. and pulse rate 80. Next day proctoscopy revealed an ulcer the size of a half-crown on the left side of the rectum. It was oozing blood. A piece of the wall was excised for examination, but previously a swab of the base of the ulcer was taken for culture. Sigmoidoscopy revealed no other site of ulceration, and merely a congested mucosa.

Further investigations included the following: June 28: haemoglobin, 80%; haematocrit, 44%; W.B.C., 8,200 per c.mm. (neutrophils 60%, lymphocytes 37%, monocytes 3%). June 29: Chest skiagram—"Lung fields clear." June 30: Kahn negative. Also on June 30 the report on the swab of the ulcer was: "Organisms morphologically, culturally, and serologically resembling *B. paratyphosus* B isolated." The result was communicated to Air Commodore Morton, who was examining the biopsy specimen.

The patient was transferred to the medical division, and his further progress was that of a typical case of paratyphoid B infection, with serum agglutinins showing a rising titre of paratyphoid B. He made a good recovery, and on discharge Squad. Ldr. Petch (Medical Specialist) made the following comment: "A case of paratyphoid B presenting with an ulcer in the rectum. He was extremely ill for this infection, but has made a good recovery. Inoculation state as judged by records in pay-book should have afforded protection."

G. Gordon Lennon, M.B., Ch.B.,
Squad. Ldr., R.A.F.V.R.

Foetal Erythroblastosis and Hydrops in Twins

The occurrence of a case of hydrops and erythroblastosis in twins born to a primipara presents some unusual features. Comment on the cause of the condition and the chance of a normal baby in a future pregnancy will be welcomed.

Case Report

Mrs. X., a primipara aged 24—last menstrual period Sept. 23, 1944—when first seen on Jan. 10, 1945, had slight swelling of the right ankle, which she said had been quite common even before pregnancy. She had been treated for a threatened abortion in December, and was considered to be due in May. Her blood pressure was normal at frequent examinations, but the swelling of the right ankle increased. Her Wassermann reaction was negative. In March both legs became swollen, and she complained of giddiness and dyspnoea. B.P. 110/76. A specialist reported her cardiac condition to be normal. There was some hydramnios. In April she was advised to stay in bed. On May 2 she was admitted to the infirmary in labour, with oedema of the legs and feet and albuminuria. B.P. 138/100. After a short labour she was delivered of a male infant, weighing 7 lb. 3 oz., who was grossly oedematous; the heart beat for a few minutes, but he never breathed. The second twin—a male weighing 3 lb. 10 oz.—was delivered 20 minutes later; he was oedematous over one shoulder and the side of the neck. He lived a few days. A large single oedematous placenta was expelled.

Mrs. X.'s blood count was: Hb, 72%; red cells, 3,752,000 per c.mm.; colour index, 0.96; leucocytes, 10,000 per c.mm. (polymorphs 82%, lymphocytes 16%, eosinophils 2%). The red cells were a little irregular—no reticulocytes. No abnormal white cells were seen. The Wassermann and Kahn reactions were negative. Blood urea: 20 mg. per 100 c.cm. Blood bicarbonate: 61.3 c.cm. CO_2 bound by 100 c.cm. plasma at N.T.P. Blood group: O (IV Moss) Rh-positive. There did not appear to be any irregular agglutinins in her serum.

Mr. X.'s blood group was A (II Moss) Rh-positive. His cells are agglutinated by Mrs. X.'s serum only to a titre of 1 in 32, so that a high anti-A titre is not the explanation of the case. Wassermann and Kahn reactions, negative.

Mrs. X. left the infirmary in 18 days with a normal blood pressure and no oedema. There was a faint trace of albumin in the urine. Urea, 1.03%. No blood pus or casts were found.

Post-mortem Report on Baby X.—There is general oedema of the whole body and serous membranes. Lungs: Complete atelectasis. Heart: The foramen ovale is very large. Liver: Very small and tough, with a large haemangioma on the surface. Spleen, small. Kidneys and suprarenals appear normal.

Report on Sections Taken at Time of Necropsy.—Kidneys absolutely normal, with nothing pathological in them. The suprarenals are also quite normal. The spleen is extremely congested, and there are no lymphoid follicles; it seems to consist entirely of reticulo-endothelial cells, and the vessel walls are very fibrous and thick. The liver is very congested, with a great quantity of blood pigment in it. There is a large amount of round-cell infiltration, and Glisson's capsules are extremely fibrotic, but apart from this there does not seem to be much fibrosis. The lungs show complete atelectasis.

The second baby was sent to a voluntary hospital as it was becoming more oedematous; it died there after a few days. A blood count showed: Hb, 163%; R.B.C., 7,100,000 per c.mm.; colour index, 1.15; leucocytes, 53,400 per c.mm. (polymorphs 20%, lymphocytes 70%, monocytes 10%). Though the stained film showed tremendous numbers of nucleated red cells, while counting a hundred white cells 1,010 nucleated red cells were seen. No necropsy was performed.

My grateful thanks are due to Dr. Mackarell, pathologist, and to Dr. O'Donovan for reports and helpful advice in this case.

Nuneaton. Eileen Malone, L.R.C.P.&S.I.

A Case of Volvulus of Small Intestine

The following case may be of interest to readers by reason of its comparative rarity and because of the difficulty of early diagnosis.

Case Notes

The patient was an Army officer aged 34. He had had an appendicectomy (two scars), and had suffered from "heartburn" off and on for years. On admission on July 25, 1944, he complained of very severe pain in the mid-abdomen since 1 a.m. and had vomited bile-stained fluid. Pulse 74, temperature normal; rigidity and tenderness of both rectus abdominis muscles, the right more so than the left; no distension apparent. He was very ill and, although he did not present a typical picture of a perforated duodenal ulcer, it was thought wise to "look and see," after consultation with the medical specialist.

Operation (1).—Upper right paramedian incision. Nothing abnormal discovered (no perforated duodenal ulcer and no obstruction; gall-bladder normal). After further intermittent attacks of pain and vomiting bile, he eventually became acutely obstructed and very ill. Enemata yielded no result. Distension very marked.

Operation (2).—Abdomen opened on July 28 by a lower right paramedian incision of ample length. Obstructed distended coils of gut presented, and were traced to the now complete volvulus of small intestine near the base of the mesentery on the right side, by the sacro-iliac synchondrosis. The purple loop was untwisted, and soon recovered its colour and sheen on bathing with hot saline. The abdomen was then closed without drainage.

He was put on the dangerously ill list, with flatus tube and eserine every four hours. On July 31 he was off the "D.I. List"; general condition excellent. On Aug. 2 he could walk round his bed. After an uninterrupted recovery the patient was discharged to sick leave on Aug. 21 in Category "D."

Commentary

The diagnosis of this case in the early stages was difficult. Now that we are "wise after the event," it is fairly obvious that his early signs and symptoms were those of *intermittent partial* obstruction of the small intestine, due to a subacute volvulus. The affected loop was evidently swinging like a ship at anchor, partially folding over and then swinging free again, with temporary remissions of symptoms between July 25, when early laparotomy revealed nothing, and July 28, when a complete torsion of the loop on its mesenteric axis took place, and "stayed put," causing acute obstruction. The customary enormous distension associated with the ordinary volvulus (of the *sigmoid* colon) was absent, as might be expected in this case, where the obstruction was much higher up the tract.

No attempt at fixation to prevent recurrence was made, since all of the expedients recommended are unsatisfactory and ineffectual.

The case is of further interest in that volvulus of the *small* intestine is very uncommon. Tully Vaughan collected 21 cases only; and Rowlands and Turner of Guy's stated in 1937 that "in several cases difficulties were so great and the appearance so puzzling that the operators did not recognize the condition during the operation." J. B. Roberts also refers to two other cases in which the lesion was discovered only at necropsy.

I would like to express my thanks to Brig. R. P. Cormack, O.B.E., D.M.S., East Africa Command, and to Lieut.-Col. R. P. Leake, O/C Station Hospital, Mauritius, for permission to publish this case.

R. Salisbury Woods, M.D., F.R.C.S.,
Late Major, R.A.M.C.; Surgical Specialist, E.A.C.

Reviews

BASIC TRAINING IN ANATOMY

Anatomy as a Basis for Medical and Dental Practice. By Donald Mainland, D.Sc., M.B., Ch.B., F.R.S.Ed., F.R.S.C., Dalhousie University. (Pp. 863; 61 figs. 35s.) London: Hamish Hamilton Medical Books.

We are all inclined to hold views on education that reflect the kind of occupation we follow, and on medical education the views are as diverse as the fields of work that fall within the sphere of the medical profession. On one fundamental point there is a dichotomy of views. At the one extreme it is said that the "medical sciences" should provide vocational data, by memorization if necessary, without wasting time on the background or setting of these data; at the other extreme it is claimed that time is well spent on education in basic principles, upon which the vocational data can then be grafted. In the wholesome and refreshing book before us Prof. Mainland's standpoint approaches the latter view, and he has given us a stimulating guide to a course of study in anatomy. Characteristic features of his method are the constant urge to make personal observation on the living subject, and the initiation of the student into the study of the literature.

After a short section with an arrangement that is chiefly historical, Mainland introduces the main part of his work with a section on general anatomy. This is followed by the section on regional anatomy, which occupies three-quarters of the book. A series of appendices has made it possible to omit from the text various details such as ossification dates. Under general anatomy certain systems have been so treated as to stimulate interest in normal and disturbed function; but some systems have unfortunately been omitted. One chapter, on the body as a whole, is a compendium of important topics that often receive insufficient attention in the curriculum, among which mention may be made of growth and age-changes, the effects of environment, and the causes and measurement of individual variation; racial problems are, however, discussed too exclusively with reference to those of the American people. Valuable to the student will be the brief exposition of simple statistical methods. In the section on regional anatomy the author has made a praiseworthy and valiant attempt to give the "lowest common denominator" of the requirements of the various fields of clinical work, in pleasing contrast to the present unfortunate tendency for the curriculum to be the sum of a series of minimum requirements. In this difficult matter of selection it is not possible to please all. Those who expect an encyclopaedia will complain of omissions; some who are engaged in such fields as biochemical medicine and therapeutics may think there is too much. But the author has deliberately set out to cater for the future general practitioner or dentist, and his selection of material has been drawn from a wide field with good judgment. Practical study of the movements of joints has been stressed at the expense of long lists of ligaments. The coronary arteries receive as much space as all the hamstring muscles, while pelvic variations receive four times the space of either.

In his approach to the particular by way of the general, Mainland has avoided an obvious risk that applies to all the medical sciences—that of demanding an effort in the study of principles which may be out of all proportion to the vocational superstructure. The ability of the mediocre student to grasp and apply principles is limited, and the comparative and embryological approaches in anatomy must be as restrained as the elaborate symbolism of chemical structure should be in some other fields. Mainland has found a simple embryological approach useful, for example, in giving us a rationale for the courses of the recurrent laryngeal and phrenic nerves. But he has scarcely explored the possibilities of the comparative approach, while the omission of histology is a drawback that is evidently realized by the author, for he urges on the student the importance of linking up histology with gross anatomy for himself.

Several assumptions are implicit in the style and substance of the book. It is essentially a combination of a practical book with a guidebook to the library; it is not a dissecting manual. Access to a first-class library is indeed essential if full profit is to be derived from the numerous references, which have rendered this book a guide to a far wider field than that covered by the usual overgrown textbook. The extensive bibliography will be valuable to student, graduate, and teacher alike, and it has at the same time relieved the text of much detail that is not wanted by every reader. But the inclusion of some more references to work in languages other than English would have added much to the value of the list, and it would have encouraged wider reading than the English-speaking student (or graduate) is usually willing to undertake. The somewhat synoptic style may be found irritating if one undertakes continuous reading; it is better suited to a notebook—"Cervix is only a button-like projection in vagina" (p. 479). Some of Mainland's words of advice seem more suitable for oral instruction—e.g., on the spelling of the word "plantar" (p. 8). He is, however, probably right when he assumes the student's need for a training in logic, in the use of such words as "explanation" and "normal," and, indeed, in the "Meaning of Meaning"; and he rightly insists on the importance of the accurate use of words and terms for the avoidance of misunderstanding. As the author remarks in his introduction, this work is not an "Anatomy made Easy"; it is a guidebook to hard work and hard thinking. For self-development and the acquisition of essential facts it is highly recommended to the student.

A. B. Appleton.

DIAGNOSIS AND TREATMENT OF MALARIA

Malaria: Its Diagnosis, Treatment and Prophylaxis. By William N. Bispham. (Pp. 197; 5 plates. $3.50, or 19s. 6d.) Baltimore: The Williams and Wilkins Company; London: Baillière, Tindall and Cox.

One result of the war has been the bringing of very large numbers of medical men into positions where, often with little previous experience of the disease, they are called upon to diagnose and treat cases of malaria. To those who find themselves in such a position the recently published volume on the diagnosis, treatment, and prophylaxis of malaria by Col. W. N. Bispham, U.S. Army Medical Corps (ret.), will be found particularly helpful. For while keeping in view the object indicated by the title it gives in an easily readable style just enough about malaria as a whole to make the book generally informative. That this is quite necessary in the achievement of its object will be apparent if one considers that a medical man at the present time cannot competently diagnose or treat malaria without at least some knowledge of the malaria parasites and even about the aetiological cycle and the mosquito that transmits the disease. The merit of the work is that it meets these requirements with just that amount of detail necessary and no more. There is a brief summary of the history of malaria and its distribution. This is followed by a chapter on the aetiology with a brief account of the malaria parasites, and a very brief but adequate chapter on the mosquito and one on epidemiology. Symptomatology and complications are dealt with at greater length, as are diagnosis, treatment, and prevention. There are also short chapters on pathology, malarial immunity, and blackwater fever. Prof. Coggleshall contributes a chapter on the prevention and treatment of malaria in West Africa.

If there be any criticism it is perhaps that some of the sections might with advantage have been fuller. Thus, while emphasis is rightly given to the fact that laboratory diagnosis of malaria is the only positive method, it is doubtful whether the brief directions for technique of blood staining, in which Wright's modification of Romanowski's stain is given with no mention of the almost universal use of Giemsa or Field's stain, are as adequate as they might have been. There are one or two other points that might be criticized, as, for example, the statement on page 43 that three or four feedings are necessary for a mosquito to transmit infection. The book remains a most readable and useful summary for the medical officer in need of information about malaria.

NEUROPSYCHIATRY

Recent Advances in Neurology and Neuropsychiatry. By W. Russell Brain, D.M., F.R.C.P., and E. B. Strauss, D.M. Fifth edition. (Pp. 363; illustrated. 18s.) London: J. and A. Churchill. 1945.

Convinced that, after all, neurology and psychiatry cannot be divorced, especially in view of the new physical therapeutic procedures, the authors have again joined forces to produce this edition. One of the advantages of war is the stimulus given to the study of medicine and surgery, and in no department of the science and art is this more apparent than in neuropsychiatry. Consequently this book has had almost to be rewritten. Attention is paid to such innovations as the modern surgical treatment of head injuries (in a chapter contributed by Northfield); to peripheral nerve lesions; to shock therapy and leucotomy for certain psychotic disorders; to removal of intervertebral disks for sciatica and of the thymus gland for myasthenia gravis; and to the use of penicillin. Diagnostic methods such as electro-encephalography and ventriculography are fully discussed. At the same time the exposition of recent ideas covering practically the whole field of neurology and psychiatry has been brought up to date. It is difficult to see how the neurologist, the psychiatrist, the neuropsychiatrist, or the psychotherapist (whichever title the specialist in this field chooses to adopt) can do without this book, and so rapid is the advance in his chosen subject that he will have to scrap his old editions and buy this new one. Certainly the authors are to be congratulated on their work, but we shall be surprised if they are not called upon to produce a sixth edition very soon.

INTRODUCTION TO COLLOIDS

Colloids: Their Properties and Applications. By A. G. Ward, M.A. Blackie's "Technique" Series. (Pp. 133; illustrated. 5s.) London and Glasgow: Blackie and Son. 1945.

This book on colloids has been prepared with the object of supplying an introduction to the subject more suitable for the beginner than the books which deal with it in more exhaustive and more mathematical detail. It contains illustrative references to a broad variety of subjects, which include rubber, clay, paints, biological phenomena, and detergents. We note a few instances in which there is a lack of a word, a phrase, or a sentence which would have been helpful to the uninstructed, as under the term "solubilization," where it is stated that "many substances which are almost insoluble in water show a considerable solubility in soap and other detergent solutions." But what sort of substances are the many that behave thus? If the text had read, "many substances such as benzene," the reading would have been easier. Yet on the whole the book has been well written, and it contains the right kind of information for the beginner.

The chemistry and physics of colloids have been involved in industrial processes and in the arts since the earliest times; but while this chemistry and this physics have hitherto been empirical, and while the study of colloids has been based largely on established practices, the knowledge of colloids has now reached the stage at which it is applied to guide and govern those practices. Industrialists can therefore no longer omit the study of colloids as an adjunct to their equipment. This book will provide a good foundation for the building of such knowledge.

Notes on Books

The Analysis and Interpretation of Symptoms, edited by Dr. Cyril M. MacBryde, is published by the J. B. Lippincott Company at 25s. The title of this book arouses expectations which are not completely satisfied. It is not so much an analysis of symptoms as a collection of clinical essays by different authors which have already appeared in *Clinics*. Two of these essays have the words "differential diagnosis" in their titles and the subject is approached from this point of view, rather than from that of the clinical scientist or physiologist. The subjects chosen are nervousness and fatigue, fever, headache, thoracic pain, cough, haemoptysis, abdominal pain, haematemesis and melaena, jaundice, joint pains, and obesity. The articles differ in quality; the one on cough and haemoptysis degenerates into a catalogue, while on the other hand Leon Schiff gives an excellent account of haematemesis and melaena, as might be expected from his own research work in this field. In general, however, the text lacks the concentration of a scientific monograph or the unity of a collection of essays by an individual author. The book, which is well produced, has reached a second impression, and one wonders at the market for this type of work in the United States, especially in these days when material and labour for printing books are scarce, and when general practitioners are lucky if they can find time to read the current journals.

We have received from the hon. secretary, Dr. W. H. McMenemey, Royal Infirmary, Worcester, a copy of the first issue of *Proceedings of the Association of Clinical Pathologists,* dated July, 1945, and published at 5s. For some time the Association has felt the need of a journal of its own, and the opening number is a well-produced magazine of 50 pages and a number of plates for photomicrographs. The contents include Dr. A. F. Sladden's presidential address in 1943 on "The Significance of the Laboratory," and five other papers, and a report on the European Association of Clinical Pathologists. The editor is Dr. A. G. Signy, Ashford County Hospital, Ashford, Middlesex.

A *Short Anglo-Polish Medical Dictionary,* by Dr. W. Tomaszewski, has been published by E. and S. Livingstone at 8s. 6d. and 4d. postage. The compilation and printing have had support from the Kosciuszko Foundation of New York. It is appropriate that this booklet should be published by an Edinburgh firm, because the Polish School of Medicine was established in that city during the war through generous action by the University and the civic authorities.

Preparations and Appliances

AN INDWELLING SYRINGE FOR PENICILLIN ADMINISTRATION

Dr. H. F. Barnard, Pathologist, E.M.S. Hospital, Driffield, writes:

The outstanding advantages that penicillin offers are offset by inconveniences that become more apparent as its use spreads to the small hospital and the patient's home, where skilled attention is limited. The three-hourly injection, and the special precautions needed to avoid bacterial or chemical contamination of the solution with consequent loss of potency, call for constantly available skilled help, whilst the continuous drip infusion, though avoiding the distress to the patient of repeated injections, still calls for preparation, care, and watchful attention.

The watch-driven syringe described has been in use at this hospital since November, 1944, and offers a solution to these problems until such time as oral administration or injections of greatly prolonged action are an established alternative.* Last[1] has described an apparatus on this principle using a somewhat larger mechanism, a Record syringe, and a length of rubber tube leading to the patient; whilst Edwards[2] has described a hand-operated Record syringe and tube method.

The apparatus shown in Fig. 1 consists of a plastic base (A), 7 × 2 in., in which is set a pocket watch (B), adapted so that the hour hand drives a toothed rack strip (C) slowly forward, and the dose of penicillin in the syringe (100,000 units in 5 c.cm.) is delivered in 24 hours through a needle bent at a right-angle (D). The apparatus is attached to the thigh by means of adhesive strapping slipped beneath it and over the side-hooks. The all-glass "vim" syringe is then filled, and the right-angled needle, already attached, is guided through the circular hole and inserted into the skin, and the syringe is clipped into position. No further attention is required until 24 hours later, when the syringe is removed, boiled up, refilled, and, after rewinding and adjusting back the watch, is again inserted.

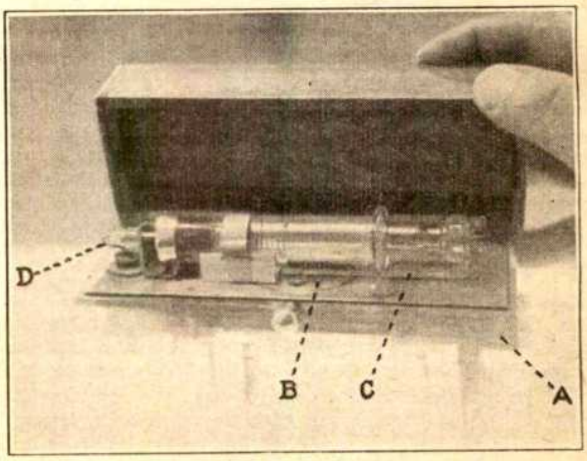

Fig. 1

The basis of the method depends upon the observation that a sterile solution in a good-quality all-glass syringe (such as the "vim") will remain sterile at room temperature at least for many days. At a concentration of 20,000 units per c.cm. penicillin as now available is a gummy product, and tends to jam the syringe unless this is lightly greased with soft paraffin. Paraffin has no harmful effect on penicillin, but the stock bottle of paraffin should in the first instance be autoclaved.

As to stability, Kirby[3] has stated that penicillin as produced at present shows no appreciable loss of potency in solution in four days at 37° C. However, a considerable number of estimations with various makes have shown that, in the conditions of concentration and temperature in the syringe attached to the patient, as described, penicillin deteriorates by the end of 24 hours to approximately 60% of the original; i.e., some 20% of the whole day's dose may be lost. Against this disadvantage one may set the advantages of simplicity, reliability, and constant dosage. One finds that blood taken at the end of a day's run inhibits a test haemolytic streptococcus when diluted 2 to 4 times. Higher levels are obtainable, of course, by a more concentrated solution in the syringe.

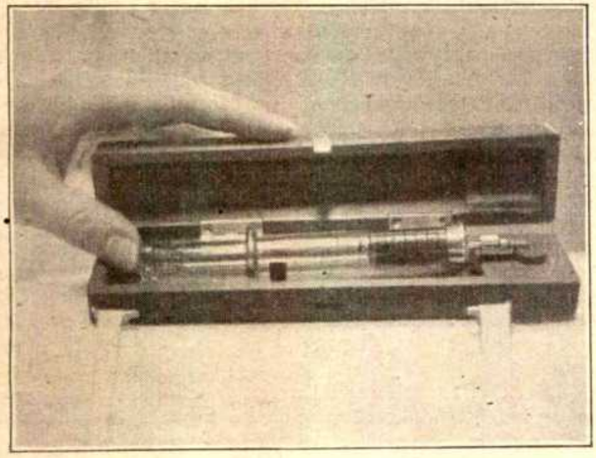

FIG. 2

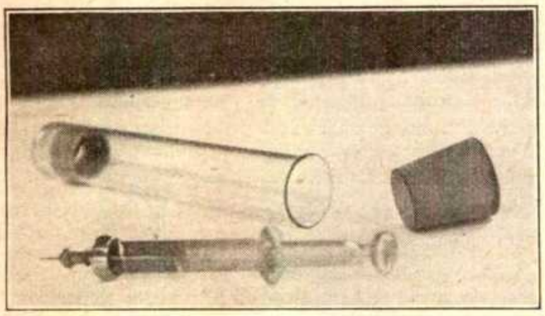

FIG. 3

As a simpler version, the second apparatus is shown in Fig. 2. It has no watch mechanism. The syringe is filled and clipped in as before, and thereafter every three hours the plunger is pushed forward to the next red mark on the syringe, there being eight such red marks. This manœuvre requires no sterility and, as has been proved in general practice, can be carried out in the patient's home by any reasonably intelligent member of the household. No discomfort is experienced by the presence of the apparatus, and the sleeping patient may even be unawakened by the giving of a dose.

Fig. 3 shows how the method can be applied to the keeping and giving of drops of penicillin for an eye or ear case (and also to many other procedures, such as blood grouping). The syringe with the needle cut short keeps the solution sterile through many manipulations and is stored in a tube with cork ring as shown, to keep the needle from touching the tube.

The syringes, needles, and box for the hand-operated method are obtainable from Messrs. Chas. F. Thackray, Ltd., 10, Park Street, Leeds, 1. It is hoped that the watch-driven apparatus will become available before long, shortage of materials having held up production for some months.

I wish to thank Dr. Panton, Director of the E.M.S. Pathological Service, for permission to publish this, and Flt. Sergt. Foulkes for his skilful work on the watch-driven model.

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[1] Last, C. E. (1945). *British Medical Journal*, **1**, 122.
[2] Edwards, F. R. (1945). Ibid., **2**, 86.
[3] Kirby, W. M. M. (1944). *J. Amer. med. Ass.*, July, No. 9, 125.

MEDICAL DEFENCE UNION

ANNUAL MEETING

The Medical Defence Union, which is entering upon its sixtieth year, held its annual meeting on Sept. 16, when Mr. St. J. D. Buxton was unanimously elected president, Dr. Henry Robinson treasurer, and Dr. G. Roche Lynch chairman of the council committee. The retiring officers—namely, Dr. James Fenton, who relinquished the chair at that meeting, and Mr. E. D. D. Davis, the late treasurer—were congratulated on the manner in which they had discharged the functions of their offices and were thanked for their services.

Dr. **JAMES FENTON**, in a valedictory address, referred to the work of the council and its committees during the war. In the early days the staff was transferred to the suburbs, but in view of the inconvenience caused to members who came personally to seek advice, a return to Bedford Square took place in 1942. The Union had come through the war ordeal without scars and with increased strength, for since 1938 the membership had gone up by just upon 8,000, and stood to-day at 28,483.

In a reference to the very special problems facing demobilized medical practitioners, Dr. Fenton said that it was desirable to make it widely known that members of the Union returning to civil life would have everything possible done, within the scope of the Union's activities, to ease their burden if they needed such assistance. He urged again that members should provide headquarters with early information when they were threatened with litigation arising out of their medical practice. Not infrequently such cases were prejudiced by delay in seeking the Union's advice or by the taking of preliminary action without such consultation.

Joint Action

Good progress had been made, Dr Fenton continued, in discussions with the London and Counties Medical Protection Society and the Scottish Defence Union with a view to the establishment of a joint co-ordinating committee. The main object of this committee would be to define the broad policy to be pursued in common by the three societies, and it was also anticipated that matters arising from cases affecting members of any two of the societies, or all three of them, could be discussed and suitably determined. Each society would retain its separate individuality and freedom of action, but the societies would act jointly where a community of purpose would be served by so doing.

Some time ago the M.D.U. started consultations with the Society of Anaesthetists and the manufacturers of anaesthetic gases with the object of preventing the repetition of the few, but unfortunate, accidents which have arisen owing to anaesthetists giving gases from wrong cylinders. The problem had proved a difficult one owing to the need for experiment and the preparation of new forms of couplings. Even the colouring of the cylinders, which was one of the questions coming forward, was not a simple matter, because cylinders produced and used in other countries were affected. A short-term policy had been adopted for the transitional period, and those concerned were now engaged on a long-term policy dealing with new devices in order to make the apparatus foolproof.

He added that an increased number of cases in which advice was sought were being brought forward by doctors engaged in whole-time work for local authorities, and there had also been a number of difficulties to solve on behalf of medical officers working part-time for local authorities in clinics and dispensaries. The address concluded with a tribute to the legal adviser of the Union, Mr. Oswald Hempson, and to the secretary, Dr. Robert Forbes, and his staff.

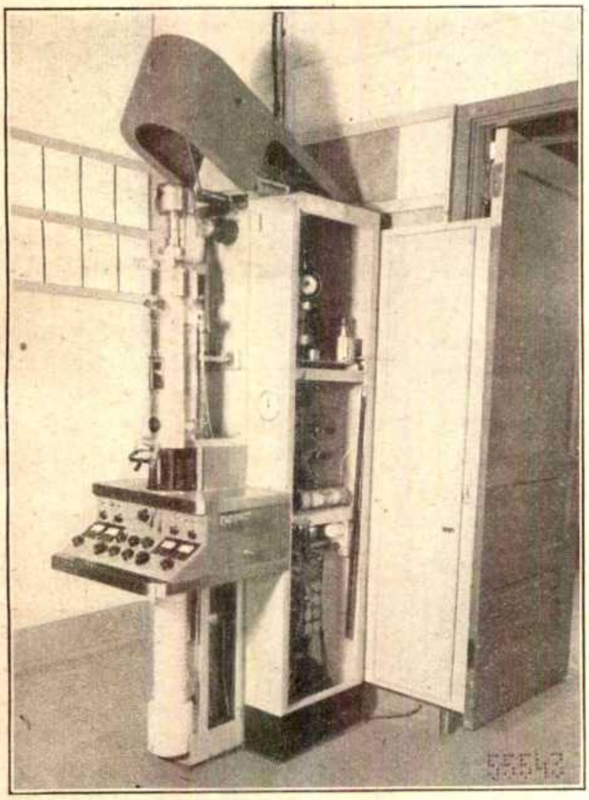
The Minister of Supply has made an Order which revokes and remakes in consolidated form the Control of Molasses and Industrial Alcohol (Nos. 11 to 17) Orders, 1941–2. Methanol, formaldehyde, metaformaldehyde, and hexamine are released from control, and licences will no longer be necessary for the acquisition, disposal, treatment, use, or consumption of these commodities. The maximum quantity of industrial alcohol (other than mineralized methylated spirits) which can be acquired, disposed of, treated, used, or consumed without a licence is increased from one gallon a month to sixty gallons in six calendar months.

THE ELECTRON MICROSCOPE

BY

JOHN H. JUPE

The electron microscope has been developed to overcome the limitations of the ordinary light microscope—limitations which have been hampering certain branches of scientific research. Little could be done to overcome these, however, until a fundamental discovery showed that electrons in motion could be deflected by an electrostatic or magnetic field. This can best be explained as follows. First, consider the electrons as charges of negative electricity. As such they will be attracted or repelled by electrostatic fields. But also, electrons in motion constitute an electric current, and as such will be deflected by magnetic fields. By producing either of these fields with the requisite strength and formation, groups of electrons travelling along a path in a vacuum can be concentrated or caused to diverge. Hence arises the term "electron lenses," which act on the electron stream in much the same way as glass lenses act on light.



R.C.A. universal electron microscope (covers removed). The cabinet housing the 50 kilovolt power supply is at the rear.

General Description

In the electron microscope there is an electron source—usually a heated cathode—corresponding to the light source of the ordinary microscope; there are also analogous electronic condensing and objective lenses. The electron stream is accelerated to very high speeds by the use of high voltages, and it takes on the characteristics of any thin object placed in its path. It is then allowed to fall on to a fluorescent screen, where a shadow image of the object appears. The whole process is very similar to screen radiography, except that cathode rays are used instead of *x* rays. In the same way, the results are only shadows of varying density and are not the images obtained by the usual reflection of light from objects—i.e., normal human vision, or an ordinary photograph.

The general appearance of one of the latest forms of the electron microscope is shown in the Fig. At the top of the stainless-steel column are housed the hot cathode for producing the electron stream and an electron "gun" for concentrating it. At the bottom of the column, just above the control desk, is the triple-sided viewing chamber. Below the panel is the oil diffusion pump for creating the necessary high vacuum in the microscope column; and in the cabinet at the rear is the 50,000 volt power supply unit and electrical control circuits.

The specimens are inserted through the round aperture immediately above the "first" image-viewing window. In the middle of the column, and to save the necessity for evacuating the whole of the microscope each time it is desired to change a specimen, there is a small chamber fitted with air locks. A similar device is used when the fluorescent screen for viewing the final image is replaced by a photographic plate. The instrument illustrated is made by the Radio Corporation of America and is considered to be the most powerful type of microscope in the world. Its direct magnification can be varied in 40 steps from 100 to 20,000 times; and with it the naked eye can see details as small as a quarter of a millionth of an inch. By taking photographs with this apparatus, normal photographic technique will permit the final magnification of the object to be more than 100,000 diameters.

Limitations and Achievements

It may be asked whether the electron microscope has parallel limitations to the light microscope. The answer is that it has, and for the same reasons—i.e., it is dependent on the resolving powers of the electron lenses, the human eye, and the photographic plate, and also on the wave-length of the electron stream. In the case of the electron microscope, however, the limitations are theoretically about 100,000 times smaller—i.e., it should be possible to produce magnifications of 200,000,000 diameters, since the best optical microscopes, using glass lenses and visible light, have a maximum limit of about 2,000 diameters. There are reasons for believing that the maximum resolving power may never be achieved, but this is not serious from the point of view of the practical microscopist engaged in bacteriology, pathology, physics, metallurgy, etc., since magnifications 10 to 1,000 times greater than those of the ordinary microscope are of immense value.

Already a number of viruses have been observed for the first time, and the specific action of substances on bacteria have been investigated more closely.

Mounting of Specimens

Mounting specimens for the electron microscope is more difficult than for the more usual type of instrument, because the cathode-ray stream is stopped by anything thicker than about a millionth of an inch. The usual support is a film of nitrocellulose, not exceeding this thickness and itself supported by a metal gauze disk with about 200 meshes to the inch. To prepare such a thin film, a solution of nitrocellulose in a suitable solvent is placed on water and allowed to spread until a satisfactory thickness is attained. The metal disk is then placed on top of it, and a film of the desired thickness will harden between the meshes. The specimen is suspended in a volatile solvent, and a drop is placed on the film and allowed to evaporate.

Future Possibilities

In general, the technique of using the microscope is not very difficult and can be mastered by medical research workers in quite a short time; the apparatus is made perfectly safe from the point of view of high voltages and the user. What revelations lie ahead in the development and use of this instrument cannot be known. It is quite probable that it will help to settle the controversial question as to the exact dividing-line between living and dead matter.

My thanks are due to the Radio Corporation of America for providing the illustration.

The Medical Committee of the Scientific Film Association (c/o Royal Photographic Society, 16, Princes Gate, S.W.7) has issued a third handlist of recent films of medical interest. The three new films in the "Technique of Anaesthesia" series and "Movement of the Tongue in Speech" and "Penicillin" have all been completed very recently. "Effect of Thymectomy" is an amateur record for which the S.F.A. has obtained funds for copying and distributing; it hopes to make many more such films available as resources permit. "The New Lot" and "Evacuation of Casualties by Air" are both Services films which may now be shown to non-Service audiences.

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NUTRITIONAL MACROCYTIC ANAEMIA

The sternal puncture needle, by enabling us to study the bone-marrow almost as easily as we can the blood, has cleared up some of the obscurity about pernicious anaemia and its congeners. We know now that the pathognomonic feature of this large group of deficiency diseases of the blood-forming organs is the proliferation of megaloblasts in the bone-marrow and the restoration of the normal type of erythropoiesis by liver.[1] This may take place in circumstances in which the peripheral blood is not frankly megalocytic, as in some cases of pernicious anaemia of pregnancy[2] and tropical macrocytic anaemia.[3] On the other hand, the blood picture in aplastic and haemolytic anaemias may sometimes be megalocytic, but the bone-marrow is not megaloblastic and treatment by the pernicious anaemia (P.A.) factor is ineffective. In accordance with Castle's hypothesis of extrinsic and intrinsic factors the megalocytic deficiency anaemias can be further subdivided into those which are due to a defect in the diet, the nutritional macrocytic anaemias, and those which are due to a disturbance in the digestion, of which Addisonian pernicious anaemia and sprue are the chief examples. This distinction must not be pressed too far, for dietary deficiencies have a way of impairing digestion, as has been only too sadly verified in recent experiences of starvation in Europe. The laboratory data in nutritional macrocytic anaemia differ in three ways from those commonly found in pernicious anaemia: (1) hydrochloric acid is usually present in the gastric juice; (2) the serum bilirubin is within normal limits; and (3) the serum iron is usually not elevated.[4]

Nutritional macrocytic anaemia is so prevalent that it might have been expected that the enormous number of cases would have enabled us to work out the chemistry of the extrinsic factor and the P.A. principle. Unfortunately this has not yet happened. It is difficult to carry out controlled therapeutic trials in tropical and subtropical countries owing to the poverty of hospital and laboratory resources and the temperament of the patients. Moreover, like most dietary defects, nutritional macrocytic anaemia is often complicated by multiple deficiencies, and by infections and parasitic infestations. A deficiency of iron so frequently occurs at the same time that the useful name "dimorphic anaemia" has been introduced.[5] Haemolysis may be provoked by concomitant malaria, and pregnancy is a common cause for the final breakdown. Nutritional macrocytic anaemia is also more often resistant to treatment than Addisonian pernicious anaemia, particularly to treatment by highly purified extracts of liver. This has led to the suggestion that whole liver and proteolysed extracts of liver contain active principles which are lost during purification.[6] It is possible, however, that the difference is merely one of dosage; with purified intramuscular extracts it is unusual to give more than 0.2 g. of liver solids a day, while with proteolysed extract of liver the dosage is 50 g. a day. Moreover, resistance is sometimes due to recognizable inhibitory influences such as pregnancy or infection, and it is not in itself a strong argument for a chemical difference in the nature of the haematinic principles which are lacking in pernicious anaemia and nutritional macrocytic anaemia. Nevertheless, all these complications make research on nutritional macrocytic anaemia a difficult and tedious business.

Much confusion has existed about the pathogenesis of the macrocytic anaemia of pellagra and other forms of vitamin-B deficiency. The incidence of this anaemia varies widely in different parts of the world and in the different types of avitaminosis B. In Egypt, Salah[7] found no macrocytic anaemia among 118 pellagrins. In endemic pellagrous areas of the United States, Huck[8] and Turner[9] found anaemia uncommon, and, when present, usually hypochromic and microcytic in character. Among the so-called alcoholic pellagrins, Spies and Chinn[10] found macrocytic anaemia to be relatively common. The anaemia has been variously ascribed to lack of a specific B factor, deficiency of Castle's extrinsic factor, and loss of the intrinsic factor. Since the B complex and the extrinsic factor are often closely associated in nature, and since pellagrous diets are frequently deficient in both, it has hitherto been difficult to determine which, if either, plays the decisive part in the production of the anaemia. The frequency of absolute achlorhydria in pellagra has lent support to the view that the anaemia results from absence of the intrinsic factor. Nevertheless, little information has been available about the intrinsic factor of the gastric juice in this disease; it has been demonstrated in a few instances, but only in patients in whom there has been no significant anaemia. Furthermore, the incidence of achlorhydria appears to vary; Sodeman[11] found it in 55 out of 77 pellagrins, whereas Moore, Vilter, Minnich, and Spies[4] demonstrated free HCl in the gastric juice at one or another time in as many as 21 out of 25 pellagrous patients.

The question of the pathogenesis of this anaemia has now been decisively answered by Moore and his co-workers. They have studied 25 patients with pellagra in whom glossitis, dermatitis, and peripheral neuritis were associated with a severe macrocytic anaemia. The diets of these patients had for many years been grossly deficient in all the members of the B complex and in animal protein. The anaemia was cytologically indistinguishable from Addisonian anaemia, but in 21 of the 25 patients free hydrochloric acid was found in the gastric juice. The American workers were able to demonstrate the presence of intrinsic factor in the gastric juice of two of their cases by the production of a reticulocyte response when patients with Addisonian anaemia were treated with a mixture of pellagrous gastric juice and extract of raw beef muscle. Having shown in this way that the anaemia was not due to an intrinsic defect, they then proceeded to study the reticulocyte response in the pellagrins while they were kept on a standard diet deficient in both the B complex and Castle's extrinsic factor, in order to determine the specific nutritional deficiency responsible for the anaemia. After a control period on the diet, massive oral and parenteral therapy with all the known B vitamins was tried, and though the clinical manifestations of avitaminosis were relieved there was no change in the reticulocyte count. Nicotinic acid, thiamine, riboflavin, calcium pantothenate, pyridoxine, inositol, para-aminobenzoic acid, and choline had no therapeutic value in correcting the anaemia, even though they were given in combination both orally and parenterally. Administration of highly purified liver extracts, however, caused prompt haematological and clinical improvement. When extract of raw beef muscle was ingested daily a suboptimal reticulocyte response occurred which was followed by a rise in the red cell count and clinical remission. In one of these patients there was a further small rise in the reticulocytes when a mixture of normal human gastric juice and beef extract was ingested, and again an increase in reticulocytes followed by acceleration of the rise in red cell count when purified liver extract was given parenterally. All the patients, in whom the reticulocyte response was suboptimal when beef extract was ingested, exhibited a second reticulocyte response after intramuscular injection of purified liver extract.

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[1] Davidson, L. S. P., Davis, L. J., and Innes, J., *Quart. J. Med.*, 1942, **11**, 19.
[2] Callender, S. T. E., ibid., 1944, **13**, 75.
[3] Napier, L. E., *Lancet*, 1936, **2**, 679.
[4] Moore, C. V., Vilter, R., Minnich, V., and Spies, T. D., *J. Lab. clin. Med.*, 1944, **29**, 1226.
[5] Trowell, H. C., *Trans. roy. Soc. trop. Med. Hyg.*, 1942, **36**, 151.
[6] Davis, L. J., and Davidson, L. S. P., *Quart. J. Med.*, 1944, **13**, 53.
[7] Salah, M., *Trans. roy. Soc. trop. Med. Hyg.*, 1935, **29**, 299.
[8] Huck, J. G., *Johns Hopk. Hosp. Bull.*, 1923, **34**, 157.
[9] Turner, R. H., *Amer. J. med. Sci.*, 1933, **185**, 381.
[10] Spies, T. D., and Chinn, A. B., *J. clin. Invest.*, 1935, **14**, 941.
[11] Sodeman, W. A., *Amer. J. med. Sci.*, 1938, **196**, 122.

Moore and his colleagues conclude that none of the B vitamins they used can act as the extrinsic factor, and that the macrocytic anaemia of pellagra depends on a prolonged deficiency of Castle's extrinsic factor in the diet. This is associated in many instances with poor absorption from the gastro-intestinal tract and in some cases with inadequate production of intrinsic factor by the gastric mucosa. Most of the patients were observed for two or three years, and, as would be expected, the few who corrected their faulty dietary habits remained well without further liver therapy. These findings provide an explanation of the variable incidence of macrocytic anaemia in pellagra. Though the sources of the B complex and the extrinsic factor are frequently identical, deficient dietaries may be lacking in one or other as well as in both. A high incidence of macrocytic anaemia unaccompanied by avitaminosis has recently been reported in this *Journal* among Indian troops on an exclusively vegetarian diet,[12] whereas it is probable that the diets of pellagrins in Egypt and the endemic areas of the United States, where the incidence of macrocytic anaemia is low, contain adequate amounts of the extrinsic factor though deficient in the B complex.

Finally, we must emphasize that this excellent American study is a challenge to British haematology. The British Empire is the world's largest reservoir of nutritional macrocytic anaemia, and it is painful that English haematologists should be expending their skill on the minutiae of their craft at home when such important work awaits them in the field. A cheap remedy for nutritional macrocytic anaemia would greatly enhance the vigour of tropical and subtropical populations. To discover it there are some obvious immediate steps. The first is the creation of a research centre or centres in a situation where large numbers of patients with nutritional macrocytic anaemia can be attracted and treated. The second is the fractionation of beef muscle by the same kind of technique as the Harvard group[13] has developed for plasma and the study of the separate fractions to locate and isolate the extrinsic factor. The third is the purification and characterization of the liver principle. These problems have hung in the wind for the last ten years, largely as a result of the war and the impossibility of sending research teams over-seas, but the war itself has shown how important the problem of nutritional macrocytic anaemia is, and how urgent, therefore, it is to create an organization to deal with it.

ARTIFICIAL LIMBS

The recent White Paper[14] setting out the report of the Departmental Committee appointed by the former Minister of Pensions, Sir Walter Womersley, gives a good survey of the fitting and supply of artificial limbs. It is a carefully compiled document presenting information of value to all concerned with the welfare of those who have undergone amputation. Previous reports have necessarily dealt with Service cases only, but now that the Ministry's limb-fitting organization is employed by other Government Departments, and by other bodies who provide artificial limbs, it affords a useful review with some welcome recommendations.

At the end of the 1914–18 war artificial limbs were made of varying designs by many firms. With the large number of Service cases there was no one firm capable of supplying all the prostheses required. As the various types were tried it became manifest which designs were better suited for the use and comfort of the patient. Ultimately it could be decided which were the essential features to be incorporated in a uniformly constructed and comfortable prosthesis for each site of amputation. It appears from the evidence of witnesses representing large numbers of pensioners and from reports received (as set out in Appendix 1) that the present artificial leg is of sound construction and design, giving general satisfaction. Reviewing the recommendations set out there still appears room for improvement in some types of leg, and a like conclusion seems to have been reached regarding the artificial arm. One might well think that it is against progress to eliminate competition by placing the contract for the manufacture and supply of limbs with one firm. The White Paper declares, however, that when new designs of legs and arms and of appliances are submitted and proved to be of value they will be incorporated to improve the prostheses. A standing advisory committee has been specially appointed to investigate all proposals submitted and to have any new development critically examined and tested. This procedure should ensure further progress and enable all types of patients to have their requirements specifically catered for.

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[12] Taylor, G. F., and Chhuttani, P. N., *British Medical Journal*, 1945, **1**, 800.

[13] Cohn, E. J., *et al.*, *J. clin. Invest.*, 1944, **23**, 417 *et seq.*

[14] *Artificial Limbs.* Ministry of Pensions, 1945. H.M. Stationery Office. Price 4d.

Whereas before the present war the Ministry of Pensions mainly supplied only ex-Service men with prostheses, there are now many civilians, including women and children, who have been injured by enemy action to be considered. The Ministry of Education also uses the Ministry of Pensions' organization to provide school-children with such prostheses as are required for congenital and other cases. This new branch of the work certainly calls for more individual care from the surgeon and the fitter, as indicated in the report. It is to be hoped that some of the committee's recommendations will soon be put into effect. Individual attention by one surgeon and the same fitter is a major factor in the rehabilitation of the person who has lost a limb. The surgeon responsible for examining a patient, advising the correct treatment of the stump before limb-fitting, and ultimately specifying the proper type of limb for the site of amputation needs to be a man who can inspire the patient's confidence. He can, with the co-operation of the fitter and repeated examination of the patient, ensure a successful fitting of the prosthesis. Now that limb-fitting is regarded as a specialized practice the recommendations in paras. 21 and 22 are of primary importance: there is need for skilled surgeons with both medical and technical knowledge who will work closely with the limb-fitter. The Ministry's policy in employing surgeons for this work will no doubt be copied in other countries where so far it has been handled only by the limb-maker.

Careful records of all relevant data concerning patients and their full subsequent limb-fitting history should be published for the guidance of those dealing with the limbless in all countries. This would very often be of inestimable value to surgeons before the actual amputation is performed. Are the committee's recommendations that a patient might have the limb on trial in the rough stage being seriously considered and carried out? There appears to be a controversy on the question whether the patient should have a wood or a metal limb for a below-knee amputation site: the advantages and disadvantages of each might well be published for guidance. Artificial arms need a specially detailed study with regard both to the arm and to all appliances used. The replacement of the natural hand by anything approaching it presents a very difficult problem. It is to be hoped, however, that no effort will be spared to obtain useful industrial employment for the man who has lost an arm—something which needs more skill than the job of messenger or lift-attendant.

The methods used for re-educating and training those who have lost a limb are clearly set out and fully confirm what has already been published in many journals upon rehabilitation generally. As a result of the committee's recommendations, together with the suggested technical improvements summarized in Appendix 4, and any other suggestions which may be submitted at various times, we may hope that the experience of the Ministry of Pensions will further benefit all people throughout the world who have undergone amputation. The report is a very fair and useful criticism of the work of the limb-fitting organization of the Ministry, whose staff have shown great forethought in establishing a system capable of being extended to cover the requirements of Service and civilian cases from the outbreak of the war, as well as supplying artificial limbs to patients from Allied countries, and also maintaining the system for patients injured in the last war for whom it was originally devised.

PERNICIOUS ANAEMIA AND CARCINOMA OF THE STOMACH

Interest in the coexistence of pernicious anaemia and carcinoma of the stomach dates back to 1876, when Quincke is said to have called attention to such a case. It has grown as the diagnosis of pernicious anaemia has become more accurate and as patients with pernicious anaemia have been kept alive by treatment with liver. A gastric tumour has been discovered as late as 17 years after the diagnosis of pernicious anaemia, and it seems clear from the Mayo Clinic[1] statistics that the concurrence of both benign and malignant tumours of the stomach with pernicious anaemia has increased since the anaemia has been brought under control. There is nothing to suggest that the liver principle is carcinogenic; on the contrary, gastroscopic and microscopical examinations of the gastric mucosa suggest that liver extract tends to arrest inflammatory and degenerative changes in the stomach as in the tongue. The extensive literature has been reviewed recently by Kaplan and Rigler,[2] who have also analysed 43,021 consecutive post-mortem reports in the Department of Pathology of the University of Minnesota from this point of view. Their task has been made harder by the fact that, although pernicious anaemia is more easily diagnosed in life than after death, there has been a tendency to regard any severe anaemia occurring in association with carcinoma of the stomach as due to the carcinoma and not to study it further. It seems doubtful whether a carcinoma of the stomach could produce pernicious anaemia by its action on the gastric mucosa, for complete removal of the stomach in animals and man is rarely followed by the development of pernicious anaemia, and it is more probable that when the two diseases occur together it is because both are the result of similar hereditary or acquired characteristics of the gastric mucosa. In their own series Kaplan and Rigler found that there were 36 cases of known association of pernicious anaemia and carcinoma of the stomach among 293 cases of pernicious anaemia. This represents an incidence of gastric carcinoma in 12.3% of all cases of pernicious anaemia coming to necropsy. The incidence of gastric carcinoma among all other necropsied individuals of comparable age was slightly less than 4%—less than one-third of that found in individuals with pernicious anaemia. Statistically there was decisive evidence for an aetiological relation between carcinoma of the stomach and pernicious anaemia.

The conclusion that Kaplan and Rigler drew from this study was that patients with pernicious anaemia should be submitted to clinical and *x*-ray examination at regular intervals to secure early detection of new growths of the stomach. This procedure would provide an opportunity for the study of the earliest signs and symptoms of carcinoma of the stomach and for the analysis of the hereditary and constitutional factors at work. Moreover, it would be more profitable and practicable a method of early diagnosis of carcinoma of the stomach than the routine *x*-ray examination of all individuals over 50, as less than 1 in 1,000 people in these groups will be found to have carcinoma of the stomach at any one survey. Admittedly not more than 5% of all patients with carcinoma of the stomach will have suffered from pernicious anaemia, but study of pernicious anaemia may enable us one day to pick out the individuals with precancerous lesions of the stomach. Rigler, Kaplan, and Fink[3] have therefore kept 211 patients with pernicious anaemia under observation, examining the stomach usually twice a year but occasionally at longer intervals. The maximum number of *x*-ray examinations per patient so far is eight. Already carcinoma of the stomach has been found in 8% of the patients and benign polyps in 7%. These figures seem high, but the presumption is that they will finally rise higher, to the level of the 12% found in the post-mortem room. The detection of benign polyps is of cardinal importance, as these tumours so often become malignant. The characteristic malignant growth in the stomach in pernicious anaemia is a bulky polypoid tumour, and the sequence appears to be atrophy of the gastric mucosa, benign polyp, and finally adenocarcinoma. The problem of dealing with these benign polyps in the individual patient is difficult. If the lesion is not more than 4 mm. in diameter Rigler and his colleagues prefer to watch and await developments. When the tumour is larger, resection is advised, even though it seems benign. These American studies are very convincing, and it is desirable that regular clinical and *x*-ray examinations of the stomach in pernicious anaemia should become the customary practice.

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[1] Olson, S. W., and Heck, F. J., *Proc. Mayo Clin.*, 1945, **20**, 74.
[2] *Amer. J. med. Sci.*, 1945, **209**, 339.

CAFFEINE AND PEPTIC ULCER

Already in 1904 Allard[4] observed the production of acute gastric erosion and haemorrhage, in man and dog, after the ingestion of synthetic theophylline, and numerous later workers have confirmed that drugs of the caffeine series, administered orally or by injection, may induce acute gastric erosion within a few hours. Roth and Ivy,[5] who have shown previously that the development of the caffeine-induced ulcer is associated with increased secretion of acid and pepsin, and that it can be accelerated by alternate administration of caffeine and histamine, have now[6] studied sections of the gastric mucosa of the cat excised serially by a special technique at intervals of 15 minutes after the slow intravenous injection of 250 mg. caffeine sodium benzoate. They describe a regular sequence of changes in the mucosa: vasodilatation and engorgement followed by vascular stasis, local anoxia, increased capillary permeability, transudation, extravasation of blood elements, and proceeding finally to decreased cell nutrition. Roth and Ivy are accordingly of the opinion that the acute caffeine-induced ulcers arise by the digestive effect exercised by pepsin and hydrochloric acid, formed in excess, upon a gastric mucosa specifically devitalized by circulating caffeine. They add that the pharmacodynamic action of caffeine upon the stomach may or may not be partly or wholly dependent upon its excitatory action on the central nervous system.

Merendino and his fellow-workers[7] have examined the effect of daily intramuscular injection of caffeine alkaloid in a beeswax medium in guinea-pigs and cats. Four out of 10 guinea-pigs and 11 out of 26 cats developed typical punched-out ulcers. In dogs with prepared gastric pouches it was shown that the subcutaneous injection of 1,200 mg. of aqueous caffeine alkaloid, or the daily intramuscular injection of 2,500 mg. of caffeine alkaloid in beeswax, increased the volume and acidity of gastric secretion. This effect persisted even after division of the vagus, and is presumed to be due to the direct action of caffeine upon the gastric mucosa. This experimental work is not without direct and immediate application to man. Merendino has verified that two cupfuls of coffee taken by mouth or by stomach tube increase the volume and acidity of gastric secretion, and that the increase is most dramatic if the coffee is drunk cold and black. Judd[8] in 1942 reported the perforation of a peptic ulcer in a young man, with no previous experience of dyspepsia, after the ingestion of 150 bottles of coca-cola during a five-day heat-wave. Another patient, whose duodenal ulcer proved highly resistant to treatment, proved to be a coca-cola addict. The relation of peptic ulcer to caffeine in these two clinical examples may not be entirely causal, but the experimental work brought together in the papers cited is at least an adequate justification for eliminating caffeine-containing beverages from the diet of ulcer patients.

A NEW REACTION TO EMOTION

Our knowledge of the physiological changes that occur in the body during emotion has hitherto been confined to the increased activity of the sympathetic system, which reinforces its own effects by liberating adrenaline from the suprarenal gland. During fear or anger there is a rise of blood pressure, with increased rate and force of heart-beat, inhibition of the intestines, and pallor of the skin—all changes recognized to help the body to defend itself, and produced by the agency of the sympathetic system. Recent work by E. B. Verney and his colleagues has now brought to light another mechanism which is set in action by emotion and which again involves the discharge of a hormone into the blood stream. Working in the Pharmacological Laboratory in Cambridge on the release from the pituitary posterior lobe of the hormone which controls the loss of water through the kidney, Theobald and Verney[9] observed that "stimuli ranging in severity from shaving the skin to lumbar puncture inhibit water diuresis for varying periods of time." Rydin and Verney[10] later found that diuresis caused in a dog by giving water was also inhibited by a powerful auditory stimulus such as the sounding of a motor-car horn, or by an electrical stimulus applied to the skin.

It seemed very likely that these inhibitory effects were due to the sympathetic. Verney has taken the greatest care to demonstrate that the sympathetic plays no part in this inhibition. Of the series of brilliant researches which form an unbreakable chain of evidence it is possible to mention only one or two here. To demonstrate that the change in the kidney which inhibited diuresis was produced by a hormone carried in the blood, Theobald and Verney[9] prepared a dog in which they achieved the apparently impossible aim of separating one kidney from all tissue connexion with the rest of the body, and accomplished this without interruption of the blood flow through the kidney for more than "a fraction of a second." They were able to show that the kidney in these circumstances functioned normally; diuresis followed when water was given to the dog by mouth. This diuresis was inhibited by sensory stimulation of the skin of the dog's back. The inhibition must therefore have been hormonal; it was not due to adrenaline, because adrenaline did not exert an antidiuretic effect of the kind which was observed. The final link in the chain of evidence was obtained by O'Connor and Verney,[11] who demonstrated that the antidiuretic effect of sensory stimulation was reduced to negligible proportions by removal of the greater part of the posterior lobe of the pituitary gland. Verney has thus established the existence of a new reflex pathway which is followed by powerful sensory stimuli. Probably the stimulation reaches the supra-optic nucleus in the hypothalamus, and the impulses which travel to the posterior lobe are relayed from it. The discovery prompts further questions. What other impulses are relayed from this region of the brain in response to such stimuli? Is it only the antidiuretic hormone which is released from the posterior lobe?

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[3] *J. Amer. med. Ass.*, 1945, **128**, 426.

[4] *Dtsch. Arch. klin. Med.*, 1904, **80**, 510.

[5] *Amer. J. Physiol.*, 1944, **141**, 454.

[6] *Surgery*, 1945, **17**, 644.

[7] Ibid., 1945, **17**, 650.

[8] *Bull. Amer. Coll. Surg.*, 1943, **28**, 46.

[9] *J. Physiol.*, 1935, **83**, 341.

[10] *Quart. J. exp. Physiol.*, 1938, **27**, 343.

[11] Ibid., 1942, **31**, 393.

We would like to conclude this outline by referring to the exceptional surgical skill which has characterized this work. A second example in addition to the one already given is that Lockett, O'Connor, and Verney[12] prepared dogs with an exteriorized renal artery. One kidney is brought to lie directly under the skin and the renal artery to this kidney is surrounded by a cuff of skin. Thus it is possible to pass a finger along the dog's back and under the renal artery. The effect on water diuresis of occlusion of the renal artery for any length of time can then be observed. Dogs thus prepared remain in good health indefinitely.

SPROUTING LEGUMES

The soaked pea, the subject of seed germination, has been studied from many aspects, and new facts about this phenomenon are coming to light. Among them the rapid development of vitamins by sprouting legumes must be considered not only interesting but also of practical importance. As early as 1912 Fürst had suggested that in military operations the use of germinated seeds might prevent scurvy. Chick and Delf[13] in 1919 showed that, while dried peas and lentils were useless as a source of vitamin C, on sprouting they became valuable antiscorbutics. Other investigators confirmed these findings, and it was also observed that there was a significant increase in the amount of the B vitamins: in particular, riboflavin and nicotinic acid have been found to increase on germination of legumes, although the amount of B_1 appears to remain unchanged. The importance of applying this knowledge in time of scarcity is obvious, especially when it is realized that, except for their vitamin content, dried legumes have high nutritional value and are also compact and light for transport. In Australia their value became evident in the early stages of the Pacific war, and the Australian Army, working through the Council for Scientific and Industrial Research and the facilities of Adelaide University,[14] issued routine instructions for the proper sprouting of the blue boiling pea (*Pisum sativum*). Although this pea has been found to be one of the most satisfactory legumes for the required purpose, green gram (*Phaseolus mungo*) and soya bean are also frequently quoted. Haricot and navy beans (*Phaseolus vulgaris*) cannot suitably be used, as the rate of germination is so slow that they tend to putrefy before sprouting.[15]

The method usually recommended is a preliminary soaking in water for about 8 to 18 hours in a large burlap bag, or, on a household scale, in a colander. The temperature at this stage is important, as if too high it will induce putrefaction, and if too low it will inhibit germination. About 25° C. is considered a satisfactory temperature. At the end of the soaking period the legumes are drained and germination is allowed to proceed for about three days after commencement of the preliminary soaking or until the shoots are about 2 in. long. Occasional immersion in water, followed by draining, may be necessary over this period. Cooking is best carried out by the conservative method,[16] using a small quantity of water in a covered saucepan. A recent correspondent to this *Journal*[17] pointed out that bean sprouts have been eaten by the Chinese from time immemorial. A survey[18] of the vitamin content of germinated legumes carried out by French and his colleagues at Washington, D.C., gives the following figures in mg. per 100 g. of sprouted pea: ascorbic acid, 25.0; riboflavin, 0.35; nicotinic acid, 1.40; thiamine, 0.24. According to the figures of Lugg and Weller[19] the loss of vitamins during cooking would appear to be about a third of the initial values. These results suggest that the retention of the vitamins may be of the same order as found when the more generally accepted vegetables are cooked. Any food which is recommended for its nutritional value must also conform to accepted standards of palatability. The opinion of French and his colleagues that the final product is highly acceptable as a palatable food as well as an accessory source of vitamins is therefore to be regarded as a further important feature of the phenomenon of the sprouting legume.

UNDULANT FEVER IN THE TRANSVAAL

The annual report of the medical officer of health for Pretoria for 1943–4 is signed by Dr. T. Lötter, who has been acting M.O.H. during Dr. H. Nelson's absence on active service. Besides much information, largely statistical, it includes a note on the menace of undulant fever by Dr. Adrianus Pijper, pathologist to the Pretoria Municipality. Of the three microbes which cause different diseases of the same type *Br. melitensis* and *Br. abortus* are of importance to South Africa. Dr. Pijper's contribution is confined to what he has come across in the way of blood tests done for the diagnosis of undulant fever during the period 1939 to the end of the first quarter of 1944. In a little over five years he found 102 persons who gave a positive test, though only a fraction of these cases were officially notified. Making every allowance for uncertain factors, he concludes that there must be much more of this kind of infectious disease about than is usually thought, and that the incidence in and around Pretoria is certainly not decreasing but rather the reverse. He has good reason to believe that a number of cases completely escape detection and that Charles Nicolle's warning, that undulant fever was a disease of the future and would become more and more prevalent, seems justified by the course that events are taking. The subject is being actively pursued by the veterinary workers at Onderstepoort in so far as animals are concerned, but as usual the medical side is lagging behind. Dr. Pijper points out that it is not laboratory research on the human side that is needed in the first instance: general practitioner and physician specialist should pay more attention to the subject. At the moment both the laboratory worker and the public health official are very much in the dark as to where they should begin. It is for the G.P. and the physician to give them a lead.

Dr. A. J. Orenstein has been promoted major-general, the first medical man in South Africa ever to reach that rank. He has now retired from the South African Army and gone back to his post as chief medical officer of the Rand Gold Mines. Dr. Orenstein has received the C.B. and the C.B.E. during this war, and in the last war the C.M.G.

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[12] *Quart. J. exp. Physiol.*, 1942, **31**, 333.

[13] *Biochem. J.*, 1919, **13**, 199.

[14] Council for Scientific and Industrial Research, *The Production of Antiscorbutic by Germinating Peas*, 1942.

[15] Lugg and Weller, *Austral. J. exp. Biol. med. Sci.*, 1943, **21**, 111.

[16] *British Medical Journal*, 1944, **2**, 806.

[17] Gee-Tseh Mar, ibid., 1945, **1**, 284.

[18] French *et al.*, *J. Nutrit.*, 1944, **28**, 63.

[19] *Austral. J. exp. Biol. med. Sci.*, 1943, **21**, 211.

TRAINING NURSES FOR THE COLONIES

A RUSHCLIFFE COMMITTEE REPORT

A committee under the chairmanship of Lord Rushcliffe was set up by the Colonial Secretary in 1943 to examine the question of the training of nurses for the Colonies and has lately reported.[1] Among its 17 members the committee included 6 doctors—namely, Dr. Mary G. Blacklock, Dr. W. H. Kauntze, Dr. H. M. C. Macaulay, Dr. H. A. Moody, Mr. Arnold Walker, and Dr. A. G. H. Smart, but Dr. Smart left for an U.N.R.R.A. appointment before the report was drafted.

The committee begins its report with a consideration of medical policy in the Colonies. The medical services in the Colonies are now generally regarded as part of a co-operative effort to improve the well-being of the community, and it is accepted that there should be the closest co-operation not only between the Government medical departments and the services provided by the local authorities, commercial organizations, and voluntary bodies, but also between medical workers on the one side and the staffs of the administrative service and of the education, agriculture, and veterinary services on the other. One point made is that hospital services in most Colonial territories can at present be available only to a small proportion of the people who are suffering from disease or its results. On the other hand, in tropical territories at any rate, much sickness is preventable. Thus it would appear that the primary aim of medical workers in such territories should be to improve health standards and to control transmission of disease.

In fulfilment of this medical policy nursing services have clearly an essential part to play. It is within these services especially that scope is likely to be found for the greatly increased employment of women as agents of health and welfare; and the expansion of health education and the welfare of mothers and children will largely depend on the work of nurses.

Standards of Colonial Nursing

In each Colonial territory or group of territories, in the committee's view, there should be set up machinery for the control of standards of nursing by means comparable with those adopted by the General Nursing Council for England and Wales and the Central Midwives Board. It is recommended that all trained nurses should be registered, and that the control of such registration, of nursing education, and of discipline should be in the hands of a Nursing Council set up in each territory or group of territories under a Nurses Registration Ordinance. A Midwives Council should also be established, though in some areas the two might form a joint body.

The committee deals first with locally recruited nurses. These should be trained in schools in their own territories, where the standard should be such as to render Colonial certificates acceptable to the General Nursing Council. After qualifying in these schools, nurses showing aptitude in administration or in special departments in their own territories should be given every facility for post-registration training in the United Kingdom or elsewhere. The "block" system of training is advocated under which the student is relieved of nursing duties in hospital for varying periods in each year and during those periods she receives her theoretical training. It is recommended that the complete period of training required for certificate should be four years, the first three years to be devoted to basic training, and the last year to any special branch.

Midwifery Service

The evidence given to the committee emphasized strongly the need for efficient midwifery service in the Colonies. The committee considers that the minimum period of instruction to qualify for registration as a practising midwife should be at least two years for those without a nurse's training and one year for nurses who have completed the basic three-year course. The aim of Colonial Governments ought to be to improve the training given in midwifery until it is comparable with that given in the United Kingdom, and the curriculum should stress health teaching in relation to pregnancy and the bearing of maternity work on other community welfare services.

It must not be supposed that the recommendations relate only to areas where education has reached school certificate level. The backwardness of girls' education is not in itself a valid reason for delaying the establishment of a nurses' training school, although the course of training will require modification. The teaching must be in a more simplified form; and, as a temporary expedient, in territories where two or more levels of general education exist among the population it is proposed that there should be two grades of certificates for nursing, the second to include the same subjects as the first but with a smaller content, and the precepts to be inculcated by practical demonstration rather than by lecture.

As for the training of nurses in the United Kingdom and Dominions for work in the Colonies, it is suggested that candidates should be registered in the general part of the General Nursing Council's register. Except for a few specified posts, candidates should also be State-certified midwives. Before appointment to the service they should have had at least one year's hospital experience after State registration. Sister tutors and midwifery teachers should be nursing sisters who already had had some Colonial experience. All candidates before taking up their appointment should be given a special course of instruction designed to equip them adequately for the Colonial Service, and they should set themselves to learn the principal language of the territory.

On the question of recruitment and conditions of service, it is suggested that the Colonial Governments should provide full information concerning local conditions and duties, and that more effective publicity might be given in the schools to the possibilities of a nursing career in the Colonies. Conditions of service should be at least as favourable, having regard to local purchasing power and taxation, as those already recommended by the Rushcliffe Committee for nurses in this country, pension arrangements should be not less attractive, and provision should be made for transfer of nurses between this country and the Colonies, in either direction, without loss of pension rights.

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[1] Cmd. 6672. H.M. Stationery Office. 1s.

A PIONEER IN BLOOD TRANSFUSION

A fund the object of which is to raise a minimum of £10,000 for the development of blood transfusion and research in connexion therewith has been inaugurated in memory of Percy Lane Oliver, a pioneer who in 1921 brought together the first small group of blood donors and devoted his life to the blood transfusion service. Oliver was secretary of the Camberwell Branch of the British Red Cross Society when a message was received from King's College Hospital, which was anxious to find someone willing to give a pint of blood to save a dying patient. He called his associates together and persuaded them to leave in a body for the hospital as volunteers. The blood of each was tested, one of them was chosen, and the life was saved. Thereafter Oliver formed a small society of men and women who agreed to submit to blood tests and to "stand by" for any hospital call; this expanded into the London Blood Transfusion Service, and eventually was taken over by the British Red Cross Society. By the beginning of the recent war there had been recruited in London alone more than 3,000 donors, giving between them 10,000 blood transfusions a year. Oliver, who died in 1944, devoted his life to this organization. A committee has been formed under the presidency of Dowager Lady Ampthill, with Air Vice-Marshal Sir David Munro and Mr. Victor Riddell, F.R.C.S., among its members, to perpetuate his memory by raising a fund for research into matters relevant to blood transfusion, for the establishment and maintenance of voluntary blood donors' services, and for the giving of lectures and issue of literature. The address of the Oliver Memorial Fund is 18, Wilton Crescent, S.W.1.

MEDICAL STUDENTS' CONFERENCE

A clinical conference under the auspices of the British Medical Students' Association was held at the end of last month in the Leeds University Medical School; students from the Universities of Durham, Liverpool, Manchester, Birmingham, and Sheffield, and from London hospitals attended. Mr. George Armitage, F.R.C.S., honorary surgeon to the General Infirmary at Leeds, gave the inaugural lecture on "The Personality of a Hospital."

Mr. Armitage said that in the history of the Leeds General Infirmary the personality of the staff had always impressed itself upon the institution. He mentioned William Hey primus, pupil of the great John Hunter and one of the first four surgeons to be appointed to the Infirmary in 1767; Samuel Smith, who lectured in the medical school from 1831 to 1858; John Heaton, Pridgin Teale, Sir Clifford Allbutt, McGill, and in later years Lord Moynihan. There was also the influence of the medical student. The student body added that flavour which, to a hospital, meant life. A hospital was safeguarded, so far as its patients were concerned, if its workers came under a constant fire of criticism from watchful students. The personality of a hospital seemed to him its greatest asset, and this thought must quicken the sense of responsibility of all working in it and for it.

Col. Malcolm Stoddart-Scott, M.D. (M.P. for the Otley and Pudsey Division of the West Riding) gave a general lecture in which he discussed the moral and sociological problems connected with the declining birth rate.

OPENING OF MEDICAL SCHOOLS

WESTMINSTER HOSPITAL

Archbishop of Canterbury on Doctors and Priests

The inaugural address at Westminster Hospital Medical School was given on Oct. 1 by the Archbishop of Canterbury, Dr. Geoffrey Fisher. With him on the platform were the Lord Chancellor (Lord Jowitt), Lord Horder, Mr. H. S. Souttar (President of the British Medical Association), Lord Wigram (President of Westminster Hospital), Mr. Eardley Holland (President of the Royal College of Obstetricians and Gynaecologists), and Air Marshal Sir Harold Whittingham (Director-General, R.A.F.M.S.).

Dr. **Fisher** prefaced his address by making two general observations. The greatest need of this generation, he said, was an accepted doctrine of the meaning and purpose of life by which could be controlled the multiplicity of ideas, desires, and passions which poured incessantly over human activities. For a long time past two processes had continued side by side—the fragmentation of truth and the frustration of life. Fragmentation of truth had occurred partly because the field of human knowledge had extended so vastly that no man could cover more than a fragment of it, and the idea of truth as governing the whole disappeared; with this had come—probably as an effect following the cause—a sense of frustration. His second observation was that the remedy could be found only in a truth and purpose which was greater than man, not created by him, but governing and controlling him, to which he would give the name of religion.

The medical profession (Dr. Fisher continued) had its scientific, social, and personal aspects, and he desired to say a word on each. Its scientific aspect was the exciting and enthralling pursuit of truth, the acquisition of exact knowledge by experiment and observation. Scientific truth was discovered by man, not created by him. From the beginning of time penicillin and the atomic bomb were potentialities; man did not put them into the universe, and this compelled the reflection, How did the universe become such an ingenious thing as it was—by chance or by design?

Pure science was concerned only with truth and error, but as pure science it existed only in abstraction. As soon as it was applied and used, it inevitably became involved in another contrast—good and evil; that is to say, in moral issues. Medical science touched moral problems at a hundred points.

> "We laymen are liable to get frightened lest science by degrees deprive us of any right to exist. We long ago handed over our bodies to the medical profession, but our souls have now gone with them, and the psychologist tells us ghastly things about them—for example, that we do not exist, save as a series of reactions. It will not do. Man remains essentially himself in spite of all the things that science may find about the workings of his machinery."

The Key Position

Medical science, said the Archbishop, was a social science. It was the bounden duty of medical science to do its utmost for society, and of society to see that all the resources of medical science were freely open to all citizens. It was rather easy to get mesmerized by the word "social." It led one to think of men in the lump, and of health and disease in the lump, which was perhaps necessary for the purpose of statistics and organization, but mass thinking was always dangerous. If the individual was left out of sight society became a tyranny. The unit of society was the family, and the key position in the medical profession was the family doctor. Whatever specialization was otherwise required, the whole thing revolved around him. Here the speaker touched on the problems of marriage and sex, asking whether medical students were trained to give skilful, understanding, and wise advice on these problems instead of gathering their impressions from casual experience.

Finally he dealt with the personal aspect of medicine.

> "You doctors are with us priests in vindicating the value of the individual. Even in our civilized society there are incalculable forces to depress individual values. You in your profession go and serve the individual for what he is, at all costs to yourself, and your justification is in the end to be found only in the divine love repeating itself in human charity. For that reason you are never only doctors, but also priests in the true sense of the word. The doctor above all—except for the priest—must meet his work with this unity of doctrine about life which can give him a settled, wise, and competent manner of handling the problems presented to him. What patients look for is something stable in the doctor who ministers to them. They want to be sure that he has looked at life steadily and has seen it whole, and has in that process gained wisdom, or, as I should call it, the religious outlook."

The Archbishop added that he had asked a son of his, who was a medical student, what he was to say on that occasion, and his son had reminded him of a remark of Dean Inge that doctors on qualifying should be ordained to their ministry as much as priests. That was true, said Dr. Fisher, and he desired to give public notice that if a procession of students just qualified made their way across Lambeth Bridge and assembled in Lambeth Palace Chapel he would be only too glad, not indeed to ordain them, but in a suitable form to commission them for their ministry.

A vote of thanks to the Archbishop was proposed by Air Vice-Marshal **Stanford Cade**, and seconded by Dr. R. J. V. **Pulvertaft**. The Dean in his report welcomed back from the Forces six members of the teaching staff, but stated that there were eight vacancies to be filled, and the strain on the existing staff must continue until the best candidates were forthcoming, whether now in uniform or not. The Westminster Hospital School of Medicine welcomed and invited women students to join them once again. A number of prizes, medals, and an inauguration cup were presented to successful students, and a vote of thanks was accorded to Mr. A. W. Clowes, chairman of the medical school committee, who presided.

Opening the 104th year of the College of the Pharmaceutical Society of Great Britain on Oct. 3, Mr. J. C. Young, the president, said that in the coming session, and for the first time in the history of the College, the number of graduate and postgraduate students far outnumbered those taking the Ph.C. and C. & D. diplomas. This indicated the trend of pharmaceutical education, which was rapidly passing into the universities. He welcomed this, for the effect on pharmacy must indeed be beneficial. One could wish that all of them, no matter what branch of pharmacy they had decided to take up—whether retail, hospital, or manufacturing—should not be content with the C. & D. but would stay a further year, if at all possible, to take the higher qualification. He hoped also that many would aspire to postgraduate work and apply for one of the scholarships available.

HOSPITAL AND MEDICAL SCHOOL FOR UGANDA

An important step forward in the development of the medical services in East Africa has been taken in Uganda, where plans for the new hospital and medical school at Mulago, Kampala, are being made. A grant of £500,000 is provided for the purpose under the Colonial Development and Welfare Act. The designer is Mr. Rees Phillips, F.R.I.B.A., who was responsible for the big hospital at Carshalton, Surrey, and the new wing of the Brompton Hospital. He spent some weeks in Uganda and interviewed all officers now working in Mulago.

The new hospital to be built will provide accommodation not only for Africans but for Asians and Europeans, and provision will also be made for a large nurses' training centre to accommodate up to 700 nurses. The new medical school is planned to accommodate medical students up to an annual admission rate of 30, and there will also be accommodation for training pharmacists, laboratory assistants, and sanitary inspectors. The wards of the hospital will be small, the largest one holding 16 beds, and there will be a large proportion of single-bed wards. In the African section alone it is planned to provide at least six operating theatres equipped to deal with surgery of every kind.

The Friends Ambulance Unit was formed in 1914 by a group of Quakers. Until 1916 its members served as medical aid men with the British and French Armies on the Western Front. It was re-formed in 1939 by some of its earlier members. Although the work in Finland, Norway, Greece, and the Western Desert was in direct line with the tradition of the first unit, it has, since the days of the air attacks on London in the second year of the war, turned increasingly to the relief of the civilian victims of war, famine, and disease. It is now devoted entirely to this work, and 500 of its members are over-seas. A report of work done in Europe and the East in June, July, and August, 1945, has been published from 4, Gordon Square, W.C.1.

Correspondence

Housing and Health

Sir,—You have done well to publish Dr. H. Nelson's paper (Sept. 22, p. 395) as the profession is apt to overlook the close association of disease with poverty, although the facts are plentiful and well authenticated. But this association is partly casual, and we ought to try to distinguish the casual from the causal, as the remedies are different.

In the first place the standard of hygiene is much lower among the poor, and this accounts for a good deal of disease. Fresh air is nearly always lacking, and infants are the greatest sufferers. It is common to see them in their prams with the hood up in the darkest corner of the overheated living-room; very often they are not taken out for days on end in the winter. Professional people (in these days) invariably keep their infants out of doors all day, and it is a fact that their children suffer and die from catarrhal diseases far less frequently than poor infants.

Discipline.—On the whole the wealthier classes discipline their children better (or pay a nurse to do it) than the poorer classes. They enforce early bed, if for no other reason, because after listening to their prattle all day they are glad to get a little peace for themselves in the evening. Many poor people start wrong from birth by keeping their infants downstairs with the lights blazing, the wireless blaring, and everyone smoking until they themselves go to bed; then they wonder why they cannot get their children of 6 to come in from the streets till a late hour. This problem simply does not arise with the rich. *Waste.*—The poor are proverbially wasteful, and one has only to glance at the pig bins, which are nearly always on their sides, to see this. At the height of the siege of Britain I used to see half-loaves of bread which had been thrown away.

Unwise Spending.—It is not uncommon for working men to admit to me to spending 15s. to £1 per week (£40 to £50 per year) on cigarettes. The cinema twice a week is practically a necessity to many families. I do not know what is spent on drink and betting, but the "football pools" are widely patronized. There is no doubt that the standard of living could be appreciably raised by the exercise of reasonable economy, and one does see many families who are economical and are far better equipped as a result. *Neglect.*—Every experienced G.P. will recollect cases where he was called in at the last minute to sign a death certificate for a moribund child when he was in two minds whether to inform the coroner, and others involving a high degree of ignorance and folly. They may not be very common, but they do push up the infant mortality rate, and I have never known or heard of them in the well-to-do. Social pressure is too strong to permit that sort of thing.

Malnutrition.—The first essential in guarding against this is reasonable table discipline. Many children have to be pressed (I do not say coerced) into eating fat or green vegetables, and prevented from eating the wrong things or between meals. The war has probably done good to nutrition by limiting sweets, and it is likely that excess of sugar prevents the absorption of other essential foods. It has also taught us what a lot of food we can provide for ourselves. It requires no great skill or knowledge to keep chickens, and experience shows that they lay perfectly well when fed on potatoes and balancer meal; and their excreta can be used on the compost heap. It is no superhuman task to grow enough vegetables for a household of ten to have greens or roots nearly every day of the year. It is sad to see how many allotments have already been given up, and it is surely not unreasonable to encourage people to help to feed themselves, especially if they are unemployed.

It is impossible within the limits of a letter to touch on remedies, but if a correct diagnosis is made these will often suggest themselves. Suffice it to say that there is a big harvest of health to be reaped without any new discoveries by applying money and ingenuity to judicious educational propaganda.—I am, etc.,

Norwich. FREWEN MOOR.

Psychiatry in the Army

Sir,—I shall be interested to hear the views of others concerning the part that psychiatry has to play in the disposal of many cases which come under the review of a Service doctor and which are not dealt with by specialists in other branches of medicine. To send a patient to the neuropsychiatrist is frequently the refuge of the diagnostically destitute, the results, in my experience, often being most disappointing. I refer to those cases which present certain well-known features, such as headaches, dizziness, lack of confidence, depression (with or without suicidal tendencies), lack of emotional control, temperamental instability, vague muscular pains, insomnia, bad memory, and multitudinous digestive disorders, coupled with inability to carry out their appointed duties. Having received a clean bill of health from all other specialists they are handed over by the unit medical officer in desperation to the neuropsychiatrist for diagnosis and disposal. The neuropsychiatrist will in most cases extract a typical history, including many, if not all, of the following features: nail-biting, childhood bed-wetting, fear of the dark, anorexia and insomnia, functional impotence, and, in some cases, upset over domestic or Service matters.

The first step on the downward path is now taken. A diagnosis of anxiety state is made, the medical category is lowered, and the patients' oversea service is restricted. Almost without exception on returning to their unit they deteriorate steadily, until, in desperation, the final scene is enacted, and they are invalided out. I contend that this course is unsatisfactory and immoral. The patients' weaknesses, whether real or alleged, are pandered to, and a chronic state of neurotic invalidism is engendered, which makes them a burden to all concerned, including themselves.

A unit medical officer can observe these cases between the time they are told they will be invalided and the date of their actual discharge. What a transformation we now behold! The lame leap for joy, the blind see, and dyspeptics eat large indigestible meals without apparent discomfort. Why this miraculous change? What healing balm has been applied? What unction bestowed? In my opinion these people have, by conscious or unconscious deception, achieved their object. Instead of uniform they will wear civilian clothes; instead of a barrack-hut, the comforts of a home; instead of discipline, independence. I will quote a few examples of many that I have seen personally. An N.C.O. at one time quite incapable even of light duty is now running a large greyhound business with great success (and commensurate profit). A girl who could hardly walk from exhaustion and fatigue now does a heavy day's work as a civilian waitress (on excellent pay). Another N.C.O., who had outbreaks of weeping on being asked to work overtime, now he knows he is to be invalided, can be seen merrily cycling home five miles to work in his garden.

I have become very cynical of such cases. I feel that many of them think that if they make life sufficiently intolerable for their colleagues and the medical officer they will attain their object—as in many cases they do. The melancholy results obtained are not the fault of psychiatrists, unit medical officers, or the executive, but of a system which permits this escape mechanism for those unwilling to bear the heat and burden of the day—a system which lays too much stress on psychological illness and not enough on a man's responsibility to his fellows. Previously such patients had my sympathetic attention, but now I refer more and more cases to the executive for disciplinary action, with the most surprising and gratifying results. In a recent case of a senior N.C.O. dealt with in this manner he decided that hard work was more acceptable outside prison than inside.

I shall be interested to hear the experience and opinions of others on the subject.—I am, etc.,

KENNETH G. BERGIN,
Inverness. Wing Cmdr., R.A.F.

Penicillin and Synthetic Rubber

Sir,—I should like to reinforce the warning given by Mr. F. A. R. Stammers (Sept. 22, p. 400) against the use of synthetic rubber in apparatus for the administration of penicillin. In an experiment in which a weak solution of sodium penicillin was enclosed in sterile lengths of synthetic and natural rubber, and in glass, and kept at room temperature overnight before assaying potency, the following results were obtained:

Penicillin Solution	Zone of Inhibition of Growth of "Oxford" Staphylococcus on Seeded Agar Plate
In contact with glass	15 mm.
In contact with natural rubber	13 mm.
In contact with red synthetic rubber ..	3 mm.

It will be seen that an almost complete loss of potency occurred in the penicillin solution that was in contact with synthetic rubber. The fact that even a natural rubber has some destructive effect upon penicillin emphasizes the need for an administration apparatus which will not require the lengths of tubing used in so many current designs.—I am, etc.,

E.M.S. Hospital, Bridge of Earn. M. E. Morgan Thomas.

Fenestration for Otosclerosis

Sir,—Your leading article on this subject (Sept. 29, p. 430) will be the focus of attention of all who have the care of these tragic cases of otosclerosis. This common disease, from the ravages of which no adolescent or adult is exempt, develops so insidiously and bilaterally that the deafness is far advanced when the patient first seeks advice. (I have yet to encounter an early case of otosclerosis.) By this time the patient is already doomed to an insidious progressive bilateral incurable deafness, which will result, with the passage of years, in a complete loss of hearing for air conduction. Otosclerosis is by far the commonest cause of an insidious bilateral deafness developing in adolescents and young adults, and is especially prone to attack young girls with otherwise unblemished health. The possibility of relief by the fenestration operation brings a ray of hope and even opens up the vista of a cure. I write to plead for the early establishment of many suitable centres in London, solely devoted to these operations; at present such facilities are meagre, if they exist at all.

Some three years ago I was consulted by an otosclerotic of about 35 who was so deaf that only a very loud shout bawled into his ear could be perceived. Tired of years of ineffectual visits from hospital to hospital he demanded that something be done for his deafness. While the audiometer revealed a bilateral loss of 60 to 70 decibels for all tones for air conduction, his hearing by bone conduction (as is usual in these conditions) remained good. I performed a fenestration operation on his labyrinth (operation time, 90 minutes) without the use of a cartilaginous spigot. The result was dramatic and exceeded all expectations. The patient could hear ordinary conversation easily at over 15 feet. Now, years later, he can still hear an ordinary conversational voice effortlessly at 8 to 10 feet, and has permanently discarded his bone-conduction instrument without which he had (previous to the operation) been unable to hear at all.

The success of this case demonstrates the miraculous and sustained restoration of good hearing to the completely deafened person—one who has invariably been told that nothing can be done for him.

Any patient suffering from advanced otosclerosis (with an air-conduction loss of more than 40 to 50 decibels) should have the opportunity of undergoing, if he so desires, the operation of fenestration of the labyrinth. The exact degree of deafness must first be ascertained by testing with the audiometer for air and for bone conduction. If the bone conduction is uniformly satisfactory there is a good possibility of the hearing being restored by operation, the exact extent varying from case to case. My operational experience bears out the statement that if the bone conduction for the high frequencies is poor the deafness is unlikely to be alleviated by the operation. I can also confirm the statement in your leader that the fenestration operation slows the progress of the disease on the operated side, the patient depending on this ear for all residual hearing at a time when the air conduction of the unfenestrated ear has been completely lost. In one case under my care the fenestration operation had been undertaken in France over 8 years ago. Loud conversational voice could be heard at up to 3 feet by the fenestrated ear (the fistula test being still positive), whereas the other ear was completely deaf.

The fenestration of the labyrinth is performed in one stage. The operation presents no undue difficulties; nor need it be unduly tedious, certainly not to the experienced mastoid surgeon supplied with adequate and trained assistance and with suitable equipment, particularly an electric bone drill. Average operation times vary from 60 to 90 minutes.

Your leader omits reference to the distressing vertigo following the operation—vertigo which may last for many weeks or even months, delaying convalescence. Tinnitus may also be troublesome. The spectre of a facial-nerve lesion resulting from the operation is one that always looms large before the surgeon—a spectre in no way diminished by the fact that nearly all the cases suitable for operation develop in handsome young females. However, one can avoid injury to the nerve, and in all my experience only one case developed, 3 weeks after the operation, a slight facial paresis which resolved in a few days.

The difficulties encountered are not only those associated with the actual fenestration. There are those of getting suitable equipment these days and of lack of suitable surroundings in which to undertake the operation, which is a "clean" one. The patient should be hospitalized in surroundings consistent with this type of operation, one in which the entire success depends on securing and maintaining freedom from infection and obtaining primary healing. There is no place where the risk of infection is greater than in the crowded wards of an ear-nose-and-throat hospital or department. This is a pity and a great handicap, as the special hospital is the place *par excellence* for the performance of this delicate operation. One may express the hope that in the new oto-rhinological era at the Royal National Throat, Nose, and Ear Hospital, which will rise phoenix-like from the ashes of the Central London Throat, Nose and Ear Hospital and the Golden Square Hospital, special wards will be set aside devoted solely to the fenestration operation for the relief of deafness due to otosclerosis, and that the scale will be of the same magnitude as that now undertaken so successfully in the clinics of the U.S.A.—I am, etc.,

London, W.1. N. Asherson.

Sir,—I read your leading article on this subject with great interest, and I admired the well-balanced exposition of a procedure which, though it "has passed the experimental stage," is still in the dawn of its usefulness. It is, therefore, with the greatest respect I would differ from the writer on a few points. I do not think the operation need be "long and tedious," nor need it "remain in the hands of a few with special aptitude." I believe it to be easily within the ability of any competent aurist who will study the anatomy and the technique. Actually, in my experience, the most difficult part of the operation is not avoiding damage to the facial nerve but the fitting of what Lempert calls the "stopple" of cartilage into the artificial opening of the canal, and this difficulty is one of instrumentation and only awaits the freeing of our surgical instrument craftsmen from other duties. There can be no doubt that if the war had not adversely affected the hospital facilities in our large cities we should now possess a fuller knowledge of the scope of this operation. As it is, we owe a great debt to Lempert and his colleagues for showing us the possibilities of an outmoded surgical procedure vitalized by modern technique. I am sure that not only has the operation come to stay, but in the near future its scope will increase and the operation be performed for types of deafness other than otosclerosis. A large field of investigation is opening up, and this is a field which the aurist returning from active service can enter on equal terms with his more fortunate colleagues.—I am, etc.,

London, W.1. Edward Carew-Shaw.

Sir,—I read with interest the leading article on fenestration for otosclerosis. As you remark the operation has now passed beyond the experimental stage and come to stay. Having recently had the privilege of working with Lempert in his clinic in New York and of closely observing his results and those of other leading aurists in other New York hospitals who are also performing the operation, I am in the position to confirm this. Discussions of the value of the operation with both the patients and the surgeons lend support to this view. I myself have worked on this operation since 1937, and it is gratifying to know that it is now being accepted.

The procedure is long, slow, and difficult, and the slightest deviation from the principles of Lempert's carefully planned technique is liable to result in failure. I was fortunate to witness Lempert perform a "revision case," where a cartilage stopple had been inserted into the fenestra 15 months earlier. On lifting the epithelial flap the cartilage stopple was found to be freely mobile. The cartilage was removed for microscopical study and a fresh one inserted. In your leading article you remark that "since the stopple is squeezed into the opening like a cork it is difficult to understand how it retains the necessary mobility." This is a misconception; the stopple is not squeezed into the fenestra but rather laid in the opening, where, being cone-shaped, it is supported by the shelving sides of the aperture and retains free mobility. My own results have so far also borne out the advantage of using the stopple as against the earlier methods in which it was not used.

One seldom finds a patient who regards his hearing aid as anything but a tiresome necessity, and most of them feel that to regain hearing to a level sufficient to be able to dispense with the aid makes operation worth while. Apart from the rather complicated technique requiring trained assistants, the most important factor still remains the careful estimation of the remaining cochlear function. It should be borne in mind that otosclerosis also occurs in cases which may have had otitis media. This latter disease if completely resolved does not necessarily debar the patient from benefiting from the operation.—I am, etc.,

London, W.1. E. R. Garnett Passe.

Risks of Gastroscopy with the Flexible Gastroscope

Sir,—It is with great interest that I read the article by Drs. C. M. Fletcher and F. Avery Jones on the risks of gastroscopy with the flexible gastroscope (Sept. 29, p. 421). I, personally, experienced a similar fatal case about two years ago. Although this article should be of considerable value, especially to those whose enthusiasm for this kind of examination rather overshadows their experience, I would nevertheless like to add that in my opinion there are definite causes that contribute to these mishaps, and there are certain features about these patients and methods of procedure which, if considered, should go a long way to minimize this small but most disconcerting risk.

The three cases quoted by Drs. Fletcher and Avery Jones were in elderly women; my own case was in a woman of 63 years, and the perforation also occurred within the upper 1½ inches of the oesophagus. If one considers the normal anatomy of the oesophagus it will be recalled that the musculature posteriorly is deficient in the upper 1½ inches, there being a dehiscence of the inner longitudinal fibres, and the gap thus left is covered only by the circular fibres. The mucosa, like that of the stomach, tends to atrophy with age, especially in women; if this atrophic change occurs in the upper end of the organ an area exists which may be particularly vulnerable and liable to injury or perforation.

The tendency for many gastroscopists is to extend the head too much during introduction of the instrument. The upper end of the oesophagus becomes stretched over the bodies of the 6th and 7th cervical vertebrae and its posterior wall lies in direct contact with them, and, in the presence of an atrophic mucosa, the impact of the metal tip of the gastroscope may be sufficient to start a small tear; subsequent pressure on the delicate area by the rigid portion of the instrument against the bony background with the head fully extended would increase the damage already inflicted. Another important point is that it is impossible to obtain a circular field of vision or to visualize fully certain areas in the kyphotic subjects, and it is a great temptation to the operator to keep on extending the head in order to increase the field of vision. In these circumstances undue pressure of the rigid portion of the instrument may cause a small burst rather than a tear in the atrophied mucosa; in this type of patient the instrument is frequently passed with ease, no injury being produced during introduction. Following upon my own mishap, I always introduce the instrument with the head slightly flexed, gradually extending the head as the rigid portion passes; in addition I find that the rubber finger-tip fitted to my Hermon Taylor gastroscope is a great help in negotiating the crico-pharyngeal sphincter and the hypopharynx.

I feel convinced that if the operator is acquainted with the above anatomical and pathological points, and exercises care in introduction, even in the types of cases mentioned, the risks associated with the use of the gastroscope are really no greater than those during bronchoscopy or other endoscopic examinations.—I am, etc.,

London, W.1. Harry Freeman.

Sir,—The article written by Dr. C. M. Fletcher and Dr. F. Avery Jones on the dangers of gastroscopy brings a timely warning. There is a danger that the practice of gastroscopy may be brought into undeserved disrepute if it becomes a weapon of "the occasional gastroscopist." It is still thought that gastroscopy is as easy as cystoscopy or oesophagoscopy, and that the gastroscope can be passed after reading about it or watching an expert on a few occasions.

Fletcher and Avery Jones with their vast experience show clearly how dangerous the instrument can be, even in expert hands. In my opinion they have, however, failed to emphasize sufficiently the fact that under no circumstance is force to be applied in the passage of the instrument. If the instrument sticks in the hypopharynx or in the region of the cardiac orifice it should be withdrawn slightly and another attempt made to pass it on. If it persists in sticking, force will then cause it to pass but at the expense of severe damage to the oesophagus. If the obstruction is due to spasm, waiting for half a minute and then attempting gently to pass the instrument will often succeed. If a second attempt fails, then, in my opinion, it is unsafe to continue and the manœuvre should be abandoned.

It should be borne in mind that cases occur where it is impossible to pass the instrument owing to spinal curvature or other physical abnormalities, and, while I would not go so far as to say that gastroscopy should not be attempted in these cases, I certainly would emphasize that if it is attempted not the slightest force should be employed, and that one should be prepared for complete failure. Both the Wolf-Schindler and the Hermon Taylor gastroscopes are composed of a flexible tube attached to a rigid one. Nobody would dream of passing an oesophagoscope except under direct vision, but in gastroscopy a semi-rigid tube is passed blindly. Surely in such a case no force dare be applied.

Again I deprecate the large out-patient gastroscopy clinics where patients undergo gastroscopy and are allowed to go home very soon after. Perhaps the only excuse for the out-patient gastroscopic clinic is the shortage of beds. I have made a practice of keeping every gastroscopy case in hospital for 24 hours before discharge, and though, after nearly 500 cases, I have not had a single mishap, Fletcher and Avery Jones have clearly shown that gastroscopy, like cystoscopy, is not without its dangers. Schindler has emphasized how necessary it is for the complete general examination to be made of the gastroscopy patient. This should include the spine, chest, abdomen, and throat. All my cases receive this examination, and a careful anamnesis has saved me twice from passing this instrument on epileptics. There is also the nervous, unstable, and unco-operative individual who may easily convert his examination into a catastrophe.

Gastroscopy in the edentulous, big-mouthed individual is very easy, and is apt to mislead the novice. When the opposite type of case is attempted the experienced gastroscopist knows when to desist. It is said that the good surgeon knows when not to operate, so the good gastroscopist should know when not to persevere in his attempts to pass a semi-rigid tube blindly.—I am, etc.,

St. Mary Islington Hospital,
London, N.19. I. I. Price.

The Operation for Varicose Veins

Sir,—The comparatively new operation of ligature and injection of varicose veins is steadily becoming established. Long-term results come forward slowly, because a period of three to five years must elapse before each step can be evaluated. From time to time further points arise, and it is therefore necessary for those who have worked, talked, and written on this procedure to "pool" the information as it comes to hand. In the *Journal* in December last (1944, 2, 814) I advocated the operation of ligature and injection at the groin and ankle. I would like to report several items which have come to my notice in connexion with this operation.

1. *Post-operative Painless Haematuria.*—The operation is occasionally followed by painless haematuria; I know of five cases. It follows in twenty-four hours. Sometimes blood appears at one or two acts of micturition; at others, throughout the day. Another surgeon has told me of a similar case. It has followed the injection of 30% saline and also of ethamolin. There were no further ill effects.

2. *Ligature and Division of the Internal Saphenous Vein in the Groin.*—In ligaturing the internal saphenous vein in the groin it has been the custom to tie the lower end of the vein once but doubly tie the upper end. I have seen the ligature on the lower end slip. It was caused by the bursting effect of the

injection of 20 c.cm. of 30% saline at the ankle. It would appear necessary to transfix both divided ends of the internal saphenous vein in the groin when it is injected at the ankle, and to make the upward insertion slowly. Further, a large excision must always be made to ensure that the internal saphenous and its branches is tied and to avoid ligature of the femoral vein or even of the femoral artery.

3. *External Saphenous Incompetence.*—With regard to incompetence of the external saphenous vein, it is at times seen without the internal saphenous vein being apparently affected. Follow-ups have shown that if the external saphenous vein is ligatured and injected at the popliteal space and the internal saphenous vein not treated, then later on the internal saphenous vein becomes affected and needs ligature and injection. Therefore, it is probably right to ligature and inject the internal saphenous vein in all cases of varicose veins where there is incompetence of the external saphenous vein or of the communicating veins.

4. *Subsequent Injections.*—Occasionally, after the remedy of ligature and injection at the groin and ankle, one or two lengths of vein remain unsclerosed and these require subsequent injection. I use ethamolin for this, and the amount needed is 1 or 2 c.cm.—larger doses tend to be followed by gross, painful, and temporarily incapacitating reactions. The ethamolin should be used from ampoules and not from a rubber-capped bottle.

5. *Pulmonary Emboli.*—I am aware of this occurring in two patients in a series of 570. One caused an illness of six weeks; another for ten days. Doubtless, there may have been other instances. The preventive measure seems to be scrupulous aseptic technique and to get the patient out of bed the day of operation. The operation is a major procedure: minor operating-theatre technique is dangerous. When the veins are gross in both legs then only one leg per session is advisable.

6. *The Scars after Ankle Incisions.*—With regard to the procedure of ligature and injection at the ankle, it is proper to mention that the scar for a few weeks is visible through silk stockings, and here again lies the need for accurate closing of the wound to avoid "eyesores" and disrepute to a first-class operation.

7. *Deaths after Operation.*—Dr. Foote recently reported a death following the operation of ligature and injection of varicose veins, and in a personal communication told me of his knowledge of it in the practice of other surgeons. So far it has not occurred with me, but doubtless I have only to keep on doing the operation before I have the experience. Knowing this, therefore, remarks on the prognosis of the operation must be appropriately expressed.

Finally, I would urge the necessity for giving full time to the operation; it is more than a minor procedure—one leg may take twenty to forty-five minutes, but the sessions are richly rewarded by the improvements bestowed on patients.—I am, etc.,

London, W.1. HAROLD DODD.

Anaesthetic Risks

SIR,—I so generally agree with what Dr. John Elam writes about anaesthetics that I have no difficulty in keeping quiet about it. His last letter (Sept. 22, p. 402), however, contains a deduction from Major Kremer's report on meningitis following spinal analgesia that seems to me unjustified, and—in so far as Dr. Elam's writings influence action, and that may be considerably—misleading. Here is the deduction: "After the publication of Major Kremer's report ... it will be clearly unjustifiable to use spinal analgesia for operations which can properly be performed under inhalation anaesthesia." Why? Because some serious complications followed spinal analgesia under certain circumstances? But complications are not confined to spinal analgesia. We have heard of delayed chloroform poisoning, though rarely of "ether" convulsions following ether and local anaesthesia; of sepsis, gangrene, and death following intravenous anaesthesia; of insanity following gas-and-oxygen; and of innumerable deaths for which no reasonable account was forthcoming following avertin.

What were the circumstances under which these meningeal complications took place? (1) In the Middle East; (2) all but one followed the injection of more than 10 c.cm. of nupercaine; (3) the "sterile" water in which syringes that had been kept in spirit were rinsed was not sterile. What does Major Kremer say about this? "It should be possible to avoid these unhappy cases completely." And again, "Probably the most convincing evidence in favour of the infective theory is the cessation of fresh cases with the tightening up of the aseptic technique." It would seem that it is easier to maintain asepsis here than in the Middle East. In more than 8,000 cases of spinal analgesia there has not been one case of meningitis.

The advantages of spinal analgesia are so great that it is desirable to spread the knowledge and practice of it. Here are some of them. (1) It is the least toxic of all the anaesthetics; when absorbed into the blood the ratio of the maximum clinical dose to the minimum lethal dose is of the order of one to ten. (2) It produces greater muscular relaxation than any other anaesthetic. (3) It prevents neurogenic shock. Because of these qualities it renders the performance of all operations requiring muscular relaxation easier, therefore quicker, therefore less liable to infection. In the case of abdominal sections the handling of the viscera can be much gentler; there is no need for powerful retractors; hence distension and discomfort are lessened and convalescence pleasanter and more rapid. It is the best anaesthetic for orthopaedic work on bones below the diaphragm because it prevents pain impulses from reaching the brain. The sum total of all these advantages cannot but help to save lives and lessen morbidity, though it is not easy to put this in statistical form. Inhalation anaesthesia acts by interfering with and to a greater or lesser degree damaging the cerebral cells.

Let me end on a note of agreement. Dr. Elam says: "Spinal analgesia should be administered only by the full-time professional anaesthetist, thoroughly familiar with the technique and aware of the many possible dangers." No one should give a spinal anaesthetic until thoroughly trained not only in methods but in the possible consequences and how to deal with them. In other words, it requires a thorough understanding of the physiology of spinal analgesia and temperament that remains cool and efficient in emergencies. The responsibility of the anaesthetist is more immediate with a spinal than with a general anaesthetic, and seeing he is dealing with a conscious patient the demand on his powers is greater. There is no doubt of the benefit to the patient in suitable cases.—I am, etc.,

E. FALKNER HILL,
Lecturer in Anaesthetics,
University of Manchester.

Continuous Pentothal

SIR,—The *Journal* of Sept. 1 (p. 289) contains a description by Dr. Marcus Bird of another "simple apparatus for continuous pentothal." It is well known that the ingenuity displayed by anaesthetists in inventing new pieces of apparatus and new and complicated ways of doing a very simple job is a source of constant amusement to many surgeons, and the considerable amount of space devoted in the medical press to descriptions of elaborate machinery for giving continuous pentothal would certainly seem to justify the surgeons in enjoying their joke. No doubt before very long the forces of atomic energy will be unleashed in the noble cause of assisting the anaesthetist to inject pentothal into a vein.

May I submit that in spite of the useful properties of bicycle valves, glass viewers, spring tool-clips, and long lengths of rubber tubing, the best method available for continuous pentothal is still the syringe and needle, and that if such simple equipment is inadequate use may be made of two syringes and perhaps two needles. The tendency for blood to clot in the needle is undoubtedly one of the conditions that tempts the modern anaesthetist to invent an elaborate piece of apparatus (and in describing it to condemn all other forms of apparatus because they are so complicated). If, however, a wide-bore needle is used and if it is not allowed to remain full of blood it may be left in the vein with very little risk of becoming blocked. The following method has been used again and again for operations such as herniotomy, meniscectomy, craniotomy, and even thoracotomy, and requires no apparatus whatever apart from syringes and needles.

The arm is placed at right angles to the body on a pillow on an instrument table (a Mayo's table does very well), and anaesthesia is induced with a 10-c.cm. syringe containing 5% pentothal and fitted with a smallish needle. I prefer a Luer-Lok syringe with a size 20 needle. Before the surgeon is permitted to start, even if the patient has not received the whole of the contents of the syringe, another syringe is taken, this time a 20-c.cm. for preference with a thicker needle. A Luer-Lok two-inch needle, size 18, is suitable. The needle can be inserted into the same vein as that already used, and the syringe is then secured to the forearm by a piece of "elastoplast" and the patient's wrist is bandaged to the table in case he lightens and tries to bend up his elbow. It is a great advantage to use, if at all possible, a vein an inch or two distal to the bend of the elbow, as the needle is then less easily dislodged and the syringe can be more readily strapped to the forearm in the correct position. When the syringe is empty it can be removed from the needle without dislodging the latter, especially if a long needle is used. If the arm is very slightly tilted upwards so that the antecubital fossa is a little above the level of the heart the tendency for blood to flow back into the syringe will be obviated, and the needle will normally remain full of pentothal and so be less likely to become blocked.

The method I have described can be combined with inhalation anaesthesia very easily if desired, and most of the time the anaesthetist can be sitting in his usual position at the head of the table. It takes only a moment to change the syringes. The patient is spared unnecessary discomfort if a small needle is used at first, but the use of a really large needle afterwards prevents blocking of the needle and spares the anaesthetist the necessity for using elaborate apparatus to prevent it from blocking.

Surely it is time that anaesthetists diverted their energy into more original and profitable channels and carried out the simple process of giving continuous pentothal in the simple manner that is so readily available to all who are prepared to put a needle into a vein and then inject pentothal down it, as and when necessary, with nothing more ingenious than one (or two) syringes.—I am, etc.,

J. D. Laycock,
Major, R.A.M.C.; Anaesthetic Specialist.

Blind Intubation

Sir,—I have just seen Mr. Hamilton Bailey's plea (Sept. 29, p. 440) for block anaesthesia in dealing with cases of Ludwig's angina. I think it worth while to mention the method of blind intubation in the conscious patient, the tube being passed after the nose has been sprayed with cocaine, further cocainization of the pharynx and larynx being achieved via the tube itself. Once the tube is in place, the operation can be performed under gas-and-oxygen anaesthesia, and the tube left *in situ* until the patient is again fully conscious. With this method there is no anxiety about the airway, and it can be performed by anyone with a knowledge of the technique of blind intubation.—I am, etc.,

John L. Insley.

Anaesthesia in Threatened Obstruction of Air Passage

Sir,—I have read with interest Mr. Hamilton Bailey's letter (Sept. 29, p. 440) on the question of the administration of gas–oxygen anaesthesia in cases of acute inflammation threatening obstruction to the air passage. Although I have had very little experience of cases of Ludwig's angina I have treated, on numerous occasions, acute inflammatory swellings round the pharynx, deep pharynx, and larynx, which have required surgical intervention. There is a certain amount of risk of obstruction arising even if only local anaesthesia or regional block anaesthesia is employed. If before administering gas–oxygen anaesthesia an airway is passed between the teeth, or a small wedge of rubber such as dentists use placed between the molar teeth, it will always be possible to direct a laryngeal inspection tube. It is not usually possible to insert a mouth airway owing to trismus or faucial inflammation, but it is always possible to put something in to keep the teeth from getting into contact. This form of treatment is, of course, conditional on the fact that the anaesthetist is fully acquainted with laryngeal and tracheal intubation.

The chief reason for my bringing up this question again is to draw attention to the fact that in my opinion all specialist anaesthetists should be thoroughly trained in direct laryngoscopy and bronchoscopy during operation within and around the air passage. I always feel much happier if I know that in an emergency I can call for an endoscopy set to be brought to me in a few seconds (suction should, of course, always be available). I cannot help thinking that many anaesthetic fatalities could have been avoided in the past, even where the operation for which the anaesthetic was given had no direct relation to respiration. The technique of laryngoscopy and bronchoscopy, especially the former, is not very difficult to learn.—I am, etc.,

London, W.1. D. F. A. Neilson.

Diiodo-hydroxyquinoline in Lambliasis

Sir,—The detailed report of Air Cmdre. T. C. St. C. Morton (June 16, p. 831) points to the successful use of diodoquin in cases of amoebic dysentery, particularly recommending this principle in view of its many advantages. The author points out that diodoquin has no effect on lamblia, and I should like in this connexion to refer to two cases which were treated successfully, and which are worth while mentioning as they did not tolerate atebrin—i.e., the lamblia resisted atebrin.

Case 1.—A geologist, 38 years old, suffered from diarrhoea. On examination it was found that it was caused by lamblia; he was treated with the usual method of 3×0.1 g. atebrin for five days. The attacks of diarrhoea became numerically less, but did not cease completely, and examination of the stool 10 days after completion of the atebrin cure again showed free lamblia and lamblia cysts in an abundant quantity. Diiodo-hydroxyquinoline was therefore prescribed in a dosage of 5 tablets a day for 10 days. The remarkable result was that the diarrhoea stopped within two days, and a stool examination immediately upon completion of the treatment yielded negative results. The patient has been free of complaints for more than a year now, and a recent examination of the stool did not show any lamblia.

Case 2.—A woman teacher, aged 25, who frequently suffered from spastic attacks in the right upper quadrant of the abdomen, was operated on, as *x*-ray examination showed the presence of gallstones. The attacks were thus eliminated, but periodical diarrhoea set in, which did not react to the usual therapy. An examination of the duodenal juice showed free lamblias. A test with the usual atebrin cure could not be made, as atebrin was not on the market at that time. Diiodo-hydroxyquinoline, as in Case 1, 5 tablets a day for 10 days, was therefore prescribed, with striking results, for the subjective complaints as well as the lamblia ceased to exist.

I suggest that the success of the lamblia treatment may depend on the quantity of diiodo-hydroxyquinoline administered. It has, in any case, been astonishing how promptly the desired effect set in in the two cases mentioned above.—I am., etc.,

Jerusalem. L. Schindel.

Perspex in Orthopaedics

Sir,—The article on perspex in orthopaedics (Sept. 29, p. 423) is interesting, but I should like to suggest that the authors have taken great pains to produce a plastic shell which is not as satisfactory as the plaster-of-Paris shell they use as a model. The authors list many advantages of perspex but fail to utilize them, the most important presumably being the waterproof nature of perspex, a property which can be given to plaster by means of varnish or a local waterproof shield. The other advantages are not utilized. Nobody can say the method of blowing the shell is quick or easy; the permeability to light is destroyed by the fact that condensation makes an absorbent lining essential to prevent the skin becoming sodden; and a non-ambulatory patient will not worry about the saving in weight.

I draw attention to this matter as I hope the use of perspex and allied plastic material will not be discredited by its employment in unsuitable cases. We must use the advantages to the full and avoid using this new material just because it is new and intriguing. Perspex scores on the following important points: (1) Lightness; (2) permeability to *x* rays; (3) local alterations by moulding are allowed throughout the course of treatment. In spite of what Scales and Herschell say, moulding is not easy and is a waste of time and material for short-term cases. To conclude, perspex is at present a useful expedient in many cases while a suitable "spread-on" type of plastic is being developed. It is not a universal replacement for plaster-of-Paris and should be employed only where its advantages are utilized, such as in the splinting of peripheral nerve palsy and the fractured burnt extremity.

Regarding the processing of perspex, I gave a few hints in the *Lancet* of June 26, 1943 (p. 803), and *Journal* of Feb. 12, 1944 (p. 236).—I am, etc.,

A. MacGowan.

Experiences of a Medical Prisoner of War

Sir,—As I was one of the British M.O.s at Torun for 3½ years, may I be permitted to offer a postscript to Dr. B. Markowski's interesting article (Sept. 15, p. 361).

When British doctors were allowed to go to Stalag XXA in 1940, all the sick who had been treated by the Polish M.O.s until then were unanimous in praise of the devotion and skill with which they had been helped. Everything possible was done for the sick, despite desperate lack of drugs, instruments, and sick accommodation. After those grim early days conditions improved very much. Fort XIV remained a hospital, but most of the patients were moved into huts at ground level, and continuous pressure on the German authorities produced other improvements.

With regard to the treatment of Russians, Dr. Markowski's article hardly does justice to the atrocious conditions under which they—died. His estimate of an 80% mortality is probably true. I know that in the one month of November, 1941, out of one fort of 1,200 Russians, 270 died. The fort had been overcrowded a few months before, with only 300 British prisoners! When I arrived at Torun the diphtheria epidemic had run its course and two wards full of paralyses were left. All these showed eventual complete recovery.

Apart from very early days, starvation was not seen among British P.o.W.s in this area, except those who had been confined in the notorious military prison at Graudenz. An interesting point about the latter was that men who had been there for three months were in a much worse condition than those who had served sentences of several years. The long-term prisoners appeared to become adjusted to the insufficient ration. Unfortunately complete notes on about 100 of these cases were removed during a search and not returned: evidence of this character was never popular in Germany. Differential treatment of P.o.W.s was marked. The treatment of "Badoglio Italians" in 1943 was almost as bad as that meted out to the Red Army in 1941.

Among common diseases in a minor way various septic skin conditions took a high place. This we thought to be due to dietary deficiency. In view of the fact that a very similar high proportion of "I.A.T." is found in German P.o.W.s in this country, however, on a vastly different and well-balanced diet, one is led to think that a lack of immunity to local micro-organisms may be a more potent factor in the aetiology.—I am, etc.,

Aveley, Essex. John Kennedy.

Medical Views of Nurses' Training

Sir,—The Liverpool Hospitals Staffs Association consists of the honorary medical staffs of the nine Liverpool teaching hospitals. The following resolution was passed at a general meeting this week, and it is hoped that you will have space to publish it:

> "This Association express their deep concern with the increasing trend towards demanding of nurses too detailed a theoretical and scientific knowledge, to the discouragement of practical craftsmanship. The members of this Association believe that the qualifying standard for registration should be based very largely on practical experience and vocational training. For all higher and specialized forms of nursing, a further and more scientific type of training should be demanded."

—I am, etc.,

Liverpool. A. Kirk Wilson.

Women in Labour

Sir,—Reading Dr. Kathleen Vaughan's letter (Sept. 29, p. 443) recalled to my mind, first, that some years ago the same observations on the maternal squatting position were reported in one of the medical journals, but whether by Dr. Vaughan or not I cannot now remember. Secondly, six years ago I was urgently summoned to a confinement case—a young married woman who lived alone with her crippled mother. When I entered the bedroom I was surprised to find the bed empty, but on the far side I discerned the patient naively squatting on the chamber-pot in which she had given birth to a premature baby which weighed 3 lb. and is a healthy girl to-day. The only point about all this is that if it proves anything it is that this rather simple girl, ignorant of the usual procedure and left entirely to her own instincts and resources, had adopted what is most probably the natural position for labour.

Finally my contribution, as a general practitioner of 25 years' standing (though not all spent in general practice), to those correspondents on domiciliary midwifery is, let me attend all my cases in hospital, whether they be normal or abnormal, rich or poor.—I am, etc.,

Keighley. Wright Lambert.

Sir,—In the *Journal* of June 30 (p. 925) there appears a letter from a Mr. Eric Coldrey which interested me greatly. For many years I have practised the induction of labour for the purpose of limiting the size of the child to the easy capacity of the mother. I have delivered several post-Caesarean cases without any difficulty, and a considerable number of cases with very small pelves where I had to induce at 5½ to 6 lb.

I have preached this "small baby" idea at every opportunity but have made few converts because, like Mr. Coldrey, all are afraid of using rupture of the membranes as part of the induction (and the most essential part). Rupture of the membranes is a certain and safe method of induction providing it is not done blindly. It should be done at the level of the internal os with the tip of the index finger in contact with the end of the instrument used, whether a curved long artery forceps or one of the specially made puncturing catheters. I have used this method of induction in many hundreds of cases and am convinced of its absolute safety. I use it in conjunction with the medicinal treatment mentioned by Mr. Coldrey.—I am, etc.,

M. Schwartz,
B.W.I. Chief Medical Officer, Trinidad Leaseholds Ltd.

Telling the Patient

Sir,—During a recent short visit to England I have had forcibly brought to my notice a matter which has often troubled me in the past because of its fundamental importance in the treatment of ill people. In my capacity as medical specialist I have been attached to a military hospital with a large out-patient department for a period of six weeks while awaiting my ship. What impressed me most while I worked in the out-patient department was not the obviously careful and detailed examinations and investigations lavished upon the patients by their unit doctor and by specialists (for most of the men had seen several specialists), but the fact that in only a small proportion did the patients possess accurate information regarding their particular illnesses. Most of them were quite uninformed about diagnosis, prognosis, and treatment, and when questioned would quickly show that they had their own ideas—quite inaccurate—based upon a few words picked up from their doctor or orderly.

As an example of this I can remember a man of 20 who had weakness and wasting of muscles of one leg due to anterior poliomyelitis contracted at the age of 12 years. He had an unsuitable job in the Army involving excessive use of the leg, and, in consequence, he had some discomfort. He was first seen by a medical specialist, who correctly made the diagnosis of "old poliomyelitis" and referred him to an orthopaedic surgeon. He later decided that no orthopaedic treatment was necessary. The patient, misinterpreting what he had overheard, decided that his condition had gone beyond the stage when treatment was worth while and, naturally enough, became extremely worried, both as regards his future in the Army and his future as a wage-earner. A five-minute interview in which the exact state of affairs was explained to him in simple language completely relieved his anxiety.

I encountered exactly the same difficulty in an E.M.S. hospital during the first three years of the war. The young medical men working there were keen to reach an accurate diagnosis and to apply the correct treatment as soon as possible. Many of them, however, failed to appreciate the importance of the few moments necessary to explain to the patient the points about his illness which were important to him as a wage-earner and as one of a family. As a result of this, patients were apt to acquire quite a wrong idea of their illness from the mutterings and noddings of a group of doctors at the bedside. Surely it is a complete waste of experience, talent, and modern science if, through neglect of a simple basic principle, we are left with a correctly diagnosed and correctly treated but completely bewildered and apprehensive patient. Surely we can train ourselves to speak to patients in a language they understand and to make sure that they do understand what we are trying to tell them.

I know, Sir, that this topic is hackneyed, but I cannot believe it to have been over-emphasized yet. I hope you will find room in your columns for this letter.—I am, etc.,

J. C. HOGARTH,
Major, R.A.M.C.

Doctors and the Social Trend

SIR,—When reading the *Journal* of Sept. 1 my attention was drawn to a letter from Dr. Norman P. Henderson (p. 302). Among other things Dr. Henderson refers to the Soviet full-time medical service by stating: ". . . in the event of the full-time service failing (as it has to a large measure in Russia) . . ." Far from having failed, the full-time medical service in the Soviet Union operates extremely successfully. This has been proved in peace as well as in wartime. It was, therefore, with considerable surprise that I noted Dr. Henderson's statement, and I should be interested to know what actually was in Dr. Henderson's mind when making this allegation.—I am, etc.,

London, W.2. S. SARKISOV.

SIR,—It might seem churlish to criticize the work of our Russion ally, but Drs. Culbert (Sept. 15, p. 369) and Fieldman (Sept. 22, p. 406) press the issue and make it necessary that criticism and the facts should be offered.

In *Health Protection in the U.S.S.R.*, by N. A. Semashko, the publisher's note aptly records the "great numbers of books on the Soviet Union. Indeed the lack of really precise and definite information has been noticeable as the plethora of impressions." Dr. Fieldman's references are typical additions, exemplified in Prof. Adrian's article by an enthusiastic description of how he was "dazzled as before by stately entertainment," returning laden with "gifts of reprints and books," etc. Terminating on a more sober note he finds "in physiology there have been few outstanding advances in recent years, in the U.S.S.R. or anywhere else." It seems rather trifling for Dr. Fieldman to quote "impressions" on physiology as examples of efficiency, or otherwise, of Russian State medicine. Prof. Sorsby's contribution admits that "our knowledge of Soviet medicine is at all times inadequate and at times grossly misinformed." Dr. Fieldman's third reference, *Socialised Medicine in the Soviet Union* (1937), some eight years out of date, was originally compiled for followers of the extreme left, but in parts to-day conflicts with the more moderate and modern author of *Red Surgeon* (1944), by G. Borodin. It is evident from this book that the Russian medical services did fail at times owing to the fault of organization and pathetic shortage of medical equipment, drugs, and personnel, and yet over twenty-seven years had been spent in preparation. The author laments the shortage of surgeons, and relates how physicians had to turn surgeons, with sometimes disastrous consequences. Corroboration of these facts is found in *American Review of Soviet Medicine* for Feb., 1945. Yet Dr Culbert feels that the Russian accomplishments "would hardly have been possible with any other form of organization."

In the Czarist Empire in 1913 there were fewer than 20,000 doctors, and as the authors of *Red Medicine* (1934) observe, "the people . . . outside the large cities were almost destitute of medical aid." To-day about 150,000 doctors practise, but still the number is inadequate. Nevertheless with this seven-fold increase some improvement of the health of the nation was inevitable—as indeed has come about—irrespective whether State-controlled or no control at all. When, however, we consider vital statistics of disease in Russia compared with other countries, including our own, for equal units of population the differences are striking and the backwardness of Russia apparent.

As for research, what has come out of vast organizations like the Institute of Experimental Medicine, Moscow, comparable to recent discoveries in other European countries, such as the sulphonamides, penicillin, or sex hormones? In *Science and Planned State*, by John R. Baker (1945), is the astonishing revelation that sex hormones were banned from study under the first five-year plan.

And Semashko himself states that "the most popular doctors and professors are able to earn extra money from private medical practice in addition to their salary from the State." It does seem extraordinary that such is permitted and that the Soviet service finds this additional help from private practice necessary.

Owing to limitation of space I am unable to respond to Dr. Bailey.—I am, etc.,

London, W.1. NORMAN P. HENDERSON.

⁂ We cannot continue this correspondence.—ED., *B.M.J.*

Tea-making and Tuberculous Milk

SIR,—An article by Hiscox (1944) has drawn attention to the bacteriological aspects of high-temperature short-time (H.T.S.T.) pasteurization of milk. In discussing the spread of bovine tuberculosis by milk, Cutbill and Lynn (1944) drew attention to the lack of evidence of widespread habitual raw-milk drinking in the area covered by their investigation, but confirmed the almost universal practice of taking milk in tea or similar beverages.

A search through the literature failed to reveal any information about the effect of using tuberculous milk in hot beverages. The classical work of North and Park (1927) gives the thermal death-point of tubercle bacilli, and it was therefore only necessary to determine the temperatures to which milk would be exposed when used as an ingredient of tea. Surprisingly high temperatures of the order of 155° F. are retained by tea over periods up to 20 minutes after infusion—high enough to kill tubercle bacilli in 30 seconds. Where such conditions prevail infected milk would be rendered sterile. To confirm the correctness of such deductions we prepared tea in a normal household manner; five minutes later the hot infusion was poured into a cup containing heavily infected tuberculous milk. After the elapse of 30 seconds a portion was withdrawn from the cup, cooled rapidly, and centrifuged, and a guinea-pig was inoculated with a portion of the untreated deposit suspended in saline. The remainder of the deposit was stained by Ziehl-Neelsen's method and also cultured on Loewenstein's media. Ten minutes after the initial infusion a further cup of tea was poured out, when the temperature had dropped somewhat lower, and treated exactly as the first cup. The complete experiment was repeated a few weeks later, using the same technique but different utensils and a milk inoculated with a known virulent bovine strain. The guinea-pigs and cultures were negative in all instances. The deposits from the tea-cup showed large numbers of tubercle bacilli which were apparently dead. Both raw milks produced severe general tuberculosis in guinea-pigs, and typical dysgonic strains were isolated on culture.

The conditions of tea-making and consequent temperature gradients vary so widely in practice that it would be unwise to draw too sweeping deductions from our findings. Reliance on the sterilization of milk by hot tea or other beverage without precisely defining the conditions would be folly. This protective factor does enter into epidemiological investigations of the spread of bovine tuberculosis and appears to be of a high order.—I am, etc.,

L. J. CUTBILL.

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Permission to Practise for Enemy Aliens

SIR,—I would ask the controversialists engaged in discussing the many current problems of undeniable importance to the medical profession to pause for a moment and give thought to a matter involving our humane outlook and our sense of fairness. There are in our midst a number of so-called enemy alien doctors, who, having suffered every conceivable indignity, including, in some cases, imprisonment in the notorious Dachau camp, and what seemed to many of them a greater indignity, internment in one of our camps, were permitted by us because of our dire need to attend our sick during the later years of the war, performing their duties conscientiously and well. Permission for them to practise here ceases in February unless other arrangements are made.

I am informed that we are awaiting the decision of the Government on this question, but I cannot help feeling that in actual fact the Government is waiting for an expression of medical opinion, and I write to suggest that those enemy-alien doctors who have served us to the best of their ability during the war be granted permission to continue in practice here, for it cannot be demanded or expected that many of them would be ready to return to the land which had treated them so outrageously and caused them many years of unhappiness, such as few have to bear.—I am, etc.,

London, W.8. HAROLD H. SANGUINETTI.

Obituary

T. WILSON PARRY, M.A., M.D., F.S.A.

We regret to announce the death of Dr. T. Wilson Parry, for many years a greatly respected practitioner in North London whose antiquarian researches in a special field made him well known to archaeological circles.

Thomas Wilson Parry was born at Sydenham, Kent, on July 23, 1866, son of Joseph Chatwin Parry. From Amersham Hall School he entered St. John's College, Cambridge, in 1884, took the B.A. with honours in the Natural Sciences Tripos of 1887, and the M.A. in 1891 while doing his clinical course at St. George's Hospital. He qualified M.R.C.S., L.R.C.P. in 1892, and graduated M.B., B.Ch. in 1894, and M.D. in 1905 with a thesis on Ménière's disease, a subject to which he returned two years later in a paper read before the Tottenham Branch of the B.M.A. While in practice at Crouch End Hill Wilson Parry held a commission as surgeon-captain in the 3rd City of London Volunteer Regiment for five years, and in the war of 1914–18 he served as M.O. to the 5th Battalion of the Middlesex Regiment; he was also for many years a lecturer for the St. John Ambulance Association, which made him an honorary Life Member, and examiner for the Red Cross Society. He invented two appliances—a seton knife-needle, and a curved sublingual clinical thermometer. From 1916 onwards he published a series of papers on trephining among prehistoric and primitive peoples. The first of these was on the motives for its practice and the methods of procedure, read before the British Archaeological Association; the second, read before the History of Medicine Section of the Royal Society of Medicine, was on the prehistoric trephined skulls of Great Britain, with detailed description of the operation probably performed in each case; the third was an examination of the collected evidence of trephination of the human skull in Great Britain in prehistoric times, read at the third International Congress of the History of Medicine; and the fourth was on trephination of the living human skull, read to the Lister Society of King's College Hospital. Wilson Parry joined the B.M.A. in 1894, and twice held office in the History of Medicine Section at Annual Meetings, was a Fellow of the Society of Antiquaries and the Geological Society, and a past-president of the North London Medico-Chirurgical Society.

Sir WALTER LANGDON-BROWN writes:

Although Dr. Wilson Parry had retired from practice for a number of years he will still be remembered by many with admiration and affection. His father, a bank manager, played an important part in the defence of Lucknow. Parry was educated at Amersham Hall, then a well-known nonconformist school, which numbered amongst its distinguished alumni such men as Augustine Birrell, Buckston Browne, and Cozens-Hardy. Thence he proceeded to St. John's College, Cambridge, and to St. George's Hospital, where he held several resident appointments. He started practice at Youlgreave, Derbyshire, in 1894, but eight years later moved to Crouch End, where the rest of his professional life was spent. Sympathetic, gentle, and courteous, he endeared himself to his patients, and to these qualities was added a fine clinical acumen which made him representative of the best traditions of the general practitioner. Devoted as he was to practice, it by no means exhausted his activities; his status as an anthropologist secured his election as a Fellow of the Society of Antiquaries, and he became the leading authority on prehistoric trephining. His poetic gifts were both graceful and learned, as is shown in his sonnet sequence *Great Names* and in his fairy poems, which reveal his tender insight into the minds of children. Sincerely religious, one felt his essential goodness; he loved whatsoever things are lovely and of good report. In 1937 he became seriously incapacitated by ill-health, against which he struggled gallantly, but was able to continue with some of his literary work. It was a great joy to him that in 1942 he was well enough to be able to revisit his beloved university. But the improvement was only temporary, and the end came peacefully on Sept. 21.

In 1894 he married Miss Sophie Cole, by whom he had two sons, both now in the medical profession, and one daughter who, to their great grief, died as the result of a bathing accident at the age of 19. The sympathy of all who remember him will go out to Mrs. Wilson Parry, whose devoted care and companionship sustained him all his days.

Sir ERNEST GRAHAM-LITTLE writes:

Dr. Wilson Parry and I entered the wards of St. George's Hospital at the same time and clerked for the same physician, and a close friendship between us thus ensued which was unbroken up to his death. He was gifted in many directions as well as in medicine. He had a happy talent for verse, especially in the form of the sonnet, and was accustomed for many years to send to his friends—and I was a constant recipient—Christmas greetings conveyed in a very delightful sonnet. He had made a serious study of the history of trepanning, and had established the ancient existence of its practice by examining prehistoric skulls. He was a staunch upholder of the best ethical traditions of the profession, he enjoyed a large practice, and was much loved by a wide circle of patients. He was especially fortunate in his family life, and was greatly gratified that his two sons elected to adopt medicine as their profession.

RICHARD TRAVERS SMITH, M.D., F.R.C.P.I.

We regret to record the death on Sept. 28 of Dr. Travers Smith, late Professor of Materia Medica and Therapeutics in the University of Dublin, whose passing will be mourned by a large circle of friends, both within and outside the medical profession.

Richard Travers Smith was born on May 26, 1872, the second son of John Chaloner Smith, of Bray, Co. Dublin. He was educated at Strangeways School and later at Trinity College, Dublin, where he graduated M.B., B.Ch. in 1894, proceeding to the M.D. in 1896. Almost immediately after graduation he went to Vienna to pursue a course of postgraduate study. This was unexpectedly cut short owing to the death of his father, and he was obliged to return after a few months to Dublin and to start practice. He worked extremely hard as a general practitioner, taking many pupils whom he coached for their medical examinations, thus laying the foundation of his later work as a teacher, for which he enjoyed a well-deserved reputation. It was not long before his aim to devote himself to internal medicine was realized and he took his place as a physician on the staff of the Richmond, Whitworth, and Hardwicke Hospitals in Dublin. He became a Fellow of the Royal College of Physicians of Ireland in 1899, and was eventually a Censor of the College, and Professor of Materia Medica and Therapeutics in the University. He came over to this country in 1915 for the war, and was appointed to the Military Hospital in Colchester in charge of a medical division with the rank of major in the R.A.M.C. After demobilization he was appointed honorary physician to the Miller General Hospital for South-East London and consulting physician to the West Middlesex Hospital. After his retirement from the active staff of these institutions, on reaching the age limit, he was made honorary psychotherapist to the West End Hospital for Nervous Diseases, and continued to hold this office until the time of his death.

A correspondent writes: Those of his colleagues who knew him well and were most closely associated with his professional work will remember Travers Smith (Dick Smith, as he was affectionately known to his intimate friends) as a great gentleman and a fine physician of the old school. Although in the latter part of his career he devoted himself mostly to the practice of psychological medicine, in which he had always taken a special interest, he never let go his hold on general medicine, and the influence of his earlier training and work as a general physician was always apparent in his outlook as a practitioner. He never forgot the patient in his pursuit of the problem of disease, and the pleasure of consultation with him was enhanced by the broad humanitarianism and the wide general culture which he brought to bear upon the purely technical aspects of his work, and which coloured his whole outlook not only on medicine but also on life in general. It is not without significance that he was one of the original members of the Association of Physicians of Great Britain and Ireland founded by Sir William Osler in 1908, election to this august body being, especially in those early days, a hall-mark of fellowship with the intellectual aristocracy of the profession.

By his colleagues in London on the various hospitals he was indeed beloved, not only for his medical experience and judgment, but especially for his good humour and for the quick and ready wit which was an integral part of his attractive personality. He was a welcome guest at medical dinners, to the enjoyment of which he added so much by his native skill as a raconteur. In private life he was a charming host, full of wide interests and with great knowledge of the arts and of the humaner letters. During the last few years of his life his health began to show signs of the wear and tear of years, accentuated by the strains and stresses of the recent war, but neither these nor the added tax imposed by a recent attack of pneumonia with other complications diminished in any wise his interest in all the finer joys of this world or impaired his gentle humour and rare companionship, which continued up to the very end. Death came to him swiftly and silently, as he would have wished. Those whom he has left, while mourning his loss, yet rejoice in his memory and are grateful for his contribution to their lives.

WILLIAM MARCUS KILLEN, M.D., M.Ch.

The death of Dr. W. M. Killen on Sept. 1 breaks almost the last surviving link between the present clinical teachers of the Belfast Medical School and those of the last century.

William Marcus Killen was born in 1863, a son of the manse, his father being the Very Rev. T. Y. Killen, D.D., who was a leading divine at that time in the Irish Presbyterian Church. Educated at the Royal Academical Institution, Belfast, he entered Queen's College, Belfast, and graduated B.A. in 1884 with first-class honours and exhibition, and in the same year was awarded the senior scholarship in natural history. Three years later he obtained the M.D., M.Ch., M.A.O. degrees in the Royal University of Ireland. After a period of study at the London Hospital, in Dublin, and in Vienna, he was appointed in 1892 assistant surgeon to the Benn Ulster Eye, Ear and Throat Hospital, Belfast. It was in this hospital that the late Dr. D. H. McKeown introduced the practice of early operation on immature cataracts and the use of a magnet for the removal of metallic foreign bodies from the eye. On the death of Dr. McKeown in 1904 Dr. Killen became senior surgeon—a post he held until his resignation in 1934, having served that institution for a period of 42 years—and during the first world war carried on the work of the hospital practically single-handed.

A colleague writes:

> Quiet and unassuming by nature, and happiest in his clinical and teaching work, Dr. Killen did not seek high honours, but his colleagues in Belfast persuaded him to accept the chairmanship of the Belfast Division of the B.M.A. in 1912, and his outstanding work in his special subject led to his election to the presidency of the Irish Ophthalmological Society and vice-presidency of the Section of Ophthalmology of the B.M.A.
>
> Dr. Killen was a great conversationalist. One of his greatest pleasures was to welcome any of his large circle of friends to his hospitable fireside, where, in the happy interchange of talk, time was forgotten. Descended from generations of clergy, he retained throughout his life an intense interest in theological problems, and sooner or later the conversation turned to such subjects as the rival doctrines of free will and predestination or the reconciliation of religious faith with scientific principles, and other kindred questions. Although brought up in a strict Calvinistic atmosphere (where even the singing of hymns and the introduction of instrumental music into the Presbyterian church service was viewed with dislike and suspicion) Dr. Killen was the most liberal-minded of men: he always studied both sides of a question and respected the other man's outlook; like Montaigne he believed that often "to know all was to forgive all." He was the most generous of men: no deserving charity was refused, private patients in difficult circumstances were treated free, and hospital patients sometimes became pensioners from his purse.
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> William Marcus Killen, although reaching a patriarchal age, died young, with his intellect clear and his mind elastic and receptive, and still retaining the affectionate regard of former patients, students, and colleagues.

Universities and Colleges

ROYAL COLLEGE OF OBSTETRICIANS AND GYNAECOLOGISTS

The sixteenth annual report of the Royal College of Obstetricians and Gynaecologists has been issued from its headquarters, 58, Queen Anne Street, London, W. During the year Honorary Fellowship was conferred on Dr. Hastings Tweedie, of Dublin, for his outstanding services as a teacher and practitioner of obstetrics and gynaecology, and on Sir Joseph Barcroft for his work on the physiology of the foetus. For the first time in the history of the College the Council decided to elect to the Fellowship a limited number of practitioners who are not obstetricians and gynaecologists but who have, by their scientific and other work, aided obstetrical and gynaecological practice; and Dr. Leonard Colebrook, bacteriologist, and Prof. Leonard Parsons, paediatrician, were admitted to the Fellowship. At the annual general meeting on May 26, 1945, the President, Mr. Eardley Holland, gave an account of the work that the College is doing and mentioned the problems still under consideration and awaiting solution. The two events of 1944 that concerned the College most were the publication of the White Paper on a National Health Service, and a little later the publication of its own report on a National Maternity Service. The White Paper in so far as it dealt with obstetrics and gynaecology he found frankly disappointing. It was only too evident that the machinery proposed to assist women through the reproductive period showed no improvement on the existing services.

POSTGRADUATE COURSE IN RHEUMATISM

The Empire Rheumatism Council (B.M.A. House (North), Tavistock Square, W.C.) has arranged a postgraduate course to be held from Oct. 31 to Nov. 11, both dates inclusive. The items marked with an asterisk will be held in conjunction with the annual meeting of the Heberden Society at the hospitals indicated. All the other lectures will be given in the board room of the British Red Cross Society's Clinic for Rheumatism (Peto Place, N.W.), by kind permission of the society. The programme is as follows:

Oct. 31, 4 p.m., Mr. N. Capener, "Body Mechanics—Posture and Its Control"; 5 p.m., Dr. A. Wesson, "Abnormalities of Posture and Chronic Strain."

Nov. 1, 12 noon, Prof. G. W. Pickering, "The Skin and Its Reactions"; 4 p.m., Prof. Pickering, "The Nervous System—Referred and Segmental Pain"; 5 p.m., Mr. D. V. Davies, "The Anatomy and Physiology of Joints."

Nov. 2, 12 noon, Dr. G. Kersley, "Recent Trends in Aetiological Concepts"; 3 p.m., Prof. Bruce Perry, "Rheumatic Fever"; *5 p.m., at Royal Free Hospital, Lecture-demonstration by Dr. C. B. Heald, "Recent Advances in Physical Methods in Relation to Rheumatism."

*Nov. 3, 10 a.m., at Middlesex Hospital, Lecture-demonstration by Prof. B. Windeyer, "Deep X-ray Therapy of Spondylitis"; *12 noon, at Middlesex Hospital, Brig. F. D. Howitt, "Social Medicine in Relation to the Rheumatic Diseases."

Nov. 4, 11 a.m., Dr. J. W. T. Patterson, "The Factor of Infection in Rheumatism and Arthritis"; 12 noon, Sir Adolphe Abrahams, "Rheumatic Symptoms in General Medicine."

Nov 5, 12 noon, Dr. C. W. Buckley, "Spondylitis"; 4 p.m., Dr. W. Tegner, "Rheumatoid Arthritis"; 5 p.m., Dr. J. Barnes Burt, "Gout."

Nov. 6, 12 noon, Lord Horder, "The Clinical Approach to Rheumatic Disease"; 4 p.m., Dr. Ernest Fletcher, "Osteo-arthritis"; 5 p.m., Dr. W. S. C. Copeman, "Fibrositis."

Nov. 7, 12 noon, Mr. A. G. Timbrell Fisher, "The Painful Back"; 4 p.m., Dr. Hugh Burt, "The Painful Knee"; 5 p.m., Wing Cmdr. N. S. Alcock, "Sciatica"; 6 p.m., Dr. B. E. Schlesinger, "Still's Disease."

Nov. 8, 12 noon, Dr. S. J. Reynolds, "The Radiology of Normal Bones and Joints"; 4 p.m., Dr. Campbell Golding, "The Radiology of Rheumatic Disease"; 5 p.m., Dr. P. Ellman, "Psychological and Occupational Factors in Chronic Rheumatism."

Nov. 9, 12 noon, Dr. J. W. Shackle, "Methods of Investigation and Their Significance"; 4 p.m., Dr. F. S. Cooksey, "Physical Medicine, Remedial Exercises, and Physiological Rest"; 5 p.m., Dr. F. Bach, "Specialized Methods of Medical Treatment in Rheumatism."

Nov. 10, 12 noon, Dr. Kenneth Stone, "Classification and Pathology"; 4 p.m., Dr. J. Bastow, "Orthopaedic Aspects of Rheumatoid Arthritis"; 5 p.m., Mr. A. M. A. Moore, "The Surgery of Arthritic Joints."

Nov. 11, 11 a.m., Dr. M. B. Ray, "Environment, Housing, and Dietetic Factors in Relation to Rheumatic Disease"; 12 noon, Dr. L. G. C. Pugh, "Precipitating Factors—Climate, Environment, etc."

No. 38

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended Sept. 22.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1945					1944 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever ..	39	4	15	1	—	33	6	20	4	1
Deaths		1	—				2	—		
Diphtheria	496	28	128	71	11	566	17	152	86	36
Deaths	5	1	1	—	—	8	1	1	1	—
Dysentery	270	41	132	2	—	365	34	134	—	—
Deaths				—	—				—	—
Encephalitis lethargica, acute	2	—	—	—	—	1	—	2	—	—
Deaths		—					—			
Erysipelas			41	7	—			37	15	2
Deaths		—					—			
Infective enteritis or diarrhoea under 2 years				101					68	
Deaths	71	9	26	22	5	67	3	38	17	5
Measles*	397	51	71	17	5	1,509	19	156	7	19
Deaths	2	—	—	—	—	—	—	—	—	—
Ophthalmia neonatorum			10	1	—	74	6	12	—	—
Deaths										
Paratyphoid fever ..	8	—	—	—	—	8	—	2	1 (B)	—
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenzal†	347	26	3	—	1	435	15	14	2	1
Deaths (from influenza)	4	1	1	—	—	10	—	—	—	—
Pneumonia, primary ..			149	8				219	18	
Deaths		17		6	8		17		5	8
Polio-encephalitis, acute	5	1				1	—			
Deaths							—			
Poliomyelitis, acute ..	45	1	1	9	3	16	1	11	3	—
Deaths		1					—			
Puerperal fever		5	16		—		1	14		—
Deaths										
Puerperal pyrexia‡ ..	157	5	14	1	1	134	8	9	—	1
Deaths		—					—			
Relapsing fever ..	—	—			—	—	—			—
Deaths										
Scarlet fever	1,361	105	271	14	36	1,696	30	322	33	54
Deaths	1	—	—	—	—	—	—	—	—	—
Smallpox	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Typhoid fever	11	—	2	6	2	12	2	2	11	2
Deaths	—	—	1	—	—	—	—	1	1	—
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Whooping-cough* ..	1,093	77	41	42	4	1,059	57	64	25	3
Deaths ..	6	5	—	4	—	8	—	1	1	—
Deaths (0–1 year) ..	335	51	58	42	14	331	33	88	41	18
Infant mortality rate (per 1,000 live births)										
Deaths (excluding stillbirths)	3,813	581	537	194	99	4,124	506	614	187	123
Annual death rate (per 1,000 persons living)			12·2	12·5	§			14·1	12·1	§
Live births	6,463	814	828	369	265	6,283	414	926	386	283
Annual rate per 1,000 persons living ..				23·8	§			18·8	25·0	§
Stillbirths	189	23	35			191	12	37		
Rate per 1,000 total births (including stillborn)			41					38		

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

‡ Includes puerperal fever for England and Wales and Eire.

§ Owing to movements of population, birth and death rates for Northern Ireland are still not available.

EPIDEMIOLOGICAL NOTES

Discussion of Table

In *England and Wales* measles returns were 154 lower than last week, whooping-cough 66 lower, and dysentery 22 lower; no disease showed any appreciable increase.

The figure for measles was the smallest recorded since notification began. Scarlet fever was down by 20 cases, but there was a small rise in London, Middlesex, and Essex of 53 notifications for the combined area. The largest variations in the local trends of diphtheria were increases in Lancashire 18, Durham 15, and Yorks West Riding 12. Diphtheria incidence has steadily gone up in Lancashire during recent weeks. An irregular rise in acute poliomyelitis started at the beginning of July, and from a fairly constant level of 6 cases weekly it has risen to 45—the largest weekly total for four years.

The biggest local outbreaks of dysentery during the week were Hertfordshire, Ware R.D. 21, and Suffolk, Lowestoft M.B. 37. The other large returns were London 41, Lancashire 39, Surrey 22, Essex 15, Yorks West Riding 12.

In *Scotland* dysentery notifications went up by 30, but those for scarlet fever dropped by 22, for whooping-cough by 16, and for diphtheria by 13. The rise in dysentery was mainly in the western area, the largest returns being those of the cities of Glasgow 55, Edinburgh 17, Falkirk 13.

In *Eire* 15 fewer cases of diphtheria were notified. Whooping-cough notifications increased by 21, due to an outbreak in Dublin C.B. The incidence of diarrhoea and enteritis among infants under 2 years of age fell by 46, but remained at the high level of 101 cases, of which 84 were reported in Dublin C.B.

Week Ending September 29

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,509, whooping-cough 920, diphtheria 486, measles 406, acute pneumonia 302, cerebrospinal fever 17, acute poliomyelitis 40, dysentery 264, paratyphoid 11, typhoid 15.

Medical News

Fourteen-day refresher courses (22 sessions) for medical officers returning from H.M. Forces will begin at Addenbrooke's Hospital, Cambridge, on Monday, Nov. 5, and at Southend-on-Sea General Hospital on Monday, Dec. 3. Applications for further information and admission to these courses should be made to Dr. Firth, Trinity Hall, Cambridge.

The United Kingdom delegation to the United Nations Food and Agriculture Conference which is to open at Quebec on Oct. 16 in continuation of the work at Hot Springs, Virginia, in 1943, will include Sir Jack Drummond, F.R.S., scientific adviser to the Ministry of Food, and Dr. B. S. Platt, director of the human nutritional research unit of the Medical Research Council. The main task before the conference is to set up a permanent organization in the field of food and agriculture.

Dr. C. M. Wenyon, F.R.S., will give his presidential address on "Tropical Medicine in War and Peace" to the Royal Society of Tropical Medicine and Hygiene at Manson House, 26, Portland Place, W., on Thursday, Oct. 18, at 8 p.m. Refreshments will be served in the library from 9 p.m.

The Institution of Chemical Engineers, the Institute of Physics, and the Chemical Engineering Group of the Society of Chemical Industry announce that the one-day joint conference on "Instruments for the Automatic Controlling and Recording of Chemical and Others Processes," which was postponed in September, 1944, will take place at the Royal Institution, Albemarle Street, London, W., on Friday, Oct. 19. The purpose of the conference is to promote the interchange of knowledge and experience between those using automatic controllers and recorders in different fields and to encourage collaboration. The conference will be open to all interested, without charge.

The inaugural meeting of the Bristol Council for Rehabilitation (sponsored by the Bristol and District Divisional Hospitals Council) was held in the Council House on Oct. 4, when Mr. Harold Balme, F.R.C.S., medical officer in charge of rehabilitation, Ministry of Health, gave an address.

The Lord President of the Council has appointed Prof. R. P. Linstead, D.Sc., F.R.S., to be director of the chemical research laboratory in the Department of Scientific and Industrial Research. He was formerly Firth professor of chemistry in the University of Sheffield and in 1939 was elected to the chair of chemistry in Harvard University, U.S.A. During the war he returned to Great Britain and has rendered valuable service in relation to the application of science to war problems.

Mr. V. Zachary Cope, F.R.C.S., president of the Board of Registration of Medical Auxiliaries, will give an address on "The Place of Physiotherapy in a Co-ordinated Health Service" on Saturday, Oct. 20, at 3 o'clock, at the Royal Institute of Public Health and Hygiene, 28, Portland Place, W. The Minister of Health, the Rt. Hon. Aneurin Bevan, M.P., will take the chair. All physiotherapists are invited, but admission will be by ticket only, which can be obtained on application to the hon. secretary, Society of Physiotherapists, 24, South Molton Street, London, W.1. Student physiotherapists will also be welcome.

The Institute of Laryngology and Otology (330–332, Gray's Inn Road, London, W.C.), in association with the Royal National Throat, Nose and Ear Hospital, has arranged a five-weeks course in laryngology, rhinology, and otology for senior postgraduate students, especially those taking Part II of the D.L.O. examination, from Oct. 29 to Nov. 30. The fee for the course is £15 15s., and the full syllabus may be obtained from the secretary of the institute. Demonstrations and discussions of clinical cases will be held on Fridays at 4 p.m. from Dec. 14, 1945, to April 19, 1946, and are open to all medical practitioners without fee. Clinical-assistantships and out-patient assistantships are available at both the Gray's Inn Road and the Golden Square Hospitals.

A Department of Industrial Ophthalmology has been set up at the Royal Eye Hospital, London, where the problems being investigated include: (1) Prevention of eye injuries (the type and the efficiency of preventive appliances). (2) Welders' conjunctivitis (arc eye). (3) Lens opacities in furnace workers, welders, etc. (4) Rehabilitation of the worker with one eye. (5) Eye strain of workers engaged on fine close work. (6) Eye strain due to deficient illumination during work. (7) Keratitis, conjunctivitis, amblyopia, due to the use of industrial solvents. (8) Vision and the selection of staff in industry (visual standards in industry). Industrial medical officers, factory welfare officers, safety managers, and others interested are invited to refer their problems in industrial ophthalmology to Mr. J. Minton, F.R.C.S., who has been appointed ophthalmologist to the department, at the Royal Eye Hospital, St. George's Circus, London, S.E.1.

The 37th annual meeting of the Medical Benevolent Society for the North and East Ridings of the County of York (including the City of York) was held at York on Sept. 25, by kind permission in the library of the York Medical Society, Stonegate. The report of the honorary secretary showed a most satisfactory state of affairs, the membership again having reached a new high level. Two applications for assistance were considered, and in both cases grants were made. The treasurer's audited accounts indicated that the finances of the Society were in a healthy state, and that funds were available for further investment. Great regret was expressed at the impending retirement of the honorary treasurer, Dr. Matheson Mackay, whose association with the society dates back to 1909, and who held the office of president in 1929 and 1930. Applications for membership should be addressed to Dr. W. W. A. Kelly at 92, Micklegate, York.

The Health Division U.N.R.R.A., London, invites the attention of members of the profession, below 50 years of age, who have been practising in a specialty of medicine or surgery, to the advertisement in the *Journal* of Sept. 29 for specialists for service in China for a period of about a year. This would appear to be a unique opportunity for them, not only for participating in the professional rehabilitation of our great Ally, but for obtaining fresh experience with a possibility of openings for practise in that country for those who care to remain when U.N.R.R.A. has withdrawn.

The Vice-Chancellor of the University of Leeds, Mr. B. Mouat Jones, speaking at the medical degree ceremony on Sept. 22, said that he had been notified of a considerable grant for the development of facilities for medical teaching in the university so that it would be possible to make a start on post-war schemes. With regard to the intake of new medical students, the Vice-Chancellor said that the need for more doctors had evidently impressed itself on the public. The Leeds Medical School had had 999 applications for admission in the present session and there were 75 vacancies. Already the applications for the following session were well over the available places. When building permits were eventually obtained to enlarge the accommodation to deal with an annual intake of 100—which was the maximum thought desirable and was the figure recommended by the Goodenough Committee—it would still be quite impossible to satisfy the demand for admission if it kept at its present rate. It was well that this should be generally known so that parents might contemplate alternative careers for their sons and daughters.

Mr. A. J. Bennett, previously assistant secretary, has been appointed secretary and chief executive officer of the Central Midwives Board for England and Wales from Oct. 1, in succession to Mr. Leslie Farrer-Brown.

The following members of the medical profession have been released from internment in Japanese hands: Dr. Oscar Elliott Fisher and Dr. John Groscort Reed.

Letters, Notes, and Answers

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: *Aitiology Westcent, London.* ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated.

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ANY QUESTIONS?

Pregnancy after Thigh Amputation

Q.—*A girl aged 17 had a high thigh amputation; she used crutches for two years and was then fitted with an artificial leg. She is now 22, married, and pregnant. She wishes to know whether she should continue to wear her artificial leg during her pregnancy. She is quite prepared to go back to crutches, on which she is very agile. Is there any likelihood of her two years on crutches when younger having caused any great deformation of her pelvis which might give trouble at labour?*

A.—Unless she develops any trouble (e.g., circulatory) in the stump there is no reason why the patient should not continue to wear the artificial leg during pregnancy, and it would be preferable to crutches.

By the age of 17 years the development of the pelvis is well advanced, so unequal weight-bearing at that age is much less likely to have any effect on its shape than it would have in the earlier and more formative years. At most there might be slight atrophy of the pelvic bones on the side of the amputation, or some inward displacement of the wall of the pelvis on the sound side. Even so the oblique deformity, if any, will be of a minor degree and most unlikely to cause mechanical difficulty in labour. However, it would perhaps be wise to have the pelvic shape and measurements determined radiologically, and especially if there is any doubt about the fit of the head into the brim during the later weeks of pregnancy.

Purpura after Sedormid

Q.—*With reference to the question on purpura in the* JOURNAL *of Aug. 25 (p. 271), is the purpuric reaction after sedormid likely only after prolonged sedormid treatment, or does it follow immediately after a few tablets? Which radical in the formula causes purpura?*

A.—The amount of sedormid necessary to produce purpura varies greatly. Purpura has occurred after a single tablet. In other instances the patient has taken sedormid regularly for two or three years before sensitization has developed. Between these extremes every variation in time has been seen. Details of 41 cases of sedormid purpura have been summarized by Falconer and Schumacher (*Arch. intern. Med.*, 1940, **65**, 122). There are safer alternatives which practitioners can use.

Sedormid is allyl-isopropyl-acetyl carbamide, and it belongs to the group of carbamides, or acylic ureides, in which one H of the urea ($H_2N.CO.NH_2$) is replaced by an acid radical. Other members of this group are carbromal and bromural, but they are not known to affect the blood-forming organs. The acid radical in sedormid does not look very dangerous, and presumably the complete molecule is necessary for sensitization. This group of compounds is fairly closely related chemically to thiourea and thiouracil, which have an unpleasant tendency to produce agranulocytosis.

Low Blood Pressure

Q.—*I would be glad of advice on investigation and treatment of low blood pressure in general. I am finding many patients with a systolic pressure of as little as 110 or even 95, all complaining of lassitude and lack of "staying power." Low blood pressure seriously handicaps these patients, and I would appreciate suggestions.*

A.—The range of the normal blood pressure in health may well extend down to 100 or even 95 mm. Hg. It is not so uncommon to meet healthy young people who have pressures of this level. They are often of slight asthenic build and have slow pulses. Above the age of 40 such pressures are usually abnormal. The symptoms commonly associated with hypotension are lassitude, fatigue, giddiness, weakness, faintness, and a poor capacity for exertion. Patients with such symptoms not uncommonly do not have an abnormally low pressure. So the symptoms and the pressure do not necessarily run parallel.

To gauge the significance of a low reading in any individual with symptoms one must know what his pressure is in normal health. The blood pressure depends upon several factors. It will fall in some cases of severe myocardial damage, but here the cause is obvious; an infarct is the commonest cause. At the periphery the tone of the arterioles is the most important influence. This depends on the activity of the vasomotor centre and upon the state of the arterioles themselves. This last is influenced by the secretions of the adrenals and the pituitary body, and probably also of the kidneys. Changes in the blood volume hardly come in here, and one need not discuss shock. Anaemia in some way lowers the blood pressure—perhaps both centrally (myocardial) and at the periphery. Aortic stenosis is the only valvular defect associated with low blood pressure. If these grosser and more obvious causes are excluded, one must consider the patient who comes with the symptoms enumerated above, and in whom the tension seems to be abnormally low for him. The low pressure should be regarded as part of a state of general debility, and not stressed too much as an individual item. These patients are sometimes neurotic, and fasten upon their figures of low pressure, just as hypertensives are apt to brood on theirs. A phase of debility such as this may not uncommonly follow an influenzal infection. But often nothing definite is found. One must remember the possibility of early tuberculosis. The sedimentation rate might be noted. The reaction of the blood pressure to changes in posture should be studied, taking a reading with the patient lying and then at once when standing up. Addison's disease will be indicated as a rule by other symptoms before the blood pressure falls to 110 mm. Hg.

The rare state of postural hypotension is probably a lesion of the sympathetic nervous system, and the fall to 50 or 60 mm. Hg systolic on standing is diagnostic. It is also associated with impotence and lack of sweating; it is almost entirely confined to males.

The idiopathic cases of hypotension are often difficult to treat. After infection, the usual routine of convalescence should restore the normal. Where, as so often in these days, the patient is an elderly civilian, worn out with work and worry, and probably with a deficient protein intake, a period of rest and good food, followed by a holiday in pleasant bracing surroundings, would work a cure, but this is a counsel of perfection under present conditions. Often the appetite is bad, and for some patients a little alcohol is very beneficial (if they can get it). Drugs are probably least useful, unless the patient cannot get rest and change. Strychnine in full doses, pushed to the limit of tolerance, is undoubtedly valuable. Its faded reputation is largely due to small doses in unsuitable cases. The directly pressor drugs, ephedrine or paradrine, should be tried. Amphetamine is apt to stimulate the cerebral cortex too much, and may cause insomnia if taken late in the day. Amphetamine in the morning and ephedrine in the afternoon is a good combination. The camphor preparations are of doubtful value. Desoxycorticosterone acetate is not useful except in Addison's disease.

What is First-class Protein?

Q.—*Is any exact meaning attached to the phrase "first-class protein"? I have always taken it to indicate protein from an animal source, but would welcome an authoritative explanation.*

A.—The biological values of proteins may be measured on growing animals by the ratio of gain in weight to intake of protein, or, on adults, by the ratio of body nitrogen spared to food nitrogen absorbed. The values depend on the ratios of amino-acids in the proteins. The proteins of the endosperm of cereals contain little of some of the indispensable amino-acids: the protein of white flour, for example, contains little lysine; consequently their biological value is low. However, animal proteins can supplement these cereal proteins: for example, young rats grow as well on a mixture of equal parts of milk protein and wheat protein as on wheat protein alone. Even gelatin, which is an incomplete protein containing neither valine nor tryptophane, can supplement white flour by virtue of its high content of lysine.

The biological values of the proteins of legumes are intermediate between those of animal and cereal proteins, and they may be used to supplement the cereal proteins. The biological values of the proteins of plant cells are as high as those of the animal proteins, but their low concentration and the large amounts of cellulose in plants make them unsuitable sources of proteins for human beings unless they are concentrated in some way.

The term "first-class protein" is therefore relative: as commonly used it includes proteins from animal sources only.

Worms in Cod

Q.—*A worm is found in the cod which is about 1½ inches long, white, and turns brown in a refrigerator. A fish merchant states that it is always found in cod at this time of the year. (a) Is it a parasite of man? (b) Is it, and are its eggs, destroyed by cooking? (c) Is any treatment necessary after eating fish infected by it?*

A.—In the absence of actual specimens of the parasites it is not possible to identify them with any certainty. It is presumed, however, that the worm in question is a nematode, possibly belonging to the subfamily Cucullaninae, genera of which are found in various species of fish and, commonly, in the cod. It may be stated that they are not parasites of man, and that in any case both the parasites and their eggs, if present, would be destroyed by cooking. No treatment, therefore, is indicated in the case of human beings who may have eaten fish harbouring these parasites.

Order of Injecting Varicose Veins

Q.—*In the technique of injecting varicose veins, do you begin the course at the most distal or most proximal portion of the affected vessel, and what is the reason for doing so?*

A.—The lower two-thirds of the leg in varicose vein patients is a *locus minoris resistentiae* where ulcers, eczema, and chronic phlebitic and periphlebitic indurations are prone to develop. It is therefore unwise in well-established cases to inject the lower reaches of the leg, because a leakage here would become a chronic ulcer, and an excessive response a chronic periphlebitis and oedema; and if the disappointed patient gives up treatment these lesions would constitute a long-standing reproach. Furthermore, the treatment of the higher veins improves the condition of the lower part of the leg, so that it does not give trouble when its turn to be injected arrives. When the injections are an adjunct to ligatures, the order of injection from above down need not be observed. In cases of long previous femoral thrombosis in which varicose veins and complications have developed, the injections should be confined to the venous pools in the proximity of the complication; the injections should not be done systematically from above down as in straightforward cases.

"Boosting" Dose in Diphtheria Immunization

Q.—*I am immunizing children with A.P.T. as issued from the E.P.H.L.S. Many return for the second injection long after the recommended interval of four weeks. I should like to know: (1) Up to how many weeks or months is it efficacious simply to give the second injection of 0.5 c.cm. A.P.T.? (2) Is it more efficacious after a certain number of weeks to restart afresh with two injections properly spaced, and after how many weeks should that course be followed? (3) What is the recommended reinforcing dose to be given after four years? (4) Is a reinforcing dose of one prophylactic (e.g., A.P.T.) useful if the original prophylactic has been T.A.M. or T.A.F.?*

A.—The host's response to artificial immunization depends mostly on the adequacy of the primary stimulus: that is, the material used must be a good antigen, as A.P.T. is, and it must be given in adequate dosage. In this respect the custom of giving two doses of 0.2 and 0.5 c.cm. of A.P.T. might well be reversed to 0.5 and 0.2 c.cm., since the smallest dose of antigen will act as a secondary stimulus. In answer to the specific points: (1) If the primary stimulus has been adequate—e.g., 0.2 to 0.5 c.cm. A.P.T.—the second dose may be given as late as six months after the first and still evoke a good response. (2) After that period it may be wiser to give two spaced injections. The interval between first and second injections should not be less than one month, since, within limits, the longer the interval between injections the better the response. (3) The reinforcing or "boosting" dose need not be large: 0.2 c.cm. A.P.T. is adequate. (4) Yes: the antigen in any form will serve for the "boosting" dose; with older school-children T.A.F. is often recommended for the "boosting" dose, as being less liable than A.P.T. to produce reactions.

Neuritis after Typhus

Q.—*A colleague is suffering from intractable neuritis following typhus contracted in Australia 8 years ago. We do not see the disease in this country (New Zealand). The condition is resistant to all the usual methods of treatment, and appears to be getting worse.*

A.—Vascular lesions are characteristic of typhus, and it is possible, therefore, that the present symptoms are due to changes in the vessels giving rise to irritation of the perivascular sympathetic fibres, in which case treatment by local injections of alcohol or by sympathectomy might be considered. As, however, long-standing intractable neuritis due to typhus is unusual, all other possible causes of the symptoms should first be excluded.

Generalized Sweats

Q.—*Two women in the 50's have had severe generalized "sweats" for years. One passes urine after every "sweat." Remedies such as bromides and phenobarbitone, and endocrine treatment, fail to relieve. Laboratory investigations have given no assistance. So inconvenienced has one woman been that she has threatened suicide. The "sweats" are a colourless, odourless, painless, but profuse hyperhidrosis; in no way do they suggest "hot flushes" in either case. What can be done?*

A.—Although the ages of these patients do at first suggest an association between the sweats and the climacteric, this possibility is fairly definitely excluded by the fact that endocrine (presumably oestrogen) therapy had no good effect. The other circumstances of the cases suggest a neurasthenic basis for the sweating. Although the effect of amphetamine might be investigated, treatment on general lines—a prolonged holiday or change in environment and occupation, hydrotherapy, combined perhaps with some sedative such as luminal—offers the best hope.

Ozone in the Factory

Q.—*I am an industrial M.O. and my firm have been offered a machine which generates ozone (output not stated), which is said to reduce fatigue, destroy smells, increase oxyhaemoglobin, prevent transmission of colds, reduce oppression, and destroy bacteria, etc. Can you give any guidance?*

A.—In normal persons the olfactory threshold concentration for ozone is 0.015 part per million, and irritation of the respiratory membranes occurs with concentrations greater than 0.05 part per million. The recognized maximum permissible concentration in occupied rooms is 0.04 part per million.

The addition of tolerable amounts of ozone to the air makes no detectable difference to working capacity, resistance to fatigue, or various other bodily reactions.

Ozone in permissible concentrations can inactivate certain unprotected air-borne organisms, but when such bacteria are covered with a protective coating of organic matter, as in the sprays emitted during coughing and sneezing, ozone in permissible concentrations is without effect.

A just-detectable concentration of ozone can reduce the smell of body odours enough to allow of a 50% reduction in the amount of fresh air required for odour control, but lower concentrations are valueless. However, with a given output of ozone and a constant ventilation rate, the concentration of ozone varies widely according to the atmospheric humidity, so that sometimes the concentration may be undesirably high and at other times too low to be effective. Hence, until accurate means for controlling ozone concentrations are available the use of ozone in the air of occupied rooms should be discouraged.

Pneumoperitoneum and Pregnancy

Q.—*A woman aged 25 years has been treated for an apical lesion by pneumoperitoneum, began about 18 months ago. The lesion appears quiescent. The patient is now two months pregnant, and interference in the normal course of pregnancy is not warranted. How long should the pneumoperitoneum be kept up during pregnancy, and what procedure should be adopted immediately after confinement, assuming the patient went through pregnancy without ill effect?*

A.—The pneumoperitoneum will clearly have to be abandoned gradually as the uterus fills the abdominal cavity. The exact treatment will depend upon the size of the uterus, but after the fourth to fifth month the refills will probably need to be smaller and less frequent, and by the sixth or seventh month it will probably be safest to cease refills altogether. The pneumoperitoneum should be reinduced as soon as possible after labour.

Psychopupillary Reflex

Q.—*Please give a full account of the meaning of the term "psychopupillary reflex." What is the diagnostic value of its absence?*

A.—The psychopupillary reflex is the dilatation of the pupil that occurs on receipt of a painful stimulus, or at such an emotional stimulus as startle. Its specific absence has no particular neurological significance, but according to some authorities it is sometimes observed in schizophrenia.

INCOME TAX

Car Expenses

R.S.O. holds a hospital appointment and uses a car for (*a*) private outings, (*b*) travelling between his residence and the hospital, (*c*) inside the extensive hospital grounds, (*d*) travelling for the purpose of postgraduate education, and (*e*) official journeys to visit outlying hospitals—he receives a mileage allowance in respect of (*e*). What deduction can he claim for income-tax purposes?

*** No claim can be made for the expenses incurred under (*a*), (*b*) and (*d*). As regards (*e*) any claim would be restricted to the excess of the *necessary* expense over the allowance received, and that excess would probably be insubstantial. The use of the car under (*c*) would provide grounds for a claim, but only if the use of a car for that purpose is "necessary." On the whole, therefore, only a small proportion of the total mileage of the car will rank for an income-tax claim. As regards the expenses to be taken into account, they would include running costs, insurance, repairs, and depreciation.

LETTERS, NOTES, ETC.

Binocular and Monocular Vision

Dr. F. S. **Lavery** (Dublin) writes: In "Any Questions?" (July 28, p. 141) the answer given to the question under the heading "Binocular and Monocular Vision" would appear to me to have missed the point. The question brings forward a matter of considerable importance and should not be dismissed by an evasive answer. What is meant by the statement that few have centralized binocular vision is that large numbers of people when engaged upon tasks, such as reading, which require visual concentration hold the object gazed at towards the side of their dominant or master eye. It is wrong to say that it is this habit which produces the dominant eye. The dominant eye is part of the sidedness of an individual and cannot be changed. As a result of training many who are natively left-sided are taught to use the right hand for actions which should be performed by their dominant hand. In these people the left eye remains the dominant eye. As a result of investigations which I and others have carried out I am satisfied that the upset in cerebral dominance produced thereby causes many disturbances, amongst which is disability in learning to read. I would refer your querist, and anybody who is interested in the subject, to "Ocular Dominance" from the *Transactions of the Ophthalmological Society*, 1943. In this communication of mine will be found data in support of the above statement and descriptions of simple clinical tests for the condition.

Anatomical Nomenclature

Mr. R. **O'Rahilly**, M.B., Ch.B. (Department of Anatomy, University College, Cork) writes: The comments on anatomical nomenclature by Mr. A. Hollman (Sept. 22, p. 414) are long overdue. According to the Goodenough report it is most important that "the clinical teachers and the teachers of the preclinical subjects should co-operate in securing continuity in the curriculum and a proper dovetailing of their respective teaching, so that the student's progress through the whole of the medical course may be smooth and logical." This smoothness is at present ruffled by the retention of obsolete terminologies by clinicians. Anatomical textbooks are written in the B.R., and surely clinical textbooks designed for the same students should make use of the terminology with which the student is already familiar; at least the insertion of the newer terms in addition to the older names before displaying a new edition of a surgical or physiological textbook should not be too much to ask. In conclusion I would point out to Mr. Hollman that fortunately for future medical students some of us do not find anatomy such "an uninspiring subject."

Bruising and Rheumatism

Dr. Eli **Davis** (London, E.3) writes: Full justice has not been done to the question on the occurrence of spontaneous "bruising" in the rheumatic diathesis (Sept. 15, p. 375). The occurrence of rheumatic symptoms in the haemorrhagic diathesis is very well known, as stressed by your contributor. But it was because the tendency to spontaneous ecchymoses in the rheumatic diathesis was so little known that I stressed this feature in the evidence I presented in papers in the *Lancet* (1941, **1**, 146; 1943, **2**, 160). Persons suffering from rheumatic diathesis are specially prone to spontaneous ecchymoses. This purpura is practically always benign.

Artificial Respiration

Capt. M. **Hemming**, R.A.M.C., writes: While doing artificial respiration by Eve's rocking method recently in a case of drowning, I was impressed by the increase in depth of breathing which could be attained by means of compressing the thorax on expiration and completely removing pressure as the feet went down. We were using a stretcher on a trestle, which was placed almost under the chest and enabled the sides of the chest to be pressed together; this would not be so easy if the stretcher was suspended from above.

Car Without Foot Pedals?

Dr. H. B. C. **Sandiford** (Felpham) writes: The answer to Dr. Rammell is an electrically driven chair. They will go up to 30 miles and are most reliable. Only the hands are used.

Disclaimer

Dr. M. E. H. **Halford** writes: A statement attributed to me, in relation to the treatment of a patient of Maidenhead Hospital, was published in the *Sunday Express* on Sept. 30. This publication was made without my knowledge or consent. I have not, on any occasion, made a statement regarding the treatment of a hospital patient to the *Sunday Express*.

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INDICATIONS FOR SURGERY IN PENETRATING WOUNDS OF THE CHEST

THE IMPORTANCE OF PULMONARY INJURY*

BY

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The most important object in treatment of injuries involving the pleura is early pulmonary re-expansion, since by this means pleural infection is limited and respiratory efficiency restored. Although this is well recognized and has been emphasized again recently (Thomas and Cleland, 1945), expansion of the lung, and in fact the pulmonary condition altogether, is usually regarded as a factor secondary in importance to the pleural lesion, and attention is focused mainly on haemothorax. It is one of the purposes of this communication to suggest that the prognosis of penetrating wounds is influenced as much by the condition of the lung as by that of the pleura.

It is a matter of experience that, on the average, expansion of the lung is slower after penetrating wounds than after non-penetrating injuries, quite apart from infection. This can be seen in a comparison of different types of haemothorax following these two varieties of chest injury; and is shown diagrammatically in Fig. 1. Thus in both haemothorax and haemopneumothorax pulmonary re-expansion is less rapid after penetrating wounds, while with total haemopneumothorax prognosis is good in the case of non-penetrating injuries; but after penetrating wounds the chances of persistent pulmonary collapse are high even in the absence of infection, and it is this type of case which calls most frequently for surgical evacuation of pleural haematoma. It is suggested that in most cases this difference is due to pulmonary injury which is not always recognized; and that treatment directed to the pleura alone therefore will not always result in re-expansion of the lung. It is significant that, with non-penetrating injuries, if there is difficulty in resolution of haemopneumothorax it is nearly always due to pulmonary injury with broncho-pleural fistula.

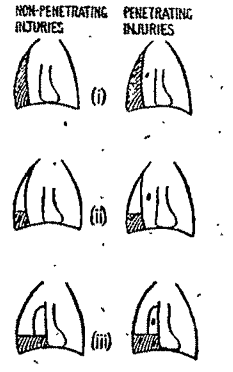

FIG. 1

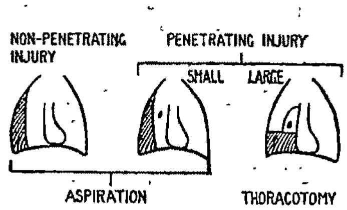

FIG. 2

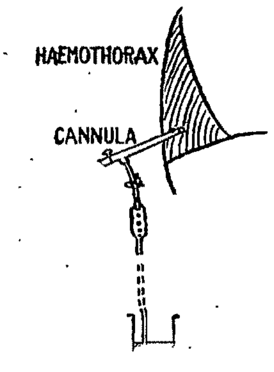

FIG. 3

FIG 1.—(i) Haemothorax. (ii) Haemopneumothorax. (iii) Apical or total haemopneumothorax.

FIG. 2.—Treatment of chest injuries.

FIG 3.—Aspiration of large haemothorax.

In addition to less favourable expansion of the lung after penetrating wounds, prognosis is worse also because of the greater risks of infection. Here again the presence of pneumothorax is an unfavourable influence and greatly increases the chances of pleural infection. The most important predisposing cause of empyema is the association of infected foreign matter and haemopneumothorax. If the lung is fully expanded, infection may not occur even in the presence of a large foreign body, and if it does it will be localized. Such cases are not uncommon, and it is to be assumed that the foreign body has entered the pleura without damage to the lung so that pneumothorax has not occurred and infection has been avoided or limited.

Elimination of the pleural space is of such significance that it is reasonable to regard early pulmonary re-expansion as even more important than avoidance of infection—first, because the former is a most useful means of promoting the latter, and, secondly, because the prognosis of localized basal empyema is much better than that of persistent total haemopneumothorax, even if this remains sterile.

With the majority of small penetrating wounds the chances of both pneumothorax and infection are small, and conservative treatment is usually justified. With large penetrating wounds, however, the amount of damage to lung and to chest wall makes both pneumothorax and infection almost inevitable, so that surgery is essential. Thus we can summarize the main principles of treatment of penetrating wounds as: (1) early elimination of pneumo- and haemo-thorax, and (2) early surgical toilet of large wounds of the lung and pleura.

There are three zones at which treatment may be necessary—forward, base, and at home. The last includes late removal of foreign bodies and treatment of chronic empyema, and will not be discussed here.

Treatment in the Forward Zone

Apart from special wounds involving the diaphragm or pericardium and primary haemorrhage, there are two groups of penetrating wounds, large and small, from the point of view of treatment. The former require operation, while the latter should be included for treatment with non-penetrating injuries as *simple haemothorax* and treated by aspiration (Fig. 2).

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* Paper presented at the Allied Military Surgical Conference in Paris on July 25, 1945.

Indications for Operation

Decision on the need for operation is often difficult, and must be made on the individual case. As a general rule, however, it can be said that if a penetrating wound is larger than about 1 cm. it will probably need operation. If there is a pneumothorax as well, the necessity for surgery is almost certain, because there is enough damage to the chest wall or to the lung, or to both, to endanger life or to render infection probable. If there is no air in the pleura the pulmonary lesion will be localized and the outlook favourable; the best prognosis in penetrating wounds of the lung and pleura is undoubtedly in those cases in which there is an adherent pleura.

While there are numerous recognized indications for operation, such as the presence of a sucking wound, compound fracture of rib, retention of a large foreign body, or a large wound of the chest wall, these nearly all depend for their surgical importance on the existence of conditions in which pneumothorax is likely, which in practice are provided by a wound larger than about 1 cm. in the visceral or parietal pleura. If the pleural wound is smaller than this it will be blocked by haematoma or muscle, and none of these indications for operation will arise. In this type of case little is to be gained by wound excision, whereas there are operative risks such as the undesirable initiation of pneumothorax by disturbing the wound, and increase in size of haemothorax due to rise in blood pressure under anaesthesia.

If the pleural wound is larger than 1 cm. it usually means that there is also a fractured rib or sucking wound with potential or actual pneumothorax, or a large wound of the chest wall, for any of which surgery is necessary. Prognosis in such cases depends above all on the amount of pulmonary damage. It has been pointed out that open pneumothorax is often tolerated very well—as, for example, with thoracotomy under local analgesia—and that some patients from Dunkirk were alive five or six days after injury in spite of an open wound of the pleura (Barrett, 1940-1). The explanation is probably to be found in the absence of pulmonary injury: a sucking wound is much less serious if the pneumothorax is due to injury of the chest wall alone than if there is also a broncho-pleural fistula.

The size of the pulmonary wound is thus important as an immediate danger in the production of pneumothorax. In addition it is also of great influence later in the development of infection or delayed pulmonary expansion, so that adequate surgical toilet is essential for such wounds.

Indications for Aspiration

Treatment of small penetrating wounds is by aspiration of haemothorax and instillation of intrapleural penicillin. While this does not need discussion here, there are two practical points which are of importance in the forward area. These are: (*a*) Selection of the most urgent cases for immediate treatment, while others may be evacuated to the base hospital. The case with displacement of the apex of the lung requires aspiration more urgently than one with haemothorax limited to the base, because the prognosis of persistent apical haemothorax is very much worse. (*b*) Employment of the most rapid method of treatment with the minimum of apparatus. It is convenient to aspirate small effusions with a syringe and two-way tap, and large effusions by means of a blunt aspirating cannula or wide-bore needle attached to a water-seal bottle. A large A.P. refill needle is satisfactory, and the flow can be regulated at a steady drip by means of a standard blood-transfusion drip connexion (Fig. 3). The use of general anaesthesia, suction bottles, or laborious aspiration with syringe is usually not necessary. In this way the minimum of attention is required—a point of some importance to the busy C.C.S. physician—and several cases may be dealt with at the same time, the only really essential apparatus being a sufficient number of suitable needles.

Treatment at the Base

There are two conditions which call most often for treatment at this level—viz., delayed pulmonary expansion and infection.

1. Delayed Pulmonary Expansion

Expansion of the lung may be delayed by the condition of the pleura or of the lung; the former usually receives the maximum of attention as the problem of the unresolved haemothorax; but probably the latter, the condition of the lung itself, deserves as much care.

(i) *Unresolved Haemothorax.*—If aspiration fails to eliminate haemothorax within two weeks, surgical evacuation of the haematoma must be considered in order to avoid pleural fibrosis with an incompletely expanded lung. It is important, however, to select only the cases in which this is essential. The prognosis of persistent apical haemothorax is very much worse than that of basal haemothorax, because pulmonary efficiency is much poorer with collapse of the lung at the apex than at the base. In fact, the outlook for a sterile apical haemothorax is worse than for a basal empyema so far as final function is concerned. Hence, if the apex is well expanded there is no need for early surgical evacuation of the basal haematoma, and in fact such treatment is dangerous, because thoracotomy involves pneumothorax with the possibility of apical collapse. It is wiser to defer operation in order to ensure firm union of the pleural layers at the apex. On the other hand, if aspiration of haemothorax with collapse of the upper lobe is proving difficult, evacuation of the haematoma should be carried out as soon as possible.

(ii) *Pulmonary Contusion.*—If the lung is uninjured its re-expansion will be hindered only by the pleural contents, as in the majority of non-penetrating injuries. But if there is a pulmonary contusion or laceration, this will delay re-expansion, quite apart from the state of the pleura. It is significant that the problems of unresolved haemothorax arise almost exclusively in penetrating wounds, suggesting that it is indeed the pulmonary injury which is vital, so that "delayed pulmonary expansion" is probably a better term than "unresolved haemothorax" for this condition. Inasmuch as its extreme vascularity makes the lung very resistant to infection, it also renders the pulmonary tissue extremely liable to contusion after injury, although in comparison with the more dramatic responses of the pleura this tends to escape notice. The effect of pulmonary contusion is to cause obstruction to the air-passages and thus lead to atelectasis of lobar or lobular type. Pulmonary re-expansion will then be slow and may even be incomplete. It will be found in nearly every case of haemothorax in which the lung does not re-expand easily that there has been penetration or perforation of the pulmonary tissue by the missile. Further, in refractory apical haemothorax the injury is nearly always of the upper lobe, with the result that the apex has not re-expanded. These cases can be contrasted with the non-penetrating chest injury where without pulmonary damage (or only superficial damage) aspiration of haemo- or pneumo-thorax is almost invariably followed by rapid and complete pulmonary re-expansion. Thus it is suggested that pulmonary contusion or laceration is the main cause of slow or incomplete pulmonary re-expansion following penetrating wounds.

Pulmonary contusion due to penetrating wounds is a condition well recognized in the absence of pneumothorax. The prognosis is usually good and resolution occurs fairly rapidly. But if a pneumothorax were initiated in such a case, the condition would be very similar to that in delayed re-expansion under discussion. It is a matter of common experience in chest disease that, in the presence of partial bronchial obstruction due to any pathological process, initiation of pneumothorax will often precipitate total atelectasis, which is difficult of resolution. This is seen commonly in tuberculosis and neoplasm, while it has been shown that, in atelectasis following lobectomy, resolution occurs very much more rapidly in the absence of a pneumothorax (Sellors, Thompson, and Qvist, 1944). In a comparable way, therefore, haemorrhage into the lung after injury might be expected, owing to interference with the air-passages, to show this lethargy in re-expansion in the presence of a pneumothorax.

Looked at from another aspect, it would be very surprising if, after penetrating wounds, there were no cases intermediate between immediately fatal lacerations and small contusions of the lung. It seems much more likely that it is just these cases of refractory haemothorax which represent the badly injured lungs that have survived but are in a state of contusion unfavourable to adequate aeration, and in point of fact the vast majority of these difficult cases of haemothorax are severe penetrating and perforating wounds of the lung. If, even with the best treatment, some lobes never re-expand completely, it is not always the treatment that must be blamed, but the original injury, in the same way as loss of function of a limb may be determined by severe injury.

There is an interesting parallel to be found between the recognition of the relative importance of pleura and lung in haemothorax following trauma and that following lobectomy. In the earlier days of lobectomy delayed pulmonary expansion was regarded as secondary to pleural changes, but in 1939 it was pointed out by Tudor Edwards that pulmonary collapse was in fact the primary lesion in such cases. It is suggested that, in penetrating wounds similarly, the pleural condition is of secondary importance, and that injury of the lung is the main cause of delayed pulmonary re-expansion.

From the above considerations it would seem that treatment should be directed to both pleura and lung. If the apex of the lung is still unexpanded after 14 days, surgical evacuation of the pleural haematoma should be carried out. The object of this is to avoid pleural fibrosis so that subsequent expansion of the lung is not impaired.

Surgical evacuation of the pleural contents alone, however, would not always be expected to result in complete pulmonary re-expansion if there is also a contusion of the lung—which has in fact been borne out by experience of the operation. Treatment must be directed to expansion of the lung, and the most promising method at present is probably by suction. This method has been described recently by Thomas and Cleland (1945), and good results reported by the use of decortication, followed by suction for three or four days, using apical and basal pleural catheters.

The value of decortication is debatable. According to Thomas and Cleland (1945) it is important to perform radical operation to mobilize the whole lung, while this is not regarded as important by Sellors (1945). It would seem that such differences of opinion might well be explained according to the stage at which operation is undertaken. If surgical evacuation of haemothorax is carried out within two or three weeks of injury decortication should not be necessary. If, after evacuation of the haematoma and adequate post-operative drainage, preferably with suction, the lung does not expand, then re-expansion would probably not have occurred even if decortication had been performed, because the cause of delayed expansion is in the lung itself after its laceration and not in fibrosis of the visceral pleura. If surgical evacuation of the haematoma is delayed more than four weeks, then decortication may have a place in treatment; but again prolonged post-operative suction drainage is probably more important, even if such extension of drainage means development of secondary empyema.

2. Infection

The rate of infection of haemothorax following penetrating and perforating wounds has been given as 21.9% (Tudor Edwards, 1943) and 33% (Nicholson and Scadding, 1944). In 400 such cases at a chest centre in the B.L.A. empyema occurred in less than 14%. Considering that these cases of haemothorax included particularly those which were not progressing well and those which were already infected, it suggests that the figures of infection usually given are inclined to be rather too high. This is very likely, since a large number of simple haemothorax cases resolve rapidly with aspiration in the general base hospitals and never find their way into chest units, so that these good results are not included in the estimate. It seems likely, then, that infection in haemothorax after penetrating wounds is not more than 14%. Apart from this apparent decrease in infection rate, there is probably also a real diminution due to the prophylactic use of penicillin and to more adequate early treatment in the forward areas both in elimination of haemopneumothorax and in surgical toilet.

The association of haemopneumothorax with infected foreign material is the most common cause of empyema, so that the two essentials in prevention are early pulmonary re-expansion and adequate surgical toilet. Penicillin therapy is of value in prophylaxis, but is second in importance to radical surgery in the elimination of potential infection. Once infection has occurred it is best to carry out drainage immediately, since penicillin therapy for infected haemothorax is rarely successful, and its continued use leads to pleural fibrosis and loculation.

Infection of the chest wall is of small importance in the absence of pleural damage. If there is a communication with the pleura, however, the condition is serious, since there is always an associated empyema and the patient suffers from toxaemia and open pneumothorax. This condition is seen most commonly with wounds of the anterior chest wall, where anatomical conditions favour infection, since the costal cartilages show poor resistance and there is often difficulty in closing a wound after adequate excision owing to lack of available muscle. There is always an associated empyema, and often contusion or atelectasis of a section of injured lung, which is usually the upper lobe corresponding to the anterior wound.

Treatment consists in the first place in prevention of sepsis by adequate excision of wounds, particularly those in the region of costal cartilages. With established sepsis and a secondary sucking wound, the first step is drainage of the empyema with temporary packing of the wound. The general condition usually improves considerably, after which secondary closure with muscle flap is carried out.

Infection of the lung is nearly always associated with empyema, and as a rule takes the form of a superficial infection with secondary sloughing into the empyema cavity. Abscess of the lung without empyema is rare, since pulmonary injury large enough to produce suppuration will also result in initial pneumothorax. Surgical treatment for pulmonary infection following injury is therefore usually incidental to the treatment of empyema, and is limited to the removal of sloughs or foreign bodies through the empyema tube.

Summary

The prognosis of penetrating wounds is worse than that of non-penetrating injuries because pulmonary re-expansion is slower and pleural infection is more likely.

Pneumothorax is of great significance in penetrating wounds and has an unfavourable influence both in the occurrence and resolution of infection and in the resolution of pulmonary contusion.

Pulmonary contusion and laceration are important causes of delayed expansion of the lung and are nearly always found in the condition of unresolved haemothorax.

Penetrating wounds of the upper lobe have the worst prognosis and are nearly always present with total or apical unresolved haemothorax.

If apical haemothorax persists for more than two weeks surgical evacuation is indicated, but this is contraindicated for basal haemothorax.

After surgical evacuation of haemothorax complete expansion of the lung may still not occur owing to residual pulmonary damage. Treatment for this condition is unsatisfactory, and the best at present is probably prolonged pleural drainage, preferably with negative pressure. Decortication is probably of value in late cases.

Infection of haemothorax following penetrating and perforating wounds occurred in less than 14% in 400 cases.

I should like to point out that most of the clinical experience on which this paper is based was obtained at a Chest Centre in the B.L.A., in which responsibility was shared with Major N. Lloyd Rusby, R.A.M.C., and Captain (Miss) Joan Cheale, R.A.M.C., to whom my thanks are due—to Major Rusby especially for the views expressed on the significance of pulmonary injury.

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Rubber hot-water bottles will soon be on sale to the general public, but as four years' accumulated demand cannot be met at once sick persons or expectant mothers should continue to present a medical certificate and the shopkeeper will immediately obtain a hot-water bottle from his usual supplier. Maximum prices will be 7s. 2d. or 8s. 3d., including purchase tax, according to size, and, for hand-made bottles, 12s. 11d.

OUTBREAK OF EPIDEMIC DIARRHOEA AND VOMITING IN A GENERAL HOSPITAL AND SURROUNDING DISTRICT

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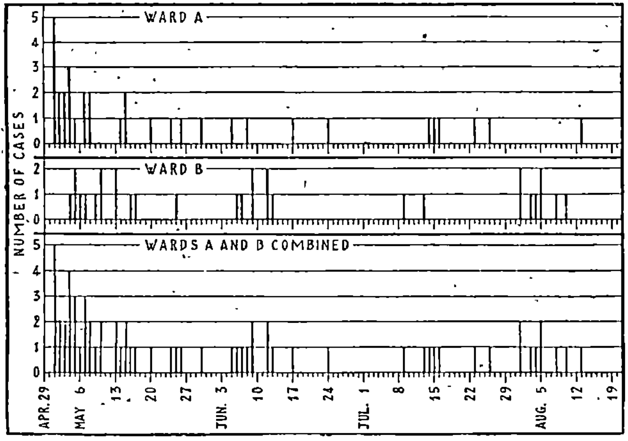
The hospital in question is a general hospital of 1,000 beds with a nursing staff of 365, and serves a compact, densely populated industrial area. Attention in the hospital was first drawn to the outbreak on May 1, 1945, when five babies in a maternity ward, whose ages ranged from 3 to 6 days, were reported to have developed diarrhoea. The maternity ward in question ("A") consists of 20 beds and 20 cots. It is the ground-floor ward of a block of three maternity wards, the second ward ("B") consisting of 22 beds and 22 cots on the first floor, and the third ward ("C") consisting of 24 beds and 24 cots directly above. These wards are separate structurally from each other, but the nursing staffs are in contact at meal-times, lecture-times, etc., and the same medical staff serves both wards. There are 10 nurses on each ward.

On inquiry it was found that two cases of diarrhoea had been admitted previously to a surgical ward as suspected acute abdominal conditions, but no trace could be discovered of any contact with the babies in Ward A, which was far distant from the surgical ward. The cleaner of Ward A had had some diarrhoea on April 13, 1945, and she would have been in the nursery as part of her normal duties, although she would have no direct contact with the babies. On May 2 the sister of Ward A and another baby developed symptoms, and on May 3 another member of the nursing staff and one of the mothers on the same ward had diarrhoea. On May 4 a third nurse, a mother, and a baby in Ward A were affected, while a baby in Ward A developed the condition. On May 5 a member of the medical staff reported an attack of diarrhoea, while a mother in Ward A and two babies in Ward B were also reported. After this initial outbreak there occurred a succession of fresh cases in both wards, involving members of the nursing staff, mothers, and babies, and in the succeeding 15 weeks a total of 7 nurses, 11 babies, and 17 mothers had been affected in Ward A, while the figures for Ward B were 3 nurses, 11 babies, and 17 mothers. During this length of time there were two intervals of 20 days and 18 days (Ward A) and two of 26 and 18 days (Ward B) during which no cases occurred (see accompanying histogram).



The total admissions to these wards over the same period were 209 mothers and 184 babies to Ward A and 135 mothers and 132 babies to Ward B. During the whole period of 15 weeks there was not a single case of diarrhoea reported in patients or staff in the third maternity ward (Ward C), adjoining the other two and bearing an exactly similar relationship in regard to nursing and medical staff.

Four patients admitted to the ante-natal ward reported symptoms which had in each case developed before admission, and one of these patients subsequently gave birth to a child who developed diarrhoea on its second day of life. Sixteen other patients were admitted to the general wards with similar symptoms, while 9 patients already in the general wards of the hospital became affected. Seventeen further cases occurred in nurses working in the general wards of the hospital, and it is possible that further members of the nursing staff may have had mild and transient symptoms which were never reported. During the fourth and fifth weeks there was an outbreak of Sonne dysentery in the hospital; 20 cases occurred in one ward, in 14 of which the diagnosis was confirmed bacteriologically.

It was soon apparent in respect of the young babies that this outbreak in no way resembled in severity a previous epidemic of neonatal diarrhoea which had occurred in the maternity wards at the beginning of the year, and which had been associated with a high mortality. Moreover, on that occasion no adults had been involved. Of the total of 111 cases in the present series, 20 adults were admitted to hospital with a history of symptoms, and the remaining 91 cases (including 27 members of the nursing staff and 22 babies) acquired the condition in the hospital. Daily visiting to the patients provided a constant contact with the outside community, and in several instances histories were available of other members of the family suffering from diarrhoea and vomiting about the same time. The possibility of infection having been brought in from outside cannot be entirely ruled out, but the fact that 65 of the cases occurred in two neighbouring wards points to a degree of local spread within the hospital, yet it should be noted that Ward C remained entirely clear. Careful inquiry failed to throw suspicion on any foodstuff, milk, or water supply as a possible source of infection.

Clinical Features

There were no noticeable prodromal signs; the onset of the condition being ushered in by diarrhoea and perhaps abdominal pains, but in a few cases there were preliminary feelings of malaise and general discomfort, not unlike the onset of an attack of influenza.

Diarrhoea was the main symptom and also the most constant, usually being the first to appear and the last to clear up. It was present in every case, and sometimes was the only material complaint. The number of stools in 24 hours varied from 4 to 22. The diarrhoea was characterized by profuse loose watery stools which were invariably negative to bacteriological examination. No blood or mucus was present, except that the babies' stools tended to become green and contain mucus. At the onset the stools of the babies were also typically watery and seemed to soak into the napkins. Abdominal pain was not constant, and was present in 45 out of 89 adults (50.5%). It varied considerably in severity, and in 5 cases was so severe that the patient was admitted as a suspected abdominal catastrophe, with a tender rigid abdomen and generalized pains. This feature was limited to patients admitted from outside, and none of the cases occurring in the hospital and coming rapidly under observation and treatment showed such severe abdominal signs. Nausea and anorexia were present in practically all the adults—the nausea being pronounced in 25 (28.1%); but vomiting was found in only 46 cases of the total of 111 (41.4%), affecting 42 adults (47.2%) and 4 infants (18.2%).

Pyrexia was present in 32 out of 89 adults (34.8%) but in none of the babies. In every such case it was under 100° F. and of brief duration, usually 24 to 36 hours. There was one exception, however—a boy aged 15 who had a sustained temperature up to 102° F. over a period of some 10 days, and who was admitted as a suspected case of peritonitis. In this particular instance there was a history of 6 other members of the family having suffered from diarrhoea and vomiting at home. It is interesting to note that out of 37 mothers affected, 24 (63.3%) had a pyrexia of brief duration which never exceeded 100° F., thus giving a higher incidence of pyrexia than any of the other groups.

Vertigo was not found, but in 10 adults (11.2%) there were severe headaches. Injection of the fauces was not a feature of any of the cases. Two cases were admitted in a state of collapse with well-marked dehydration, which responded quickly to treatment. None of the patients could be regarded as dangerously ill, although in 7 the illness was of a considerable degree of severity. The average duration of symptoms was 4.6 days, the shortest being 24 hours and the longest 14 days. With the babies they averaged 4 days, the mothers 3.1 days, members of the nursing staff 6.1 days, and cases admitted from outside, which might be regarded as the more severely affected of those occurring outside, 7.3 days. There were no relapses during the period of observation. Except for the babies in the maternity wards the age incidence varied from 1 year 3 months up to 84 years, most of the patients being in the young adult group.

In general the patients in the maternity wards—the babies and the mothers—were the least severely affected. The weight charts of the babies presented a very typical appearance, the onset of the symptoms being associated with a loss of weight which varied from 2 to 21 oz. and which averaged 13 oz. This loss of weight usually occurred during the period when the weight of the baby was climbing back to the birth weight after the customary initial fall. The appearance of a sharp fall in the rising curve was very characteristic. As soon as the symptoms cleared there was a rapid improvement and the baby very soon regained its lost ground. The condition of the babies did not give rise to anxiety at any time. As a rule, it was not necessary to retain mothers or babies in hospital longer than the normal period, and this occurred only when the symptoms appeared shortly before the usual expected date of discharge. The delay was never significant. In 8 cases the mother of an affected baby subsequently developed the condition, the average interval being 4.4 days. In only one case did the baby develop symptoms after the mother, that being the one already mentioned, in which the mother had diarrhoea and vomiting before admission to the ante-natal ward and the baby developed loose stools on its second day after birth. In 28 cases the mothers were affected while the babies remained perfectly well, and in 13 the babies were involved and the mothers remained clear. The babies were all breast-fed, but during the first few days of life were given sterile water with sterile precautions.

Treatment of the adults was on simple empirical lines—rest in bed, fluid milk diet, and a simple bismuth-and-chlorodyne mixture being given as a routine. Thirteen members of the nursing staff were also given sulphaguanidine, but there was no evidence that this affected the course of the illness in any way. Most of the symptoms cleared quickly as soon as the patient went to bed, the diarrhoea being the most persistent and lasting throughout, gradually lessening in severity. In a few instances the abdominal pains remained for several days, but were usually associated with the most persistent cases of diarrhoea.

Investigation by Questionary

Sonne and Flexner dysentery have been endemic in the surrounding area for several years, and occasionally small outbreaks have occurred in the hospital, in the day nurseries, and also in the district. These outbreaks have been easily identified bacteriologically, the numbers notified have not been large, and the general practitioners accept them as part of their usual routine. During the past few months it was noted that a large proportion of the stools sent in from practitioners were negative; some practitioners who sent in stools regularly for examination commented on this and also stated that they were having large numbers of cases attending their surgeries with an unusual type of acute diarrhoea, sometimes preceded by vomiting. The cases were so numerous that they did not attempt to have more than a fraction of them examined bacteriologically. When the hospital outbreak occurred and had been systematically investigated from the laboratory standpoint, with negative results as described above, the following questionary was sent to 20 of the principal Salford practitioners, who had been established in different parts of the city—population approximately 160,000—for at least several years before the war. Of these, sixteen replied, and their answers are summarized after each question. Extra faeces outfits were also forwarded to each practitioner, with a request to send in fresh samples of faeces from any further cases they might have.

1. *Have you had an outbreak of gastro-enteritis in your practice?*—Sixteen replied, "Yes."

2. *Can you give any idea as to when it began?*—Early 1944, 1; autumn, 1944, 3; Feb., 1945, 1; March, 1945, 1; April or early May, 1945, 9; not stated, 1.

3. *When did it abate?*—June, 1; July, 11; end of July, 2; not stated, 2.

Inquiries from practitioners at the time of writing—Aug. 25, 1945—show that there has been no recrudescence of the epidemic, but that sporadic cases are still occurring, sometimes in groups of two or three. Several practitioners thought there had been two or three waves of infection during April, May, and June.

4. *Does this appear to be a new type of infection?*—Yes, 13; cannot say, 1; unanswered, 1; had seen similar outbreak, but not so severe or lasting so long, 1.

5. *General symptoms and duration of the disease.*—A large majority stressed the sudden onset of profuse watery diarrhoea, sometimes with colic and often preceded by nausea and vomiting. Occasionally there was slight pyrexia, usually clearing up in 2 to 5 days but sometimes lasting 10 to 12 days. A few cases had relapses. Profuse watery diarrhoea was the outstanding symptom in nearly all cases—stools 5 to 20 a day. Two practitioners stated that they had occasional mild cases with nausea and vomiting without diarrhoea. Only one practitioner mentioned giddiness in a few cases after severe attacks.

6. *Can you express any opinion as to whether this type of gastro-enteritis is different from the usual cases of bacillary dysentery which have been in evidence for some years?*—Fourteen replied, "Yes": mainly on account of sudden onset, nausea and vomiting being much commoner, and also because of a profuse watery stool, occasionally with mucus but very rarely blood.

7. *Age incidence.*—All ages affected, 9; mainly adult, 6; not stated, 1.

8. *Does it usually spread to other members of the family?*—Yes, 13; very rarely, 1; usually no, 1; no, 1.

The general impression was that it occasionally spread to all members of the household, usually at intervals of 2 to 4 days, but sometimes as long as 7 days. As a rule it did not spread to all members, but picked out a portion of them. As stated above, six of the practitioners considered that adults were definitely more often affected than children. It was admitted that many of the adults who attended the surgeries came for sick notes. This may be the explanation, as affected adults would therefore be more in evidence than children.

9. *Any other observations that strike you.*—No respiratory symptoms mentioned. No mention of fatal cases. Most practitioners agreed that the epidemic began insidiously with sporadic cases.

The number of new cases seen by each practitioner varied from 3 to 4 a day in some practices to as many as 15 to 20 daily in others while the epidemic was at its height—mainly during May and June. Four of the practitioners who replied to the questionary had themselves been infected. Inquiries were made at the maternity and child welfare clinics, day nurseries, and school clinics for evidence of increased incidence of diarrhoea and vomiting.

The maternity and child welfare clinics reported no increase of diarrhoea and vomiting in the babies attending. The day nurseries, which are kept under careful observation for outbreaks of dysentery, also reported no increased incidence during the period of the epidemic, although a few cases occurred among the adult staff. The impression at the school clinics was that there had been a slight increase in the incidence of gastro-enteritis.

Commentary

One may gather from this inquiry that the outbreak was fairly extensive, as probably only a portion of the cases affected reported for treatment. From reports received we have good reason to believe that a similar type of diarrhoea and vomiting has been widespread over the country this spring and summer. A comprehensive field inquiry into this would be of interest. An interesting feature of the outbreak is the observation that 13 out of the 16 practitioners stressed the fact that they could not remember a similar epidemic of gastro-enteritis occurring in their practices, and considered it a new type of infection. We cannot recall a similar outbreak at the hospital or in the surrounding district during our period of residence here—over 17 years.

Epidemic nausea and vomiting occurring in an English boarding school was described by Miller and Raven (1936). They mention similar outbreaks in Denmark in 1935. Diarrhoea was not a feature in these cases. A more recent outbreak is reported by Bradley (1943) in which some of the cases had diarrhoea as a symptom of minor importance. R. E. Smith (1938) mentions small attacks of epidemic vomiting and diarrhoea occurring at a public school; he states that cases tend to occur in the early morning, that they are of extremely short duration, and that vomiting is a more constant feature than diarrhoea.

The only description we have found of an outbreak in this country closely resembling the present one is that of A. H. D. Smith and Davies (1941) of gastro-enteritis at a large Army training centre. The disease appears to be common and widespread in the United States. Reimann *et al.* (1945) give a very full account of the disease as it occurs in America, with a comprehensive bibliography of outbreaks in other countries, and state that the transfer of infection to human volunteers by inhalation of filtered nasopharyngeal washings and faecal filtrates from patients has given encouraging results. Their clinical and epidemiological descriptions correspond closely with ours. We quote the following extracts from their paper:

> "This disease affects all ages, and its mortality is *nil*. Published epidemiological and clinical descriptions are similar. Sporadic cases are noted in the community for weeks or months, and eventually large outbreaks occur. No age group is immune, but children of school age and young adults seem mostly affected. Epidemics occur at all seasons of the year, but especially in the autumn; and in different groups from 15.1 to 100% of persons are involved. Incubation period has been estimated from 30 hours to 7 days, usually two days.
>
> "Epidemiologically the mild widespread disease with isolated cases and family and community groups involved, its apparent pandemicity, and seemingly short incubation period closely resemble the behaviour of the common cold or influenza, except for its spread over two or three months and absence of peaking. It is probably an air-borne infection, but hand-to-mouth or other means of transmission cannot be excluded, nor is it known whether it enters through the respiratory or alimentary tract."

We have little to add to this description and these conclusions concerning the disease. Examination of the stools from the hospital and practitioners for organisms and parasites and pus cells was completely negative. Stools were plated on desoxycholate citrate agar, MacConkey's agar, and in some cases on blood agar. When the hospital outbreak occurred a number of the stools which had been left in the refrigerator, and also some which were fresh the same morning, were sent to the Public Health Laboratory, Cambridge, for confirmatory examination, with negative results. Blood counts and serological tests were not done on any of the cases, nor was the vomit examined. No attempt was made to transmit the disease to volunteers.

We are unable to explain why the outbreak in the hospital was mainly confined to two maternity wards, the remaining adjacent maternity ward escaping completely. It may be argued that this was a different type of infection from the concurrent epidemic, but the identity of clinical symptoms and absence of detected infective agents in faeces, food, or water do not support this view.

Reimann states: "It is unknown at present whether or not the syndrome is related to severe epidemic diarrhoeal disease of the newborn. In most reports of the latter disease emphasis is placed on the absence of obvious infection in adults associated with the infants either before, during, or after an outbreak and on its high mortality." Similarly, in our cases the mildness of the outbreak among the newborn babies with concurrent infection among the mothers and staff definitely suggests that this is a different type of infection from the usual virulent type of neonatal diarrhoea.

The suggestion made by various authors (Reimann) that the disease is primarily an infection of the central nervous system is interesting. There were no definite nervous symptoms or sequelae in any of the hospital cases. In answer to the questionary only one practitioner mentioned giddiness as a sequel in a few of the severe cases. He suggested that this was cardiac in origin. Three others stated that mental depression after an attack was pronounced.

Summary

An outbreak of epidemic diarrhoea and vomiting of unknown origin is described.

Epidemiological data and previous published work suggest that the infection is due to a virus.

We cannot recall a similar epidemic in this area during the past 17 years.

We believe the outbreak has been widespread over the country.

A field inquiry to determine its extent would be of interest.

We wish to thank all the general practitioners who co-operated so well in supplying much of the data for this paper, also Miss Matthews, supervisor of the maternity department, for her assistance; Dr. J. L. Burn, medical officer of health for Salford, for assistance in making inquiries from the practitioners and at the various public health departments; and Dr. R. Cruickshank, pathologist, North-Western Group Laboratory, London, for valuable suggestions.

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TICK-BORNE RELAPSING FEVER IN CYPRUS

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The occurrence of several cases of relapsing fever in rapid succession after military exercises, in which the patients had passed the night in caves or dungeons, raised the possibility of the infection being conveyed by ticks. Further cases with a similar history have since come under our care. As tick-borne relapsing fever has not previously been reported in Cyprus, the details of these cases are described below.

Site of Infection

Infection occurred in caves and dungeons situated in the north and north-east of the island, of which the following is a description:

Cave A is partially subterranean, the mouth being screened by sandbags. It accommodated three men on guard. Its walls are soft and deeply and irregularly creviced. Ticks of the species described below were found in material scraped from the walls of the cave by Major J. Clark and ourselves. Dead ticks of this same species were found in spiders' webs attached to the roof of the cave. Cases 1, 2, and 3 slept in this cave 8 to 9 days before contracting relapsing fever.

Dungeon B is situated in the interior gallery system of extensive mediaeval fortified ramparts. Its walls are of hard masonry with many deep interstices in their surface. Scrapings from its walls were superficial and no ticks could be obtained. Cases 4 and 5 and probably Case 6 slept in this dungeon a few days before contracting the disease.

Cave C is artificially constructed in the side of an eminence composed of hard clay. Ticks could not be found in this cave, but considerable alterations had taken place in its structure before it was possible to make a search. Case 7 slept in this cave some 6 weeks before diagnosed as having relapsing fever.

Cave D is very similar to Cave A. It is situated about a quarter of a mile west of Cave A. A tick of the same species was found in scrapings from the roof of Cave D. Case 8 worked in a hut, the door of which is situated 10 yards from the mouth of Cave D. Case 9 slept in the open on several occasions in this area.

Cave E is within 12 yards of a trench in which Case 10 was digging shortly before he became ill. Identical ticks were found in this cave by Major J. Clark, who has kindly shown them to us.

Cave F is similar to Caves A and D. This cave is in a very inaccessible position and no ticks could be found during the somewhat cursory search possible in the time at our disposal. Cases 11 and 12 slept in this cave 9 days before reporting sick.

Vector of Infection

The ticks found in Caves A, D, and E were all of the same species—namely, *Ornithodorus tholozani*[*] (see Fig.). This tick is a known vector of relapsing fever in other parts of the Levant, but has not so far been described in Cyprus. There is direct evidence of Cases 1, 2, 3, 8, 9, and 10, before contracting the disease, being associated with places infested by this tick. Cases 4, 5, 6, 7, 11, and 12 equally well give a history of having spent time in places likely to be infested by the tick, although in those places it was not possible to recover it, doubtless owing to the natural hazard of such search. No lice were found on any of the patients in this series of cases. It seems reasonable to assume that the disease was conveyed by ticks acting as an intermediate host for the spironema* and that tick-borne relapsing fever is thus harboured by this vector in Cyprus.

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[*] These ticks have been identified as such by Prof. Adler and Major Leeson.

Ornithodorus tholozani. (×12.)

Description of Cases

Case 1.—Unit A; slept in Cave A on 4/3/42. Patient was bitten by insects during the night. Reported sick 12/3/42, suffering from headache and repeated shivering attacks. This was first thought to be the result of T.A.B. inoculation on 10/3/42. Admitted to hospital 24/3/42. Temperature 103°. No lice in clothing, but marks of insect-bites on legs. Spironema found in blood film on 24/3/42. On 25/3/42 specimens of blood and C.S.F. were obtained and 0.6 g. novostab was given intravenously. In spite of treatment he relapsed on the following dates: 16/4/42—T. 104.8°; 5/5/42—T. 103.8°; 17/5/42—T. 105°; 26/6/42—T. 101.6°. On each of these occasions spironema was found and on each 0.6 g. novostab was administered intravenously while he was pyrexial. *Clinical features*:—Severe headache. For the last six weeks of illness, apart from the acute relapses, he ran a low continuous fever (maximum 100.8° on one day) Showed icteric tinge. Eye examination, 10/4/42: nothing abnormal. *Laboratory findings*:—Thick blood films, 24/3/42, 16/4/42, 5/5/42, 17/5/42, 26/6/42: spironema seen on each occasion. Cerebrospinal fluid, 25/3/42: clear fluid, not under pressure; cells, 15 per c.mm.; protein not increased; chlorides (as NaCl), 730 mg. per 100 c.cm. Venous blood, 25/3/42 and 16/4/42: Kahn-negative. Urine, 18/5/42: Much urobilin present.

Case 2.—Unit A; slept in Cave A on 6/3/42. No knowledge of insect-bites. Reported sick on 15/3/42, suffering from headaches, backache, and shivering attacks. Admitted to hospital on 24/3/42; T. 97°. No lice in clothing, but marks of insect-bites on legs. No spironema found in blood film. On 26/3/42 temperature rose to 99° and *Spironema recurrentis* found in blood film. No fever again until 1/4/42, when temperature suddenly rose to 101.8°, and 0.6 g. novostab was administered intravenously. Was in hospital 14 days. No relapse. *Clinical features*:—Headache, backache, shivering; eye examination on 10/4/42: nothing abnormal. *Laboratory findings*:—Thick blood film, 26/3/42: *Spironema recurrentis* seen. Cerebrospinal fluid, 26/3/42: clear fluid, not under pressure; cells, 5 lymphocytes per c.mm.; protein not increased; chlorides (as NaCl), 720 mg. per 100 c.cm. Venous blood, 26/3/42: Kahn-negative. Urine not examined for urobilin.

Case 3.—Unit A; slept in Cave A on 7/3/42. Bitten by insects while sleeping, just below left eye, which was swollen next day (bite mark visible on admission to hospital). Reported sick 15/3/42, complaining of pains in limbs, shivering, and sweating. Admitted to hospital 24/3/42. Temperature on admission, 103.2°. No lice in clothing. Spironema found in blood film on 24/3/42. Specimens of blood and C.S.F. drawn on 26/3/42 and 0.6 g. of novostab given intravenously. He was in hospital 22 days and had no relapse. *Clinical features*:—Headache, shivering; no nerve palsies. Patient recovered rapidly. Temperature subnormal, and patient allowed up 3 days after admission. Eye examination, 15/4/42: Choroiditis. *Laboratory findings*:—Thick blood film, 24/3/42: Spironema seen. Cerebrospinal fluid, 26/3/42: clear, not under pressure. Cells, 7 per c.mm. (lymphs); protein not increased; chlorides (as NaCl), 680 mg. per 100 c.cm. Venous blood, 26/3/42 and 10/4/42: Kahn-negative. Urine not examined for urobilin.

Case 4.—Unit B; slept in Dungeon B on 4/3/42. No knowledge of insect-bites. Reported sick on 6/3/42; feeling of general malaise and shivering. Admitted to hospital on 8/3/42; temperature 101.9°. No lice on clothing and no marks of insect-bites on body. Apyrexial till 14/3/42, when temperature rose to 103.2°. No spironema seen in thick blood film. Apyrexial again till 17/3/42, when temperature rose to 101°. Spironema was seen in thick blood film; 0.6 g. of novostab administered intravenously while pyrexial. Apyrexial from 19/3/42 to 10/4/42, when temperature rose to 101.8°. Blood film: Spironema seen. Lumbar puncture, and 0.6 g. of novostab given intravenously. Temperature 102° on 11/4/42; normal on 12/4/42, and remained normal till 23/4/42, when patient was discharged from hospital. *Clinical features*:—Severe headaches; eyes not examined. *Laboratory findings*:—Thick blood film, 17/3/42 and 10/4/42: Spironema seen. Cerebrospinal fluid, 10/4/42: clear, not under pressure; cells, 300 per c.mm.; protein not increased; chlorides (as NaCl), 700 mg. per 100 c.cm. Venous blood—Kahn-negative. Urine not examined for urobilin.

Case 5.—Unit B; on guard in Dungeon B on 4/3/42. No knowledge of insect-bites. Reported sick 8/3/42. Admitted hospital 8/3/42; temperature 103.4°. No lice on clothing; no insect-bites on skin; no spironema seen in film. Next day temperature normal, and was apyrexial until 15/3/42, when temperature rose to 102°. No spironema seen in film. Next day temperature rose to 105°; spironema seen in film and 0.6 g. of novostab given on 17/3/42, when temperature was 105.4°. On the following day temperature 98° and remained subnormal till 14/4/42, when he was discharged from hospital fit for duty. *Clinical features*:—Severe headaches which persisted for about 1 week after treatment. Eye examination 10/4/42: nothing abnormal. *Laboratory findings*:—Thick drop blood films, 8/3/42 and 15/3/42, no spironema seen; 16/3/42, spironema seen. Cerebrospinal fluid not examined. Venous blood not examined. Urine not examined for urobilin.

Case 6.—Unit B; on guard, probably in Dungeon B. No knowledge of insect-bites; but it was extremely difficult to obtain a history from this patient. Admitted to hospital 14/1/42 with headache and fever. No lice in clothing or signs of insect-bites. Spironema found in blood film on 14/1/42, and 0.45 g. of novostab given while pyrexial. Next day was apyrexial, and remained so until discharge from hospital on 31/1/42. Readmitted to another hospital with fever on 8/2/42. Blood film sent to laboratory here on 12/2/42; spironema found. In hospital until 27/2/42, during which time he received 3 injections of novostab. Readmitted to this hospital on 10/3/42; temperature 105°. Spironema found in blood film on 11/3/42, and 0.6 g. sulphostab given intravenously while pyrexial. He was discharged from hospital on 17/4/42, and had no subsequent relapse when seen on 5/7/42. *Clinical features*:—Headache, fever. Eye examination, 10/4/42: Fundus right disk rather pale; edges very hazy, and physiological cup filled in. Fundus left disk better colour; edges more distinct, not quite normal. Conclusion—slight papillitis. *Laboratory findings*:—Thick blood films, 14/1/42, 12/2/42, and 11/3/42: Spironema seen. Cerebrospinal fluid, 17/1/42: Clear fluid, not under pressure; cells less than 5 per c.mm.; protein not increased; chlorides (as NaCl), 680 mg. per 100 c.cm. Venous blood, 17/1/42: Kahn-negative. Urine not examined for urobilin.

Case 7.—Unit C; slept in Cave C in March; no knowledge of insect-bites. Reported sick 10/5/42 with headache and fever. No lice on clothing, no marks of insect-bites. Admitted to hospital on 11/5/42; temperature rose to 100.8° and was subnormal next day, remaining subnormal till 17/5/42, when it suddenly went up to 102.6°. Blood film: No spironema seen. Temperature again normal on 18/5/42, and remained normal till 23/5/42, when it rose to 101.8°, and on 24/5/42, when it rose to 102.4°. On this latter date spironema was found in blood film, and 0.6 g. novostab was given intravenously while he was pyrexial. Temperature next day was 97° and remained subnormal till 27/5/42, when it rose to 99.2°. Apyrexial till 7/6/42, when he was discharged. *Clinical features*:—Shivering attacks, headaches, dizzy turns. Eyes not examined. *Laboratory findings*:—Thick blood films, 17/5/42 and 23/5/42, no spironema seen; 24/5/42, spironema seen. Cerebrospinal fluid not examined. Venous blood, 24/5/42: Kahn-negative. Urine, 24/5/42: urobilin present.

Case 8.—Unit D; worked beside Cave D. No knowledge of insect-bites. Admitted to hospital 10/8/42; temperature 101°. No spironema found in blood film. On 11/8/42 temperature normal. On 12/8/42 temperature 101°, and spironema found in blood film. Temperature next day normal, and remained apyrexial till 18/8/42, when it rose to 98.9°; temperature normal next day and remained so until 6/9/42, when it rose to 99.6°. Temperature normal the following day. During this time he felt ill and complained of headache and nausea, so, although apyrexial, 0.6 g. of sulphostab was given intravenously on 13/9/42. Had no recurrence of pyrexia, and was discharged fit on 19/9/42. *Clinical features* :—Sulphostab was withheld, as it was hoped he would develop pyrexia. However, temperature did not surpass 99.6° at this time, but patient looked ill and complained of headache and nausea. Eventually, after having sulphostab, his general condition and appetite improved and headaches disappeared; he was discharged fit six days later. Eye examination on 18/9/42: Edges of both disks hazy; disks slightly swollen about 2D. No haemorrhage in retina, but not good colour. Conclusion: Bilateral papillitis. *Laboratory findings* :—Thick blood films, 10/8/42, no spironema seen; 12/8/42, spironema seen. Cerebrospinal fluid, 7/9/42: Clear—not under pressure; cells less than 5 per c.mm.; protein not increased; chlorides (as NaCl), 700 mg. per 100 c.cm. Venous blood, 12/8/42: Kahn-negative. Urine, 12/8/42: Much urobilin present—much urobilinogen.

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* The spironema transmitted by *O. tholozani* is described as *S. persica*.

Case 9.—Unit D; has worked in vicinity of Caves A and D. Slept in the open on several occasions while on manœuvres. No history of being bitten while sleeping in open. Admitted to hospital 10/8/42; temperature normal. No lice in clothing and no marks of insect-bites on body. Temperature rose to 102° on day of admission. Spironema seen in thick blood film; 0.6 g. of sulphostab given intravenously while pyrexial. Next evening the temperature was normal and remained normal until 19/8/42, when it suddenly rose to 102.4°. Thick blood film: No spironema seen; 0.6 g. of sulphostab given intravenously while pyrexial. Temperature normal next day and until 10/9/42, when he was discharged fit for duty. *Clinical findings* :—Pain in lumbar region, attacks of dizziness. Aching behind eyes and unable to focus clearly on print even when apyrexial. Eye examination on 5/10/42: Slight papillitis left disk. *Laboratory findings* :—Thick blood films, 10/8/42, spironema seen; 19/8/42, no spironema seen. Cerebrospinal fluid not examined. Venous blood, 10/8/42: Kahn-negative. Urine, 10/8/42: no urobilin.

Case 10.—Unit E; dug trench near Cave E. Admitted to hospital 10/8/42 complaining of headache and shivering. Temperature 103.8°. No lice on clothing or evidence of insect-bites on body. Spironema found in thick blood film on 10/8/42; 0.6 g. of sulphostab was given intravenously. Next day temperature normal, and remained normal until 25/8/42, when he was discharged from hospital. Admitted to another hospital complaining of headache and general malaise. Ran a low fever, and was transferred to this hospital on 31/8/42. Continued to run a low fever until 11/9/42, when he had a rigor and temperature rose to 101.8° and 0.6 g. sulphostab was given intravenously. Temperature fell to normal 13/9/42, and remained so. *Clinical features*:—Headache, eyeache, unable to read much because of aching behind eyes. Ran a low fever for 3 weeks. Eye examination: On 7/9/42, slight papillitis about 2D both disks; 21/9/42, left disk slightly more swollen than on 7/9/42. *Laboratory findings* :—Thick blood film, 10/8/42, spironema seen. Cerebrospinal fluid: Clear fluid not under pressure; cells, 20 per c.mm. (lymphocytes); protein not increased; chlorides (as NaCl), 740 mg. per 100 c.cm. Venous blood, 10/8/42 and 24/8/42: Kahn-negative. Urine: 10/8/42, much urobilin present: 3/10/42, urobilin present.

Case 11.—Unit F; slept in Cave F 28/9/42. No knowledge of insect-bites. Reported sick on 8/10/42, suffering from pains in head, back, and shoulders, and one severe attack of shivering. Admitted to hospital 8/10/42; temperature 103.2°. No lice on clothing or marks of insect-bites. Spironema found in blood film on day of admission. Was given 0.6 g. sulphostab intravenously while pyrexial; in 36 hours was apyrexial, and has remained so for 28 days. *Clinical features* :—Herpes of lips, headache, backache. Eye examination: Slight degree of papillitis. *Laboratory findings* :—Thick blood film, 8/10/42: Spironema seen (also seen by dark-ground examination). Cerebrospinal fluid, 11/10/42: Clear fluid not under pressure; cells less than 5 per c.mm.; protein not increased; chlorides (as NaCl), 727 mg. per 100 c.cm.; sugar, 90 mg. per 100 c.cm. Venous blood, 8/10/42: Kahn-negative. Urine, 8/10/42: much urobilin present.

Case 12.—Unit F; slept in Cave F 28/9/42. Insect-bites on left arm. Reported sick on 10/10/42 with fever. He was detained in the local M.I. Room and treated for sandfly fever. He was apyrexial on 12/10/42 and returned to duty. Admitted to hospital on 20/10/42; temperature 103.6°. No lice on clothing or marks of insect-bites. Spironema found in blood on day of admission; 0.6 g. of sulphostab was given intravenously while pyrexial. Next day was apyrexial, and has remained so for 14 days. *Clinical features*:—Headache, shivering—probably admitted to hospital during the first relapse, having been infected on the same night as Case 11. Eye examination on 24/10/42: Nothing abnormal. *Laboratory findings* :—Thick blood film, 20/10/42, very numerous spironema seen—also seen by dark-ground examination. Cerebrospinal fluid, 21/10/42: clear fluid, not under pressure; cells 4 per c.mm. (lymphocytes); protein not increased. Chlorides (as NaCl), 755 mg. per 100 c.cm. Venous blood, 20/10/42: Kahn-negative. Urine, 20/10/42: urobilin present in large amounts.

Summary and Conclusions

Ornithodorus tholozani has been found in caves in Cyprus. Soldiers sleeping in these caves have contracted relapsing fever. As this tick is a known vector of relapsing fever in other parts of the Levant it may be concluded that tick-borne relapsing fever also occurs in Cyprus. Twelve cases are described.

The incubation period of the disease varies. While usually lasting from 8 to 10 days, it appears likely that in some cases it can be as short as 2 days or as long as 5 weeks.

In 2 cases long periods of low continuous fever occurred as well as acute attacks of high pyrexia.

All cases were treated by intravenous arsenicals while pyrexial. Five of these relapsed in spite of treatment, but only two relapsed more than once.

Choroiditis was observed in one case, papillitis in 4 other cases. No other neurological complications could be discovered except for changes in the cerebrospinal fluid.

The cerebrospinal fluid in 4 cases showed a lymphocytic pleocytosis. In one case 300 cells per c.mm. were observed. In 2 cases the chloride concentration in the cerebrospinal fluid was reduced to 680 mg. per 100 c.cm.

All cases in this short series gave negative Kahn reactions.

In 7 cases the urine was examined for urobilin by Schlesinger's test. Marked urobilinuria* was observed in 6.

[More recently, one of us, K. C. D., has succeeded in infecting guinea-pigs with blood from a further case of relapsing fever contracted in Cyprus. This substantiates the view that the disease is tick-borne, since the louse-borne type is not transmissible to guinea-pigs, and that the spirochaete is *S. hispanica*, not *persica* as previously considered.]

We are very grateful to Major J. Clark, R.A.M.C., for his kind co-operation in searching the caves and for forwarding the ticks for identification; to Dr. J. G. Shelley for his careful ophthalmological examinations; and to Capt. B. T. Broadbent for photographing the specimen. We wish to thank Col. J. S. K. Boyd for his kind interest in this work.

PROPHYLAXIS OF PARALYTIC ILEUS BY ADMINISTRATION OF MORPHINE

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The clinical impression has been formed in the last few years that morphine is of value in the prophylaxis of "paralytic ileus." We are unaware of any previous statistical evidence for this belief, but we regard the following analysis as of value, because the treatment was altered from a non-morphine to a morphine routine with the specific object of lessening its post-operative incidence. The accepted definition of post-operative "paralytic ileus" is the failure to pass flatus within 60 hours at the end of an operation, and Caesarean section, owing to the laxity of the abdominal wall and haemoperitoneum, is recognized as predisposing to this condition.

The data submitted for analysis consist of particulars relating to 500 consecutive patients upon whom Caesarean section was performed when under the care of Dr. W. J. Clancy in the City General Hospital, Sheffield. In the pre-morphine period the drug was given only when necessary to relieve pain, while in the second period the routine was as follows: Morphine gr. 1/4 was given 6-hourly for the first 24 hours (if the patient was asleep the injection was given on awaking, and so on 6-hourly). If distension was present the morphine was continued in the same way for a second period of 24 hours. In any case morphine gr. 1/4 was given at night for the first four nights. Fluids were limited to 3 pints a day until flatus was passed, after which the diet was rapidly increased to normal.

There were 160 Caesarean sections before the morphine routine was introduced, with 8 cases of ileus, and in the second period there were 340 Caesarean sections, with 3 cases of ileus, thus giving rates of 5% in the pre-morphine period as compared with 0.88% in the morphine period a difference of 4.12 ± 1.40, which is greater than could easily be ascribed to chance. The statistical problem, therefore, is whether it may be validly deduced that the lower rate could have resulted from the institution of morphine therapy.

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* This appears to be a general occurrence in relapsing fever, and is being described elsewhere.

The criterion of statistical significance adopted throughout the analysis is that any difference to be real—i.e., unlikely to have occurred from the play of chance—must exceed twice its standard error. It is unlikely that such will occur by chance more than five times in a hundred trials.

TABLE I.—*Annual Number of Births, Caesarean Sections, and the Occurrence of Ileus in the Two Periods*

	Births	Caesareans	Paralytic Ileus	Caesareans as % of Births	Ileus as % of Caesareans
Non-morphine period:					
1935	1,027	21	0	2·04	0
1936	1,186	22	1	1·85	4·5
1937	1,276	39	1	3·06	2·6
1938	1,219	46	4	3·77	8·7
1939 (to Aug.) ..	1,003	32	2	3·19	6·3
Total	5,711	160	8	2·80	5·0
Morphine period:					
1939 (Sept. to end)	519	11	0	2·12	0
1940	1,549	37	0	2·39	0
1941	1,066	55	1	5·16	1·8
1942	1,304	46	1	3·53	2·2
1943	1,568	76	1	4·85	1·3
1944	1,936	73	0	3·77	0
1945 (to July 1) ..	919	42	0	4·57	0
Total	8,861	340	3	3·84	0·88

It may be noted that the number of births in the second period is 50% higher than in the first, but this is hardly relevant to the problem, and it also should be noted that the proportion of Caesarean sections to births has increased from 2.80 to 3.84% (difference 1.04±0.31%)—outside the probability of chance, owing to the increasing percentage of complicated cases admitted.

The following information was supplied with regard to each case: (1) Date of operation and hospital number. (2) Age of patient. (3) Parity. (4) Type of operation—classical, repeat classical, lower segment, repeat lower segment. (Some slight errors may be involved here, as cases of repeat section were labelled according to the time under discussion, for in some instances it was impossible to ascertain which operation had been performed previously.) (5) Indication—mechanical, haemorrhage, toxic, or cardiac.

TABLE II.—*Age Distribution*

	Under 25	25—	30—	35—	40+	Total
Pre-morphine ..	46	52	43	17	2	160
Morphine ..	43	77	82	94	44	340
Total ..	89	129	125	111	46	500

$\chi^2 = 50{\cdot}5$. $n' = 4$. $P < 0{\cdot}01$.

It is clear that the age groups are not similar, there being an excess of patients over 35 in the second group, which is not readily accountable to chance and is undoubtedly due to the increased age of confinement found after the conscription of women.

TABLE III.—*Parity*

	1	2	3	4+	Total
Pre-morphine	99 (4)	40 (3)	10	11 (1)	160
Morphine	172 (1)	101 (1)	25 (1)	42	340
Total ..	271 (5)	141 (4)	35 (1)	53 (1)	500

$\chi^2 = 6{\cdot}99$. $n' = 3$. $P > 0{\cdot}05 < 0{\cdot}10$.

No difference greater than could be ascribed to chance is found between the two series as regards parity. The figures in parenthesis indicate the distribution of ileus cases, and it seems clear that parity may be exonerated as a factor relevant to ileus.

TABLE IV.—*Type of Operation*

	Classical	Repeat Classical	Lower Segment	Repeat Lower Segment	Total
Pre-morphine ..	67 (3)	28 (1)	62 (4)	3	160
Morphine ..	131 (1)	59 (1)	134 (1)	16	340
Total ..	198 (4)	87 (2)	196 (5)	19	500

$\chi^2 = 2{\cdot}53$. $n' = 3$. $P > 0{\cdot}30 < 0{\cdot}50$.

Here again the distribution of the two series by type of section is not dissimilar, nor does paralytic ileus (figures in parenthesis) seem to be particularly associated with any one type.

TABLE V.—*Indication*

	Mechanical	Haemorrhage	Toxic or Cardiac	Total
Pre-morphine ..	148	10	2	160
Morphine ..	270	49	21	340
Total ..	418	59	23	500

$\chi^2 = 14{\cdot}2$. $n' = 2$. $P < 0{\cdot}01$.

In the morphine period the indication was other than mechanical to a greater degree than in the pre-morphine period, this in all probability being due to the increased age of the group.

The tabulations above suggested that both age and indications warranted more detailed analysis, as follows:

TABLE VI

Indication	Age					
	Under 25	25—	30—	35—	40+	Total
	Pre-morphine period					
Mechanical ..	46 (3)	47 (2)	40 (2)	13	2	148
Haemorrhage ..		5	2	3		10
Toxic			1	1 (1)		2
Total ..	46 (3)	52 (2)	43 (2)	17 (1)	2	160
	Morphine period					
Mechanical ..	33	65	69 (1)	72 (2)	31	270
Haemorrhage ..	8	9	11	14	7	49
Toxic	2	1	1	8	6	18
Cardiac		2	1			3
Total ..	43	77	82 (1)	94 (2)	44	340

It will be seen that with one exception all the cases of "paralytic ileus" (figures in parenthesis) occurred where the indication was mechanical. But even among these cases the incidence of ileus was lowered in the morphine period from 4.7 to 1.1% (difference 3.6 ± 1.56, which is significant).

The difference in age of the two groups can also be said to have little to do with the results, though here the numbers are too small for statistical proof. In the second, or morphine, series the ileus cases occurred in the older age groups, while in the earlier series they occurred in the younger groups.

Using two age groups only, then on the basis of the ileus rates experienced among the mechanical indications in the pre-morphine period we should expect (as shown in Table VII) 11.6 cases to occur in the morphine period. Actually only 3 occurred.

TABLE VII.—*Mechanical Indications Only*

Age Group	Pre-morphine			Morphine		
	Caesareans	Ileus	Rate	Caesareans	Expected Ileus	Actual
Under 30 ..	93	5	5·37	98	5·3	0
30+ ..	55	2	3·64	172	6·3	3
					11·6	3

$$\frac{\text{Difference}}{\sqrt{\text{Expected}}} = \frac{8{\cdot}6}{3{\cdot}4} = 2{\cdot}52$$

Taking the square root of the expected number as an approximation to the standard error of the difference, the ratio of the difference to its standard error exceeds 2, and the decrease in the second period may therefore be regarded as a real one.

Discussion

The objective of the analysis was to ascertain whether or not the two series of patients were similar in all respects except as regards treatment and to make allowances for differences which might be found. The results show similarity in regard to parity and type of operation, but dissimilarity in regard to age and indication. While the conclusion must be that the "paralytic ileus" rate was lowered after morphine therapy started, the statistical analysis can only be claimed to show that the decrease was greater than could easily be ascribed to chance and that it was not due to inherent differences in the two series as regards age, parity, and type of operation or indication.

Conclusion

The essential difference between the two series of cases from the clinical point of view is the introduction of a morphine routine in the second group, and we feel that the results (5% paralytic ileus as against 0.88%) are attributable to this factor, as the two series are as near parallel as can be expected in 500 consecutive Caesarean sections.

We wish to express our indebtedness and thanks to Dr. E. Lewis-Faning, of the Medical Research Council's Statistical Staff, for the statistical analysis and comments, without which this paper could not have been written. We also thank Dr. W. J. Clancy for his help and co-operation in this subject for some years past, and Dr. J. Rennie and Dr. J. Clark for permission to publish this article.

ACID-FAST ORGANISMS IN GASTRIC RESTING JUICE

BY

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This investigation was undertaken after a physician had remarked that he occasionally had acid-fast organisms reported in the gastric juice of patients when he was certain that the tubercle bacillus was not present in the patient's sputum.

The Investigation

Technique.—The specimens of gastric resting juice were obtained from out-patients attending Guy's Hospital for fractional test meals. None of them were known or suspected to be suffering from tuberculosis. Each specimen was treated with antiformin, and smears were made and stained by the Ziehl-Neelsen method, decolorization being carried out with both 25% sulphuric acid and 90% alcohol. The smears were each subjected to a ten-minute microscopical search for acid-fast bacilli. When these were found the neutralized and washed centrifugalized deposit was planted on Loewenstein's medium and incubated at 37° C. for at least six weeks, and a portion of the deposit was also injected into a guinea-pig.

Findings.—171 specimens were examined. In seven of them acid-fast organisms were seen. None of the seven showed more than two or three such organisms per slide in a prolonged search. They were mostly of a short and stout shape, unlike true tubercle bacilli, and often had a ragged deformed appearance. On culture three of the seven specimens gave a growth of saprophytic acid-fast organisms which grew equally well at room temperature and failed to produce tuberculous lesions in a guinea-pig. All seven specimens on guinea-pig inoculation had failed to produce any lesions when the animal was killed seven weeks later. The fractional test meal carried out on these seven cases at the same time that the resting juice was obtained showed in two cases hyperchlorhydria, in one case hypochlorhydria, and the remaining four gave a normal result. Control investigations carried out on three patients suffering from open tuberculosis (two children and one adult) showed typical tubercle bacilli present in large or moderate numbers in the resting juice.

Conclusion

In 4.6% of resting-juice specimens examined acid-fast organisms were present. These organisms were also alcohol-fast. As pointed out by Van Diense and Hooghiemster (1938) alcohol resistance of an acid-fast organism is not sufficient to identify it conclusively as the tubercle bacillus. In this case they proved to be saprophytes, ingested very possibly with fruit and vegetables, on which they are commonly found.

It appears, from the cases investigated, that under normal conditions the chance of tubercle bacilli being found in the gastric resting juice of non-tuberculous patients is very remote.

Since the examination of gastric washings for the tubercle bacillus is a valuable diagnostic proceeding it should be noted that mere films where acid-fast bacilli are few and possibly deformed in appearance may perhaps be misleading without further investigation.

REFERENCE

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MASSIVE SURGICAL EMPHYSEMA, PNEUMOTHORAX, AND PNEUMOPERITONEUM

BY

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Massive surgical emphysema developing suddenly during or after intubation of the tracheo-bronchial tract raises problems, including those of prevention and treatment, as shown in the cases described herewith.

Case I

A married woman aged 58 was admitted to hospital on Aug. 15, 1944, for bronchoscopy, as bronchial growth had been suspected. Premedication was by morphine 1/6 gr. and atropine 1/100 gr. General anaesthesia was induced by pentothal. The bronchoscopic examination (Aug. 18) was conducted uneventfully by Mr. K. W. Mackenzie, and no abnormality was found. A few moments after the bronchoscope had been removed the right eyelid was noted to be swollen. Very quickly this swelling spread to the face and neck. She became deeply cyanosed and respiration ceased. A needle was inserted into the anterior mediastinum above the suprasternal notch, but no air escaped. A laryngoscope was introduced into the throat, and the pharynx was found to be occluded by swollen spongy mucous membrane. The bronchoscope was then reintroduced, with difficulty. The trachea was found to be occluded by grossly swollen mucous membrane. After further manipulation the bronchoscope was introduced as far as the bifurcation of the trachea. The right main bronchus was occluded, but there was a very small passage in the much-swollen left bronchus, and oxygen was directed into it through the bronchoscope and artificial respiration started. By now she was pulseless and extremely cyanosed. At this stage the abdomen was noted to be grossly distended and tympanitic. Two needles were introduced into the flanks and air at once hissed out. Artificial respiration was continued and the pulse quickly returned, followed by spontaneous respiration and improvement of colour, the disappearance of the bronchial swelling being seen to occur during the next ten minutes. She was returned to the ward 1½ hours later, and recovered consciousness about four hours after leaving the theatre. She was given 51 g. of sulphamezathine between Aug. 19 and 25 to prevent mediastinitis. During this period the temperature remained between 97° and 100.8°. A radiograph of the chest and abdomen on Aug. 19 showed a right-sided pneumothorax and a considerable pneumoperitoneum. A further radiograph on Aug. 29 showed neither pneumothorax nor pneumoperitoneum. She was discharged on Aug. 31 symptomless, apyrexial, and free of physical signs, and has remained well since.

No oxygen was administered to this patient until after the emphysema had developed, and it can only be surmised that the laryngeal, tracheal, or bronchial mucosa was damaged by the bronchoscope. It is not easy to account for the pneumoperitoneum, but the presumption is that air in the mediastinum forced its way through one or other of the weakly protected orifices in the diaphragm into the retroperitoneal space. There is no anatomical route to explain its passage from the retroperitoneal space into the peritoneal cavity. Rupture of the peritoneum by adhesions due to distension of the retroperitoneal space would be a possible explanation. The same difficulty arises in explaining the pneumothorax.

The speedy recognition and treatment of the obstructed airway and of the pneumoperitoneum undoubtedly saved the life of this moribund patient.

Case II

A boy aged 5½ was admitted to hospital for bronchography under general anaesthesia. Acute mediastinal emphysema and a bilateral shallow pneumothorax occurred as a result of a sudden delivery of oxygen into an intratracheal catheter, the accident being due to a faulty check-valve. Acute emphysema quickly developed, beginning with the eyelids and rapidly involving the face, neck, and upper chest. Needles were inserted into the neck, and the superior mediastinum was entered; no air could be aspirated. The left chest seemed hyperresonant, but no air escaped from a needle inserted into it. Oxygen was given by the B.L.B. mask, and the child made a complete and uneventful recovery. He was discharged five days after bronchography, the radiograph taken on discharge showing that both lungs had completely re-expanded.

Conclusions

Prevention.—While it is not always possible to prevent this condition, as in Case I, there are certain important rules to be observed: (*a*) maintenance of a free airway; (*b*) avoidance of high intra-alveolar pressures—e.g., due to sudden rush of oxygen or anaesthetic gases or to the patient straining; (*c*) care in manipulating tubes so as to avoid damaging the respiratory tract mucosa.

Treatment.—Attention to the following points in treatment, with the possible exception of (*c*), has been an important factor in saving the lives of patients: (*a*) Aspiration of the ballooned tissues of the neck should be attempted, as described by Barrett and Dillwyn Thomas (1944). (*b*) Obstruction of the airway should be relieved; pure oxygen should be administered under low pressure. (*c*) Signs of pneumothorax should be sought and, if present, pleural puncture should be carried out. (*d*) The abdomen should be examined and needled if gross tympanitic distension is present.

I am indebted to Mr. K. W. Mackenzie and Prof. H. A. Harris for their help and criticism.

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A NOTE ON FAT EMBOLISM

BY

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Fat embolism enjoys a curiously honoured place in surgical literature, for no very obvious reason. Everyone knows of it because the most elementary textbook intended for the beginner invariably devotes valuable space to it; but how many surgeons have consciously seen a case and recognized it? The great similarity of all the accounts in the textbooks, large and small, suggests that the writers themselves have had no practical experience of the subject, and that, like their readers, they have gained their information from books. What makes this more extraordinary is that the British surgeon has written so little about it. When Watson (1937) wrote a full account of a case he appended a copious bibliography of some 50 items, in which the only paper from a British source was one dated 1882. Since then Robb-Smith (1941) has dealt fully with the condition from a pathological standpoint, Rowlands and Wakeley (1941) have recorded three cases, and Wilson and Salisbury (1944) eight cases in 1,000 battle casualties.

Put briefly, it may be said that fat embolism of the lungs is probably much more common than is recognized, though embolism in the systemic circulation is very rare. Robb-Smith thought that, of a series of 125 cases of death from accident, in 29 fat embolism probably played a major part in producing a fatal result; but both the symptoms and the post-mortem picture so closely resemble those found in bronchopneumonia that unless special staining technique is employed, such as he describes, the true nature of the condition will be missed.

The difficulty in systemic embolism is to explain how the fat passes through the lung capillaries in a globule large enough to cause trouble elsewhere. Possibly minute globules which can pass through the lungs coalesce into larger ones on reaching the heart and being subjected to the churning movements of that organ. This would appear to be more probable than the ingenious, if fantastic, suggestion of one writer that this condition can occur only in a patient with a patent foramen ovale.

The case now under consideration is a little unusual in that there were no pulmonary signs at all. The usual course of events is that after a fracture there is a period of 24 hours when the patient is comfortable, and then, somewhat suddenly, he becomes dyspnoeic and cyanosed and sweats profusely. Sputum is scanty and frothy, and may, but only rarely, have fat in it. Later he may show delirium, strongly resembling delirium tremens. By this time the surgeon has probably most unfairly blamed the anaesthetist on the one hand and the patient's habits on the other. The anaesthetist, if he knows the literature, will retaliate with an accusation of rough manipulation—again perhaps unjustly, as the case described below had neither manipulation nor anaesthetic.

Case History

A man aged 59 sustained a fracture of the left tibia and fibula, with some displacement, on March 21, at 12.30 p.m. He was transferred from one hospital to another owing to shortage of beds and was admitted, quite comfortable, in box splints. At 6.30 that evening, before he could be put up in plaster, he suddenly collapsed, with faintness, cold and clammy skin, and a pulse rate of 56. There was no dyspnoea or cyanosis. During the night he was wandering and strange in manner, and the next morning he was comatose. The limbs were a little spastic, the knee- and elbow-jerks were exaggerated, and the plantar reflexes extensor; abdominal reflexes were absent. Pupils were equal but very small. Petechial haemorrhages were present in the skin. Lumbar puncture produced a clear fluid under normal pressure: cells, 2 per c.mm., all small lymphocytes; protein, 0.04%; no globulin. His condition rapidly deteriorated, the temperature rising steadily to 104°, and death occurring 72 hours after admission

At the necropsy only the brain was examined, and that showed the typical picture of multiple pin-point haemorrhages scattered through the white matter only. The excellent coloured photograph in Watson's article might have been taken from this case. I am indebted to Dr. H. H. Gleave for the report on the pathological specimen:

"*Brain.—Macroscopic*:—The cerebrum shows numerous tiny points of haemorrhage scattered in the white matter. The grey matter is not affected. *Microscopic*:—The small vessels of the white matter show perivascular haemorrhage and necrosis. These changes occur without any evident relation to a vessel. No change is seen in the cortex. Frozen sections stained for fat show globules and masses of fat in some of the vessels. No fat can be demonstrated in the majority of the vessels, but where it is present the appearance is characteristic. There is no inflammatory reaction around the necrosed area."

This follows closely the descriptions given in the other articles already quoted. The interesting point is that, although quite definite fat emboli can be seen in the vessels, they are neither so numerous nor so striking as the areas of necrosis and haemorrhage.

Comment

The symptoms in this case appear to be quite typical. Briefly, the important points to look for, as shown by this and other cases, are:

1. A latent period of three hours to three days.

2. A sudden collapse associated with profuse sweating and cyanosis, but no fall of blood pressure. As one American writer puts it pithily: "Shock—three hours. Fat embolism—three days. Pulmonary embolism—three weeks." This collapse and the very profuse sweating which has been referred to by all observers should help to distinguish this condition from pulmonary oedema or bronchopneumonia.

3. Pin-point pupils, exaggerated deep reflexes with absent abdominal reflexes but no localizing signs. Cerebrospinal fluid normal.

4. Hyperpyrexia in the later stages. Petechial haemorrhages make the diagnosis certain. Fat may occasionally be found in the sputum or urine, but not often enough to be of much help.

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Medical Memoranda

Staphylococcus pyogenes Septicaemia treated with Penicillin

The report of Howells *et al.* (1945) on the successful use of penicillin in two cases of *Staph. pyogenes* septicaemia prompts me to hope that the following case might also be worthy of record.

Case Report

A Polish officer aged 53 was admitted to the Royal Masonic Hospital on April 27, 1945, complaining of continuous epigastric pain during the past four weeks. He gave a history of trichiniasis at the age of 15 and rheumatic fever at 25. In 1940, at a routine medical examination, evidence of organic heart disease was discovered, and he was down-graded to the lowest category. Apart from occasional palpitation and indefinite fleeting pains in various parts of his body, he remained in reasonably good health until one month before admission, when he gradually became aware of increasing upper abdominal pain, unaffected by food. Two weeks later the pain became much more severe, so that he was unable to sleep. He was treated for indigestion, but without result. For the three days preceding his admission to hospital he had observed oliguria. He had no cough, dyspnoea, or chest pain, and had lost no weight.

On examination he did not seem to be very ill. His temperature was 100.6° F., pulse 100, and respirations 20 a minute. There was slight cardiac enlargement to the left, the aortic and pulmonary second sounds were about equal in loudness, and there was a rough systolic apical murmur transmitted towards the axilla. No thrill was palpable. The rhythm was regular, the B.P. 150/95. The lungs were clear; the abdomen was distended and tympanitic; the liver was not obviously enlarged, but its edge was tender on deep inspiration; the spleen was not palpable. There was minimal oedema of the ankles. No other abnormalities were detected. Blood count: leucocytes, 9,000 per c.mm. (neutrophils 7,290, eosinophils 270, basophils 0, lymphocytes 1,170, and monocytes 270 per c.mm.). Blood urea, 43 mg. per 100 c.cm. Urinalysis: albumin, faint trace; occasional leucocyte, erythrocyte, and granular cast. Chest skiagrams showed some prominence of the aortic arch, but nothing else abnormal. E.C.G. within normal limits.

The patient continued to run a low-grade intermittent pyrexia with an evening rise of temperature to 100–101° F., and there was little change in his general condition until May 2, when, during the night, he complained of considerable abdominal pain, chiefly in the left hypochondrium. In the morning his spleen could easily be palpated three fingerbreadths below the costal margin; it was slightly tender. Blood cultures were taken, and after five days' incubation *Staph. pyogenes aureus* was grown. The organism was coagulase-negative and its sensitivity to sodium penicillin was greater than the standard Oxford strain. Accordingly, on May 11 a course of intramuscular injections of penicillin, 15,000 Oxford units 3-hourly, was begun. On that evening the temperature rose to 101.2° F., and was 101° F. on the following evening, but thereafter it fell progressively, and from May 16 onwards (the sixth day after starting penicillin therapy) it never exceeded 98.4° F. In all, 2,040,000 units of penicillin were given over a period of 17 days. Within two days of the commencement of penicillin therapy the patient claimed to be feeling much better, and he made an uninterrupted and uneventful recovery, to be discharged in apparently good health, though still with an enlarged, but non-tender spleen, on June 26—29 days after cessation of penicillin therapy. It is interesting to note that during the month of June he sat the London University B.A. final examination in classics, while still a patient in the hospital.

Discussion

At first the diagnosis was obscure, and it was thought that there was a mild degree of cardiac failure, of rheumatic origin, causing abdominal discomfort as a result of portal congestion, but the persistent intermittent pyrexia remained unexplained. The sudden development of splenomegaly accompanied by severe abdominal pain immediately suggested splenic infarction due to subacute bacterial endocarditis and led to the taking of blood cultures. The fact that these grew *Staph. pyogenes aureus*, together with the rapid, satisfactory, and apparently complete cure by means of penicillin, strongly suggests that the disease process was merely a septicaemia, without any actual endocarditis, while the constancy of the cardiac signs—the apical systolic murmur having remained unchanged—still further bears this out. This case, therefore, was one of simple *Staph. pyogenes* septicaemia of obscure origin, successfully treated with penicillin.

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Hysteria Mimicking Meningism

The pleomorphism of hysteria should be kept in mind when making a diagnosis of acute cerebral disease, otherwise a bed may be occupied, unnecessary investigations made, and the doctors' time wasted; nor should the fact be forgotten that any investigations or examinations tend to "fix" conversion symptoms as a reality in the patient's mind, making their removal more difficult and the ultimate prognosis worse.

Case History

The medical officer of an R.A.F. station was called at 1.30 o'clock on a Saturday morning to see an airman who had been discovered unconscious at the foot of a ladder in a room which he had been painting; there was no witness of the man's collapse, and the only history available was that he had had a headache of increasing intensity for three days. Physical findings were as follows:

The patient was a young man of good physique, with no signs of injury. He lay on his side, curled up, with his face turned from the light; he showed hyperaesthesia—being resistant to interference, and holding his head, which appeared to be aching severely. Beyond these manifestations he could not be roused. Physical examination otherwise was negative. Pulse 76, temperature 98.5°, respirations 22. He was immediately transferred to an isolation hospital for observation.

When the M.O. was discussing the case with his Service colleague the next morning, the latter was immediately struck by the resemblance of the history to a case that he had seen when working as a psychiatrist at an E.M.S. neurosis centre. The patient's best friend was sent for, and on questioning about the airman's domestic life, etc., revealed that his fiancée had broken off their engagement a week previously. The doctor at the isolation hospital was given this information, with the suggestion that hysteria should be considered as a possible diagnosis, but full investigations were in progress, and the patient had been placed on the "dangerously ill" list. Lumbar puncture and skiagrams of the skull were normal and no physical findings other than those detailed above were elicited at any time. He was being nursed in the dramatic surroundings of a glass-walled isolation ward, and his mother expressed the intention of not leaving his side until he "became conscious." On Monday morning one of us visited him, and he looked ill, having a bloated appearance, his face being purple-hued from lying in one position for a prolonged period. The only reaction that could be elicited was a restlessness when his financée's name was mentioned. On the Wednesday, the fifth day of illness, the patient's condition was unchanged; he had eaten nothing and drunk little. The doctor of the isolation hospital agreed that the case was not infectious and the patient was returned—in the same state as originally found—to the R.A.F. station sick quarters. Immediately on his arrival intravenous pentothal was administered by one of us; the patient abreacted, two main emotional precipitants being evoked—his broken engagement and his distress over the wounding of a brother who was fighting in Burma. The patient made a rapid recovery.

The history of the case that gave the clue on this occasion was briefly as follows. A middle-aged soldier, who had been painting a room alone, was found unconscious at the foot of his ladder in the middle of the night; he was admitted to a Service neurological hospital, where for four months he underwent exhaustive investigations. He was unconscious for three days and then became totally blind. Four trephine holes were made in a search for subdural haematoma. Four months later, when he was admitted to the neurosis centre, the task of the psychiatrist was simple, as all possible organic causes for his blindness had been eliminated. He recovered his sight within a day, after abreaction under sodium amytal, the (apparently) trivial cause of all the trouble being his dislike of Service life and resentment at having to work alone every night for a fortnight without assistance.

Comment

It is not often realized by practitioners that a very trivial situation in the present may act as a precipitant of conversion symptoms of severe or even fatal intensity as, for example, may be seen in anorexia nervosa. The hysterical condition may so dominate the picture as to repress the normal instincts whose satisfaction is necessary for survival. The illogicality of hysterical symptoms is borne out well in the second case mentioned. An apparently trivial stimulus rendered a man unconscious for three days and blind for four months. He had to undergo the discomforts and hazards of several lumbar punctures, a ventriculogram, and a general anaesthetic so that his skull might be trephined.

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A. H. Meyer (*Ann. intern. Med.*, 1945, 22, 543) records his observations on 165 cases of meningococcal meningitis with 9 deaths—a mortality of 5.3%. In 150 cases proved bacteriologically the mortality rate was 4%. Sulphadiazine was the main therapeutic agent, but meningococcus antitoxin and repeated lumbar punctures to relieve intracranial pressure were valuable adjuncts in certain cases.

Reviews

HAEMATOLOGY OF CHILDHOOD

Atlas of the Blood in Children. By Kenneth D. Blackfan, M.D., and Louis K. Diamond, M.D. With illustrations by C. Merrill Leister, M.D. (Pp. 320; coloured illustrations. $12.00 or 66s. 6d.) New York: The Commonwealth Fund; London: Oxford University Press. 1944.

In these days when the emphasis is all on functional rather than factual teaching, the reviewer may well feel an initial prejudice on being handed a large volume on so specialized a subject as the haematology of childhood. Nevertheless, this feeling of prejudice rapidly changes to one of pleasure in handling this exquisitely produced atlas of haematology. The paper, the typography, and the ample margins remind one of the spacious days that have gone. The 70 coloured plates are not only accurate, they are works of art which are as beautiful as a collection of jewels or stamps. It seems, indeed, that in our modern emphasis on function we may be in danger of missing a vital element in medicine—the element that is present in the anatomical plates of Vesalius, in the illustrations to French's *Differential Diagnosis,* in the Hunterian and Wellcome Museums. That element is the drama of fact. The student who looks through this atlas may learn nothing of the venous pressure in profound anaemia or the life span of the erythrocyte, but he will recognize some of the cruellest denizens of the jungle of disease, such as haemolytic anaemia and leukaemia, and he will remember their bright and fearsome images when less vital memories have faded from his mind. In fact it is possible that the recent approach to medical education has been far too rationalistic, and we have been overlooking the importance of interest in making learning easy. The emotions which inspire the collector and the artist have been powerful aids to medical teaching in the past, and we cannot afford to sacrifice such forces when the art is so long and life so fleeting. One cannot help feeling that the average student might get more out of this book on diseases of the blood than out of Sir Thomas Lewis's *Exercises in Human Physiology.* Perhaps there is a tendency nowadays to put the cart before the horse in clinical education, and the student, like the child, might do well to begin with concrete phenomena, with patients and blood pictures, and end up with general principles and abstract reasoning. However this may be, we should like to see this atlas on the table of any department of paediatrics which teaches students. The 144 pages of text are simple and balanced. They are based on experience of more than 5,000 infants and children with disorders of the blood, and even senior haematologists will pick up something of value, as in the advice to give iron salts in fruit juice rather than milk, to avoid precipitation as phosphate; or in the evidence of the transient occurrence of pernicious anaemia in infancy as a result of acute infections and temporary achlorhydria. There is a full bibliography. The book is indeed a fitting memorial to the senior author, Dr. Kenneth D. Blackfan, who died in 1941 after a life largely devoted to the study of the blood in childhood.

BIOLOGY AND HUMAN WELFARE

New Biology—I. Edited by M. L. Johnson and Michael Abercrombie. (Pp. 116; with isotype charts and other illustrations. 9d.) London: Penguin Books.

The Penguin *New Biology—I* contains an astonishing amount of interesting information in a small compass. The editors' aim—helping to re-orientate biology teaching towards questions of human welfare—has been well carried out. It might be thought that the potato was not a very encouraging subject from that point of view, but Dr. R. N. Salaman, a recognized authority, presents us with a fascinating study, beginning with the original culture of the potato in Peru, where it was associated with a horrible ritual of face mutilation to imitate the "eyes." The introduction into Europe of the potato minus the ritual is told, and of the resistance to such a novelty met with everywhere except in Ireland. The social effects of the introduction of a cheap abundant food are discussed, and its influence in keeping wages low. The food value of the potato and its proneness to disease are also clearly described. Prof. Lancelot Hogben gives a somewhat mathematical discourse on the measurement of human survival, while Prof. Walter Stiles contributes an interesting account of the importance of "trace metals" (such as manganese, boron, zinc, and many others) to plant life; yet in more than minimal doses they are injurious. Mr. J. Z. Young records advances in our knowledge of the functions of the central nervous system, from which we learn that the concept of medullary "centres" is being refurbished on a more scientific basis. Prof. Le Gros Clark's article on "the anatomical basis of sensory experience" is complementary to Mr. Young's, and the two form an illuminating contribution. Mrs. Miles's account of the life-history of the wireworm (the larval stage of the click beetle, which takes four years to reach the chrysalis stage) and of the damage it does to agriculture is full of interest. Dr. M. L. Johnson's description of the malaria parasite and the extraordinary complexity of the problems presented by the mosquito is also of great interest at the present time.

This admirable little book is illustrated by plates and diagrams and provided with a glossary. If the editors can maintain the high standard they have achieved, *New Biology—II* will be well worth reading.

OBSTETRICS AND GYNAECOLOGY

Recent Advances in Obstetrics and Gynaecology. By Aleck W. Bourne, M.B., B.Ch., F.R.C.S., F.R.C.O.G., and Leslie H. Williams, M.D., M.S., F.R.C.S., F.R.C.O.G. Sixth edition. (Pp. 358; illustrated. 18s.) London: J. and A. Churchill. 1945.

Midwifery. Principles and Practice for Pupil Midwives, Teacher Midwives and Obstetric Dressers. By R. Christie Brown, M.B., M.S., F.R.C.S., F.R.C.O.G., and Barton Gilbert, M.D., F.R.C.S., M.R.C.O.G. Infants' Section by Richard H. Dobbs, M.D. Second edition. (Pp. 831; illustrated. 15s.) London: Edward Arnold and Co.

The sixth edition of *Recent Advances in Obstetrics and Gynaecology* is a worthy successor to its popular forebears. As stated in the preface there is much recorded in its pages which cannot strictly be classified as coming within recent advances, but the assessment of fact from fantasy is often the more authoritative for that very reason. The passing of time enables the new therapeutic measures of yesterday to be seen in their true perspective and reveals where emphasis has been wrongly placed. The sixth edition contains new chapters dealing with erythroblastosis, vitamin K, stillbirth and neonatal death, and nutrition in pregnancy. Of these particular mention must be made of the chapter on erythroblastosis, which as a lucid summary of the present state of knowledge could not be surpassed. In both ante-natal and post-natal care refreshing emphasis is given to the importance of considering the patient rather than the pelvis. Diet, posture, and exercise all receive the mention they deserve. In discussing cervical carcinoma the authors state that the Wertheim operation and all other operations for the surgical treatment of this condition have become obsolete. The subject is admittedly a difficult one, but it is possible that this is not the final pronouncement that *Recent Advances* will have to make on this subject. The best results so far obtained are not good, and better methods will in time be devised. They may be by irradiation, by surgery, or by a combination of both, possibly assisted by other and newer therapeutic measures. Until such time as the case is finally proven it would be regrettable if the technique of Bonney and his disciples were forgotten.

When a textbook written primarily for midwives is reprinted three times in four years and then is published in a second edition it needs no commendation from a reviewer. It must be gratifying for the authors of *Midwifery* to find that their somewhat unusual approach to the subject has been so widely and favourably received, for their book is no mere collection of facts to be memorized but an interesting and successful attempt to make the reader think logically and arrive at correct deductions from a basic minimum of factual knowledge. The new edition contains appropriate references to the Rh factor in its relation to erythroblastosis and to the dangers of blood transfusion. The work of Caldwell and Molloy on the classification of the pelvis is given considerable attention—possibly more than it deserves in a book of this type will be the comment of some obstetricians. Though there have been some slight additions to the section on breech presentation the authors still do not emphasize the importance of episiotomy in breech delivery. This is a strange omission when advising the inexperienced. Additions have also been made to the sections dealing with ovarian physiology, hormones, labour, drugs, care of the infant, and foetal and placental circulation. The book concludes with a brief but most interesting account of the history of midwifery. It is to be hoped this section will be expanded a little in the next edition.

Notes on Books

We have received from the U.S. Office of War Information (1, Grosvenor Square, London, W.) a copy of the latest edition of a small work of 150 pages, *The Control of Communicable Diseases.* It is a manual of the American Public Health Association, first published in 1916. This, the fifth revision, has been prepared under the expert guidance of a subcommittee presided over by Prof. Haven Emerson. The manual is designed for the use of physicians, nurses, sanitarians, and public health officers in the United States, and since its purpose is to safeguard the welfare of the whole community the emphasis is upon methods of prevention and control. Except for a few illnesses in which a curative drug is also used for prophylaxis, therapy is not dealt with.

Dr. C. P. **Blacker**'s Galton Lecture for 1945, entitled *Eugenics in Prospect and Retrospect,* was delivered last February at Manson House, London, before the Eugenics Society. This interesting lecture has now been published in pamphlet form by Hamish Hamilton Medical Books at 1s. 6d.

The Macy Foundation of New York has published a monograph entitled *Copper Sulfate Method for Measuring Specific Gravities of Whole Blood and Plasma,* by Lieut.-Cmdr. **Robert A. Phillips** and his fellow workers in the U.S. Naval Research Unit at the hospital of the Rockefeller Institute. This includes line charts for calculating plasma proteins, haemoglobin, and haematocrit from plasma and whole-blood gravities. Readers in the British Isles can obtain copies on application to the Medical Research Council, c/o London School of Hygiene, Keppel Street, London, W.C.1.

Volume 68 of the *Transactions of the American Gynecological Society* for the year 1944 is edited by Dr. **Howard C. Taylor**, jun., and published at St. Louis by the C. V. Mosby Company. It is, as usual, a well printed and fully illustrated work and contains nineteen papers and Dr. George W. Kosmak's presidential address; also eleven memorial notices of Fellows who have died. The signed articles have all appeared seriatim in the *American Journal of Obstetrics and Gynecology.* The Society, founded in 1876, has had many distinguished Honorary Fellows: in America there are now living seven, and of the seven foreign Honorary Fellows five are in Britain—Prof. J. Munro Kerr, Dr. T. Watts Eden, Sir William Fletcher Shaw, Mr. Victor Bonney, and Mr. Eardley Holland.

Preparations and Appliances

WIDE-BORE ENDOTRACHEAL CONNEXIONS

Major H. L. **Thornton**, R.A.M.C., anaesthetic specialist with a maxillo-facial unit, B.L.A., sends the following description of wide-bore endotracheal connexions. It was dispatched on Jan. 30, 1945, but went astray.

The endotracheal connexions illustrated in the accompanying photographs have been designed with a view to reducing to a minimum unnecessary resistance to respiration in lengthy operations under endotracheal anaesthesia.

The connexions are of two types, intended for nasal and oral use, the long-axial curvatures corresponding closely to those of the standard Magill's connexions. The overall length of the connexions is 7.5 cm. and the internal diameter of the distal ends is 7.5 cm., equal to the internal diameter of that part of the anaesthetic machine to which the facepiece unions are attached in most standard English patterns. From proximal to distal ends the expansion is smooth and uninterrupted, the proximal ends being slightly larger than the lumen of the tubes to which they are intended to be fitted. A beading at each end is intended to prevent accidental detachment of the connexion in use.

A short length of stiff-walled, wide-bore tubing unites the distal end of the endotracheal connexion to the anaesthetic apparatus without any further constriction or metal-to-metal joint, the latter feature being considered an advantage in obviating a possible source of gas leakage, which so often results from inaccurately fitting or damaged metal joints.

Since the connexions were primarily designed for a type of plastic tube previously described by me in this *Journal* (July 1, 1944, p. 14), the following technique for fitting such tubes to their metal connexions may prove helpful:

1. All grease is removed from the inside of the tube and outside of the connexion with ether.
2. The distal end of the endotracheal tube is thoroughly softened in boiling water.
3. The softened end of the tube is forced well past the beading on the connexion.
4. The softened end of the tube is immediately plunged into cold water and left until thoroughly set.

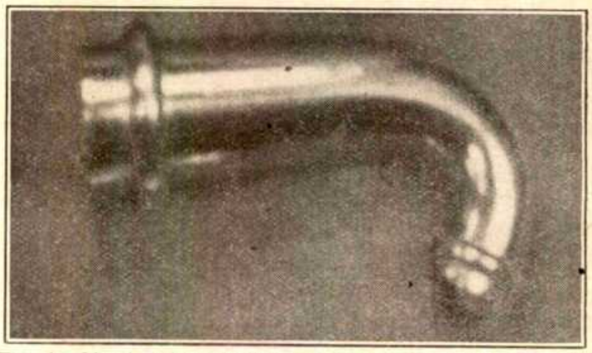

Fig. 1.—Nasal endotracheal connexion for No. 9 Magill's tube (actual size).

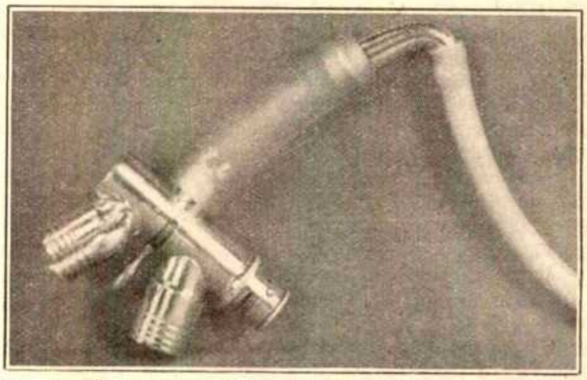

Fig. 2.—Nasal endotracheal tube, wide-bore connexion and union connected to part of anaesthetic apparatus.

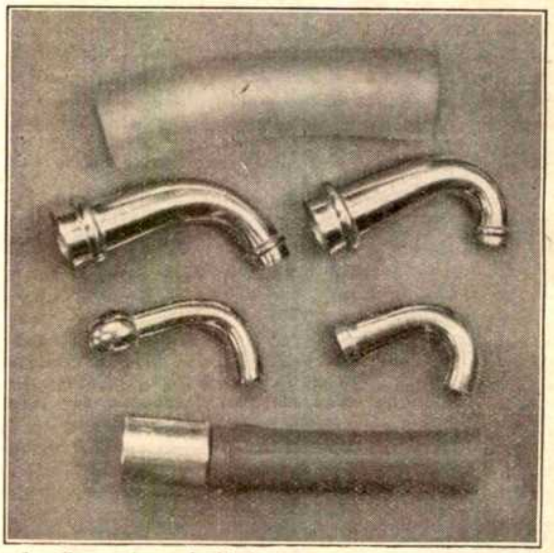

Fig. 3.—Comparison of wide-bore connexions and union (above) with standard Magill's connexions and union (below).

When detaching a metal connexion from a plastic tube it is also necessary first to soften the tube in boiling water.

If these procedures are carefully followed, a firm attachment between tube and connexion can be assured, and splitting or damaging of tubes will be avoided.

I would like to express my thanks to the Director-General, Army Medical Services, for permission to publish this communication, and to Medical and Industrial Equipment, Ltd., for their help in producing experimental connexions.

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P AND Rh

With increasing knowledge of the serological complexities of human blood groups the hazards of blood transfusion can in expert hands be almost completely eliminated. Reliable anti-A and anti-B grouping sera are now so widely available, and knowledge of blood grouping is so much better generally, that accidents due to wrong ABO groups have become uncommon. Among the other blood-group factors the elimination of risk of incompatible transfusion is now mainly directed against the Rh factor: Diamond[1] has recently stated that among 32 haemolytic transfusion reactions only 5 were due to errors related to the ABO system, whereas 27 were due to Rh incompatibility. The M and N specific substances only very rarely prove antigenic in man; of the eight examples of human anti-M agglutinins hitherto discovered, five were probably natural and three immune iso-antibodies. It is noteworthy that anti-M agglutinins appear to act only at low temperatures (2–5° C.) and not at 37° C.; thus possibly the risk from this factor is minimized.

In the course of work on anti-M sera Landsteiner and Levine[2] encountered both natural and immune animal sera which appeared to make a further distinction between human bloods. The red cell antigen thus recognized they called agglutinogen P. This constituent is present in the red cells of approximately 75% of white persons, but investigation of families is hindered by the lack of potent anti-P sera. Factor P is inherited as a simple Mendelian dominant. A proportion of normal pig and horse sera contain anti-P agglutinins, but both these and sera prepared by the immunization of the common laboratory animals need preliminary absorption of the anti-A, anti-B, and anti-O agglutinins, and the resulting reagents are usually rather weak and may fail to give sharply defined reactions. Iso-agglutinins against factor P also occasionally occur naturally in P-negative human subjects, and when first encountered were called "extra-agglutinin one", by Landsteiner. Later, when found to correspond in specificity with anti-P agglutinins, the old name was dropped. Natural anti-P agglutinins are usually of low titre, but it is probable that they would be increased by the transfusion of P-positive blood. As late as 1943 Wiener[3] stated that transfusion reactions due to anti-P agglutinins had not been observed, though he had encountered two examples of relatively strong anti-P agglutinins in post-transfusion sera. Wiener and Unger[4] have lately described a third example of strong anti-P agglutinins developing apparently as the result of repeated blood transfusions. On the fifteenth day after the first of a series of blood and plasma transfusions, all of which had proved uneventful, difficulty was experienced for the first time in matching the recipient's serum with the corpuscles of a series of donors of his own group (A) and of Group O. The agglutinins were most active at ice-box temperature (titre 1 : 16), but visible reactions occurred at 37° C. A further transfusion of P-negative blood, found to be compatible by cross-matching tests, did not give rise to any reaction, and the anti-P titre rapidly fell. In the investigation of alleged transfusion reactions Cappell[5] has found one man with irregular agglutinins which on the whole corresponded with anti-P, but the reactions were mainly weak and not sharply defined. The evidence suggested that these were natural and not immune agglutinins. There is therefore still no record of a haemolytic transfusion reaction due to anti-P agglutinins, though it seems probable that Wiener and Unger's patient would have experienced one had the cross-matching test failed to detect the irregular agglutinins.

Naturally one thinks of the analogous situation in regard to the Rh factors; the role of iso-immunization in pregnancy and the place of factor P in the aetiology of haemolytic disease of the newborn have to be considered. There does not appear to be any published account of haemolytic disease due to factor P, but inquiry at a number of blood transfusion centres in this country has elicited a small number of cases in which factor P may have been concerned. The Galton Serum Unit, Cambridge, has records[5] of two families in which serological tests on account of previous obstetrical disasters revealed anti-P agglutinins in the mother's serum, the father being P-positive. One of the women was Rh-negative, and an "incomplete" anti-Rh antibody was also present in her serum. The Galton Unit has two other examples of anti-P agglutinins—one from a woman and the other from an infant—but details about these are lacking. At Leeds, Stanbury[5] has encountered two cases of anti-P agglutinins; in one, that of a P-negative mother whose husband was P-positive, the blood sample was submitted during the third pregnancy on account of two previous obstetric disasters. The only surviving child of this woman (a twin) was P-negative; the child born of the third pregnancy was, however, P-positive and did not suffer from haemolytic disease. Stanbury's other example of anti-P agglutinins was detected in the pre-transfusion cross-matching test of blood from a woman who was P-negative, the husband being P-positive. A remarkable feature of this case was that the anti-P agglutinin, as usual more active in the cold, was completely removed from the serum by standing in contact with its own clot in the refrigerator overnight. These may all be natural anti-P agglutinins, but where they already exist the natural antibody in a woman's serum might well be reinforced by iso-immunization during pregnancy with a P-positive foetus; in such women the transfusion of P-positive blood would be likely to provoke a haemolytic transfusion reaction. This catastrophe appears to have been averted in several of the above cases only by the careful cross-matching of the recipient's serum against the cells of the proposed donor. Since, in contrast to anti-Rh agglutinins, for which the tests should be performed at 37° C., anti-P agglutinins react best in the cold, there is a good chance of detecting them in tests at room temperature or, better, at 2–5° C., using the control of the patient's own cells and serum to avoid confusion with cold agglutinins. It is another point in favour of routine cross-matching tests preceding all transfusions, and especially in cases of repeated transfusion from the same donor, in spite of the absence of incompatibility previously. Cross-matching tests alone cannot, of course, be relied upon to detect Rh incompatibility, for the presence of "incomplete" or "blocking" antibodies may mask the presence of anti-Rh agglutinins, and the only safe practice is to ensure that Rh-negative women receive only Rh-negative blood, whether anti-Rh antibodies have been detected in their serum or not.

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[1] *New Engl. J. Med.* 1945, **232**, 447.
[2] *J. exp. Med.*, 1928, **47**, 757.
[3] *Blood Groups and Transfusion*, 3rd ed., 1943.
[4] *Amer. J. clin. Path.*, 1945, **14**, 616.
[5] Unpublished.

Recent knowledge of blood groups and of iso-immunization has thus made it possible not only to safeguard the individual against the dangers of receiving an incompatible transfusion, but also very largely to protect the person against the risk of initiating the process of iso-immunization. Since one person in seven is Rh-negative, the opportunity of sensitizing Rh-negative individuals by transfusion of Rh-positive blood occurs frequently, although in fact only a few will become sensitized to the Rh antigen. The risk to women in the reproductive period of life is particularly great, for the initial stimulus may later be reinforced by pregnancy with an Rh-positive foetus, entailing as a consequence the danger of haemolytic disease. This hazard has not been widely enough recognized, and, further, Diamond[1] has emphasized that the most severe forms of haemolytic disease occur in infants of women sensitized by transfusion. Such catastrophes will not be prevented until it is the universal rule to test for Rh factor every young woman requiring transfusion and to administer only the appropriate type of blood. In obstetric practice the time has come when ascertainment of the blood group, including the Rh factor, should be regarded as an essential part of antenatal care. If obstetricians would co-operate to provide adequate supplies of anti-Rh sera from proved cases of haemolytic disease, it would be possible to instruct obstetric registrars and resident clinical pathologists in the relatively simple tests necessary to determine whether an individual needing transfusion is Rh-positive or Rh-negative, and in the latter case to ensure that only Rh-negative blood is given. The more intricate investigation for anti-Rh antibodies of either the agglutinating or the "incomplete" type is here unnecessary; Wiener's biological test of giving 50 c.cm. of Rh-positive blood and looking for a rise in the serum bilirubin after one hour is slow, and in any event is not without risk if the patient happens to be already sensitized. For practical purposes the subdivisions of the Rh factor may here be ignored, and individuals divided into those whose blood corpuscles react with standard anti-Rh serum (anti-Rh$_0$) who may safely receive Rh-positive blood, and those failing to react with this serum, who should receive Rh-negative blood irrespective of whether they happen to belong to one or other subtype (Rh′ or Rh″). With regard to factor P, preliminary tests to distinguish P-positive and P-negative individuals are not easily available and are unnecessary; the danger of a haemolytic reaction due to factor P is small and is probably safeguarded adequately by careful cross-matching of the bloods at room temperature. In all cases it should of course be an absolute rule not to transfuse any blood which exhibits even a trace of reaction in the cross-matching test.

STUDY OF FOOD HABITS

There is no doubt some good reason why the reading of an American manual on the study of food habits[1] should leave one still groping for definition. Implicit in the pages of the manual is the definition we are seeking; yet it evades us. Perhaps there are temperamental differences, which should be taken into account; perhaps the phraseology is at times unfamiliar. Yet it is worth while to look deeper; and instinctively we turn to the relevant paragraphs of the report on "Nutrition in the Colonial Empire" which appeared in 1939.[2] After all, there is a curious similarity in flavour between these two momentous publications. Do we forget that in the American soil are embedded so many diverse communities—Czechs and Italians, Irish and Chinese, negroes whose remote forebears came from the West Indies, and negroes whose even more remote ancestry sprang direct from the western coasts of Africa? A primitive and undisturbed population may foster food customs that could be improved; but they are customs that have been moulded by tradition to the sources of the food supply; they have acquired a certain measure of balance, an intrinsic survival value. It is when these traditional habits of life have been radically disturbed by the relaxing of the old tribal relationships, by urbanization, by reservations, and by the modes of existence formed in a factory or plantation economy that the real problem of the colonial administrator begins. Food habits are persistent; and rice will be eaten, be it coarsely cleansed in the peasant's hut or polished in the mill. A community of negroes in the United States will attempt to mould such foods as are available towards the traditional pattern. Many modifications are inevitable—in the choice of foods, in the preparation, in the storage. But the persistence of old patterns is strong enough to impart a peculiarly anthropological flavour to the work of the American investigator. His material lies at his own door; allowing for a multitude of differences, his problem is much the same in substance as that which presents itself to our own investigator in Ceylon, Gambia, or Zanzibar.

Needless to say, there is far more to be found in the manual than a mere exercise in anthropological ingenuity; yet here, it seems, lies its point of departure. Here, too, possibly rests our own stumbling-block. In this country there are many variations in food habits and preferences; but few have ventured to study them objectively or to escape the abiding belief that we are all of us, research worker and material alike, woven from the same fabric of traditional prejudices. Objectively we can assess the values of the dietary common to a given sample of families. Vaguely we perceive that ignorance is playing its part;

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[1] *Manual for the Study of Food Habits*, Bulletin No. 111, published by the National Research Council, National Academy of Sciences, Washington, D.C.
[2] Cmd. 6050, H.M. Stationery Office. (3s.)

but we prefer to round off our inquiry with an estimate at what level of income these families might be expected to purchase an adequate diet; and beyond that we appeal to proverbial wisdom. "The ignorance (and sometimes the prejudice) is not confined to those who are themselves undernourished. It exists also among those who have power over nutrition of others: Government officials, members of Legislative Councils, employers of labour, education authorities, missionaries. . . ." In such a way did our own workers on colonial nutrition prelude their discussion on the factor of ignorance and the need for education. The words may not be written up in our medical schools; but the sense of them affects the trend of our researches. It probably accounts for the fact that in an exhaustive list of almost 700 references the American workers cite no more than 5% that bear upon the study of food habits and preferences in Britain. There have, of course, been many unpublished studies made during the period of war. But the war inquiries were prompted by the official desire to know how the public responded to rationing and to the other wartime changes in our food economy. If this new field of science is to be explored to the full we must necessarily begin by a close study of American methods and experience; yet we must also begin by elaborating our own definition and convincing ourselves that here is a field worthy of exploration.

Let us, then, attempt an essay in definition that may satisfy the temperament of our own workers. A quotation from the American manual will be of help at this point. "Action in a field like this," say the writers (p. 26), "can be taken only on the basis of concrete knowledge. We need to know what sections of the population have what types of food habits, so that steps can be taken either to preserve them or to change them, in part or altogether, so that the population in question will make better use of the available food supply. Experience has shown that the attempt to think through problems of food habits in a cultural vacuum, in terms of abstract psychological principles, is unrewarding." Now, this sentiment is practical; and one can perceive at once that the path to definition must lie through a process of hardening the practical issues. What is it we want to do? Obviously, to begin with, propaganda; and in the course of propaganda to discover what we lack in the way of objective knowledge about the community we are seeking to influence. Let research branch from experience. Temperamentally, in a matter of this kind, we are by nature neither cultural anthropologists nor psychologists. But we are at least anxious that our emerging nutrition services should be expanded to the full; and it is our duty, as medical men and women, to see to it that the wartime improvements in the national dietary are maintained in the period of peace. This is a problem mainly for the propagandist and educationist. Our own inclination would be to subordinate the study of food habits to the sphere of education and instruction; and an appropriate home for a study of this kind might perhaps come within the ambit of such an organization as the Central Council for Health Education, between which and the Food Advice Division of the Ministry of Food a series of practical links could with advantage be contrived.

THE PATHOGENESIS OF TUBERCULOSIS

That the problem of tuberculous infection is still a subject of argument is a measure of our ignorance. It is becoming more than ever necessary to find an answer to such questions as: How is tuberculosis acquired? How may primary and re-infection lesions be distinguished from one another? By what mechanism is the re-infection lesion produced? These can be answered only when careful pathological study has enabled us to form a clear picture of the initial stages of the disease. Terplan's[1] useful contribution to the matter consists of a careful post-mortem study, both anatomical and radiological, of tuberculous patients and those who have died of other diseases. The tuberculous lesions are described in detail, and several facts have emerged which stimulate thought.

Some of his observations seem only to make our problems more difficult. For instance, he finds that a primary focus in the lung can occur without the typical complex involving the regional glands; and that a re-infection lesion can exactly simulate a primary complex. It is even probable that repeated "primary" infections can occur at different times in the same individual. Other findings support the theory that so-called "epituberculosis" in children is commonly the result of bronchial obstruction by tuberculous granulation tissue in the course of the primary complex. Terplan also stresses the frequency of primary infection in adults. An interesting observation by Terplan is the part which the bronchi appear to play in the spread of infection. There is good evidence that localized bronchial spread often occurs in the course of the primary infection, with the production of small caseous pneumonic lesions around the primary focus and elsewhere in the lungs. Again, tuberculous lesions which have resulted from re-infection, as judged by the presence of a separate primary complex, also have pathological features which suggest a bronchial origin. The old theory that secondary tuberculosis results from endogenous re-infection receives no support, because in many cases of re-infection tuberculosis the primary complex was completely healed and obsolete.

The suggestion has been made that the frequent occurrence of re-infection lesions in the posterior parts of the upper lobes may be explained by the fact that foreign material, such as iodized oil, tends to be inhaled into these areas when the patient lies on his back (Bannen,[2] Brock[3]), and that tuberculous re-infection is therefore the result of bronchial embolism. It is, however, difficult to see why the individual should be lying down when he acquires his infection, and Wingfield[4] has pointed out that a minute inhaled droplet might behave differently from a blob of iodized oil introduced artificially. He put forward the hypothesis that repeated inhalations of tubercle bacilli might disturb the immunity balance in the same way as repeated injections of tuberculin. Such a disturbance might increase the activity of bacilli lying dormant in minimal and unrecognized lung lesions. This hypothesis receives some support from the work of Terplan, who found that the scattered lesions produced by bronchial spread from the primary focus often arose in other parts of the lungs and frequently in the upper lobes. Many of these lesions showed a mixture of caseation and calcification, suggesting incomplete healing, and it is easy to imagine a recrudescence of activity in them resulting from a disturbance of the patient's immunity; this would produce re-infection lesions of the "bronchogenic" type described by Terplan.

Thus we can imagine the following sequence of events in the development of tuberculosis. Before the active primary focus has become encapsulated small emboli of caseous material are carried from it by the bronchi to other parts of the lungs. Here they give rise to minute lesions, often too small to be visible in a skiagram, which either heal or remain dormant. A fresh exposure of the patient to large doses of tubercle bacilli then disturbs his immunity so that one or more of these dormant lesions becomes active. This is an attractive hypothesis and seems to fit the facts, but there are still many gaps to be filled. It is a pity that Terplan does not record whether viable tubercle bacilli have ever been isolated from these incompletely healed focal lesions.

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[1] *Amer. Rev. Tuberc.*, 1940, **42**, Supplement, 1; 1945, **51**, 91, 133, 172, 321, 351.
[2] *British Medical Journal*, 1942, **1**, 309.
[3] *Guy's Hosp. Rep.*, 1942, **91**, 131.
[4] *British Medical Journal*, 1942, **1**, 637.

CANNED FOODS

In 1810 Nicholas Appert[1] described a new method of preserving foods by heating them in well-stoppered bottles immersed in boiling water. In England, about a year later, John Hall and his associate Bryan Donkin laid the foundations of the canning industry by using this method with iron containers instead of bottles. To-day the annual production of cans for foods runs into many millions, and it is generally recognized that controlled canning is one of the most satisfactory methods of preservation. Flavour, colour, and texture are well maintained; no chemicals have to be added; no special equipment is required for storing the final product, and the housewife has no preparation to carry out beyond re-heating. But what of the nutritional value of canned products? From preliminary work by Kohman and his colleagues in America about 20 years ago results indicated that the value could be rated high. Later, a very thorough experiment on this subject was carried out in Scotland by Godden and Thomson.[2] Working with successive generations of rats over a period of 18 months, they fed one group on nothing but canned foods—including meat, fish, vegetables, fruit, milk, bread, and syrup—and a comparable group on similar foods shop-purchased or locally grown and cooked under household conditions. Throughout the test they found the two groups comparable in all respects—i.e., as regards growth, breeding, and composition of the body as a whole, as well as of teeth and bones separately. One important food constituent was, however, not covered by this investigation. Rats are independent of ascorbic acid in foods, and it was therefore possible that this vitamin might be destroyed by canning. Olliver, however, had shown[3] in 1936 that the loss of ascorbic acid was extremely small, not only for the actual canning process but also for subsequent storage of the can because of the very low oxygen content in the sealed container. It therefore appeared that canning could be regarded as a satisfactory means of preserving all the qualities of foods, including their nutritional value. Further evidence in support of this view was cited by many workers in different countries, the individual vitamins being considered in the majority of the investigations. Both plant and animal products, however, show much variation in the amounts of the different vitamins they contain, due to variation in factors such as maturity, soil, and climatic conditions. Hence it is to be anticipated that, even though destruction during canning may be small, canned foods should show a similar variation. An interesting investigation which has just been completed in America[4] confirms this by the determination in 823 commercially canned samples of the contents of ascorbic acid, carotene, riboflavin, nicotinic acid, vitamin B_1, and pantothenic acid. While, therefore, the efficiency of modern canning processes in retaining nutritional value can be accepted, it must also be recognized that the fixing of standards for the vitamin content of various canned foodstuffs presents very great difficulties.

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[1] *Le Livre de tous les Ménages ou l'Art de Conserver pendant Plusieurs Années Toutes les Substances Animales et Végétales.*

[2] *J. Soc. chem. Indust.*, 1939, **58**, 81.

[3] Ibid., 1936, **55**, No. 24, 153T.

[4] *J. Nutrit.*, 1944, **28**, 101.

THE MAKING OF SCIENTIFIC INSTRUMENTS

In 1895 the Cambridge Instrument Company was registered as a limited company, although for seventeen or eighteen years before then it had existed as a private concern. The jubilee is commemorated in a booklet entitled *Fifty Years of Scientific Instrument Manufacture.* The story really begins in 1883, when Michael Foster, who had been appointed to the new chair of physiology at Cambridge, wished to equip his laboratory with apparatus, and A. G. Dew-Smith, a wealthy amateur and a member of Trinity College, came to his assistance and provided a workshop with a skilled instrument-maker. Dew-Smith entered into partnership with Horace Darwin, son of Charles Darwin, and the Cambridge Instrument Company was started. The early workshops saw the making of anthropological instruments for Francis Galton, cloud cameras for Kew Observatory, a temperature regulator for the Board of Trade, and a large range of physiological and physical instruments for the university laboratories. Most of the earliest instruments had physiological or biological applications; some of the most outstanding were microtomes for cutting thin sections of animal or vegetable tissue. A very important chapter in the history of the company is concerned with the manufacture and development of instruments for measuring and recording temperature. The company also played an important part in the development of the electrocardiograph. In 1903 Einthoven of Leyden devised his string galvanometer, which was immediately employed for determining the wave-form and extent of the heart-action currents, and the Cambridge company, in close association with Einthoven, developed a galvanometer with accessory equipment which could be employed, in conjunction with clinical examination, for the diagnosis of heart disease. The development of the Cambridge cardiograph, as the instrument was named, was carried out in close co-operation with Thomas Lewis, and the first complete installation was fitted in 1909. Whereas the original apparatus of Einthoven occupied a whole laboratory, and the electromagnet was enclosed in a water-jacket to prevent overheating, the present equipment is so compact that it can be contained in a suitcase and taken to a patient's house. An account of many other instruments is given, including the apparatus for timing extremely small intervals for the study of nervous impulses, also the device for rendering visible the path of the alpha particles of radium. This illustrated record is much more than the history of a commercial enterprise: it is a footnote to the scientific investigation of the last half-century.

Dr. W. Russell Brain will give the Bradshaw Lecture on "Speech and Handedness" before the Royal College of Physicians of London on Thursday, Nov. 8, at 5 o'clock.

At the invitation of the Ministry of Health and Local Government for Northern Ireland, Lord Amulree of the Ministry of Health, Mr. George Stebbing of the Radium Commission, and Dr. Ralston Paterson of the Christie Hospital and Holt Radium Institute, Manchester, recently visited Northern Ireland. In the course of a few days they visited several hospitals, both voluntary and rate-aided, and had discussions with hospital staffs and others interested in the early diagnosis and treatment of cancer. The visitors expressed the opinion that Northern Ireland offered a particularly good opportunity for the formation of an ideal cancer organization.

REHABILITATION OF PATIENTS SUFFERING FROM SKIN DISEASE

BY

R. MASON BOLAM, M.D.

Major, R.A.M.C.

The subject of rehabilitation has become of increasing importance in recent years in connexion with industrial accidents and disease and in the recovery of members of H.M. Forces from illness and injuries. It has been shown conclusively, for example, that much time can be saved by properly co-ordinated exercises and physiotherapy when a limb has been fractured.

In certain branches of industry, such as coal-mining, a great number of accidents occur each year, and it is noteworthy that both owners and workers contribute large sums of money towards the rehabilitation of miners on an organized basis. This may take the form of gifts of specialized equipment for physiotherapy departments at general hospitals, the financing of convalescent homes, the opening of fracture and accident wards or of hospitals staffed and equipped in such a way as to return the worker to his industry in the shortest possible time.

The Army has found it necessary to provide rehabilitation centres and convalescent depots to which men who have had illness, operations, or wounds are sent to be helped to regain full fighting fitness by mental and physical training of varied and graduated type under expert instructors, with careful medical supervision.

In the last ten years industrial hazards have grown in number and complexity, and many processes connected with the making of armaments, munitions, and aircraft involve the use of powders and liquids that are injurious to the skin. Wartime conditions and service in the Forces have also been responsible for a large increase in the number of cases of skin disease, many of which are of considerable severity and necessitate long periods of treatment in hospital. The effect of service in tropical and semi-tropical climates is often to bring out any latent tendency to skin disease or to accentuate an existing complaint which had not been considered serious before. On the home front, the stress and strain of long hours at work, added to responsibilities from shortage of staff, have caused minor examples of skin disease to assume crippling proportions, so that the patient has been forced to cease work.

In many cases of skin disease a nervous element appears to predominate. Enforced changes in our diet have probably played their part in producing some types of skin disorder, and there has been a big increase in the number of severe cases of seborrhoeic dermatitis. Sulphonamide drugs have proved of inestimable value in the treatment of many different diseases, but they have been the cause of many cases of sensitization dermatitis, which may last for several months and prevent the patient from doing his work. Such cases as these are greatly in need of expert treatment and rehabilitation, and, so far as is known, no attempt has been made to assist them in the stage of convalescence.

The First Experiment

In April, 1943, at the instigation of Brig. R. M. B. MacKenna, A.M.S., some 70 beds were allocated for the rehabilitation of dermatological cases. The auxiliary hospital of the British Red Cross and Order of St. John at Ragley Hall, Alcester, Warwickshire, was the site of this first experiment in the rehabilitation of patients with skin diseases, and the Commandant, Lady Helen Seymour, gave her full co-operation in this new work. From the beginning the hospital has been full. There has been a constant demand from military and other hospitals for beds for skin patients who need a period of readjustment before returning to duty.

The hospital is situated in a historic building in beautiful park land, some 20 miles from Birmingham, and the work is shared by the Matron, two sisters (day and night), nine V.A.D. nurses, an Army sergeant-major, and a male corporal occupational therapist. Medical attention is provided by a local practitioner, who is on call to deal with any minor ailment or emergency, and a weekly visit is paid by the Army Specialist Dermatologist. During the first 11 months that the hospital was open, Lieut.-Col. F. F. Hellier, R.A.M.C., supervised the treatment and rehabilitation, and I have visited the hospital for the past year.

It might be thought, "Why all this fuss about skin patients? They are the last people to need rehabilitation." The subject cannot be dismissed so lightly, and it is only by seeing the patients in the mass, coming as they do from all parts of the country, that one realizes how great is the need of a breathing-space before returning to their former work. One medical officer writes in his case notes: "Skin intact but vulnerable," and this is a very true statement in many instances. The skin itself may be in a tender state and need a little more time to harden off. The patient's spirits are often at a low ebb after an unsightly and depressing skin disease.

The provision of a convalescent hospital expressly designed to cater for subjects of skin disease supplies a long-felt need. It makes possible a study on a group basis of problems associated with rehabilitation and improves the morale of the sufferers. Many of our convalescent hospitals to-day refuse to admit skin patients. This attitude is to be deplored, but this fact strengthens the case for a separate institution to provide sympathetic and expert care for dermatological convalescents.

The psychiatric aspects of rehabilitation of patients with skin disease deserve more detailed study than can be given by the ordinary medical officer. It is obvious that a considerable number of dermatological patients are poorly adjusted from a psychological point of view, and this was borne out recently by Lieut.-Col. E. Miller, R.A.M.C., who visited Ragley Hall and formed the opinion that some of the patients displayed anxiety in varying degree and others were of a pronounced self-centred disposition. In a recent paper he suggests that emotional and intellectual factors should be investigated in those with different types of skin disease, and a survey of the social background of patients, including a genetic study, undertaken. In this way the patient may be helped towards a more complete adjustment to social and economic needs.

Some skin treatment is still necessary for many of those who come for convalescence, and their reaction to graduated exercise must be noted. Special problems have to be solved in deciding whether a man may resume his former occupation; if he may not, then a suitable trade must be found and arrangements made for him along new lines. In all this the utmost tact and sympathy are necessary; the selection of staff for dermatological rehabilitation therefore demands more than ordinary care if a high percentage of success is to be attained.

Procedure at Ragley Hall

It had been noticed that on their arrival at Ragley Hall some of the patients were apprehensive as to what they had come to, but often their fears were allayed when told that this hospital was for skin patients alone. A welcome from the Matron, and an interview with the occupational therapist to find out the inclinations of the new patient towards handiwork, begin the first day. There must be rules when 75 men live together, and certain fatigues have to be performed to help in the smooth working of the hospital; but restrictions are minimal, and careful selection of duties is made, so that no one with tender hands is asked to do any washing or cleaning if he might thereby suffer.

Woodwork, leatherwork, or needlework might be the patient's choice for his handicraft, and it is found in practice that the men become so interested that they spend considerably more time than the two hours allotted daily for this task. Many high-class toys, handbags, wallets, embroidered fire-screens, and fancy belts have been sent to the Red Cross sales or to the patients' homes. Entertainments are held on an average three nights a week and a well-stocked library is kept. Opportunity is given for men to take language or other educational courses, and a lecture is given regularly each week by the Army education authorities. Fresh air is a necessity after confinement to hospital, and the patients have large grounds to roam in and help on farms in the summer season.

After a few weeks the medical officer can estimate the prospects of ultimate recovery, and the disposal of each patient can be decided. No patient leaves hospital without a note to his new unit stating his capacity for work and laying down any further lines of treatment which may be thought necessary.

In this way many men have been saved for the Army by rehabilitation, and a careful follow-up system has been instituted to determine the subsequent fate of the men who have passed through Ragley Hall. During two years' work 800 men have been admitted, and, of these, 584 have been returned to duty and 216 had to be discharged from the Service. Of the latter, 100 replied to a follow-up questionary, and it was found that only three were entirely free from all symptoms and needed no treatment whatever. Five out of the hundred were unemployed.

Types of skin disease which benefit from rehabilitation are: (1) seborrhoeic dermatitis—cases of moderate severity and duration; (2) eczema of mild type; (3) impetigo—severe cases in the stage of recovery; (4) pyodermatitis with debility; (5) furunculosis; (6) sulphonamide dermatitis; (7) lichen planus (needing psychological readjustment).

Seborrhoeic Dermatitis

Cases of this skin disease increased greatly in number during the war years and were seen in various forms, ranging from severe seborrhoea of the scalp alone to generalized exfoliative dermatitis. Seborrhoea of the scalp is found as a complication in cases of acne, impetigo, and eczematous eruptions, and unless due recognition of this factor is noted results of treatment of these three diseases will be only partially successful. One other eruption which is resistant to treatment is otitis externa, and this is almost always associated with definite seborrhoea of the scalp, which must be treated vigorously before the ear condition can be expected to heal.

The cardinal rules in the treatment of the scalp are: (*a*) keep the hair short; (*b*) wash the scalp on alternate days under supervision, using liquid or soft soap; (*c*) apply to the scalp an ointment such as:

℞

Liq. picis carb.	30 m.
Acid. salicyl. Acid. benzoic. Sulph. praecip.	āā 10 gr.
Emulsion base	ad 1 oz.

This ointment to be massaged into the scalp itself by a nurse or orderly and not given to the patient to apply.

Seborrhoeic dermatitis in one or other of its forms is probably the most common of all skin diseases seen in an out-patient department at military hospitals to-day. It is common in the A.T.S. as a dry scaly eruption on face, neck, arms, and trunk, with profuse seborrhoea of the scalp, and among men in the Forces as a papular rash between the shoulder-blades and on the chest which causes marked irritation and is made worse by sweating, heat, severe exercise, and the wearing of thick woollen underwear. Another type of eruption that is becoming more frequent is a generalized papular rash with oval squamous lesions almost identical with those of pityriasis rosea. This is seen in patients of nervous temperament, and if such a condition is incorrectly treated exfoliative dermatitis may follow and rehabilitation may be necessary.

The following ointment has been uniformly successful in the papular and squamous varieties of seborrhoeic dermatitis on trunk and limbs and is much superior to the more popular sulphur and salicylic ointment. It is smeared on gently twice daily.

℞

Liq. picis carb. Calamine Zinc. oxid. Ol. arachis	āā 1 dr.
Paraffin. molle	ad 1 oz.

Eczema; Impetigo; Pyodermatitis; Furunculosis

Eczema is often of constitutional origin; and each case must be considered from this point of view. Once established it will persist and be aggravated by many external irritants. Rehabilitation must include an attempt to provide conditions which will alleviate the severe irritation, and sedatives should be given in full dosage during the phase of recovery. Suitable occupation is all-important and a change of work is often found necessary, so that clerical or light work is substituted for more exposed and arduous conditions of service. Correct underwear and clothing may have to be supplied and limitations imposed on bathing of the skin.

It is a short-sighted policy to return the patient with severe impetigo to full work as soon as his lesions have apparently healed, for he will almost certainly break down and new lesions develop. He has to be admitted to hospital again, whereas a short spell of rehabilitation would have prevented relapse, thus saving time in the long run.

A severe degree of pyodermatitis is often accompanied by scabies, and the latter condition must be looked for with care. If it is not found, then the patient may have poorer powers of resistance to local infection with skin organisms than the average, and time must be allowed for him to build up an immunity. Correct general therapeutic measures should be given as well as local antiseptic dressings. A diet containing a liberal quantity of vitamins should be prescribed, and the addition of food yeast has been found beneficial.

A number of patients with severe and protracted outbreaks of boils have been sent for rehabilitation; a change of surroundings, with continuation of special treatments such as ultra-violet light, vaccine injections, and autohaemotherapy, has enabled men to return to work within a reasonable period. Here again liberal vitamins and the issue of cotton underwear have helped in recovery.

Sulphonamide Dermatitis

Rehabilitation of this class of patient has been of great interest. Some patients have been desensitized to sulphonamides before admission; others have had to be desensitized either to the drug or to light by graduated exposure. In general this type of case does not do very well in the Army, as there is a great hazard in the wearing of khaki overcoat, battle dress, and shirt; and only a certain number of cases of moderate or slight degree are found suitable for the Service after tests in their uniform have been applied. It is probable, from study of follow-up data, that most sufferers revert to normal in the course of time, and if they show no reaction or only a very slight papular rash after a khaki-tolerance test they may be considered suitable for rehabilitation.

Lichen Planus

This chronic eruption is often found in patients with some degree of anxiety state, which must be corrected before work can be resumed and the rash persuaded to regress. The help of a psychiatrist is needed, and a considerable period of convalescence should be allowed. An atmosphere conducive to freedom from worry is usually to be found at a rehabilitation centre, and the patient will generally make a steady recovery. Investigation of the patient's private affairs and continued reassurance are necessary for success.

Conclusion

Many types of skin disease apart from those of a chronic widespread intractable nature will benefit from rehabilitation, and much good work can be done by showing the patient how to live with his disease and apply his treatment correctly. It has been found that facilities for efficient hair-cutting, shampooing, and hair-drying are essential in the rehabilitation centre, and there must be a generous number of baths. Many men have been helped to continue their Army duties by the issue of cotton underwear, and it is considered that the question of suitable clothing for people with sensitive skins needs further scientific investigation.

The above study has shown that (*a*) controlled rehabilitation in Service patients suffering from skin disease is most necessary before they are returned to duty; (*b*) the psychological background of dermatological patients should be the subject of investigation by experts; (*c*) the direction into suitable occupations of men and women who have skin disease is worthy of further study by labour managers; (*d*) rehabilitation of patients with skin disease should be introduced for the civil population.

I wish to thank Brig. R. M. B. MacKenna, Consulting Dermatologist to the Army, for his assistance in the compilation of this paper.

Reference

Miller, E. (1945). *J. R.A.M.C.*, **84**, 54.

MEDICAL TOPICS AT ASLIB

At the 20th annual conference of A.S.L.I.B. (Association of Special Libraries and Information Bureaux), held in London on Sept. 15 and 16 under the chairmanship of Sir FREDERIC KENYON, a number of papers were presented of interest to hospital administrators, medical librarians, and scientific research workers.

In his opening paper, "Information Service as an Essential Factor in the Progress of Science," Prof. J. D. BERNAL, F.R.S., prophesying that scientific periodical literature at its present rate of output was bound to come to an end, made a novel and provocative suggestion: a prospective author would submit his manuscript to a particular learned society of which he was a member, and the society would then take steps to have his paper published and distributed by a national centre to interested subscribers. The scientific periodical literature of the future would thus consist of individual papers of uniform format, which could be suitably bound according to subject. This scheme, which aims at supplying scientific workers with their absolute minimum requirements, would mean the disappearance from the market of many well-established and familiar journals.

Mr. C. E. A. BEDWELL, formerly chairman of the Guild of Hospital Librarians, described the library for hospital patients as an extension of the home services provided by the public libraries. The patient is a ratepayer in a hospital bed instead of in his own home. Reading has a place in the rehabilitation of patients, and the library should be an integral part of the hospital work. Unfortunately accommodation has not kept pace with the development of the service, and in a great many hospitals in this country a poky little hole without proper shelving or furniture is by an abuse of the English language called a library. Library quarters in a 800 to 1,000 bedded hospital require at least three rooms: one to contain the collection of about 5,000 books and microfilms and seating accommodation for some twenty patients; an office for the library staff; an annexe for trolleys and microfilm projectors; and possibly a room for book repairing—an admirable form of occupational therapy.

Mrs. LUCIA MOHOLY, director of the Aslib Microfilm Service at the Victoria and Albert Museum, described the U.S.A. type of microfilm projector which projects an image of the book on the ceiling for the benefit of a bedridden patient who is not allowed to sit up. While the film has to be fitted into the projector by a nurse or librarian, the patient can operate the machine by himself—with his hands, feet, or slight movement of the head. One or two pages can be shown on the screen at the same time, and pages may be turned forwards as well as backwards. The approximate cost of a projector—the first machine is expected in this country from the U.S.A. next month—will be 100 dollars, and the service will be operated by a non-profit organization in which Aslib will be represented. The speaker mentioned that U.S. publishers have agreed to have their books microfilmed free of royalties for hospital cases and for serious cases nursed outside hospitals. Microfilms have also been used successfully in the education of children afflicted with infantile paralysis. Whether, as was suggested in the discussion, the attractions of the microfilm service might encourage the *malade imaginaire* remains to be seen.

PUBLIC HEALTH TRAINING IN INDIA

A short report has reached us of the work done in the All-India Institute of Hygiene and Public Health, Calcutta, during the years of the war. This Institute was established in 1933, with six sections—namely, public health administration, vital statistics and epidemiology, malariology and rural hygiene, biochemistry and nutrition, maternity and child life, and public health engineering. All these, except the last, functioned from the beginning. The section of public health engineering started in 1938 with the teaching of D.P.H. students as its main interest, but also with research as one of its activities, especially on water and river pollution problems. In 1938 the syllabus for the D.P.H. course as taught at the Institution was found to be out of date as compared with those followed at teaching institutions in Europe and America. Accordingly the curriculum has been revised in keeping with modern demands, especially with a view to the requirements of health officers in charge of rural and urban communities in India, and the amount of teaching given on filterable virus diseases and entomology and on nutrition has been largely extended.

Since 1939 the Institute has been under the directorship of Dr. John B. Grant, who was assigned to that post by the Rockefeller Foundation. Of its wartime activities the most important has been the collection of blood and demonstration of the processing of blood serum through the Calcutta blood bank, which employs mobile collecting teams operating throughout Bengal and has an annual budget of about 3 lakhs of rupees (£22,500). The question of transferring the blood bank to the Provincial Government is now under consideration. Another wartime activity of the Institute has been the training of military personnel in antimalaria work. A large number of subjects are listed as representing problems which have been investigated during the period under review. These include epidemic dropsy, anaemia in pregnancy, tuberculosis, and leprosy surveys in certain districts, typhoid fever in Calcutta, and an inquiry into infant mortality in that city. With the prevalence of severe famine conditions in Bengal towards the close of 1943, the Institute was called upon to help the authorities in relief work. Sample surveys were conducted among destitutes to find out the incidence of infectious diseases such as malaria and dysentery, and help was given to hospital doctors in the treatment of advanced cases of starvation by providing suitable transfusion material.

Industrial hygiene is a subject almost wholly uncultivated in India, but the rapid industrialization of the country makes it imperative that steps should be taken at once to promote hygiene in factories and works, and one of the sections of the Institute is being provided with facilities, through the establishment of a chair, for investigating the problems of industrial hygiene peculiar to Indian conditions.

CHOICE OF WORK FOR HANDICAPPED CHILDREN

The coming into operation of the Disabled Persons (Employment) Act, 1944, and the setting up under that Act of a Register of Disabled Persons will improve the opportunities for suitable employment of disabled children. In order that advantage may be taken of the extended facilities so afforded, the Ministry of Labour and National Service is anxious that its local offices, juvenile employment bureaux, and in certain cases members of disablement advisory committees or of their panels should be furnished with up-to-date educational and medical records of all children leaving special schools and all those leaving other schools who suffer from a temporary or permanent disability which may restrict their choice of employment. It has been the practice of a number of local education authorities to furnish reports on the lines of Forms E.D. 210 and E.D. 211. This latter form is in accordance with the suggestions made in Administrative Memorandum No. 137, dated Sept. 16, 1935. The Ministry of Education hopes that authorities and governing bodies and the managers of voluntary special schools will be prepared to supply information on the lines indicated in these forms in the case of children leaving their schools. The information on these forms should not be communicated to prospective employers.

Where the school medical officer is of opinion that the child may be eligible for registration under the Disabled Persons Employment Act it is suggested that in place of Form E.D. 211 the fuller Form E.D. 211 D.P. should be completed. This form would apply in particular to children leaving certain types of special schools, such as schools for blind, deaf, physically handicapped, and epileptic children, but may also be suitable for a number of those who have been educated in ordinary schools. While the medical officer may wish to complete this form, in the case of certain children, it should not be communicated to the local office of the Ministry of Labour, the juvenile employment bureau, or members of a disablement advisory committee unless the parent has signed the statement of consent included in the form.

Parents might well be told of the improved possibilities of ordinary employment for handicapped persons afforded by the Act, and of the increased facilities for sheltered employment which will be available to registered disabled persons only; and authorities, governing bodies, and managers will no doubt give such advice as they can to enable the parents to judge whether they should sign the statement. Application for Form E.D. 211 D.P., and for additional copies of the other forms, should be addressed to the local office of the Ministry of Labour and National Service.

Reports of Societies

PENICILLIN IN OPHTHALMOLOGY

The session of the Section of Ophthalmology of the Royal Society of Medicine opened on Oct. 11, Mr. P. E. H. Adams in the chair, with a discussion introduced by Prof. Arnold Sorsby on penicillin in ophthalmology.

Prof. Sorsby said that penicillin was commonly regarded as a non-toxic substance and a readily diffusible one. This, however, did not apply in its ophthalmological use, and the eye in relation to penicillin must be regarded as something distinct from the rest of the body. The absence of agreement among observers as to toleration for penicillin was not due to any looseness of observation, but mainly to the fact that samples of penicillin available at the moment were largely impure. Any assessment of tolerance at present was not an indication of tolerance to penicillin, but to samples of penicillin which, though standardized biologically, were not standardized from the point of view of purity.

It was possible to give penicillin in daily subconjunctival injections if the total dosage was not more than 500 or 600 units. He had observed only one case of allergic reaction after the use of penicillin; this was an infant with ophthalmia neonatorum in which the instillation of a drop of penicillin into each eye caused a severe oedema of the lids. A constant corneal bath produced a considerable penetration, and higher concentrations could be reached in the aqueous if ionization were also used, but the combined method was difficult in practice. With ointment it had not been found possible experimentally to obtain any adequate concentration of penicillin in the anterior chamber. If a massive dose were used—something quite beyond the clinical dose—a slight penetration was obtained, but the difficulties with all these procedures was to obtain adequate concentration. With subconjunctival injections a considerable concentration could be reached in the aqueous and vitreous; the drawback was the rapid excretion. By the end of three hours there was hardly any penicillin left in the anterior chamber, and, although the excretion was less rapid in the vitreous, the vitreous was extremely intolerant to injections of any type, and personally he would not inject more than 200 or 300 units. He hoped, however, that ophthalmologists would not be discouraged by these experimental observations. The experiments had taken place in normal eyes in experimental animals, and it did not follow that what applied to the normal eye applied to the inflamed eye. It might seem to be a simple matter to set up an experimental infection of the cornea and to test penicillin in the form of ointment or other method of application. The fact of the matter was that one could not produce a standard experimental lesion of the cornea for these tests. The position was rather different in infections of the anterior chamber, and there was experimental evidence that staphylococcal infection could be influenced by local applications of penicillin, though not in the form of drops.

Local Uses of Penicillin

As for the local uses of penicillin (Prof. Sorsby continued) there was now a voluminous literature. He himself mentioned 123 cases of ophthalmia neonatorum treated during the last year. With 500 units per c.cm., in 8 cases treated there were 3 successes; with 1,000 units, out of 7 cases, 4 successes; with 1,500 units, out of 9 cases, 5 successes; and with 2,500 units, out of 98 cases, 78 successes, 13 relapses, and 7 failures. Penicillin used locally was effective over the whole range of micro-organisms in ophthalmia neonatorum. Frequency as well as concentration was important. When penicillin was applied at intervals of 1 hour the results were good; at intervals of 1/2 hour they were better; at intervals of 5 minutes better still. For technical reasons it was not possible to institute the constant drip, and they were now instilling penicillin at intervals of 1 minute, and in most cases the condition was under control within half an hour.

Penicillin had been used in a variety of eye conditions. Perfectly good control of hypopyon ulcer had been obtained with penicillin drops. Trachoma was a condition in which one would not expect penicillin to be effective, seeing that it was a virus infection. But the virus of trachoma was of a special type, on the borderline between viruses and bacteria. He had tried penicillin in three cases of trachoma, but only one of these was a fresh case, and in this a good result was obtained very rapidly; within four days the typical appearance was lost. Unfortunately, in the other two cases, which were not fresh ones, the results were not at all striking. In iridocyclitis the results so far reported in the literature were not very significant. He had used penicillin in one case of sympathetic ophthalmia with no very encouraging result.

They had in penicillin a powerful agent but a limited one. It did not readily penetrate into the eye. It was of extreme value for local application in external infections. Unlike the sulphonamides, it was not inactivated by pus, and so could be used locally where the sulphonamides were failures. But in intra-ocular inflammation the sulphonamides had not proved very helpful, and penicillin was not likely to be helpful either.

Discussion

In a short discussion Mr. D. V. Giri inquired whether ionization together with systemic application of penicillin had been used in septic inflammation of the eye, to which Prof. Sorsby replied that there was one successful case of post-operative infection reported in the literature. Prof. W. J. B. Riddell asked whether there was any reason why intravenous or intramuscular administration should not be made at such a high level as to ensure that it did penetrate the eye. Was it a question of the supply of penicillin or was there some technical objection? He considered that with modern ointment bases the soapy substance might cause eye damage. Mr. R. Affleck Greeves said that the fact that penicillin did not penetrate the interior of the eye did not necessarily mean that it did not penetrate the tissues of the uveal sac. He quoted a case in which choroidal inflammation had quietened down after penicillin treatment. Mr. C. B. Purvis mentioned a case of blepharitis in which the use of penicillin drops was not successful. Mr. H. Savin was not wholly convinced by the suggestion of specific action in trachoma; he had seen cases show similar improvement under diverse methods. Mr. R. Lindsay Rea said that he had always viewed with trepidation eye conditions in which teeth had to be removed at the same time as the eye treatment. It was useful to know that penicillin could be used during a dental operation.

Prof. Sorsby said that the relapses in his 123 cases of ophthalmia neonatorum amounted to about 18%—very similar to the percentage obtained in about 700 cases treated with sulphonamides. He agreed that even if penicillin did not penetrate into the interior of the eye it might still be of value. It was the ciliary bodies which held back the penicillin. He had no knowledge of what the concentration of penicillin in the ciliary bodies might be, but by analogy it should be extremely high, and it was likely that a good deal of the penicillin diffused back into the choroid, so that any choroidal infection would be influenced, though some observers had failed to obtain improvement in choroiditis. With regard to trachoma, he was not putting forward penicillin as a cure; only as a possibility to be explored.

Mr. H. C. Weston, in his presidential address at the opening of the new session of the Illuminating Engineering Society on Oct. 9, said that there had been a steady rise during the past 25 years in the values of illumination recommended for good lighting, and this had been facilitated by the falling running cost of artificial lighting. The upward trend of recommended standards of illumination was justified by accumulating evidence of the effects of conditions of lighting upon human efficiency. Personal efficiency was one of the indices of health. It was a great mistake to suppose that the meagre values of illumination available with artificial lighting in "the good old days" were adequate for comfort, health, and efficiency. Most of the fine work done by our forefathers—which so excited admiration—was done in daylight, and some of the old craft guilds prohibited night work because it was likely to be bad work. Many people wore spectacles, especially when at work, or they used magnifying glasses; and serious deterioration of vision seemed to have been the rule among those engaged in fine work. The new fluorescent lighting, which had proved such a boon to so many people in war factories and in other places where war service had to be done without any daylight, had not altogether escaped adverse criticism. Much of this was misconceived, and some was due to installation faults and neglect of maintenance. No satisfactory evidence that it had any ill effects upon the eyes had yet been brought forward. Bad or indifferent lighting was still widespread and caused much discomfort, strain, irritability, and loss of efficiency.

Correspondence

R.M.B.F. Christmas Gifts

Sir,—It is my privilege this year to ask you to submit to your readers the Christmas gifts appeal which for so many years has been issued by the late Sir Thomas Barlow and so generously supported by the medical press.

The Christmas gifts appeal has a special significance this year for, although peace has come, the material blessings which peace is supposed to bring are as yet merely dreams without substance. Food is monotonous and scarce; fuel is terribly short and its cost fantastic; clothing and prices generally are on the same high level; and even for those in fairly comfortable circumstances the outlook for the festive season is distinctly drab. Inevitably the burden of high prices and shortage falls most heavily on the poor, and for them there will be little money for celebrations of any sort this coming Christmas.

Last year there was collected a record sum of £1,817, which was distributed as follows: 483 of our people each received a Christmas-gift of £3 at a cost of £1,449. In addition we were able to give 184 of our poorest a further sum of £2 each as a New Year's gift, costing £368. I feel that we must, if possible, do at least as much as last year, and indeed I am pleading for another record. If, for instance, contributions amounted to £2,000, we should be able to give everybody a Christmas gift of £4, and there would still be sufficient over to give some of the poorest an extra £1. Is it too much to ask? A very generous profession has already done so much, but my excuse is the hard times which still lie ahead. Believe me, the gratitude these Christmas gifts evoke is very great and often extremely moving.

Please send your donation, marked "Christmas Gifts," to the Secretary, Royal Medical Benevolent Fund, 1, Balliol House, Manor Fields, Putney, S.W.15, who will gratefully acknowledge it.—I am, etc.,

Arnold Lawson,
President, R.M.B.F.

Dangers of Gastroscopy

Sir,—About twelve months ago an elderly lady, upon whom I had carried out an apparently unsuccessful gastroscopy, developed fever, pain, and surgical emphysema of the neck within twelve hours of the examination. Fortunately she recovered after five days' intensive chemotherapy, but I had no doubt at all that an abrasion of the mucosa in the hypopharyngeal region had given rise to a dangerous mediastinitis. About this time Dr. Avery Jones wrote to me about his case, and at his suggestion inquiry of some other gastroscopists revealed the fact that most of them had had experience of this complication and that there had been five fatal cases. Unquestionably there are others; and Dr. Avery Jones and Dr. Fletcher are to be congratulated on bringing their cases to the notice of the profession (Sept. 29, p. 421).

Gastroscopy is no exception to other forms of endoscopy; it has its own dangers and technique, and patience and gentleness are needed in passing the instrument, especially when dealing with elderly ladies. There is no doubt that the most vulnerable part of the tract lies just above and below the post-cricoid sphincter. Most beginners are aware of the risk of perforating the pyramidal fossae of the hypopharynx, but not so many bear in mind the danger inherent in the prominent anterior curve of the cervical spine when the head is extended, as it must be to pass the gastroscope. The prominence of the spine pushes the posterior pharyngo-oesophageal wall so far forward that the tip of the gastroscope may impinge here with considerable pressure—especially if there is a spasm of the post-cricoid sphincter and the gastroscopist is in a hurry.

In passing the gastroscope the patient's head should be extended no further than is necessary, the operator's fingers should hook the back of the tongue firmly forward, receive the tip of the instrument between them, and carry it downwards, holding it all the time away from the posterior pharyngeal wall until it has passed well over the crest of the extended spine. It may be necessary to do this in stages, momentarily halting the progress of the end of the gastroscope down the pharynx in order to get a new grip with the finger-tips, the better to flex the gastroscope forward as it goes. Even when all appears easy the instrumentation must be done *slowly* because the mucosa may be dry from pre-operative scopolamine; for the same reason the *whole* of the rubber part of the instrument must be well lubricated, because a simple abrasion of an atrophic mucosa may be quite sufficient to give rise to a mediastinitis.

Notwithstanding all precautions, risk of mediastinal infection will continue to be a rare but definite possibility among the thousands of gastroscopies annually performed. For this reason I am generally averse to performing this examination on out-patients. Whenever possible the patient should spend the night before in hospital and be properly prepared the following morning. The quietude of the patient's mind that can be assured in this way makes the gastroscopy easier to perform and greatly diminishes the likelihood of spasm and abrasion of the hypopharyngeal sphincter. After the morning gastroscopy the patient should remain all day in hospital under observation until the evening, when he may be discharged if all is well. If there should be any suspicion of an oesophageal abrasion the patient should be retained in hospital on sulphonamides and penicillin lozenges. Success in treatment depends entirely on the promptness with which it is applied. I have practised this régime of 24-hour hospitalization and supervision for the last nine years at the London Hospital, and I feel it to be a reasonably adequate safeguard against both the incidence of, and the failure to detect, oesophageal lesions after gastroscopy.—I am, etc.,

London, W.1. Hermon Taylor.

Excision of Patella

Sir,—Fracture of the patella is not uncommon in the Services, and Mr. H. A. T. Fairbank's letter (July 14, p. 62) should be heeded by all who are called upon to deal with this injury. The ugly knee that follows excision is rarely a normally functioning knee, and no one should perform the operation unless to the infantryman he is prepared to say: "You are unlikely to become fit for full marching"; to the gunner, "You should not expect to be able to lift the heavy weights you used to do."

However, excision is the only possible treatment for the severely comminuted patella. In operating on such cases I would stress the importance, first, of removing every particle of bone and periosteum; and, secondly, of making every effort to close the rent in the capsule with synovial membrane. This may require the freeing of the suprapatellar pouch—a dissection to be performed carefully and without hurry. The tissue made available will permit accurate closure of the largest gap.—I am, etc.,

S.E.A.C. J. H. Milnes Walker.

Fenestration for Otosclerosis

Sir,—I agree with the writer of your leading article on fenestration for otosclerosis (Sept. 29, p. 430) that a full review of the subject is opportune, but I should like, if I may, to offer a few criticisms of his article.

It was, I think, unfortunate that a popular American monthly, with a circulation of several millions in the English-speaking world, should have published a highly coloured and optimistic article on the fenestration operation as a cure for deafness a few months ago. I had several copies of this sent to me, with inquiries, while I was still in the Army, and since my release no week has passed without further inquiries about the desirability of this operation or even the possibility of proceeding to America to have it performed. Your leader-writer has, I am afraid, done little to dispel the results of this indiscriminate publicity, or to clarify the present situation with a view to helping the general practitioner to advise his patients on the subject. He speaks of "a technique which promises to give 80% of good results," then quotes Shambaugh as claiming "a 90% chance of lasting improvement and a 70% chance that this improvement will equal or surpass that obtained by a hearing aid," and goes on to say, apparently in his own opinion, that "it may be accepted that rather less than half (probably about one-third) of the patients treated by this technique have gained real benefit," and warns that "an exact percentage of successful results is not easy to estimate."

As it is evidently difficult to evaluate the indications for operation and the results of the various American authors quoted by your leader-writer, it is all the more surprising that he has altogether neglected the work done in this country. I do not refer to the sporadic labyrinthine operations by various otologists following Jenkins and Holmgren some years ago, but to the report of a series of 66 cases by Mr. Simson Hall of Edinburgh at a meeting of the Section of Otology of the Royal Society of Medicine in March, 1944, followed by a well-informed and animated discussion (*Proc. roy. Soc. Med.*, Oct., 1944, **37**, 737; *J. Laryng. Otol.*, July, 1944, **59**, 255). Mr. Simson Hall pointed out that selection of cases had a great deal to do with the results, and that there were the following common characteristics in those showing improvement: the patients were young, usually under 30; deafness was not extreme; there was no sign or history of middle-ear disease, and no nerve deafness. He considered that lack of appreciation of the upper tones by bone conduction had proved a contra-indication to operation, and he now refused such patients for operation. Mr. Simson Hall had had 66 cases in six years, and after eliminating his earliest cases because of faults in technique, and his latest cases because of too short a period of observation, he arrived at an improvement in 51%, but considered that figure of but little practical value; of the cases operated on prior to 1940 36% had retained their improvement in hearing; he had one death, apparently due to an idiosyncrasy to morphine.

The contrast, of course, is marked with the 1,000 fenestration operations for otosclerosis in seven years by Dr. Lempert of New York—more cases of otosclerosis than most European otologists of experience are accustomed to diagnose in a lifetime; 74.4% of Lempert's cases showed what he calls "complete or partial rehabilitation for social and economic contacts," but no fewer than 616 of his cases were operated upon less than three years ago (*Arch. Otolaryng.*, Jan., 1945, **41**, 1). Dr. C. E. Kinney, in a recent review of the subject (*Laryngoscope*, March, 1945, **55**, 117), based on a personal series of 32 cases and a careful critical estimation of the literature, though stating that in his opinion the operation is "a distinct advance in the therapy of the disease," points out the difficulty in selecting cases, the difficulty in evaluation of results and in technique, and concludes that "the claiming of 85 to 90% of successful results is unwarranted at this time." Yet when one has witnessed (as I have done in Mr. Simson Hall's clinic) the drama of seeing the membranous labyrinth exposed under local analgesia, and a previously deaf patient eagerly repeating the aural surgeon's whisper from the farthest corner of the operating-theatre, one admits that it must be difficult for the surgeon to retain the sobriety of his judgment and to damp down his enthusiasm for several years, until the end-result of the operation can be properly evaluated.

As I have spent the last five years—the most important period in the development of this operation—in the Army, I need hardly say that I have had no personal experience of it, nor am I likely to have until I get more certain information about the selection of cases, a more riskless technique, and a more definite promise of improvement in hearing. If my opinion were asked, I could not conscientiously advise a patient suffering from otosclerosis to-day to undergo this operation without explaining the uncertainty of improvement and the undoubted risks that accompany any operation on the labyrinth. Far be it from me to discourage any of my colleagues in their researches to relieve deafness by operation, but it is as wrong to encourage young otologists to dash into a fascinating technique without careful and prolonged training in the surgery of the labyrinth as it is to raise the hopes of the deaf by ill-judged optimism.—I am, etc.,

London, W.1. R. SCOTT STEVENSON.

Treatment of Denuded External Skull Table

SIR,—The interesting account of this subject by Majors P. Clarkson and J. Schorstein (Sept. 29, p. 422), and the excellence of the result, call to mind a somewhat similar case. Although the conditions differed materially in that there was no interval before grafting and this was done to the bare outer table and not to the diploe, the blood supply to the skull is so good that evidently success may be expected by any clean method.

A man of 70 years was admitted to the Royal Infirmary, Aberdeen, in 1912 under Prof. Marnoch with a horribly offensive, ulcerated epithelioma of the whole of the right pinna, destruction of the tympanum, extensive glandular involvement, and severe pain and sleeplessness. There was no sign of intracranial growth. The external carotid was ligated at its origin, and a wide block removal of all the affected structures, including the parotid, facial nerve, and internal jugular vein, was carried out down to the skull, from which the periosteum was stripped. The mass measured 6 inches vertically and 7 inches horizontally. This area was immediately and completely covered with autogenous Thiersch grafts, most of them being applied to the bare squame and parietal, which did not bleed. Every graft took completely. There was always a small sero-purulent discharge with a little wax from the bony meatus and complete facial paralysis, but no other surgical imperfection developed and the eye was preserved. The graft remained intact and without scaling or ulceration. A small "deer-stalker" flap from the cap was worn to mask the deformity. The condition was said to have begun where the spectacle frame irritated the skin. So far as I can remember the patient lived some five years in great comfort and with no sign of recurrence. He frequently came for examination. He died of bronchitis.

The grafting of skin direct to bare bone was new to me at the time and was tried because it was the obvious thing to do. Had it failed a plastic operation could have been done and the deformity filled up. Beyond an occasional opportunity to prevent scarring in temporary amputation stumps no further trials of the method have been made. A good application of the method would be in cases of scalping by machinery. The saving of suffering and time would be enormous, and it appears that a wig would not cause the graft to scale or ulcerate.—I am, etc.,

London, W.1. G. H. COLT.

Treatment of Duodenal Ulcer

SIR,—As one whose lot it has been to see and treat very large numbers of cases of duodenal ulcer during the past fifteen years, I have at various times tried what Sir Adolphe Abrahams (Oct. 6, p. 473) calls "this, that, or the other 'cure' for duodenal ulceration as an incident in ambulatory treatment." As a result of my experience I am convinced that there is no "short cut" to cure, and that the most successful and lasting results are obtained by the orthodox diet, alkalis, and supplementary vitamins B_1 and C. I can fully endorse his statement that "almost incredible remissions are a familiar experience."

It has to be recognized that there is, what I called many years ago, such a thing as a "duodenal diathesis," though that is not to say that every case of duodenal ulcer necessarily presents the stigmata in obvious form. For this reason I make it a rule to warn all "recovered" cases—i.e., when symptom-free with radiologically confirmed healing—of the possibility, even the probability, of relapse; of the importance of adhering to a "healed ulcer" regime; and of the need for a periodic survey even in the absence of symptoms. I would particularly emphasize the latter.—I am, etc.,

Brookwood. H. M. STANLEY TURNER.

Sciatic "Neuritis"

SIR,—I was much interested in the article on sciatic "neuritis" by Dr. Holmes and Mr. Sworn (Sept. 15, p. 350). They say: "It is now generally accepted that the commonest cause of chronic pain in the distribution of the lumbo-sacral nerve roots is a rupture of a lumbar intervertebral disk, but there has been much discussion during the past few years between the exponents of the 'disk' and 'neuritis' theories of the causation of lumbo-sacral root pain.... Symonds (1943) has stated that 'the vision of an inflamed and swollen sciatic nerve, so confidently stated to be the cause of the syndrome in question, has never yet been granted to human eyes.'"

They describe three cases in which there had been severe and continuous sciatic pain for a considerable time before operation, but in neither of these was there any sign of a swollen disk or of any mechanical pressure on the nerve roots. In one case the swelling of the nerve was so great that the presence of a neurofibroma was suspected, but on incision it was found to be swollen and oedematous. All these patients had very severe pain for a week or more after the operations, which gradually subsided, and they have been quite well since. One, a miner, was able to return to full work in the mine. The authors admit that at present they cannot distinguish cases of sciatic neuritis from those with a ruptured disk, without an operation, but for the moment must be content with having seen a lesion which Symonds declares "has not yet been granted to human eyes."

I can have little doubt that if instead of an immediate surgical procedure oxygen were injected subcutaneously as described by Drs. J. P. Martin and James Collier and mentioned in my letter in the *Journal* of Feb. 12, 1944 (p. 230), not only would there be no pain at the time, but the severe after-pain lasting for a week or two after the operation would be entirely avoided, and the sciatic neuritis might even be entirely and permanently cured. The diagnosis of sciatic neuritis should present no difficulty. As Dr. Collier says in his article in Price's *Textbook of Medicine*, third edition, page 1654, there is tenderness on pressure over the nerve at the back of the thigh, and severe pain is caused by stretching the nerve, by extending the knee with the thigh flexed; and by various other simple methods. It may well be, now that peace is once more restored, sciatic neuritis will be recognized by all and its treatment by injection of oxygen may again be restored to favour.—I am, etc.,

Worthing. HERBERT H. BROWN.

Stovaine Anaesthesia

SIR,—Mr. K. E. Madan (Oct. 6, p. 474) has raised a point regarding stovaine which should by now be generally known. It is a pity that Chaput's solution of stovaine (10%) in saline was called the "light" solution, although it is undoubtedly hyperbaric, and with suitable posture of the patient can be used for giving either a high or low spinal anaesthetic. The correct facts regarding this solution have been presented in all three editions of *Principles and Practice of Rectal Surgery* (1932, 1937, 1945).—I am, etc.,

London, W.1. W. B. GABRIEL.

Mode of Action of Vitamin D

SIR,—In the annotation on the above subject (Sept. 29, p. 432) one is left in doubt as to what rickets is considered to be and what exactly vitamin D does and how it does it. The impression created is that rickets is thought to be the result of calcium deficiency. Deficiency of available calcium, whether due to actual lack as such in the diet primarily or secondarily and paradoxically to an alkalosis brought about by the administration of considerable (but not excessive) amounts of calcium as the carbonate, gluconate, and the like, produces osteoporosis not rickets. Osteoporosis is also caused by the administration of calcium salts of the strong acids such as $CaCl_2$, in which case the underlying factor of causation is the appearance of acidosis.

Vitamin D has no effect in curing or preventing osteoporosis due to actual lack of calcium in the diet. As will be discussed immediately, its remedial action in the alkalotically produced variety is due to the production of acidosis with consequent increased formation of HCl in the gastric juice (to reduce the acidosis) and resultant increased absorption of calcium as $CaCl_2$, with its subsequent retention in the bones and tissues as the phosphate. I am not aware of the effect, if any, vitamin D has on the acidotic osteoporosis due to $CaCl_2$ administration. Calcium phosphate, however, as a source of calcium (but not of phosphate) can be added to the diet in considerable quantity without baneful effects.

The routine method for production of rickets in experimental animals is by the feeding of a diet containing an excessive amount of $CaCO_3$—e.g., the Steenbock and Black rachitogenic diet No. 2965, which contains 3% $CaCO_3$. The phosphates of the food as soon as they are liberated are thus precipitated in the intestine and so prevented from being absorbed, with the result that there is an actual phosphate deficiency in the tissues. Such a deficiency, of course, occurs also when there is an actual lack of phosphate in the diet. In both circumstances rickets is produced; and it has to be emphasized that this is a condition which, contrary to the view held by chemists who, many in number, have no inhibitions about carrying on investigations into abstruse problems in pathology, cannot possibly be differentiated from osteoporosis by means of *x* rays or chemical analysis but only by histological examination.

As I have pointed out on several occasions (1–7), the evidence goes to show that vitamin D, in curing rickets brought about by either of these two methods, does so by setting free phosphoric acid from its combination with glycerol, fatty acids, and choline in the phospho-lipins, thereby liberating it in its nascent state in the tissues and so anchoring calcium; and instituting an acidotic condition which, by increasing HCl in the gastric juice, facilitates the early absorption of calcium as $CaCl_2$ and so prevents it precipitating the phosphates set free later on from the food, which consequently are absorbed and metabolized.

As stated in the annotation, Cohn and Greenberg, using radioactive phosphorus, showed in 1939 that vitamin D aids the conversion of organic to inorganic phosphorus in bone—a result which appears to be confirmation of my view. It is necessary in the present context to add that on several occasions[8 9 10] I have pointed out that, since Sir Edward Mellanby did not produce rickets in his experimental dogs, he could not possibly have shown that cod-liver oil cured the disease; and further that, according to his own showing, cod-liver oil did not cure the condition he actually produced, which was, in fact, osteoporosis due to deficiency of calcium in the experimental diet. His suggestion at a later date that phytic acid precipitates calcium in the intestines, and so prevents its absorption, if entertainable at all, has relation to the production not of rickets, as he claims, but of osteoporosis.—I am, etc.,

Aberdeen. J. P. MCGOWAN.

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6 Ibid., 1934, **28**, 1503.
7 *Edinb. med. J.*, 1942, **49**, 190.
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Nerve Injuries in Children

SIR,—I think that there must have been a misprint or clerical error in Mr. E. Hambly's letter (Oct. 6, p. 474) on this subject. He states that the median nerve recovered at the rate of 15 mm. a day. He examined the case at the sixth week, but at the quoted rate of growth from a lesion 1½ in. above the wrist the axons would take only 14 to 16 days to reach the tip of the third finger! Actually, a rate of 3 mm. a day would bring axons well on to the thenar eminence at 4 weeks. The "latent period" clearly has not been allowed for in these calculations, but, presumably, as the wrist was in plaster it was not possible to assess the time of onset of an advancing Tinel's sign, and it is therefore difficult to understand the figures given.

Admittedly lesions in children and lesions near the periphery recover rapidly, but even so I think 15 mm. a day would be found by Mr. Hambly, on reflection, to be erroneous.—I am, etc.,

Dunston-on-Tyne. F. G. ST. CLAIR STRANGE.

SIR,—When claims are put forward that nerve suture has been followed by recovery at a phenomenal rate, it is well to consider whether there has been a mistake in the arithmetic. In the case cited by Mr. E. Hambly (Oct. 6, p. 474), claiming a rate of recovery of 15 mm. a day, the error is clear. "The lesion was 1½ in. [4 cm.] above the wrist." "Return of sensation occurred over the thenar eminence [in a child not more than 4 cm. below the wrist] at the sixth week." 8 cm. had been covered in six weeks, and the rate of recovery is therefore 80/42—just less than 2 mm. a day. This figure is confirmed by the further statement that "general sensory recovery had occurred by the twelfth week." Presumably this means recovery of sensibility as far as the terminal phalanges. In children aged 14 the distance between the wrist and the centre of the terminal phalanges averages approximately 14 cm. The rate of recovery must be 140+40/84, or 2.1 mm. a day.—I am, etc.,

Headington, Oxford. R. B. ZACHARY.

Longevity

SIR,—The investigation into longevity and old age in the Punjab by Dr. M. Yacob and Mr. S. Swaroop (Sept. 29, p. 433) prompts me to bring up certain material which I came across when looking up the literature on longevity in 1940.

It is admitted that there is "a considerable lack of accuracy in age records." As regards Thomas Parr, subject of a post-mortem examination by William Harvey, Thoms and Young found no trace of his birth in diocesan records, and his age rests solely on his own assertions and those of his publicity agent—the poet John Taylor. As regards Henry Jenkins, his age is said to be authenticated by appearance in Chancery records 143 years before death, and by his disposition as a witness at the age of 157; but even official records do not exclude the possibility of the witness at 157 being the son of the man in the Chancery case. Most of these ages rest on parish records, which are liable to unintentional errors. Prof. Pearl cited an imaginary case in this connexion: a child was born, called John Smith, and was baptized, dying at the age of 15; in the same year the parents had another male child, called John in remembrance and never baptized; thus if the latter lived to 85 baptismal records would show him as 100.

I think it may be safely taken that ages greatly over 100 are not satisfactorily authenticated. The most reliable method—namely, compulsory registration of births—only came into force in England in 1837, and this discounts any present ages over 108 years. The ages quoted by Basilievitch and others giving the number of centenarians in the Abkhasian Autonomous Republic of Georgian S.S.R as 3,792 per million, as against ·5 to ·6 in Denmark, to quote one European country, are unbelievable. (The population on which this was based was 210,000, so that statistically these figures are misleading.) Even British census figures are misleading, as really old people take a not unnatural pride in overstating their ages, for how else could the relative deficiency in persons aged 85 to 90 as compared with those over that age be explained in the 1911 census (King)? Working on the 1931 census figures, *not more* than 3.91 persons per million are centenarians, and it will be noted that this figure corresponds to 5.03 and 3.055 in 1891 and 1911 respectively, thus reflecting an increased accuracy in the census.

As regards increase in expectation of life as an assessment of longevity, it should be noted that, whilst expectation of life in England and Wales has increased by 15.7 years (17.73 in the case of females) for males between 1854 and 1922 *at birth*, this is mainly reflected in decreased infant mortality, the standardized death rates falling by only 14% for ages 85 upwards between 1841–50 and 1931–5, as against an overall fall of 55.6%. This means only an increase of months after the age of 40. The English figures also confirm throughout the "general experience that females have a longer duration of life than males," the standardized death rates being lower at all ages. This being so, it is rather dangerous to assess longevity in different countries on expectation-of-life figures. The table by Pearl (1930), based on percentages of population over 50 years of age, puts British India third for males (19.2%) but twenty-first for females (12.4%), the figures for England and Wales being 18.4% and 19.6% respectively. To some extent, therefore, this corroborates the poor prospect of female longevity in India.

It appears definite that the main factor in longevity is hereditary (Rush, 1849; Pearl, 1934); but it is unknown how this is transmitted. Environment may play some part, and formerly it was noted that rural life was more conducive to longevity; but the gulf has largely narrowed, and figures from the *Statistical Review* for 1938 were much the same as each other. Nevertheless, one would not expect the figures in Death Valley, California, to be so propitious as those for more amenable climes. Serious illness, if complete recovery occurs, does not appear to be a bar to longevity (Humphrey, 1889). Nearly all centenarians have been married, sometimes more than once, but what this means is doubtful except that it might be said that the long-livers enabled their natural instincts play and so led happy and contented lives. Similarly the contentment of tobacco and alcohol *in moderation* may lead to longevity (Pearl, 1928, 1938). Occupation is said to be a factor, as in the exposure of doctors to worry and infection, but Drinkwater found the average age of 2,113 eminent doctors eight years higher than the average age of the adult male population over 21; however, there are so many factors operative in a comparison of this nature that it is difficult to draw conclusions withstanding statistical criticism.

To sum up, therefore, we must hesitate before accepting extreme figures of alleged old age. There are plenty of these, and I, personally, collected records of 567 of them from various sources in Northumberland, Durham, and Yorkshire. Like Parr, they ranged up to 148 and lacked satisfactory confirmation. Patrick Wian, for example, vicar of Lesbury, lived to over 120, but there is no memorial or other records in his parish church, although he should have been buried in the chancel (*Monthly Chronicle*, 1887). Their stories are interesting for the alleged return of various faculties after previous deterioration; the cutting of new teeth and their various eccentricities. There is the story of Simon Ellerton, who reached 104, and often walked to London (!), carrying back on his head the most suitable stone he could find wherewith to build a house. After his house was completed he continued to do so, telling inquirers "it was to keep his hat on." But these stories would fill a book.—I am, etc.,

Seaham. A. Forster.

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Estimation of E.S.R. at Sea

Sir,—No reference has been found in the literature to the erythrocyte sedimentation rate being used at sea. It was considered that this test might prove of greater value on board ship, where *x*-ray and other laboratory facilities were absent, than it does in hospitals ashore.

Before the test could be used for patients it was necessary to ascertain whether it could be carried out with reasonable accuracy in rough seas and at speeds where engine vibration was in evidence. A small series of healthy controls were tested under three conditions: (1) while the ship was alongside prior to sailing; (2) while steaming at high speed; and (3) in rough seas. These three estimates gave very similar results for each control, all being within normal limits. The investigation was subsequently carried out on patients.

To be of use at sea elaborate apparatus to overcome vibration, etc., is not applicable, and simplicity is essential. The method utilized was the following. The ordinary three-tube Westergren stand was used with the centre tube removed. A string was attached to the deck head at one end and a loop tied at the other. The stand with the two side tubes *in situ* was suspended by passing the loop of string over the middle metal clip so as to lie *at the junction of the metal clip and the upper cross-bar* of the stand. This resulted in the tubes remaining perfectly vertical, as tested by an improvised plumb-line. If the string is attached to the cross-bar itself the weight of the tubes and stand platform (both anterior to the cross-bar) prevents the tubes remaining absolutely perpendicular.—I am, etc.,

s.s. Orontes. H. M. Royds Jones.

Medical Aspects of Prisons

Sir,—Recent correspondence (July 21, p. 100; Aug. 18, p. 242) has again thrown some doubt on the adequacy of our prisons from the medical and hygienic standpoints. The recent Home Office report on *Prisons and Borstals* (1945) is of interest in this respect. A careful study of the report does not support Dr. Sass's statement (Sept. 1, p. 301) that in our prisons "sanitary conditions are not primitive," and substantiates much of "C.438's" evidence. Certain medical aspects of the report which are highly unsatisfactory have already been noted (*Lancet*, Aug. 4, p. 145)—e.g., the prison diet, probably deficient in vitamins; the primitive forms of punishment, which include a "restricted diet" (1 lb. bread per day with water); flogging, and the removal of a prisoner's mattress for 15 days; and the frequent failure to provide psychiatric treatment, even where this has been specifically recommended by a court.

Judging by the report certain other features of our penal system call for particular criticism from the psychiatric point of view. Thus, prisoners are locked up in their cells from

5.30 p.m. until 6.30 a.m. Again, to quote the report, "a large number of prisoners are employed in no more arduous or interesting work than sewing mailbags. . . . Many indeed are in prison just because of their mental and physical unfitness to earn a living. There can be no question here of teaching a trade." One of the punishments is confinement to the cell up to 28 days; "if violent or refractory" the prisoner "may be placed in the 'special cells,' which are sound-proof and fitted with unbreakable furniture." The latter statement suggests that the authorities may be far more concerned with the care of inanimate objects than with that of the unfortunate man suffering from a "prison psychosis." It is also stated that the conditions of a prison are such that the segregation of young prisoners from adults—and among the former the separation of convicted and unconvicted, first offenders, and recidivists—cannot be satisfactorily effected; and that the conditions for girls are "even more unsuitable." Further, the allocation of young delinquents to the various types of Borstal institutions appears to be somewhat arbitrarily carried out, according to "age, development, record, and general make-up," which, even to a skilled psychiatrist, would often be meaningless and misleading criteria for evaluating intelligence, ability, personality, psychopathology, etc.

At a time when public and authorities alike are expressing growing alarm at the high incidence of juvenile delinquency it must cause some concern to the medical profession that there has yet been so little official recognition (or, indeed, cognition) of the great advances which have been made in recent years by psychiatry in the understanding, treatment, and prevention of antisocial behaviour. Such obsolete methods are still applied to delinquents as would not to-day be tolerated in the treatment of physical, or other forms of mental, illness. In spite of undoubted progress in our penal methods in the past 50 years, the authorities still remain far behind contemporary psychiatric, educational, and sociological research in the field of criminology (not to mention dietetics). This remains true even if we take into consideration admitted administrative difficulties due to the obsolete prison buildings, their wartime overcrowding and understaffing, and the (presumably) temporary suspension of the Criminal Justice Bill introduced in 1938.

An adequate official reconsideration of these matters is all the more urgently required when we recall the recent decision of the Home Office to use Dartmoor (already condemned as a prison) as a Borstal institution. This has aroused the justifiable criticism that "no surroundings could be better calculated to develop in the minds of boys and young men confined there the sense that they are . . . an inferior caste . . . bound to make war on the community when liberty gives them the chance" (*Times*, Oct. 3). It is indeed somewhat paradoxical to read Mr. Herbert Morrison's introduction to the report, stating that the methods there described "seek not to repress but to reform, not to humiliate but to restore . . . an individual's share in what is good and valuable." The medical profession, and psychiatrists in particular, may perhaps think otherwise.—I am, etc.,

Warlingham Park Hospital, Surrey. R. H. Ahrenfeldt.

Diet in Morphine Addiction

Sir,—A striking feature of the case described by Drs. Charles Comerford and B. H. Kirman in their article on pellagra in a morphine addict (July 14, p. 44) is that, in spite of the patient's having been an addict for 12 years, "no morphine was given, and after the first day no sedatives . . ." yet in eleven days she "improved considerably and put on weight." In my experience long-standing drug-addiction cases require a certain amount of the drug of addiction during the first 24 to 48 hours of treatment or replacement of the drug by other sedatives, and in no circumstances have I ever known a patient to gain weight in the first two weeks. The marked physical restlessness and mental distress occasioned by deprivation of their drug militate against any increase in weight, even when insulin is used to produce an artificial appetite.

The patient's statement that she was not taking any morphine or alcohol 16 months after her discharge from hospital would be discredited by most physicians experienced in the management of drug-addiction cases, especially in the light of her failure to co-operate in out-patient treatment so far as vitamin concentrates and adequate diet were concerned. The craving for morphine is the most urgent of all, and it is extremely unlikely that a patient who was uncooperative in any respect would resist that urge. All drug addicts lose weight and yet remain remarkably free from intercurrent conditions, which may account for the infrequent association of drug addiction with other morbid complaints.

It is not quite clear from the account whether or not the patient received any treatment during her eleven days' sojourn at St. Alfege's Hospital. Intensive vitamin therapy has been found valuable in alleviating deprivation symptoms, but alone could scarcely account for the patient's "reasonable and co-operative" attitude. I venture to suggest that she remained a drug addict throughout her treatment, and that the improvement in her condition was essentially attributable to the correction of the prolonged dietetic deficiency.

Although narcotic drug addiction is not regarded, quantitatively, as a serious problem in the United Kingdom, individual cases are most resistant to permanent cure and merit scientific attention. It is likely that addiction is the result of personality inadequacies plus the action of the drug on the tissues, the latter leading to dietetic and vitamin deficiencies. If the patient described by Comerford and Kirman was in fact "cured" of her drug addiction the value of their contribution is additionally notable on that account, and tends to confirm the advantage of combining vitamin therapy with other measures in the treatment of drug addiction.—I am, etc.,

Poona. Ellis Stungo,
Major, R.A.M.C.

Chin-Chin!

Sir,—I am glad that at last the question of overeating by our Western civilized races is now being exposed. Nearly 20 years ago an outstanding London physician found fault with my surplus weight. I asked him how I was to reduce it. He said, "Take more exercise." I do not care for violent exercise. I had occasion to take my wife to a London gynaecologist. He said she was over weight and must reduce. He said to her, "You must go on a course of thyroid." Some years later I had the good fortune to read W. J. Christie's book on *Surplus Fat and How to Reduce it*. I then discovered, to my intense surprise, that fat came from excess intake over output. My wife and I, with a little strength of will, have been able to control our weights down to reasonable proportions for the last 13 years. It has required comparatively little effort but a knowledge of the various foods which are fattening. I do not think it has required much sacrifice, because, for some unknown reason, once the weight has been reduced our metabolism seems to have altered and we are not quite so liable to put on weight, even though we do enjoy the good things of the table. When we want to reduce a little we simply eat less. When I checked back to my previous extravagances at the dining-table I found that for years I had regularly consumed, like so many of my friends, a daily allowance of 4,000 to 5,500 calories. One outstanding observation during the siege of Malta was the large number of doctors, once corpulent, who discovered that on the meagre siege ration scales their figures went right back to what they were as young medical students. It was remarkable how surprised they were that they had lost weight, and it seemed as if few realized that fat comes from food. Let any fat person count up the calories he or she has consumed regularly every day for some years back, and they will be surprised to find how much excess intake over output they have been consuming. I have never known a single person who had the necessary strength of will fail to reduce weight by eating less and eating more carefully.—I am, etc.,

"Four Chins."

Abdominal Nerve Block

Sir,—Abdominal nerve block will probably be more extensively used when the suprapubic region can be rendered insensible with greater certainty. Bishop, Carr, Anson, and Ashley (*Quarterly Bulletin, Northwestern University Medical School*, Chicago, 1943, Fall Quarter) have demonstrated the frequency of distal anastomoses between the nerves to the anterior abdominal wall. I have bilaterally dissected the thoracic XII, ilio-hypogastric, and ilio-inguinal nerves on four unpreserved subjects within 24 hours of death. In every instance the nerves had a different pattern and position, even on the two sides of the same subject.

From these observations and from practical experience I conclude that to be certain of blocking the ilio-hypogastric and ilio-inguinal nerves it is necessary to infiltrate the internal oblique muscle from 3 to 4 cm. cephalad to 2 cm. caudad to the anterior superior iliac spine in a line 2 cm. medial to the spine, and that the infiltration must be continued laterally and cephalad through the internal oblique and transversalis muscle to a distance of 3 to 4 cm. from 3 to 4 cm. cephalad to 2 to 3 cm. caudad to the iliac crest. Such an infiltration requires 20 c.cm. 1 in 200 novocain (procaine), 1 in 2000 nupercaine, or 1 in 3000 amethocaine in 0.9% saline solution.

When the correct technique has been acquired the results will be found satisfactory. Speed comes with practice.—I am, etc.,

F. R. W. Kinkead Allen.

A Coincidence?

Sir,—The following two cases should be of interest, as I can find no reference in the literature to a relationship between history of twins and dextrocardia, and these two cases suggest a genetic relationship between the two. The cases were seen within two weeks of each other and were in no way related.

Case 1.—Male aged 44. On examination the apex beat was situated on the right side of the chest in the fifth interspace, 3½ in. from the mid-line. The lungs appeared normal and liver dullness was on the left side. Clinical diagnosis of dextrocardia with reversal of viscera was made and confirmed by *x*-ray examination of the chest and barium meal. The patient gave a history that his mother and father were each one of twins.

Case 2.—Female, aged 48, with practically similar findings also confirmed by *x*-ray examination and barium meal. She gave a history that: (1) grandmother and grandfather were each one of twins; (2) sister had twins; (3) uncle had three sets of twins.

These two cases were seen during routine examinations in general practice, and on account of the rarity of the condition the possibility of further cases is remote. It is interesting to note that the man had been left-handed from birth, while the woman was normal in this respect. The relationship here between dextrocardia and twins may be purely coincidental, but it is possible that some genetic factor may be involved.—I am, etc.,

Leamington Spa. Joseph C. Joyce.

Bitterness

Sir,—I strongly suspect that the "bitterness" felt between Service and non-Service medical men is by no means one-sided. It will take all the calm reasoning of many Major Stallards to eliminate the feeling which undoubtedly exists on the side of the E.M.S. It is for us, therefore, to be tolerant and sympathetic to the resentment of those who did not go to war. The man who wanted to go and for one reason or another was not allowed to do so feels envious of his more fortunate colleagues, while the man who "dodged the column" cannot easily forgive those who come back after years of precious experience of mankind and stirring events, with the horizon of their minds widened in a way that should fortify them against any and every adversity that they may encounter in the future.

To the disgruntled Service man I would say: "Knowing what has happened (and your father would have told you exactly the same story after the last war) and if you were put back to 1939 would you have done any differently? Of course you wouldn't; because you are you and not the man next door. Well, then, don't grumble about it. Just be sorry for the man who has been deprived of these rich experiences, either by misfortune or by the narrow ambitions of his own mind."

Dr. J. M. G. Wilson (Oct. 6, p. 477) seems to be suffering from a rather pathetic inferiority complex. Any man who is not the better for his life in one of the Services must have been blind to the world in which he moved. The worst if not the only defect that one notices at the end of a Service doctor's career is a slightly reduced capacity to suffer fools gladly. No doubt even this cardinal virtue will be restored to him after a month or two of the less pressing conditions and more evolved self-discipline imposed by civilian life.

I must protest also against what Squad. Ldr. J. L. Brown has to say about "time-wasting sanitation." Most of my time has been spent in doing surgery in the forward areas of North Africa and Italy, but for three months I had to battle with the problem of keeping a meagre force of French *maquis* "in the field" (literally) and free from epidemics. This force was totally untrained in the elements of hygiene, and as short of paper as it was of soap and even water. The inculcating of a few ideas on "time-wasting sanitation" served a more useful purpose in the war effort than the exhibition of technical surgical skill on a few individuals. Moreover the emphasis in medical practice of the future is more and more in this direction.—I am, etc.,

Geoffrey E. Parker,
Millbank, S.W. Major, R.A.M.C.

An Institute of Medical Photography

Sir,—Almost twenty years of hospital clinical portrait photography of the highest quality and usefulness, carried out by my colleague Dr A. H. Turton in the skin department of the Royal Victoria and West Hants Hospital, has taught us several lessons: that the patient should be photographed promptly, when first seen, before treatment has altered appearances; that this should be done by the practitioner himself who can reach the patient wherever he is, or by the member of the hospital staff who picks out patient and posture, rather than by any layman. Delay in taking the photograph only means that likely cases will slip away, or will not be seen again in the same interesting phase of the illness. It seems unlikely that a hospital authority would interest itself, whether in the matter of money or photographer or dark-room accommodation, in what is purely a professional concern, a diagnostic refinement, well-intentioned though it might be.

Mr. H. Mandiwall suggests (Oct. 6, p. 479) that the first thing needed is a competent photographer, and he is right: this is the crux of the whole matter. The clinical photographer must be self-trained; no snapshot is good or near enough; a suitable camera with portrait lens is a necessity, and a good light with screening for background desirable. To go along with each negative and print there must be a full caption; without this the value of the picture is vastly lessened.

In time coloured photography may come into vogue; but in skin patients particularly the coloured portrait of a well-executed tinted wax cast, though taking much art and time in production, can present a life-like image. Coloured prints of static moments, or kinetograph reproductions of movements in disease, require specialized knowledge and apparatus, and cost much in time and money; in any case they have a limited use only. For demonstration purposes, though colourless, the ordinary well-taken photograph and the lantern slide prepared from the negative are of the most use to the practitioner, and the photomicrograph to the pathologist; but only if captioned amply enough.

The best service to be rendered by an institute would be as a centre for London meetings and demonstrations in clinical photography, for storage of pooled negatives and prints that over-fill shelves and cupboards; but, most important of all, to issue a monthly or quarterly photographic journal to serve a similar purpose in medical journalism as the illustrated daily does in the newspaper world; run on business lines and for members of the profession and medical libraries, exclusively. Such a journal published under the aegis of the British Medical Association—to control policy, printing, and separate sale—would serve the purpose admirably.

In the past the pictorial art has been made too little use of in medical literature and practice; nor has the profession been well served in the matter by its journals. "The pictures for the page atone"; not to take and print a good photograph is to cast a pearl away. There is a saying which has truth in it: "Better a picture than a thousand words." A photograph is the next best thing to contemplating the patient in person; besides, seeing is believing, and might spare one a little the laborious reading of wordy books and papers.—I am, etc.,

Bournemouth. S. Watson Smith.

"Reasons" for Scientific Research

Sir,—I was delighted to read the leading article on Pasteur (Sept. 29, p. 429), but two remarks need further elucidation. You ascribe the famous retort, "What is the use of a newborn baby?" to Benjamin Franklin. I have always understood it to have been uttered by Faraday when asked as to the use of his discovery of the relation between electricity and magnetism.

Your remark that there are "present-day scientists who would restrict scientific research to subjects of 'social value'" is also in need of some explaining. Who are these scientists and what is meant by "social value"? Surely all research is of value to human society, with the exception of certain researches conducted at Belsen and Buchenwald. When one discusses the value of research it is important to remember that research satisfies many values and needs, and that it is conducted for many purposes and reasons. I know of only two theories on the reasons for scientific research. One theory states that it is done solely to satisfy the curiosity of research workers and presumably those who finance them. The other states that research is of two kinds: practical and theoretical. The former is applied to problems arising out of the current practice of society; the latter kind of research is applied to the theoretical problems arising out of the practical problems and out of previous theoretical problems. Since the latter theory explains not only "why" research is done but also "what" research is done, it should be possible to decide between these theories by practical investigation. After all, human curiosity, being innate, is always the same.

I would be delighted to hear an explanation of the fact that we can spend £5,000,000,000 on the atomic bomb, while there is not even £1,000,000 a year for medical research—in terms of human curiosity and a disinterested passion for truth.—I am, etc.,

M. Hamilton, Fl. Lieut.

Press Publicity

Sir,—It is rather a fortunate coincidence that concurrent with the letters from Sir Adolphe Abrahams and Mr. John Langdon-Davies on press publicity (Sept. 29, p. 444) appears a suggestion in the *World's Press News* by Mr. W. E. Dick, the editor of *Discovery*, that there should be formed a Guild of Science Writers. He suggests that membership of the guild would require the writer to hold some scientific qualification, a token to both the newspaper and the scientific worlds of the individual writer's competence to handle scientific subjects.

As a writer for many years on medical subjects I welcome both the suggestion of Mr. Dick and the letters of Sir Adolphe Abrahams and Mr. Langdon-Davies, especially the knowledgeable remarks of the latter. The trouble is that the average journalist is practically entirely ignorant of medical knowledge; indeed he often knows less than the young first-aider. He knows nothing of medical history; Harvey to him is probably a boxing exponent; he cannot distinguish between the sulphonamides and sulphanilamide and lumps them all under M & B. The result is that when he has to cover a medical story he cannot meet the doctor or surgeon on his own ground or talk the same language, and so chooses the sensational angle from scraps that he can understand to hide his lack of knowledge. Obviously the cure for this is not the responsibility of the medical profession; it is for editors and newspaper proprietors to see that a medical or scientific journalist is on their staff or at call to cover such stories.

Mr. Langdon-Davies's remark about the voluntary hospitals and publicity is much to the point. Where voluntary hospitals issue news items it is usually done by an appeals secretary, who is very seldom a trained journalist, with the result that many a genuine story of wide appeal is overlooked or badly handled—the loss being that of the hospital concerned and the voluntary system. The solution here is for every voluntary hospital to have a journalist as its press officer, not necessarily in a paid capacity, though any hospital that paid a good journalist a small retaining fee would repay itself many times over in the course of a year.—I am, etc.,

Fleet Street, E.C.4. Norman K. Harrison.

Humanitarianism and the European Situation

Sir,—I have read with interest the letter from Lieut.-Col. Eric Townsend (Sept. 29, p. 446) regarding the present position in Europe, and I think that his suggestion about the care of European children is an excellent one, and one in which I, for my part, would be glad to assist, both as regards taking such a child and in any other way possible.—I am, etc.,

D. F. McCarthy,
Castlebar, Co. Mayo. County Medical Officer of Health.

Sir,—May I thank Lieut. Col. Townsend for writing, and you for publishing, his letter? I hope it will be the means of stimulating into action many who share his concern. It has had that effect on me, and I write to say that I will gladly take two children under the age of, say 10, as he suggests, for the period of one year, and I should prefer two German or Austrian children. I will also gladly take part in any committee or administrative work that might be necessary to give practical effect to the scheme.

I appreciate the difficulties in the way and quite see in advance arguments which may be used about the shortage of transport, the dangers from a psychological point of view of taking children away from their parents, etc. I would only suggest that there are unfortunately numberless children who have already lost their parents and their homes in Germany and elsewhere, and that it is to these children and others that we must look to safeguard the future peace of the world. Apart from the opportunity of saving them from the threat of death this coming winter, there would be the constructive opportunity of ensuring that they will be able to make the best possible contribution in the future.

As to transport, when it was a question of saving our own folk from Dunkirk we laughed at difficulties and they ceased to exist. We have only to care equally in this present desperate situation for the equivalent of the little ships and the individual homes to overcome the difficulties once more. Since Col. Townsend said that he was leaving for the Continent and had to leave the follow-up of his idea to someone else, so great is my own concern that if no one else takes the matter up may I ask that any others of your readers who are prepared to help should get into touch with me?—I am, etc.,

12, York Road, Harrogate. Kathleen Rutherford.

Alien Doctors

Sir,—There is little doubt that most of your readers have been distressed by the recent letters vilifying alien doctors. It is, I hope, not priggishness that prompts me to put in a word on the other side; certainly it seems only fair play that this should occasionally be done. Further, repetition in print does have an effect on the reader, and the effect in this case is one that promises release of nastiness.

If we are a profession of gentlemen (otherwise we are surely not a profession) then we are ashamed of these lapses into bad manners. If we still have any British courage then we fear no competition, and even look forward to a test that may be as stimulating as it should be valuable to us and the community. If we are a nation of calculating shopkeepers then we recall the profit to British medicine from the work done here by those with foreign names.

It was Rome's proud boast to be a city where no man is an alien save the barbarian and the slave. Some 800 years before Sidonius made this claim, Hippocrates said the physician "must be a gentleman in character, and being this he must be grave and kind to all."—I am, etc.,

A. C. Lendrum.

Sir,—Capt. John Nesfield (Oct. 6, p. 478), is afraid he will be out of a job when he gets back. The natural reaction is to find an outlet for this, and the most convenient scapegoat is the Jew, the favourite one in all countries, unfortunately, and in all ages. (What a wonderful role the Jews have, and why is this correspondence about alien doctors when what is meant is Jewish refugees, as most of them are Jewish?) This fear exists in spite of there being an acute shortage of doctors here, and even if all were released there would still not be enough to man the new health scheme. As to numbers, Capt. Nesfield knows as much as I do, which isn't much. But I still believe in the kindness of the average Briton. If the numbers prove to be small (and there is at least as much reason to suppose this as to accept the wildly exaggerated statements of Capt. Nesfield), then I hope that Christian conscience and innate British decency will allow them to remain. And in spite of the fact that Irishmen volunteered during the war it still remains true that Eire was neutral throughout and that Jews as a people lost more proportionately than anyone else in the war, not excluding Russia.—I am, etc.,

Loxwood, Sussex. J. Vine.

Sir,—In spite of the many letters which have appeared in the *Journal* during the past year or so on the subject of alien doctors, I have failed to find a single remark with regard to the attitude of the British public towards these foreigners. Surely the people whose health has been entrusted to the alien doctors should have a say in the matter. The fact, as stated by Capt. Nesfield, that a very large number of them "are entrenched in and around Harley Street" seems to prove that they are more liked by their British patients than by their British colleagues, or shall I say they are disliked by their colleagues for this very reason?

I wonder whether Capt. Nesfield has taken the trouble to find out for himself the exact number of alien doctors serving in the Forces to call it disproportionate. I am one of those who volunteered early in the war and was enlisted in the Pioneer Corps. Building Nissen huts, guarding petrol dumps, and the like was our service until, in 1941, we were given an opportunity of medical employment as civilians and released from the Army. If the Government had wanted to use us as medical officers they could have directed us accordingly. Let us be quite frank. Is the "great anxiety felt by members of the profession over-seas about our presence in the U.K." solely due to our professional inefficiency, and is the demand for us to leave this country essential for the well-being of the population which we tried to serve best during the war? If not, what then is the reason for the great anxiety?

I am quite aware, together with some of the "strange importations" as we were once referred to, that we shall be made superfluous when most of the British Service doctors will have been released. But I should have expected at least a more academic approach to the problem by some of our British colleagues, even though we are only temporary members of this noble profession.—I am, etc.,

Macclesfield. M. Tannenbaum, M.D.Graz.

Sir,—Capt. Nesfield has complained of alien doctors "entrenched in and around Harley Street and all over London," and says that of these a disproportionately small number have featured in the Services during the war. Capt. Nesfield overlooks the fact that only a small number of these doctors could have joined up, as only a small number of the applications for naturalization had been granted. The naturalized doctors who were fit and of military age have joined the Services. Capt. Nesfield wants the alien doctors to be turned out. I wonder if he has ever spent a thought on the question as to where they should go. He will know that most of them are of Jewish extraction and that their parents, relatives, or friends have been slaughtered in Germany. How can they live or practise there? Palestine, the land promised to them by the Balfour Declaration as a National Home, is now more closely and heavily guarded than ever against their entry.

After obtaining a British qualification these doctors have built up their practice, facing difficulties and handicaps quite unknown to their British colleagues. A large percentage of their patients are refugees, who have been attended by them before they were driven out by the Nazis. The rights of those who have fought for this country must be recognized. These rights are not endangered by the presence of a few alien doctors in the Harley Street district. These Jewish doctors are not "entrenched" here like a hostile battalion, but long to become British and to work together with their British colleagues.—I am, etc.,

Ealing, W.5. H. Lytton.

⁂ This correspondence is now closed.—Ed., *B.M.J.*

Nutritional Macrocytic Anaemia

Sir,—In the leading article in which the pathogenesis of nutritional macrocytic anaemia is discussed (Oct. 13, p. 501), you refer to the work of Moore and his colleagues showing that the macrocytic anaemia of pellagrins is apparently due to lack of an extrinsic factor normally supplied by dietary protein. It may therefore be of interest to your readers to know that recently we have found that rats on a diet of methionine develop a macrocytic anaemia characterized by changes in the peripheral blood and in the bone marrow similar to those in human nutritional macrocytic anaemia (Glynn, Himsworth, and Neuberger, *Brit. J. exp. Path.*; in press). The development of this anaemia is not prevented by large supplements of cystine or of iron.—We are, etc.,

L. E. Glynn,
H. P. Himsworth,
University College Hospital Medical School, W.C.1.
A. Neuberger,
National Institute for Medical Research, N.W.3.

Obituary

R. CUNYNGHAM BROWN, C.B.E., M.D.

We regret to announce that Dr. R. Cunyngham Brown, late Commissioner of the Board of Control for England and Wales, died on Oct. 7 in retirement at Lymington, Hants.

Robert Cunyngham Brown was born in 1867, second son of the Rev. Robert Brown, of Paisley. He was educated at the Universities of Glasgow, Durham, and Frankfurt, graduating M.B., B.S. of Durham in 1890, and M.D. in 1898. After holding several resident hospital posts and three years in general practice, he worked under Carl Weigert in his neuropathological laboratory at Frankfurt a.M. This was followed by a year and a half at the National Hospital for the Paralysed and Epileptic, London, and a period as pathologist to the County Asylum, Chester. In 1899 Cunyngham Brown entered the Prison Service as deputy medical officer, and twelve years later was transferred to Scotland as Deputy Commissioner in Lunacy. In 1915 he was seconded to the R.A.M.C. with the temporary rank of major, and held the post of officer-in-charge of Strongburn-Woodside Military Hospital, Glasgow; he then went over-seas for service in Macedonia with the 37th British Hospital attached to the Serbian Army and as mental specialist to the Salonika Command. He was recalled to England and lent to the Ministry of National Service, and in 1919 was officially transferred to the Ministry of Pensions as Deputy Director-General of Medical Services, retiring in 1925. For the next six years he was a Commissioner at the Board of Control. His services in the war of 1914–18 were recognized by decorations from the Portuguese and Serbian Governments, and he was mentioned in dispatches.

Cunyngham Brown was an able and fluent writer, and everything he wrote or said or did bore the mark of enthusiasm and good will. He was joint author of a paper on diffuse encephalitis in *Brain* in 1892, wrote two clinical papers for the *Lancet*, and an article on the boarding-out of the insane in private dwellings for the *Journal of Mental Science*; he also prepared a report on the family care of the insane poor for the Royal Commission on the Care and Control of the Feeble-minded. He was a valued contributor to these columns for some years, and his occasional visits to the editorial office made one feel that a breath of genial sea air had come to London.

Dr. Alfred Cox writes:

Cunyngham Brown has been a friend of mine for nearly 60 years, though we met rarely. He was fellow student of mine at Newcastle-upon-Tyne and one of the most popular men in college. He had many advantages—he was a son of the manse, he had a good brain, a handsome and imposing presence, and a sweetness and generosity of disposition which characterized him all his life. In spite of the important official positions he held, always with credit and distinction, Brown was never much in the limelight. He went about the world a good deal on official missions and generally turned up at B.M.A. headquarters to report himself to me and the Editor. He was a favourite with everybody who knew him, and he had the happy family life he deserved until two of his sons failed to get away from Malaya when the Japs invaded it. I had heard nothing of him since I was told that he and his wife were going East to look for them. I hope he was successful. His heart was as big as his body, and that is saying much.

K. W. M. writes:

Robert Cunyngham Brown numbered Dr. John Brown of *Rab and his Friends* among his forebears, and on his mother's side was a Shetlander. After a medical course in the Universities of Durham and Glasgow he went to Frankfort to study neurology, and on returning to Great Britain was appointed a clinical assistant at the Queen's Square Hospital, where he made a special study of tabes dorsalis. He went then into the Prison Medical Service, and in more than one institution was responsible for improvements in the treatment of inmates, more particularly in the provision of reasonable occupation and opportunities for education. His work in this respect left its mark on the whole prison service. He left H.M. Prison, Birmingham, in 1912 to become Deputy Commissioner in Lunacy for Scotland.

On the outbreak of war in 1914 he applied for military service, and was put in charge of Woodside and Springburn Military Hospitals, Glasgow. Thence he went in May, 1916, as captain, R.A.M.C., to Macedonia with the 37th General Hospital attached to the 1st Serbian Army; and after acting later as consultant in mental disease to the Salonika Command was recalled in 1918 to join the staff of the Ministry of National Service. He was transferred in this year to the Ministry of Pensions, where he filled the office of Deputy Director-General of Medical Services. His experience as a civil servant stood him in good stead in this important post, and it was due to his advice on policy that the system of Pensions Boards and other complicated machinery for dealing fairly with the returned soldier were set up. Ill-health traceable to severe dysentery in Macedonia compelled his retirement from the Ministry of Pensions in 1925, but he surprised his friends by a complete recovery, and was appointed a Commissioner on the Board of Control for England and Wales in 1927. He served in this office until his final retirement in 1933.

During the earlier part of his professional career he published several papers of recognized importance on neurological subjects; later he did much reviewing and article-writing for medical journals, particularly for the *British Medical Journal*, with whose late Editor, Sir Dawson Williams, he enjoyed a close friendship. In the various services to which he was attached—the Prison Medical Service, the Ministry of Pensions, and on the Board of Control—his influence was great and abiding, owing first to a far-reaching intelligence which enabled him to see the implications of problems, and particularly their implications for persons—for the prisoner, the pensioner, and the mentally afflicted—but above all to the complete integrity of his character. As to the latter, it is difficult to speak plainly. The more intimate his friends, the more they came to grasp his complete selflessness in every relationship into which he was brought by his work and by the other occupations of every day. He was repaid by the deep affection of many, the only coin which he valued, though it is certain that he never counted what was given him. During the last year he had to bear the affliction of almost total blindness from glaucoma, and a few days before his death he heard of that of his second son on the Bankok–Moulmein railway in 1943; but almost at the same time he also heard of the safety of his third son in Singapore, whose fate had been unknown since February, 1942. His wife, a daughter, and his third son survive him. A distinguished public servant, a great doctor, and a splendid friend.

A. S. writes:

The words "a great gentleman" are not lightly to be used, but none who knew "C. B." would question his possession of all that they imply. Tall, handsome, debonair, his physical presence impressed, whilst his voice and greeting showed an immediate personal interest, whoever you might be. This initial charm did not fade as one came to know him better; it was a true expression of the man. He could indeed be sharp and peremptory if need be; he could be unreasonable or inconsequential, but he was never small-minded or self-seeking. He believed the best of his fellow-men, and evoked the best from them.

As Deputy to the Director-General of Medical Services of the Ministry of Pensions, Sir Lisle Webb (whose death has strangely occurred on the same day), he was a loyal, strong support through the difficulties of the early post-war years, and his wide experience of mental and allied diseases was invaluable in solving many clinical and administrative problems. By his colleagues, medical and lay, he was beloved. An endearing trait was an absent-mindedness which lost him countless umbrellas, and once, it is said, while visiting an office at Northampton he suddenly remembered it was Southampton to which he had set out.

For health reasons, fortunately temporary, he retired from the Ministry after only six years' service; but, though the loss was great, his influence remained. During the late war he returned as a specialist on medical boards; as keen, as energetic, as courteous as ever, bearing heavy domestic anxieties and sorrows with a smiling fortitude.

JOHN WOOD, M.B., Ch.B., D.T.M.

The sudden, unexpected death of Dr. John Wood of Bournemouth has brought much sorrow to all who knew him as physician and friend. Born in Aberdeen in 1890, he was educated at Gordon's College there, afterwards at the University, where in 1912 he graduated in medicine. From the first his intention had been to educate himself for work in the foreign mission field. With this end in view, immediately on qualifying he became house-surgeon at the Worcester Royal Infirmary; later he proceeded to take the D.T.M. at Liverpool (1915) in preparation for medical missionary work under the aegis of the Church of Scotland. After ordination he was directed to Calabar, Southern Nigeria, West Africa, for duty and in charge of the Mary Slessor Hospital at Ztu on the Cross River and of eleven widely scattered mission stations based on the hospital. After some time there he was transferred to a newly built hospital and mission station at Uburu, where he continued to do valuable pioneer work. Being young, keen, active, and conscientious, John Wood speedily mastered the local dialects and made his work indispensable; he was held in high esteem by the natives among whom he ministered. In the end his health and his wife's health suffered so severely by reason of the death-dealing environment in which they lived and worked, and by the poor sustenance that the country afforded, that both were ordered home for good.

John Wood, on his return, settled in practice at Wigan, being appointed assistant surgeon to Wigan Royal Infirmary and medical officer and vaccinator to Wigan Union. After five strenuous years, for health reasons, he relinquished practice there and settled in Bournemouth, where he continued to live and work for his remaining years; by his gentleness, his sympathetic kindness, and his conscientiousness endearing himself to all who came into contact with him. It was the divine side in John Wood that brought him of his own free will to sacrifice himself for others by accepting missionary work, and in the parasite-infested wilds of West Africa. In all he did he seemed to be guided by an abiding faith to support in him a matchless fortitude and determination in a nature both kind and gentle. Constantly, in all manner of ways, he strove to do good and to help and encourage others, with never a thought of self. There were in him all the fine qualities of the stock from which he came: all the virtues went to build in him that nobility of character we knew to be his. Near the surface, often breaking out unexpectedly, lay a pawky, dry humour that was characteristically Scottish. He possessed the quiet, tranquil mind along with a becoming humility, owning all the attractive attributes with which Newman endowed the true gentleman. Of all men, John Wood could claim to say, "I have fought the good fight, I have finished the course, I have kept the faith." Much sympathy will be felt for his widow and five children in their grievous loss. S. W. S.

We regret to announce that Dr. Robert Edward Burnet Yelf, formerly of Moreton-in-Marsh, Gloucestershire, died in hospital at Chichester on Sept. 25. Born at Moreton on May 12, 1866, the son of a medical man, he was educated at Chipping Campden Grammar School and the University of Edinburgh, where he graduated M.B., C.M. in 1888. Dr. Yelf was for many years surgeon to the Moreton Cottage Hospital and district M.O. for the Shipston-on-Stour Union, and M.O.H. for Stow-on-the-Wold Rural District Council. During part of the war of 1914–18 he served as temporary lieutenant, R.A.M.C. He joined the B.M.A. immediately after graduation, was chairman of the Oxford Division and president of the Oxford and Reading Branch in 1908, and was made an Associate Member of the Oxford Division in 1931 when he left Moreton-in-Marsh to live at Selsey. In Moreton and for a wide radius around he had identified himself with every aspect of local life. On his departure a presentation, subscribed to by 730 people, was made to Dr. and Mrs. Yelf to mark the affection and esteem in which they were held. His father, whom he joined in practice in 1888 and succeeded in 1895, was one of the founders of the cottage hospital. In his younger days Dr. R. E. B. Yelf was a keen sportsman and captain of the local cricket and football teams. He had been for many years honorary secretary of the Moreton working men's club, chairman of the parish council, and at one time captain of the fire brigade. After leaving the Cotswolds for Selsey he became an active member of the bowling and tennis club, and did much to maintain the greens and courts when the regular staff were away. During the war, though retired from active practice, Dr. Yelf took on a great deal of medical work once more in order to replace the younger medical men who had joined the Forces, and up to the time of the short illness which preceded his death he was working in the village among his numerous patients, with a cheery smile and a word for everyone he passed on the road.

The Services

Surg. Capt. F. L. Cassidi, V.D., R.N.V.R., has been appointed an Honorary Surgeon to the King.

Surg. Cmdrs. E. C. Johnson, A. L. Gunn, and G. P. McCullagh have been awarded the R.N.V.R. Officers' Decoration.

Acting Group Capt. Sir Louis L. Greig, K.B.E., C.V.O., R.A.F., has been appointed an Officer of the Legion of Merit by the President of the U.S.A.

Acting Surg. Lieut.-Cmdr. J. S. Guest, R.A.N.R., has been appointed O.B.E. (Military Division) for great skill and devotion to duty as Principal Medical Officer of H.M.A.S. *Westralia* during the landing on Tarakan Island on May 1.

Surg. Lieut.-Cmdr. W. H. Milroy, R.A.N.R., has been mentioned in dispatches for skilful organization and for courage and devotion to duty in the operations covering the assault landing of 2/48th Assault Battalion, 9th Australian Division, at Tarakan on May 1, while serving in one of H.M. Australian ships.

The following appointments, awards, and mentions in dispatches have been announced in recognition of gallant and distinguished services in the field:

M.B.E. (Military Division).—Lieut.-Col. (Acting) W. E. A. Buchanan, T.D., Lieut.-Col. (Temp.) J. C. Mackay, M.C., T.D., Major W. L. Kinnear, and Major (Acting) J. D. Finlayson, R.A.M.C.

M.C.—Capt. J. Burns and Lieuts. R. Mackay, D. J. Macrae, F. W. M. Plant, and G. E. Stoker, R.A.M.C.

Mentioned in Dispatches.—Major (Temp.) C. H. Imrie, Capt. J. Morrissey (killed in action), Capt. (Temp.) A. Taylor-Smith, and Lieut. G. H. Darke, R.A.M.C.

Freed in the Far East.—Lieut.-Cols. H. C. Benson and C. W. Maisey, Major P. B. Hanbury, Capts. A. Barber, G. Blair, A. W. Frankland, D. W. F. Gotla, and V. W. J. Hetreed, R.A.M.C.; Major S. C. Colbeck, I.M.S.; Surg. Lieut. D. R. Syred, R.N.V.R.; Fl. Lieut. R. F. Braithwaite, R.A.F.V.R.

Repatriated.—Col. Julian Taylor, A.M.S.

CASUALTIES IN THE MEDICAL SERVICES

Killed.—Capt. Jacob Hyman Joseph, R.A.M.C.

Died.—Major Campbell William Kidson and War Subs. Capt. Denis John Burgess, R.A.M.C.

Died at sea while on active service.—Major Vivian Roy Clifton, R.A.M.C.

Wounded.—War Subs. Capts. J. G. A. Gilruth and J. A. Perpoli, M.C., and Temp. Lieut.-Col. J. M. Scott, R.A.M.C.

Universities and Colleges

UNIVERSITY OF CAMBRIDGE

The *Cambridge University Reporter* dated Oct. 9 contains a copy of the letter from the Home Office informing the Vice-Chancellor that the King by Letters Patent under the Great Seal bearing date Sept. 1 appointed Sir Lionel E. H. Whitby, C.V.O., M.D., F.R.C.P., to be Regius Professor of Physic in the University. The *Reporter* also prints the full text of the address to the Senate given in Congregation on Oct. 1 by Dr. T. S. Hele, Master of Emmanuel College, on resigning the office of Vice-Chancellor. Speaking of medical events of the past year Dr. Hele recalled that through the kind offices of the Medical Research Council a Chair of Experimental Medicine had been established for Dr. R. A. McCance, whose department is receiving further assistance from the same source. Addenbrooke's Hospital and the University were collaborating closely in the development of the School of Clinical Research. In the Shire Hall under Dr. Robert Ellis, chairman of the Cambridgeshire County Council, the future of the medical services of the area had been discussed by representatives of local authorities and hospitals, with representatives of the University present on these occasions. For the next five years the difficulties arising out of the enforced use of temporary and inadequate accommodation for the hospital services of the area would delay the full development of the School and of the ancillary services which the University would help to provide for the maintenance of health and for the diagnosis and treatment of disease. "Our guests—should I say paying guests?—from other Universities with one exception have departed, taking with them our very best wishes for the re-establishment of their work at home, and with grateful acknowledgment of the mutual help and inspiration which their presence in Cambridge during six critical years has engendered. St. Bartholomew's Hospital Medical School will return to their premises in Charterhouse Square when sufficient repairs have been completed."

Titles of the degrees of M.B., B.Chir. were conferred by diploma during the months of July, August, and September, 1945, on J. S. Keilin and C. N. Smith, of Girton College, and on I. M. S. Chappel, P. J. Coope, M. E. P. Hele, L. A. Norris, H. M. Russell, J. Whitham, and G. B. Wrong, of Newnham College.

Names of candidates for the M.Chir. examination should be sent to the Registrary by Jan. 1, 1946; the examination begins on Feb. 19.

ROYAL COLLEGE OF OBSTETRICIANS AND GYNAECOLOGISTS

At a meeting of the Council, held on Oct. 6 in the College House, with the President, Mr. Eardley Holland, in the chair, the following were admitted to the Membership: T. S. M. Barnett, A. Buchan, Daphne W. C. Chun, Aileen M. Dickins, E. D. Y. Grasby, M. W. Hemans, Ursula M. Lister, Agnes M. D. Milne, Abd El-S. M. El-Minabbawy, K. Mitra, Joan P. Moignard, P. Raj, W. B. Shute, Beatrice M. Smyth, J. M. Thomson.

Medical Notes in Parliament

Industrial Injuries Insurance

Mr. James Griffiths moved the Second Reading of the National Insurance (Industrial Injuries) Bill. He said that of the four measures needed to give effect to the White Paper scheme for a comprehensive system of social insurance two had passed into law. The first set up the Ministry of National Insurance. The second was the Family Allowances Act. This Bill was far more involved than either. The fourth would be even more complicated than the third, the present Bill. The broad principles on which the scheme of industrial injuries insurance was based had been outlined in the White Paper on Social Insurance. In accordance with this the Bill was to make compensation for industrial injuries a part of the country's social services and to make these injuries a matter for settlement on the basis of fixed benefits to be paid for a fixed premium. The Bill would be the end of "compounding." All persons employed in Great Britain under any contract of service or apprenticeship would be insurable without any income limit. Certain other people were being brought in—for example, members of lifeboat crews, employees of any local or public authority, taxi drivers, and members of rescue and fire parties in mines and works. Seamen and other persons employed for the purpose of the vessel or of the cargo or of passengers on British and British-owned ships, and civilian airmen employed on British aircraft were covered. Criticisms of the present Acts on the ground that the onus of proof always rested on the worker had been met by addition of a proviso that, for the purposes of this Act, an accident arising in the course of an insured person's employment should be deemed, in the absence of evidence to the contrary, also to have arisen out of that employment.

Expounding the details of the Bill, Mr. Griffiths said that, where at the end of an injury benefit period an injured man still suffered from disablement which was likely to be permanent or was substantial, he would be assessed for pension. This would be awarded in proportion to his loss of health, strength, and power to enjoy life. It would be awarded irrespective of his earnings. The disabilities which were to be regarded as attracting a pension of 100% were to be prescribed later. If a pensioner had to enter hospital for further treatment on account of his injury he would, so long as he was in hospital, receive pension at the full 100% rate irrespective of his normal assessment, but subject to a reduction of 10s. a week in respect of home savings. To-day a man could not draw sickness benefit and workman's compensation for the same injury. The Government had decided to modify that. Under its scheme a pensioner who was unfit for work would be entitled to sickness benefit even when his unfitness was due to his injury, subject to the provision that, if his pension was at the 100% rate, sickness benefit would be at half rate until he had paid ten contributions since the date of his accident. All benefit rates were on an equality for both men and women. As this was a State system of insurance, claims would be decided by officers appointed by the Minister to be insurance officers. Independent local appeal tribunals would hear and decide appeals from the insurance officers' decisions. There would be a final appeal to a Commissioner who would be a legal expert appointed by the Crown. The Bill contained a provision for financial aid to be given to persons engaged on research into the causes and prevention of industrial accidents and disease and for the Minister himself to employ persons to carry out such research. There was also a provision enabling the Minister to provide artificial limbs and other appliances to pensioners either free or at reduced rates. There was to be appointed an Industrial Injuries Advisory Council to which he would ask employers' and workers' organizations to nominate members. To the injured man the cash payments were not the most important thing: The most important thing was that he should be fitted for a new life. That was where the old system failed completely.

DEBATE ON THE BILL

Mr. OSBERT PEAKE said one of the great merits of the new scheme was that by a new method of assessing disability it provided a firm basis of supplementary schemes. There must be a close link with the new health and hospital services of the Ministry of Health and with the rehabilitating and retraining services of the Ministry of Labour. Miss BACON hoped the equipment provided would include invalid chairs and spinal carriages. The cost of these was beyond the capacity of injured workmen to pay. Mr. CLEMENT DAVIES spoke of the conditions in the quarrying industry of North Wales in galleries where the candle would not remain alight when it was standing up. The men worked in such conditions of dust that they could not be seen by men within two yards of them. Yet that type of workman was outside the scope of the Workmen's Compensation Acts. He asked why the small employer who had only one employee was outside the scope of the Act. With a broader measure there would be no legal question but only a medical question, with the medical man saying that a person was fit or unfit and what assistance he would require to rehabilitate himself.

Mr. CLITHEROW said that he himself was a final-year medical student. He asked the Minister to insert words so that the Bill should include health workers who contracted tuberculosis through being directly in contact with tuberculous patients in the course of their normal duties, or within a reasonable time afterwards. He suggested this because of his own observations both as a medical student and as a member of the Liverpool City Council sitting on the Hospitals' Committee. Nurses and health workers and the medical profession themselves had a thorough medical examination before they started. At their first start they were far healthier than the average. He gave instances of medical students who had fallen ill with tuberculosis. His observations were that one in every fifty medical students went down with tuberculosis during the three years of clinical work. It was distressing to see the number of nurses whose names appeared before the Liverpool Corporation Hospitals' Committee as having gone down with colds, and eventually with tuberculosis. The committee paid them a full salary for about three months, half salary for a further three months, and then cast them off like an old glove. Counsel's opinion had been that tuberculosis was not an industrial disease. Even if a girl could prove that a patient with an active lesion coughed in her face, and that pulmonary tuberculosis could be attributed to it, that was deemed to be an accident. He hoped that in the Committee stage an amendment would be made to include these girls.

Dr. STEPHEN TAYLOR said the Bill got rid of the endless legal and medical wrangles which had wasted so much money, but it perpetuated the distinction between industrial injury and non-industrial injury and disease. He hoped the Minister would assure the House that all nurses would be covered in the Bill, particularly those working on private nursing. With every safeguard the nurse was liable to septic fingers, kidney infections, and septicaemia. Regular x-ray tests, Mantoux tests, and blood counts were not done. Admittedly, in good sanatoria the nurses were not more liable to tuberculosis than the rest of the community, but he was pretty sure that taking the nursing profession as a whole they were more liable. The ills of nursing were not in the Schedule of Industrial Diseases. In the past, trade unions had to waste their energy getting diseases scheduled when that energy should have been used in getting rid of the diseases. Research workers spent their time proving a connexion between the disease and the occupation instead of trying to get rid of the disease. The Bill gave the Minister power to promote and assist research into the causes, incidence, and methods of prevention of industrial disease. He hoped that to this the Minister would add research into the treatment of industrial accidents and diseases, because this treatment was still far from perfect. Good work had been done in this field by the Industrial Health Research Board. He trusted the Minister would use the Board and the Medical Research Council, and would strike out on his own in the research field. He must provide his research workers generously with field workers, clerical staff, and laboratory technicians. Mental disability made up a large part of industrial disability. He hoped the Minister would generously promote research into industrial psychiatry and on the measurement of fatigue, of accident-proneness, and so on, and that he would encourage the work of those psychiatrists who had been busy in the Army. They should help the industrial neurotics over their stiles.

Mr. DAVID WILLIAMS spoke on silicosis and pneumoconiosis. This existed on a staggering scale in West Wales, where one colliery from Jan. 1 to Sept. 29, 1945, had lost 200 men—more than one in eight. Once a man was certified to be partially or totally disabled with these diseases he did not return to the mining industry, so that 20% disability in such cases caused greater hardship than 20% physical disability resulting from accident.

Dr. H. B. MORGAN said that in some workshops new organic solvents were being used upon which practically no research had been made. In some of the finest factories in Great Britain solvents were in use which the workman was forced to inhale, and which in three months would give him anaemia, from which he would never recover. He asked whether it was true that in Wales and the North-West the number of cases awaiting decision by the Silicosis Boards were two years in arrears. Was it true that the Government was doing practically nothing to train doctors for those positions?

REPLY FOR THE GOVERNMENT

Mr. LINDGREN, replying for the Government, said the Minister desired that the provision of artificial limbs and surgical appliances should include wheeled chairs, spinal carriages, and equipment necessary for sick-rooms and for the treatment of a patient whilst bed-ridden at home. Referring to the plea of Mr. Clitherow for the inclusion of nurses and health workers in regard to consumption and other diseases arising from their work in hospitals, Mr. Lindgren said there were great difficulties in making provision for health workers within workmen's compensation measures because of the incidence of the diseases with which these workers dealt, and because of lack of proof that diseases arose out of or in the course of their employment. The Minister would desire, if possible, to provide for the workers and would like to have discussions between the Ministry of Health, the Ministry of National Insurance, and those who could speak on behalf of persons engaged on such work to see whether it was possible to bring them in.

The debate was adjourned until Oct. 11, when after further discussion the Bill was read a second time and was sent to a Standing Committee.

Medical Officers in the B.L.A.

In a reply to Sir John Mellor Mr. BEVAN agreed that in August the B.L.A. had one medical officer for 409 officers and other ranks compared with one general practitioner for 2,576 civilians in the United Kingdom. He added that the civilian position could be remedied only by acceleration in the rate at which doctors were released from the Services. The Government was urgently considering to what extent this was practicable.

Compensation for Medical Practices

Mr. YORK on Oct. 11 asked the Minister of Health to state the intentions of the Government in regard to compensation for medical practices if taken over under the National Health Service. He also pressed for a general statement in regard to medical practices, in order that demobilized doctors may decide whether to purchase practices.

Mr. BEVAN said that he had this matter under immediate review. He was not yet ready to make any statement, but knew the urgency and would do so as soon as he could.

Experimental Health Centres

Mr. DUMPLETON suggested on Oct. 11 that the Minister of Health, pending the establishment of a National Health Service, should initiate experimental health centres in suitable places.

Mr. BEVAN did not think it would be practicable to make this provision in advance of the new legislation. He added he was pressing on rapidly with the preparation of the Health Services Bill, which would deal fully with the subject.

Working Conditions for Nurses

Mr. DUMPLETON asked on Oct. 11 what steps the Minister of Health proposed to take to improve the bad working conditions and hours of nurses in hospitals and institutions.

Mr. BEVAN did not accept the implication that bad working conditions for nurses in hospitals and institutions were general. Where they existed they were in large part due to the effects of the war. He was giving this matter most earnest consideration in consultation with Mr. Isaacs and with the bodies principally concerned. He hoped to make a full statement within the next few weeks.

Release of N. Ireland Doctors.—Dr. LITTLE on Oct. 11 urged the Minister of Health, in view of the shortage of doctors in Northern Ireland, to release at the earliest moment doctors who volunteered their services for the duration of the war. Mr. BEVAN replied that the question of the acceleration of the release of doctors from the Services is at present under urgent consideration.

Medical News

A meeting of the Medico-Legal Society will be held at 26, Portland Place, W., on Thursday, Oct. 25, at 8.15 p.m., when Dr. W. Norwood East will deliver his presidential address on "Society and the Criminal."

The programme for the annual meeting of the British Orthopaedic Association to be held at the Royal College of Surgeons, Lincoln's Inn Fields, on Oct. 26 and 27, includes the presidential address by Mr. St. J. D. Buxton on prevention of accident and limitation of injury, a symposium on some methods of treatment of simple extra-articular fractures of the femur, and a lecture and demonstration on clinical photography. The papers are as follows: Prof. T. P. McMurray, Thomas and his splint; Mr. C. H. Cullen, infection of gunshot wounds with actinomyces; Prof. H. J. Seddon, another island epidemic of poliomyelitis; Prof. J. Leveuf, primitive congenital subluxation of the hip; Mr. J. S. Batchelor, congenital dislocation of the hip; Mr. E. W. Bintcliffe, pollicization of the index finger for traumatic amputation of the thumb; Squad. Ldr. E. Somerville, air arthrography of the knee-joint; and Prof. H. Platt, the place of orthopaedics in medical education and in the regional hospital service. The Association will hold its annual dinner in the Hall of Lincoln's Inn on Friday, Oct. 26, at 7 p.m.

The annual general meeting of the London Association of the Medical Women's Federation will be held at B.M.A. House, Tavistock Square, W.C., on Friday, Oct. 26, at 8.30 p.m., when Dr. Beryl Harding will deliver her presidential address on "Relief Work in Greece."

The first meeting of European pharmacists since the war is being held in London next month on the invitation of the Pharmaceutical Society of Great Britain. The members of the Bureau of the Fédération Internationale Pharmaceutique who will attend are: Dr. E. Höst Madsen, Copenhagen, president; Mr. E. Saville Peck, M.A., Cambridge, vice-president; Prof. D. Van Os, Groningen, Holland, vice-president; Dr. T. Potjewijd, Winschoten, Holland, secretary; and M. C. Moyens, Brussels, assistant secretary.

Dr. Elsie Violet Crowe, F.R.C.S.Ed., has been released from internment in Japanese hands.

EPIDEMIOLOGICAL NOTES

Discussion of Table

In *England and Wales* only two diseases had totals that differed appreciably from the previous week's return—scarlet fever with 148 more notifications, and whooping-cough with 173 fewer.

A slight rise in the incidence of scarlet fever was fairly general throughout the country; the largest local rises were Yorkshire 33, and Lancashire 25. The drop in the incidence of whooping-cough was due to the experience of a few counties; the largest falls were London 38, Middlesex 34, Warwickshire 33. Although there were only 10 fewer notifications of diphtheria than in the preceding week, there were wide variations within the counties. There were fewer notifications in Lancashire by 28, and in Durham by 23, but the total for London, Middlesex, and Essex was 29 in excess of the previous week's, and reached the highest level recorded this year. The other notable increase in diphtheria was in Glamorganshire, 16.

There were 6 fewer notifications of dysentery. Relatively large local outbreaks were recorded in Dorset, Poole M.B. 18; Yorks North Riding, Middlesbrough C.B. 18; Somerset, Taunton R.D. 14. The other large returns were in London 52, Lancashire 30, Surrey 20, Essex 16, and in Suffolk 15.

In *Scotland* the chief feature of the returns was a decrease of 33 in the incidence of dysentery; this fall was general except in Glasgow, where there was a slight rise from 55 to 57. The only change in the trends of diphtheria was a rise of 7 in Glasgow.

In *Eire* the number of cases of diphtheria fell by 8, and that for whooping-cough by 26, while rises were recorded for scarlet fever 13, and measles 8. Notifications of enteritis and diarrhoea increased by 9 cases to 110, of which 84 were recorded in Dublin C.B.

In *Northern Ireland* there was a further small rise in the incidence of scarlet fever; 17 of the 42 cases were notified in Belfast C.B.

Week Ending October 6

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,683, whooping-cough 909, diphtheria 479, measles 367, acute pneumonia 377, cerebrospinal fever 38, acute poliomyelitis 29, dysentery 207, paratyphoid 11, typhoid 15.

No. 39

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended Sept. 29.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1945					1944 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever	17	1	20	—	1	39	4	18	2	2
Deaths		—	1				—	—		
Diphtheria	486	37	133	63	15	545	14	159	90	29
Deaths	6	2	—	2	—	6	1	2	2	—
Dysentery	264	52	99	1	1	351	28	145	—	—
Deaths				—	—				1	—
Encephalitis lethargica, acute	—	—	1	—	—	2	1	—	—	—
Deaths		—					—			
Erysipelas			34	10	5			40	7	5
Deaths		—					—			
Infective enteritis or diarrhoea under 2 years				110					69	
Deaths	75	6	25	17	4	63	1	24	14	6
Measles*	406	35	83	25	4	2,015	27	201	46	42
Deaths	—	—	1	—	—	—	—	—	—	—
Ophthalmia neonatorum	66	6	10	—	—	67	2	11	—	—
Deaths										
Paratyphoid fever ..	11	1	1 (B)	—	—	11	—	—	—	—
Deaths	—	—	—	—	—	1	—	—	—	—
Pneumonia, influenzal†	302	13	5	2	6	479	14	8	2	2
Deaths (from influenza)	8	—	1	—	—	9	1	2	1	—
Pneumonia, primary ..			146	12				216	20	
Deaths		11		6	4		15		7	5
Polio-encephalitis, acute	1	—				2	—			
Deaths							—			
Poliomyelitis, acute ..	40	5	1	7	2	20	1	6	4	1
Deaths		—					1			
Puerperal fever		5	15		—		2	15	—	—
Deaths							—			
Puerperal pyrexia‡ ..	124	12	14	2	—	143	4	17	—	2
Deaths		—								
Relapsing fever ..	—	—			—	—	—			—
Deaths										
Scarlet fever	1,509	113	272	27	42	1,838	39	372	41	63
Deaths	—	—	—	—	—	—	—	—	—	—
Smallpox	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Typhoid fever	15	—	1	4	—	11	1	5	6	1
Deaths	—	—	—	—	—	—	—	—	—	—
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Whooping-cough* ..	920	39	44	16	6	982	55	55	21	12
Deaths	5	1	—	—	—	8	3	2	2	—
Deaths (0-1 year) ..	343	37	67	34	14	316	26	55	36	13
Infant mortality rate (per 1,000 live births)										
Deaths (excluding stillbirths)	3,761	558	510	163	93	3,895	467	537	209	84
Annual death rate (per 1,000 persons living)			11·6	10·5	§			12·3	13·6	§
Live births	6,530	835	818	454	239	6,332	430	923	395	286
Annual rate per 1,000 persons living ..			16·4	29·3	§			18·8	25·6	§
Stillbirths	203	19	27			182	14	32		
Rate per 1,000 total births (including stillborn)								24		

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* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

‡ Includes puerperal fever for England and Wales and Eire.

§ Owing to movements of population, birth and death rates for Northern Ireland are still not available.

Letters, Notes, and Answers

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ANY QUESTIONS?

Gymnastics for Young Children

Q.—*At what age should a child undertake gymnastics at school? Is there any truth in the idea that this form of activity has a harmful effect on a young child?*

A.—Gymnastics—by which term should be understood systematic activities—adapted to the age and physical capabilities of the pupils concerned form an integral part of the physical education scheme in all types of schools. Gymnastics include free and informal movements—e.g., those of a game-like character—as well as a wide range of free-standing exercises, and exercises on selected apparatus, carried out in accordance with a predetermined pattern and designed to aid healthy growth and development. Educational gymnastics have nothing in common with the type of work performed on horizontal and parallel bars, and popularly referred to as "German gymnastics."

Gymnastics can be safely and beneficially taught to the youngest pupils, though in the early age groups they appropriately take the form largely of play movements, utilized and controlled in such a way as to add to the value and enjoyment of these movements, while at the same time training the body and mind to respond to external suggestions and stimuli. They thus lead up to the immediate and more accurate physical and mental response expected from older children. Moreover, the youngest pupils, under a suitably trained teacher, can derive pleasure and profit from such basal movements as hanging, swinging, and climbing on apparatus devised for the purpose.

Gymnastics, interpreted as described above, can have no harmful effect on young children; on the contrary, they can contribute powerfully, under competent direction, to health and happiness.

Putrefaction of Meat, Poultry, and Game

Q.—*Before the discovery of penicillin it was common knowledge that putrid cheese could be eaten with impunity. The same applies to putrid game, such as grouse and partridge, while ordinary meat or poultry could not be eaten in the same stage without danger. It has often struck me that there must be something inimical to ordinary putrefactive bacteria in the decomposition of game. What are the organisms concerned in the putrefaction of game? Has the question of its possible bactericidal or bacteriostatic effect ever been investigated?*

A.—The inquirer poses a question, but also makes statements which are not altogether accurate. Putrefaction is a complicated process due to the action of many bacteria, some of which are aerobic organisms, but the main activities are due to putrefactive anaerobes. None of these organisms is pathogenic to man, and there is no evidence that the consumption of food—whether it is meat, game, poultry, or cheese—in a state of early decomposition is harmful to man, provided no pathogenic organisms are present in addition. The putrefactive changes develop rather differently in the types of food mentioned, due partly to differences in composition, including their water content, but these changes are all of the same order and due to non-pathogenic bacteria. The suggestion made that meat is dangerous if it shows putrefactive changes is still widely believed on the basis of the old idea that food-poisoning is due to ptomaines, but the conception of ptomaine poisoning is completely exploded. (See *Journal*, Jan. 6, 1945, p. 32.)

It is true that meat which is showing even incipient decomposition changes is condemned, but this action is based on the fact that the animals which supply the meat are liable to be infected with *Salmonella* and other pathogenic bacteria associated with food-poisoning, and it is a reasonable assumption that if meat exhibits such changes it has been badly looked after and that, if pathogenic organisms were present, they would have opportunities to multiply and generally infect the meat. With game and poultry the risk is slight, but here again the *sale* of such food showing decomposition changes would not be permitted.

These considerations suggest no reason to suppose that there are any substances in game which are deterrent to bacterial growth, as all the facts are fully explainable on other grounds.

Capillary Naevus

Q.—*Is a capillary naevus due to some intra-uterine arrest of development, or is it a hereditary recessive Mendelian characteristic? If both parents have naevi, are the children likely to be free?*

A.—This is certainly not a recessive Mendelian characteristic. In fact the indications for any hereditary basis are very slight. On general principles it might be anticipated, perhaps, that a general tendency to the formation of such naevi was heritable; but it is likely that non-genetic accidents of development are much more important than any such hereditary tendency in determining the actual appearance of a port-wine mark. It has been noted that the naevus often has a segmental distribution, and it may be secondary to some abnormality of the nervous system. So far as present knowledge extends, it seems probable that the child of two affected parents would run little more risk of being similarly affected than any random unselected child in the general population.

Vitamin B in General Therapy

Q.—*Could you please give a concise account of the indications, and if possible the rationale, for vitamin B therapy, which seems to be prescribed for so many varied complaints? I am not including deficiency diseases.*

A.—Vitamins of the B group may be used rationally in treatment of conditions (as distinct from frank deficiency disease) which are known to be caused in human beings by deficiency of these vitamins. For example:

Vitamin B_1 (Aneurin).—Anorexia, constipation, tingling of hands and feet, aching muscles (especially calf muscles); changes of temperament (which may be called neurasthenic), bilateral neuritis, oedema and tachycardia without obvious cardiac lesions.

Niacine (Nicotinic Acid or Nicotinamide).—Diarrhoea, changes of temperament such as morbid anxiety or fear, stomatitis (including Vincent's infection).

Riboflavin.—Corneal vascularization. Wills has shown that a nutritional macrocytic anaemia is cured by crude liver extract or marmite, but not by the purified extrinsic or intrinsic factors, nor any of the known components of the B complex. Vitamins should be given whenever the diets used in treatment are likely to be deficient—for example, when febrile patients are given large doses of glucose.

These vitamins may be used to treat conditions which are considered to resemble those that occur in deficiencies in animals. Aneurin has been used in treatment of Wernicke's syndrome on the ground that haemorrhagic lesions in the basal ganglion and brain-stem occur in pigeons on a diet deficient in aneurin. However, Joliffe *et al.* reported a large series of cases of "nicotinic acid deficiency encephalopathy" which resembled Wernicke's syndrome in their clinical picture. Joliffe found that aneurin had no effect in these cases and that nicotinic acid caused rapid improvement.

Choline and vitamins of the B group protect animals against liver damage; hence choline and concentrates of the B group have been used in treatment of cirrhosis of the liver, and good results have been claimed. On the ground of its vasodilator action, nicotinic acid has been used in treatment of Ménière's syndrome.

There is no evidence that these vitamins will benefit patients with gastric ulcer if their diet is not inadequate. Their use for various neurological conditions is based on the belief that they have some general "protective" action on the nervous system.

Vitamins of the B group are employed extensively on the ground that they may do good and can do no harm. This may be justifiable; however, recent studies suggest that the administration of large doses of a single vitamin may provoke deficiency of another vitamin. If these vitamins are given, concentrates containing all the possible members should be used.

Variations in Pulse Rate

Q.—*A man aged 60, past history no serious illnesses other than two periods of low blood pressure which were corrected with rest and treatment. Present condition: heart clinically and electrocardiographically normal. B.P. 148/88. Pulse rate varies between 60 and 40 beats a minute. What is the reason for this, and what treatment might be tried?*

A.—Variations in the pulse rate between 40 and 60 a minute may be due to a high vagal tone—that is, presuming that the pulse rate is really the heart rate and that no beats occur at the heart which do not reach the pulse. The normal electrocardiogram has excluded complete heart-block. It is not clear whether the patient feels at his worst when the pulse is slow or quick. If vagal influence is to be got rid of, then full doses of atropine in some form should be made use of. If such variations in rate are the only abnormality to be detected in the heart, then one need not restrict activity; probably exercise would improve the patient. It would be worth while knowing whether the blood pressure varied with the rate of the heart. It might be well to try full doses of strychnine, or some stimulant of the sympathetic such as ephedrine or amphetamine.

Treatment of Eclampsia

Q.—*What is the modern treatment of eclampsia, occurring before the onset of, and during, labour?*

A.—The modern treatment of eclampsia is based largely on the views of Stroganoff. It is believed that the danger of the condition depends on the number of fits, and that external stimuli are important in the causation of fits. The treatment, therefore, consists in placing the patient in a quiet, darkened room, reducing external stimuli to the minimum, and giving sedatives to lower the sensitivity of the central nervous system. Paraldehyde is preferred as a sedative in many clinics and is given per rectum in a dose of 6 drachms, repeated in 4 hours and again in 6 hours. If the patient is restless, morphine with atropine may be given in addition, but large doses of morphine should be avoided. Expectant treatment is advised in most cases of eclampsia occurring before labour, though pregnancy should be terminated within a day or two after the fits are controlled.

When eclampsia occurs during the course of labour the membrane should be ruptured when the cervix is half dilated. When the cervix is fully dilated forceps delivery should be employed. Any obstetric abnormality should receive the appropriate treatment. Caesarean section may occasionally be the treatment of choice, especially after the fits have been controlled in a case where the child is alive and viable. Caesarean section may also be needed in cases of severe eclampsia where medical treatment fails to control the fits.

The above is only an outline of the principle of the modern treatment of eclampsia. For a more detailed answer, and for special methods of treatment, the questioner is referred to *Antenatal and Postnatal Care*, by Prof. F. J. Browne (5th edition, Churchill, London, 1944, pp. 377 *et seq.*).

Pruritus and Glycosuria

Q.—*A woman of 33 has suffered from severe pruritus vulvae for over five years. In January and April, 1945, urine examination gave +++ result for sugar. Within the last six months she has lost about 10 lb., feels nervous and shaky, easily exhausted, and has great craving for sweets and bread. Urine now free; blood-sugar-tolerance curve: fasting 83 mg., half an hour after glucose 160 mg., 1½ hours after glucose 100 mg., two hours after glucose 87 mg. (capillary blood findings). Is it likely that an undue amount of sugar is present in the tissues of the vulva and gives rise to irritation? If so, should insulin be used in small doses to assist the synthesis of glycogen in liver and muscle and to reduce the amount of sugar in the tissues? The restriction of carbohydrates in the diet is difficult because of her craving for them and the loss of weight.*

A.—This question is difficult to answer satisfactorily and some further information is needed about the diet. The sugar tolerance is normal and consequently excludes the diagnosis of diabetes mellitus. It is possible that the present diet is very low in carbohydrate and that the patient has a mild diabetes which has recovered with dietetic treatment. If so the pruritus should have disappeared, and it does not seem likely that it is in any way connected with glycosuria. There is no evidence to suggest that there is any difference between the sugar content of the vulval tissues and that of the blood. If the diet contains less than 150 grammes of carbohydrate it should be increased to 200 or 250 grammes, as the patient is losing weight. If glycosuria returns and a high blood sugar is confirmed, insulin should be given in adequate amounts. It is suggested that another cause for the pruritus should be sought.

Tenderness of Muscles

Q.—*For more than three years a patient has suffered from tenderness of the voluntary muscles. At times the slightest pressure on a muscle gives intense pain. Sometimes there is aching, but usually there is pain only on pressure. A slight pinch produces agony. His general health is good. What might be the cause?*

A.—It is difficult to refer these symptoms to any recognizable lesion of the neuromuscular system. It is assumed that care has been taken to exclude peripheral neuritis and also occupational disease; puzzling symptoms are sometimes produced by chemicals used in industry. It is equally difficult to attribute the symptoms to neurasthenia, for, although they might be affiliated with the "rheumatism" and "fibrositis" of neurasthenia, the other symptoms of that disorder are apparently absent. The systematized pattern of the complaint suggests an underlying physical or biochemical abnormality. Biopsy of muscles is easily performed and might provide information of value in this patient. An *x*-ray examination of the muscles for parasites, calcification of ligaments, etc., might also be helpful. The blood chemistry should be investigated, particularly the blood sugar, serum calcium, and erythrocyte sedimentation rate. If none of these investigations gives a clue to the cause, symptomatic treatment with the vitamin B complex should be tried, including large doses of B_1. Wide-field irradiation with ultra-violet or infra-red rays might also give relief.

LETTERS, NOTES, ETC.

Venereology

Brigadier T. E. **Osmond**, Honorary Consultant in Venereology to the Army, writes: As I was mainly responsible for the introduction of the word "venereologist" into "Army medical jargon" I feel it incumbent on me to answer the letter of Lieut.-Col. Henry Richards (Sept. 22, p. 414). It must be admitted that the word is a hybrid, but "English contains thousands of hybrid words, of which the vast majority are unobjectionable" (Fowler: *Modern English Usage*, p. 241). In any case "venereologist" is preferable to "dermatologist," which it supplanted. But the difficulty lies deeper; the term "venereal disease" officially refers to syphilis, gonorrhoea, and soft chancre, yet many patients suffering from these diseases may be exculpated from "venery." For many years doctors have been searching for a more suitable word than "venereal" but without success. Parenthetically an "-ologist" is a person who makes a study of a subject but is not necessarily an "expert practitioner" in it. Criticism, to be of value, should be constructive: Col. Richards's seems to be destructive. Having forgotten much of the classics which I learned at school I consulted a friend who is an eminent classical scholar. He admitted that he found the problem difficult, but tentatively suggested "aedoeologist," from the Greek *αἰδοῖα*, or "aphrodisiologist" from *ἀφροδίσιος*; either word can mean pudenda. Admittedly neither word contains any reference to disease, but nor do ophthalmologist or laryngologist. It is to be feared that neither of the words suggested will prove acceptable, but can Col. Richards or any of your readers suggest a better?

Digestive Disorders and Swallowed Sputum

Dr. P. A. **Galpin** (Plaistow) writes: With reference to the question and answer on digestive disorders and swallowed sputum (Sept. 8, p. 341), from the reply given is one to assume that there is no risk to patients suffering from chronic sinusitis or bronchiectasis in swallowing muco-pus, and that one can trust the gastric secretions to deal with any infection? From my own experience I have noted many children suffering from post-nasal catarrh, who have not learned to spit, frequently have nausea or abdominal pain. In my opinion this has been due to swallowing muco-pus, and I have therefore endeavoured to persuade the parents to train the children to avoid swallowing muco-pus—in other words, to learn to spit. Two or three questions come to one's mind. Which is the factor in gastric secretion which has bactericidal properties? Is it hydrochloric acid? If this is so then patients with hypochlorhydria are at a definite disadvantage, and it would seem to me that patients debilitated after acute catarrhal conditions following measles or whooping-cough may be producing gastric juice deficient in bactericidal power. The surgeon has great faith in the bactericidal power of the peritoneum, but he does not willingly allow abscesses, whether acute or chronic, to spill over in the peritoneum.

Neutralizing Gastric HCl

Mr. E. H. **Johnson** and Mr. J. **Duncan** write: The treatment of peptic ulcer as described in your "Any Questions?" page of your issue of Sept. 1 mentions the importance of maintaining a stomach acidity in the region of *p*H 3.5 in order to promote healing of the ulcer by the inactivation of the pepsin. The maintenance of this continued neutrality can be accomplished by adequate dosage of aluminium hydroxide. Aluminium hydroxide alone of the common antacids possesses the property of neutralizing the gastric hydrochloric acid to a maximum *p*H of 3.5 to 4.0; excess dosage after the initial neutralization serves to maintain this favourable condition by the neutralization of further secretion. This important property of aluminium hydroxide was indicated in a recent paper upon the "Chemical Testing of Antacids" given by us at the British Pharmaceutical Conference held on July 18, 1945.

Early Treatment of Bell's Palsy

Dr. J. L. **Thomas** (Brynmawr) writes: The article by Mr. H. P. and Dr. Cecily Pickerill on the above subject (Oct. 6, p. 457) recalls with interest that, about fifty years ago, while in colliery practice in Glamorganshire, I had a case of Bell's palsy (catarrhal) in a young miner who was a promising public singer. While assiduously, but ineffectively, treating the case electrically, by good fortune I read of Robert Jones—always a friend of weak muscles—using in such a case mechanical means to draw the sound side of the face towards the paralysed one. I resolved to imitate his treatment by using strips of plaster, and after one month the result was highly successful—and very cheering.

Corrigendum

By a slip of the pen the title of Wing. Cmdr. Kenneth Bergin's letter (Oct. 13, p. 508) was made to refer to the Army; the heading should have read: "Psychiatry in the R.A.F."

BRITISH MEDICAL JOURNAL

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THE INCIDENCE AND CAUSES OF BLINDNESS IN THE BRITISH COMMONWEALTH

BY

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Only a tentative estimate of the number of blind and the barest of assessments of the causes of blindness in the British Commonwealth as a whole are possible. Fairly complete data are available for England, Wales, and Scotland, but those for other parts of the Empire vary between being relatively adequate to negligible. Any final analysis is therefore out of the question.

1. THE NUMBER OF BLIND

The two fundamental difficulties in assessing the number of blind are the lack of a universally accepted definition of blindness and the lack of uniformity in the methods employed for collecting blind statistics.

In the census returns of most countries information is sought on physical and mental infirmities in the population. Those totally blind are asked to declare this fact. The census returns therefore deal with total blindness as determined by a lay assessment. A lay assessment also enters largely into the statistics supplied by voluntary agencies caring for the blind, though total blindness is not generally the only criterion used by such agencies in granting benefits. Statistics from such sources are far from comprehensive, as they deal with only that section of the blind population which seeks charitable relief, and their extent is, moreover, determined by the energy and resources of the agency in question; furthermore, lay assessment is still the general rule and appears to be particularly capricious when total blindness is no longer the criterion.

In contrast to these two distinctly fallible methods is the one that has emerged only recently as a result of the administration of the Blind Persons Act of 1920. Under this Act statutory benefits were made available to the blind in England, Wales, and Scotland, admission to the Register being obtained on medical certification—which of late has generally meant certification by an ophthalmologist. The data thus obtained have therefore considerable uniformity, but still cover only those who seek the statutory benefits that the Act allows. The fundamental difficulty as to what constitutes blindness is masked rather than solved by the statutory definition of "so blind as to be unable to perform any work for which eyesight is essential." In practice this has been interpreted—somewhat arbitrarily—to mean vision of 3/60 or less with a full field, or better central vision when associated with specified field defects.

For England, Wales, and Scotland data on medical certification by a definite, even if controversial, standard are thus available, and these data are limited only by the fact that not all blind persons seek certification. Elsewhere census returns are still the main source of information, but for some years now there has been considerable criticism of such returns. The data thus obtained have come to be regarded as so unreliable as not to be worth the trouble of collecting, and inquiries for personal infirmities have been discontinued in the censuses for 1921 and 1931 in Great Britain and in that for 1940 in the U.S.A. None the less census data are the fullest that are available for the greater part of the Commonwealth, and critically interpreted they are of considerable value, as will be shown in what follows.

British Isles

England and Wales.—In 1911, when the last census which sought information on infirmities was taken, there were 26,336 persons who declared themselves totally blind. When the Register under the Blind Persons Act was established there were found to be 25,840 eligible—a close approximation to the census figures. The number of registered blind has, however, increased steadily year by year, as the following figures show:

Year	Number on Blind Register	Year	Number on Blind Register
1920	30,785	1933	63,408
1921	34,894	1936	67,534
1923	36,518	1938	71,875
1925	42,140	1940	74,418
1927	46,822	1942	75,306
1929	52,727	1943	76,507
1931	60,598	1944	76,145

There is, of course, no reason for believing that the incidence of blindness has increased during 1920–44 in the startling proportions suggested by these figures; these merely represent an increasing efficiency in the registration of the blind. They furthermore indicate that registration has become fairly effective during recent years. It is also clear that the census figures were a gross underestimate, but it must be borne in mind that the criteria of blindness adopted for these two different returns were different; for the census it was total blindness, for the purpose of the Blind Persons Act it was—in practice—3/60. That the census returns were not quite meaningless is shown by the following findings: An analysis of 9,522 blind certificates in the Counties of London and Middlesex (Sorsby, 1945a) showed that 1,013 were totally blind and 1,822 had perception of light only. The rest mostly had vision up to 3/60. Thus some 2,835 qualified for what a layman would regard as total blindness, making 29.9% of all registered blind in these areas. If it is taken that 30% of all the registered blind in the country are blind in the lay sense indicated (i.e., no perception of light and perception of light only), an incidence of blindness approximating that shown by the census figures of 1911 is obtained. It is impossible to assess the number of blind persons who have not sought registration. At hospitals one still sees certifiably blind patients who have not been registered, while an unknown proportion for various reasons decline certification. It is safe to conclude that the number of blind people in England and Wales is not less than 80,000 and is unlikely to exceed 100,000.

Scotland.—The census for 1911 showed 3,317 blind persons in a population of 4,760,904 (or 70 per 100,000). The number of registered blind persons was 4,104 in 1919—a close approximation, as in England and Wales, to the census figure. But again as in England and Wales it has risen steadily, the rise being confined to the years up to 1929.

Year	Number on Blind Register	Year	Number on Blind Register
1919	4,104	1933	8,678
1921	5,138	1936	8,500
1923	5,754	1938	8,973
1925	6,332	1940	8,908
1927	6,939	1942	8,891
1929	8,518	1944	8,804
1931	8,821		

The Dominions

Canada.—The census figures for 1931 showed 7,343 blind persons in a total population of 10,376,786 (or 71 per 100,000). Statutory benefits for the blind were introduced by Act of Parliament in 1937, and by July, 1938, there were over 3,000 applicants for blind pensions. This was distinctly less than the 4,712 blind on the registers of the Canadian National Institute for the Blind in 1927, but the number of registered blind (? under the Act of 1937) had risen to 12,854 by 1944. It would therefore seem that in Canada the experience of England and Wales is being repeated, and that the number of registered blind is likely to increase. In Newfoundland the number of registered blind in 1944 was 219. The 1911 census showed 287 blind in a population of 242,619 (118 per 100,000).

South Africa.—In an official inquiry carried out in 1936 concurrently with the census there were 1,624 blind amongst the white population of 2,003,857, or 81 per 100,000. No adequate data are available for the coloured population: the same inquiry covering 769,661 coloured persons, excluding Bantu and Asiatics, showed 981 blind (127.7 per 100,000). At the end of December, 1940, the South African National Council for the Blind had detailed information regarding 17,263 blind persons in the Union; there were 1,828 Europeans, 1,632 coloured, and 13,803 natives. Since then, and especially since 1942, when the payment of an increased grant to blind natives was introduced, the Council has been "inundated with registrations of blind natives and the total had increased by leaps and bounds." Recently the Act allowing grants to blind people has been amended to include Indians. There is as yet no information as to the number of blind Indians in the country. By December, 1943, the total number of registered blind had risen to 30,834, and consisted of 2,103 Europeans, 1,887 coloured, and 26,844 natives. On the basis of an estimate of the population supplied by the Director of Censuses the rate per 100,000 at the end of 1942 for the three different communities was: European 91, coloured 211, natives 351.

Australia.—The 1933 census for the Australian Commonwealth showed 3,898 blind in a population of 6,229,839 (63 per 100,000).

New Zealand.—The census for 1916 showed 570 blind in a population of 1,009,449. The New Zealand Institute for the Blind in 1936 estimated the number of blind at 1,000 for the whole country, or 70 per 100,000 (against 56 shown by the census of 1916). It had records of 720 blind, and of these 688 were totally blind. (It is unlikely that with 688 known cases of "total blindness" the total number of blind, by English standards, would be only 1,000.)

The total white population of Canada, Newfoundland, South Africa, and Australasia is of the order of 20 millions. The census rates of blindness per 100,000 were 71 for Canada (1931), 118 for Newfoundland (1911), 81 for South Africa (white population, 1936), 63 for the Australian Commonwealth (1933), and 56 for New Zealand (1916). These are not dissimilar from the census rate of 73 for England and Wales and 70 for Scotland in 1911. If it is concluded, on the strength of experience in England and Wales since the working of the Blind Persons Act, that the actual rate is about 200–250 per 100,000 (on the basis of a computed number of 80–100,000 blind in a total population of 40,000,000), the total of blind amongst the white population of the Dominions is of the order of 40–50,000.

Other Possessions

India.—The census for 1931 showed 606,360 blind in a population of 352,837,778—a rate of 172 per 100,000. It is generally agreed that this is a considerable underestimate. If the rate of blindness known for England and Wales applied to India, its population of over 400,000,000 would provide 800,000 to 1,000,000 blind. But blindness in India is far more common than in England and Wales, and it appears that Indian census figures on blindness are grossly vitiated by the widespread illiteracy and by superstitious fears. On studies undertaken in selected areas both Henderson and Kirwan hold that the census figures indicate only one-third of the blind in India; Megaw puts it as low as one-quarter. Moreover, even these observers, in speaking of blindness, use a considerably lower criterion than that now used in England—i.e., counting fingers at one metre instead of 3/60. At the very least the census figure of 606,360 must therefore be multiplied by three or four. This gives the number of those totally or subtotally blind as between 2 and 2½ millions. For the present this must be accepted as a minimum figure. The actual number is likely to be considerably more, for India is one of the classical countries of blindness, and according to O'Dwyer "there is no country in the world to-day where the affliction of blindness is so widespread." This being so, a comparison with Egyptian and Palestinian figures rather than with those for England and Wales is called for. In both Egypt and Palestine the census figures indicate a rate of blindness 10 to 15 times that for England and Wales. On that basis the blind in India number between 10 and 15 millions.

Ceylon.—The census for 1921 showed 4,005 blind in a population of 4,498,605—a rate of 89 per 100,000. There is no reason for believing that the situation in Ceylon is substantially different from that of India, and the census figure must be regarded as a serious underestimate.

Egypt.—The appalling rate of 1,325 blind per 100,000 was recorded by the census of 1907. Ten years later it had declined to 1,222, whilst in 1927 it fell to 775 (109,934 blind in a population of 14,177,864).

Palestine.—Palestine has the world's highest census rate for blindness. It was 843 per 100,000 in the 1931 census (8,172 blind in a population of 969,268), surpassing the rate of 775 recorded for Egypt in 1927. In contrast to the high rate for the Muslims of the country, that for the Jews is relatively low, and for Christian Arabs intermediate between the two (Muslims 1,061, Christians 564, Jews 139 per 100,000).

African Colonies.—No adequate data are available for the greater part of Africa. The native population in Uganda in 1911 showed a census rate of blindness of nearly five times that of England and Wales (354 against 73 per 100,000). It is not known whether blindness in the native population in Africa is of the order of frequency seen in India, Egypt, and Palestine. That blindness is extremely frequent, and indeed far more frequent than anywhere else in the world, is suggested by the following findings concerning natives in the Union of South Africa: Rosset-Berdez (1944) in an inquiry for the South African Government examined 4,500 natives; only 527 (13.2%) were normal; 214 (5.3%) were totally blind; 360 (9.0%) had lost one eye as a result of disease.

Pacific Islands.—Information is scanty. The census for 1911 for the Fiji Islands showed 1,385 blind in a population of 137,248, giving a rate of 1,009 per 100,000—i.e., a rate of the order of Egypt and Palestine. It is not known whether the Fiji Islands can be regarded as typical of Indonesia.

It is obvious that, whatever be the definition of blindness, no final assessment of the number of blind in the British Commonwealth is possible. A fairly clear indication is available for the 46,000,000 in England, Wales, Scotland, and Northern Ireland: it cannot be less than 90,000 and is likely to exceed 100,000. For the 20,000,000 whites in Canada, Newfoundland, Australasia, and South Africa the number of blind is likely to be 40–50,000. As for the native populations of the British possessions in Africa, Asia, and Indonesia, their blind would number about 1¼ million if blindness were no more common among them than it is in the British Isles and the Dominions, but it is likely that the actual figure is considerably more than 10 millions.

2. THE CAUSES OF BLINDNESS

Data on the causes of blindness in England and Wales and in Scotland are fairly adequate. Elsewhere the information is scanty.

England and Wales.—No less than 77.2% of the 76,507 registered blind in 1943 were over 50 years of age; 20.8% fell in the age group 16–50 years, and 2.0% in that of 0–16 years. Analyses of the data as to the age at onset of blindness do not affect substantially the outstanding fact that in most cases blindness is an affliction that, in the phrase of the *Iliad*, sits on the sad threshold of old age. As to the causes of blindness, the Prevention of Blindness Committee (1938) gives an analysis of 5,290 blind certificates and the Northern Counties Association for the Blind (1938) of 10,000 certificates. Both agree in placing cataract first with 25.0% and 33.6% of the total respectively; in both series glaucoma takes the second place with 11.8% and 10.0% respectively. Defects of congenital, hereditary, and developmental origin, and myopia take the third and fourth places in the first series (with 11.0% and 10.2% respectively), and occupy the reverse order in the second (with 7.0% and 8.5% respectively). Taken together, these four causes—cataract, glaucoma, defects of congenital, hereditary, and developmental origin, and myopia—account for 58.0% in the analysis of the Prevention of Blindness Committee and 59.1% in that carried out by the Northern Counties Association for the Blind. Substantially the same result was obtained in an analysis of 9,562 registered blind in the Counties of London and Middlesex (Sorsby, 1945a). Cataract and glaucoma again took the first and second places with 21.2% and 14.0% respectively, whilst myopia accounted for 12.1% and defects of congenital, hereditary, and developmental origin for 10.4%, the total for the four main causes being 57.7%. When this series of 9,562 cases is analysed in age groups a considerably different picture emerges.

(1) In the age group 0–14 years (143 cases) defects of congenital, hereditary, and developmental origin lead with 67.1%, and ophthalmia neonatorum is second with 5.6%, the remaining causes all being considerably less significant.

(2) In the age group 15–29 years (656 cases) defects of congenital, hereditary, and developmental origin still lead with 38.4%, with congenital syphilis in the second place with 14.0%.

(3) In the age group 30–49 years (1,303 cases) the leading cause is still as in the other two age groups, this time with 21.3%, and with myopia in the second place with 15.5%. Congenital syphilis is now third with 13.1%.

(4) In the age group 50–69 years (3,541 cases) myopia leads with 18.6%; glaucoma and cataract come second and third with 15.2% and 14.0% respectively.

(5) In the age group of 70 years and over (3,725 cases) cataract is responsible for 39.3% and glaucoma for 19.3%, with senile macular lesions in the third place with 11.7%.

The numerical frequency of cataract and glaucoma, which is so striking a feature in the statistics for the blind population, gives an exaggerated significance to these two causes. When the causes operative in the different age groups are evaluated in terms of years of expectation of life—i.e., in expected years of blindness—cataract falls from the first place to the third with 13.1% of the total of expected years of blindness, and glaucoma falls from the second to the fourth place with 10.0%. Defects of congenital, hereditary, and developmental origin, which in order of frequency are fourth, now assume a preponderant first place with 22.9%, and myopia takes the second place with 16.0%. The congenital and congenitally determined anomalies (such as myopia) together are thus responsible for no less than 38.9% of the total of expected years of blindness, whilst cataract and glaucoma together, though numerically so outstanding, account for considerably less—viz., 23.1%. On this reckoning congenital syphilis is also a cause of some importance, accounting for 8.8%, with ophthalmia neonatorum not far behind (6.2%). If these provisional data on the blind in London and Middlesex apply to England and Wales as a whole, the major causes of blindness are not cataract and glaucoma but, in order of frequency, defects of congenital, hereditary, and developmental origin, myopia, cataract, glaucoma, congenital syphilis, and ophthalmia neonatorum.

Scotland.—As in England and Wales most of the blind are over 50 years of age (the actual percentage for 1943 being 74.1 against 77.2 in England and Wales). Marshall and Seiler's study of 2,885 registered blind in Glasgow and South-West Scotland places myopia as the first of causes with 15.9%; cataract, chronic septicaemia, glaucoma, and congenital anomalies follow with 15.2%, 10.9%, 8.9%, and 8.1% respectively. Ophthalmia neonatorum occupies the eighth place with 3.4%. Calculated in years of blindness the patients in these different categories had experienced, chronic septicaemia comes first (with an average of 12 years); congenital, hereditary, and developmental anomalies second (11.4 years); myopia third (10.3 years); and ophthalmia neonatorum fourth (10.1 years). Cataract and glaucoma come low with the eighth and tenth place respectively. These findings agree with those for London and Middlesex on the significance of defects of congenital, hereditary, and developmental origin, and of myopia as foremost causes of blindness.

The Dominions.—No adequate data are available. There are various analyses of returns from blind schools and institutions and from records of patients seen by ophthalmologists in practice. They give the impression that in Australia, New Zealand, and Canada, at any rate, the same causes of blindness operate as in the British Isles. Registers of blind persons, comparable in completeness as to numbers and causes, do not appear to be available for any of the Dominions, except possibly South Africa. Here a register in the process of formation provides data on the causes of blindness in 26,844 natives and 2,103 whites registered by December, 1943. The main causes recorded were:

	White (2,103 Cases)	Native (26,844 Cases)
	%	%
Cataract (senile, traumatic, and unspecified) ..	9·7	42·6
Syphilis	11·2	5·8
Glaucoma	7·2	2·4
Trachoma	5·0	2·0
Local infections of coats of eye	4·5	8·9
Ophthalmia neonatorum	4·4	0·8
Congenital, hereditary, and developmental defects (including congenital cataract)	20·9	1·2

Without a fuller knowledge of local conditions and the way these data were collected, the interpretation of these findings is difficult. A significant observation is the finding of trachoma in 135 natives out of 10,591 examined in a special investigation (Rosset-Berdez).

India.—Several analyses of the causes of blindness in relatively small series are available. In a series of 2,750 reported by Megaw cataract was responsible for 23%, glaucoma and smallpox for 9.0% each, and trachoma for 8.0%. In a series of 2,044 blind eyes Gnanadikam found that among those blind in both eyes the order of frequency of the causes was glaucoma, corneal ulcer, keratomalacia, trachoma, iritis, smallpox, and gonorrhoeal ophthalmia. Another observer (Bagchi) gives the following order of frequency in 3,404 persons blind in one or both eyes: anterior staphyloma, 39.7%; trauma, 7.0%; trachoma, 6.2%; leucoma, 5.9%; keratomalacia, 5.5%. In 74 inmates of the Calcutta Blind School Indra found the following distribution: congenital, 15 cases; smallpox, 11; syphilis, 10; ophthalmia neonatorum, 5; keratomalacia, 4—the last being regarded as an underestimate of the frequency of the affection, "as few such children can afford the expenses of the Blind School." Wright (1937) gives the principal causes in order of importance as:

In Children	*In Adults*
Keratomalacia	Cataract
Ophthalmia neonatorum	Optic atrophy (mainly syphilitic)
Congenital syphilis	Corneal ulcers
Hereditary blinding disease	Glaucoma
	Trachoma

while in both children and adults irritant remedies (the result of ignorance and the lack of adequate facilities for treatment) and smallpox are potent factors. All these assessments have one thing in common: the immense amount of blindness caused by various uncontrolled infective processes and by malnutrition.

Egypt.—In a cumulative list of causes of blindness published in the reports of the ophthalmic hospitals the predominant cause of blindness in some 75,000 cases [? eyes] are shown as conjunctivitis with corneal complications and its sequelae. Some 82% of all blind fell into this category, and it appears that acute ophthalmia rather than trachoma is the main form of conjunctivitis leading to blindness. Glaucoma is also a cause of some significance.

Palestine.—The reports of the Ophthalmic Hospital of the Order of St. John, Jerusalem, give a parallel analysis to that in the Egyptian reports and the findings are similar. Some 78% of all blindness is caused by conjunctivitis and its corneal complications. Shihab (1937) holds that some 75% of all blindness is caused by the acute ophthalmias, and that the two extremes of age are most susceptible.

Trinidad and Tobago.—In a study of the causes of blindness in 194 patients Métivier found syphilis the cause in 45 instances, glaucoma in 38, and leprosy in 14. Other significant factors were cataract and purulent ophthalmia.

African Colonies.—Little is known of the causes of blindness in the African colonies. Trachoma is probably rare but not unknown, as was previously believed. Two recent studies have drawn attention to onchocerciasis (Ridley, 1945; Scott, 1945). It is not known whether the incidence and causes of blindness seen in the natives of the Union of South Africa are typical of the African population as a whole.

3. PREVENTION OF BLINDNESS

In England smallpox figured as the main cause of blindness in such assessments as are available for the early years of the last century. Towards the end of the century ophthalmia neonatorum was the largest single cause; in a collective survey carried out by the Ophthalmological Society in 1884 it was found responsible for between 30 and 40% of blindness seen at blind schools and institutions. These findings may be taken as indicative of the role of infectious diseases as causes of blindness in this country during the last century. To-day infectious disease—both exogenous and endogenous—accounts for only a small proportion of all blindness; in the survey for the Counties of London and Middlesex it stood at not much more than 15% (Sorsby, 1945a). Generally speaking, the most significant cause in the undoubted decline in the incidence of blindness in England, and in advanced countries generally, has been the control of infectious disease by public health measures, adequate facilities for treatment, and of late years the advances in chemotherapy, beginning with arsphenamides in the treatment of syphilis. Other causes in the decline of blindness have been the development of ophthalmology, the rise of eye hospitals and eye departments, and the perfection of operative techniques for cataract and glaucoma.

England and Wales.—The decline in the incidence of blindness in England and Wales is hardly reflected by the mounting number of registered blind since 1920. That a decline has taken place is suggested by the census findings since 1851, which have shown a steady diminution in the rate of incidence per 100,000 with each census. The rate in 1851 was 102; it declined to 96, 95, 88, 81, 78 at the subsequent decennial censuses, falling to 73 in 1911. More definite evidence is supplied by the returns for the age group 5–16 years under the Blind Persons Act of 1920. Unlike those for the other age groups, the returns for this group may be taken as giving a true presentation, for children come under the care of the school authorities, and the blind child is unlikely to escape registration. In contrast to the increase in the total number of registered blind, there has been a striking decline in the number of registered blind children, as the following table shows (Sorsby, 1945b).

Table I.—*Incidence of Blindness in Children aged 5–16 Years, England and Wales, 1823–43*

Year	Population aged 5–16 Years	No. of Registered Blind aged 5–16 Years	Rate per 100,000
1923	7,477,143	2,723	36·4
1925	7,306,761	2,720	37·2
1927	7,385,359	2,554	34·6
1929	7,262,590	2,438	33·6
1931	7,166,056	2,355	32·9
1933	7,246,446	2,089	28·8
1936	6,890,730	1,853	26·9
1938	6,694,300	1,676	25·0
1939	*	1,619	24·2†
1940	*	1,499	22·4†
1941	*	1,425	21·3†
1942	*	1,369	20·5†
1943	*	1,355	20·3†

* Population figures not available for publication. † On 1938 population figures

A decline to almost a half in the space of twenty-one years is a gratifying testimony to the efficacy of the many measures that are operative in the prevention of blindness. But it cannot be assumed that this trend is applicable to the whole blind population. In fact it is likely to be almost entirely confined to the lower age groups. It has already been seen that the causes of blindness are notably different in the different age groups and that nearly 80% of the blind are over 50 years of age. There is no reason for believing that blindness from cataract, glaucoma, myopia, and senile macular lesions—the causes operative in that age group—is declining to any marked extent, while the evidence available for the causes of the decline in the incidence of blindness in the young indicates that the reduction in them is wholly due to the elimination of the sequelae of infectious disease. This is brought out by the following comparative table of the causes of blindness seen at provincial blind schools in 927 children in 1922, and 524 in 1944 (Sorsby, 1945b).

Table II.—*Proportionate Incidence of the Main Causes of Blindness at Provincial Blind Schools in 1922 and 1944*

	Board of Education, 1922 (927 Cases)	Present Series, 1944 (524 Cases)
	%	%
Ophthalmia neonatorum	30·4	9·2
Purulent ophthalmia of later years ..	2·5	—
Phlyctenular ophthalmia	3·7	0·2
Interstitial keratitis	4·1	0·9
Iridocyclitis	2·5	0·8
Choroiditis	?	0·8
Syphilitic lesions	?	2·5
Optic atrophy	12·9	5·3
Congenital anomalies:		
Including myopia	37·2	67·6
Excluding myopia	30·8	55·0

This table shows a striking reduction in blindness from ophthalmia neonatorum and suggests a corresponding decline in blindness from congenital syphilis. As a corollary, blindness due to defects of congenital, hereditary, and developmental origin (in which myopia may be included) has assumed a proportionately increased significance. Two conclusions suggest themselves:

(1) The decline in the incidence of blindness in children is likely to come to an end within foreseeable time, in view of the fact that already some 65% of all blindness in children is due to defects of congenital or congenitally determined origin, and such defects are not readily amenable to treatment. It is therefore likely that blindness in children 5–16 years old will decline from its present rate about 20 per 100,000 to about 12–14 per 100,000, but will remain at that level until more is known of congenital and congenitally determined disease.

(2) No substantial decline of the blind population as a whole is to be expected so long as there is no fuller knowledge of cataract, glaucoma, myopia, and the senile degenerations of the fundus oculi. Such decline as may be expected from better facilities for treatment may well be balanced by the shift towards more people in the higher age groups of the population as a whole.

A century of effort in public health legislation, hospital administration, bacteriology, and pharmacology is reflected in the diminution of the incidence of blindness. The further operation of these forces is likely to reduce blindness still more, but at an ever-diminishing rate. Substantial advances can only come with intensive studies of the nature of genetic disease and intra-uterine infections on the one hand, and of cataract, glaucoma, and senile degenerations on the other. These are not all exclusively ophthalmic problems, any more than was blindness from infectious processes. In ophthalmology, however, these problems in pathology have become formulated perhaps more clearly than in other specialties.

Scotland.—In Marshall and Seiler's study of 3,219 blind persons 113 were aged 0–15 years, and of these 37 were blind from defects of congenital, hereditary, and developmental origin, and 3 from myopia. This is a considerably lower incidence than that noted for the provincial blind schools of England. Proportionately there was more blindness from infectious disease. For the higher age groups their findings are essentially parallel with those for London and Middlesex.

The Dominions.—In the absence of more definite data it may be assumed that the problems of the prevention of blindness in the white population are similar to those established for the British Isles.

Africa.—The limited inquiry of Rosset-Berdez for South African natives suggests that one in every twenty Africans is blind. If this is true and applies to Africa as a whole, it is unbelievable that such a state of affairs is not largely remediable. Fuller information is an urgent first step.

India.—Such Indian blind statistics as are available give prominence to lesions like anterior staphyloma (39.7% in one series), leucoma, and corneal ulcer. Trachoma is known to be endemic in some parts of the country; smallpox is still a significant cause of blindness, while ophthalmia neonatorum and congenital syphilis are recognized as important causes of blindness in children. All this is reminiscent of England at the beginning of the last century. The control of blindness in India is thus largely a problem of the control of infectious disease. That this is not purely an issue of pathology and pharmacology is obvious enough from the history of public health in Western Europe, and is grimly emphasized by the fact that keratomalacia—a nutritional deficiency disturbance—is ranked as first among the causes of blindness in children. The problem of blindness in India is not one of the elimination of a particular infectious disease such as trachoma or the acute ophthalmias. It has to be conceived in terms of standards of living, education, facilities for treatment, and adequate and well-trained ophthalmic personnel. None the less there is much that can be done immediately both outside and as part of the long-term plans—how much, can be seen more clearly from a consideration of the position in

Egypt and Palestine.—Here the social problems are not dissimilar in their broad aspects from those seen in India, but unlike in India two clearly defined infectious diseases are the main causes of blindness—the acute purulent ophthalmias and trachoma. Purulent ophthalmia, the more significant cause, is now easily treated by the sulphonamides and by penicillin. An immediate and striking reduction of blindness in Egypt, Palestine (and, indeed, throughout the whole of the Near and Middle East), and perhaps India, could be brought about by the organization of relatively simple treatment stations and possibly mobile units, with adequate supplies of the new chemotherapeutic and antibiotic agents. Trachoma, too, could be considerably reduced by such stations, for the beneficial effect of sulphonamide therapy in trachoma is no longer open to doubt; moreover, there are indications that penicillin may also be highly effective. The creation of such treatment stations will in any case have to be undertaken in any long-term programme, but a sense of urgency has now been supplied by the availability of the new therapeutic agents, for each day that such treatment is not available to the millions of Africa and Asia adds many blind to the roll of the avoidably blinded.

Summary

1. The number of blind in the British Isles is not less than 90,000 and is likely to exceed 100,000. In the white population of the Dominions it is between 40,000 and 50,000. In the native population of the British possessions in Africa, Asia, and Indonesia it is considerably more than 10 millions.

2. There has been a marked decline in the incidence of blindness in childhood in England and Wales during the past 21 years, but there is no evidence that there has been any substantial decrease in the older age groups. Before long the decline in the incidence of blindness in childhood will come to an end, as already about 65% of all blindness in children is due to congenital and genetic infections not readily amenable to treatment. With the rapid elimination of blindness due to infectious disease, intensive research in the problems of genetic disease, maternally transmitted infections, cataract, glaucoma, and the pathology of senescence, has become an immediate task if the incidence of blindness in England and Wales is to be reduced.

3. In the native populations of the British possessions the incidence of blindness could be reduced immediately and effectively by the organization of facilities for the intensive exploitation of the sulphonamides and penicillin in the treatment of the widely prevalent ocular infections.

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OBSERVATIONS ON OEDEMA OCCURRING DURING THE COURSE OF MACROCYTIC ANAEMIA

BY

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"Tropical" or "nutritional" macrocytic anaemia is described in the textbooks, and Wells in India, Trowell in Africa, and a number of other workers have investigated it. Unfortunately, Service conditions render this literature inaccessible, and in this account of certain features of the disease which seem of practical importance I may be treading on ground that has already been covered. Reference to previous work is omitted from necessity, not from negligence.

The textbooks describe the disease as an anaemia, often severe, of a macrocytic type, occurring in India, Africa, the Balkans, and southern United States, among populations suffering from poor nutrition. It is often seen in pregnant women. It is accompanied by fever, diarrhoea, sore tongue, and sometimes oedema (which seems to have been referred to cardiac decompensation). Achlorhydria is said not to occur. Haemolytic and non-haemolytic types of the condition are distinguished.

Discussion with fellow officers suggests that many cases of this kind occur in South-East Asia Command; most commonly among Indian troops, less so among East Africans, occasionally among West Africans, and hardly ever among British soldiers. It is proposed to discuss a series of 38 cases among East Africans, laying stress on certain features.

Table I shows the frequency with which the signs and symptoms mentioned above were observed in this series. Anaemia of a more or less severe degree was noted in all (several patients had blood counts of less than one million red cells when they came under observation). It is not proposed to comment especially on the cytology, which conformed to the textbook description. Macrocytosis was observed in all cases, and normoblasts were seen on a number of occasions. The absence of an adequate centrifuge precluded determinations of mean corpuscular haemoglobin concentration, or of other features requiring haematocrit readings. On several occasions the cells were reported to be macrocytic and hypochromic. Sternal puncture was done in several cases. It always revealed an actively normoblastic marrow. Sickling of the red cells was never observed, nor was increased fragility, even in cases which were clinically of a haemolytic type. No neurological lesions of any kind were noted.

TABLE I

Total cases	38
Glossitis	12
Gastric HCl after histamine:	
Absent	12
Present	16
Not determined	10
Jaundice	5
Splenomegaly	12
Diarrhoea	17
Oedema and/or ascites	12

While gross anaemia can be missed only through negligent examination, it will be obvious that the other signs and symptoms, except the oedema and ascites (which will be discussed more fully) and the achlorhydria, may be attributed to a number of complaints very common in South-East Asia Command. Haemoglobin determinations alone are insufficient to exclude a moderate anaemia of this type. The only safe procedure is to count the red cells as well as to estimate the haemoglobin. At the least, a well-prepared thin film should be examined by a reliable observer. In this hospital some cases were certainly missed before this point was appreciated.

Fever is usual in the more severe cases, and may be mistaken for that of malaria or other illnesses. Diarrhoea may be attributed to dysentery or to infestation with worms or flagellates. Several cases at first labelled "non-specific diarrhoea" proved later to be macrocytic anaemia. Splenomegaly may be attributed to malaria or schistosomiasis; and indeed, in the cases under consideration, it was difficult to be sure whether the enlarged spleens observed were in truth connected with the anaemia or with a legacy from earlier disease. Jaundice, when present, is more likely to suggest infective hepatitis than anaemia.

Prominence of one or more of these signs may lead to a wrong diagnosis unless the possibility of macrocytic anaemia is kept in mind as an underlying cause, and appropriate investigations made.

The occurrence of oedema and ascites merits special discussion. Fairley and Low (1939) attribute it to the cardiac insufficiency. It occurred in 12, or nearly one-third, of the present series of cases; in all but one, however, it did not appear until, as a result of treatment, the blood count had risen considerably. At this time other signs which could be attributed to cardiac decompensation were entirely absent.

Dietary deficiency is known to be a cause of macrocytic anaemia, and although an East African soldier's diet is probably better than that to which he is generally accustomed in civil life, it contains only 41 g. of first-class protein. The manufacture of haemoglobin involves the synthesis of protein as well as the manufacture of the iron-containing haem molecule. For every gramme of iron in haemoglobin there are some 800 g. of protein. If an individual with 6 litres of blood in his body is to raise his haemoglobin by 1 g. per 100 c.cm. of blood he must manufacture 60 g. of protein. It is not uncommon in these cases for the haemoglobin to fall as low as 6 g. per 100 c.cm., in which case to restore it to normal nearly half a kilogramme of protein will have to be forthcoming. Further, the protein moiety of haemoglobin is believed to belong to a class of proteins which are known to be particularly rich in diamino-acids, such as arginine and lysine, and, since there is evidence that these substances cannot be synthesized in the body, proteins which contain them must be eaten. Even so, it is possible that a good many molecules of food or body protein have to be broken down before the necessary constituents can be obtained for the manufacture of a molecule of haemoglobin. This may result, during the periods of blood regeneration, in a very heavy drain on the total protein resources, during which the plasma protein may become depleted.

It has been held that the plasma proteins do not form part of the general protein currency of the body. This can hardly be maintained in view of the work of Schoenheimer and his collaborators, who showed that if amino-acids containing "heavy" nitrogen were introduced into the body either by injection or by feeding, the "heavy" nitrogen atoms could soon be identified in the protein of all the body tissues, including the plasma.

Once the osmotic pressure exerted by the plasma protein falls below a certain critical level fluid can no longer be held in the capillaries, and oedema or serous effusions result. If a diminution of plasma proteins does in fact determine the occurrence of oedema and effusion in these cases it should be possible to demonstrate it, and observations were undertaken with this end in view.

After the work had been planned and started, a copy of the *B.M.J.* for Jan. 13, 1945, became available. This contained a paper by Trevor Davies recording a case of oedema during recovery from anaemia. He found that the total serum protein, when the oedema was fully developed, was 4.16%, the albumin 1.8%, and the A/G ratio 0.76/1. At this time the red cells numbered 3,700,000. A month later, as a result of plasma transfusion and protein feeding, the total serum protein was 5.61% and the A/G ratio 1.5/1. The writer quotes another case of plasma transfusion in severe microcytic anaemia (J. McD. Holmes, 1944)—not available here. He also quotes Heath and Taylor (1936) as stating that for a rise in 10% of the haemoglobin level 80 g. of protein must be retained.

The equipment necessary for plasma protein estimations is not provided in the laboratory of a field hospital, and the method used, based on that of Walther (1941), had partly to be improvised. Details are given in the Appendix to this paper. All the determinations were made on sera, since plasma could not be freed from cells without a centrifuge.

In the first instance a number of estimations of total serum protein were carried out. Though in several instances the total serum protein of cases with oedema was much diminished (e.g., the patient had a total serum protein of 4.9%, with gross oedema, on Dec. 24, 1944) the figures did not clearly establish the point at issue, but the figure for total serum protein may not be a sufficient criterion. The osmotic pressure of the serum depends upon the sum of the osmotic pressures of its albumin and globulin components (that exerted by fibrinogen is very small). The albumin is the smaller molecule, and is said to exert about four times the osmotic pressure of the globulin. A serum in which the albumin is decreased and

TABLE II.—*Cases without Anaemia or Oedema*

Serum	Total Protein (g./100 c.cm.)	Albumin (g./100 c.cm.)	Globulin (g./100 c.cm.)	A/G Ratio	N.P.N. (mg./100 c.cm.)	Remarks
1	8·43	5·66	2·77	2/1	28	Mixed sera for Kahn tests
2	8·53	6·38	2·15	3/1	28	" " "
3	6·96	5·84	1·12	5·2/1	47	" " "
4	5·72	3·40	2·32	1·5/1	28	" " "
154265	9·94	6·34	3·60	1·76/1	33	Oedema (slight) of legs. No anaemia. Periostitis of tibiae (inflammatory oedema)
8066	8·15	4·50	3·65	1·23/1	16	A case of schistosomiasis. Formol-gel test negative
14404	8·07	3·28	4·79	0·68/1	29	A case of schistosomiasis. Formol-gel test weakly positive (high globulin)

TABLE III.—*Cases with Anaemia*

Regimental Number	Date	Total Protein (g./100 c.cm.)	Albumin (g./100 c.cm.)	Globulin (g./100 c.cm.)	A/G Ratio	N.P.N. (mg./100 c.cm.)	R.B.C. (millions per c.mm.)	Remarks
*N/25528	1/1/45	5·50	3·40	2·10	1·6/1	?	2·02	No oedema or ascites.
44131	15/4/45	7·50	4·10	3·40	1·2/1	33	(Hb 3·6 g.)	Severe anaemia, very ill. No oedema or ascites
G/1419	21/6/45	6·07	3·26	2·80	1·16/1	19	1·64	" " "
40866	25/4/45	4·77	2·89	1·88	1·5/1	28	2·59	R.B.C. rising. Oedema +++, ascites +++. Pleural effusions
40866	6/5/45	6 01	2·58	3·43	0·75/1	28	2·34	Oedema ++, ascites ++. Pleural effusions
N/22916	29/4/45	7·81	2·90	4·91	0·59/1	27	3·10	Oedema +, ascites ++
N/22916	9/5/45	5·92	2·07	3·85	0·54/1	19	4·94	Oedema ++, ascites +++
N/22916	30/5/45	7·55	3·02	4·53	0·66/1	24	4·26	No oedema. Some ascites, but much less than before
N/22916	19/6/45	7·08	3·00	4·08	0·73/1	11	4·48	No oedema or ascites
ZBK/12410	9/6/45	6·83	2·56	4·27	0·59/1	16	3·99	Ascites +
DN/22926	30/5/45	5·70	2·66	3·04	0·87/1	115	2·98	Chronic nephritis. Gross oedema and nitrogen retention
DN/22926	6/6/45	5·03	2·15	2·88	0·74/1	164	—	" " "
G/3112	15/5/45	6·99	2·50	4·49	0·56/1	25	—	Determinations at intervals of a few days on a case with fever, splenomegaly, and anaemia, with some shifting dullness in flanks. Sternal puncture showed Leishman–Donovan bodies. Diagnosis therefore kala-azar
G/3112	20/5/45	7·04	2·35	4·69	0·5/1	17	—	

* This estimation was done at another hospital, and taken from the patient's notes.

the globulin normal or raised may therefore exert a lower osmotic pressure than a serum of equal or less total protein content but containing a higher proportion of albumin. Stitt gives the following figures as "normal": Total protein, 6.3–8.0% ; albumin, 3.8–5.2% ; globulin, 2.0–3.5% ; A/G ratio, 1.45/1 to 2.2/1.

The total colloid-osmotic pressure is said to lie between 20 and 30 mm. of mercury. Oedema is said to occur if the total protein falls below 5.5% or the albumin below 2.5%. It is clear from this that fractionation of the serum protein is required if the influence of the serum protein in determining the oedema is to be assessed.

Table II gives the results of a number of control determinations on sera of cases without anaemia or oedema. In Table III are given the corresponding figures for anaemic patients, some of whom were oedematous, and for one or two other cases with oedema and anaemia due to other causes.

It will be seen from Table III that Nos. 44131 and G/1419, though grossly anaemic and very ill, were free from oedema or ascites and had serum albumin levels well over 3.0%. No. 40866 on April 24, 1945, was grossly oedematous, and his total protein was very low, although his albumin was only just under 3% and his A/G ratio normal. A comparison of these three cases shows that the A/G ratio, taken alone, has no particular significance (see also No. 14404 in Table II, in which the A/G ratio is low because of increased globulin). No. N/22916 had moderate oedema and ascites on April 29. It was much worse on May 9, by May 30 it was improving, and it had disappeared by June 19. Two determinations on DN/22926 are included to illustrate a type of case in which oedema has long been accepted as being due to lowered serum protein ; while G/3112, who had a little ascites, exemplifies yet another condition with a low albumin and a reversed A/G ratio.

The presence of oedema and ascites in these cases of anaemia has certainly given rise to errors in diagnosis. It often occurs at a stage when the anaemia is not impressive, and at which it may be missed altogether if reliance is placed on haemoglobin estimations alone. Two such cases were evacuated to this hospital with the diagnosis of hepatic cirrhosis, and in another vitamin B deficiency was suspected.

Aetiology and Complications

These are discussed together because I feel in a real difficulty of the "chicken and egg" variety. Certain conditions have been observed sometimes to accompany the anaemia, but whether they are also its cause is very difficult to determine. Table IV gives the conditions which were noted in this series.

TABLE IV.—*Conditions Present*

Ankylostomiasis	11*	Malaria	2*
Pulmonary complaints ..	9*	Scrub typhus	1
Amoebic dysentery	3	Schistosomiasis	1
Bacillary dysentery	1	None	12

* One patient suffered from malaria, ankylostomiasis, and a mild attack of pneumonia.

It will be seen that 12 of the cases suffered apparently from uncomplicated anaemia. Ankylostome ova were found in the stools of 11. In spite of the prevalence of dysentery, in only 4 of these cases was its presence established either during or before the onset of the anaemia. We can find no evidence suggesting that the anaemia was caused by dysentery; the diarrhoea from which many of them suffered was a feature of the anaemia itself, and was not caused by a bowel infection. In only two cases was the presence of malaria parasites established. (This raises a difficulty, because the majority of East African troops come from districts in which malaria is hyperendemic, and one would expect a higher parasite rate. On the other hand, they were all on suppressive mepacrine.) The proportion of respiratory complaints, varying from a mild bronchitis to frank pneumonia, was high. One patient was admitted with pneumonia and developed a macrocytic anaemia while in hospital.

Case DT/1574.—On admission (21/12/44): Temperature 103°, pulse 120, respirations 32. Crepitations at both apices; no frank consolidation. Not clinically anaemic. Given sulphapyridine.

26/12/44: T. normal; chest clear. Sulphapyridine stopped.

27/12/44: Moderate fever; looks pale. Hb 54%, R.B.C. 2,750,000, C.I. 0.99. Slight anisocytosis. W.B.C. 10,975 (P. 67%, E. 12%, L. 16%, M. 5%).

30/12/44. T. 100°. Weak and listless. Weil-Felix and Widal, negative.

5/1/45: R.B.C. 1,830,000, Hb 38%, C.I. 1.05. Anisocytosis, poikilocytosis, polychromasia; myeloblasts and normoblasts present; no sickling.

8/1/45: Put on high protein diet and vegemite.

21/1/45: Reticulocytes 5%.

23/1/45: Hb 82%, R.B.C. 4,630,000. Slight anisocytosis and poikilocytosis. W.B.C. 3,400.

26/1/45: Fractional test meal shows free HCl.

6/2/45: Hb 96%, R.B.C. 5,020,000, W.B.C. 4,100.

It is a pity that a red cell count was not done on admission. However, the blood counts of Dec. 27, 1944, and Jan. 5, 1945, illustrate the development of the anaemia. Large hypochromic red cells were present. The response of this case was particularly rapid. The impression gained from this and other cases is that though respiratory complaints do not cause the anaemia they may precipitate and exacerbate it.

That ankylostomiasis is potent in preventing recovery from anaemia was suggested by two cases in which ankylostomes were found and treatment was given soon after admission. After a time the anaemia failed to improve and further stool examination again revealed eggs. A second "worming" was followed by improvement in the blood count, and no more ova were seen. In face, however, of the number of cases in which neither ankylostomiasis nor any other disease was found, it is difficult to make a case for a causal relationship between the anaemia and any of the infections commonly seen in this theatre.

Of the total cases 31 were evacuated from forward areas, and 7 were admitted from L. of C. units. It is likely enough that the hardships of a particularly strenuous campaign would precipitate the condition in men already predisposed. But these figures may be misleading. At the time when almost all the sick and wounded from the East African Forces came through this hospital, all but a handful of troops were in forward areas. Later, when the division was out of the line, the bulk of the sick were diverted to another evacuation route, and were not seen here.

No apology is made for labouring the above points. In this, as in other instances, prevention is more important than cure. There is danger lest loose statement to the effect that anaemia is "always" due to malaria or ankylostomiasis may blind us to more important underlying conditions such as inadequate diet. In any case it is thoroughly established that the anaemia ordinarily caused by malaria and ankylostomiasis is characteristically of the microcytic type, and therefore different from that here described. To expect a man who has had a diet poor in first-class protein since he was weaned to maintain or replenish his haemoglobin in the face of hard campaigning conditions, with or without added infection, may be to expect him to make bricks without straw.

Treatment

Of this series one patient died from an intercurrent attack of cholera. Three were evacuated (when improving) because of pressure on hospital bed-space, and one was graded Category C on account of an old chronic synovitis of the knee. All the remainder have been returned to duty in Category A except five who are still under treatment. Some of those discharged still had achlorhydria, though three, originally achlorhydric, were found to secrete HCl when reviewed after return from the convalescent depot. Those with persistent achlorhydria all had normal blood counts, had put on weight, made no complaints of dyspepsia, and seemed so well that, rightly or wrongly, the finding was ignored and they were returned to duty. It seems, therefore, that the treatment given may be regarded as satisfactory in a long-term sense. But it has proved very slow: the average duration of treatment (including time at the convalescent depot) was 105 days; the longest 175 days, the shortest 58.

It is stated (Fairley and Low, 1939) that the condition responds to marmite, to liver, to liver extract by mouth equivalent to 1 lb. of liver a day, and to parenteral administration of liver extract. In the haemolytic type the doses of these substances may have to be very large. These authors say that before the introduction of liver therapy the mortality rate was around 40%. Moore, Vilter, Minnich, and Spies (1944), working on a series of cases in America, found that these responded to parenteral liver and to beef muscle by mouth, and further showed that the following substances were without effect: niacin, thiamine, riboflavin, calcium pantothenate, pyridoxine, inositol, para-aminobenzoic acid, and choline.

In the present series the supply of therapeutic substances was too irregular to allow of more than a "shot-gun" regime of treatment. The diet contained about 4,000 calories. There were approximately 165 g. of protein, of which 38 g. were contained in meat (muscle), 22 g. in liver (when available), 31 g. in milk (including cheese), and 12 g. in eggs, giving 103 g. of first-class protein. (Anyone familiar with the supply position of the forward hospitals will realize that not infrequently one or more of these items were not available.) In addition, each patient received 2 to 4 oz. of vegemite (marmite substitute) and 9 multivite tablets per day. Each received an iron preparation twice daily, and for a time 2 oz. of dried yeast. For a considerable period no liver extract for injection was available, and that eventually supplied was of Indian manufacture and doubtful potency. A quantity of liver extract for oral administration was available for some time.

In all, eight patients received liver by injection. In two only was a reticulocyte response observed. Two patients showed a reticulocyte response on vegemite. Eight patients had one or more blood transfusions because of their precarious condition. Three of these were previously given at other hospitals. More would have been given at this hospital but for the difficulty of persuading East Africans to act as blood donors. However, several patients whose condition seemed very precarious, but from whom blood had to be withheld for the reason mentioned, made a good though slow recovery without it.

Treatment of Oedema and Ascites

Five of the oedematous patients received intravenous infusions of reconstituted serum. This treatment was followed by a diuresis, and in three cases the oedema and ascites began to clear up a few days later. In the other two it appeared to have little effect. It is felt that this line of treatment should perhaps have been followed more vigorously. The difficulty was, first, that the amount of serum available was limited, and a good supply had to be conserved for surgical emergencies; secondly, that the giving of serum was usually followed by a sharp rise of temperature and a good deal of malaise and discomfort. The water used to dissolve it had been bottled for some time, and one would have felt happier in preparing fresh pyrogen-free water; no glass still was, however, available. A pint of serum will contain about 40 g. of protein, of which about 22 g. will be albumin; this would raise the serum albumin by about 0.5%.

In the presence of a large effusion the question of paracentesis arises. The fluid contains protein which is for the time being out of circulation, though if the effusion is naturally absorbed it will, presumably become "current coin" again. If, however, part of it is removed by paracentesis, and is replaced again (as so often happens) by further effusion, protein will be irrevocably lost to the body. As an example, on May 28, 1945, 2,570 c.cm.—a very small part of a huge ascites—was removed from the abdomen of No. 40866. This contained 93 g. of protein, of which 40 g. was albumin. The removal of this fluid made little difference to his comfort, and in a few days he was as distended as before. Subsequently (June 19) the oedema and ascites began to diminish, and had all disappeared in a few days. Earlier, N/22916 had had 3,640 c.cm. withdrawn at the cost of 32 g. of protein (which in this case was all globulin). He "filled up" again very quickly. Subsequently the whole effusion was absorbed. It is thought that, unless really serious embarrassment is being caused, effusions in these cases are better left alone.

Conclusion

In writing this imperfect account I have made use of some data,—e.g., the first figure in Table III—contained in the documents of patients transferred from other hospitals, and, in certain cases, of the notes of other M.O.s (particularly those of Capt. R. A. Shanks, R.A.M.C., of this hospital). I am greatly indebted to Major A. B. Raper and his staff, especially S/Sgt. M. Fitch, R.A.M.C., for all the haematological examinations, for routine pathological examinations, and for facilities for carrying out the serum protein determinations.

Summary

A brief account is given of 38 cases of tropical (or nutritional) macrocytic anaemia among East African troops. The aetiology of the condition in S.E.A.C. is discussed.

Particular attention is paid to the occurrence of oedema and effusions. They were observed in nearly 30% of cases, and appear to coincide with the regeneration of red cells rather than with the acute stage of the disease.

A number of estimations of serum protein have been performed. Their significance is discussed.

APPENDIX

The method used for serum protein determination was based on that of Walther (1941) for total serum of plasma protein. 0.02 c.cm. of serum of plasma (measured by means of a haemoglobinometer pipette) is digested with 0.25 c.cm. of sulphuric acid and 0.5 c.cm. of saturated potassium persulphate. The digested mixture is made up to 40 c.cm., nesslerized directly, and compared in a colorimeter against standard ammonium sulphate solution. In the original method a standard correction is applied for non-protein nitrogen, since it is estimated along with the protein nitrogen. In this work boiling-tubes, a spirit lamp, sulphuric acid, persulphate, and Nessler's solution were available, and the laboratory still fortunately yielded ammonia-free water. There was, however, no colorimeter. Fortunately, the commanding officer had brought with him a Lovibond tintometer, and the 0–100 mg. blood-urea disk. These disks are, of course, made for use under the precise conditions laid down by the makers and with Nessler's solution made to a certain formula. These conditions could not be fulfilled, so urea, dried in an improvised desiccator, was weighed out, dissolved, and the solution containing known amounts of urea treated exactly as the serum would be, and used to standardize the disk in terms of mg. of nitrogen per c.cm.

The serum total nitrogen was then determined as described by Walther. After digestion the volume was made up to 25 c.cm. and the nitrogen estimated in the comparator. Dilution, which was achieved by mixing the digest with ammonia-free water in the comparator tube, keeping the final volume 5 c.cm., was carried out if required.

Non-protein nitrogen was estimated by mixing 2 c.cm. of serum, 2 c.cm. of distilled water, and 2 c.cm. of 10% trichloracetic acid, filtering, and digesting 1 c.cm. of the filtrate with 0.1 c.cm. of sulphuric acid and 0.2 c.cm. of persulphate, and making the final volume 10 c.cm. Nesslerization and comparison were carried out as described above. This is not very satisfactory: the colour comparison is often hindered by cloudiness in the tube, due probably to the precipitation of inorganic phosphate. If, on the other hand, this is avoided by greater dilution, the colours (with normal N.P.N. levels) become too pale to be read. With this procedure, of course, the amount of filtrate digested is equivalent to 1/3 c.cm. of serum, instead of 1/50, which is used in the method for total protein. Fortunately, the protein equivalent of the N.P.N. is small, and the inaccuracy involved is not material.

It is worth noting that if the N.P.N. is high the difficulties mentioned disappear, since greater dilution can be used, and the method is then a quick and accurate one (e.g., Table III, No. DN/22926).

The fractionation of albumin and globulin was carried out on the usual principles: 0.2 c.cm. of serum was mixed with 6 c.cm. of 22% sodium sulphate (which was stored in the incubator) and the mixture allowed to stand at 37° C. No filter paper fine enough to filter off the precipitate was available, but by careful pipetting sufficient clear supernatant fluid could be obtained to carry out protein determinations, 1 c.cm. of fluid (equivalent to 1/31 c.cm. of serum) being digested as before. The blank tube contained appropriate amounts of sodium sulphate, sulphuric acid, and potassium persulphate. The result represented albumin nitrogen + N.P.N. The albumin was calculated from this and the globulin obtained from the figure for total protein by difference. All determinations were made in duplicate. Unless the duplicates were in good agreement they were repeated.

It will be appreciated that these methods were used from necessity, not from choice. The employment of so little as 0.02 c.cm. of serum implies an enormous dilution factor and a corresponding exaggeration of random errors. Distillation after digestion is always preferable to direct nesslerization, because of the presence of interfering substances. The lack of a colorimeter was a very severe handicap.

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SULPHAEMOGLOBINAEMIA DUE TO ANILINE DERIVATIVES

BY

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The continued use of aniline compounds may produce a marked and persistent cyanosis due to the formation of sulphaemoglobin in the red blood corpuscles. Attention has been directed in recent years to the frequency with which sulphonamide therapy is associated with sulphaemoglobinaemia, but the power of the humbler aniline antipyretics in this direction does not appear to be so well appreciated. Snapper (1925) described two cases of sulphaemoglobinaemia which were due to the continued use of aniline antipyretics. Similar cases have been described by Harrop and Waterfield (1930), Healy (1933), and Morgan and Anderson (1940), among others.

The toxicity of the different members of the aniline antipyretic group varies. The relative toxicity of acetanilide is high, and most of the reported cases of sulphaemoglobinaemia precipitated by aniline antipyretics have been due to that drug. Addiction to it has been observed, and this danger has been emphasized by a number of observers. Acetanilide is now included in Part I of the Poisons List (1937), is not easily available to the public, and hence widespread abuse of it is not to be expected.

Phenacetin presents a quite different problem. It is a component of numerous proprietary headache powders and can be obtained without difficulty. Its chemical structure is similar to that of acetanilide; it is less toxic, however, and cases of chronic poisoning by phenacetin are therefore seldom encountered. In large doses it can, as might be expected, produce poisoning, with effects, including sulphaemoglobinaemia, very much like those seen with acetanilide. Snapper's (1925) two cases of sulphaemoglobinaemia were due to chronic poisoning with phenacetin, and Coxon and Crawford (1940) have reported another. Two cases of sulphaemoglobinaemia have been seen recently, and are described here.

Case I

On April 6, 1943, a housewife aged 42 was admitted to hospital on account of severe headache, weakness, and cyanosis. She had been subject to attacks of severe headache since childhood. These attacks occurred at least once a week and each lasted one to two days. Since the menopause in 1941 the severity and duration of the headaches had increased. The pain began in the crown of the head and then spread to one or other side. The patient could not account for the headaches: she read avidly without ill effect, and was free of nausea and photophobia during the attacks. She shunned company and crowded places, as she feared that an attack might be precipitated in these circumstances. In 1930 she received numerous injections of morphine to ease the headaches. Eighteen months before admission she had noted that her lips were blue, and she stated that her skin had been blue for about a year. This blueness was more pronounced during attacks of headache, and the patient's relatives had remarked on the blue colour of her face. She had taken many brands of analgesic powders for her headaches, but two years before admission she resorted to a proprietary tablet (phensic) which contains approximately 3.6 gr. of acetylsalicylic acid and 2.1 gr. of phenacetin. She took between "4 and 10 tablets daily," according to the severity of the headache. During an attack of pain she had had as many as 30 tablets in a day (=63 gr. of phenacetin).

Her husband stated that in the last attack, which persisted for four days before admission, his wife had taken over 100 tablets. He said that the patient had become very irritable and depressed during the past few months. She was confused when the headaches were severe and kept swallowing tablets without regard to their number. During the past year she had been given 4½ gr. of ferrous sulphate daily and monthly injections of anahaemin, presumably to improve her general condition.

On admission the patient was greatly distressed with headache, but not confused. She was thin and poorly nourished. There was no dyspnoea, but cyanosis was very marked. The skin was a slate-grey colour, which was especially noticeable in the lips, ears, nose, and beds of the nails. The temperature was 99° F., the pulse rate 100, and the respiratory rate 20 a minute. The pulse was regular and of good volume: the arterial wall was not palpable. The area of cardiac dullness was not increased and the heart sounds were well heard. A systolic murmur audible at the mitral area was not conducted. The chest was symmetrical and moved equally on both sides. Further examination did not reveal any abnormality of the lungs. There was no evidence of any mediastinal abnormality. The abdomen was tense, but moved freely with respiration. The liver and spleen were not palpable. Examination of the nervous system did not reveal any abnormality. The optic fundi were normal. The urine was free of albumin, sugar, and blood, but showed the "diacetic acid fallacy" with ferric chloride solution.

Blood examination showed: Hb, 105% (Sahli); red cells, 4,800,000 per c.mm.; white cells, 4,200 per c.mm. The blood films were normal. The venous blood was darker than normal and remained so despite shaking in air. On spectroscopic examination of lysed blood an absorption band was seen in the red portion (612-620 λ) of the spectrum. This band was not affected by the addition of potassium cyanide solution and was presumed to be due to sulphaemoglobin. It was visible in a 1 in 100 dilution of blood in water two days after admission (April 8). No specific treatment was given. The headaches were considered to be psychogenic in type.

Progress.—The acute headache passed off after three days, but the cyanosis remained. Analgesics were withheld, and so far as is known the patient did not have a secret supply. Despite this, it was 16 days before there was any obvious diminution in the cyanosis. Three weeks after admission the cyanosis had lessened considerably, but the sulphaemoglobin absorption band was still present in a 1 in 18 dilution of venous blood. The patient was discharged after four weeks.

Six weeks after admission (May 21) the cyanosis had almost disappeared, although the sulphaemoglobin band was still detectable in a 1 in 12 dilution of the blood. Blood examination showed: Hb, 70% (Sahli); red cells, 4,800,000; white cells, 6,500 per c.mm. On June 11—i.e., just over eight weeks after withdrawal of the tablets—spectroscopic examination of the blood failed to reveal a sulphaemoglobin band. The general skin cyanosis had gone, but the lips were still dusky. Reviewing this case, we may conclude that the regular ingestion of phenacetin (8-20 gr. daily) over a period of two years had led to the formation of sulphaemoglobin in the blood.

Case II

A baker aged 57 was seen as an out-patient on July 10, 1943. He had had severe pain in the left shoulder during the previous three weeks. The onset of the pain had been sudden and some improvement had occurred with local counterirritant measures and analgesic powders. There was no dyspnoea.

The patient was a cheerful well-built man. Marked cyanosis, of blue-grey colour, was seen in the lips, face, ears, and especially in the nail-beds. Systemic examination did not show any further abnormality. In particular, there was no evidence of any upset of the respiratory and cardiovascular systems. Blood films were normal: Hb, 95% (Sahli); red cells, 4,250,000 per c.mm.; white cells, 7,800 per c.mm. The urine appeared to be normal on chemical examination. Rheumatic myalgia of the left deltoid muscle was found to be responsible for the pain; it responded to massage.

The analgesic powders prescribed by the patient's doctor contained 10 gr. of phenacetin and 5 gr. of acetanilide. Twelve powders were taken each week. Thus when first seen he had had a total of 240 gr. of phenacetin and 120 gr. of acetanilide in two weeks.

On being questioned he stated that the blue colour of his face had been noted by his relatives for a week and that it had caused them some concern, as they feared it was due to "heart trouble." The venous blood was darker than normal, having a chocolate tinge, and an absorption band in the red was found on spectroscopic examination. This band was not affected by potassium cyanide solution, and it was thought to be due to sulphaemoglobin. The band was easily detected in a 1 in 65 dilution of the blood.

No more powders were given, and the patient made an uninterrupted recovery. As is usual in sulphaemoglobinaemia, the cyanosis lifted slowly. Thus, one week later (July 17) cyanosis was still present and the sulphaemoglobin band was detected spectroscopically in a 1 in 30 dilution of venous blood. Two weeks later (July 24) the cyanosis was definitely less marked. The patient resumed his employment and did not return for further observation.

Both acetanilide and phenacetin had been taken in this case, and both may have contributed to the formation of the sulphaemoglobin. However, acetanilide, because of its greater toxicity, must be held largely responsible. No treatment of the cyanosis was given apart from withdrawal of the drugs. Long and Spriggs (1918) noted that inhalations of carbon dioxide and oxygen improved their cases of sulphaemoglobinaemia. Healy (1933) gave carbon dioxide and oxygen inhalations, together with a high-fat diet and ammonium chloride, to two cases of sulphaemoglobinaemia, and reported that the cyanosis disappeared within a week.

Discussion

Apart from the different drugs involved, these two cases of sulphaemoglobinaemia may be taken as examples of two clinical types in which cyanosis due to aniline antipyretics can occur. Case I is an example of the entity called "enterogenous cyanosis." The salient features here are psychological instability, weakness, chronic headache, and cyanosis without associated dyspnoea, occurring almost exclusively in women. While it is just possible that some of these cases may be idiopathic, it is now recognized that the majority are due to the ingestion of aniline antipyretics. The self-administration of drugs is often denied by these patients, and careful search may be necessary to find the actual cause of the sulphaemoglobinaemia. Case I suffered a relapse some months after dismissal. This patient was admitted to another hospital and a normal ventricular system was demonstrated by cisternal encephalography. She was then examined by a psychologist, who reported that the symptoms were psychological in origin. Case II presents many different features. Here the drugs were taken to obtain relief from pain caused by an organic condition. The pain of rheumatoid arthritis, as in the case reported by Coxon and Crawford (1940), or of rheumatic myalgia as in the case here described, may be the prime factor. Both sexes may be affected, psychological instability is not present, and the tendency to habit formation is not marked.

The mode of formation of sulphaemoglobin is the same whether it is produced by aniline itself or one of its derivatives. According to Snapper (1925), the circulating haemoglobin is sensitized by aniline derivatives and can thus unite with traces of sulphide absorbed from the intestine. Snapper induced sulphaemoglobinaemia in men by administering aniline compounds and sulphur. Outside the body, however, aniline and its related compounds have no effect on haemoglobin. It appears that aniline compounds are oxidized to the corresponding phenyl-hydroxyl amines and *p*-aminophenols in the blood stream and that these substances affect haemoglobin. Gley (1937) and Morgan and Anderson (1940) have demonstrated that both these substances, when added to blood, lead to the rapid formation of sulphaemoglobin if a trace of sulphide be present, and to methaemoglobin if sulphide be absent. Methaemoglobin can be produced only with difficulty by giving aniline antipyretics alone (Harrop and Waterfield, 1930). Further, methaemoglobin is highly unstable in the blood stream, being rapidly converted to haemoglobin (Stadie, 1921), and large quantities are required to produce cyanosis. Such cyanosis lifts within 24 to 48 hours after withdrawal of the drug, and is more likely to appear in acute than in chronic poisoning.

Finally, there is some evidence in favour of the view that coloured oxidation products of *p*-aminophenol are present in the blood after the ingestion of aniline compounds and that these are partly responsible for the cyanosis. Leslie (1939) described a case of acute acetanilide poisoning in which marked cyanosis was not associated with any change in the blood pigment and was considered to be due to the presence of some coloured derivative of acetanilide in the blood. Lundsteen, Meulengracht, and Rischel (1938) described 11 cases of chronic acetanilide poisoning with cyanosis, and were able to demonstrate a chocolate-coloured derivative of *p*-aminophenol in the blood of one of their cases which was specially investigated. It is difficult, at present, to assess the importance of this coloured *p*-aminophenol derivative in the production of cyanosis. In the majority of cases of chronic poisoning with aniline antipyretics, including the two described here, the cyanosis has been adequately, if not completely, accounted for by the presence of sulphaemoglobin in the blood.

Summary

The clinical and laboratory findings in two cases of sulphaemoglobinaemia due to aniline antipyretics are described. The method of formation of the abnormal pigment and other factors which may contribute to the cyanosis are discussed.

I wish to express my indebtedness to Dr. John Gracie for permission to investigate cases under his care, and to Drs. S. V. Telfer and G. H. Bell for their advice and help.

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THE CHILD WITH FREQUENT COLDS

BY

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In this article are given the results of a comprehensive investigation of 100 school-children suffering from frequent colds. At the invitation of the County Medical Officer, the children were referred by the school medical inspectors in the area of South-West Essex to a special clinic established at the hospital for the purpose of investigating this prevalent condition. The children were mostly drawn from middle-class and artisan families. The main part of the investigation consisted of clinical, *x*-ray, and laboratory examinations, and note was also taken of the environment and development of the children. While our chief purpose was to establish the clinical characteristics of the child with frequent colds, we also considered the problem of which department in a hospital should be responsible for their examination and should advise on their treatment.

It was inevitable that a number of children suffering from asthma and hay-fever should be referred to such a clinic. If these are excluded the history of the disorder is a typical one. The children usually began to suffer from frequent colds when they started attendance at school. They complained at first of blockage of the nasal passages followed by a mucous discharge which after a few days became muco-purulent. Often there was also a mild upper respiratory infection, with slight cough but little sputum. The general constitutional disturbances always found in an adult suffering from coryza were absent. The cold will last about two weeks, and then the child may be free for a few weeks until the next attack. This cycle will continue right through the winter and may often be present during the summer months, though the colds are usually less severe in the warm weather. In a small number of cases there was continuous muco-purulent nasal discharge between the attacks. Many of these children had had these frequent colds for as long as three years. While the children remain fairly well in spite of these frequent attacks, both the parents and the education authorities show concern at the amount of schooling lost. Some parents are also anxious lest the frequency of the attacks denotes some constitutional deficiency or even serious organic disease—e.g., tuberculosis.

We have examined 130 children, the findings in the first 100 of which are given below. There were 59 boys and 41 girls in this series. Four children were between the ages of 1 and 5, 69 between 6 and 10, and 27 between 11 and 15 years.

History

Their birth weights were all within normal limits, and they all developed normally from birth, reaching the usual milestones at the expected ages; 88 had been breast-fed and 12 bottle-fed; and 95 were given cod-liver oil and orange juice or other additional vitamins to supplement a normal diet. Only 2 children were in the habit of going to bed late. We analysed this series with regard to previous infectious diseases and found that 84 had had measles, 59 whooping-cough, 3 diphtheria, 59 bronchitis, 23 tonsillitis, and 14 otitis media. The majority of them had been vaccinated and immunized against diphtheria. No definite relation was found between any of these infectious diseases and the onset of colds. In 33 cases the mothers complained that their children snored at night and were mouth-breathers. Twenty-one children had had their tonsils and adenoids removed before being seen by us, mainly for the relief of frequent colds, and of these 18 were not improved. A near relative of 26 children had suffered from tuberculosis and of 22 from an allergic condition.

Clinical Examination

These children all showed normal weights and heights for their age and sex, and appeared to be well developed and of normal intelligence, with the exception of 3 who were slightly backward. None showed evidence of rickets. Their temperatures, pulse, and respiration rates were normal. Eight had carious teeth. Tonsillar enlargement of varying degrees was present in 39 and the adenoids were prominent in 27. In no case was there complete nasal obstruction, and the adenoid facies was rare. We specially observed the shape of the thorax of these children, and found that in 17 it was definitely barrel-shaped, in 5 alar, and normal in 78. In no case was serious lung disease found, but 8 showed a few scattered rhonchi and occasional rales. The heart, abdomen, and central nervous system were normal in all cases. No serious organic disease was therefore found on clinical examination.

Investigations

A number of laboratory tests were done on every child. The haemoglobin in 2 cases was between 60 and 70%, in 6 between 71 and 80%, in 45 between 81 and 90%, in 16 between 91 and 95%, and in 31 over 95%. The white count was between 6,000 and 10,000, and in no case was there a leucocytosis. The differential count showed some interesting features. Only 3 had increased eosinophils, but there were more than 40% of lymphocytes in 53 of the patients, showing a relative lymphocytosis. The urine was normal in every child. B.S.R. (Westergren) was done in one-third of the children, and was within normal limits. Twelve children had a positive Mantoux (1:1000), and 5 of these had positive family histories. None of them showed any other evidence of tuberculous infection, and there was no relation between the positive Mantoux reaction and anaemia or frequent colds. *X*-ray examination of their chests showed mild catarrhal changes in 49, particularly in the right lower zone, and also slight increase in the hilar markings. Skiagrams of their sinuses showed definite opacities in one or both maxillary antra in 51, and this was the most common abnormality found in the investigations done on these children. The radiographic appearances were thought to be due to mucosal swelling and thickening in the majority of cases, and only 3 showed opacities thought to be caused by actual pus in the sinuses.

Each child was also tested for allergic skin sensitivity to the common air-borne inhalants by the intradermal method, and to the pollens and the main food groups by the scratch test. In all, 14 groups covering 60 substances were used. No food sensitivity was discovered in any child. Eleven children showed positive reactions; 4 of these were cases of hay-fever and had marked sensitivity to pollens, and 5 were cases of bronchial asthma showing marked sensitivity to air-borne inhalants, those most frequently incriminated being house dust, feathers, horse dander, cat, dog, cow, wool, and furs, in that order. The remaining 2 cases gave positive skin reactions to air-borne inhalants, but the symptoms for which they had been referred were not regarded as allergic. The skin-testing was done independently of the history-taking and clinical examination, and therefore any bias in its interpretation can be excluded. It is interesting that in every case where an allergic factor was diagnosed it was confirmed by skin tests. At the clinic at this hospital for children suffering from respiratory allergy, in which skin sensitivity tests are done, 80% show positive reactions. This is in marked contrast to the present series, only 11% of which had positive skin reactions to the common air-borne inhalants. Two other features distinguishing the two groups are the absence of radiological abnormality of the nasal air sinuses in the allergic group and the low incidence of eosinophilia in the present series as opposed to the allergic.

The cervical, axillary, and inguinal groups of glands were carefully examined, and enlargement of the cervical chain of glands was noted in 30 cases. This was usually found in patients with enlarged septic tonsils. In addition, however, many children showed enlargement, sometimes to a considerable extent, of the other groups of lymph glands. This generalized glandular enlargement seems to be common in children who have an active septic or tuberculous focus, though often no obvious cause can be found. Twenty children with adenopathy had several additional investigations done to see whether further light could be thrown on this clinical problem—namely, the Paul–Bunnell test, Wassermann reaction, and biopsy of a small gland in 6 cases. All these tests proved negative, and the results of the routine investigations in no way differed from those obtained in children with no generalized glandular enlargement. The glands studied histologically showed activity only in the germinal centres, and the general structure of the gland was quite normal.

No bacteriological examination of the muco-purulent nasal discharge was made. Many workers have investigated its flora and the results are well known.

Conclusions

From these investigations we learn that the child with frequent colds is of normal development, build, and intelligence, and does not suffer from any other organic disease. Though minor degrees of anaemia occur, the children cannot be regarded as physically defective. The onset of the attacks at the beginning of school suggests that the continuous contact with infection is an important aetiological factor. No definite relation was found between the colds and developmental abnormalities, upbringing, previous illnesses, or contact with tuberculous infection. No conclusion can be drawn from the lack of improvement after tonsillectomy, as naturally the children who improved after this operation would not be sent to the clinic; but we believe that in the absence of other indications, such as infection of the tonsils or nasal obstruction due to adenoids, surgical removal of the tonsils and adenoids will be relatively ineffective as a measure designed to prevent frequent colds. No allergic aetiological factor could be established. Investigation of the blood, the Mantoux test, and special investigations with regard to glandular enlargement, though of general interest, did not throw any light on this condition. These frequent colds are due to inflammatory reactions of the mucous membrane lining the nasal passages and air sinuses, and give rise to few general constitutional disturbances in children. A filterable air-borne virus seems to be responsible, aided by other organisms such as the pneumococcus, *Str. viridans* and *haemolyticus*, staphylococcus, *Micrococcus catarrhalis*, or *Haemophilus influenzae*, which set up secondary infection. Repeated colds may cause nasal obstruction, and there may be arrest of nasal development and failure of muscular control over nasal respiration. These factors predispose the child to further infection.

We think that the treatment of this condition is entirely a problem for the ear-nose-and-throat surgeon, who should keep these children under supervision in a special clinic where they can receive conservative and operative treatment. A general medical or surgical, paediatric, or allergic clinic should not have to deal with these children, as, apart from the local conditions affecting the nasal passages, sinuses, and throat, no other abnormality could be discovered.

We wish to acknowledge our indebtedness to the County Medical Officer, Dr. W. A. Bullough, for his interest and co-operation in the investigation, and for permission to publish the results.

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Dr. Douglas Lothian, resident medical superintendent of the Down Mental Hospital, Downpatrick, in his report for 1944 records that 39 patients were treated by the electro-convulsive method during the year, and 9 of them were discharged recovered, 3 being cases of dementia praecox and 6 suffering from depression. Two other cases of depression made such considerable improvement as to warrant the expectation that they would soon be discharged, as did 1 case of dementia praecox. Three cases of dementia praecox made an apparent recovery, but relapsed later; 2 cases made some improvement, but relapsed completely later. Forty-seven patients recovered without electro-convulsive therapy, but with psychotherapy and occupational therapy; these included 18 cases of dementia praecox, 16 depressions, 7 anxiety neuroses, 5 manias, and 1 paraphrenia. The other recoveries included a case of general paralysis of the insane treated by tryparsamide and bismuth, 2 cases of arteriosclerotic confusion cleared up by careful attention to living habits, 1 case of uraemic confusion, and 2 cases of mental disorder resulting from alcoholism.

MASS MINIATURE RADIOGRAPHY OF FACTORY GROUPS IN MIDDLESEX

BY

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The Middlesex County Council Mass Radiography Unit took *x*-ray films of its first volunteer on Oct. 11, 1943, and to July, 1945, had examined over 70,000 persons, their ages ranging from 12 to 76 years. This report is confined to a survey of the work of the unit during the year 1944, with the exception of the age groupings of examinees and significant lesions, which are for the period Oct., 1943, to June, 1944. During 1944 ten factories were visited, their population ranging from 1,050 to 4,608. Neighbouring factories were invited to attend at most of these centres, so that the actual number of examinees varied between 706 and 9,640. Using the present set-up and the routine to be described below, it has been found to be uneconomic, from the point of view of time, to visit groups of fewer than 3,000. The response varied between 73 and 93% for inside groups, but fell to as low as 36% for some of the visiting factories. This was readily accounted for by the extra loss of working time when any considerable journey had to be made. The average period away from the work for an "inside" examinee was 15 minutes, and the unit has received letters from several firms stating that there was no appreciable loss in production time during its visit to their factory.

In a normal working week miniature films are taken on Monday, Tuesday, and Wednesday, and large films on Thursday. Friday is devoted to viewing miniatures, reporting on large films, and general clerical work. An average of 450 to 500 miniature films are taken daily, and as 500 is the maximum that can be satisfactorily viewed at any one sitting it is necessary to hold three viewing sessions weekly. During the first week of a visit there are four full days for miniatures, making a weekly total of 1,800 to 2,000, and the viewing sessions are correspondingly increased.

On Friday is completed the list of those persons required to attend for large films on the following Thursday. At one time it was the practice to send out the recall letters to their home addresses. In order to be sure of their receiving them in time it was necessary to post the letters a few days before the examinees were required to attend. We found that this period of waiting caused considerable anxiety and the development of not a few symptoms. To obviate this, examinees are now notified, where possible, by a note handed to them at their work an hour or so before their large film is due to be taken. Finally all persons who have a large film have a medical interview, including a discussion on their wet film, shortly after it is taken. In this way, by the time they return home from their work the whole procedure is completed.

Analysis of Results

The total number of examinees during 1944 was 34,227, comprising 19,609 males and 14,618 females. It has been impossible to date to set these out in age groups, but this has been done for the 20,982 persons examined by the unit during the period Oct., 1943, to June, 1944, and these are shown in Table I.

TABLE I.—*Age Groups of Examinees*

Age:	14–24	25–34	35–44	45–54	55+	Total All Ages
M ..	1,758* (14·6%)	3,658 (30·4%)	4,262 (35·5%)	1,610 (13·4%)	722 (6·0%)	12,010
F ..	3,680 (41·0%)	2,711 (30·2%)	1,718 (19·1%)	695 (7·7%)	168 (1·9%)	8,972

* It may be noted in regard to the small number in this group that in a paper by Trail *et al.* (1944) reporting a survey in the Royal Air Force 70% of the male examinees were in the 17–24 age group and that the incidence of active pulmonary tuberculosis among them was 0·3%.

Refusals.—It was possible to analyse the refusals by 682 persons from two factories with a total available population of 5,930. The result is given in Table II.

TABLE II.—*Analysis of Refusals by 682 Persons*

Age	Men		Women	
	Available	Refusals	Available	Refusals
14–34 ..	1,177	67 (5·7%)	2,167	165 (7·6%)
35+ ..	1,469	260 (17·7%)	1,117	190 (17·0%)

A further factory (Factory A of the Medical Research Council Report on Mass Radiography of Civilians) has been visited at yearly intervals, first by the M.R.C. and subsequently by this unit. It is of interest that out of 148 persons at this factory who refused in 1943 but were *x*-rayed in 1944, and a further 214 who while refusing in 1944 attended for examination in 1945, there was not one who showed any evidence of pulmonary tuberculosis.

There were 1,909 examinees recalled for a large film in 1944, giving a recall figure of 5.6%. Of these, 50—that is, 2.6% of those recalled—did not attend for their large film. As would be expected, the number of defaulters was always higher in the outside groups, averaging 3.7%, compared with 1.6% for the main factories. There were a further 36 who, having had a large film and on interview been recommended to attend a chest clinic, failed to do so. Of those who attended a chest clinic 1.5% were reported as requiring no further action.

Abnormalities Found

The abnormalities discovered among the 34,227 persons examined by the unit during 1944 are listed below. They are divided into tuberculous and non-tuberculous groupings. Cardiovascular lesions predominated in the latter, and it is of considerable interest that the great majority of these patients were already aware of their disability.

A. Non-tuberculous Pathological Conditions

Cardiovascular	157 (0·5%)
Congenital 12; acquired 145 (86% already knew of their condition)	
Tumours	15
Bronchiectasis	31
Lung abscess	2
Pneumoconiosis	33
Pneumonitis	10
Bronchitis and emphysema	104
Pleural thickening	569*
Miscellaneous	158

* Some of these were almost certainly of tuberculous origin.

B. With Evidence of Pulmonary Tuberculosis, including Healed Lesions (1,435 Cases)

(1) Known cases	140
(Improved or no change, 130; relapsed, 10)	
(2) Newly discovered:	
(*a*) Requiring no further action	861 (2·5%)
(Including 537 healed primaries)	
(*b*) Showing significant lesions	434 (1·3%)

C. Analysis of Significant Lesions

(*a*) Extent of disease:	
Unilateral	275 (63·4%)
Bilateral	159 (36·6%)
(*b*) Disposal:	
Observation	346 (1·0%)
10·8% of these were put on modified work	
Treatment	88 (0·3%)

(*c*) Presence of symptoms (Table III):

TABLE III

Disposal	With Symptoms	Symptom-free	Total
Observation	105 (32·0%)	241 (68·0%)	346
Treatment	46 (52·3%)	42 (47·7%)	88

(*d*) Sputum results in the 88 treatment cases:

None	34
Negative	32
Positive	22

(*e*) Age groups of significant lesions found in first 20,982 examinees (Oct., 1943–June 12, 1944) (Table IV):

TABLE IV

Age:	14–24	25–34	35–44	45–54	55+	Total All Ages
M ..	14 (0·8%)	40 (1·1%)	59 (1·4%)	27 (1·7%)	8 (1·1%)	148 (1·2%)
F ..	42 (1·1%)	38 (1·4%)	20 (1·2%)	6 (0·9%)	1 (0·6%)	107 (1·2%)

Comments

If the population of Middlesex be taken as 2,000,000 it can be calculated that there are approximately 1,200,000 persons in the 14–55 age group. Allowing that the age distribution of the females in the above survey is very skew, being excessively overweighted at ages 14–24; it appears that there are probably some 3,000 undiagnosed cases of pulmonary tuberculosis in the county in need of treatment, and that half of these cases are without symptoms.

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A CASE OF LEFT-SIDED APPENDICITIS

BY

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Although left-sided appendix is by no means rare, the following case is interesting in that a full examination was possible later in the post-mortem room and an unusual condition found.

Case Report

A soldier aged 19, three months convalescent from a subtotal thyroidectomy for Graves's disease, was admitted to hospital on March 21, 1945. He was in a very nervous and toxic state, and gave a history of severe abdominal pain, which had started suddenly 36 hours previously and become progressively worse. The pain was continuous in character, and was at first generalized and was accompanied by nausea, but had since become localized to the hypogastrium and medial side of the right iliac fossa; he had vomited twice just before admission. There was no history of dysuria, and the bowel actions had been normal. Previous history did not give any indication of gastro-intestinal disease.

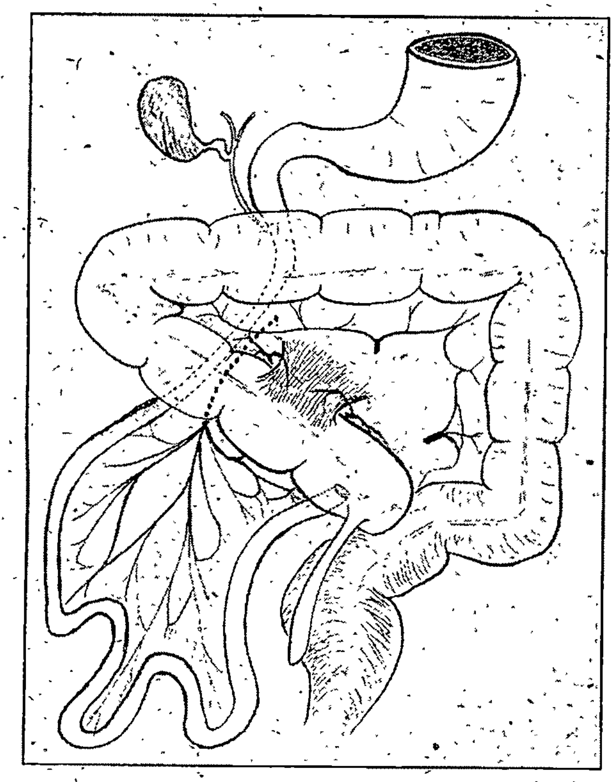


Diagram showing the abnormal position of the abdominal viscera, with the restrictive band.

Abdominal examination showed slight distension, with rigidity over the whole lower half of the abdomen; and acute tenderness localized to the hypogastrium and right iliac region. Auscultation revealed a "silent abdomen." Per rectum, he was tender anteriorly, high up. His general state was poor, with dehydration and a rapid pulse which showed occasional extrasystoles. A diagnosis of early diffuse peritonitis, secondary to a perforated inflamed appendix, was made, and operation arranged accordingly.

Operation.—The abdomen was opened through a right gridiron incision as there was no clinical indication of an abnormal situation of the appendix, and purulent fluid escaped. On inspection neither the appendix nor the caecum could be seen, and their absence was confirmed by finger exploration—the right iliac fossa being apparently filled with distended coils of small gut only. The incision was closed and replaced by a right lower paramedian incision; this revealed a long gangrenous appendix lying obliquely across the left lower abdomen, from left to right, with the tip reaching the recto-vesical pouch. The caecum was occupying the left iliac fossa, together with the sigmoid colon, and it was ascertained that the liver was in its normal situation; but, apart from this, no further exploration was attempted, in view of the patient's critical state, and appendicectomy with suprapubic pelvic drainage was carried out. Intravenous infusion was started, and an attempt was made to institute continuous duodenal suction; but the man proved most intractable and refused to tolerate either form of treatment, repeatedly pulling out both Ryle's tube and intravenous cannulae.

He became progressively worse, developing paralytic ileus and dying on the fifth day. Permission for a "limited" necropsy was granted.

Post-mortem Findings.—On opening the abdomen the small bowel was found to be entirely confined to the right side, with the caecum and ascending and descending colons occupying the left. The ascending colon passed obliquely upwards and to the right to join the transverse colon at a normally situated hepatic flexure, the ascending colon being maintained in its abnormal site by a thick band, 2½ in. broad, between its middle third on the left side and the transverse mesocolon. The appendix arose from the right side of the caecum, and the ileum entered it towards the right side on its postero-lateral aspect. The jejunum started at its junction with a vertically descending third part of the duodenum, on the right-hand side of the superior mesenteric artery. No other congenital abnormalities were found. (See Diagram.)

Commentary

I could not find any evidence of inflammatory adhesions, and there were no enlarged or calcified mesenteric glands, so it must be presumed that the band from the ascending colon was of congenital origin; further close inspection of the band showed fairly large vessels coursing in its substance, derived from the right colic artery and distributed to the colon, suggesting that it was a contracted right mesocolon.

A so-called "wandering caecum," due to excessive rotation of an unduly mobile caecum, was excluded by the position of the appendix and ileo-caecal valve on its right side; and further proof of the congenital origin of the condition was supplied by the abnormal site of the duodeno-jejunal flexure to the right of the superior mesenteric artery.

From these findings it is suggested that the case described is a failure of rotation of the mid-gut loop, which normally takes place at the beginning of the tenth week of foetal life during the process of reduction of the "physiological umbilical hernia"; the colon and caecum, with the attached post-arterial mesentery, being allowed to enter the abdominal cavity first, instead of the normal mid-gut and pre-arterial mesentery—probably as a result of a lax umbilical ring. As a result of this mechanism, the later return of the mid-gut loop tends to displace the vitelline artery and hind-gut, with its post-arterial mesentery, to the left and dorsally, thus accounting for the left-sided position of the large bowel. Some attempt at normal fixation of the mesenteries had taken place, as is shown by the hepatic flexure occupying its normal position, in contradistinction to the more usual U-shaped transverse colon of non-rotation of the mid-gut loop, and this partial fixation probably prevented the marked tendency to volvulus around the superior mesenteric pedicle in early infancy, of which Dott describes two cases (*Brit. J. Surg.*, 1923, **11**, 251).

An unusual feature of the clinical findings was the presence of signs and symptoms in the right iliac fossa, at a point remote from the actual position of the appendix; but its deep pelvic situation might have accounted for this.

I am indebted to Dr. Ponder, county medical officer for Kent, and Mr. J. W. D. Buttery, medical superintendent of the Royal Victoria Hospital, Folkestone, for permission to publish this case.

A. Louis (*Thèse Paris*, 1945, No. 98), who records an illustrative case in a girl aged 19 months, came to the conclusion that the best treatment of Still's disease at the present time consists in intramuscular injection of gold salts.

Medical Memoranda

Four Cases of Hemicolectomy

Below are presented accounts of four cases of hemicolectomy performed for different and rare conditions.

Case Reports

Case 1.—Man aged 56. On admission the patient gave a history of increasing constipation for the past six months, together with colicky abdominal pain about seven hours after meals, loss of weight (one stone), and recent onset of vomiting after meals. On examination a palpable mass was felt occupying the right iliac fossa and right hypochondrium, which was not tender, but which was fixed to the posterior abdomen. *Operation.*—Heavy spinal anaesthesia. A plasma drip was started and a transverse muscle-cutting incision made. On exploring the abdomen an ileo-colic intussusception was found, extending as far as the middle of the transverse colon. It was possible to reduce the intussusception only up to the hepatic flexure, so it was decided to undertake a hemicolectomy, removing the terminal ileum, caecum, ascending colon, and hepatic flexure, and performing an ileotransversostomy. The patient made an uninterrupted recovery. The cause of the intussusception was a lymphosarcoma of the terminal ileum.

Case 2.—A woman aged 70. This patient was admitted as an emergency case (? acute appendicitis). She had complained of colicky abdominal pain in the umbilical region for the past eight hours and also of pain in the right iliac fossa. A history of a similar attack two months before was given. The temperature was 99° and the pulse 74. On examination a mass about the size of a hen's egg was palpable through the abdominal wall. *Operation.*—Heavy spinal anaesthesia. A plasma drip was started and a transverse muscle-splitting incision made. On exploring the abdomen an appendix 4 in. long, thickened and hard, was found. This thickening and hardness extended to about a third of the caecum. A diagnosis of carcinoma of the appendix was made, and a hemicolectomy was performed. The terminal ileum, caecum, ascending colon, and hepatic flexure were removed and an ileotransversostomy was done. The patient made an uninterrupted recovery, except for an intramural abscess which developed at the outer part of the incision. On microscopical section an adenocarcinoma involving the appendix and extending into the caecum was found.

Case 3.—This patient, a woman aged 60, was admitted as an emergency case with a two-days history of central abdominal pain, colicky in type, and vomiting which began about two hours after onset of pain. This vomiting was not marked until just before admission to hospital. The bowels had moved on the day of the onset of abdominal pain, but had only a slight motion the next day; thereafter neither faeces nor flatus was passed. On examination the lower abdomen was distended, chiefly in the right iliac fossa; there was also tenderness over the lower abdomen. On auscultation peristalsis was increased; the general condition was good. *Operation.*—Heavy spinal anaesthesia. Plasma drip started. A right paramedian subumbilical incision was made, the caecum immediately presenting itself, greatly distended, black, and friable. The lower half of the ascending colon was also involved; the caecum and ascending colon had twisted anti-clockwise on the mesentery. The volvulus was apparently caused by a very long mesentery to the right colon. As the general condition was good, it was decided to carry out a hemicolectomy; the ileum, caecum, ascending colon, and hepatic flexure were removed and an ileotransversostomy was performed. The patient made an uninterrupted recovery.

Case 4.—A man aged 62. This patient was admitted as an emergency case with a two-days history of lower abdominal pain, colicky in nature, and vomiting soon after. On the day of admission vomiting (dark brown in type) had been continuous. He had been costive since the onset of abdominal pain and had passed neither flatus nor faeces on the day of admission. On examination the lower abdomen was distended (most markedly in the right iliac area) and was tympanic on percussion; there was also lower abdominal tenderness. On auscultation peristalsis was increased. Blood pressure was 110/82. *Operation.*—Cyclopropane anaesthesia. A plasma drip was started immediately. A right paramedian incision was made; there was volvulus of the caecum and the proximal half of the ascending colon, non-viable, friable, and blue-black in colour. A hemicolectomy was performed, removing the terminal ileum, caecum, ascending colon, and hepatic flexure, and ileotransversostomy was carried out. The patient developed pneumonia and died three days after operation.

Hugh MacCarthy, F.R.C.S.I.&Ed., M.R.C.P.I.

Allergy to Egg-prepared Vaccines

A case is here reported of an alarming reaction to the egg allergen in typhus vaccine. One previous case has been found in the literature, and more examples of similar reactions to preparations from egg media may be expected. Oral desensitization for six months enabled this patient to take 60,000 times the dose of allergen originally causing symptoms and to eat eggs with impunity. But skin tests were unchanged, and it would have been dangerous to attempt further inoculations. A simple precaution before giving injections of such vaccines would be to ask the question, " Do you eat eggs?".

Case Record

In Nov., 1943, an airman was admitted to No. 1 N.Z. General Hospital, Middle East Forces, in a state of severe collapse, having vomited blood and become acutely breathless and then comatose. He had an urticarial eruption and his respiration was asthmatic. By next morning he had completely recovered. He had been allergic to eggs all his life—35 years—and was usually able to avoid egg foods by their taste. But if he happened to swallow the food he would vomit, or, if there was no vomiting, he would get oedema of the lips, tongue, and larynx, asthma, urticaria, and general shock. He had never before vomited blood or passed into coma, and as he was at a meal when the symptoms came on he concluded that the rissoles contained egg. Further inquiry, however, showed that he had had his first antityphus inoculation 15 minutes before this meal. It was then clear that his reaction was due to the introduction of a large amount of egg protein parenterally. An extract of egg was made, and strongly positive scratch tests were obtained both in the patient and in a subject passively sensitized by his serum.

Oral desensitization was then started, daily doses being given of a quarter of a teaspoonful of a 1: 2,500 dilution of egg in water. At first this caused a mild reaction in the form of nausea and tingling of the lips, which lasted about half an hour. This reaction passed off in a few days, and the dose was increased by 50%. With a steady increase in this manner he continued the treatment until in July, 1944, he reached the dose of one raw egg daily, which has been continued since. On two occasions the sensitivity has shown signs of returning—once with a nasal cold and once when he stopped treatment for a few days.

In Sept., 1944, further scratch tests were made with egg extract and with undiluted typhus vaccine. Both gave strong reactions (3 plus), of no less intensity than before desensitization.

Discussion

The preparation of vaccines from viruses and rickettsiae on egg media is a recent method of which more and more examples will be seen in the future. And since a small section of the population are highly allergic to egg protein, this will lead to some severe or even fatal reactions.

For the following list of vaccines prepared on egg media and manufactured on a commercial scale I am indebted to Major E. C. Van Rooyen, R.A.M.C.

Typhus	Prepared from yolk sac
Yellow fever	" " egg embryo
Influenza	" " " "
Smallpox egg-lymph	" " allantois

An alarming reaction from the egg allergen in yellow-fever vaccine has already been reported by Swartz (1943), his patient developing asthma, gastro-intestinal allergy, and angioneurotic oedema a few minutes after the injection. My own patient gave a history of receiving yellow-fever inoculations without any ill effects, and apparently his sensitivity was to a yolk allergen not present in egg embryo.

The response to desensitization is in keeping with atopic sensitivities in general. At the outset the airman was sensitive to even the minute quantities of egg protein which could get into his circulation without being digested. Prolonged desensitization enabled him to take these minute amounts with impunity, but not the relatively large doses introduced by injection or scratch test.

I wish to thank Brig. H. S. Kenrick, C.B.E., E.D., N.Z.M.C., Director of Medical Services, N.Z.E.F., for permission to publish this report.

R. G. Park, M.D., M.R.C.P.,
Lieut.Col., N.Z. Medical Corps.

Reference

Swartz, H. (1943). *J. Lab. clin. Med.*, 28, 1663 (quoted in editorial, *J. Allergy*, 1944, 15, 241).

The 25th report of the National Council for the Unmarried Mother and her Child (117, Piccadilly, W.1) has a foreword by the president, Lord Gorell, and is signed by the chairman, Mrs. H. A. L. Fisher, to whose devoted labours he pays tribute. The report covers a period of fifteen months and is a record of strenuous, unremitting, and valuable work. Before long the Council hopes to become incorporated and enter upon a new stage of its existence. Meanwhile it has become affiliated to the National Council of Social Service while renewing affiliation to the National Council of Women and remaining a constituent body of the National Council for Maternity and Child Welfare. The Case Committee has dealt with an unprecedented number of cases, and the Ministry of Health's scheme for the care of women discharged from the Services on account of pregnancy has involved the Council in a very great deal of work. While the Council is not itself responsible for any home, nearly all the homes and hostels of the voluntary and statutory organizations are affiliated to it.

Reviews

WAR AND SOCIAL PSYCHIATRY

The Shaping of Psychiatry by War. By John Rawlings Rees, M.D. (Pp. 158. 10s. 6d.) London: Chapman and Hall. 1945.

Brigadier Rees, as consulting psychiatrist to the British Army, has had a unique opportunity of investigating the psychiatry of the war, which he has summarized in these Salmon lectures given in America. While he has for the most part described the work of others, he has himself been the inspiration of that work, and as such has, with the whole body of psychiatrists, Service and lay, changed the "shape" of psychiatry. The main problem of modern psychiatry is concerned not with the psychoses but with the numerous personality problems which, in certain adverse situations of work and of social environment, lead to the psychoneuroses and behaviour disorders. Methods of analytic treatment are necessarily prolonged and can, therefore, deal with only a small proportion of those who need such treatment. An effort must therefore be made to prevent even those who are predisposed from breaking down. This is the aim of social psychiatry, and the principles and means of coping with this problem in the Army have here been described. It opens up vast possibilities for civilian life in the future.

The "priorities" in social psychiatry are: first, methods of selecting the right man for the right job; secondly, prophylaxis by better training and "man management"; thirdly, morale; and, finally, treatment. The first three are fully dealt with and their methods described.

Selection.—Some points make very interesting reading; for instance, when all candidates are examined by the psychiatrist they welcome it, whereas if some only are selected for examination this implies that they are peculiar, and they dislike it. Brigadier Rees considers that the chief credential of a good psychiatrist is the personality qualification. The importance of personality qualifications is indicated in the fact that a much shorter course is required to make a good psychiatrist provided he is of the right personality. This applies also to the selection of officers: "It was early realized that in selecting men for commissioned rank the personality factor was the major consideration, provided that the candidate had adequate intelligence" (p. 72). But is personality a "factor"? Is it not the sum total of factors, of which intelligence is one? One nevertheless has an uncomfortable feeling that in assessing personality we are assessing something the nature of which is not understood or defined. For selection, the tendency has been away from laboratory tests to tests calling forth the whole personality, such as putting the officer into a difficult test situation with a number of his fellows without any instructions.

Prophylaxis.—While the author rightly stresses that those with analytic experience are the best capable of designing methods and carrying out these procedures, it is not perhaps sufficiently stressed that only by the radical investigation and treatment of the individual can the predisposing causes be rightly assessed and the prophylaxis become really effective. Without this, social psychiatry will become a superficial study and make blunders. The medical officer, says the author, has to think in terms of groups rather than of individual patients. This is true for prophylaxis, but it is not exclusively true of treatment; and it is to be questioned why the individual casualty suffering from a war neurosis should not receive the same care, say, as an orthopaedic patient, who sometimes takes months to recover.

Morale.—To many this will be the most interesting part of the work: for instance, the observations on the danger of discipline without morale. "The three main factors which make for good morale in wartime are: adequate war aim and purpose, a sense of one's competence and value, and the feeling that one matters as an individual in a group of other similar people" (p. 84). Some of these investigations confirm earlier opinions, but others gave unexpected results, such as that women (A.T.S.) in mixed batteries complained more of fear of sterility than of sex (possibly because fear inhibits sex), and that sexual disorders arose out of loneliness rather than excess of sex feeling. A hint from child psychology was found to apply also to Army recruits (p. 79)—namely, that it is best to let a recruit use his weapon first and then learn to look after it, otherwise he loses the enthusiasm with which he started and becomes bored. Some of us wondered at the beginning of the war whether a war could be successfully fought without hate. An interesting observation regarding morale is, therefore, that the original attempt to inculcate hate of the enemy was ineffective and led to depression; also that too much realism at first encouraged anxiety. The recruit had to be inoculated into realism. The importance of morale in war has always been recognized, but never so much as in this war. On page 95 Brigadier Rees states: "Wars are won, not by killing one's opponents, but by undermining their morale." But some of us may still believe that killing them is the most effective way of undermining their morale.

In the chapter "The Way Ahead" Brigadier Rees points out the application of the findings in war psychiatry to social psychiatry in civil life. These are but some samples of the large number of interesting subjects dealt with. Altogether it is a book that everyone interested in psychiatry, and in social and industrial medicine, should read. It gives a new orientation to the practice of psychiatry, and Brigadier Rees deserves the thanks of the profession for so lucid and interesting an introduction to the subject.

HISTORY OF ANAESTHESIA

The History of Surgical Anesthesia. By Thomas E. Keys. With an introductory essay by Chauncey D. Leake, and a concluding chapter by Noel A. Gillespie. (Pp. 191; illustrated. $6.00.) New York: Schuman's.

The serious study of the origins and development of a specialty augurs well for that specialty. Sturdy and well-cared-for roots can but ensure a healthy and productive tree. So far as anaesthesia is concerned an accurate and scholarly account of its history has been long overdue. The earlier appearance of such a history might have prevented both the duplication of invention and the undeserved praise for the supposed originality of the inventors.

Major Keys has obviously put enthusiasm and energy into his task and has managed to pack a remarkable amount of information into small compass. No anaesthetist will read this book without pride, nor surgeons without wonder that so much has been accomplished in the field of anaesthesia in so short a time. The emphasis on American achievement is a little heavy, and British anaesthetists may feel that the very noteworthy contribution of this country to the development of inhalation anaesthesia in the 19th century is treated rather cursorily. One of the many lessons to be learnt from reading this book is that progress in anaesthesia is not to be made by a new knob here or an altered tap there. Such stories as that of divinyl ether, told by Chauncey Leake in the introductory essay, are examples to inspire those who would make real contributions to the subject.

Major Keys has made his material not only readable but enjoyable both to the medical and to the interested lay reader. For the anaesthetist, however, the book cannot be regarded as the last word on the subject. There are only some 90 pages of text, the other half of the book consisting of a chronology, lists of references, and an index. Included, also, is a short and excellent essay by Dr. Gillespie on the future of anaesthesia. Inevitably, therefore, much has had to be omitted. Thus no reference is made to Cattlin, whose revolutionary introduction, in 1868, of a reservoir bag, now frequently misnamed a rebreathing bag, made it possible to dispense with the cumbersome gasometer. Clover, an illustrious pioneer in this country, receives but five lines in the text, in none of which are even mentioned his more important contributions, such as the, to us, familiar ether inhaler and the very ingenious and accurate apparatus for the production and administration of known percentages of chloroform. They receive a bare mention in the chronology. Some of the sources might not satisfy the academic, who would dispute the superiority of an encyclopaedia over an author's own works as to what the author did or did not say.

Most of the illustrations are portraits, and but few are instructive or help to clarify the text. They provide, however, a fine picture gallery of Americans, past and present, whose names are respected in anaesthesia. Queen Victoria finds herself in strange company. Her patronage of and submission to anaesthesia *à la reine* seem little qualification for inclusion of her portrait here.

However, these are but small blemishes in an excellent little book. One hopes that it will be widely read and become a pioneer, to be followed by more exhaustive works on this subject, which will provide not only interest for the clinician but also a detailed source of reference for the research worker in anaesthetics.

COSMETICS

Modern Cosmeticology. By Ralph G. Harry, F.R.I.C. Second edition. (Pp. 432; illustrated. 35s.) London: Leonard Hill Ltd. 1944.

This book had a very good reception when first published in 1939. There are considerable alterations in the new edition. The book has grown very greatly, having expanded from fewer than 300 to over 400 pages, and is now embellished with numerous figures, including 8 coloured plates. It may be added that, whereas it was originally published in New York, it has crossed the ocean, notwithstanding the difficulties of war, and is now published in London. Although it has greatly increased in size the paper used is much thinner, and it has diminished in bulk and is very convenient to handle.

The new edition is fortified by a foreword from Dr. P. B. Mumford, who gives it his blessing. The scientific approach to the whole subject, which we noted with satisfaction in the first edition, is still well maintained—perhaps this is in large measure due to the fact that Mr. Harry is an original investigator of some experience. He himself has worked particularly on the conditions necessary for the preservation of oils. These compounds are of much importance in the manufacture of many forms of cosmetics, and they are very liable to become rancid owing to the development of a certain degree of oxidation in them, and rancidity spoils any cosmetic preparation. This tendency can be controlled to a very large extent by the help which certain anti-oxidants give to the keeping qualities of various oils. His experiments show that gum guaiacum is a very good anti-oxidant which has the advantage that, unlike several other compounds that have been used for the purpose, it appears to be quite innocuous.

This volume includes a consideration not only of creams and powders but also of the cosmetic problems presented by the hair, the teeth, the nails, and, in fact, by all the cutaneous appendages. Naturally it overlaps the domain of the skin physician, but the author is extremely careful not to trespass too far into pathology and therapeutics, and there is no doubt that the dermatologist can profit a great deal from study of this book; in fact, even more from the present edition than from the original one. On the whole the illustrations are apposite and useful, but it is doubtful whether the coloured photomicrographs of the human skin and scalp are valuable enough to justify the additional cost they must involve. They throw very little light upon the problems with which cosmetics are concerned. This, however, is a very minor blemish, if indeed a blemish at all, and we have no hesitation in recommending *Modern Cosmeticology* to all concerned with the enhancement of human beauty.

Notes on Books

Dr. **Arlette Barbequot-Butavand** has produced a book—*Cahiers de Dessins d'Anatomie*—for the use of the hospital attendants and nursing staff of the Medical School at Lyons. It is issued by J. B. Baillière et Fils, of Paris, in two parts, each containing 57 plates and comprising 203 separate figures. These consist of a series of anatomical drawings in simple outline, with brief legends and names of the principal parts, supplemented by occasional comments. The drawings are arranged in copybook form, the plates being on one side of the opened book—the left—whereas the opposite page on the right is left blank, to be filled in by the pupil with notes or copies of the printed drawings, which it is suggested may be coloured so as to distinguish bones, arteries, veins, nerves, and muscles from one another. The principal object which the author has had in mind is, he states, twofold: since anatomy is easily understood and impressed on the memory by drawings, to provide something concrete which will enable each pupil to develop his own powers of observation and dexterity in drawing; and at the same time to cultivate his visual memory. He also recommends that pupils should, when possible, supplement the drawings on the printed page by original drawings from Nature, and thus increase the value of their course of study and of the books they read and benefit them in the exercise of their profession. In these days, when hospital attendants, nurses, and doctors of different nationalities frequently become associated in their work, the publication of these two "Cahiers" should be no bar to their use by English-speaking readers, but, on the contrary, a distinct advantage, since it would tend to familiarize them with the names of the various parts and organs of the body in the French language.

The importance of the care and housing of the aged is being increasingly realized. A pamphlet entitled *Bucks Old People's Welfare* tells the story of the formation of a county committee for that purpose at Aylesbury on Feb. 3, 1945. Sir Leonard West, chairman of the Buckinghamshire County Council, presided, and every branch of social endeavour was represented. It was pointed out by Mrs. Keeling that it was the transfer of responsibility for supplementary pensions in December, 1940, to the Assistance Board that had brought to light the fact that many old people were living alone under the most unfavourable conditions. The aim of this committee was to see that such were not only fed, clothed, and sheltered "in a negative kind of peace" but enabled to spend what was left of their lives in "positive happiness." In pursuit of this laudable, if difficult, objective, representatives were appointed to look into the situation and to report later with suggestions to an adjourned conference. The body of this booklet discusses, in an interesting way, both short-term and long-term policy for remedying a gap in our social services still inadequately filled, though some real success has been achieved already. It is evidently written by an enthusiast for the subject, with definite and clear-cut ideas. Copies may be had from the printers, Hunt, Barnard and Co., Aylesbury, price 1s. 2d. post free.

The welcome we gave to the first edition of Dr. **Julius Bauer**'s *Constitution and Disease* can be given with equal cordiality to the second (William Heinemann; 21s.). That this has been called for within eighteen months of the publication of the original edition proves its usefulness. For too long the genetic factor in disease received scanty and intermittent attention, and although this is being corrected it has not been easy to obtain the evidence in a compact form such as is now possible from these pages. In this new edition the text has been amplified, the bibliography has been added to considerably, and it is now, as it should be, provided with an adequate index.

We have noticed in these columns several books on the population problem. Mr. **Mark Abrams**'s little book, *The Population of Great Britain: Current Trends and Future Problems* (George Allen and Unwin; 3s. 6d.) is among the best; it is very clearly written and objective. It can be read through in an hour and provides any intelligent person with an adequate basis of knowledge. We may add that, unlike so many wartime books, it is pleasant to look at and read.

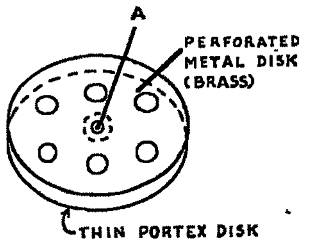
Preparations and Appliances

VALVE DISK FOR CIRCLE ABSORBERS

Dr. J. **Clutton-Brock** (Lincoln) sends the following description of a new valve disk for circle absorbers:

This device consists of a disk of thin flexible portex joined concentrically to a thin perforated disk of metal.

I have found these disks very satisfactory in my absorber as they only weigh 13 gr. as opposed to 34 gr. for a standard metal disk of the same size. There is no tendency to blow back at a pressure of 200 mm. Hg. Although they are, perhaps, a little heavier than a similar bakelite disk, there is no question of warping, and I have found most bakelite disks definitely not very flat. The two disks are joined together at the point A by a small aluminium rivet. The thickness of the metal disk is 0.005 in., and the portex 0.007 in. The thin portex disk lies on the knife edges and makes a perfect airtight seal.



SULPHATHIAZOLE SUSPENSION

Messrs. Menley and James, Ltd., now offer for sale "mickraform" sulphathiazole suspension. It is a sterile suspension containing 20% sulphathiazole in very fine crystalline form, far finer than ordinary crystals. Since sulphathiazole has a low solubility, these smaller crystals give a much better chance of the sulphathiazole getting into solution. The suspension can be applied much more effectively than powder to deep wounds. It has a pH between 5.5 and 6.5, and is said to be stable.

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DOSAGE AND EFFECTS OF CHOLINE CHLORIDE

In a recent letter to this *Journal* J. A. Barclay and co-workers[1] have suggested that the dosage of methionine and choline should be much higher than the amounts used in the therapeutic trials which have been reported in the *Journal*[2] and elsewhere. They calculate that the curative dose in man would be 20 grammes of choline a day for two or three weeks, or 20 to 60 grammes of methionine a day for a period as yet undetermined. For the moment such quantities of methionine can be dismissed as unobtainable for general therapeutic use. Choline is a simpler and cheaper compound, and as it is likely to be the subject of further therapeutic trials in diseases of the liver and kidneys and in protein malnutrition, the following observations on dosage and toxic effects may be of value to intending prescribers.

Twenty years ago physiologists and physicians were interested in choline chiefly because it was the parent substance of acetyl choline. It has, in fact, much the same action on the autonomic nervous system as acetyl choline, acetyl-β-methyl choline, and carbamyl choline, though it is far less potent. Sollman[3] states that cats show no ill effect after the slow intravenous injection of 15 mg. per kilogramme of body weight; 35 mg. per kg. are fatal. As the choline is rapidly destroyed, 0.8 to 0.9 mg. per kg. a minute may be injected "practically indefinitely." This corresponds to a dosage of approximately 3 grammes an hour in man. Slow intravenous injections have been recommended for the treatment of paralytic ileus, and this probably represented the only therapeutic indication for choline until the last two or three years. Both the *British Pharmaceutical Codex* (1934) and the *Extra Pharmacopoeia* (Martindale, 1941) give the dose for this purpose as 10 grains (0.6 g.) intravenously, though the latter subsequently recommends "10 g. in 180 ml. of normal saline," which is presumably a misprint.

During the past decade a considerable literature has accumulated on the nutritional significance of choline. It is now regarded as an important constituent of the vitamin B complex which is concerned in the transport of fat in the body and is essential for the health of the liver and the kidneys. As a consequence choline chloride has been used in the treatment of acute and chronic disease of the liver in man. On theoretical grounds more might be expected of choline in chronic enlargement of the liver and the fatty type of cirrhosis than in acute hepatitis or in the shrunken liver of atrophic cirrhosis. Therapeutic trials of choline in cirrhosis so far reported have been carried out without controls, and a decisive answer will not be obtained until a large number of cases is collected and alternate patients are treated with and without the drug. Reports on the treatment of isolated cases of acute hepatitis or acute necrosis are likewise suspect. It is difficult to follow Barclay's argument that results become more convincing when they are buttressed by metabolic data; changes in metabolism are just as much subject to the statistical law of variation, and demand just as careful controls, as clinical improvement or deterioration. Our purpose, however, is not to assess the clinical value of choline but to discuss the dosage by mouth and the possibility of toxic effects from long-continued administration.

The daily requirement of choline chloride has been estimated approximately in the growing rat. Griffith[4] puts it at 4 to 6 mg., and Engel[5] at 10 mg. for a 40-gramme rat. This works out at 250 mg. per kilogramme of body weight. This figure probably represents the order of dosage required in man, for, although the growing rat has a high rate of metabolism and therefore uses a lot of choline compared with an adult man, this is balanced by the fact that the dosage of vitamins in disease has to be much higher than the maintenance dose. In the dog, Fouts[6] has used 100 mg. per kg. of body weight to counteract the effects of a low protein diet, but Kaplan and Chaikoff[7] found a higher dose necessary to exert a curative action on the fatty liver of experimental animals. They had to give 400 mg. of choline chloride per kg. for more than three weeks to reduce the fat content of the liver of the depancreatized dog to normal levels. Dosage in man has hitherto been a good deal lower. Broun and Muether[8] treated four patients with cirrhosis with choline chloride in a dosage of 1 g. daily for periods up to two years. Russakoff and Blumberg[9] in ten cases of cirrhosis gave up to 6 g. of choline chloride a day in divided dosage. One of their patients, who was given 0.5 g. of choline chloride on an empty stomach, complained of nausea, which was associated with a slight drop of blood pressure and slowing of the heart; otherwise there were no ill effects. Their highest single dose appears to have been 1.5 g. Richardson[10] gave 1.5 g. of choline chloride a day for eight days to sixteen patients with infective hepatitis without appreciable effect.

Only one author has described ill effects from continued administration of choline chloride, and his observations have not been confirmed in man. Davis[11] has reported that the red cell count in dogs falls when they are given choline chloride by mouth for fifteen days or longer. He observed a fall when the choline was given in a single dose of 8 mg. per kg. a day, but the effect was greater when 10 mg. per kg. of choline chloride was given thrice daily.[12] The anaemia was attributed to dilatation of the blood vessels by the choline and increased supply of oxygen to the bone-marrow. Davis suggested the possibility that dogs prepared in this way might be used for the biological assay of liver extracts for the treatment of pernicious anaemia.

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[1] *British Medical Journal*, 1945, **2**, 298.
[2] Ibid., 1945, **1**, 415.
[3] *Manual of Pharmacology*, 6th ed., Philadelphia, 1942.
[4] *J. Nutrit.*, 1941, **22**, 239.
[5] Ibid., 1942, **24**, 174.
[6] Ibid., 1943, **25**, 217.
[7] *J. biol. Chem.*, 1937, **120**, 647.
[8] *J. Amer. med. Ass.*, 1942, **118**, 1403.
[9] *Ann. Intern. Med.*, 1944, **21**, 848.
[10] *British Medical Journal*, 1945, **2**, 156.
[11] *Amer. J. Physiol.*, 1944, **142**, 65.
[12] Ibid., 1944, **142**, 402.

Davis[13] has also reported that choline chloride in a daily dose of 100 mg. by stomach tube is effective in partially reducing cobalt polycythaemia in rabbits. These experiments have not been supported by observations on man. Cartwright and Wintrobe[14] found that choline chloride had no effect on the blood count in man when given in doses of 10 mg. per kg. of body weight orally three times daily, and choline chloride has been tried without success in a smaller dosage in polycythaemia in man.[15] [16] Finally, there is the paradox that Moosnick, Schleicher, and Peterson[17] report the cure of a refractory case of pernicious anaemia by means of intravenous injections of choline chloride, 1 g. daily. They suggest that fatty infiltration of the liver prevented successful elaboration of the liver extract and that the infiltration was removed by the choline.

The conclusion from the literature is that the effective dose of choline chloride for the treatment of disease of the liver or kidneys, and for disturbances of nutrition or metabolism, is likely to be at least 100 mg. per kg. of body weight, or 6 g. a day in an adult man, and it might be three or four times as high. In other words, the curative dose of choline chloride must approach close to the toxic dose. The danger is a sudden flooding of the circulation with choline and consequent depression of the heart and blood-pressure. This has happened with as little as 0.5 g. taken on the fasting stomach in man. This danger and other disadvantages may be circumvented by intravenous drip therapy, as Barclay suggests, but whatever expedient is used treatment with choline will need careful supervision if it is to be both effective and safe. The risk of depression of the bone-marrow can probably be discounted, but it would be well to keep a watchful eye on the blood count until more is known about the reaction of the human marrow to high dosage. Furthermore, we cannot regard the therapeutic failure of choline in human polycythaemia as completely demonstrated until maximum tolerated doses have been tried.

LUNG DISEASE IN COAL-MINERS

To do justice to the fascinating material in the third report recently issued by the Medical Research Council's Committee on Industrial Pulmonary Disease[18] would tax the ingenuity of the most experienced abstracter. In a small volume of 94 pages is accumulated what must surely be a unique series of experimental attacks on the fundamental problems of coal-miner's disease, carried out quietly and with restraint at a period when the world's greatest war was being waged. It will be recalled that the committee's scheme of inquiry included a medical survey and related pathological studies of chronic pulmonary disease in South Wales in terms of the environmental background. Previous reports have dealt with these facets, ranging over physical, chemical, and petrological no less than medical peculiarities. The third report is a complementary one, and describes the experimental problems which have been encountered. It must be a source of satisfaction to the committee that a convincing answer to many queries has been given by their colleagues in the laboratory.

Before attempting to give some idea of what awaits the reader it will be useful to remind him of the trend of previous investigations sponsored by the committee. A careful survey established beyond doubt the responsibility of air-borne dust as a factor of first importance in the production of coal-miner's disease. Chemical and petrological investigations of the nature of such dust, and of the coal seams and adjacent rock strata from which the dust is derived, brought out the complexities of the disease-producing agent, and suggested that variations in the incidence of pneumoconiosis might depend on differences in the dusts. It can now be stated that the composition of mineral residue obtained from the lungs varies with the occupation of the miners, according to differences in the dust-producing strata in which the men work. Although anthracite colliers show no significant increase in dust or total silica or quartz with increasing degrees of fibrosis of their lungs, the group as a whole has an increased quartz residue when the picture of silicotic nodulation is impressed on the pulmonary tissue. Prof. E. J. King and his co-workers consider that quartz, rather than mica or kaolin, constitutes the chief hazard, though its activity may be modified by the other dust components. Some idea of the relative importance of the various dusts as agents of disease may be obtained by introducing them into the lungs of experimental animals—a method developed by the late Prof. E. H. Kettle. Belt and King find that the purest coal dust, whether anthracite or steam coal or bituminous, has a low pathogenicity. Animals so treated show little fibrosis in their lungs even after the lapse of long periods of time. As the content of siliceous material in the coal dust increases so do its pathogenic properties. Mixing quartz dust with shale dust, which is lowly pathogenic, substantially reduces the harmful nature of the quartz. Mixtures of quartz dust and coal give a confluent fibrosis more closely allied to that seen in coal-workers than the lesion resulting from pure quartz dust. It is apparent that many factors are concerned in the production of the South Wales pulmonary disease; among them are the quantity of siliceous matter in the inhaled dust and the presence of mineral matter which modifies the deleterious action of silica. The problem is complicated by the observation that some siliceous dusts are harmful and others relatively harmless; so far there is no clear explanation for these differences. In accounting for the injurious effect of silica the possibility of a toxic action on tissue cells when it is in solution has to be considered. The difficulties encountered in establishing this hypothesis are set out in the admirable report of Prof. King, who has earned the gratitude of at least one reader for the lucidity he has brought to a forbidding chemical labyrinth. In general it seems to be true that the more soluble a siliceous dust the greater its toxicity; but there are many exceptions to this generalization, and further investigation is required for a satisfactory answer.

What, then, is the present position of the coal-miner's problem? The third report of the Medical Research Council's committee suggests that quartz is probably the most noxious factor, but that its action is modified by admixture with other substances. The South Wales dust is composed of small amounts of quartz mixed with large amounts of coal and other minerals, either of which may contribute its part or even exert an antidotal effect on the action of the quartz. This sort of explanation might account for the decrease in incidence of pneumoconiosis among colliers in South Wales with the rank of the coal mined, from high in anthracite to low in bituminous coal. In other words, there must be considered a number of possibilities, such as a generally higher dust concentration in anthracite mines, differences of interaction of quartz with different types of coal, or differences of modification of quartz effect because of varying mineral composition of the shales and other strata associated with the coal. It seems likely at the moment that all these factors are involved in causing the differences in the incidence of pneumoconiosis—a truly formidable prospect for the investigator. If the M.R.C. reports are an indication of the energy and inspiration which will be directed in the future towards a most difficult problem, there need be no room for pessimism over its solution.

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[13] *J. Pharmacol.*, 1941, **73**, 162.
[14] *J. Amer. med. Ass.*, 1945, **127**, 911.
[15] Carpenter, G., *Amer. J. med. Sci.*, 1940, **200**, 462.
[16] Meyer, O. O., and Thewlis, E. W., *J. Lab. clin. Med.*, 1941, **26**, 1137.
[17] *J. clin. Invest.*, 1945, **24**, 278.
[18] *Chronic Pulmonary Disease in South Wales Coalminers.* III. Experimental Studies. Med. Res. Cncl. Spec. Rep. Ser. No. 250. H.M. Stationery Office. (5s.)

THE EFFECTS OF LIGHTNING

Since Seneca, doctors and philosophers have for centuries been interested in the diverse and often bizarre sequelae of lightning-stroke, and the manner of death. Pliny's opinion that a person who has heard the clap of thunder and seen the lightning flash can consider himself safe from that particular hazard has a curious topical ring in view of the beliefs as to survival during aerial bombing and falling V1 and V2 projectiles. Among the seventeenth- and eighteenth-century writers on fulguration we can with benefit re-read J. A. Dietericus,[1] J. A. Münnich,[2] F. J. Baier,[3] C. F. Hoffmann,[4] and J. G. Biedermann.[5] In the nineteenth century more serious attempts were made to study the physiology and pathology of lightning-stroke, and the monographs by Bonnet[6] and by F. Sestier[7] are classics. L. Weber's report on the Schleswig-Holstein disaster of 1878, in which 92 people were struck and 10 killed, may be taken in conjunction with F. Panse's account[8] of the Königstein incident, where, out of a party of 29, 3 were killed and 26 temporarily paralysed. Charcot was particularly interested in the neurological effects of lightning—a phenomenon which he termed "keraunoparalysis." In more recent years the subject has been written up by H. A. Spencer[9] and by M. Critchley.[10] [11]

The Goulstonian Lectures of Dr. A. J. Jex-Blake on "Death from Electric Currents and by Lightning"[12] are well remembered. This same author has lately contributed a paper to the *East African Medical Journal*[13] dealing with modern ideas on the physics of lightning. We learn that the electrical potential between the two ends of a flash is around a thousand million volts. The current is direct, amounting to 20,000 amperes at least, and the quantity of electricity conveyed averages 20 coulombs. Most of the energy is converted into heat, but there also appear Hertzian waves (or "atmospherics") with a frequency of 20,000 or so. According to Simpson's "breaking-drop" theory[14] it is considered that electricity separates whenever a raindrop breaks up into a number of smaller particles. The water becomes positively charged, the air negatively. The upward movement of warmed air brings about an electrical separation. A single flash occupies a thousandth of a second, and photographs demonstrate that it follows a meandering course with lateral branches, and has not the conventional zigzag shape depicted by artists. When lightning strikes sandy soil it may produce by fusion an irregular fulgurite or lightning-stone, reminiscent of the vitreous changes brought about in Hiroshima by the detonation of the atomic bomb.

The same issue of the *East African Medical Journal*[15] contains an editorial on "What to do in a Thunderstorm." One should remain indoors, with doors and windows shut, and away from the fireplace. Telephones may be used with impunity, but the neighbourhood of the main electrical switch and meter should be avoided. The lead-in wire from the aerial to the wireless set should be fitted with a switch to permit earthing. Out of doors one should shun crowds, flocks of cattle, isolated trees, hedges, walls, and river banks. It is better for one's clothes to be soaking wet than dry. To hold up an open umbrella is unwise. The treatment for apparent death after lightning-stroke is prompt artificial respiration, continued if necessary for hours or until the body cools or rigor mortis ensues.

It is common knowledge that Great Britain is relatively immune from severe thunderstorms as compared with Kenya and South Africa. Nevertheless during the 29 years 1852–80 there were 546 fatal cases of lightning-stroke in England and Wales, and in the decade 1901–10 there were 124 deaths. A. G. S. Mahomed[16] considered from an analysis of 237 fatalities that lightning storms in England and Wales are commonest on the plains and oolitic uplands, but the usual belief that lightning is more frequent along the course of rivers was not supported.

NUTRITIONAL SURVEYS IN ITALY

An U.N.R.R.A. medical programme in Italy was described at a recent Press conference in London by Dr. J. Metcoff, one of two young Harvard doctors, the other being Dr. A. McQueeney, who have been carrying out nutritional surveys in that country. Dr. Metcoff explained that the U.N.R.R.A. programme had three main objectives: (1) to determine the degree of malnutrition in Italy as evidenced by clinical examination; (2) to use the results for the purpose of providing foodstuffs to meet specific needs; and (3) to bring Italian organization to a stage at which it would be able to assume responsibility. During a period of six or seven months, beginning in January last, some 34 surveys had been carried out in areas of Rome and Milan, also south of Rome, and to the north from Pisa to Ravenna. Data were obtained on the heights and weights of selected poorer children who were likely to be undernourished. The statistics were thus heavily weighted in favour of reflecting the lower levels of malnutrition in Italy, not the average nutrition. The object was to gain information rapidly, and to utilize it rather than to obtain the exact statistics desirable in an ordinary research project.

Out of some 2,500 children, about 31% showed some form of classical nutritional deficiency, and of that deficient class roughly 90% had rickets. Only 17 cases of gross inanition or profound malnutrition of the starvation type were discovered, and these were all in infants in institutions. Of the mothers examined 3.5% had classical nutritional deficiencies. Attention had been mainly directed to expectant and nursing mothers, the groups most likely to show the first evidences of malnutrition. A number of the persons examined were in refugee camps. The deficiencies most frequently suggested were in riboflavin and vitamin A.

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[1] *De fulmine et tonitue ac fulgure*, 1696.
[2] *Relatio physica medica*, 1732.
[3] *Oratio de fulminibus literatorum ordini fatalibus*, 1756.
[4] *De Morte in fulmine tactis*, 1766.
[5] *De causis subitae mortis fulmine tactorum*, 1768.
[6] *Des effects de la foudre sur l'homme*, 1859.
[7] *De la foudre, de ses effects, et de ses formes*, Paris, 2 vols., 1866.
[8] *Mschr. f. Psych. Neurol.*, 1925, **59**, 323.
[9] *Lightning, Lightning-stroke, and its Treatment*, London, 1913.
[10] *Lancet*, 1934, **1**, 68.
[11] *Bristol med.-chir. J.*, 1932, **49**, 285.
[12] *British Medical Journal*, 1913, **1**, 425, 492, 548, 601.
[13] *E. Afr. med. J.*, 1945, **22**, 170.
[14] *Proc. roy. Soc. Lond.*, 1937, **A161**, 309.
[15] *E. Afr. med. J.*, 1945, **22**, 165.
[16] *Proc. roy. Soc. Med.* (Sect. Baln.), 1916–17, **10**, 45.

A technical committee on nutrition had been set up by the Italian Government. Its members included eminent medical specialists, and it had issued a pamphlet as a basis for examination of the population generally, but more specifically of mothers and children. This pamphlet had been sent to about 20,000 doctors in Italy, accompanied by a record card for setting out the findings of their own examinations. The information thus gathered from the whole country was sent to the central committee, and in essence it provided a system, which was still in its early stages, for the notification of malnutrition. Dr. Metcoff believed that Italy was one of the few countries, if not the only country, which had made malnutrition a notifiable disease. The pamphlet also gave a basic food schedule for infants—a standard method which went as far as it was possible at the moment to go in this direction. Mothers and children in need would thus be enabled to obtain supplementary foodstuffs from U.N.R.R.A., the amount and kind being determined on an economic and medical basis. The economic need must be considered independently of the medical need, because it was conceivable in such a country that a person might exhibit no signs of gross malnutrition and yet be in great need of food.

The Nutrition Committee of the Italian Government, said Dr. Metcoff, had also started a series of training courses for Italian doctors. The courses were to be carried out at five universities, and the programme in the University of Rome had already begun. Each course lasted for about two weeks and consisted of some 38 hours of didactic lectures and a similar amount of time in practical demonstrations. Doctors who had been out of contact with recent developments, especially on the nutritional side and in paediatrics and maternal welfare, would thus have an opportunity of being refreshed. Infant mortality in Italy had always been high. It was difficult to determine the actual mortality at the moment, but the general feeling was that it had not been greatly aggravated. Rickets had undergone a sudden increase during the war, but no exact comparison with pre-war figures was available. There was also an increase in tuberculosis. In view of the many other causes operating in wartime favouring tuberculosis, such as overcrowding and the distribution of infected people among the population, this must not be regarded as attributable to malnutrition. Children's clinics in Italy, while architecturally satisfactory, appeared to be under-used. Some of the larger clinics were found to be caring only perhaps for two dozen children, whereas similar clinics in other countries would be serving in the course of the year a couple of thousand. Steps were now being taken for the clinics to be more adequately used.

RELAXIN

In 1854 Duncan[1] published his observations on "The Behaviour of the Pelvic Articulations in the Mechanism of Parturition." Ever since it has been recognized that a relaxation of the pelvic ligaments occurs during pregnancy, but only in the last two decades has the mystery of this mechanism begun to clear. In the 'twenties Hisaw and his colleagues[2-5] demonstrated the nature of the relaxation as it occurs in guinea-pigs, and found in the serum of pregnant animals of many kinds a substance which they called "relaxin." They prepared a powerful extract of the hormone from the corpora lutea of sows,[6] and claimed that it was distinct from both oestrone and progesterone. Confirmatory evidence was published by Brouha,[7-9] Pommerenke,[10] and Abramson *et al.*,[11] but the discovery by de Fremery *et al.*,[12] Courrier,[13] Tapfer and Taslhofer,[14] and Haterius and Fugo[15] that relaxation can be brought about by oestrogens and progesterone naturally cast doubts upon the existence of relaxin as a separate hormone. That oestrogens are capable of producing relaxation is, indeed, a fact of veterinary importance, for the consequent alteration in the morphology of the hind-quarters of cows is a cause of the fractures which occur when stilboestrol is used with a view to increasing the production of milk.[16]

These doubts have stimulated Hisaw and his colleagues to further research. They have now shown[17] that a preparation of relaxin can be made which has no oestrogenic effect in a dose 120 times and no progestational effect in a dose 500 times that required to relax the pelvic ligaments of guinea-pigs. They showed also that relaxin not only fails to bring on the physiological effects of oestradiol and progesterone but differs from them chemically in being insoluble in fat solvents. The relaxing effect of relaxin is maximal 6 hours after injection, that of progesterone 72 to 96 hours later. The injection of progesterone into intact animals (but not into those which have been castrated and hysterectomized) is followed after the same interval by the appearance of relaxin in the blood. Progesterone, moreover, cannot bring about relaxation in castrated and hysterectomized animals. It seems probable, therefore, that the relaxation it causes in intact animals is due to the fact that *it stimulates the formation of relaxin in the genital tract.* Oestradiol is likewise capable of doing this in intact animals, and in castrates, but not in castrated hysterectomized females. In them, however, it potentiates the action of injected relaxin, and it has in all probability some independent relaxing activity. It is noteworthy that so far relaxin has been found only in conditions in which progesterone is normally present. One of the functions of progesterone may well be the formation of relaxin in the uterus. In unpregnant females only the concentration found in pseudo-pregnant animals can be experimentally achieved. This is one-fiftieth the concentration found in normal pregnancy, and it therefore seems likely that the placenta is the main site of formation of relaxin.

Although the changes induced by relaxin in animals are not identical with those found in women, they are similar enough to suggest that a parallel mechanism is at work. Moreover, relaxin has been found in the serum of pregnant women by Abramson and his colleagues.[11] The possible clinical significance of these findings is obvious, and further work on the human subject will be eagerly awaited.

The Minister of Health (Mr. Aneurin Bevan) is reported to have stated at a meeting of the Society of Physiotherapists on Oct. 20 that by the early months of 1946 he would be presenting a Bill in the House of Commons for a comprehensive health service.

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[1] *Dublin quart. J. med. Sci.*, 1854, **18**, 60.
[2] *J. exp. Zool.*, 1925, **42**, 411.
[3] *Proc. Soc. exp. Biol.*, N.Y., 1926, **23**, 661.
[4] *Anat. Rec.*, 1927, **37**, 126.
[5] *Physiol. Zool.*, 1929, **2**, 59.
[6] *J. Amer. chem. Soc.*, 1930, **52**, 3340.
[7] *C. r. Soc. Biol.*, Paris, 1928, **99**, 1769.
[8] Ibid., 1932, **109**, 548.
[9] *Arch. int. Pharmacodyn.*, 1934, **48**, 147.
[10] *Amer. J. Obstet. Gynec.*, 1934, **27**, 708.
[11] *Surg. Gynec. Obstet.*, 1937, **65**, 335.
[12] *Neerl. Physiol.*, 1931, **1**, 146.
[13] *Proc. Soc. internat. Congr. Sex Research, Edinb.*, 1931, 357.
[14] *Arch. Gynäk.*, 1935, **159**, 313.
[15] *Proc. Soc. exp. Biol.*, N.Y., 1939, **42**, 155.
[16] *J. Endocrinol.*, 1944, **4**, 19.
[17] Abramowitz, A. A., Money, W. L., Zarrow, M. X., Talmage, R. V. N., Kleinholz, L. H., and Hisaw, F. L., *Endocrinol.*, 1944, **34**, 103.

ANNUAL HARVEIAN COMMEMORATION

THE PRIME MINISTER WITH THE ROYAL COLLEGE OF PHYSICIANS

The Harveian Dinner of the Royal College of Physicians was held at the Dorchester Hotel on St. Luke's Day, when Lord Moran presided over a company numbering about two hundred. The principal guests were the Archbishop of Canterbury, the Lord Chancellor, the Prime Minister and several members of his Cabinet, the Prime Minister of Canada, Mr. Anthony Eden and other members of the late Government, the French, Soviet, and Chinese Ambassadors, the Lord Mayor of London, the President of the Royal College of Surgeons, and representatives of other medical bodies, including the President and the Chairman of Council of the British Medical Association. It was a notable occasion, and not least because of the blend of seriousness, wit, and brilliance as represented in the speeches of the Prime Minister, the Archbishop of Canterbury, and the President of the College.

The **Prime Minister**, who said that though he spoke as a layman he could claim many doctors in his family tree, both as ancestors and as collaterals, proposed the health of the Royal College. Since the foundation of the College, over four hundred years ago, it had played a noteworthy part in contributing to the health and happiness of mankind, and it was well in these days of change, when so many monuments of the past were being swept away, to consider the continuity of effort directed to a single aim which the College represented.

Mr. Attlee went on to speak of two outstanding advances in medicine during the war, one of them, which would have been of special interest to Harvey himself, the development of the blood transfusion service, and the other the discovery of penicillin. But in mentioning these advances on the research side he wished also to pay tribute to the personnel of the medical profession, both in the fighting Forces and in civil practice. Here he digressed to speak of the services rendered by the President to the late Prime Minister:

> "We in the War Cabinet often had great anxiety owing to the vigorous travelling habits of our wartime Prime Minister, and it was always a comfort to know that on these expeditions he was under the care of Lord Moran."

After saying that he could give no details of the Government's proposals for a National Health Service, Mr. Attlee proceeded:

> "We seek a service which will be comprehensive in the double sense of being available to every member of the population and of covering every form of medical and allied activity. We intend to have a service in which no patient shall be without the treatment he needs through lack of money or through deficiency in or lack of organization of the necessary facilities. We need, too, a service in which professional men and women will be able to devote themselves to their great calling without financial anxiety and without in any way feeling cramped and over-controlled by regulations."

He spoke of the need for a great improvement in the hospital service, in the facilities for diagnosis and treatment outside hospitals, in the number and distribution of medical men, both consultants and general practitioners, and perhaps above all in the planning and organization of all the different branches into a single integrated service. "The task is not easy, but we are going to do it. Above all we realize—no one more keenly than my friend the Minister of Health, who is here this evening—that for this to be successful we must have the help and co-operation of the profession itself."

Doctors and Politicians

Lord **Moran** began by giving a little ancient College history. In 1637, when the College prepared for the Government a report on the health of the people—a report which would do credit to any modern medical officer of health—it ended by proposing a Ministry of Health. The actual words were: "They suggest the provision of a commission or office of health, which has been found useful in Spain, Italy, and elsewhere." The Ministry was established nearly 300 years later. The College still made suggestions, and on the whole he thought the tempo had quickened a little! Truth compelled him to say that not all the College pronouncements were so prescient. In 1648 it pronounced public baths hurtful to the commonwealth and cited the experience of Athens and Rome to show that they caused physical effeminacy and debauchery of manners.

Politics and medicine, Lord Moran went on, had certain things in common. The Prime Minister of one of the Dominions once said to him that the great thing in politics was to avoid mistakes, and certainly in the practice of medicine the best physician was the one who committed the fewest errors in diagnosis. How was this done? The physician who never for a moment forgot the distinction between what he knew and what he only thought he knew would not go far wrong. But if as he grew older and vainer he refused to admit that he was fallible, his mistakes would multiply. A physician who in the hubbub of success had lost his humility was not a safe guide.

A kind of success could be won in both professions by the "gift of the gab." He supposed that the greatest danger to the doctor's integrity of mind was the credulity of his patients. A friend of his, one of the ablest Ministers in the last Cabinet, once confided to him that at all times and in every ill he had found salvation in the manipulations of a certain gentleman, "I forget now whether he twisted his neck or merely pulled his leg." Was the quality of credulity entirely lacking from the audiences which hung on the words of politicians in Parliament and in the country? Was it not true that in a democracy the gift of public speech had an undue advantage over other qualities? And if the credulity of the public was a snare to both professions, what was the remedy? It could only be the education of public opinion.

> "Will medicine and politics go forward into the future in step? I wonder. Medicine is becoming more scientific. The glittering victories she has won in the field of bacterial disease by the discovery of penicillin and by the use of sulphonamides have enriched our resources. The physician of to-day is twice as well equipped in the war against disease as he was when I was a student. The physician who knows what is wrong with a patient and has an effective remedy in his hands can 'cut the cackle.' He has no need of it. The doctor's patter has been the subject of ridicule from Molière to Bernard Shaw, but the profession has been weaned from this patter because it has been armed. The task of the politician is less simple. Even more than the doctor he has to deal with the vapours in man's mind. . . . But let me end my comparison of politics and medicine with this admission, that while medicine has riveted the attention and absorbed the energies of some of the ablest of our race, the government of man, which is the business of politics, is the greatest of all human studies."

Responding to the toast of the guests, proposed in a speech of commendable brevity by Dr. John Parkinson, Harveian Orator, the **Archbishop of Canterbury**, who enlightened the occasion with a wit that delighted everyone, referred to his close connexion with the King's School at Canterbury, mentioning that he had only discovered that afternoon that two old boys of that school bore honoured names in the early history of the College. One was Thomas Linacre, founder and first President, and the other was William Harvey himself. Both of them were also Oxford men—one a Fellow of All Souls' and the other Warden of Merton, the two Colleges of which the Archbishop of Canterbury was always Visitor.

They were all thankful, the Archbishop went on, that medicine could now turn from salvaging the wreckage of fratricidal war to peaceful and constructive tasks. The medical profession had always been governed and disciplined by the zeal for scientific truth, the passion to serve society, and the sense of personal vocation. "Although we expect the members of the medical profession to know their job scientifically and to serve the public well and skilfully, what in the end we treasure most about them is something in their character which is the proof of their personal vocation and devotion, and we all pray that that may never grow less in this great profession."

Mr. **Ernest Bevin**, the Foreign Secretary, who also responded, said that this was not his first experience of the College. He had attended an earlier dinner in which he had ventured to ask for the help of the members of the College in industrial health and welfare, and he expressed his appreciation of the progress made in that field, although it was not so much as he would have liked. He also referred to the work done by the joint committee of the Trades Union Congress and the British Medical Association, which he thought had done a great deal to bring the medical profession nearer to men and women at their work. A tragic shortage of efficient man-power would exist in this country for several years to come. This was due to two causes—the losses of the last war, which were now being felt in the scarcity of responsible men between the ages of 45 and 55, and the losses of this war, as measured not only in life but in interruption of training. The devastation in Central Europe, the loss of productive capacity all over the world, the tremendous wealth of the United States, the enormous power of Russia, all made it evident in different ways what a great burden was laid upon the British people if British leadership was to be maintained. During the next twenty-five years they could not afford to lose a single productive unit. "I know that you as one of the great professions will cast aside any prejudices you may have, and just as you flung everything on the altar to resist the enemy, you will place your great ability to the fullest extent to the common service in order that this country may survive and still play its part in human destiny."

RHEUMATIC FEVER AND HEART DISEASE

The annual Harveian Oration founded by William Harvey in 1656 was delivered on Oct. 19 at the Royal College of Physicians of London by Dr. **John Parkinson**, physician to the cardiac department of the London Hospital and to the National Heart Hospital.

Dr. Parkinson said that Harvey, by his discovery of the circulation, confined to the blood and the blood vessels the evil humours of early writers which were regarded as the cause of rheumatism. In the 17th century rheumatism was differentiated from gout; in the 18th century rheumatism was first recognized as being associated with the heart, and in the 19th century this association was confirmed.

Rheumatic fever of childhood was the main source of heart disease up to the age of 40. The damage was done between the ages of 5 and 15, and it exceeded tuberculosis as a cause of death to the age of 20. During this war, as in the last, large numbers of our young men were found unfitted for service because of valvular disease of the heart directly due to juvenile rheumatism. It was estimated that almost one-tenth of all rejections were on account of heart disease. In peacetime the economic loss each year could be judged by the fact that the duration of economic activity in these men was no more than ten years on the average. All were agreed that poverty and overcrowding were basic causes, and rheumatic fever was rare among children of the well-to-do. Anything a Government did in these directions would reduce the incidence of rheumatic heart disease.

Dr. Parkinson said there was almost unanimous opinion that compulsory notification of rheumatic fever was essential to progress, for it would permit its early diagnosis before heart disease had taken hold. The excellent scheme for rheumatic children now in operation by the London County Council was regarded in the United States and elsewhere as the most comprehensive in existence; but doctors knew, and the public should know, that institutional treatment from the outset, and subsequent supervision, would have to be extended to every case of rheumatic fever occurring in this country. There should now be created a Rheumatic Fever Committee to co-ordinate research and plan for the future. The Orator believed that the Royal College of Physicians was prepared to take a lead in this great endeavour. The objective should include one main country hospital for research, and hospitals and clinics to serve all densely populated areas. Ultimately it would be found necessary, as it had been in the United States, to create a National Council for Rheumatic Fever and Heart Disease.

HEBERDEN SOCIETY MEETING

The Heberden Society will begin its first post-war academic year with a two-day meeting in London on Friday and Saturday, Nov. 2 and 3. This clinical and scientific society, founded in 1936 for the advancement of the study of rheumatic diseases, and closely associated with the Empire Rheumatism Council, has been so reorganized that membership is now drawn from all centres in the British Isles, notably the universities and spas. The inaugural general meeting, which is timed to coincide with part of the post-graduate course arranged by the Empire Rheumatism Council (see *Journal*, Oct. 13, p. 516), opens on Nov. 2 in the rehabilitation unit of the Royal Free Hospital at 4 p.m., when during tea there will be exhibits. A short business meeting will be followed at 4.45 p.m. by a lecture-demonstration on recent advances in physical methods by Dr. C. B. Heald in collaboration with Fl. Lieut. B. C. Elliott, Dr. Graham Weddell, and Sister F. L. Greenhill. (Medical practitioners attending will be welcomed to tea, provided they apply for a tea invitation to Miss Bereton, 91, Priory Road, West Hampstead, N.W.6.) On the same evening the members will dine at the Euston Hotel. On Nov. 3 at 10 a.m. at the Middlesex Hospital Prof. B. Windeyer will give a lecture-demonstration on the treatment of ankylosing spondylitis by *x* rays.

BRITISH CIVILIANS RELEASED IN CHINA

We have received from the War Organization of the British Red Cross Society and Order of St. John of Jerusalem a preliminary report—dated Sept. 11, 1945, Shanghai—on the British inmates of civil assembly centres. The author is Dr. W. S. Flowers, the War Organization's medical superintendent in China.

Health of the Inmates

The physical condition of the 5,570 internees in the several internment camps is surprisingly good. Despite crowded living conditions, some deficiencies in diet, and inefficient and uncertain sanitation (which in Ash Camp was found to be both primitive and inadequate), no serious epidemic diseases have broken out. There has been a good deal of malaria, particularly in Lunghwa Camp, where a very unreliable water supply could be maintained only with much labour and worry, and where 45% of the interned had one or more attacks of malaria. Yangtzepoo Camp has had a mild epidemic of amoebic dysentery, while all camps have had dysenteric diarrhoea. One camp had an epidemic of whooping-cough which affected most of the children. There have been recently a few sporadic cases of encephalitis japonica, from which the mortality among the stateless outside the camp has been as high as 75% but has not so seriously affected the internees in Allied camps. Otherwise the physical condition of the people, including the children, has been well maintained. This has been largely due to the untiring labours, vigilance, and medical nursing care provided by a fine team of doctors and nurses in each camp, and dental facilities were made possible by a good team of dentists. Equipment was limited and supplies were often short, but by improvisation and local purchases an amazing medical service was developed and maintained.

The figures under a rough-and-ready classification are as follows: Ash Camp, 424 persons; Yangtzepoo, 1,122; Pootung, 881; Lunghwa, 1,538; Chapei, 703; Lincoln Avenue, 295. Up to the present we have no report from Yangchow (total 607), but anticipate that the internees there will be in equally good health.

While the physical condition of these people is good, they are all obviously very tired, many have lost a good deal of weight, the majority are definitely anaemic, and all are eager to escape from "camp life" as early as possible. The camp mind and outlook is psychologically interesting: memory is unreliable, and outlook and interests have been narrowed. The mortality has been low—if anything lower than it would have been had these people been living the normal rushed life of civilization. The majority of deaths have been among the aged from natural causes. There has been no typhus, typhoid, or cholera.

Nutrition, Housing, and Recreation

Nutrition has varied considerably from week to week. The average level was above 1,700 calories per head. Occasionally it fell below this as a punishment for escapes or attempted escapes. Fats were not very plentiful, milk for the children was always in short supply—generally about 6 oz. could be allowed daily to them. Adults often went short to maintain the best standard possible for the young, who are uniformly in pretty good shape. Detailed charts of the nutrition show peak periods when parcels came in and low periods when punishment was meted out. Recent liberal supplies from United States sources have adequately supplemented all previous deficiencies. Vitamin extracts have generally been sufficient to make up for other shortages.

The accommodation provided allowed 40 sq. ft. per person. The barrack-like buildings which were converted into dormitories allowed of little privacy, only curtains dividing the families. For the large majority there was obviously no escape from the crowd by day or night. Most places had room for some recreation, but Jap guards prevented any wandering over the fences. They would not allow the preventive units formed to wander into the paddy fields to prevent the breeding of the mosquitoes responsible for so much malaria. Sanitation was rarely very good, and only by the labours of the internees themselves was some hygiene maintained. The kitchens where they worked in shifts for the cooking of their own food were very primitive and must have demanded incessant effort to keep clean. Water supply, except at the Lunghwa camp, was generally good.

Recreation fields were laid out where there was room by their own labours. Football and tennis were possible part of the year. Exercise was practised by all at first, but towards the end few had energy for it. Schools for the children were run in the camp by a band of teachers, and the children sat their exams. even up to matriculation. Lectures, concerts, plays, and opera filled in the evenings, and there were few signs of boredom. It all represents a refusal to be hindered by circumstances from pursuing a free and enjoyable life.

Summary

The health record is good. All are tired, many are anaemic, and many are affected to a greater or less degree by psychological changes. Conditions were favourable for large epidemics, but none developed.

Malaria could not be prevented in view of Japanese control, but was adequately treated. Morale was maintained throughout, despite the mixed community assembled together in such close proximity and lacking all privacy, by the efforts of enthusiastic leaders, teachers, and entertainers.

Reports of Societies

INTERNATIONAL BIOLOGICAL STANDARDS

DIXON MEMORIAL LECTURE BY SIR PERCIVAL HARTLEY

The Walter Ernest Dixon Memorial Lecture was delivered in the Section of Experimental Medicine and Therapeutics of the Royal Society of Medicine on Oct. 9 by Sir **Percival Hartley**, Director of Biological Standards, Medical Research Council. Dr. E. H. **Allott** presided.

After a tribute to Dixon, one of the earliest advocates of the biological standardization of drugs, Sir Percival described a biological standard in its simplest form as an arbitrarily chosen but representative sample of the substance for which it was to serve as a basis of measurement, preserved under conditions ensuring its permanence. A unit might be defined as the specific biological activity contained in a certain weight of the standard. The first biological standard to be established was for diphtheria antitoxin, the discovery of which by von Behring was announced in 1890. Then followed Ehrlich's remarkable series of researches, amongst the most famous in immunology, which laid the foundation of biological standardization as it was known to-day. The supply of standard diphtheria antitoxin from Ehrlich's institute at Frankfurt ceased with the outbreak of war in 1914, and this withdrawal rapidly led to the establishment of the standard on an international basis and to the creation and adoption of international standards for other substances.

In 1921 an international conference in London recommended the adoption of Ehrlich's original unit as the international unit, and in the following year a second international conference in Paris explored the possibility of establishing standards and units for other antitoxin and antisera. As an outcome of this and later conferences international standards for digitalis, pituitary (posterior lobe) extract, insulin, and the arsphenamines were adopted, and a Permanent Commission on Biological Standardization was set up by the Health Organization of the League of Nations to provide international standards and units and to secure their widest acceptance. Within less than twenty-five years 35 international biological standards had been established, and even during the recent war progress had not stopped, for standards for vitamin E (1941), heparin (1942), and penicillin (1944) had been adopted during that period.

International Achievement

The materials for biological standards had come from many countries, but in all but seven of them the final operations to secure conditions of permanence and stability had been carried out in England, and for all but two of these at the National Institute for Medical Research, Hampstead. Five of the original international serum standards were made at Hampstead, and a number of equivalent international standards had also been made there for the purposes of the Therapeutic Substances Act and the *British Pharmacopoeia.* To illustrate the international character of the work, the lecturer mentioned that material for the serological standards was supplied from England, Denmark, and the United States; the tuberculin standard was made in England; material for the vitamin standards came from Switzerland, Dutch East Indies, Hungary, England, France, Germany, Sweden, and the United States; that for the arsphenamines originally from Germany and the United States and later from England; the first insulin standard was made in England and the second in Canada; the material for both pituitary (posterior lobe) standards was supplied from the United States and manipulated in England; the first digitalis standard was prepared in Holland, the second in England; ouabain standard material was supplied from France; materials for the sex hormones were supplied from eight countries; Canada provided the material for the heparin standard, and the United States and this country the material for penicillin.

Practically all the material for these standards was presented to the international organization, some of these gifts representing very large sums of money. A laboratory in Switzerland presented 30 grammes of androsterone to provide the replacement standard for male hormone activity; a laboratory in England presented 20 grammes of the purest beta-carotene to provide a replacement standard for vitamin A, and another presented 30 grammes of pure crystalline penicillin sodium salt for the standardization work in Hampstead. Free distribution was made of all standards issued from Hampstead, on a national basis or to the British Commonwealth or to individual research workers anywhere, as for the international standards.

Standard for Penicillin

After recounting the course of events which led to the adoption of international standards for vitamins and the subsequent action in this field, Sir Percival Hartley turned to the latest standard, possibly the last, established by the Permanent Commission—namely, the international standard for penicillin. For many reasons, he said, it was desirable that an international standard for penicillin and an international unit defined in terms of it should be agreed and established without delay. Delegates from five countries with expert observers from certain others met in London a year ago under the chairmanship of Sir Henry Dale, and unanimously recommended the adoption of a sample of pure sodium salt of penicillin II as the international standard, and, for practical reasons which were justified at the time, a sample of a calcium salt of penicillin as the international working standard. The international unit was defined as 0.6 microgramme of the international standard, and such unit was contained in 2.7 microgrammes of the international working standard. Decisions as to nomenclature and other matters were also recorded by the conference.

At Hampstead they were now almost ready for the final stages of giving effect to these decisions by the world-wide distribution of penicillin standards. He exhibited a sample of the international standard, mentioning that at Hampstead they had over 300 such small containers, each holding about 30 milligrammes; also a sample of the international working standard, of which they had 200 containers, each containing about 65 milligrammes. The actual international standard preparations obviously could not be used for the routine assays of penicillin; there were not enough of them; but they were supplied for the assay and periodical check-up of equivalent national standards which the national control centre of each country was expected to prepare.

The Oxford Unit

The first standard for penicillin was made at Oxford, and the unit of activity, which came to be known as the Oxford unit, was defined as that which was contained in 0.23 milligramme of this preparation. In one way or another the original Oxford unit had been redetermined in many other, more active preparations. At Hampstead they were provided with two such accurately assayed preparations—one containing 71 and the other 84 units per milligramme—and with these the potency of the British standard for penicillin—155 units per milligramme—was assayed. These three preparations, with two others from the United States carrying the Oxford unit, were included in the samples examined by the London conference a year ago. The results of the assays, despite the different methods employed by the collaborating laboratories, showed remarkably good agreement. There was sound evidence that the value of the unit which was being used a year ago in the United States was the same as the value of the unit being used in this country; from which it certainly seemed that, in spite of the repeated redefinition of the unit in both countries, the original value as defined at Oxford had not been significantly varied. Finally, the value of the unit recommended for international adoption was approximately equivalent to that originally adopted at Oxford.

Impending Developments

Sir Percival then discussed the important part which international biological standards had played in ensuring the high quality of therapeutic substances. The Therapeutic Substances Act had for nearly 20 years controlled the supply of certain drugs and medicaments, but it was limited in scope and in geographical application. For example, its control did not extend to the vitamins or heart drugs, and its application was restricted to Great Britain and Northern Ireland. A way had been found, however, whereby both these limitations might be overcome—namely, by including all the substances for which international biological standards had been established in the *British Pharmacopoeia*, and the *Pharmacopoeia* on its part had laid down the principle that the standards and units to which pharmacopoeial preparations must conform were the international biological standards and units. In some parts of the British Commonwealth and Empire a control over these substances similar to our own had been established, and in these countries also international standards were in general use.

After describing the interesting replacement operations which had taken place from time to time in respect of 18 of the 35 standards, including the first insulin standard and the first standards for pituitary (posterior lobe) extract and for vitamin B_1, the lecturer said it was quite likely that a new international organization which might replace the Permanent Commission of the League of Nations would decide that standards for antisera and some of the antitoxins could be dispensed with, and that arsphenamine—the original "606"—had earned an honourable retirement. The position of vitamin standards might also come under review. As Sir Henry Dale had picturesquely put it, "The ultimate aim of biological standardization, as of all preventive medicine, may be regarded as self-extinction." But there were new candidates with good claims to admission. The standardization of the diphtheria prophylactics was a problem of outstanding importance and urgency. The establishment of an international standard for tetanus toxoid for the active immunization of man might well have an early priority. Some of the investigations carried out at Hampstead regarding the standards for and the assay of gas-gangrene antitoxins, which became urgent and important because of the immediate needs of the war, also indicated new directions in which the work of biological standards might develop.

International biological standards might find useful application in the rapidly developing field of chemotherapy. Pure substances could, as a rule, be fully described in chemical and physical terms, the doses to be administered could be expressed in weight, and biological standards and units were neither necessary nor desirable. It was otherwise, however, in the case of substances of proved biological activity and clinical usefulness of which the chemical composition was unknown, and successive batches of which possibly exhibited varying biological properties. For such substances, in the interim period pending the discovery of their chemical composition and structure, or perhaps of a more reliable process of manufacture, experience had shown the value of the adoption of a standard by comparison with which other preparations could be matched.

THE "DISCHARGING LESION" IN NEUROLOGY

At a meeting of the Neurological Section of the Royal Society of Medicine on Oct. 4 the new president, Dr. J. Purdon Martin, delivered a presidential address on the subject of the "discharging lesion" in neurology.

The theory of the "discharging lesion" was propounded by Hughlings Jackson to account for convulsive phenomena, but Dr. Martin considered that it was capable of a wider application in neurology than had hitherto been accorded to it. The theory postulated that nervous tissue (and therefore nerve cells, inclusive of their axis cylinders) "stored up" energy, and under the influence of physiological stimuli some of this energy was emitted in an orderly and controlled manner as impulses, but that under certain abnormal conditions the energy might be discharged without a physiological stimulus, and then in an excessive, uncontrolled, and disorderly fashion. A portion of nervous tissue which was in a pathological state such that it was liable to discharge in this manner constituted a "discharging lesion." Modern physiological knowledge lent much support to this theory, and he (Dr. Martin) had in fact come to it chiefly by way of the physiology of muscle.

Jackson was mostly occupied with convulsions, but there were many other phenomena which provided objective evidence of "uncontrolled" and apparently unphysiological discharges (some of which Jackson had referred to in his writings). Observation led to the belief that discharges might be of three different degrees or varieties, which, however, graded into each other. The convulsion was evidence of a massive or explosive discharge. The smaller repeated discharges which would give rise to peripheral facial spasm, or to the muscular fibrillation of amyotrophic lateral sclerosis, might be described as "spluttering," while those that caused continuous spasm of muscles such as trismus might be called "continuous." There was evidence of a still lesser degree of abnormal instability in certain conditions in which there seemed to be an excessive motor response to normal stimuli, as in some of the motor phenomena of tetany and of tetanus and of strychnine poisoning.

Jackson considered that symptoms attributable to "spontaneous" discharge were essentially paroxysmal and transient, since the portion of nervous tissue from which the "primary" discharge occurred required time to become again "overcharged." While it was true that the phenomena indicative of massive discharge were transient, those attributable to "spluttering" and "continuous" discharges might go on for a long time, and in some instances for the rest of the patient's life. Trismus and tetany were actually continuous, while peripheral facial spasm might be said to be paroxysmally continuous. In regard to all of these we must suppose that in the discharging nervous elements the store of energy on which the discharge depended was being renewed as quickly as it was expended. A similar condition of energy exchange could be maintained and demonstrated in muscle, and was known as a "steady state." The peripheral facial spasm which occurred as a sequel of Bell's palsy was associated with an imperfectly recovered nerve. The fibrillation of amyotrophic lateral sclerosis was associated with a degenerative state of the anterior horn cells.

We might apply, Dr. Martin continued, what we have deduced from observation of the motor phenomena to the interpretation of certain sensory phenomena which patients described. After a vascular lesion of the thalamus, imperfectly recovered cells of the "pain system" might constitute a discharging lesion and achieve a steady state, thus giving rise to the spontaneous pain of continuous nature that was the characteristic after-effect of such a lesion. In other cases the degree of recovery might be such that the cells did not discharge spontaneously, but their "energy substance" remained hyperexcitable (e.g., in consequence of anoxia) so that they reacted excessively to normal stimuli. The alternative theory—that the "thalamic syndrome" resulted from a release of the thalamus from a control normally exerted over it by the cerebral cortex—was not in keeping with some of the essential facts.

In the case of a recovering sensory nerve (as in that of the recovering facial nerve) there might be a state of instability of the energy substance, and this might be the basis of that hyperalgesia which Head attributed to "protopathic sensation."

Lightning pains in tabes were attributed to discharges occurring in degenerating afferent elements. If a discharge arose in the afferent portion of a reflex arc it might give rise to reflex movements. All the organs liable to be affected by visceral crises were reflexly controlled, and such a crisis might be due to "spluttering" discharges in the afferent part of the arc, producing the effect of an irritant or foreign body in the viscus concerned.

All these symptoms had something in common—namely, an excessive, "explosive," or compelling quality. The motor phenomena referred to had also this in common—that they might occur or continue during sleep. This applied to convulsions, facial spasm, tetanus, and tetany—whereas most abnormal movements, such as those of paralysis agitans, chorea, and spasmodic torticollis, ceased during sleep. This difference might not be fundamental, because chorea had many of the features of a symptom due to "spontaneous" discharges.

The theory provided explanations for, and enabled one to see a certain unity in a number of symptoms for which the current explanations were unsatisfactory. Dr. Martin recalled a quotation from Pasteur: ". . . the characteristic of a true theory is its fruitfulness."

Correspondence

Telling the Patient

SIR,—Major J. C. Hogarth's letter on this subject (Oct. 13, p. 513) is timely and deserves more than a passing comment. Observations of the same kind have been made to me by a number of thoughtful Service medical officers—usually with unit experience—who have been frankly shocked by the impersonal methods which prevail in many Service and E.M.S. hospitals. I had frequent occasion to make similar criticisms, during the first three years of the war, as the result of my numerous contacts with E.M.S. and teaching hospital medicine.

How have these strange habits of thought and action, this routine of intensive and often repeated investigation and multiple specialist opinions, but with so little said and done for the patient *as a person*, come to characterize hospital practice ? What is the function of the physician, what is the object of medicine if it is not to help the patient's mind and body in every way possible and at every stage of his illness ? There can be no greater disservice than to leave him puzzled or in the dark. It is a sad reflection on the trends of our clinical teaching in recent decades that institutional medicine should now so frequently be allowed to degenerate into a kind of mechanical bedside pathology ; that it should prefer reports and labels to human histories, and diagnoses and treatments to "treatment," and delight so selectively in what is called the "interesting" case. "Examination, explanation, and reassurance" should be as much in the mind of the student and young doctor as "inspection, palpation, percussion, and auscultation," if—that is to say—he cannot be human without a mnemonic.

In another letter in the same issue Wing Cmdr. Bergin comments on some of the consequences of the modern "passed to you, please" ritual of investigating and handling patients. What a travesty of our old clinical discipline it is to employ a succession of specialists to exclude organic disease and then to ask a psychiatrist to make the final diagnosis, and, too often, to confirm the invalidism. The technological age in medicine has added much to our investigatory powers and has done much for many patients, but it is time our science and humanism resumed a more equal co-partnership. Two books have recently been sent to me from the United States, where similar trends are, I gather, all too common. One is called *The Patient as a Person* (by G. Canby Robinson); the other *Patients Have Families* (by Henry B. Richardson). We stand on the threshold of large reforms in our teaching and our practice. May we hope that the teachers of the new generation will take every occasion to remind their students and house-officers that "patients" are, above all, "persons" and not just "cases," and also that they have families and that they get better more quickly or accept their adversities better if they and their families are simply and clearly told what they most need to know ?—I am, etc.,

Oxford. JOHN A. RYLE.

SIR,—How cordially I agree with Major Hogarth's suggestion that the patient be given constructive information about his complaint. I would go further, and suggest that therapy is incomplete until the disease is evaluated to him in terms commensurate with his intelligence, education, and emotional maturity, and until he is helped to adjust to it.

One of my first lessons in psychotherapy—from Dr. T. A. Ross ; I have never forgotten his advice—was that the patient should be completely overhauled physically and the nature of his physical complaints precisely delimited and evaluated to him. How much more important, surely, where the complaint is predominantly physical ; or in the extending field of the psychosomatic complaint—i.e., the physical symptom due to emotional stress.

Hypochondriasis is due to—or at any rate encouraged by—ignorance or fractional knowledge. It is surely the function of the doctor—specialist or G.P.—to dispel that ignorance. In doing so he will tend to clarify his own clinical conceptions and amplify his own therapeutic influence ; by failing to do so he may become the creator of suffering. In doing so he will also help dispel the suspicion—explicit in many intelligent laymen and implicit in many more of their less articulate brothers—that much of the doctor's business is a defensive jiggery-pokery of false magic.

The doctor who has not the patient's full trust is crippling his own therapeutic influence. That trust can be more easily gained if a more rightful conception of the doctor's business is encouraged: that his influence is based, not on symbols, prestige-attitudes, or an implicit claim to a higher esoteric level of understanding, but on compassion fused with skill and experience and the ability to help the patient to see his complaints in their proper perspective.

Much avoidable psychotherapy, suffering, and distrust of the medical profession could be prevented if more doctors—specialist or G.P.—were to spend the few moments necessary to complete their therapeutic effort by bringing the patient "into the picture." It would also help those of us who come after to get a reasonable medical history. I am continually being surprised by the number of intelligent young officers who have vague ideas about quite serious illnesses and who are naturally worried because no one has told them what to expect or what to do about it.—I am, etc.,

Witley, Surrey. H. HARRIS, Major, R.A.M.C.

SIR,—Major J. C. Hogarth (Oct. 13, p. 513) surely realizes that in the out-patient department of a hospital the patients are referred for an opinion by the general practitioner. The majority of these practitioners, I am sure from personal experience, would resent the out-patient physician discussing in detail the diagnosis, prognosis, and treatment with the patient. This is the function of the general practitioner, and it is the physician's duty, in my opinion, to communicate only with the doctor concerned. Only in exceptional cases and at the doctor's request should the physician discuss the diagnosis with the patient. Otherwise, surely, essential trust and harmony between patient and general practitioner are apt to be jeopardized.—I am, etc.,

Northwood, Middlesex. E. IDRIS JONES.

Rehabilitation of Fractured Limbs

SIR,—The letters of Dr. R. Murray Barrow (Sept. 8, p. 332) and Dr. Vaughan Pendred (Oct. 6, p. 475) prompt me to point out that in 1899, when a student at Edinburgh University, I demonstrated to Prof. Annandale and Mr. J. W. Dowden at Edinburgh Royal Infirmary an electrical method of producing controlled contractions and relaxations of any of the muscles of the body. With their assistance I treated various types of fractures, particularly Colles's fractures, the latter being put in plaster and the case split in four to eight days ; then daily contractions of the extensor and flexor muscles were produced by the apparatus described, so as to cause movements of the wrist and fingers. I showed that contractions and relaxations were so finely controlled that only the slightest movements of the muscles were discernible at first, and gradually increased to the maximum required without pain until the wrist and fingers were put through their full range of movements. About the year 1905, when I was in charge of the *X*-ray Department of Great Ormond Street Children's Hospital (which I started as a department), I showed the same method to Sir Arbuthnot Lane and Mr. Stansfield Collier, who were so impressed with the results that they sent many of their fractures to me for treatment by this method. In spite of the recent literature advocating long periods in plaster I have continued to carry out this method with consistent success, and full functional use of the wrist is obtained in much shorter time than when treated by the present-day so-called orthodox method.

By the method I advocate, which has stood the test for so many years, an important factor is that the muscles can be made to contract and relax painlessly *without their point of origin being approximated*, so that considerable movement of muscles in the initial stage of treatment can be carried out without moving the fractured ends of the bone in the slightest degree. This reproduction of the function of the muscles in the neighbourhood of a fractured bone by graduated contractions acts beneficially in the following manner: (1) The contractions and relaxations gradually increase the local blood supply and aid its circulation, so that absorption of lymph and extravasated blood in the tissues is rapidly promoted and the growth of callous powerfully stimulated. (2) Slight movement at the broken ends may increase the production of granulation tissue by causing hyperaemia. (3) The movement of the muscles prevents contiguous muscles, tendons, and other structures from becoming adherent. (4) The reproduction of the physiological action of the muscle prevents their becoming atrophied. (5) By the muscle movements increasing the local blood supply, the resting bone is less likely to become atrophied. (6) By preventing adhesions and wasting of muscles, as soon as the repair of the bone is sufficiently advanced, the patient is able to regain full function in the limbs very much sooner than is possible where adhesions and wasting of the muscles result from enforced complete rest.

I can claim for this method that, if properly carried out, there is no danger and that the results in time and restoration of function are most satisfactory.—I am, etc.,

London, W.1. MORTON SMART.

Sciatic "Neuritis

SIR,—Dr. J. MacDonald Holmes and Mr. B. R. Sworn's article on sciatic neuritis (Sept. 15, p. 350) will be of great interest to all who have to try to deal with the problem of sciatic pain. But I still think that an injured intervertebral disk might account for their cases, both of which gave a history of associated trauma, for what that is worth. It is possible to envisage injury to the attachment of part of the annulus fibrosus, allowing a local bulging of the disk in the standing position which would be absent in the position at operation, and where no softening or break in the posterior contour of the annulus would be felt. I am uncomfortably aware that this explanation is highly suppositive. But I feel we should be unwilling to abandon a pathological concept which has shed so much light on sciatic pain, unless logic truly demands it.

Symptomatic relief from decompression is understandable with any pathology. But if the disk is damaged, further protrusion in the years to come might be expected. It will be interesting to know if either symptoms recur as the protrusion again fills up the extra space provided, or a demonstrable narrowing of the disk space occurs.—I am, etc.,

C. W. M. WHITTY,
Major, R.A.M.C.

Psychiatry in the Services

SIR.—As a practising psychiatrist it is with much regret that I find myself in agreement with most of the statements in Wing Cmdr. K. G. Bergin's letter (Oct. 13, p. 508); for, having myself served as a unit medical officer, I realize that there is no lack of confirmatory evidence regarding the facts mentioned. I have no doubt that the majority of unit medical officers could cite an infinite number of similar cases, and I am sure that many other correspondents will be only too glad to recall their own experiences. Personally, however, I am much more concerned in striking at the root of the trouble, and, though willing to admit that there are many first-class psychiatrists serving in the Forces, I do not agree with Wing Cmdr. Bergin's statement that the psychiatric branch can be exonerated from all blame in the matter of the treatment and disposal of such cases. It must be admitted that, owing to the shortage of trained psychiatrists, it was inevitable that the original selection of personnel for this branch was a matter of great difficulty, and, for the same reason, it was impossible to give these officers an adequate military training. It is, indeed, a well-known fact that, especially in the early part of the war, many "specialists" were appointed though there was scant evidence that they possessed more than a superficial knowledge of their "specialty."

In my opinion many of the difficulties confronting even the expert neuropsychiatrist would have been obviated if these specialists had been posted for an adequate period as ordinary unit medical officers. They would then realize to the full the actual conditions under which Service personnel—especially N.C.O.s and other ranks—live and work. This, I believe, is the crux of the whole problem, and raises a matter which is of vital importance to the future of psychiatry. Although he is obviously viewing the matter from an entirely different aspect, I think that Wing Cmdr. Bergin sums up the situation very concisely in the clause: ". . . a system which lays too much stress on psychological illness and not enough on a man's responsibility to his fellows." It is obvious that he did not intend this to be an indictment against psychiatry, but we who profess to be psychiatrists would do well to ponder and give the matter much consideration. In the past too much stress has been laid on the academic and scientific aspects of psychological medicine, and the sociological implications have not received the attention they deserve. This broader view can be achieved only when psychiatry is accepted as an integral part of the social service of the community and not segregated as a little-understood and narrow specialty.—I am, etc.,

St. James Mental Hospital,
Milton, Portsmouth.
W. LIDDELL MILLIGAN.

SIR,—Wing Cmdr. K. G. Bergin's experience (Oct. 13, p. 508) differs entirely from that of all serious writers on the subject of Service neurotics in two respects—their progress after invaliding and their response to disciplinary measures. Careful follow-ups on patients who had been invalided out of the Services for neurosis were done by Lewis (*Lancet*, 1943, 1, 167) and Ferguson (*Health and Industrial Efficiency*, H.M.S.O., 1943), it being found that the great majority were still seriously incapacitated after months of civilian life. I have encountered many patients of this type who had been harshly dealt with by the executive because of their failure to meet the demands made upon them or their supposedly malingering propensities. In each case the results were disastrous, and a completely useless individual, often with a very great nuisance value, was produced. Such eminent psychiatrists as Ebaugh (*Manual of Military Psychiatry*, W. B. Saunders, Philadelphia, 1944) on the other side of the Atlantic and Hadfield (*British Medical Journal*, 1942, 1, 281) on this have emphasized the unfortunate consequences of treating these patients as malingerers. Neurotic symptoms are very real, and the man or woman in a state of pathological anxiety and depression finds it more difficult to lead a normal active life than does a healthy person. A refusal to recognize this produces a strong sense of injustice and grievance and has a most harmful influence.

That the object of neurotic behaviour is to procure discharge from the Service is a dangerous half-truth in so far as it implies that this is the chief or sole *raison d'être* of the illness, and that it will cease as soon as it is made quite clear that there is no chance of this end being achieved. In fact the genesis of these states is complicated in the extreme, and in most cases the neurotic behaviour cannot be stopped by any method known to man.

Wing Cmdr. Bergin's examples are completely unconvincing and indicative of a disarmingly naive outlook. For example, the ability to cycle home and work in the garden with every appearance of pleasure does not in any way suggest that the man's distress when required to work overtime is feigned or exaggerated.

It is obvious that Wing. Cmdr. Bergin has let his judgment and interpretation of the facts be influenced by his moral indignation at the gain which the neurotic may derive from his illness. This gain is a common phenomenon in civilian life also and by no means confined to conditions of military conscription. The only way to prevent this secondary gain in the circumstances would be to gather the neurotics into special units, which would probably serve little useful military purpose and whose chief function would be to keep the personnel on Service pay and living under camp or barrack conditions, so satisfying the code of morality which Wing Cmdr. Bergin advances and which will command widespread approval. These units would require efficient administrative staffs, which would be hardly justifiable from the point of view of the national interest in time of war. The "system" which is castigated is presumably that of invaliding on medical grounds for neurosis. From the moral point of view there is much to be said for the

American system of discharge on the grounds of inaptitude. Not that I personally would agree that our present system is immoral.

The grossly unsatisfactory state of the treatment of neurosis at the present time arises out of the stubborn and intractable nature of these pathological emotional disturbances. Light-hearted superficialities will not help in the solution of this problem.—I am, etc.,

Cheshire. A. Harris, S/Ldr.

Sir,—I have read Wing Cmdr. Bergin's letter, and there is no doubt that his remarks are only too true. It has been my unfortunate lot as a station medical officer to have to deal with a vast number of these cases, and his description and subsequent history are correct in every detail. Many station medical officers with whom I have discussed this type of case are agreed that the approach and handling are wrong, but unfortunately they have no other way of dealing with them. The solution suggested by Wing Cmdr. Bergin—i.e., Do your duty or take the consequence—is of course the solution to the whole problem, but unfortunately it is not so easy as that. I have tried that myself successfully on occasions; but from time to time political influence has been used and instructions issued from higher authority that the patient is to be dealt with in a certain manner. These instructions are issued by someone who has never seen or examined the patient and without consulting the station medical officer. After much thought I have come to the conclusion that the vast majority of these patients are devoid of all sense of duty and are sickened only by selfish thoughts.

The only solution is courage—courage on the part of the medical branch to stand by their convictions; courage among the higher authorities to stand by the medical branch and to say so publicly; and, lastly, courage in the hearts of the weak and selfish to face the slings and arrows.—I am etc.,

G. F. Magurran.

Sir,—Wing Cmdr. Bergin seems to be passing through one of the phases common to medical officers. Even the kindest M.O. is apt to feel annoyed when he discovers what he fancies is a leg-pull, and he naturally relieves his feelings by a more or less indiscriminate outburst of severity, rationalized in whatever way appeals to him. A few M.O.s become congealed in this phase, or its opposite extreme of leniency, but the majority gradually settle down to a middle course as they grow more able to discriminate and less afraid of being wrong. It is perhaps better to be fooled occasionally than to be unjust to an honest man. Even the irritation of being informed—with relish—by a non-medical officer that a man for whose story one has fallen has been heard boasting of his successful deception may be soothed by the reflection that this is by no means proof of malingering.

As to the methods in vogue for separating the wheat from the tares, they fall into three classes: (1) "The Sign from Heaven," otherwise known as clinical intuition or diagnostic acumen. (2) "The Geographical." Certain parts of the British Isles seem to maintain steady streams of "bad eggs" to the Services. Wild horses would not induce me to name my own favourite black spots. (3) "The Police Method," which relies on "information received" and on catching the accused out in contradictory statements.

By a judicious combination of these methods, supplemented by *very* occasional disciplinary action, it should be possible to keep the lead-swinging rate within reasonable limits. The picture that Wing Cmdr. Bergin paints of neurotics "almost without exception" deteriorating steadily and being invalided out is quite outside my experience in the Army. It certainly need not happen, and if it does it must be—in spite of his statement to the contrary—the fault of psychiatrists, unit medical officers, or the executive.

The moral issue, to which your correspondent refers, is simple enough in theory. The measure of a man's sacrifice is the degree to which he disliked making it. War divides people into those who like it and those who don't. Those who like it go willingly, knowing the risks and discomforts; they are the lucky ones, and they have their reward. They make the best soldiers, of course, but to be quite fair they should clearly not be allowed to get away with it; if fairness were the only consideration, they would sternly be directed into offices, factories, or other occupations uncongenial to them, so long as other people are forced into the Army against their will. Fairness, however, must come second to efficiency, and even if it did not it would be impossible to be fair to everybody. And since we cannot claim to be fair, it is difficult to see how we can demand "duty" and "moral responsibility." Such words have their cynical uses, of course. But we like to be fair in our thoughts even if we cannot be fair in our actions (at least we think we like to), and we cannot be so unless we realize that the man whose dislike of service is sufficient to drive him to decisive action, whether that action take the form of desertion, malingering, or the development of neurotic symptoms, is getting, or has had, a raw deal by comparison with his better-adapted comrade. This is no place to enter into futile arguments as to who suffers most—the man who protests or the man who would like to but doesn't. Sufficient has been said to make it clear that moral superiority is not an attitude which becomes us.

The system of which Wing Cmdr. Bergin complains is not intended to encourage escape, but it does recognize the essential pig-headedness of human nature. At a certain point unwillingness converges to inability, for practical purposes, and it pays better to take what the man will give rather than break him because he will not give you all you want.—I am, etc.,

Cambridge. W. E. Hick.

Sir,—I have been reading with interest Wing Cmdr. Bergin's letter. The cases in which he thinks he has failed in that by their "unconscious deception" they have got themselves discharged from the Service are in my opinion his most brilliant results, in that the square pegs have found for themselves the square holes for which by temperament and capabilities they are evidently suited. No work, I think, approaches in quality that which is done happily, with interest, with vim, and from free choice. Disgruntled workers are a potent cause of accidents in that their minds are upon themselves and their grievances rather than upon their work, and thus attention may be lacking at a vital moment.

I cannot emphasize too strongly the misery I have seen caused by labour direction to unsuitable jobs. One girl I know of went out of her mind through being directed away from her home as a mobile worker, which would never have happened if she had been left quietly alone in her factory job (which was turning out war material) in her familiar surroundings. In another case a man used to an open-air life was directed to coal-mining. When I saw him he was a miserable nervous wreck. This state was due to his being coerced into uncongenial employment, and, secondly, to his having seen an accident underground whereby two men were killed.

The tragedy of this war has been that men were forced into occupations for which they were never suited by either temperament or capabilities, and their nervous reserve becoming exhausted shows this by "the well-known features, etc.," which Wing Cmdr. Bergin describes: in other words, the square pegs protest at the round holes, and no amount of jamming them in by harsh discipline or fear will achieve more than a makeshift fit.

There are malingerers, we all know, but these of course are in a different category.—I am, etc.,

Bala. F. M. E. Davies.

Anaesthetic Risks

Sir,—I have read with interest the correspondence on the advantages and disadvantages of spinal anaesthesia. In your issue of Oct. 13 (p. 511) Dr. E. Falkner Hill writes a spirited letter in its defence, but his enthusiasm has led him into making a statement which appears to me questionable: "Inhalation anaesthesia acts by interfering with and to a greater or lesser degree damaging the cerebral cells."

We know, of course, that anaesthetic procedures which deprive the cortex of oxygen for even a comparatively short time do cause permanent damage to the cerebral cells, but does Dr. Hill mean that there is "a greater or lesser degree" of damage even when the oxygen requirements are fully met? If so, it would be interesting to know what scientific ground there is for this statement.—I am, etc.,

Dunfermline, Fife. A. C. Douglas.

Significance of the Erythrocyte Sedimentation Rate

Sir,—Under the heading " Any Questions ? " (Sept. 1, p. 307) the subject of E.S.R. has again been raised. Certain aspects of this problem were fully discussed in the correspondence which followed the paper by Della Vida (1942). In the course of a recent study we have found that confusion largely centres round the following points.

1. *Absence of a Standard Method of Performing the Test.*—Many writers do not state the method they employ. Presumably in such cases the test has been performed according to the original Westergren technique, in which 0.4 c.cm. of 3.8% sodium citrate is added to 1.6 c.cm. of venous blood. This may not necessarily be the case. For example, Dunlop and Dick (1944) employ dry potassium oxalate as an anticoagulant in what they term the Westergren method. Confusion would be avoided by describing the tests as " original Westergren " or " Westergren oxalate."

2. *Employment of Different Anticoagulants.*—Della Vida (1942) and Muller (1943) have drawn attention to the fact that the rate of sedimentation is depressed by dilution of the blood. In a recent series of cases we obtained the following results:

Number of subjects examined	18
Mean second-hour reading (original Westergren method)	22.3 mm.
Mean second-hour reading (dry ammonium and potassium oxalate method)	25.8 mm.

Although the mean value for the oxalate series is greater than that for the citrate series, individual results in the former were not uniformly greater than in the latter. Thus the results for the second hour were as follows: oxalate series greater than citrate series, 12 cases; citrate series greater than oxalate series, 5 cases; both series equal, 1 case. Müller (loc. sit) states that results are influenced according as potassium oxalate and potassium and ammonium oxalate mixture are employed. She cites the opinion of Keen, who found that the readings obtained with potassium oxalate were accelerated and supported the clinical assessment of activity in each case examined, whereas readings with the double oxalate mixture were diminished or within normal range.

3. *Lack of a Uniform Standard of Normal Values.*—There is no agreement as to what constitutes a normal sedimentation rate, even when the same method is used. Westergren adopted the following standard for the one-hour reading: normal, 3 mm.; doubtful, 4 to 6 mm.; probably abnormal, 7 to 12 mm.; certainly pathological, 13 mm. and upwards. Most writers accept as abnormal any reading greater than 10 mm., although Young (1944) regards values as low as 3 mm. in a male and 5 mm. in a female for the first hour as abnormal. Dunlop and Dick (1944), using a 200-mm. Westergren tube and dry potassium oxalate as anticoagulant, regard as abnormal any reading greater than 5 mm. for the one-hour reading.

4. *Disregard of Physiological Variations.*—The consensus is that the only physiological state which causes an appreciable increase in acceleration is pregnancy (Muller, loc. cit.; Wintrobe, 1942), although Obermer (1943) found that some healthy women, for reasons not known, consistently show an increased rate during menstruation. A perusal of Wintrobe's figures shows that, apart from pregnancy, an appreciable number of young adults give readings above the accepted range of normality. Using a mixture of dry ammonium and potassium oxalate as anticoagulant and a 100-mm. tube Wintrobe found that the rate of sedimentation varied from 0 to 6.5 mm. at the end of an hour in 86% of 137 healthy young adult males and from 0 to 15 mm. in 88% of 100 young adult females. He found that the differences were largely accounted for by variations in the haematocrit value, and that when this was corrected to a red-cell volume of 47 c.cm. per 100 c.cm. the rate in 72% of males and females was 0 to 6 mm. and in an additional 16% 7 to 10 mm. for the one-hour reading. There still remains, however, 12% of subjects with a reading greater than 10 mm. We found that 18 of 55 (original Westergren method) and 23 of 62 (dry potassium and ammonium oxalate method) healthy hospital nurses had a one-hour reading greater than 10 mm.

In a group of schoolboys aged 14 to 15 years tested by us 5 of 37 gave a first-hour reading greater than 10 mm. (dry potassium and ammonium oxalate method). On the other hand, among adult male subjects, only 1 of 59 (original Westergren method) and 2 of 76 (dry ammonium and potassium oxalate method) had a one-hour reading greater than 10 mm. The subjects in all these groups were apparently healthy. All had been subjected to a thorough physical examination, although not in every case, at the time the raised sedimentation rate was recorded. Skiagraphic examination of the chest was carried out in each case (on the same day as, or within a few days of, the finding of the raised sedimentation rate), and in none was any abnormality noted. Even if one accepts the hypothesis that the raised rate was due to some occult focus of sepsis, the fact remains that a considerable number of healthy subjects are liable to exhibit accelerated rates—a finding which must always be borne in mind when considered in association with abnormal skiagrams. That an appreciable number of healthy persons exhibit accelerated rates is confirmed by the work of Edwards, Penman, and Blair (1945), who found that the normal sedimentation rate in apparently healthy hospital nurses can be surprisingly rapid. They found that when primary tuberculous infection occurred the sedimentation rate increased considerably. In cases showing a satisfactory response the rate returned to the normal level for the particular subject in about a month. It would thus appear from these results that, in the female subject at least, it is necessary to learn from serial readings the physiological rate for the individual before any conclusions can be drawn from a single estimation.

The opinion is still widely held that the sedimentation rate is constantly raised in cases of active tuberculosis. Kayne, Pagel, and O'Shaughnessy (1939) and Hollins (1942) have even suggested that the test would be of value in the mass investigation of the apparently healthy. Under this arrangement only those subjects showing an elevated rate would undergo x-ray examination. Berrington and Greenwood (1942) employed this method in a mental hospital, and formed the opinion that it is rare to find active tuberculosis with a normal rate. It is difficult to understand how they arrived at this conclusion, since in their scheme active cases with a normal rate would not be examined. When the results obtained by mass radiography are studied an entirely different picture is presented, as the following table shows:

Reference	No. of Subjects with Active Tuberculosis Examined	No. with Abnormal E.S.R.
Stiehm (1933)	69	33
Braeuning (1938)	75	33
Clive (1943)	102	84
Kahan and Close (1944) ..	138	27
Robinson (1944)	45	35
Abeles and Pinner (1944) ..	91	54

It may be argued that, since tuberculous foci may undergo reactivation with considerable rapidity, it is insufficient to claim as active a case showing a normal E.S.R. merely on the strength of changes seen on serial skiagrams. Recently we had the opportunity of performing gastric lavage on the same day as, or within a few days of, the performance of the E.S.R. in seven cases. The former examination gave a positive result in each instance. The one-hour E.S.R. reading was greater than 10 mm. in three cases only, and two of these were females.

In the male subject the test may be of limited value, although the information required by the physician in assessing a case can generally be obtained more accurately without its use. Since in the female subject the test carries an error of anything from 12 to 30% its employment is, for practical purposes, valueless. No other test having an error of this magnitude would be tolerated in practice. Those seeking guidance on the E.S.R. should follow the advice of Hilliard (1942), who " abandoned the use of blood sedimentation tests long ago."—We are, etc.,

D. G. McIntosh.
D. M. Keay.

Dundee.

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"Perspex" in Orthopaedics

Sir,—In his letter (Oct. 13, p. 512) Mr. A. MacGowan levels a great deal of criticism against the article on "perspex" in orthopaedics by Scales and Herschell (Sept. 29, p. 423). I would suggest that he has failed to appreciate that the authors do not advocate "perspex" as a complete substitute for plaster-of-Paris and that they have not recommended that it should be used for short-term cases; surely the list of conditions given, including tuberculosis of the spine and anterior poliomyelitis, consists entirely of those requiring many months of treatment in some form of splint.

He complains that the authors of the article do not make use of the advantages they quote; with this complaint I disagree and instance the following. In the treatment of a case of tuberculosis of the spine with or without sinuses in a young child a "perspex" bed has the following advantages over one made of plaster-of-Paris: it can be washed without deterioration, it needs no absorbent lining, it is non-irritant to the skin, and even Mr. MacGowan must concede the point that it is reclaimable; in treating cases of anterior poliomyelitis "perspex" has the additional advantages that it is light in weight and, being waterproof, it can be worn when doing exercises in the pool.

To give a specific example where "perspex" is of great value I have had some splints made of it for opponens pollicis paralysis, and have a patient with bilateral paralysis who, without the splints, found considerable difficulty in washing, using a tooth-brush, and dressing himself, but when wearing the splints he is able to carry out all these actions easily and comfortably; and added to this the splints are inconspicuous—a factor of great importance, at least to the patient.

Surely no one suggests that "perspex" is a complete substitute for plaster-of-Paris, or that it is the ideal plastic for all selected orthopaedic conditions; but let us at least recognize its advantages, and acknowledge that Scales and Herschell have overcome several obstacles in its use—obstacles which some of the commercial experts considered were almost insurmountable. Further investigations in the use of plastics in orthopaedics are needed and are continuing at Stanmore.—I am, etc.,

Royal National Orthopaedic Hospital, Stanmore. — John A. Cholmeley.

Third-generation Syphilis

Sir,—There appeared a case report by Dr. C. J. V. Helliwell in the *Journal* of Aug. 11 (p. 186) purporting to be one of third-generation syphilis. The boy appears to be a congenital syphilitic, but evidence is lacking to indicate that his mother is. Dr. Helliwell based his case on the negative blood test in her husband, the statement that she never had syphilis, but that her parents died of it. It is not unusual for a woman to be ignorant of ever contracting syphilis. There was no supporting evidence that her parents really died of the disease.

It is recognized that conjugal syphilis occurs less frequently from wife to husband than husband to wife. The age of the infection in the sexual partner is an important factor. Such data as her present age and first sexual exposure were not included in the report.

The occurrence of third-generation syphilis is recognized. Its frequency is unknown, since the facts are not always obtainable. Basic necessary information was not included in the report to justify the conclusion.—I am, etc.,

C. C. Wedderburn, M.B., Ch.B.,
Medical Department, Kingston, Jamaica. — Venereal Diseases Officer.

Infant Feeding and Duodenal Ulcer

Sir,—There is undoubtedly an increase in the incidence of duodenal ulcer at the present time, and it seems to be occurring at a more early age. The custom of feeding infants at four-hourly intervals by day, and of giving no feed at all during the night, began to be taught and rigidly followed after the 1914–18 war. The hungry child very often spends the last hour of the period yelling lustily, while the conscientious parent parades the floor with an eye on the clock until the appointed hour arrives. This must mean that for several hours by day and for a longer period during the night the child's stomach is in a state of anticipatory peristalsis, actively secreting hydrochloric acid, and with probably an accompanying pylorospasm. In a child of sthenic habit this may provide the predisposing factors for the development of ulcer in later life. The remedy would appear to be more frequent feeding of this type of infant by day and permitting a feed during the night.—I am, etc.,

Dundee. — J. M. Morgan.

Housing, Health, and Unwise Spending

Sir,—I would like to supplement Dr. Frewen Moor's comments (Oct. 13, p. 508) on Dr. H. Nelson's valuable paper on housing and health. It is not sufficient to enumerate the common types of unwise spending by the poorer classes; we must try to understand the reasons for it. Take, for instance, the family living in a three-roomed back-to-back or four-roomed dwelling of the type still occupied by probably the great majority of the city working classes. On what can they spend their "surplus" earnings? The cramped squalor of the home precludes the pursuit of any hobbies or cultural or constructive interests of any kind. The more well-to-do family has a garden, spare ground on which to build a workshop, enough rooms and big enough rooms in which to entertain friends or indulge in relaxation. The urban working-class family lives under or on top of another family, or is jammed up on each side with a number of similar families; and they all have children. In addition to the crowding and the squalor there are therefore the ceaseless noise and lack of privacy. The home, in fact, is a place to get away from. In such circumstances *what* can the wage-earner spend money on but cigarettes, cinema, betting, and drink? Even to keep a bicycle may be impossible for want of a place to house it. In my opinion it is of immense importance that this aspect of the life of our poorer classes should be given prominent attention in the planning of our future cities.—I am, etc.,

Birmingham. — E. H. Wilkins.

Training for Released Service Doctors

Sir,—Lieut.-Col. F. F. Hellier in his letter (Oct. 6, p. 477) raises a most pertinent point and one of great import to those in the Services about to be released.

I should like to give my personal experience of applying for a Class III appointment as a registrar in dermatology at a salary of £550 per annum. The necessary form of application was forwarded to the British Postgraduate Medical School and a personal visit made immediately I was demobilized. My qualifications and reasons for applying were stated as follows:

(1) I was keen to become a dermatologist, and at the beginning of the war was hon. assistant dermatologist to the Royal United Hospital, Bath, following the appointment of medical registrar to that hospital. I had not started as a consultant in private and was still in general practice in a town 7 miles away.

(2) I wish to study at the same time for a higher qualification in order to be in a position to apply for hospital staff appointments.

(3) The lease of my house, from which I practised, had been terminated by me in 1943, at the first option (10 years), as I did not intend to return to general practice. I have been unable to sell the practice and there is now only a nucleus which, without a house, appears difficult to sell.

I was informed that I was ineligible under the Government scheme Class III (Registrarship) as I had been established before the war in general practice and had not sold my practice, and would also have been ineligible had I started as a consultant in private. The only class open to me was Class II (14 days' refresher course for general practitioners).

Surely the Government policy is to assist in training men who may later prove useful members of the staffs of hospitals treating large numbers of the community over a period of years, and not to exclude men on technicalities from financial assistance with postgraduate study. The only course open to me now is to do postgraduate study at my own expense, and therefore for a short period (three months) due to financial limitations.

The above facts will, I think, be of interest to those in the Forces who may be trying to work out their post-war plans and are expecting financial assistance from this source.—I am, etc.,

C. D. Evans,
Late Colonel, A.M.S.

Nutritional Macrocytic Anaemia: Correction

We apologize for a misprint in the letter on nutritional macrocytic anaemia by Dr. L. E. Glynn, Prof. H. P. Himsworth, and Dr. A. Neuberger, published last week (Oct. 20, p. 550), by which the word "devoid" was omitted in the seventh line. The sentence should run: "It may therefore be of interest to your readers to know that recently we have found that rats on a diet devoid of methionine develop a macrocytic anaemia characterized by changes in the peripheral blood and in the bone marrow similar to those in human nutritional macrocytic anaemia. . . . The development of this anaemia is not prevented by large supplements of cystine or of iron."

Obituary

W. B. CANNON, C.B., LL.D., M.D.

A wide circle of physiologists the world over will feel a personal loss by the passing, on Oct. 2, of Dr. Walter Bradford Cannon, who for many years held the George Higginson Chair of Physiology at Harvard University. Though a world figure in science, Cannon was essentially a Harvard man, for there he graduated in 1896, and there, with characteristic fidelity, he remained with few interludes until his retirement in 1942, first as instructor in zoology, then in physiology, next as assistant professor of physiology, and finally from 1906 to 1942 as professor.

He was one of the now rapidly dwindling number of all-round physiologists whose inspiration, exerted through generations of pupils, will long continue to be felt, and few scientific men can hope to have both so wide and so beneficial an influence on the evolution of their subject as was his. He brought to his subject not only wide experience and knowledge, but also a broad philosophy, an artistic imagination, and an admirable clarity of expression. His initiation in 1898 (at the age of 27) of the technique of the opaque meal in *x*-ray study of the movements of the alimentary canal was by itself enough to ensure him an important place in the history of the medical sciences. The classical work of Cannon and his collaborators, now generally known, and summarized in his *Bodily Changes in Pain, Hunger, Fear, and Rage*, was an outstanding example of the value of imagination in research, and his book *The Wisdom of the Body* was a further revelation of his wide philosophical outlook on biological phenomena. The accepted theory of the humoral transmission of the nerve impulse has much of its factual foundation in the series of investigations by the Harvard School, led by Cannon.

In the interlude occasioned by the first World War he served in the British Military Service in 1917, and engaged in work on traumatic shock, partly in collaboration with the late Sir William Bayliss. He later became a lieutenant-colonel in the U.S. Army Medical Corps, and served with it till 1919. He was decorated C.B. in 1919, and awarded the Distinguished Service Medal of the U.S.A.

Many other honours and distinctions very properly fell to his lot. Among these were Croonian Lecturer, Royal Society, 1918; foreign member, Royal Society, 1939; Linacre Lecturer, Cambridge, 1930; Baly Medal, Royal College of Physicians of London, 1931; President, American Association for the Advancement of Science, 1940; honorary degrees of Yale, Liège, Strasbourg, Paris, and Madrid; foreign member of several learned academies; Harvard exchange professor, 1929–30; and visiting professor to Peiping Union Medical College, 1939.

He died at the age of 73, after a good deal of ill-health. His calm, happy personality will be remembered with affection by those whose privilege it was to know him.

C. L. E.

T. P. PUDDICOMBE, D.S.O., M.B., D.P.H.

Dr. Thomas Phare Puddicombe, who died suddenly at Great Torrington on Sept. 29, was born in 1877, the youngest son of Robert Puddicommbe of Kilverleigh Manor, Beaford, North Devon. He was educated at West Buckland School, King's College, London, and St. Thomas's Hospital. He served with distinction in France from November, 1914, to May, 1919, in command of the 25th Field Ambulance, with the rank of lieut.-colonel, R.A.M.C. He was thrice mentioned in dispatches and was awarded the D.S.O. Before this he had entered the Local Government Service in 1906 and saw service at Croydon as deputy medical officer of health and at Plymouth as senior medical officer before going to Essex in 1920 to fill the new post of deputy county medical officer of health in 1930. Thus when he retired in 1942 he had seen 35 years' service with local authorities, 22 of which had been spent with the Essex County Council.

Dr. W. A. Bullough writes:

When we in Essex heard of his death our minds went back to the day he left us in March, 1942, when so many good things were said about him by all ranks in the service, from the chairman of his committee to the humblest member of the clerical staff of the Public Health Department. His own quip (he was full of quips and pleasantries) on this occasion was that he felt like a man attending his own funeral, because that was when most nice things were said about people. We feel some pleasure that we were able to say these things to his face and have not left them all to be said after he is dead. His geniality, kindness, sympathy, and consideration will long be remembered by those who came into contact with him, particularly a very wide circle of parents in Essex, who have much reason to be grateful to him in his capacity as mental expert for his tact and kindness. If there was a problem to be solved that involved the human element, official or unofficial, "Tay Pay" (as he was affectionately known) was the man to solve it, and he is gratefully remembered as a guide, philosopher, and friend by many in Essex. Those who were privileged to visit him in his bungalow in Rothesay Avenue, Chelmsford, saw the foundation of his character—a great home lover, one who was proud of his home and his garden. He was keen on indoor and outdoor sport—he founded and was the moving spirit in a Badminton Club in Chelmsford. Whatever the game, he played with enthusiasm and vigour. Truly he was a leader of men in more ways than one.

Personally, I was most indebted to him for his great loyalty. No matter how much we disagreed, one could always depend upon "Tay Pay" to be loyal to the extreme. His industry amazed me; quietly and methodically he got through an immense amount of work. And, above all, I admired and liked him for his straightforwardness. If he disagreed he said so, and that was the end of it. One always knew that what he said he meant. I always found him willing to do anything, and he had that inestimable characteristic which made him an ideal deputy—a complete absence of self. I never had any fear about the School Medical Service in Essex under his control, and he never let me down. In his capacity as mental expert I never found a flaw in his diagnoses and estimations.

Outside Essex he had many interests. He was a Fellow of the Society of Medical Officers of Health, and for many years represented the School Medical Group on the executive committee of the society. He was a member of the Central Association for Mental Welfare, and was also keenly interested in the Essex Rural Community Council, and was, in fact, chairman of the health committee for many years. He also gave much attention to the scheme for the preservation of rural England. He was greatly missed by the council when he left Essex. He told us that he intended to live the life of a country gentleman in the West Country when he retired, and we felt that there was no one more fitted to do so. Some of us were privileged to spend short wartime holidays with him among his own folk. It is fitting, indeed, that he should have died in his own beloved Devon. To his wife and son, Capt. Robert T. M. Puddicombe, R.A.M.C., who arrived home on leave from Italy just too late to see his father alive, we extend our deepest sympathy.

Dr. Gerald Quin Lennane, who held the post of M.O.H. for the metropolitan borough of Battersea from 1906 to 1934, died on Sept. 12 after a long illness. He was born at Galway in 1869, and after qualifying in Dublin in 1891 went to sea as a ship surgeon, and then took the F.R.C.S.I. and the D.P.H. in 1900. In 1914, at the age of 45, he volunteered for a commission in the R.A.M.C., served in France, was mentioned in dispatches, and awarded the Military Cross in 1917. After returning to civil life he was for 16 years examiner in hygiene at the R.A.M. College, and Battersea Borough Council named a block of flats after him in recognition of his long and valuable service. Dr. James Fenton in the course of a tribute in the *Medical Officer* has written: "It was Lennane's custom to get in touch with young men on their first taking up an appointment as M.O.H. of a metropolitan borough and offer his advice and experience in any problems which might present themselves to the newcomer. This approach was always made in a kindly way, and was often associated with Lennane's well-known hospitality. The only reward he wanted was the knowledge that he might occasionally be of some help. In debates at meetings of the Metropolitan Branch of the M.O.H. Society and at his club he displayed an old-world courtesy which endeared him to his wide circle of friends. In Battersea he was highly respected by his councillors for the courageous way he tackled many public health problems."

We regret to record the death on Sept. 14 of Dr. George Hall of Stockton-on-Tees, at the age of 66. He was born at Macduff, Banffshire, and educated at Banff Academy Grammar School and at King's and Marischal College, Aberdeen. At Aberdeen University he graduated M.A. in 1900, proceeding M.B., Ch.B. in 1905. He had been a member of the B.M.A. for nearly forty years, contributing an article on "Spontaneous Inversion of the Uterus" to the *Journal* in 1908. Having travelled round the world after completing his studies he took up practice in Stockton. For 38 years he was in close touch with the Stockton and Thornaby Hospital, being appointed hon. surgeon in 1918, and continuing on the honorary staff until 1944, after having served five extra years at the request of the hospital committee. He was chairman of the Stockton Division of the B.M.A. from 1929 to 1931 and an important member of the committee of the North of England Cancer Research Campaign for many years. A colleague writes: Not merely as physician and surgeon will George Hall be missed in the whole district but as a beloved friend. He was a humble, reticent, and tireless worker in the community, being held in high esteem and affection by colleagues and townspeople alike, countless of whom owe their well-being and very lives to his skill and unbounded devotion to duty. A gloom has been cast over thousands by his passing and he will be sorely missed by his patients and friends.

Mr. Ralph Marsh de Mowbray, F.R.C.S., of Lymington, Hants, who died on Sept. 24, had been for many years surgeon to the Lymington Cottage Hospital and the Milford-on-Sea War Memorial Cottage Hospital, and consulting surgeon to the Fenwick Cottage Hospital at Lyndhurst. Born at Vinossington on Oct. 16, 1887, son of the Rev. J. H. M. de Mowbray, he entered St. Thomas's Hospital in 1905 from Marlborough College and qualified in 1914, taking soon afterwards the F.R.C.S. During the war of 1914–18 he served first for a year at the British Red Cross Hospital at Netley, and then for over three years, with the rank of captain, R.A.M.C., as surgical specialist and officer in charge of the surgical division of No. 34 General Hospital at Deolali, India. Mr. de Mowbray had also been house-surgeon, casualty officer, and resident anaesthetist at St. Thomas's Hospital, and house-surgeon at the Royal Hants County Hospital, Winchester. He joined the British Medical Association in 1919.

Dr. David Johnston Jones, who died at Llandudno on Sept. 24, aged 91, was educated in Edinburgh, London, and Paris, graduating M.B., C.M.Ed. in 1876, and M.D. in 1879. After serving as house-surgeon at the Liverpool Royal Infirmary he became senior assistant medical officer to the Kent County Mental Hospital, near Maidstone, and was then for a long time medical superintendent of the L.C.C. Mental Hospital, Banstead. Dr. Jones joined the British Medical Association in 1880. At the date of his death there were only three living members with as long a membership of the Association, though 66 years is not a record, the late Sir James Crichton-Browne having remained in membership for 69 years.

Dr. William McDougall, who died on Sept. 29, had practised for 48 years at Wallington, in Surrey. The son of a Highland minister, he went to school at Aberdeen and then to the University of Edinburgh, where he graduated M.B., C.M. in 1889. After a sea voyage, and a house appointment in Carlisle, he settled in the remote township of Tongue, on the north coast of Scotland. His work there demanded journeys on horseback as far as forty miles from home, over wild country: a single visit to a patient with pneumonia would sometimes take him two days and a night. After his first marriage he came south to a very different kind of practice in a village two or three miles from Croydon, where something of a Scottish community was forming round the Presbyterian church. In half a century Wallington grew out of recognition, and Dr. McDougall, having started work alone, eventually became the senior partner of a firm of four. In 1913 he had joined forces with Dr. A. T. Moon, F.R.C.S., and in 1916–17 he was able to spend a year in the R.A.M.C. at the Connaught Hospital, Aldershot. From the foundation of the Carshalton War Memorial Hospital, about 1923, he was a member of the active staff until he became consulting physician ten years ago. "He was," writes a colleague, "a first-class physician, painstaking to a degree. Restrained and even dour with strangers at first, he had a friendliness and understanding which stirred the affection of his patients into a devotion deep and abiding. He was a man of unalterable integrity whose whole life was a service to his fellows, carried to the full and to the end. His rare and deep humour, his generosity to all in need, and the religion he lived so thoroughly, made him an example which his friends must always remember, and which must always influence them." Dr. McDougall died at 79 years of age, having doggedly continued his work throughout the war. He leaves a widow and two sons and two daughters.

Dr. James Cecil Mottram, director of the research laboratories of Mount Vernon Hospital, Northwood, died on Oct. 4 at Northwood. He was born at Holt, Norfolk, on Dec. 12, 1880, only son of James Mottram, and was educated at the Beacon School, Sevenoaks, University College and Hospital, London, and St. John's College, Cambridge. He graduated M.B.Lond. in 1903, and took the D.P.H.Camb. in 1906. After working as first assistant at the Ayr County Asylum and bacteriologist for the County of Worcester he became first assistant in the cancer research laboratories of the Middlesex Hospital. During the war of 1914–18 he served as lieut., R.N.V.R., attached to the Royal Naval Experimental Station, Stratford, and advisory expert at the Camouflage School, G.H.Q. After returning to civil life Mottram was appointed director of the research department of the London Radium Institute, and continued in that post when the Institute joined up with the Mount Vernon Hospital at Northwood. He made numerous reports to the Royal Society, to the Royal Society of Medicine, the Linnean Society, the Zoological Society of London, and the Pathological Society, on cancer, radiology, and animal coloration. The last-named subject was, with fly-fishing and the study of trout and trout fisheries, Mottram's principal hobby. He wrote articles on animal coloration and on camouflage for the *Encyclopaedia Britannica.*

Dr. Ernest Le Cronier Lancaster, formerly a leading member of the profession in Swansea and well known as a naturalist, died at Lyme Regis, Dorset, on Oct. 4, in his 84th year. After taking his B.A., with first-class honours in science, at the University of Oxford in 1883, he went to St. George's Hospital for his clinical course, graduating M.B., B.Ch. in 1887. At St. George's he served as house-physician, resident obstetric assistant, and demonstrator in anatomy and physiology. He became physician to the Swansea Hospital, to the Aberavon and Port Talbot General Hospital, and to the Swansea and South Wales Institute for the Blind, and he attained the rank of lieut.-colonel, R.A.M.C.(T.). Dr. Lancaster joined the B.M.A. in 1892, was elected chairman of the Swansea Division in 1910, and president of the South Wales and Monmouthshire Branch in 1914. He was a past-president of the Swansea Medical Society, a J.P. for the County of Glamorgan, and for many years acted as honorary curator of the local museum; in retirement he undertook the same duty for Lyme Regis. Two branches of zoology attracted him most—the study of shells and shell-fish, and the study of molluscs—and he was for many years an active member of the Conchological Society of Great Britain and Ireland and of the Malacological Society of London. His professional writings were several papers in the *Transactions of the Clinical Society* during the 'nineties, and a paper on heredity and disease published in these columns in 1910.

Dr. James Macdonald Troup, consulting physician to the Pretoria Hospital and the doyen of the medical profession in that city, died on July 31 in his 78th year. A native of Huntly, in Scotland, he was the youngest son of the Rev. Robert Troup, and after early education at Madras College went to St. Andrews University, where he graduated M.A. with honours in 1887. He won the Guthrie Scholarship from St. Andrews to Cambridge, was 7th Wrangler in the Mathematical Tripos of 1890, and went on to King's College Hospital, London, with a senior scholarship. He took his M.B., B.Ch.Camb. in 1896, and was house-surgeon at King's to Watson Cheyne. In the following year he went to South Africa to an appointment at Grahamstown, and later for a time practised at Somerset East. He settled in Pretoria in 1902, and during 43 years there his life was devoted to his patients; he soon gained a reputation for sound judgment and for skill in diagnosis and treatment; moreover, he was one of those practitioners whose advice and counsel were sought on many personal matters outside the strict range of his profession. The *South African Medical Journal* has published a number of tributes to Dr. Troup from colleagues, and a long appreciation of his character and gifts and his attitude towards the science and art of medicine by Dr. A. Pijper, written from 25 years' personal knowledge. One passage may be quoted here: "Troup had a persuasive manner and his authority was readily accepted. He was a marvellous diagnostician and had a horror of mechanized medicine, as it is called. Yet he used the laboratory to the utmost, but it was merely to confirm his ideas or to give him the needed quantitative data. If he had to subject a patient to more than one 'test' he blamed himself. Difficult cases were first discussed with the pathologist, on equal terms. Working with Troup was a delight to the laboratory-man. Even in the early days large numbers of his patients had laboratory work performed, and this being unusual in those days, I once asked him how the patients took it and whether it did not detract from his status. He countered by saying that the opposite was the case: his patients realized the purpose and that their doctor was on the right track." Dr. Troup had been a member of the British Medical Association since 1897.

Universities and Colleges

ROYAL COLLEGE OF SURGEONS OF ENGLAND

Lister Memorial Lecture

Sir Howard Florey, F.R.S., delivered the Lister Memorial Lecture at the Royal College of Surgeons on Oct. 11, taking as his subject "The Use of Micro-organisms for Therapeutic Purposes"; it will appear in a future number of the *British Medical Journal*. At the end of the lecture he was presented with the Lister Medal for 1945 which had been awarded to him for his distinguished contributions to surgical science.

A quarterly meeting of the Council of the College was held on Oct. 11, with Sir Alfred Webb-Johnson, Bt., President, in the chair.

A Diploma of Fellowship was granted to David Barrett Feather (Leeds Medical School).

Diplomas of Membership were granted to the following successful candidates: W. H. Lonsdale, E. C. Hutchinson, P. M. Jeavons, C. H. de Boer, Lucy M. Dunkerley, R. L. Greenwood, H. Wainstead, H. A. Lane.

Diplomas in Physical Medicine were granted jointly with the Royal College of Physicians of London to F. J. Bach and E. J. Crisp.

Diplomas in Child Health were granted jointly with the Royal College of Physicians of London to the following successful candidates: H. I. C. Balfour, H. Blair, Agnes A. Brash, E. H. Brown, E. F. B. Cadman, A. Comfort, Nancy D. Cox, J. G. Dathan, R. L. J. S. Derham, Glenys M. M. Donaldson, F. R. M. Elgood, Elizabeth de C. Falle, I. W. Gallant, Susanna Gordon, Mona Griffin, G. R. Griffith, Ursula Jerram, A. Kahan, Margaret Kemsley, Vivien U. Lutwyche, Helen M. C. Morley, Joan L. Noak, G. E. Paget, Margaret Pardoe, H. E. Parry, P. E. Polani, Phyllis Poyner-Wall, L. S. Prasad, R. J. P. Pugh, Mary M. E. Rutter, Vivian M. N. Usborne, D. E. Yarrow, S. S. Yudkin, C. Zahra Neumann, H. L. Zondek.

A Leverhulme Research Scholarship was granted to Mr. P. B. Ascroft, F.R.C.S., for research on the pathology of head injuries.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH

Dr. J. A. Nixon, Emeritus Professor of Medicine in the University of Bristol, will deliver the Dr. Alexander Black Lecture on "The Health and Safety of the Merchant Seaman" at the College (9, Queen Street, Edinburgh) on Friday, Nov. 2, at 4 p.m. The lecture is open to all graduates and senior students.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH

At the annual meeting of the College, held on Oct. 17, the following officers were elected for the ensuing year: *President*, Mr. J. M. Graham. *Vice-President*, Prof. R. W. Johnstone. *Secretary and Treasurer*, Mr. K. Paterson Brown. *President's Council*, Sir John Fraser, Bt., Dr. G. Ewart Martin, Mr. Francis E. Jardine, Mr. W. Quarry Wood, Mr. Walter Mercer, Prof. J. R. Learmonth. *Representative on the General Medical Council*, Mr. Henry Wade. *Convener of Museum Committee*, Mr. W. Quarry Wood. *Librarian*, Dr. Douglas Guthrie.

At a meeting of the College held on Oct. 17, with the President, Mr. J. M. Graham, in the chair, the following, having passed the requisite examinations, were admitted Fellows: J. Boyes, A. E. Bremner, J. A. Chalmers, A. W. Chambers, Prudence Halton, J. A. Harpman, G. Hay, W. A. N. Inglis, E. M. Innes, Alberta M. Jeans, Kathleen M. Long, R. N. Martin, D. Telford, N. Whalley.

The Services

Lieut.-Col. (Temp.) H. Rees and Major (Temp.) S. K. Datta, I.M.S., have been mentioned in dispatches in recognition of gallant and distinguished services in the field.

The following appointments and awards have been announced in recognition of gallant and distinguished services in North-West Europe:

C.B.E. (*Military Division*).—Brig. (Local) E. Bulmer, O.B.E., Brig. (Acting) J. T. McConkey, and Col. (Temp.) F. A. Bearn, D.S.O., M.C., R.A.M.C.

O.B.E. (*Military Division*).—Cols. F. G. Flood, M.C., and R. G. Shaw, M.C., late R.A.M.C.; Cols. (Acting) J. P. Douglas, M.B.E., and F. McL. Richardson, D.S.O.; Cols. (Temp.) J. P. J. Jenkins, T.D., H. E. Knott, and G. G. Talbot, T.D.; Lieut.-Cols. (Temp.) J. C. Anderson, W. S. C. Copeman, R. Evans, F. N. Foster, T.D., E. Hutcheon, A. B. Kerr, T.D., and W. R. Logan, T.D., R.A.M.C.; Cols. C. F. Abbott and C. G. Wood, Lieut.-Cols. D. Campbell, K. J. Coates, C. D. S. Leef, and J. Tanzman, R.C.A.M.C.

M.B.E. (*Military Division*).—Major R. B. Hunter, Majors (Temp.) D. J. Johnson, W. Michie, R. O. Murray, and R. O. G. Norman, and Capt. K. C. Burrow, R.A.M.C.; Majors W. A. McKibbon and E. Wolstein, R.C.A.M.C.

D.S.O.—Lieut.-Col. (Temp.) M. W. Gonin, R.A.M.C.

M.C.—Major (Temp.) J. L. Chisnall, Capts. R. D. S. Jack, G. D. H. McQuitty, I Morris, and J. Sheehan, and Lieut. R. W. Major, R.A.M.C.; Capt. K. A. Campbell, R.C.A.M.C.

The following appointments and mentions have been announced in recognition of distinguished services during the liberation of prisoners from German concentration camps.

O.B.E. (*Military Division*).—Lieut.-Col. (Acting) F. S. Fiddes, Lieut.-Col. (Temp.) J. A. D. Johnston, M.C., and Lieut.-Col. F. M. Lipscomb, R.A.M.C.

M.B.E. (*Military Division*).—Capts. P. O'Donnell and D. B. Peterkin, R.A.M.C.

Mentioned in Dispatches.—Major H. A. Tuck; Majors (Temp.) E. M. Griffin, G. M. C. Smith, and D. J. Waterston, M.B.E.; Capts. G. M. Baker, I. Gluck, J. Kraus, D. T. Prescott, and W. C. Winterbottom; Lieuts. S. Durrant and N. Winter, R.A.M.C.

Repatriated.—Major J. W. D. Bull, R.A.M.C.

Dalkeith Presbytery, in Midlothian, has sanctioned the erection in Newbattle Parish Church of a three-light stained glass window to commemorate the members of the R.A.M.C. who were stationed at Newbattle Abbey in the early years of the war.

Medical Notes in Parliament

On Oct. 18 the Parliamentary Medical Group met at the House of Commons and elected Dr. Haden Guest as chairman, Mr. Hugh Linstead as hon. secretary, and Sir Henry Morris-Jones as hon. treasurer. The Group decided to meet monthly. Its next meeting will discuss demobilization. Dr. Haden Guest was re-elected the representative of the Group on the Central Medical War Committee.

The Parliamentary Medical Committee of the Labour Party, under the chairmanship of Mr. Somerville Hastings, will work in close co-operation with the Health Group of the party.

Distribution of Medical Man-power

Mr. Lawson stated on Oct. 16 that the present ratio of R.A.M.C. medical officers in the Forces to personnel under their medical charge is 2.57 per 1,000. All effective medical officers, whether engaged on administration, hygiene, hospital work, or attendance on unit sick, are included in the ratio. The present proportion of doctors of all kinds in this country to the civilian population is 0.74 per 1,000. He added that circumstances and conditions in the Army and civil life are so different that any true comparison is impossible.

Sir Gifford Fox on Oct. 17 asserted that the present strength of medical officers in the R.A.F. was 2.27 medical officers per 1,000 men, which compared with one doctor per 3,500 of the civil population. He asked why it was necessary for the proportion of doctors in the R.A.F. to be eight times that for the country as a whole. Mr. JOHN STRACHEY replied that the ratio given for the Air Force included doctors employed in hospitals on research and on administration as well as those on R.A.F. stations at home and abroad. On the other hand, the civilian figure for this country, which was about 2,500 per doctor, and not 3,500 as stated in the question, related to general practitioners, and excluded doctors working only in hospitals, on public health administration, and on research. A similar figure for the Air Force would be 1 in 1,000, out of which provision has to be made for a doctor at each active airfield. This ratio was less than was provided in peacetime. The distribution of medical man-power is now under review by the Government.

No. 30 General Hospital

Answering an inquiry by Sir John Mellor on Oct. 9, Mr. LAWSON reported that No. 30 General Hospital was sent to Norway on June 6, 1945. Its purpose was, in conjunction with other medical units, to provide for the care and treatment of the Allied occupation force and liberated Allied prisoners of war. He said 125 in-patients and between 300 and 400 out-patients were treated together with 559 dental cases. The records relating to out-patients were not available in the United Kingdom. The in-patients and dental cases were wholly Allied and mainly British. The total strength of the unit was 23 officers (including 18 R.A.M.C.), 40 nursing officers, and 159 others. The unit returned to the United Kingdom on Aug. 3, 1945. Mr. Lawson pointed out that when the unit was dispatched to Norway it was not known what difficulties would be encountered by the occupying force.

Release of Students

Mr. ISAACS stated on Oct. 9 that students eligible for release from the Forces in Class B include students in medicine, dentistry, and veterinary surgery recommended by the universities or the appropriate schools if these students had: (1) given up their reservation to join the Forces; or (2) joined the Forces before the present conditions of reservation were in operation, but would have been reserved if these had been in force. Only men in release groups 1–19, with substantially three years' service, were eligible. Mr. Isaacs added that he was not prepared to alter his policy for students who left the universities in the summer of 1945. Those who entered the universities in Oct., 1944, and subsequently could take a full course.

Britain and the Atom

Mr. ATTLEE said on Oct. 9 that the United Kingdom Government will be happy to share with the United States and Canada, and then with other nations, with the object of agreement on co-operation, in the development of atomic energy. The Government was pursuing its own studies through the Advisory Committee.

Cancer Statistics

A table issued by Mr. BEVAN on Oct. 11 shows that the death rates per million living (civilians only) from all forms of cancer in England and Wales during the years specified were as follows:

	Actual	Standardized
1940	1,723	981
1941	1,780	979
1942	1,834	977
1943	1,899	983
1944	1,897 (Provisional)	Not available

The standardized death rates are those which would have been recorded if the sex and age constitution of the population had been the same as in 1901.

Release of Naval Medical Officers

Mr. A. V. ALEXANDER in a written reply in the House of Commons on Oct. 12 said that until certain factors were known it would not be possible to give definite information regarding the release of naval medical officers. These factors were: complete information about wounded and invalids on distant stations, or naval personnel who had been prisoners in Japan; what arrangements could be made for bringing these patients home: and the number of doctors that could be recruited into the Navy in the coming months. The Admiralty expected to release Groups 9 to 19 by the end of 1945, and up to Group 30 by the end of June, 1946. At this rate release of medical officers would be only one or two groups behind the average rate for naval officers.

Tuberculosis: Accommodation in Sanatoria.—Mr. BEVAN stated that the number of patients awaiting admission to sanatoria is about 5,000. Above 1,600 existing tuberculosis beds are closed for lack of staff. A sufficiency of additional accommodation could be provided without much difficulty if staff for it were available.

Invaliding from the Far East.—In a written reply on Oct. 9 Mr. LAWSON recorded that the decision as to which individuals should be evacuated from the Far East on medical grounds was in general left to the medical authorities on the spot, who alone were in a position to assess all the factors in each case. The disposal of patients suffering from tropical illnesses had been carefully considered from time to time in the War Office and general policy defined. The majority of patients made complete recovery from tropical illnesses such as malaria and bacillary dysentery. Patients were invalided home when suffering from complaints which render continuation of service in the Tropics inadvisable.

Medical News

Sir Arthur MacNalty will give the Thomas Vicary Lecture on "The Renaissance: its Influence on English Medicine, Surgery, and Public Health" at the Royal College of Surgeons of England on Nov. 1, and Mr. C. Max Page the Bradshaw Lecture, entitled "A Survey of Fracture Treatment," on Nov. 8. Both lectures will be given at 5 o'clock.

A general meeting of the Paddington Medical Society will be held at St. Mary's Hospital, W., on Tuesday, Oct. 30, at 8.45 p.m., when Dr. H. L. Marriott will deliver a lecture on "Medical Progress during the War."

The annual general meeting of the Association of Anaesthetists of Great Britain and Ireland will be held at the Royal College of Surgeons of England (Lincoln's Inn Fields, W.C.) on Wednesday, Oct. 31, at 2 p.m. A film show will follow at 4.30 p.m. and, at 7 p.m., dinner in the College. On Thursday, Nov. 1, at 10 a.m., there will be clinical demonstrations.

No fees and no tickets of admission are necessary for the post-graduate course in rheumatism to be held by the Empire Rheumatism Council from Oct. 31 to Nov. 11, inclusive, at B.M.A. House. Details of the course were announced in the *Journal* of Oct. 13 (p. 516).

Prof. James Gray, F.R.S., will give a series of four lectures on "The Anatomy and Functions of the Brain in Lower Vertebrates" before the Royal Institution (21, Albemarle Street, W.) on Thursdays, Nov. 1, 8, 15, and 22, at 5.15 p.m.

A course of four lectures in celebration of the 50th anniversary of the discovery of *x* rays will be delivered by Dr. A. Müller and Mrs. Kathleen Lonsdale, D.Sc., F.R.S., before the Royal Institution (21, Albemarle Street, W.) on Tuesdays, Nov. 6, 13, 20, and 27, at 5.15 p.m. On Nov. 6 and 13 Dr. Müller will discuss "The Background of Röntgen's Discovery" and "After the Discovery of *X* Rays," and on Nov. 20 and 27 Dr. Lonsdale will speak on recent research work in the Davy Faraday Laboratory on "Atomic Movements in Crystals" and "Divergent Beam *X*-ray Crystallography."

A meeting of the Medical Society of the L.C.C. Service will be held at the Archway Histological and Group Laboratory, Archway Road, Highgate, N., on Wednesday, Nov. 7, at 3 p.m. The meeting will be devoted to pathology.

The annual general meeting of the British Medical Students' Association begins to-day (Friday, Oct. 26) at B.M.A. House, Tavistock Square, W.C., with an address by Lord Moran at 3 p.m. Guy's Hospital Students' Union has invited delegates and visitors to a dance in the evening. Business meetings will occupy Saturday morning and afternoon; Prof. J. A. Ryle will speak at 4.15 p.m. on "Social Pathology." During the evening a programme of medical films will be presented. Election of officers will take place on Sunday morning, to be followed by a discussion on plans for the coming year. Tickets have been booked for a concert by the London Philharmonic Orchestra in the afternoon. All sessions are open, but as accommodation is limited preference will be given to delegates and other members of the Association.

The annual general meeting of the Association of the Honorary Staffs of the Major (Non-teaching) Voluntary Hospitals of England and Wales will be held at the Royal College of Surgeons of England (Lincoln's Inn Fields, W.C.) on Friday, Nov. 9, at 2.15 p.m.

Dr. R. W. Durand has now returned from his service with the R.A.F., and has resumed his duties as secretary of the London and Counties Medical Protection Society, Ltd.

Dr. Joseph Victor Landor and Dr. Robert Kenneth McAll have been released from internment in Japanese hands.

A sessional meeting of the Royal Sanitary Institute will be held at Weston-super-Mare Town Hall on Saturday, Nov. 3, at 10.15 a.m., when papers will be read by Dr. C. G. Eastwood on "David and Goliath: A Plea for the Individual in Social Medicine" and by Dr. T. L. Scott on "The Movable Dwelling: Is it adequately Controlled?"

On Nov. 7 the Medical Sickness, Annuity and Life Assurance Society, Ltd., will move its head office from Cirencester to 7, Cavendish Square, London, where its new business department is already installed and inquiries can be dealt with.

Three cinematograph films on children's health, which will be available for non-theatrical showing from Nov. 1, mark a new departure in the long series of films made by the Ministry of Information for the Health Departments. They are intended particularly for parents and for all who have charge of children. They embody sufficient elementary physiology to explain the structure and working of the organs treated and to show why certain simple health precautions are important. Diagrams play a leading part in presenting the principles of structure. "Your Children's Eyes" runs for 19 minutes, "Your Children's Ears" for 17, and "Your Children's Teeth" for 15. As they are all sound films they cannot be used on a silent projector. They are available in both 35 mm. and 16 mm. They can be shown in any part of the country, by means of the Ministry of Information Mobile Units, to parents' and teachers' organizations or at meetings arranged by any organizations interested in health. They can also be borrowed, by any organization which has its own sound projector, from the Central Film Library, London, the Scottish Central Film Library, or the Film Library at Dartington Hall, Devon. Medical officers of Health may apply for these films from the Central Film Library through the Central Council for Health Education, Tavistock House, Tavistock Square, W.C.1, which can also arrange talks or lectures as part of the programme.

EPIDEMIOLOGICAL NOTES

Discussion of Table

In *England and Wales* during the week the only diseases which showed very much change in incidence were scarlet fever, which increased by 174, and dysentery, which fell by 57 cases. The largest variations in the totals of diphtheria were increases in Lancashire 14, and Warwickshire 10, and a decline of 16 in Glamorganshire. There were 29 fewer notifications of whooping-cough in Yorks West Riding, and 20 more in Middlesex, than in the previous week. The notifications of measles were the lowest since it became notifiable; during the week one-quarter of the total cases were recorded in Lancashire. Four of the 15 cases of typhoid were reported from the metropolitan borough of Woolwich.

The total for dysentery has decreased for the third consecutive week. The largest returns were London 56, Lancashire 34, Surrey 19, Yorks North Riding 16.

In *Scotland* notifications of scarlet fever increased by 46, and of diphtheria by 33; there were 25 fewer notifications of acute primary pneumonia, 15 fewer of measles, and 14 fewer of whooping-cough. The rise in diphtheria was mainly in the west; the largest local rise was Glasgow 11, and in this city, also, scarlet fever rose in incidence from 64 to 100 cases. Although the total for dysentery increased by only 9, the two principal centres of infection showed rises from 12 to 19 in Edinburgh, and from 57 to 66 in Glasgow.

In *Eire* the infectious diseases of childhood were more prevalent. Diphtheria notifications were up by 42, whooping-cough by 44, and measles by 18. The higher incidence of diphtheria was general throughout the country. The two large centres of infection for whooping-cough were Clare, Killadysert R.D. 27, and Dublin C.B. 20. The notifications of diarrhoea and enteritis fell by 48, and the total, 62, was the lowest for the past eight weeks.

Quarterly Returns for Northern Ireland

Births registered in Northern Ireland during the second quarter of this year numbered 7,509, equivalent to a rate of 22.8 per 1,000, or 2.5 below the rate for the June quarter of 1944 and 1.4 below the average rate for the second quarters of the five years 1940-4. Infant mortality was 67 per 1,000 registered births, compared with 60 for the corresponding quarter of last year and 72 for the average of the second quarters of the five preceding years. Maternal mortality was 2.8 per 1,000 births, and 1.0 below the average rate for the five preceding June quarters. The general death rate was 12.0 per 1,000, being 2.2 below the five-years average. Deaths from infectious diseases included diarrhoea and enteritis under 2 years 58, whooping-cough 22, influenza 21, diphtheria 10. Pulmonary tuberculosis was the cause of 216 deaths, and other forms of tuberculosis 82, these numbers being 24 and 2 respectively below the average for the five preceding second quarters.

Week Ending October 13

The notifications of infectious diseases during the week in England and Wales included: scarlet fever 1,849, whooping-cough 970, diphtheria 565, measles 446, acute pneumonia 415, cerebrospinal fever 36, acute poliomyelitis 45, dysentery 286, paratyphoid 6, typhoid 10.

No. 40

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended Oct. 6.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1945					1944 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever	38	1	23	—	1	24	1	15	1	1
Deaths		—	—				1	1		
Diphtheria	479	33	166	105	11	509	7	144	116	23
Deaths	12	1	—	1	—	10	1	1	—	—
Dysentery	207	56	108	1	—	390	42	134	1	—
Deaths				—	—				—	—
Encephalitis lethargica, acute	—	—	—	—		1	—	—	—	—
Deaths		1					—			
Erysipelas			43	10	3			52	13	—
Deaths		—					—			
Infective enteritis or diarrhoea under 2 years				62					39	
Deaths	47	7	18	15	5	59	6	30	20	4
Measles*	367	33	68	43	1	2,492	38	173	54	57
Deaths	—	—	—	—	—	3	—	—	—	—
Ophthalmia neonatorum	79	4	13	—	—	58	3	11	—	—
Deaths										
Paratyphoid fever ..	11	1	2 (B)	—	—	7	—	1 (B)	—	—
Deaths	—	—	—	—	—	1	—	—	—	—
Pneumonia, influenzal†	377	25	3	2	4	628	39	4	2	3
Deaths (from influenza)	8	—	4	—	—	19	3	2	—	1
Pneumonia, primary ..			121	13				173	15	
Deaths		17		4	5		21		7	6
Polio-encephalitis, acute	—	—				—	—			
Deaths		—					—			
Poliomyelitis, acute ..	29	3	—	3	1	19	—	11	2	—
Deaths		—					—			
Puerperal fever		3	17		—		1	13		—
Deaths										
Puerperal pyrexia‡ ..	155	11	22	—	2	166	4	7	1	—
Deaths		—					—			
Relapsing fever ..	—	—			—	—	—			—
Deaths										
Scarlet fever	1,683	135	318	27	45	1,932	41	321	27	55
Deaths	—	—	—	—	—	—	—	1	—	—
Smallpox	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Typhoid fever	15	5	4	2	1	7	—	1(B)	8	2
Deaths	—	—	—	—	—	—	—	—	1	—
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Whooping-cough* ..	909	55	30	60	7	860	50	77	38	5
Deaths	4	1	—	—	—	6	—	2	1	1
Deaths (0-1 year) ..	291	36	56	33	19	320	31	81	44	20
Infant mortality rate (per 1,000 live births)										
Deaths (excluding stillbirths)	3,947	564	518	171	113	4,068	510	650	163	123
Annual death rate (per 1,000 persons living)			11·8	11·0	§			14·9	10·6	§
Live births	6,831	870	914	449	265	6,695	438	1057	397	269
Annual rate per 1,000 persons living ..				29·0	§			21·5	25·7	§
Stillbirths	200	11	29			212	18	44		
Rate per 1,000 total births (including stillborn)								40		

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* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

‡ Includes puerperal fever for England and Wales and Eire.

§ Owing to movements of population, birth and death rates for Northern Ireland are still not available.

Letters, Notes, and Answers

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: *Aitiology Westcent, London.* ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated.

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ANY QUESTIONS?

Intermarriage of White and Black

Q.—*The story has been going round of a white girl who married a white American and gave birth to a coal-black baby; subsequent investigation showed that one of the husband's very distant ancestors had been a negro. I tell my patients that if the negro ancestors were so far back that the man was white, then his baby could not possibly be coal-black, but I really do not know whether this is true. I also tell them that if a white man or woman marries a negro and has a lot of children, they will not be some pure white, some pure black, and some brown, and I tell them that none of the children will be piebald. I should be glad of information.*

A.—The story has been going around for a very long time—probably for hundreds of years. The questioner is right in doubting it. A white girl and a man who passed for white, though actually of remote negro ancestry, could not have a black baby. The only element of fact which might account for such beliefs is that two persons, both of whom had negro ancestry (and not very remote at that) but who were themselves sufficiently light perhaps to pass for white, might have a child of medium colouring. Davenport, whose valuable monograph *Heredity of Skin Colour in Negro-White Crosses* (Carnegie Inst. of Washington, Publication 188, 1913) should be consulted, states: "At Jamaica I asked several highly intelligent coloured and white natives if they knew of cases of 'reversion' to black skin colour. All replies agreed in holding the idea mythical," so that apparently the story is not accepted, even popularly, in areas where crossing is frequent and there are abundant opportunities for observation. Perhaps some of Davenport's intelligent observers recalled the anecdote which is a sufficient commentary on another myth.. A very dark-skinned lady explained how before her birth her mother had been greatly frightened by a black man who chased her down the street; to which the unsympathetic response was: "I guess he caught her."

The questioner is also right in telling his patients that the offspring of a negro-white marriage show relatively little segregation; the resulting mulattos tend to be of medium colour and variation is not wide. As would be expected if only a few main genetic factors were operative, there is much more variation amongst the offspring of mulattos who marry each other. In all probability Davenport's hypothesis of two main factors, if we allow for certain complications and add further minor quantitative factors and non-genetic variations, accounts for the facts reasonably well. Inherited "piebalding" is something quite different and is due to a dominant gene. It may appear in black or in white persons, though it is naturally much more striking in the former.

Increasing Weight

Q.—*It is frequently difficult in persons who are under weight to bring about any increase, although they are apparently healthy and no signs can be found to indicate disease. I would appreciate advice regarding methods recommended.*

A.—Of course it is important to exclude organic disease, and, apart from clinical examination, *x*-ray of the chest, blood count, and sedimentation rate should be undertaken. It is also assumed, in answering the question, that such endocrine disorders as thyrotoxicosis, Simmonds's disease, and Addison's disease have been excluded. After this, the most important cause of failure to gain weight, or of loss of weight, is psychological, not only as an obvious anorexia nervosa but in less tangible form. For this reason the psychotherapeutic approach should never be neglected. Providing there is no evidence of hypoglycaemia, insulin often proves useful—10 units of simple insulin ten minutes before breakfast and ten minutes before lunch. It is usually unwise to give it at night, in case a hypoglycaemic reaction occurs. In males testosterone has an anabolic effect, and the same is relatively true of oestrogens in women, but here one may have resulting disturbance of menstruation, and the water-retention factor may become troublesome if very large doses are used. The writer has found progesterone in large quantities of benefit in some cases, without any of the disadvantages of the oestrogens. Sedatives, rest, and reassurance have their place.

Safety against Carbon Tetrachloride

Q.—*What safety measures should be recommended for workers using carbon tetrachloride?*

A.—The first essential is adequate general ventilation; the second, a system of mechanical exhaust ventilation over any open vessels containing carbon tetrachloride. Workers with a past history of any liver disturbance, such as jaundice, gall-stones, or infective hepatitis, should not be allowed to handle the substance, nor those receiving arsphenamine treatment, nor pregnant women, nor any worker who has recently had a general anaesthetic such as chloroform. Whenever possible work on carbon tetrachloride should be alternated with periods of work involving no exposure to chlorinated hydrocarbons.

Schistosomiasis

Q.—*Is there any means of determining whether any male schistosomes have survived a course of treatment for bilharzia infection? (Attention has been focused on the escape of ova and treatment usually discontinued when this ceases, though the male parasites predominate.) Can these inescapable worms cause interference with the circulation once they have become dislodged from their favourite sites? Are pathological conditions of the ureter in bilharzia cases due only to microbic invasion spreading up from the bladder wall?*

A.—A quantitative fall and ultimate disappearance of the titre of the complement-fixation test for schistosomiasis would be evidence that the treatment had eradicated the infection. The technique of the test is similar to that of the Wassermann reaction, but an alcoholic extract of the livers of infected snails is used as an antigen. Drugs employed against schistosomes owe their value not only to their effect on the ova but also to the fact that they are lethal to the adult parasites. Their action is far more than one of dislodging the worms, and the death of the adults will result in cure of the disease within the limits of resolution of the concomitant pathological changes of the tissues of the host. Although microbic invasion from the bladder, and other secondary changes, account for a great part of the trouble in the ureter and kidneys in cases of schistosomiasis, specific invasion of the latter tissues may occur and ova have been found in these organs.

Fröhlich's Syndrome

Q.—*What are the modern views on the treatment of Fröhlich's syndrome? Can one, for example, expect benefit from treatment with anterior-pituitary-like hormone, and does the obesity respond to thyroid extract and diet? Exact details of dosage would be welcomed.*

A.—It may be as well to mention that Fröhlich's syndrome is, strictly speaking, a condition of obesity and sexual underdevelopment due to a tumour in the neighbourhood of the pituitary. Surgical treatment should be advised. The term is, however, loosely and inaccurately used to imply obesity and sexual underdevelopment without a tumour. It would seem that obesity in children may delay sexual development, for the treatment of the obesity by diet alone is followed by the attainment of normal sexual development. The obesity may be due to sedentary habits or overfeeding, but there is reason to believe that a functional abnormality of the hypothalamus is often present.

The patients may recover without treatment of any kind, but often a female distribution of fat and body hair persists when obesity and maldevelopment are no longer present. As these are embarrassing symptoms in a man, all patients should be treated in childhood. Diet alone is sufficient. Carbohydrates should be cut drastically, the necessary caloric requirements being made good so far as is possible by proteins. Very little salt should be allowed. Diuretics accelerate loss of weight. Thyroid should be given only when, as sometimes occurs, there is evidence of hypothyroidism. Anterior-pituitary-like hormone of pregnancy urine should be given only when the testicles are undescended—a not uncommon complication. It has no effect upon the obesity, but may accelerate the growth in size of the penis. It is best given only when the time of normal puberty is approaching.

The dose of thyroid is 1/4 grain increased gradually at fortnightly intervals until an increasing resting pulse rate or too rapid a loss of weight suggests that the limit of tolerance is at hand. It should then be omitted for a fortnight, and thereafter continued in a smaller dose. It is rarely necessary to give it at all, and should be given only when careful supervision can be exercised. The dose of A.P.L. hormone is 500 rat units twice weekly intramuscularly in alternate months.

Podophyllin for Warts

Q.—*What is known of the treatment of warts by podophyllin? Please supply references if possible.*

A.—Treatment of warts by podophyllin was described by Culp, O. S., Magid, M. A., and Kaplan, I. W., *J. Urol.*, 1944, **51**, 655; and MacGregor, J. V., *B.M.J.*, 1945, **1**, 593. A 25% suspension in mineral oil or a paste made with podophyllin and water is applied to penile, vulval, or anal warts or warts in other moist sites, for a period of six hours and is then washed off. Occasionally more than one application is necessary. In these sites the warts dry and drop off within a few days. Podophyllin is an irritant, but is rarely an effective measure except for the type of wart found in moist sites.

Prognosis after Splenectomy

Q.—*What advice and prognosis should be given to an otherwise healthy young man who has had a splenectomy owing to rupture as a result of injury?*

A.—Resistance to protozoan infections such as malaria is believed to be reduced by splenectomy. The patient should, therefore, be advised not to visit the Tropics, but apart from this no precautions are needed and the expectation of life and health is normal.

Terminating Pregnancy

Q.—*A married woman is suffering from severe pulmonary tuberculosis and also showing signs of myocardial degeneration. She has become pregnant, and I could have her curetted, but that involves the risk of an anaesthetic. Would it be possible to terminate her pregnancy by means of a glandular preparation—e.g., stilboestrol? If so, what would be the best method of administration and dosage?*

A.—When the foetus is dead but retained *in utero*, stilboestrol and other oestrogens, if given regularly over the course of 5 to 8 days, usually sensitize the uterine musculature to such an extent that expulsion of the products of conception occurs. If, however, as in this case, the pregnancy is alive, oestrogens, even in massive doses, do not produce abortion except on rare occasions when the patient is perhaps unusually sensitive. The same applies to the use of strong purgatives, quinine, ergot preparations, pituitary extracts, etc. Although the possibility of this patient or her uterus being susceptible might make some kind of medical induction worth trying, it is unlikely to be successful, and some form of operative interference will probably be required. The anaesthetic risk would be reduced to a minimum by the employment of a skilled anaesthetist, to whom the choice of anaesthetic should be left. Alternatively, it is possible to carry out dilatation of the cervix and to insert a pack or laminaria tents or even to evacuate the uterus, after infiltration of the cervix and the broad ligaments with a local analgesic. But if the condition of this patient is so grave as to warrant induction of abortion, there is much to be said for sterilization at the same time. In that case there can be little doubt that the ideal treatment would be to carry out abdominal hysterotomy and sterilization under local analgesia—a technique which is not difficult.

INCOME TAX

Expenses: Life Assurance Allowance

J. K. inquires (*a*) whether he can claim as an expense the fee of £5 1s. paid to the General Medical Council for *original* registration, and (*b*) whether the restriction of the life assurance allowance to one-sixth of the income is determined by gross income or gross income less allowable expenses.

⁂ (*a*) The fee in question would appear to be paid in order that the practitioner may exercise his profession rather than incurred in the course of his work. We think that the Revenue authorities might successfully contend that this particular payment was of a capital nature and therefore not allowable. (*b*) The phrase used in the statute is "one-sixth of the total income of the person from all sources estimated in accordance with the provisions of the Income Tax Acts." The earned income must therefore be taken at the assessable amount—i.e., the expenses must be deducted.

Locumtenent

T. L. states that most of his income is derived from work as locumtenent and that he is assessed on his annual earnings and not dealt with under the "pay-as-you-earn" system. Can he claim to deduct the expense of travelling between his residence and the places where he does locumtenent work?

⁂ If, as we gather, the changes in the locumtenencies are sufficiently frequent to justify T. L. in being regarded not as the employee of various practitioners from time to time but as carrying on his profession in a particular manner, then in our view he is assessable under Schedule D and not under Schedule E. If so, he should be regarded as carrying on his profession from his residence as the centre, and the expense of travelling should be allowed.

LETTERS, NOTES, ETC.

Breast-feeding of Infants

Lieut.-Col. W. E. C. **Lunn-Rockliffe**, R.A.M.C.(ret.), writes: In a recently published book, *The Farming Ladder*, by George Henderson, I came across the following passage (page 68): "I once had the pleasure of studying some records kept by a farmer in Northern Ireland over many years, which showed conclusively that for production and longevity the cows which had been reared on two outlying small farms, with ample milk available, had far surpassed those reared under the farmer's own careful supervision on calf meal, where he was in a position to retail every pint of milk produced, and had therefore been misled into believing that calf-rearing with meal was more economical. It is useful in changing over from milk, and we use it, but we still believe that the cow will return a hundredfold the milk she received as a calf, or will withhold in proportion that part of her birthright of which she has been robbed, through the reduction in health and vitality resulting from it. It is not what a calf looks like at six months old that matters, it is how much milk she will be giving at six years old or later." If this is true of cattle may it not also apply to human beings, and explain to a certain extent the difficulty modern mothers appear to have in providing sufficient breast milk for their infants? Possibly their own mothers for some reason denied them their full quota of breast milk; hence the vicious circle.

Fish-bone embedded in Tonsil, Simulating Neoplasm

Mr. A. J. **d'Abreu**, M.B., F.R.C.S.Ed., writes from Newtown, Waterford: In January, 1926, a woman aged 61 consulted me for pain in her throat, shooting up towards her right ear, and slight dysphagia. She gave a history of swallowing a fish-bone a year ago, which she thought had stuck in her throat. She attended hospital in Swansea; no fish-bone was discovered, and she was treated with gargles, making repeated attendances at the hospital. On examination I found that the right tonsil was swollen and projected much beyond the pillars; I could see a slough on it. There was a small gland at the angle of the jaw. The tonsil felt hard on palpation, and yet it was not the hardness of a carcinomatous tonsil. The diagnosis was in doubt. Under regional analgesia the whole tonsil in the lingual prolongation, and the posterior pillar which appeared to be involved, were excised and "hemaplastin" injected around and into the tonsillar fossa. There was no post-operative bleeding, and the throat healed in due course of time with complete disappearance of symptoms. The whole mass was sent to the pathologist, whose report stated that there was no malignancy, that the tonsil was myxomatous, and that in its centre there was a fish-bone.

Bart's in the War

The Treasurer's latest report of St. Bartholomew's Hospital opens with these words: "Although this report is intended primarily to cover the activities of the hospital in 1944, I cannot put off till next year all reference to the vital events of the early part of 1945, culminating in the cessation of hostilities in Europe. For five and a half grim and tragic years our ancient hospital, standing in the heart of the City, battered and shaken by bombs and fire and rockets, has proudly carried on, without a break, its task of succouring the sick, the wounded, and the suffering. Never once during all that time were its doors closed. Often there was no water, no gas, no light. But still the hospital carried on. We are entitled to be proud of our record of over eight centuries of service, but never during its long history has Bart's added more lustre to its name, or earned more affection and regard, than during these years of war. The Governors are deeply conscious of the debt they owe to the medical, nursing, and lay staffs, whose untiring and devoted labours were so wholly in keeping with our ancient traditions and enabled the hospital to retain its record of continuous service unimpaired. We look forward now to brighter times ahead, but they are times which will be fraught with difficulties and problems allowing of no easing up of our efforts."

Disclaimer

Dr. G. **Roche Lynch** (St. Mary's Hospital, Paddington) writes: Please allow me to inform your readers that I was in no way responsible for communicating to a reporter any statement to the effect that Her Majesty the Queen had at any time visited my laboratory. The article which has caused me serious misgivings appeared in the *Daily Express* for Wednesday, Oct. 17, 1945, and was entitled "Just near Paddington Station." Steps have been taken to register a strong protest with the editor of the newspaper concerned, pointing out the erroneous statements that have appeared in the article.

Correction

There was a mistake in the fifth line of paragraph 3 of Major H. L. Thornton's note on "Wide-bore Endotracheal Connexions" (Oct. 20, p. 534). The internal diameter of the distal end is *1.7 cm.* not 7.5.

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THE AETIOLOGY OF GALL-STONES*

BY

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Surgeon to the London Hospital

In spite of an enormous amount of clinical, experimental, and theoretical work the cause and methods of formation of gall-stones, upon which diagnosis and treatment must be based, have been fogged by the fact that all types of stone have been considered together, whereas there are several distinct types.

Cholesterol Stones

A pure cholesterol stone is single, oval in shape, up to 1/2–1 in. in its long diameter, nodular on the surface, semitransparent and waxy in appearance, light yellow in colour, and on section is amorphous in its outer layers but in the centre may show radiating crystals. If pure it is a light yellow (A 5),† but it may be tinted with bile (6). There is a variety which contains a certain amount of calcium, probably in the form of biliverdin or bilirubin calcium (7 B, C). In this case there are usually several stones.

Like all gall-stones the cholesterol stone is more common in women—the proportion being about 2.5 to 1—and some 80% of the women are married and have children. It is known that the function of the gall-bladder is to concentrate the bile to about one-tenth of its volume. There is a condition, generally known as a strawberry gall-bladder, which, on the apices of the papillary folds, shows masses of cholesterol or a lipoid substance (37) that has been believed to be due to the deposition on or the absorption by the mucosa of cholesterol from a supersaturated solution. It is known that the blood cholesterol is increased in pregnancy, and this type of gall-bladder may be found in pregnancy and in eclampsia (38), and may even progress to the stage of forming papillary masses (39) which might separate to produce cholesterol stones.

For these reasons it has been believed by many—and especially by Aschoff and Bacmeister, who claimed that such stones could occur in gall-bladders entirely devoid of any inflammatory change—that these stones were metabolic. This has been accepted, almost without question, by many physicians, who argue that in many women the cholesterol is increased by pregnancy, and later by overeating and lethargy so that they are often over-weight, and that the gall-bladder concentrates the cholesterol and, the bile acids being reduced, the cholesterol is deposited from solution.

Nevertheless I am convinced that these arguments are fallacious. Sight is lost of the fact that the common age for gall-stones in women is 40 to 60, and of the total female population of this age, whether suffering from gall-stones or not, some 80% are married with children. Stones are rarely formed in the ducts, but when they are they consist of bile pigment and not of cholesterol, as they should be if deposited from a supersaturated solution, and this is true even in cases of obstruction of the duct by carcinoma of the pancreas or chronic pancreatitis. In such cases the bile is concentrated to a profound degree, so that it forms a tarry fluid which may be opaque to *x* rays, but pure cholesterol stones are then never found even in the gall-bladder. They are formed in the gall-bladder either when it is entirely cut off from the bile stream by the stone obstructing the duct (16) or in the distal cavity of an hour-glass gall-bladder (18). No bile is present, and therefore the stones cannot be deposited from a supersaturated bile. They are never laid down as a primary crystalline mass, as they should be if deposited from a supersaturated solution, but are amorphous, although they may undergo secondary crystalline changes in the centre. They are completely insoluble in ether or olive oil although cholesterol crystals are freely soluble in such, but if they are finely crushed so that the organic matrix is broken up they become soluble. Therefore attempts which are sometimes made to remove small stones from the ducts by washing them out with ether are based on incorrect knowledge and are ineffective. In my own experience every cholesterol stone has been associated with cholecystitis, in some cases purulent (4). Therefore these stones are certainly not metabolic, but are formed by an inflamed gall-bladder.

Pigment Stones

Pure biliverdin calculi form small irregular friable masses of so dark a green that they are nearly black (9). They may be formed in the ducts or be found in the gall-bladder, and in the latter case may become coated with cholesterol (10); but this never happens in the ducts. The pure bilirubin stones are soft putty-like masses of a dark-brown colour. They may be found in relatively large cylindrical masses in the common duct in cases of cholangitis. If a mixed stone has passed down and become impacted in the common duct it may become covered with a layer of bilirubin, but the presence of a laminated centre will be proof that it originated in the gall-bladder. If such a stone is found after a cholecystectomy it must have been overlooked at the first operation, for a newly formed stone would consist of pigment throughout. They may also occur in the intrahepatic ducts, and are often deposited when there is a long-continued obstruction of the ducts and greatly concentrated bile. Like the biliverdin variety they may, if present in the gall-bladder, be coated with cholesterol (12 D). It is the pigment calculi which are found with extensive blood destruction—e.g., acholuric jaundice, malaria, etc. They are easily soluble and therefore often stain the mounting fluid. After removal of the cause they may become absorbed, even if in part covered with cholesterol in the gall-bladder, but in this case the pigment is alone dissolved and the cholesterol is untouched (22). They are therefore certainly metabolic in origin and due to deposition from a supersaturated solution.

Mixed Stones

These are often known as common gall-stones and they may be single or multiple. In the former case they may fill the gall-bladder and are oval in shape, with a surface that is nodular or mammillated from the impression of the mucosal folds (H). If the stone be large enough to obstruct the duct the portion in the duct will remain pigmented, but the greater mass in the gall-bladder will become coated with cholesterol and resemble a pure cholesterol calculus (16, 17). It is this large single stone which is most prone to ulcerate through the fundus into the duodenum, where it becomes coated with intestinal contents and may cause acute intestinal obstruction. If multiple they may be few and large (15), often then forming a chain of barrel-shaped stones filling the gall-bladder, or multiple even up to several hundreds, and may be loose or so numerous that they form a tight mosaic filling the gall-bladder (44). When multiple they are nearly always faceted, either because they fit into one another as they increase in size or because they rub upon each other. They may be stained with biliverdin (E) or bilirubin (F), but in any one case the stones are all of one colour, although Bland-Sutton stated that the bile in herbivorous animals was red and in carnivorous animals green, and suggested that the colour might be dependent upon the diet. If few in number they are often of the same size, and it has therefore been suggested that they are all formed at one time (Rous) or that they may be grouped into several sizes and thus might be formed at a few critical periods (Lichtman); but in my experience they are most commonly of all sizes and might therefore be constantly forming. In my opinion there is little or no evidence that they are formed as the result of one transient episode.

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* Presidential Address to the Medical Society of London, delivered on Oct. 8, 1945.

† The numbers in parenthesis refer to the List of Specimens given at the end of the paper.

One of their most marked characteristics is that they are laminated on section. In the centre the laminae may consist of radiating crystals, but the external layers are always amorphous. The different laminae may vary in colour but are usually alike. Like pure cholesterol stones they are insoluble in ether or olive oil unless crushed, and they have an organic matrix.

It is on the method of formation of these calculi that there has been so much controversy, the following views being held:

(a) Stagnation of Bile

This was one of the earliest theories of the cause of gall-stones (Galen, Frerichs, Rokitansky, Aschoff and Bacmeister, etc.), and is still supported in many recent monographs and textbooks of medicine. It is believed that stasis without infection could lead to the precipitation of bile salts and cholesterol—a view that was considerably strengthened by the knowledge that in the gall-bladder the bile was concentrated to one-tenth of its volume. Stasis was believed to be more common in women because they wore corsets (but gall-stones have not become less frequent since tight lacing has been abandoned); because of the pressure from the pregnant uterus and later from the development of ptosis (but although the symptoms of ptosis may resemble those of gall-stones the two conditions are rarely found together); and because of their sedentary habits. Gall-stones, however, may be found in thin and active people. The supporters of this view have even blamed the wearing of a belt in men as a cause, but in most men the position of a belt has no relation to the position of the gall-bladder. The main argument against stasis being a causative factor is that this type of stone never occurs in conditions of profound stasis such as obstruction of the common duct—that, in fact, they are never formed in the ducts at all, and are not deposited as crystals, but are always amorphous, with an organic basis, and therefore are insoluble in ether and olive oil. As Robertson says: "Stasis, so useful in the laboratory test-tube experiment, is not the cause of gall-stones." Newman is more emphatic when he states that "stasis in itself is no explanation for anything."

(b) Metabolic Changes

In 1789 de Fourcroy discovered cholesterol and showed that it was a constituent of gall-stones. Since then many observers have claimed that cholesterol is increased in the blood during pregnancy, but it is not evident that this affected the cholesterol content of the bile. It was later shown that the removal of bile salts from the bile led to precipitation of the cholesterol, and Thudichum believed that fermentation of the bile caused a splitting of the bile acids and alkalis and so led to a precipitation of the cholesterol. The same arguments are as true here as in the case of pure cholesterol stones. They are never formed in the ducts, however concentrated the bile; they are never deposited as crystals; but, later, radiating crystals may be formed in the centre, and they are insoluble. It seems certain, therefore, that they are not due to deposition owing to metabolic changes.

(c) Constitutional Susceptibility

Several cases in my own practice have had a *family history*. In particular one girl of 18 whose bladder was full of stones had eight immediate relatives, including both parents and two grandparents, who had had gall-stones; but such a history is unusual. Stress has been laid upon the presence of a hereditary physical constitution (Draper), but most observers (Chauffard, Howard, Tucker, Bauer) have failed to obtain evidence in support of his conclusions. Even if a family history is obtained it is always possible, as in other diseases, that it might be due to a similar environment.

Association with Urinary Calculi.—The association of the two conditions has been believed in from very early times, but Robertson could find no evidence to support it, and states that the number of patients who harbour both types of stone has not proved large enough to justify the belief. Nevertheless in a series of cases I investigated and reported over 30 years ago 80% of the patients with gall-stones had *B. coli* in their urine.

Association with Diabetes.—Many statistics have been published in support of the view that biliary calculi and diabetes were frequently associated. Bouchard found gall-stones in 10% of diabetics, and Jones places the incidence as high as 22%; but Naunyn and Kausch state that the combination is uncommon. Robertson in his masterly review‡ reports the results of 4,761 necropsies in patients over 20; 3,016 were males and 1,745 females. Gall-stones were present in 22% (500 men and 532 women). Diabetes was present in 205 of the total of 4,761. Of these, 76 (37%) had gall-stones, while of the 4,556 non-diabetics 956 (21%) had gall-stones. It is very probable, however, that the gall-stones have given rise to a pancreatitis and so caused the diabetes; for, as Robertson says, in nearly all cases the symptoms of gall-stones precede those of diabetes, and diabetes is not the cause of gall-stones.

Excessive Weight.—There is a general belief that gall-stones are more common in fat women, and that idleness, lethargy, and overeating are the cause of increased cholesterol formation and the development of gall-stones. The experience at my own hospital supports the view that they are more common in fat Jewesses. Nevertheless it has been shown that there is very little evidence that increase of cholesterol in the blood is the cause of cholelithiasis, and stones often occur in thin people. Although Dublin, Gross, and Joslin, among others, have produced statistical evidence that sufferers from gall-stones are usually over weight, Robertson found in his 1,032 cases with gall-stones that 578 (56%) were of normal or subnormal weight. Even if they are more common in fat patients, there is no more evidence that the fat caused the gall-stones than that the stones caused the fat.

Other Diseases.—Arteriosclerosis, gout, and tuberculosis have all been described as predisposing causes, but there is no evidence of any such relationship.

(d) Neurogenic Dysfunction

In recent years, when so much stress has been laid upon the nervous basis of disease, it is but natural that a neurogenic origin should be suggested for gall-stones. Westphal has perhaps been the strongest supporter of this view: he was able to demonstrate contractions of the gall-bladder with expulsion of the bile after mild irritation of the vagus, and relaxation with dilatation of the gall-bladder after stimulation of the splanchnic or sympathetic nerves. He and others claimed that in pregnancy a distension of this type occurred. This is, however, merely a variant of the theory of stasis, and the proof that such a dilatation, if present, is the cause of gall-stones is entirely wanting.

(e) Infection

The three main arguments against stasis and the metabolic origin of these and of pure cholesterol stones are that cholesterol is never laid down in the ducts; that it is deposited in the amorphous and never in the crystalline state; and that the stones are insoluble. Naunyn first asserted that cholesterol was not derived from the bile but was secreted by the epithelial cells of the gall-bladder and that cholesterosis of the bladder was similarly due to this secretion and not to absorption from the bile. He also showed that the newly deposited material was amorphous and not crystalline, and that there was always evidence of inflammation of the gall-bladder. Later he claimed that the *B. coli* was always present. Mignot pointed out that the infection was always chronic, and this indeed was to be expected, for in an acute infection of short duration, as revealed by operation or at necropsy, no stone would have had time to be formed.

It is of interest to note that even Hippocrates and Galen recognized the possibility of an organic basis, but it was not until 1684 that v. Heyde was able to extract the crystalline material from a urinary calculus and leave an organic basis. Ord laid stress upon the presence of a colloid, and Wells described what is now a well-recognized physical phenomenon—that crystalloids concentrate around the globules of a colloid, a process known as adsorption. There was at first a difficulty in accepting this explanation; for the colloid was believed to be mucus, but many failed to find it in the mucosa of the gall-bladder. Later Policard showed that the inflamed cells could take over the function of producing mucus. Many, however, regarded it simply as a binding or cement; but whereas the physical process of adsorption—where the crystalloid is deposited upon the surface of the globules of an irreversible colloid, probably owing to changes in surface tension—gives a ready explanation of the insolubility of a gall-stone in solvents of cholesterol, the mere presence of a cement does not.

Many have believed (Herxheimer, Collinson, etc.) that the presence of a nucleus was of prime importance, as there is a tendency for both colloids and crystalloids to precipitate around a central core. The nucleus is believed to be formed of clumps of bacteria, which were first demonstrated by Gallippe, epithelial cells, or duct concretions. Moynihan's statement that every gall-stone is the tombstone of a dead bacterium has now become classical. Some have raised the objection that experimental or critical investigations have failed to demonstrate a nucleus, but the occasional presence of a silk suture (57) or a dead intestinal worm is a nucleus that is plain for all to see. It must be clearly understood that there is not a simple deposition of crystals around the nucleus but a process of adsorption.

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‡ *The Preponderance of Gallstones in Women.* H. E. Robertson. *Int. Abs. Surg.*, **80**, No. 1, Jan., 1945, p. 1.

The nature of the infection that leads to the secretion of mucin and cholesterol is probably very variable. When typhoid fever was endemic acute cholecystitis was common, and every surgeon is conversant with cases where gall-stones have followed typhoid. The patient is a typhoid carrier with *B. typhosus* in the stools, and after removal of the inflamed gall-bladder and stones (43) no more bacilli are passed and he ceases to be infectious. Although many writers have refused to accept the view of infection there can be no doubt that it is present in such cases. Hanot, and later Deaver, laid much stress upon the presence of the *B. typhosus*. Welsh has shown that coccal infections may act in a similar manner, and the work of Gordon-Taylor and Whitby demonstrating the presence of *B. coli* is known to you all. The greater liability of women to a systemic *B. coli* infection, especially during pregnancy, may account for their increased tendency to develop gall-stones.

Another factor upon which discussion has centred is the laminated structure of these stones. Many have compared them with other animal concretions, such as pearls, which have a similar organic matrix, or with mineral materials such as agates (1), or even with the world itself, and have regarded them as examples of the universal tendency in nature for the formation of alternating deposits of a different character; but the pure cholesterol stone does not show such lamination. The simple explanation, however, would seem to be that at times the stone obstructs the cystic duct so that pure cholesterol secreted by the bladder-wall can alone be laid down, while at other times the duct is free, bile can enter, and layers containing pigment are formed.

It would appear, therefore, to be beyond question that the stones are inflammatory in origin. Reacting to infection, the gall-bladder secretes the colloid mucin and the crystalloid cholesterol; a nucleus is formed of bacteria, epithelial cells, or, rarely, of a foreign body. If there be but one nucleus the stone is single, if multiple there are many stones. The crystalloid is deposited upon the colloid globules in an amorphous form by a process of adsorption, but later undergoes a secondary crystallization. If the cystic duct is permanently obstructed a pure cholesterol stone is formed (J), but if the obstruction is intermittent it is laminated. If the stones are multiple they are faceted either as they fit into one another as they are formed or by friction one against another. As the colloid is irreversible they cannot be dissolved or dispersed by any method of treatment.

Paths of Infection.—The next question that has given rise to controversy is the manner by which the infection reaches the gall-bladder. It was at first natural to assume that it passed up the duct from the intestine. Every surgeon, however, is aware of the fact that in the majority of cases of either acute or chronic cholecystitis the duct shows no sign of infection, and that when an infection is present a stone, laminated like those in the gall-bladder from the presence of cholesterol and which must therefore have been formed in the gall-bladder, is found in the duct. If its presence in the duct has caused a cholangitis a new layer is formed on the stone, but this always consists of pure bile pigment and never contains cholesterol. Moreover, there is an increasing volume of evidence that infection of any organ of the body—stomach, kidney, bladder, pancreas, etc.—rarely enters by the natural path or duct. It would seem that the protection against infection by this path is so efficient that it seldom breaks down. Moreover, stones rarely form when there is a partial obstruction and stasis in the duct such as occurs with carcinoma or chronic pancreatitis. This freedom of infection of the duct is evident from the fact that nearly all patients with gall-stones are completely cured by cholecystectomy.

The view that organisms might be absorbed from the intestinal wall into the portal vein and be excreted in the bile was attractive, for such organisms would very likely have an attenuated virulence and thus would more probably cause a chronic cholecystitis; but here again an infection of the ducts, the liver, and the portal vein would be evident, but it is generally absent.

A certain amount of evidence has been produced that the infection may spread directly or by means of the lymphatics from the liver, and Graham has pointed out that in nearly all cases there is some fibrosis of the adjacent liver; but it would appear more probable that the inflammatory change has spread from the gall-bladder, for it is limited to the area in close proximity to the gall-bladder and is never widespread in the liver.

Many investigators have been struck by the fact that in the presence of gall-stones the bile was often sterile. At first it was believed that the organisms, having initiated the formation of the stones, had died out and were present, either alive or dead, only in the centre of the stones. Since then much work has been done showing that even if the bile is sterile organisms can be obtained from the gall-bladder wall. It is necessary to refer only to that of Illingworth and Wilkie, who obtained streptococci in this position, and of Gordon-Taylor and Whitby, who isolated the *B. coli.* The experimental work of Mann showing that the injection of formalin into the lateral ear vein of a rabbit was shortly followed by an acute cholecystitis seemed to prove that an infection could also take place through the systemic circulation. The claims of Rosenow, that his work demonstrated so marked a specificity of organisms that those removed from an infected gall-bladder and injected into the peripheral blood stream of an animal would in the majority of cases produce a cholecystitis, were attractive from this point of view. Many pathological specimens would support this idea. Specimen 43 is an example of a typhoid cholecystitis from a typhoid carrier in which there is gross fibrosis of the wall but only small calculi, suggesting that the primary infection must have been in the gall-bladder wall. Specimens of intramural calculi where the stones are in the mucosal crypts in the wall but none are present in the cavity (40, 40a, 40b), and of calculus formation around a silk suture in the fundus of the gall-bladder, are very suggestive (57).

One is therefore led to the conclusion that not only are these stones due to an infection, but this infection is carried to the gall-bladder wall through the systemic circulation.

Calcium Carbonate Stones

The most interesting stones, and the kind most difficult of explanation, are those formed of pure calcium carbonate. In the fascinating book *Gall-stones,* written by the late Sir John Bland-Sutton in the early years of this century, the author states that he knew of only two such cases, but since then I have been able to collect five from my own practice, which are now in the museum of the London Hospital. They may occur in two forms, one of which consists of well-formed extremely hard calculi that are spherical, with a nodular surface. They are generally small and relatively few in number (19), but in one remarkable specimen (20) there were 11 stones in the gall-bladder and 28 in the common duct. The yellowish-white colour and the nodular appearance give them a close resemblance to pigment stones which have become covered with cholesterol in the gall-bladder. In fact, in the specimen I so mistook them until I attempted to cut one to demonstrate the pigment centre and broke a piece out of the knife. The other variety consists not of a formed stone but of a thick white paste resembling unset plaster-of-Paris, which may fill the gall-bladder (21) and have embedded in it one or two mixed gall-stones. Specimen 21a is an example. The pure calcium carbonate gives, of course, a deep *x*-ray shadow, and in this case the cavity of the gall-bladder was well outlined as though dye had been administered, with two negative shadows due to the stones. When it was known that no dye had been given the diagnosis was certain.

The reason for the formation of these rare stones is very difficult to understand. Elsewhere in the body the deposition of calcium carbonate is indicative of a very slow and chronic inflammation of connective tissue, and hence it would be expected that the gall-bladder would show a very chronic change, with destruction of the mucosa; but although this is true of calcification of the gall-bladder wall it is not the case with calcium carbonate stones. In one specimen (24) a typical deposit of soft material was formed in a case of alcholuric jaundice where pure pigment stones would have been expected. In none of my cases was there any evidence of hyperparathyroidism. At present I must confess that I have no explanation to offer for this unusual phenomenon.

Conclusion

I trust that I have been able to show that there is still much of interest to be learnt from the everyday experiences of surgery, and that to those of a curious and inquiring mind there are still big fields of research in the observations of gross pathology.

LIST OF SPECIMENS REFERRED TO IN THE TEXT

A 5. Pure cholesterol stones.
6. Pigmented cholesterol stone.
7, B, C. „ „ „ with calcium carbonate.
37. Strawberry gall-bladder.
38. „ „ „ in eclampsia.
39. „ „ „ , with papillary masses.
16, 17. Cholesterol covering stones, with obstructed duct.
18. Cholesterol covering stones in distal pouch of hour-glass gall-bladder.

4. Cholesterol stone associated with acute purulent cholecystitis.
9. Pure biliverdin stones.
10. „ „ „ coated with cholesterol.
12, D. Bilirubin stones coated with cholesterol.
22. Partly absorbed stones.
H. Large single stone in gall-bladder.
15. Barrel-shaped stones.
44. Mosaic of gall-stones in gall-bladder.
E. Multiple-faceted biliverdin stones.
F. „ „ bilirubin „
43. Typhoid cholecystitis.
1. Agate showing lamination.
J. Laminated stone covered with cholesterol.
40, 40a, 40b. Intramural calculi.
57. Recurrent stones formed round silk sutures.
19. Small calcium carbonate stones.
20. Large „ „ „
21. Putty-like mass of calcium carbonate.
21a. „ „ „ „ „ „ with common stones.
24. „ „ „ „ „ „ from case of acholuric jaundice.

ON "ACROPARAESTHESIA" AND SO-CALLED "NEURITIS" OF THE HANDS AND ARMS IN WOMEN

THEIR PROBABLE RELATION TO BRACHIAL PLEXUS PRESSURE BY NORMAL FIRST RIBS

BY

F. M. R. WALSHE, M.D., D.Sc., F.R.C.P.

During the past four years I have seen an unusual number of cases in which the presenting symptoms have been numbness, tingling, and "uselessness" of the hands and fingers in women, often associated with severe pain and a variable degree of disability. By the time such patients reach the neurologist they have usually been given prolonged, various, and largely ineffective treatments. It is improbable that my experience in this matter is unique, but since there is clearly general uncertainty as to the aetiology and nature of the condition and as to the means of dealing with it effectively, a short account and some suggestions as to its causation may not be amiss.

I have said that the patients are women, but the incidence of the syndrome may be still further restricted. The sufferers fall into two main categories. The most numerous are middle-aged or elderly women, normally unaccustomed to full housework or other forms of manual effort, who, under wartime circumstances, have been obliged to undertake the entire work of their homes with all that this involves in the preparing of food and meals, cleaning, shopping, standing in queues, and the carrying of heavy shopping baskets. The second category is composed of younger women who, in addition to the not light tasks enumerated, have also done part-time work in industry, or have had the burden of childbirth and the care of young children.

In both categories the history has the following characteristic features. The symptoms have been gradual in onset and consist of intense sensations of numbness and tingling in hands and digits. These are greatest on waking in the morning, when they make the fingers clumsy and weak. By the time the patient has dressed, the symptoms have lessened and hands and fingers regain much of their dexterity. Nevertheless, they remain uncomfortable and less than normally nimble all day, and in the evening, when the major burden of the day's work is over, the symptoms increase again. During the night pain and paraesthesiae in the fingers may awake the patient, the pain being of a burning character. The subject may have to adopt various measures to secure relief: getting up and walking about, putting the arms over the edge of the bed, or placing them upon the pillow above her head. In yet other instances the night is the period of relief. An unusually hard day's work aggravates the symptoms, while such tasks as ironing, washing, and the carrying of heavy baskets are especially provocative of severe accesses of pain and numbness.

After some weeks or months the symptom-complex reaches its maximum, and thereafter fluctuates in severity and disabling quality from patient to patient. It varies also from time to time according to the patient's general health and state of fatigue. Pregnancy and the care of the child after confinement undoubtedly aggravate the condition.

The response to the treatments commonly adopted is uniformly disappointing, for whatever the mode of therapy the patient is commonly expected to remain ambulant and to follow her normal routine of life. The sage maxims of Hilton in the matter of rest are forgotten, and find an ineffective substitute in injections of vitamin B_1, the oral administration of vitamin combinations, and diverse forms of physiotherapy. The patient is treated by what is thought to be science, and certainly not by anything that can be called the art of medicine. In middle-aged women, of course, the oestrogens are invoked with no fruit, and when the desperate patient has sought relief from practitioners not on the *Medical Register* "manipulation of the spine" has still further added to her torments.

A few of the sufferers have discovered for themselves that a rest or holiday affords remarkable relief, but the fact provides a clue that no one is interested to follow to its logical conclusion—namely, that it suggests a mechanical origin of the syndrome.

On examination the subject is commonly found to show the general indications of chronic fatigue, and indeed the sense of fatigue may be one of her bitterest complaints. The musculature is atonic; often the shoulder girdles are set notably low, so that the line of the clavicle as this is followed out from the sternal end is almost if not quite horizontal. It is known that this state of affairs—a progressive lowering of the shoulder girdle—is the rule in women as middle age is reached and passed, and it is therefore not always clear that this sagging is beyond the limits of the normal; but my own impression is that this is commonly so in these cases. In a proportion of them traction on the dependent arm obliterates the radial pulse, though this is not constant, and may indeed be found in persons who are symptomless.

There is no muscular wasting, but almost always marked tenderness of the extensor muscles in the forearm, and sometimes of the thenar and adductor muscles of the thumb. Objective sensory loss is exceptional, though when pain and paraesthesiae are maximal there may be some blunting of cutaneous sensibility over the digits. Cyanosis or pallor of the fingers is occasional, but Raynaud's syndrome is no essential part of the picture. The pain and discomfort and the muscle tenderness may lead to some apparent weakness of grasp and to notable clumsiness of finger movements. Radiography reveals no abnormality except the lowering of the outer end of the clavicle already alluded to, but of course an occasional case of cervical rib is revealed in this way.

In brief, the condition is one in which subjective symptoms predominate or exist alone and objective signs are scanty.

The syndrome is not unfamiliar to clinicians, but what is new is its widespread incidence. Formerly confined to women habitually doing heavy work, such as washerwomen, it is now found throughout the social scale. One other point may be made at this juncture, in anticipation of what is to be said of treatment—namely, that the symptoms characteristically respond to rest, but not to any other modes of treatment unless rest accompanies them, when it may be suggested that they are superfluous and inoperative.

Aetiology

The condition thus briefly described is the one familiar to us under the uninformative title of "acroparaesthesia." In textbooks of medicine it finds cursory mention among vascular diseases and is described as a vasomotor neurosis—a meaningless term that is nowhere defined, and one for the use of which no reasons are offered. Authors stress the absence of objective signs, and agree that it is bilateral and common in middle-aged women, in debilitated subjects, and—by way of a parting shot—in those who are emotionally unstable.

Treatment is generally allowed to be unsatisfactory, and includes radiant heat, massage, ionization, diathermy, thyroid extract, calcium of course, bromides, salicylates, and vitamins. Not one of these remedies but has been described as useless by some writers, valuable by others. No one can doubt that the syndrome will shortly be conscripted into the swelling ranks of so-called psychosomatic disorders, from which it will with difficulty be rescued for medicine proper.

It is now often diagnosed as polyneuritis or, when it is seen in or immediately after pregnancy, as the polyneuritis of pregnancy, and it is in these circumstances made the subject of recondite speculations as to the metabolic disorders and vitamin deficiencies of this state. It may be doubted whether polyneuritis is in question at all. Multiple symmetrical peripheral neuritis, to give it its full name, has certain constant objective signs which include paresis, loss of tendon-jerks, sensory loss, and a distribution involving all four limbs, the lower limbs being the most severely affected. We know nothing of a polyneuritis affecting the upper limbs alone and unaccompanied by the objective signs enumerated. In short, the syndrome of acroparaesthesia does not come in this category at all and cannot rightly be labelled "polyneuritis."

When we not only survey the signs and symptoms of acroparaesthesia but consider also the factors of general health which accompany its appearance, we find that the factors common to all cases are fatigue and debility and the heavy use of the arms and hands. There is no evidence that pregnancy *per se*—that is, as a state associated with metabolic or toxaemic disorders—is a causative factor, but like debility and asthenia it is an added physical burden to an already overworked woman. In short, the incidence of acroparaesthesia among women may be related to a simpler and less speculative factor than these; namely, to an anatomical factor—the topographical relation of shoulder girdle to upper thoracic outlet.

In a recent paper on rib-pressure syndromes in association with cervical, rudimentary, and normal first thoracic ribs (Walshe, Harvey Jackson, and Wyburn-Mason, 1945) the authors make a passing reference to the syndrome which is the subject of the present paper and suggest that this also is a rib-pressure syndrome, the rib in this case being a normal first rib. Rib-pressure syndromes fall into two categories: those in which the upper thoracic outlet is abnormal from the presence of a rudimentary seventh cervical or first thoracic rib, and those in which the operative factor is an altered relationship between the shoulder girdle and a normal upper thoracic outlet. This last is the category now in question.

The components of all rib-pressure syndromes are nervous and vascular, and in the individual case either or both may be present. Reasons are given in the paper referred to for thinking that the vascular symptoms are invariably due to interference with the flow of blood through the subclavian artery, either as it crosses the edge of the thoracic outlet or by compression in certain positions of the arm between clavicle and thoracic outlet. The nervous symptoms are similarly caused; and here also, contrary to what has been commonly believed, the elements of the brachial plexus involved may be caught between the arms of the vice formed by clavicle and rim of the thoracic outlet. Costo-clavicular compression of the subclavian artery and vein has been fully discussed in an earlier paper by Falconer and Weddell (1943), but these authors did not consider whether nervous structures might also be affected in this way.

It is not germane to the purpose of this paper to describe the major symptoms that may ensue in cases of normal first-rib pressure. These are fully discussed in the paper by the three authors already referred to. What is here submitted is that traction and compression of the lower trunk of the brachial plexus and possibly also of the subclavian artery are the essential mechanical factors underlying most, if perhaps not all, cases of acroparaesthesia in women, that these factors are caused by sagging of the shoulder girdle, and this, in turn, is a natural consequence of an atonic supporting musculature. In the group of cases under consideration the traction and compression are minimal, capable of producing pain, tingling, and numbness, and at times some cyanosis of the digits with coldness, but not adequate to produce the graver nervous or vascular disorders. Whereas rib-pressure syndromes due to an abnormal upper thoracic outlet (rudimentary cervical or first thoracic rib) are usually unilateral, because the thoracic outlet in these cases is commonly asymmetrical, the minor normal first-rib-pressure syndromes are bilateral, because here the thoracic outlet is symmetrical and the sagging of the shoulder girdles—being dependent upon a general muscular atonia—is also bilateral. If the symptoms are more marked on one side this is commonly the right, the right hand and arm being the more constantly and heavily used.

We have, in short, a simple mechanical factor capable of producing the characteristic syndrome of acroparaesthesia, and corresponding in its incidence to the clinical group in which the syndrome is found—namely, the debilitated, atonic, and fatigued woman, either middle-aged or recently recovering from illness or childbirth.

The temptation to find a single pathology for a well-defined clinical syndrome is a strong one, and may often be fallacious, as we have recently seen in the sweeping and unsubstantiated doctrine that all cases of sciatica are due to herniated intervertebral disks. Nevertheless we may regard the mechanical factors that have been described here as probably accounting for the great majority of cases of acroparaesthesia in women, and as factors to be excluded before more recondite and speculative aetiologies, metabolic and dietary, are invoked. It should be added that this view of the aetiology of acroparaesthesia has been expressed by other writers in the past, notably by Wartenberg (1936, 1944), and is therefore not here advanced as original, but rather because current modes of treatment show it to be generally unfamiliar to clinicians. The remedy proposed by Wartenberg, however—namely, division of scalenus anterior—is not recommended, as being unnecessary and, when performed, usually fruitless.

Treatment

If, as has been postulated, we are dealing with a mechanically produced "neuritis" of components of the brachial plexus, sometimes with an associated minimal interference with the blood supply to the upper limb, it might be expected that rest—either rest in bed or the simple cessation of manual work—would produce appreciable relief and final disappearance of symptoms. That this does in fact occur is the submission of this paper. It is further submitted that rest is the only effective treatment. The majority of the numerous patients who have come under my own observation have, as already stated, been given prolonged and sometimes heavy dosage with synthetic vitamin B_1, as well as various forms of physiotherapy. When these procedures have not been accompanied by rest they have, in my experience, proved futile, and this also is what might be anticipated if the view as to aetiology taken here is the correct one.

No one is better aware than I that to advise rest from routine housework may often be an impracticable counsel of perfection. Nevertheless if this be the essence of treatment it is important that we should realize it. We have to face the reality of the situation and to avoid putting ourselves in a false position by advising measures of treatment that are invariably ineffective; and that they are so the accounts of acroparaesthesia in the textbooks, as well as personal experience, must have convinced most of us.

In the most severe cases, therefore, an initial period of a week in bed, propped up during the day, with the arms in slings and taken out only for feeding and other necessary purposes, is the most rapidly effective way of securing relief from pain; thereafter a longer period of abstention from heavy housework, and the supporting of the arms in slings whenever possible while the patient is standing or walking. During this second period massage to the shoulder girdles and general tonic treatment tend to prevent recurrence. Analgesics also have their uses in some cases as an adjuvant. If these things can be achieved, other modes of treatment have no value. To ply these unfortunate women with vitamin B_1 is as irrational as to sacrifice a goat to Aesculapius or to send them forth upon a healing pilgrimage to Epidauros.

Summary

The common and well-defined syndrome that goes by the name of acroparaesthesia and is recognized as peculiar to women patients engaged in manual work, when they are debilitated or fatigued, and usually when they are in middle age, is considered as a manifestation of a rib-pressure syndrome. The rib in question is the normal first rib, and traction and compression are exerted on the lower components of the brachial plexus, and sometimes also upon the subclavian artery, when from muscular atonia the muscles supporting the shoulder girdles allow these to droop and sit at an abnormally low level. In short, acroparaesthesia is a mechanically produced syndrome. There is no evidence available for regarding it as dependent upon abnormalities of metabolism—either toxaemic or due to dietary deficiency—or as standing in any specific relation to pregnancy *per se*.

The essential treatment is rest for the limbs. No other treatment is essential, or useful when given without rest. If there be other causes of this familiar syndrome their operation has not so far been demonstrated.

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MISSED CASES OF INFECTIVE HEPATITIS*

EVIDENCE OF LIVER DAMAGE WITHOUT SYMPTOMS AMONG A COMMUNITY AT RISK

BY

M. R. POLLOCK, M.B., B.Ch.

There is a widespread conviction that many cases of infective hepatitis fail to be recognized either because jaundice never develops or because symptoms are so slight that the patient does not seek medical advice. Cases with typical symptoms and abnormal liver function tests but no jaundice are well known to occur, although there is difference of opinion as to their frequency. This problem has been discussed in a separate paper (Pollock, 1945). In many of these so-called "subicteric" cases—particularly among children, in whom the disease is known to be generally milder than in adults—symptoms are minimal; and even in cases that do develop jaundice there are reports of this being the first or only symptom of the attack. Where jaundice occurs the case will not often be missed, whether other symptoms develop or not, but if by any chance it were possible for infection to occur in the absence both of jaundice and of subjective symptoms, the case would almost certainly be missed even under close medical supervision. Such persons would fall into the category of subclinical "ambulant cases" and, although themselves suffering no inconvenience, might be just as capable of transmitting the disease as a fully developed case. Ideally they would be detected by isolation of the infective agent or by specific serological tests; but unfortunately this is not yet practicable. If, however, subclinical infection were associated with some degree of liver damage it might be possible, by the use of a sensitive test of liver function, to obtain suggestive evidence by investigating a section of a community exposed to risk. Hallgren (1943) has reported raised serum bilirubin values among contacts during an epidemic in a sanatorium, but in view of the wide individual variation known to occur in serum bilirubin concentration it is uncertain how much significance should be attached to his results. In any case, the possibility of liver damage occurring in the absence of symptoms was considered of sufficient epidemiological importance to merit the present investigation.

Methods

For the continued investigation of large numbers of contacts during an epidemic it was necessary to choose a simple liver function test which could be rapidly performed and easily repeated. For this purpose the detection of small quantities of bilirubin in urine by the sensitive method described by Hunter (1930) was considered most suitable. Work (Pollock, 1945; Gellis and Stokes, 1945) on the pre-icteric stage has shown that bilirubin appears in the urine early in the disease, before the serum bilirubin starts to rise, and the test had been found consistently negative in a large series of healthy persons.

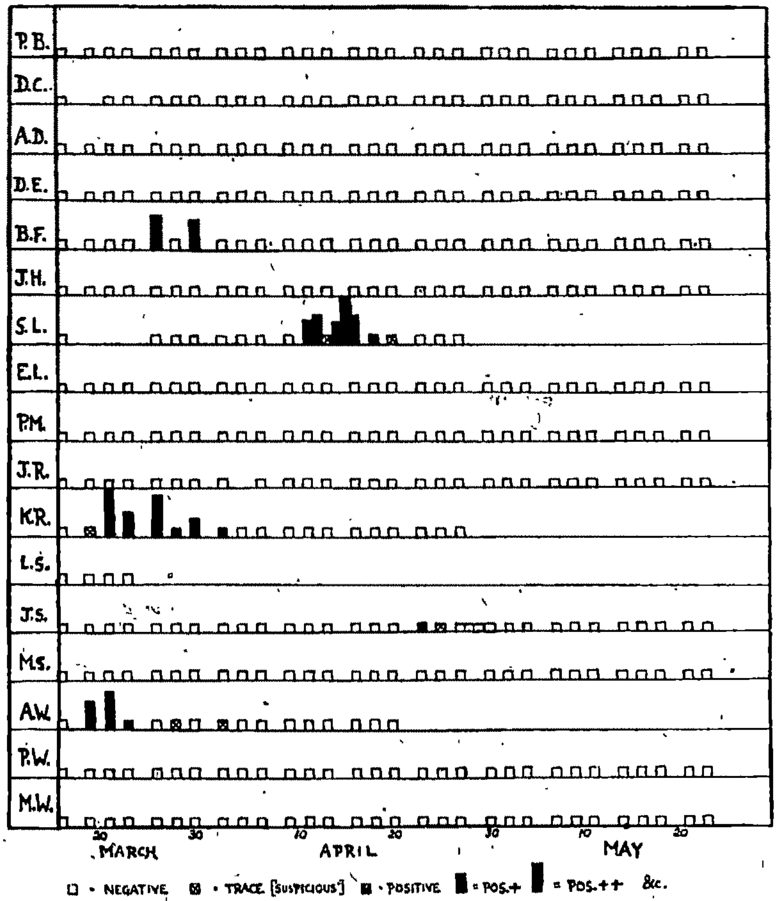

FIG. 1.—Nursery A. Serial Hunter's tests for bilirubinuria in child contacts of infective hepatitis.

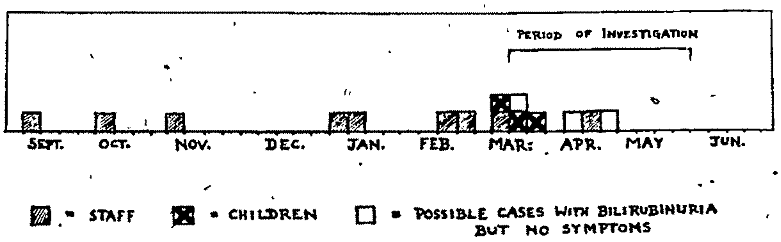

FIG. 2.—Weekly incidence of cases of infective hepatitis in Nursery A.

The technique of the test and method of collection of samples were slightly modified (Pollock, 1945) in order to increase the sensitivity and allow specimens to be kept for 2 to 3 days before analysis without undergoing deterioration.

Results

A good opportunity for testing contacts occurred at the beginning of 1945 in a residential nursery (Nursery A) for children from 2 to 5 years old. Cases of infective hepatitis had been occurring singly or in pairs among members of the staff at approximately monthly intervals since September of the previous year. The place was excellently run and the standard of hygiene and nursing was high. There was a fairly large turnover of staff, both domestic helps and student nurses, but the population of children (total about 35) remained fairly constant. There was little direct contact between children and the outside population, apart from occasional visits of parents.

On March 11 one of the children (P.H.) became ill and developed jaundice 6 days later. This was the first known case among the children, and it was decided that this would be the most suitable time to begin a mass investigation of contacts. Accordingly, arrangements were made for the collection of early-morning samples of urine thrice weekly from 17 children (chosen solely on account of their reliability in providing specimens). The investigation went on continuously for 10 weeks, although by this time 4 of the children had left.

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* A report to the Medical Research Council.

All but 2 were tested for at least 6 weeks. The results are summarized in Fig. 1. It can be seen that altogether 5 children developed bilirubinuria during the course of the investigation, and in 4 cases tests were positive on more than one occasion. As soon as a suspicious or positive result occurred the child was isolated and kept in bed until 3 successive negative tests had been obtained. A detailed summary of findings in all positive cases is given in the accompanying Table. Unfortunately, in only two instances was it possible to collect blood for the estimation of serum bilirubin. It must be pointed out that the degree of bilirubinuria was relatively slight, since Hunter's test is a great deal more sensitive than most other urine tests for bilirubin, a +++ result corresponding roughly to a just-positive iodine ring test. None of the children ever developed jaundice, but K.R. would probably have been recognized as a "subicteric case," since he was passing very obviously dark urine and had a well-defined clinical attack.

Summary of Findings in those Children in Nursery A who showed Positive Hunter's Tests during the Investigation

Name	Age	Date of First Positive Hunter's Test	Serum Bilirubin		Remarks
			Date	Mg./100 c.cm.	
A.W.	4½	March 19	—	—	No symptoms March 21: Liver not felt; no abdominal tenderness
K.R.	4	„ 21	March 21	0·8 (Direct van den Bergh reaction: positive)	March 20: lethargic; anorexia March 21: Vomited; liver not felt; slight tenderness R. hypochondrium
B.F.	4	„ 26	„ 28	0·4	March 28: nausea and vomiting. T. 100°. Liver not felt; no abdominal tenderness
S.L.	2½	April 11	—	—	No symptoms April 12: T. 100° April 15: Urine "dark"; liver definitely enlarged and slightly tender
J.S.	5	„ 23	—	—	No symptoms April 25: Liver palpable but not enlarged; no abdominal tenderness

The only child of those being investigated who developed any symptoms without bilirubinuria was P.B., who vomited once on the night of March 31; her temperature was normal and she was perfectly well the next day. Six other children, not in the series, vomited each on one occasion during the period of the investigation; Hunter's tests, performed the following day, were all negative, and with one exception—a boy who developed a temperature of 101.4° and was not well for about a week—recovery was almost immediate. Vomiting is, of course, not infrequently encountered in children of this age, and it is difficult to ascribe much significance to this symptom alone.

It is thus possible to say that suggestive evidence of liver damage and therefore of infection with the agent of infective hepatitis (known to be present in the community) was obtained in 3 cases in the absence of significant symptoms. The most striking cases were S.L. and A.W., both of whom gave repeated unequivocal positive tests over a period of several days without ever developing symptoms. It is unlikely that either would in the ordinary way have been suspected as possible cases, although S.L. was noticed to have passed dark urine on one occasion 4 days after the first positive test; her temperature would not have been taken had she not been under suspicion because of her bilirubinuria, since she appeared perfectly well. In one other case (B.F.) considerable bilirubinuria occurred two days before the onset of symptoms, and in K.R. a suspicious result was obtained one day before the onset.

The sequence of cases in the epidemic is shown in Fig. 2. If all the children who developed bilirubinuria are included as possible cases, it is likely that A.W., K.R., and B.F. were infected at the same time as the first-reported child victim (P.H.)—presumably by one of the two staff cases that occurred in February—and that S.L. and J.S. were secondarily infected from them. The time of occurrence of the symptomless "cases" is consistent with the known incubation period of 20 to 40 days. No further cases of jaundice have occurred in this nursery up to the beginning of October (5 months after the end of the investigation).

Controls

It was considered advisable to investigate under identical conditions similar communities who had not been exposed to any source of infection for several months. Thirty-two children in two other residential nurseries where there had been no record of jaundice among either staff or children for at least 12 months were therefore tested approximately thrice weekly over periods up to 4 weeks. In 4 isolated cases in one of these nurseries suspicious traces of bilirubin were found, although, so far as was known, all the children were well; but there was no positive result out of a total of 302 tests.

Discussion

It must be admitted that these findings have been obtained in very young children, and at the best remain only suggestive. It is possible that efforts to obtain similar results among an adult community would not be successful. It might also be argued that the children were too young to be capable of complaining of slight subjective symptoms which would certainly be commented upon by adults But the fact remains that definite bilirubinuria occurred among apparently healthy members of a community exposed to the risk of infection, and such bilirubinuria was not present to any significant extent in similar communities not so exposed. It therefore appears possible that infection with the virus of infective hepatitis may be unrecognized even when special efforts to detect cases are made under close medical supervision.

Summary

Suggestive evidence of symptomless attacks of infective hepatitis among a community of young children exposed to risk of infection has been obtained by the repeated use of Hunter's test for bilirubinuria.

My special thanks are due to Dr. G. Hamilton Hogben, medical officer of health for the borough of Tottenham, and to Miss Moody, matron of Tottenham Residential Nursery, Bengeo, Hertford, without whose willing and efficient co-operation this investigation would not have been possible; also to the matrons and staffs of the nurseries at Abberley House, Shelford, and Kensal House, West Wratting, who most generously helped in collecting control specimens from children under their care.

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AMPUTATIONS, RE-AMPUTATIONS, AND PENICILLIN

BY

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This communication is based on some 102 amputations and re-amputations, 90 of which were performed during a 6-months period at the Ministry of Pensions Hospital, Chapel Allerton, Leeds. There were 19 primary amputations and 83 re-amputations; amputations of digits and trimming operations on soft tissues are not included.

Twelve cases operated on previously to the 6-months period were selected as cases which would have been suitable for post-operative penicillin had it been available. The majority of the 83 re-amputations were performed on patients whose original amputations had been carried out under active-service conditions, where the primary consideration was to save life. All the re-amputations were necessary for limb-fitting purposes. Some of these, however, had undergone primary amputations in ideal hospital conditions, only to be subjected to re-amputation because the original stumps were unsuitable for the fitting of artificial limbs. The reason for this is probably the retention in most textbooks of operative surgery of descriptions of classical amputations which should be revered for their antiquity rather than practised by surgeons. An invaluable book on the subject is *Amputations and Artificial Limbs*, by Kelhan and Perkins (Oxford University Press). The operation is not merely the removal of a diseased or mutilated limb, but the first step towards supplying the patient with an artificial limb. As was pointed out by Mr. St. Clair Strange at a meeting of the British Orthopaedic Association (reported in the *Journal*, Jan. 13, 1945, p. 56), the amputation stump is a new and normal organ, upon the perfection of which depend the subsequent health and happiness of the patient.

Careful operative technique, with particular attention to haemostasis, will amply repay the patience and trouble expended. In many cases sepsis in an amputation stump follows haematoma formation, and this can be avoided only by careful technique. Except in extreme urgency, to aim at speed in amputations is folly, and is a relic of the pre-anaesthetic era of surgery. The important points are: (i) snugly fitting anterior and posterior flaps; (ii) avoidance of lateral flaps; (iii) meticulous attention to haemostasis; (iv) drainage for a limited time, usually 24 to 48 hours; (v) careful post-operative bandaging and early stump movements.

It has been stated by Mr. Strange (loc. cit.), quite correctly, that a re-amputation should be approached in the same spirit as, for example, a bone graft, and that adequate time must be allowed after the healing of the original wound sepsis before embarking on the operation. There is, however, an additional important factor with which this paper is concerned—namely, the effect on the patient of prolonged hospital treatment and lack of a limb. Many septic stumps take a very considerable time to heal, only to be re-amputated before an artificial limb can be fitted. The effect of all this is bad for the morale of the patient, besides being a serious economic handicap to himself and the State—delaying as it does his reinstatement as a useful member of the community.

Results with Post-operative Penicillin

For these reasons we have, in certain cases, been performing re-amputations with the help of post-operative penicillin before the original wound had healed, or when it had only just healed. In many of these cases the wounds were of the type that "looked as if they would never heal"—to quote a nursing sister. In none of these cases was operation undertaken in the presence of obviously active inflammation or profuse discharge, and in all cases but one (in which healing was considerably delayed) the organisms present in the discharge were predominantly penicillin-sensitive. In other cases post-operative penicillin has been used on account of a past history of severe infection or of the presence of bone disease, and in these cases operation has been undertaken earlier than would otherwise have been feasible.

The first series (Series A) comprises 34 cases treated with post-operative penicillin, locally in all cases, and in a few instances by the systemic route as well. The local penicillin was administered by means of small-bore rubber tubing with lateral holes, stitched across the wound and coming out at each corner, the flaps being accurately and firmly sutured together. The dosage in most cases was 5,000 units twice daily for 5 days in the case of local therapy, while the systemic course was 15,000 units every 3 hours, also for 5 days, by intramuscular injection. The remaining 68 cases were in the nature of controls, and did not receive penicillin. 47 of these cases (Series B) were "clean," and could, on general surgical principles, be considered safe for operation. The remaining 21 cases (Series C) were more doubtful, and were of the type which would probably have benefited from post-operative penicillin if available.

The results are shown in Tables I to IV. To give an indication of the progress of cases the average periods have been calculated (in weeks approximately) between the time of wounding and the time when first measurements were taken for artificial limbs, and again between the time of the amputation or re-amputation under consideration and first limb-fitting action. This latter time-period gives a very fair indication of the success of the operations under consideration in the three series.

In Table I it will be seen that in Series A these average times are 35½ and 10 weeks respectively. In Series B they are 29½ and 7 weeks; while in Series C they are 35 and 21 weeks. In this last series it should be noted that 8 cases are still unhealed, so that the average times of healing would really be considerably higher if these had not been omitted from the calculation. There were no such failures in the penicillin series (A) or in the "clean" series (B); while the failures in Series C comprise 38.5% of that series, which contained cases very similar to those in Series A. In this paper an amputation is considered to be a failure if the stump remains unhealed for a long period or if re-amputation has to be performed before limb-fitting is possible.

TABLE I.—*Analysis of All Cases*

Series	No. of Cases	Average Time Wounding to Limb-fitting	Average Time Operation to Limb-fitting	Delayed Healing (No. and %)	Unhealed (No. and %)
Series A	34	35½ weeks	10 weeks	3 (8·8%)	Nil
Series B	47	29½ ,,	7 ,,	0	0
Series C:					
(*a*) Relative success	13	35 ,,	21 ,,	11 (84·6%)	
(*b*) Still unhealed	8				8 (38·5%)
(*a* and *b*)	21				
Series B and C combined (unhealed cases excluded)	60	31 ,,	10 ,,	11 (18·3%)	0
Series A, B, and C (unhealed cases excluded)	94	33 ,,	10 ,,	14 (14%)	0
Unhealed cases ...	8				8 (8% of all cases)

Of 90 cases operated on at this hospital during 6 months all have been measured for artificial limbs. Six of the 8 cases still unhealed and 1 of the cases of delayed healing were transferred to this hospital from elsewhere after operation.

Table II gives an analysis of cases in Series A, with types of case operated on and some other details. Where more than three months had elapsed between operation and limb-fitting the cases were considered as instances of delayed healing. It may be noted that only 3 such cases occurred out of 34—that is, 8.8%.

TABLE II.—*Analysis of Series A (Cases receiving Post-operative Penicillin)*

Type of Case	No. of Cases	Details	Average Time Operation to Limb-fitting
Open wounds:			
Successful	16	Penicillin-sensitivity positive in all cases; 3 cases with protrusion of bone	9 weeks
Delayed healing ..	2	Both below knee; one developed haematoma, one became septic	20 ,,
Failures	0		
Bone involved:			
Successful	5	One case with protrusion of bone, 4 with osteitis or osteomyelitis	11 ,,
Failures	0		
Prophylactic penicillin:			
Successful	9	Past history of severe infection	9½ ,,
Failures	0		
Recently healed stumps:			
Successful	1	Past history of infection	7 ,,
Delayed healing ..	1	Above-knee; developed eczema of stump after healing	18½ ,,
Failures	0		
All types:			
Successful	31		9½ ,,
Delayed healing ..	3		16½ ,,
All cases included ..	34		10 ,,
Failures	0		

Percentage of delayed healing, 8·8 (3 out of 34). Best average results were when the penicillin-sensitivity tests were positive.

Table III provides details of cases in Series C, for comparison with Table II. It is obvious that the results in Series A were very much better than those in Series C, although both series contained similar types of case. Even with the 8 failures left out of account, the average time between operation and limb-fitting was 21 weeks in Series C, as compared with 10 weeks in Series A. It is not too much to claim that the difference in these results is due to the use of post-operative penicillin.

In considering cases of delayed healing in Series A and C it is of interest to note that in at least three instances trouble started with haematoma formation, and in one case the penicillin-sensitivity test was negative.

TABLE III.—*Analysis of Series C (Infected, Non-penicillin)*

Type of Case		No. of Cases	Average Time Wounding to Limb-fitting	Average Time Operation to Limb-fitting
Open wounds still present at operation	Healed ..	5	41 weeks	20½ weeks
	Unhealed ..	2		
Infected cases*	Healed ..	5	32 „	21 „
	Unhealed ..	6		
Other factors present†	Healed ..	3	35 „	21 „
	Unhealed ..	0		
All cases ..	Healed ..	13	35 „	21 „
	Unhealed ..	8		

* Those with a history of severe infection of the wound.

† One case had a Charcot ankle, one had foreign bodies in the stump, and the third had had an ulcerated leg for years before amputation was undertaken.

Table IV gives details of the 90 cases operated on during a 6-months period, with comparisons between cases receiving and those not receiving post-operative penicillin. The results are given for the various amputation sites. It should be noted that the most difficult site to obtain a good result is below the knee, all but 2 of the 12 cases of delayed healing being below-knee amputations.

TABLE IV.—*Comparison of Results at Various Amputation Sites (in 90 Cases during 6-months Period)*

Site of Amputation or Re-amputation	Penicillin Series.		Control Series		All Cases Combined	
	No. of Cases	Average Time Operation to Limb-fitting	No. of Cases	Average Time Operation to Limb-fitting	No. of Cases	Average Time Operation to Limb-fitting
Above elbow	2	10½ weeks	6	9 weeks	8	9½ weeks
Below elbow ..	2	11 „	10	5½ „	12	6½ „
Above knee ..	19	9 „	11	7½ „	30	8½ „
Below knee ..	11	12 „	29	12 „	40	12 „

Conclusions

The best indications of the success of an amputation or re-amputation are: first, the shortness of time between operation and readiness of the stump for limb-fitting; secondly, the subsequent behaviour of the stump under the strain of wearing an artificial limb. Time alone can show the latter, but the former can be worked out quite easily and gives a reasonable index of the degree of success. It may be added that a rapidly healing stump is usually sounder than a slowly healing one.

Broadly speaking, these series give us the results in 3 types of case. First, potentially or actually infected cases receiving post-operative penicillin; secondly, uninfected cases not receiving penicillin; and, thirdly, potentially or actually infected cases not receiving post-operative penicillin. It is evident that in the uninfected cases the results were best, but they were only slightly better than in the infected cases receiving post-operative penicillin; the relevant average times of healing were 7 and 10 weeks respectively. It should be remembered that many of these infected cases had been grossly infected, and could not have undergone re-amputation for weeks or months later had it not been possible to administer post-operative penicillin; yet there were no failures in this series and only 3 cases of delayed healing. In the third series, even with 8 failures not included, it is found that the average healing-time was 21 weeks—more than twice the period in similar cases which had received penicillin after operation.

From these results it can be claimed that the use of penicillin not only shortens the time between operation and limb-fitting, but makes it possible to operate on doubtful cases considerably earlier than would otherwise be feasible. Convalescence is shortened and a far better prospect of success is assured.

Summary

A report is given of 102 amputations and re-amputations. Of these 55 were infected or potentially so at the time of operation; 34 of them received post-operative penicillin and 21 did not. The results show that, in selected cases, it is possible to operate on infected cases much earlier with than without penicillin, and with good prospects of success. In this way convalescence can be considerably shortened, and the patient can start earning his living earlier.

It is pointed out that there were no failures in the penicillin series, and in only 8.8% of this series was there delay in healing of stumps. Emphasis should be laid on the necessity for penicillin-sensitivity tests before operation.

Careful attention should be paid to operative technique, and operation should not be undertaken in the presence of active inflammation or profuse discharge from a granulating wound.

My thanks are due to the Director-General, Medical Services, Ministry of Pensions, and the Medical Superintendent at Chapel Allerton for permission to publish these series; also to my colleagues—especially Mr. A. Lawson Light, who performed some of the operations—for helpful criticism, and to the pathological department and office staff for their assistance.

DESCENT OF THE TESTIS IN RELATION TO TEMPERATURE

BY

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The abdominal position of the foetal testis was known to Galen (Frankl, 1895), but Baron Haller (Hunter, 1837) and John Hunter (1837) really first focused attention on this point and began the stream of literature, which has flowed on in such quantity from observers, on all aspects of development and descent. The facts are few and not greatly in dispute; the fancies prolific and constantly recurring.

The Position in Mammals

The descent of the testis is peculiar to mammals. In all animals, up to and including reptiles and birds, the testis lies high up in the abdomen, and in some of the more primitive mammals, such as the Monotremata (duck-billed platypus and spiny ant-eater), this position persists. In the higher groups the testis lies in the false pelvis. Most of the Edentata (sloth, ant-eater, and armadillo), some of the Insectivora (shrew), the Cetacea (whale and porpoise), and the Sirenia (seacows) have primary abdominal testis with no inguinal fold. In marsupials (kangaroo and wallaby) the testis lies in the suprapubic region, in a well-developed pouch with a closed processus vaginalis. According to Andrews and Bissell (1934) this is really inguinal and represents the earliest extra-abdominal position. In rodents, some of the Insectivora (mole and hedgehog), and Cheiroptera (bats) the testis is intra-abdominal in the resting phase of the sexual cycle. During the rutting season it is extruded by unstriated and retracted by striated muscle; there is no true vaginal process. In the Ungulata, Carnivora, and Primates there is a true vaginal process, and the testis is extra-abdominal. The elephant is an exception, the testis being inside the abdomen; and in some—e.g., the stag—the testis is retracted at other than the rutting season. It has been said that the processus vaginalis is occluded only in man and some of the higher monkeys, but occlusion must sometimes occur in other animals, since hydrocele has been reported in dogs and bulls.

Cause of Migration

There is no physiological reason why the testis should not leave its primitive position in the abdomen. Certainly as regards its spermatogenic function it plays no part in the general economy of the body, and, as Crew says, it belongs to the race rather than to the individual. When discussing the problem of its extra-abdominal position Herbert Spencer (1866) wrote: "We cannot consider it an adaptive change, since there seems no way in which the production of sperm cells, internally carried on in a bird, is made external by adjustment to the changed requirements of mammalian life. Nor can we ascribe it to the survival of the fittest, for it is incredible that any mammal was over-advantaged, in the struggle for life, by this changed position of the organ." I think all would be in agreement with the last sentence, but the previous one is now known to be incorrect.

Influence of the Scrotum on Spermatogenesis

In any animal in which the testis normally descends, in order that it may attain full development and function, it must reach and occupy the terminal part of its destined course. Griffiths (1895) showed that if the testis of a dog was replaced in the abdomen it diminished in size and lost its spermatogenic function. In 1924 Moore performed a series of experiments at the Hull Zoological Department, Chicago, using guinea-pigs, rabbits, and rats. In these animals there is a wide-open connexion between the scrotum and the peritoneal cavity, and the testis can be kept in the peritoneal cavity without in any way interfering with its nerve or blood supply. Moore found that in testes retained in the abdomen for as short a time as seven days there was total disorganization of the germinal epithelium of the seminiferous tubules. The usually well-defined tubular lumen was practically filled with a mass of cells thrown out from the epithelium. Some of the cells could be seen in outline only. Others showed fragmentation of the nucleus, and protoplasmic masses were localized in a granular debris. After 14 days' peritoneal retention most of the debris resulting from degeneration had been removed from the tubules, although a few cells could still be seen. At the end of 21 days little remained of the tubules except the reticulum, with the cells of Sertoli lying against the inner border of the basement membrane. A typical cryptorchid had therefore been produced in three weeks. Subsequent examination of testes showed that there was a progressive diminution in the size of the tubules so that they had shrunk to about one-third of their former diameter. Concomitantly, the interstitial cells had become more prominent and were arranged in masses between the now more widely separated tubules. Certain testes were then replaced in the scrotum, and in a few months the tubules in these had returned to normal. These experiments were confirmed by Wangensteen (1927), who used immature and young dogs for the purpose.

It follows, therefore, that the scrotum exerts a peculiar and striking influence on the testes—an influence that is necessary not only for the differentiation of the germ cells but also for the retention of cells already differentiated.

Influence of Temperature on Spermatogenesis

Meek (1920) noted that the length and periodicity of the spawning of certain fish varied with the temperature of the water. Crew (1921–2) first drew attention to the efficiency of the scrotum as a temperature-regulating organ. It is a pouch of very thin skin well supplied with sebaceous glands. The dartos is firmly attached to the skin, is of non-striated muscle, and quickly responds to changes of temperature. In warmth the scrotum becomes lax, flaccid, and pendulous, while in cold it is corrugated, short, closely invests the testis, and draws it against the body wall. Further, there is no fat in a normal scrotum. When the scrotal skin becomes thickened by a pathological condition, such as elephantiasis, atrophy of the testis occurs. Fukui, in 1923, applied heat to the testis in various forms such as hot air, arc light, and sunlight, and found that exposure to excessive heat was followed by degeneration of the seminiferous tubules. He then elevated both testes of an animal into the peritoneal cavity and artificially cooled the external area in the region of the testes on one side. On examination of the testes after a few days he found that the cooled one was normal while the other showed degeneration of the tubules.

In 1924 Moore and Oslund insulated the scrotum of a ram against heat loss by loosely encasing it in a woollen garment, with a waterproof cover sewed to fit the contour of the scrotum and suspended by artificial supports to prevent abnormal pressure. After 80 days the testes were found to be devoid of spermatozoa; many tubules were in an advanced stage of degeneration, and in others the germinal epithelium had disappeared. As Moore says, "the animal had sterilized itself with its own body heat."

Subsequently Moore and Quick (1924) performed a series of experiments on rats, rabbits, and guinea-pigs and found the scrotal temperature was appreciably lower than that of the peritoneal cavity in each case. They applied hot-water pads to the external surface of a guinea-pig's scrotum, raising the temperature approximately 7 to 8° C. above normal, and on examining the testes in 10 days' time found severe tubular degeneration.

Hill (1937) has made the interesting observation that when the ovaries of mice are grafted on to the ears of castrated male mice the atrophied vesicles and prostate are restored to almost normal. Abdominal transplants have no effect. The inference is that the lower temperature of the ear (similar to that of the scrotum) has stimulated the ovary to produce androgen. Hill suggests that the environment may well condition the production of the specific compounds of the gonad.

Temperature in the Human Scrotum

Harrenstein (1928) performed experiments on 16 children, between the ages of 1 and 11 years, on whom an operation for inguinal hernia or retained testis was being done. He found a considerable difference between the intraperitoneal and scrotal temperatures in each case, the average being 4.9° C. and 3.5° C., depending on whether a short- or long-bulbed thermometer was used.

I have recently carried out temperature recordings in 30 male adults operated on for inguinal hernia. Two long-bulbed laboratory thermometers registering degrees centigrade in tenths were employed. The hernial sac was dissected clear from the cord and opened. A finger was passed downwards into the scrotum, along the cord, until the tip was in approximation with the body of the testis. Both thermometers were introduced through the opening in the sac into the peritoneal cavity, until each bulb was lying on the floor of the iliac fossa. In two to three minutes the temperature on each thermometer appeared stabilized, and a reading was taken. One thermometer was now withdrawn and passed into the scrotum. Readings were recorded at one-, two-, and three-minute intervals. The thermometer was then removed and again introduced into the peritoneal cavity, a further reading being taken at the end of

TABLE I.—*The Intrascrotal and Peritoneal Temperature Recordings in 25 Adults*

Age	Initial Peritoneal Temperature	Scrotal Temperature			Final Peritoneal Temperature		Theatre Temperature	Maximum Variation	Anaesthetic
		1 Minute	2 Minutes	3 Minutes	P. Ther.	S. Ther.			
21	37·5°	35·0°	34·5°	34·1°	37·8°	37·6°	74°	3·7°	L
27	37·0°	35·8°	35·5°	35·5°	37·3°	37·3°	78°	1·8°	L
22	37·0°	35·5°	35·2°	35·0°	37·0°	37·0°	78°	2·0°	L
24	37·5°	36·0°	35·5°	35·5°	37·5°	37·5°	78°	2·0°	G
38	37·5°	36·0°	35·3°	35·3°	37·5°	37·5°	78°	2·2°	L
20	36·5°	34·8°	34·9°	34·9°	36·8°	36·8°	72°	2·0°	L
18	37·0°	34·0°	33·8°	33·8°	37·0°	37·0°	72°	3·2°	L
19	37·0°	35·4°	35·6°	35·6°	37·0°	37·0°	72°	1·6°	L
26	38·1°	35·8°	35·6°	35·5°	38·2°	38·1°	76°	2·7°	L
40	36·5°	35·2°	34·8°	34·9°	36·9°	36·9°	70°	2·1°	L
26	36·8°	34·4°	34·2°	34·2°	36·8°	36·8°	70°	2·6°	L
33	36·0°	34·5°	34·5°	34·6°	36·4°	36·3°	72°	1·9°	L
19	37·0°	35·2°	35·2°	35·3°	37·2°	37·1°	72°	2·0°	L
37	36·5°	33·3°	33·2°	33·4°	36·2°	36·1°	72°	3·3°	L
31	36·4°	34·1°	34·1°	34·2°	36·7°	36·6°	72°	2·6°	L
19	37·0°	35·0°	35·1°	35·1°	37·2°	37·3°	75°	2·1°	L
40	36·7°	34·7°	34·7°	34·7°	36·8°	36·8°	74°	2·1°	S
31	36·8°	35·0°	35·1°	35·1°	36·8°	36·8°	74°	1·7°	L + P
40	36·5°	35·2°	35·2°	35·2°	36·6°	36·7°	74°	1·4°	L
42	36·6°	35·6°	35·7°	36·0°	36·6°	36·7°	72°	1·0°	S
39	37·2°	34·4°	34·5°	34·5°	37·2°	37·2°	70°	2·8°	L + P
18	36·9°	34·3°	34·3°	34·4°	37·1°	37·0°	74°	2·8°	S
19	36·8°	34·6°	34·7°	34·7°	37·0°	36·9°	72°	2·4°	L + P
30	37·0°	36·3°	36·4°	36·2°	37·0°	37·1°	78°	0·8°	L + G
27	35·2°	33·5°	33·0°	32·9°	35·4°	35·5°	72°	2·5°	S

Peritoneal and scrotal recordings are in centigrade, theatre recordings are in Fahrenheit. L = Local; G = General; P = Pentothal; S = Spinal.

TABLE II.—*The Intrascrotal, Pubo-inguinal, and Intraperitoneal Temperature Readings in 5 Adults*

Age	Initial Peritoneal Temperature	Scrotal Temperature	Pubo-inguinal T.		Final Peritoneal T.		Pubo-inguinal Variation	Scrotal Variation	Theatre Temperature	Anaesthetic
			1 Minute	2 Minutes	P. Ther.	S. Ther.				
40	36·7°	34·6°	35·6°	36·0°	37·2°	37·0°	1·6°	2·1°	74°	S
33	37·3°	35·5°	36·5°	36·5°	37·5°	37·5°	1·0°	2·0°	78°	L+G
19	37·1°	34·6°	35·8°	35·8°	37·1°	37·2°	1·3°	2·6°	70°	L+P
27	37·1°	34·5°	37·7°	35·7°	37·2°	37·1°	1·5°	2·6°	74°	L+P
35	37·3°	34·8°	35·6°	35·6°	37·4°	37·4°	1·8°	2·5°	74°	L

Peritoneal and scrotal recordings are in centigrade, theatre recordings are in Fahrenheit. L = Local; G = General; P = Pentothal; S = Spinal.

a minute. The majority of cases were operated on under block local analgesia, occasionally supplemented with 0.5 g. of pentothal intravenously. In no case was any deleterious effect produced. Table I shows the results in 25 cases with a three-minute record of scrotal temperature. Table II shows the results in 5 cases when the thermometer was withdrawn from the scrotum after one-minute and two-minute interval recordings of the temperature in the pubo-inguinal region were taken.

From these two tables the following facts are deduced. In each case the temperature is lower in the scrotum than in the iliac fossa. This varies from 0.8° C. to 3.7° C., with an average difference in 30 cases of 2.2° C. The temperature in the pubo-inguinal region in each of 5 cases is higher than that in the scrotum but an average of 1.4° C. lower than that in the iliac fossa.

Discussion

Is this thermal influence a cause or an adaptation of migration? Many observers (Hart, 1908–9; Crew, 1921–2; Keith, 1933) have taken the view that the cause of migration is mechanical. With changing methods of progression, the dense, compact, suspended testis was gradually compelled to pass from the primitive position towards the inguinal region of the abdominal cavity. It then came to lie in the lymph spaces described by Sabin. With increasing impulsiveness of movement and with the increase in abdominal pressure following the development of the diaphragm, the testis was forced along the lymph tracts until it came to lie in the subintegumental position in the groin. Further impulsive activity produced a hernia of the testis into the scrotum. I do not consider this theory at all satisfactory. It is only in the male of the species that the reproductive gland normally "herniates"; and why should this comparatively small organ be the only one to do so on mechanical grounds? The large group of rodents and the stag, which undoubtedly are as active and impulsive in their movements as any other mammal, have intra-abdominal testes except in the rutting season. I believe that the migration is a search for a lower temperature. In the Monotremata and certain lower orders with abdominal testes, body temperature is much more variable than in the higher mammals. In the whale the amount of subcutaneous blubber would insulate the testis, and the thick skin of the elephant would preclude heat loss. Andrews and Bissell have put forward the view that these two groups are secondary testiconda. We know that eels migrate to breed in the depths of the Saragossa Sea, that salmon and other fish migrate to the upper reaches of mountain streams for their breeding, and that birds migrate to a colder area during their nesting season. It is not unreasonable, therefore, to suggest that in mammals the reproductive gland, instead of the whole animal, migrates for the same specific purpose.

Summary

The position of the testis in the various groups of mammals is discussed.

The influence of temperature on spermatogenesis is reviewed.

Recordings of the temperature in 30 young adults are given.

It is suggested that the extra-abdominal position of the testes is a migration in search of a temperature lower than that of the body.

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H. H. Rosenblum (*U.S. Nav. med. Bull.*, 1945, **44**, 375) states that Reiter's disease, which has been recognized only in young men, is characterized principally by acute purulent urethritis, acute conjunctivitis, and acute arthritis, often occurring in that order. The most helpful analgesic was acetylsalicylic acid and codeine in moderate doses

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"FASTNESS" OF STAPHYLOCOCCI, HAEMOLYTIC STREPTOCOCCI, AND PNEUMOCOCCI TO PENICILLIN

BY

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In a previous communication Todd, Turner, and Drew (1945) showed that two different strains of staphylococcus became highly resistant to penicillin when subcultured daily in penicillin broth. The resistance of the strain "Oxford H" was increased 3,000 times after 27 subcultures, and the resistance of strain "Staphylococcus A" was increased 250 times after 21 subcultures. This high degree of resistance to penicillin disappeared rapidly when the organisms were subcultured daily in plain broth.

The same methods of investigating (1) the time required to produce "fastness" to penicillin and (2) the temporary or permanent character of this acquired change have now been applied to haemolytic streptococci and pneumococci.

Staphylococcus

The cultivation of strains of "Oxford H" and "Staphylococcus A" in penicillin broth, described in a previous paper, was continued. After 75 subcultures in penicillin broth both the strains were 5,000 times more resistant to penicillin than the original cultures; they both grew in broth containing 400 units of penicillin per c.cm. On subcultivation in plain broth the resistance of both strains to penicillin was rapidly lost.

Haemolytic Streptococcus

Rake *et al.* (1944) subcultured *Str. pyogenes* (Strain C 203, Group A, Type 3) in penicillin broth. After 58 subcultures the dose of penicillin required for "bacteriostasis" had increased from 0.03 to 0.95 unit per c.cm., showing a 30-fold increase in resistance. They do not state whether this resistance was maintained or lost on subcultivation in plain broth.

Fig. 1 shows the results of subculturing Strain C 203 daily in broth containing falling dilutions of penicillin on a 20% range in a total volume of 1 c.cm. The daily variations in resistance were much greater than those obtained with staphylococci (Todd, Turner, and Drew, 1945). This was particularly noticeable at the beginning of the experiment, before any definite increase in resistance was observed. Resistance to penicillin was increased five times after 35 subcultures and four

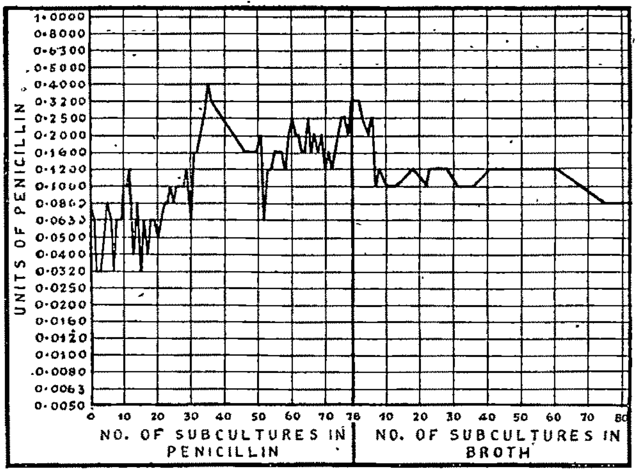

FIG. 1.—Showing increasing resistance on subculture in penicillin, followed by diminishing resistance on subculture in broth. *Str. pyogenes*, Strain C 203, Group A, Type 3.

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* Seconded from the London County Council.

times after 78 subcultures. On subcultivation in plain broth "fastness" was maintained for two days; it then began to fall until after 76 subcultures the original "bacteriostatic" dose of 0.08 unit of penicillin per c.cm. was again effective. There is, however, considerable doubt whether 0.08 unit per c.cm. was the true "bacteriostatic" dose for the original culture, since smaller effective doses were observed on a number of occasions at the beginning of the experiment. A direct comparison of the original culture, which had been kept in a dry state, with the 82nd subculture of the resistant strain in plain broth gave the following results:—"Bacteriostatic" dose: original culture 0.02 unit per c.cm.; 82nd subculture, 0.08 unit. Nevertheless the general appearance of Fig. 1 suggests that "fastness" of haemolytic streptococci to penicillin is a temporary acquired character which is gradually lost on subcultivation in broth.

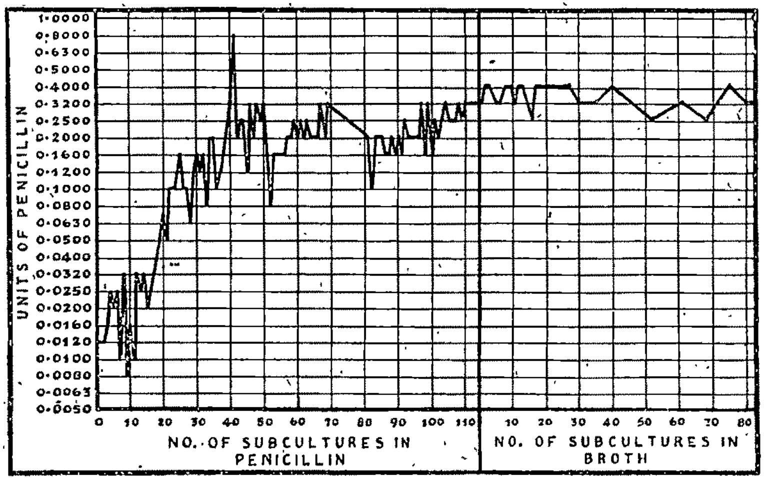

FIG. 2.—Showing increasing resistance on subculture in penicillin, followed by maintained resistance on subculture in broth. Pneumococcus, Type III.

Pneumococci

Rake *et al.* (1944) subcultured Pneumococcus Type III in penicillin broth 55 times, thereby increasing the resistance of the strain to penicillin 30 times. After 32 subcultures of their resistant strain in ordinary blood broth the "bacteriostatic" dose of penicillin remained unchanged.

Fig. 2 shows the results of subculturing Pneumococcus Type III first in penicillin broth and then in plain broth. Resistance to penicillin was increased 27 times after 46 subcultures, and this level was maintained after 114 subcultures in penicillin broth. "Fastness" to penicillin was maintained after 82 subcultures in plain broth. This confirms the observation of Rake *et al.* (1944) that acquired "fastness" of pneumococci to penicillin is a permanent character.

Discussion

Although the number of strains used in these experiments is too small to draw any general conclusions, there are certain facts which seem to be established. The first of these is that staphylococci become penicillin-"fast" much more easily than haemolytic streptococci or pneumococci on subcultivation in penicillin broth. The accompanying Table, which is compiled from the figures of Rake *et al.* (1944) and of Todd, Turner, and Drew, shows a 4,000-fold average increase of resistance to penicillin for five strains of staphylococci, compared with an 18-fold average increase for four strains of pneumococci and a 16-fold average increase for a single strain of *Str. pyogenes*, although the average number of subcultures in penicillin was greater for the pneumococci and streptococci than for the staphylococci.

Table showing the Number of Subcultures in Penicillin Broth required to produce Penicillin-" fast " Cultures, and the Degree of " Fastness " obtained with Various Organisms

Authors	Organism	Strain	Number of Subcultures in Penicillin Broth	Increase of Resistance to Penicillin
Rake *et al.* ..	Staphylococcus	"Smith"	59	6,000 times
" " ..	"	C 1	28	1,000 "
" " ..	"	C 2	28	4,000 "
Todd *et al.* ..	"	Oxford H	72	5,000 "
" " ..	"	A	77	5,000 "
Rake *et al.* ..	Pneumococcus	Type I	54	6 times
" " ..	"	" II	62	6 "
" " ..	"	" III	55	32 "
Todd *et al.* ..	"	" III	114	27 "
Rake *et al.* ..	Str. pyogenes	C 203	58	27 times
Todd *et al.* ..	"	C 203	78	4 "

Secondly, the observation of Rake *et al.* (1944) that penicillin-"fast" pneumococci maintain their "fastness" on subcultivation in ordinary laboratory media, without penicillin, is confirmed. On the other hand a single strain of *Str. pyogenes* lost its "fastness" on subcultivation in plain broth, behaving in this respect more like staphylococcus than pneumococcus.

Summary

Staphylococci are easily made penicillin-"fast" by subcultivation in penicillin broth; they lose their acquired "fastness" when subcultured in plain broth.

Haemolytic streptococci, so far as can be judged from the behaviour of a single strain, are more difficult to make penicillin-"fast" than staphylococci; they also appear to lose "fastness" when subcultured in plain broth in a similar way to staphylococci.

Pneumococci also acquire "fastness" much less readily than staphylococci; they maintain acquired "fastness" when subcultured in ordinary laboratory media.

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Medical Memoranda

Hypersensitivity to Quinine and Mepacrine

In view of the great importance and widespread use of chemotherapy in the suppression of malaria at the present time, the following rarity is of topical interest.

CASE REPORT

The patient was an air-crew officer, aged 25, who took one tablet (0.1 g.) of mepacrine hydrochloride at 1 p.m. on Nov. 19, 1944. Two hours later he began to notice a certain itchiness and painfulness of the skin of his hands and feet; and shortly afterwards these and the scrotum, penis, and nipples began to swell. At the same time the skin of his whole body became red and his throat felt as if it was swollen. About one hour after the onset of his symptoms he began to feel hot; he had a slight frontal headache and marked anorexia and nausea, but no actual vomiting. There were no other symptoms. This was the first mepacrine tablet he had ever taken.

On examination his temperature was 104° F. and pulse 96. The skin of the whole body showed a marked generalized erythema, with no blanching on stroking it. The lips were slightly cyanosed. Some conjunctival injection was present. There was considerable oedema of hands, feet, scrotum, penis, nipples, and eyelids, with slight swelling of the fauces. Otherwise nothing abnormal was found.

Treatment with adrenaline, ephedrine, and magnesium sulphate was given, but without any effect. His temperature, however, settled in 18 hours, and all the oedema and erythema had disappeared in 48 hours. The next week the skin of his body generally, and of his scrotum in particular, peeled, and during this time it remained itchy.

His previous history showed that about three weeks before this reaction he had taken one quinine hydrochloride tablet (6 gr.), and this had produced very similar effects to the reaction described above, with the following two differences: (i) the onset of the quinine reaction occurred four hours after he had taken the tablet; (ii) he had had no rise in temperature after taking the quinine.

When the erythema and oedema of the mepacrine reaction had disappeared I scratch-tested him with both quinine and mepacrine suspensions in normal saline, using a normal saline control; marked localized urticarial reactions occurred with both the quinine and the mepacrine, while the control showed no reaction. As a result of these tests he was considered unfit for service in malarious areas.

Such a condition must be very rare indeed, and I can find no reference to this double hypersensitivity in any textbook available to me at present. In fact, in *Memorandum on Medical Diseases in Tropical and Subtropical Areas* there occurs this statement: "Those with an idiosyncrasy to quinine can take mepacrine with impunity. Mepacrine appears to provoke no similar condition."

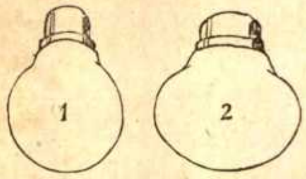
JOHN ORR, M.B., Ch.B.,
Fl. Lieut., R.A.F.V.R.

A Source of Error in the Determination of Cell Counts

The flatness of the cover-slips used for counting-chambers is usually taken for granted. It is perhaps not as widely known as it might be that slips which are not flat are occasionally met with. As all such slips are ground flat, one can only assume that they warp after manufacture as the result of internal stresses. Inaccurate cell counts result.

A degree of deformity too small to be perceptible by inspecting the cover-slip edge-on may cause gross inaccuracy. Thus a slip which is only 10μ "off the flat" at the highest point of the convexity will cause an inaccuracy of 10% if the correct depth of the counting chamber is 0.1 mm. A curved cover-slip, used sometimes with the convexity upwards, sometimes downwards, will cause puzzling fluctuations in the cell count of the same patient.

Once a cover-slip has been found to be defective it may be thought advisable to determine the degree of inaccuracy with a view to adjusting counts that have previously been made with it. This is possible only when one can be sure that the curve has been upwards or downwards in all estimations, when the amount by which the curve is off the flat, expressed as a percentage of the correct chamber depth, can be deducted from or added to the counts, as the case may be. If, as has probably been the case, the convexity was sometimes upwards and sometimes downwards, measurement of the degree of deformity will at least show whether it is so great as to place previous counts beyond the permissible limits of inaccuracy.



Distortion of the image of a spherical bulb caused by a deformity of 10μ off the flat.

RECOGNITION OF DEFORMITY

Any such deformity may be easily and quickly perceived and measured by the following method:

1. Hold a corner of the cover-slip lightly between the tips of thumb and forefinger.
2. Stand with the back towards a lighted lamp, and about 1 metre from it.
3. Hold the slip at arm's length, and at such an angle that the reflection of the light bulb can be seen in it. If the slip is deformed the image will be distorted. Such deformation is usually cylindrical, resulting in an image which is elongated or compressed in one axis so that a circular light-bulb appears oval.
4. Hold the slip with the concavity facing the eye as shown by an elongation of the long axis of the oval reflection.
5. Note by what proportion approximately the long diameter exceeds the short. Then, assuming that the distance between eye and slip is 30 in., it may be shown, by reasoning beyond the scope of this paper, that if the excess is 28% the slip is 10μ off the flat (see Fig. 2), if 12½% it is 5μ, and if 6% it is 2½μ. In practice an approximate estimate of this excess is sufficient.

The whole process is a matter of a few moments, and large numbers of slips can be examined in a short time.

The presence and extent of such deformity can, of course, be determined with the aid of a microscope with a calibrated fine adjustment. A few small drops of a solution of a coloured substance—e.g., ink—are allowed to dry on the surface of the slip, which is then placed, coloured surface downwards, in position on the counting-chamber. The dried ink is first focused, then the ruled squares, the fine adjustment being read on each occasion and the true depth of the chamber noted. The correct depth subtracted from this will give the figure required.

The first method described has the advantage of simplicity and speed, and does not entail the use of a microscope with a calibrated fine adjustment.

St. Giles' Hospital (L.C.C.), Camberwell. BERNARD FREEDMAN, M.B., M.R.C.P.

Salivary-gland Tumour of the Upper Lip

The following record of a case of some rarity may be found of interest.

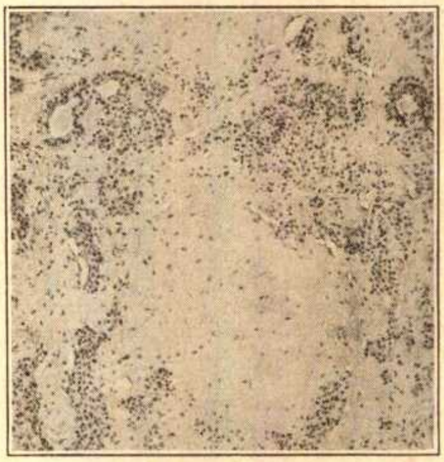
CASE REPORT

A girl aged 18 came under my care in the Royal Infirmary, Edinburgh, in March, 1940, on account of a painless swelling of the upper lip which had been present for many years but had become larger and rather disfiguring recently. It was centred strictly in the midline and protruded on the buccal surface, covered by normal mucous membrane. Using a local analgesic, a transverse incision was made through the mucous membrane, and a solid round tumour, one inch in diameter, was enucleated very easily and completely. The wound was sutured and healed without difficulty, a perfect cosmetic result being obtained.

Histological examination demonstrated the characteristic appearance of a mixed tumour of the parotid (see Fig.). There were hyperchromatic epithelial cells, arranged in the form of alveoli and in solid masses, and a stroma showing the appearance of the so-called cartilage. There was no evidence of malignancy.

COMMENT

The mixed tumour of the salivary glands occurs most frequently in the parotid and less so in the submandibular and sublingual glands, but it also arises in uncommon sites such as palate, tongue, pharynx, larynx, neck, face, orbit, scalp, auditory canal, lacrimal gland, and lips. Sir James Paget in 1851, according to Cade (1937), was the first to describe a parotid tumour in the lip, and of the cases noted since then in the upper and lower lips four were recorded by Wood (1904), one by Schreiner and Mattick (1929), one by Patey (1930), two by Ahlbom (quoted by Cade), and four by Robbins (1943). An aberration in the development of the salivary-gland tissue may possibly account for some of the unusual positions. Ahlbom (1935), however, believed that the tumours in all sites should be classified as mucous-gland and salivary-gland tumours, in which case a tumour of the lip can be explained as arising from a mucous gland and not from an aberrant portion of parotid tissue. In his opinion, also, such tumours are quite benign at the age of the patient here reported.



A photomicrograph of the specimen.

I wish to thank Dr. R. F. Ogilvie for the histological examination and Mr. D. Smith for the photomicrograph. I am indebted to Mr. John Harkness, who saw the patient with me and actually suggested the correct diagnosis.

Edinburgh. J. F. CURR, F.R.C.S.Ed.

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The *Annals of Science*, the quarterly review of the history of science since the Renaissance, which has been in abeyance since December, 1942, has resumed publication with the issue of July 15.

Reviews

A HISTORY OF MEDICINE

A History of Medicine. By Douglas Guthrie, M.D., F.R.C.S.Ed. (Pp. 448; illustrated. 30s.) London: Thomas Nelson and Sons.

Throughout the ages the Genius of Medicine has frequently changed her home. Born in Sumeria out of priestcraft and superstition, her migration to Egypt did little to redeem that origin. It required the clear intellectual atmosphere of Greece to instil some measure of reason and a capacity for observation. The subsequent extensions to Alexandria and to Rome were entirely Greek in inspiration. As Rome declined, the persecuted Nestorian Christians carried that heritage first to Edessa and then to the court of Haroun-al-Raschid. Hence arose Arabic medicine, which carried on the tradition for several centuries. Only at Salerno was the older Hippocratic method followed, and as this was carried out by progressive teachers its star shone brightly in a dark age from 1096 to 1270, to be eclipsed by the rise of Montpellier, which adopted the Arabic tradition. This tradition had spread far beyond the Arabs themselves; thus the celebrated Maimonides of Cordova was a Jew. After the rise of Montpellier came that of Padua, an offshoot from Bologna. All these migrations are well described in Dr. Douglas Guthrie's *History of Medicine.* Coming to the Renaissance he truly says "it was a change in the entire outlook of thinking men who sought to escape from the tyranny of dogmatic scholasticism. . . . There arose a demand for freedom of thought, a new standard of human dignity and a philosophy of living." Appropriately said in view of the recent attempts to detract from its accomplishments. The centre of the new learning was Florence, which except for Athens has done more to free the human mind from its self-imposed shackles than any other city. But in medicine at the hands of such men as Linacre all that was attempted was at first a simple revival of Greek learning; no new observations were thought necessary. Revival of interest in the study of anatomy was initiated by the artists, particularly Leonardo, and not by the physicians.

The year 1543 marks the birth of modern science; Copernicus revolutionized our conceptions of the universe, and Vesalius published his great anatomical textbook *De Fabrica.* The pace of advance quickened. William Gilbert initiated experimental physics, and Harvey applied them to physiology. England also rejoiced in great clinicians such as Glisson, Willis, and Sydenham. The founders of the Royal Society gave a scientific cast to medicine. The early 18th century saw the rise of Leyden under Boerhaave, and English physicians resorted there rather than to Padua. A little later came the rise of the Edinburgh School, marred unfortunately by bitter quarrels. The beginning of the 19th century witnessed the undoubted leadership of the French school, particularly in Paris. A few years more and the clinicians of London and Dublin bore the palm, while the later half of the century was marked by the dominance of the Viennese and German schools. This ascendancy was waning even before Germany elected to shut herself out from the comity of science. It looks as if the future leadership may rest with the United States, with its wealth and capacity for organization. The Mayo Clinic is an exemplar of the new medicine. Fortunately the leading American physicians are becoming alive to the danger of the individual patient being subordinated to the mighty machine they have created. It is interesting to speculate on the causes of these repeated migrations. Political changes can have a disruptive effect, but on the constructive side can do little more than provide a stable enviroment. Sometimes it is a single man, like Boerhaave, whose individual genius had a magnetic attraction, or a group of men like the quartette of Osler, Welch, Halsted, and Howard Kelly, who created Johns Hopkins Hospital's pre-eminence. Always the man; one thinks of the unfavourable conditions under which Michael Foster created a great school of physiology at Cambridge. The decline of a school, on the other hand, is often due to complacent "ancestor worship."

Though the theme of migrations runs through Dr. Guthrie's book, he casts his net widely to include all aspects of medicine. To do this in reasonable compass without reducing it to a catalogue is no light task, but he has achieved it by skill and discrimination. His style is attractive and pleasant to read, and the pages are lightened by admirable pen-portraits of outstanding personalities. His erudition is free from pedantry. Rapid technical advances in medicine are tending to diminish interest in its cultural aspects. Dr. Guthrie strongly holds that a study of medical history would tend to correct this and give a due sense of proportion. Formal lectures are hardly possible in the overcrowded curriculum. The simplest plan is that adopted by Sir Norman Moore, who interpolated interesting historical data relevant to the case under consideration.

The volume is admirably produced in this age of so much slovenly work. It is enriched with 72 plates collected from many sources, and a map of the migrations. There is a classified bibliography of the more important references, and (needless to add) a full index. We hope the book will have the success it deserves.

W. L.-B.

RHEUMATIC DISEASES

The Rheumatic Diseases. By G. D. Kersley, M.D., F.R.C.P. With foreword by Sir Francis R. Fraser, M.D., F.R.C.P. Second edition. (Pp. 120; illustrated. 15s.) London: William Heinemann (Medical Books) Ltd. 1945.

The appearance of a second edition of this little book is an indication that it has been found a useful guide to the manifold aspects of rheumatism. It is unfortunate, however, that the new edition should be marred by so many misprints, mostly trivial, but some more serious, such as the recommendation to give 1–2 *gm.* of thyroid extract twice a day when grains are evidently intended; even in the bibliography there is evidence of failure to verify the references.

The clinical features of typical examples of the various types of rheumatic disease are clearly described, and the pathology is discussed with special reference to them, so that the reader may visualize the influence of the disease on the tissues of the patient and the principles of treatment. A well-balanced comparison is drawn between primary and secondary or focal forms of rheumatoid arthritis, and the author favours the view that sensitization is probably an important factor. Many authorities are quoted on different subjects, often giving conflicting opinions which may be found confusing by the ordinary reader, and a clear and perhaps dogmatic exposition of the author's own practice and experience would be of greater service.

The description of physical methods of treatment and their rationale is good and will prove most helpful to the general practitioner; they will be found of greater value in many rheumatic disorders than the usual medicines or "rubbing bottles" so often expected by the patient. It would have been an advantage if such physical methods as can be adapted for home use had been described in more detail with this end in view. The account of the various massage techniques will be found useful to the doctor, who, if he is to ensure the best results, should be able to describe the object to be attained and the best methods of securing it. The account of the methods in use at the spas is clear, convincing, and free from exaggeration. The book is lavishly illustrated, though some of the reproductions of skiagrams are poor.

THE EOSINOPHIL CELL

L'Éosinophilie Générale et Locale. By L. Dérobert. Preface by Prof. M. Duvoir. (Pp. 238. No price given.) Paris: Librairie J.-B. Baillière et Fils. 1942.

This monograph is written in the sound tradition of the classical French thesis, which summarizes the literature of a restricted and often recondite branch of medicine. It is addressed to the experimental haematologist and pathologist rather than the general reader, and it provides a useful quarry of references and ideas. Dérobert's own researches have been chiefly concerned with a study of the tissue eosinophils in hyperpyrexia, and after the inhalation of pepper and the active principles of pepper. He believes that eosinophil cells may originate both in the bone-marrow and in the tissues, and he supports the generally accepted view that the function of the eosinophil cell is to deal with foreign or altered proteins in the body. The subject is highly technical and the book is not easy reading. It leaves one with the impression that, though a great deal of work has been done, we still have little precise knowledge about the life story of the eosinophil or the nature of its prominent granules. The standard methods of examining the blood and the tissues do not seem adequate for the solution of these problems, and we must wait on more novel or refined techniques for further advances.

MOSQUITOES OF THE AUSTRALASIAN REGION

Keys to the Mosquitoes of the Australasian Region: Including a Synopsis of their Distribution and Breeding Habits. By Kenneth L. Knight, U.S.N.R., Richard M. Bohart, U.S.N.R., and George E. Bohart, U.S.N.R. National Research Council: Division of Medical Sciences. (Pp. 71. No price given.) Issued by the Office of Medical Information, Washington. July, 1944.

The systematic entomologist is often accused of counting hairs, but it is safe to say that without his labours little progress could have been made in the study of disease transmitted by insects. This applies especially to the mosquitoes, where the habits of the different species play such a large part in the transmission of disease, and whose importance as vectors of malaria, yellow fever, filariasis, dengue, and possibly other tropical diseases makes their identification one of the first essentials to any research connected with the control of these diseases. Lieuts. K. L. Knight, R. M. Bohart, and G. E. Bohart, of the U.S. Naval Medical Research Unit, are therefore to be congratulated on their most useful revision of the Australasian Culicidae, the result of eighteen months' work in the regions concerned. The Culicidae of many parts of the world, and especially the anopheles mosquitoes, have now been exhaustively studied, and their identification made possible to all and sundry by the publication of authoritative synoptic tables. Even the difficult South American forms have at last been reduced to something like complete order. There still remained, however, a much-needed authoritative synopsis of the no less difficult Australasian species, now clearly and with precision set forth in the reference work published in Washington.

The area dealt with is the Australasian faunal area proposed by Wallace and modified by Swellengrebel and Rodenwaldt (1932), and includes, besides Australia, the Moluccas, New Guinea, and a large part of the Pacific, extending to the Hawaiian Islands, the Marianas to the north, and the Taumoto Archipelago (Society Islands) to the east. New Zealand, South and Western Australia, which possess a large endemic fauna of their own and were far removed from the zone of military activity, are not included in the revision. The whole of the Culicidae are dealt with, in all some 250 species and subspecies (8 *Bironella*, 41 *Anopheles*, 5 *Megarhinini*, 13 *Uranotaenia*, 3 *Hodgesia*, 28 *Tripteroides* (*Rachionotomyia*), 14 *Mansonia*, 100 *Aëdes*, 2 *Aëdeomyia*, 2 *Ficalbia*, and 42 *Culex*). Zoologically the most interesting feature of the fauna dealt with is the absence of certain genera familiar to students of the Oriental species—e.g., *Leicesteria*. But, as the authors note, of the nine genera given by Edwards (1924) as not represented, three have since been recorded. To the malariologist a feature of interest is the now quite large list of species of *Bironella*, that peculiar group of primitive anopheles uniquely confined to New Guinea. Following the various synoptic tables of the different genera is a list giving the distribution and recorded larval habitat of each of the species dealt with. The publication should be of the greatest value, and most helpful to all who may have to do with the identification or control of mosquitoes in this important zone.

Notes on Books

A little book *The Attendant's Guide*, by EDITH M. STERN (Oxford University Press; 3s. 6d.), might well be issued by mental hospitals to their junior nurses. It gives pleasantly worded advice about the handling of the patients, and about most of the problems that are likely to come the way of the mental nurse. Most handbooks of nursing tend to be uninspired and dryasdust on the subject of the attitude of the nurse to her patients, in contrast to which this booklet shows a refreshing humanity informed by knowledge and sense.

The Child Welfare Department of University College Hospital, London, has issued a useful pamphlet on *The Management of Older Babies* (post free 4d.). It covers the period of mixed feeding, from 5 months to 2 years, and deals not only with feeding but with such matters as training in good habits, play, teething, and prevention of illness. A useful section on the need of affection strikes just the right note.

Preparations and Appliances

AN IMPROVED ARTIFICIAL PNEUMOTHORAX NEEDLE

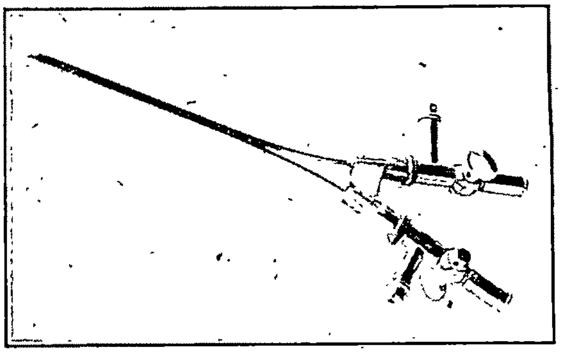
Dr. ALASTAIR ALLAN writes from Greenock:

Recent correspondence in the *Journal* has drawn attention to the occurrence of air embolism, the most dangerous occurrence that may happen during the administration of artificial pneumothorax refills. Air embolism develops with dramatic suddenness and without any useful warning signs; if the occurrence is not immediately fatal, total recovery usually takes place in a few days, but the whole picture is most alarming for all concerned.

With the usual type of pneumothorax needle, after the manometer is observed and read, it is by-passed until the refill has been given, then switched over into the circuit again, and the reading taken. During the refill—the dangerous period—no reading can be observed, and one hopes the point of the needle is still within the intrapleural space: usually it is, but when it is not accidents may happen without warning.

Cameron[1] urges "intelligent use of the manometer" to reduce risks, and Burrell[2] also emphasizes the importance of the preliminary manometer reading. The manometer supplies visible evidence of the presence of the needle-point within the intrapleural space, and it is illogical to be deprived of this visual sign when it is most required—during the actual refill.

Artificial pneumothorax as a specific therapeutic procedure was first carried out by Forlanini in 1888[3] by a method similar in principle to present-day methods but without a manometer. This handicap was removed by Saugmann in 1904, who was the first to use a manometer to record the intrapleural pressure. Artificial pneumothorax apparatus has remained unchanged in principle since then, and the only changes have been various minor modifications. It may therefore be of interest to describe a needle I have been using, the main purpose of which is to reduce the risk of air embolism. It is simply a double needle with two complete and separate air channels; one is led to the manometer by rubber tubing, the other to the air-flow bottle of the A.P. apparatus. The illustration is approximately half-size linear.



When in use a constant manometer reading of the intrapleural pressure is obtained, before, during, and after the refill; and (it should be unnecessary to add) if no reading can be obtained, then no refill should be administered at that site. One has to experience the feeling of confidence which results to appreciate its value.

The only criticism which might be levelled at this needle is the increase in size of the puncture it produces. Theoretically this is true, but in actual practice it is negligible. "Humanity and common sense call for anaesthetization of the needle track,"[1] and this has always been my practice, and the increased size of the needle can genuinely be discounted. It may be noticed from the illustration that the shape of the point causes the end of one channel to be about 1 mm. longer than the other, and the longer is the one I always connect to the manometer: a "V" point instead of a bevel would bring both channels to exactly the same level. This is probably of theoretical importance only.

The needle was made for me by Vicarey, Davidson and Co., 162, Bath Street, Glasgow, C.2. My thanks are due to Dr. Alexander Johnstone, Medical Officer of Health, Greenock, for permission to publish this.

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[1] *Edinb. med. J.*, February, 1941, p. 94.

[2] *Recent Advances in Pulmonary Tuberculosis*, by Burrell, 1937.

[3] *Pulmonary Tuberculosis, Medical and Surgical Treatment*, by H. Morriston Davies, p. 209.

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THE DISCOVERY OF X RAYS

This year is the centenary of Röntgen's birth, and this next week the fiftieth anniversary of the birth of radiology. The *x* rays were discovered in the late evening of Nov. 8, 1895, by Wilhelm Conrad Röntgen, professor of physics in the University of Würzburg. Röntgen handed in his famous "Preliminary Communication" to the Physical-Medical Society of Würzburg on Dec. 28, and it was published at once. On Jan. 6, 1896, the news was cabled from London to the world, and within a matter of days the practical application of Röntgen's discovery to medicine had been confirmed. The science of radiology was born, and if it did not, like Athene, spring fully armed from the brain of its begetter, it at least lost no time in providing for itself a worthy and rapidly improving armamentarium.

As it is often said that the discovery of the *x* rays was an accident, it is only fair to Röntgen's memory that we should regard for a moment the accomplishments of his predecessors and his contemporaries. In this brief recital of the fundamental discoveries British science shines with a very brilliant light. Hauksbee not only made improvements in the air-pump, but was also the first to produce an electrical discharge in a vacuum (1709). William Morgan, a doctor and one of the greatest of actuaries, did a highly original experiment by which he demonstrated that the quality of the rays produced in a partial vacuum depends on the hardness of the tube (1785). Goldstein (1876) introduced the term "cathode stream" for the rays which are emitted from the cathode when an electric discharge is passed through a partial vacuum, and Sir William Crookes really laid the foundation of atomic physics by his demonstration that these rays could be deflected by a magnet, and that they therefore consisted of electrified particles of matter. Crookes must have produced *x* rays very frequently without realizing their nature, and he actually noticed—and complained of—the fogging of photographic plates in the neighbourhood of a Crookes tube in action. Sir Herbert Jackson invented in 1894 a focus tube for use in his experiments on phosphorescence, and *x*-ray photographs were taken with this original tube after the announcement of Röntgen's discovery. The early researches of Sir J. J. Thomson were carried out with Crookes and Lenard tubes. It was Röntgen's discovery which first focused the chief attention of physicists on the effect of various types of rays on gases, and Thomson himself said in 1896 that the discovery appealed "to the strongest of all human attributes—namely, curiosity."

Röntgen was a Rhinelander who was born in 1845, so that this year marks the centenary of his birth. In 1888, when he was called to the chair of physics at Würzburg, he had already held three professorships. He spent twelve happy years at Würzburg, and he left it only under pressure in 1900 to fill the corresponding chair in the Bavarian capital. Röntgen was a hard worker, and his papers were numerous and marked by brevity, sincerity, and accurate work. His other contributions to physics, though important enough in their way, were outdistanced by his single great discovery.

Röntgen began serious work on the cathode rays towards the end of October, 1895. Even at that time barium platino-cyanide was in common use as a test for these rays, and he was working with a Crookes tube which was covered with a black paper screen, opaque to all known rays. On Nov. 8, 1895, while he was testing the opacity of this screen, he noticed that some crystals of the fluorescent salt of barium which were lying near were showing active fluorescence. It seems very probable that the discovery of *x* rays at that particular time depended upon Röntgen's reaction to this observation, which must have been made previously by other workers. By moving the crystals outside the range of the cathode rays he at once confirmed the fact that he was dealing with a new kind of ray. By placing various bodies in the path of the rays he showed that their opacity was roughly in direct proportion to their density, and when he placed his hand in the path of the rays and saw the shadow of the bones on the screen of barium platino-cyanide he was quick to realize that by substituting a photographic plate for the screen he could obtain a permanent "shadowgraph" of the interior of human tissues. The first *x*-ray of a part of the body was the photograph of Frau Röntgen's hand. There appears to be no truth in the theory advanced years later by a former student of Röntgen that a series of coincidences presented the discoverer with a shadow-photograph of a key placed between the pages of a book. Röntgen admitted a short time afterwards that he was looking for invisible rays. He prosecuted his discovery with the utmost vigour, and in his first communication "On a New Kind of Rays," completed eight weeks later, he presented a sound description of their properties.

After the announcement of the discovery to the world on Jan. 6, 1896, the "new photography" was taken up widely by medical men, by electrical engineers, and by "straight" photographers. In this country within a week of the announcement the first *x*-ray photograph of a human hand was taken by Campbell Swinton and Stanton. The *Lancet* (Jan. 11, 1896) was the first medical journal in this country to comment on Röntgen's discovery, and in its leading article the wit of Mr. Samuel Weller was invoked to pour a cold douche upon the supposed possibilities. By the following week the *Lancet* admitted that the medical application of the discovery was a shade nearer probability. Meanwhile the *British Medical Journal* (Jan. 18, 1896) came out with a carefully considered and laudatory article by Prof. Schuster, of Manchester, and assessed the new discovery at its proper medical valuation. From that date onwards all journals contained numerous articles on *x* rays and their applications. Too much credit can hardly be given to the early British pioneers for their continuous endeavours to improve *x*-ray plant, to reduce exposure time, and to inaugurate *x*-ray therapy. The policy of this

Journal was also progressive and expectant from the start. As early as the beginning of February, 1896, the *British Medical Journal* appointed Mr. Sydney Rowland, of St. Bartholomew's Hospital, as a Commissioner to report on new developments in *x* rays, and week by week he continued to publish his highly interesting articles. Another original pioneer was John Macintyre, of Glasgow, who not only advanced the boundaries of the art of taking "*x*-ray photographs" of the body but who was also the father of fluoroscopy, of the principles now used in miniature radiography, and of *x*-ray cinematography. There are many others who should have a place in any more extensive list, and our gratitude should also go out to those martyrs whose researches led to their disablement and death.

Röntgen himself was the first to make an *x*-ray photograph of a piece of metal, and this led to the wide industrial uses of the method in metallurgy. Even though we chose to regard his discovery as a logical outcome of the work which had been done by others during the preceding thirty years, it was nevertheless the trigger which released the stream of great discoveries in atomic physics. The work of Becquerel, the Curies, J. J. Thomson, Millikan, and Rutherford built the steps which led, we might almost say inevitably, to the conquest of the atom and the unthinkable possibilities of the atomic bomb.

OPERATIVE TREATMENT OF PROSTATIC CANCER

Before his much-regretted death Hugh Hampton Young, of Baltimore, reviewed[1] the success of his operation of radical perineal prostatectomy as a method of curing carcinoma of the prostate—a review that was timely because of the startling appearance of stilboestrol on the therapeutic stage. Young's results are good: in a series of 184 cases there were only 12 deaths, and nearly 50% of the patients are judged to have been cured, 38 cases having been followed up through periods varying from 5 to 27 years. The paper describing these results is long, and gives in much detail and with good illustrations the steps of Young's operation. The prostate, seminal vesicles, adjacent portions of the vasa efferentia, the lowest part of the trigone, and a portion of the urethra at the apex of the gland are removed, the operation being concluded by the approximation of the bladder to the membranous urethra by sutures, and drainage provided by a urethral catheter. Surgeons who have employed the perineal operations for removal of simple enlargements of the prostate will be well aware of certain advantages inherent in this approach, notably a lessening both of shock and of the liability to pulmonary complications in old men, for often with advancing age the chest no longer expands easily, and tidal air is therefore much diminished when the abdominal respiratory movements are involuntarily limited as a result of surgical incision. But they will also realize that an error in technique during the early stages of the operation may lead to tearing of the rectum, though those who are practised in this method will avoid this without difficulty. A more serious danger belonging to the radical prostate-vesiculectomy is the risk of occluding the ureters by sutures placed too close to them during the reconstructive stage of the operation. Another complication, not so serious but in some ways more disastrous, is that the patient may be left with urinary incontinence. This Young considered to be due to injury to the nerve supply to the compressor urethrae, but to other surgeons it seems possible that it may also result from a drag by the bladder upon this part of the urethra; this, by converting it from a cylindrical form into a funnel-shaped passage, prevents the compressor from acting upon it with full effect. Young stated that he had overcome this difficulty; but the fact remains that, even in his own country, his radical operation is not generally employed, and it seems likely that it is the fear of this complication, productive of so much misery when it does arise, which deters other surgeons from adopting what must certainly be described as an operation of precision designed to cure prostatic carcinoma.

The claim that Young's radical operation really provides a cure has a sound basis in the fact that during its early stages the disease frequently has only a local distribution. If it exists alone it begins in the posterior lobe, and as it develops it spreads upwards beneath the trigone and around the seminal vesicles. If it exists in conjunction with benign enlargement of the gland it may also originate in the posterior lobe, or nodules of carcinoma may be found in outlying portions of the adenomata. Young's operation removes the whole of these tissues included within the anatomical prostatic capsule, and also the anterior layer of Denonvillier's fascia, which for some time constitutes a barrier to the disease. The operation is imperfect when compared, for example, with that for carcinoma of the breast, because it is impossible to remove the pelvic lymph glands which drain this field; and it is imperfect, as all operations for cancer are, because of the possibility that distant metastases may already be present before it is undertaken. To these objections Young replied that his statistics show that his operation does effect a cure in a high proportion of cases. Urologists in this country will not dispute this, but they will ask themselves how often they meet with cases in which the disease is still confined to tissues which can be surgically removed. And here they will come up against Young's statement that "cancer of the prostate occurs in at least 14% of all men past 44 years of age." Will they and general practitioners of long experience accept this dictum? Admittedly cancer of the prostate is occasionally diagnosed when, a supposed adenomatous prostate having been enucleated, the microscope proves certain portions to be malignant. Equally certain is it that careful rectal and bimanual examinations will enable a skilled surgeon to recognize prostatic cancer in the great majority of cases, provided that the patient has symptoms which make him seek medical advice. But the symptoms of this disease are even more insidious than are those of prostatic hypertrophy, and it is the undoubted opinion of British urologists that cases of prostatic cancer commonly present themselves when the disease is far too widely spread, metastases in bone frequently being present, to be eradicated by any form of operation.

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[1] *J. Urol.*, 1945, 53, 185.

Treatment with stilboestrol has therefore been widely welcomed. Claims for the efficacy of this have been exaggerated, but undoubtedly it often gives relief from symptoms and places a temporary check upon the progress of the disease. As for other attempts to arrest the disease, radium treatment is advocated by some but has not generally met with approval. Technically, the implantation of radium into the prostate can be conducted with precision, but unfortunately the passage of the needles breaches the barriers which confine the disease and malignant emboli are not infrequently liberated. Deep *x*-ray therapy by itself has so far not given much help, though it should be used as an aid in certain circumstances; and so when, in spite of stilboestrol dosage, difficulty in micturition becomes important a choice has to be made from other methods available for relief. The passage of bougies, which avails nothing in benign prostatic enlargement, sometimes suffices to improve micturition in cases of cancer. Permanent suprapubic cystostomy is of proved value, provided the operation is properly performed and the patient trained in the management of his apparatus. But perurethral prostatic resection, when practicable, is the method of choice. It is commonly more easy to perform in cancer than in benign enlargement, for the reason that haemorrhage tends to be less. It does not, as has been stated, hasten death by spreading metastases, and it does not usually need to be repeated. Of course none of these procedures delays the fatal issue due to uraemia, which is so often brought about by the involvement of both ureteric orifices in the upward extension of the growth. Young's operation is designed to prevent this, but cases must be found in a state still amenable to radical surgery, and the patient must be prepared to face the possibility of some imperfection in urinary control.

PHYTIC ACID AND CALCIUM DEFICIENCY

Some twenty years ago Mellanby noted that the addition of certain cereals to diets low in calcium led to severe rickets in growing animals, thus confirming the clinical observation, made in Trousseau's day (1865), that diets consisting largely of cereals, particularly oatmeal, predispose to rickets. It has since been shown that this rachitogenic action of cereals is due to the presence of phytic acid (inositolphosphoric acid), which forms an insoluble compound with calcium in the gut, thus preventing its absorption. Not only is calcium precipitated and lost to the body but also the phosphorus in the inositol and some of the iron present in the gut.[1, 2] Phytic acid is widely distributed in foodstuffs, particularly cereals, of which it constitutes from 50 to 70% of the phosphorus. It is therefore easy to understand that a diet mainly of cereals and poor in calcium may cause rickets. Whole-grain flour contains more phytic acid than white flour, and although it contains more calcium and phosphorus than the latter it is an undisputed fact that in the experimental animal it is more rachitogenic. The advocates of the white loaf have therefore argued that flour of high extraction, such as wholemeal or the 85% extraction flour introduced between 1942 and 1944, is undesirable unless fortified with calcium. The objection is largely a theoretical one unless a diet containing much bread and little calcium is consumed. Has it ever been shown that the incidence of rickets is greater in those parts of Europe where whole-grain bread is consumed than in Britain or America, where the bread most favoured is white? Moreover, there is abundant evidence that in whole-grain bread as normally prepared much of the phytic acid is inactivated. When dough is made from flour it is allowed to "rise" for some hours, and Mellanby[3] has shown that the enzyme phytase present in the flour and yeast destroys most of the phytic acid while the dough is rising. This is a practical confirmation of the observation made by Mellanby[4] six years ago that the rachitogenic effect of phytic acid disappears on hydrolysis. It is therefore probable that, under ordinary conditions of baking, brown bread is not appreciably more rachitogenic than white. There are reasons, however, for believing that the rachitogenic properties of oatmeal are retained when it is served on the table. Oatmeal is generally eaten as porridge, and when it is boiled with water the phytase is destroyed before it can inactivate the phytic acid. McCance and Widdowson[5] have also shown that oats contain much less phytase than wheat. Porridge is largely eaten by the lower-income classes, and often with insufficient milk. If it is taken with plenty of milk there is enough calcium in this to offset the rachitogenic action of the phytic acid. It is more than possible that a high consumption of oatmeal with insufficient milk may be associated with rickets in infancy and decalcification in adolescence.

McCance and Widdowson[6] state that when brown bread forms about half the calories of the diet—a very high proportion—calcium absorption is not so good as when an equivalent quantity of white bread is eaten. They recommend the addition of calcium to correct this defect, although Krebs and Mellanby[7] and Cruickshank[8] think that this may not be necessary. What is important is the phytic acid/calcium ratio of the diet as consumed. There is insufficient evidence to prove that brown or high-extraction bread is likely to cause decalcification when eaten as part of a mixed diet containing adequate calcium. When it is eaten in large quantities as part of a diet low in calcium, decalcification can occur. This is particularly true in China and the East, where diets consisting mainly of cereals are thought to be an important contributing factor in the pathogenesis of osteomalacia,[9] which is the adult equivalent of rickets due to calcium deficiency modified by the absence of growth.

CHILDREN WITHOUT HOMES

A special committee of the British Medical Association has prepared a memorandum of evidence for submission to the Interdepartmental Committee on the Care of Homeless Children. The problem of the homeless child and the child separated from its home was examined earlier in the year by a conference of expert practical workers convened by the Women's Group on Public Welfare. Its report,[10] containing seven full-length lectures and notes of discussion, has covered much of the ground, at any rate so far as this country is concerned. As was to be expected, the speakers confirmed and amplified the views set out by the Provisional National Council for Mental Health in its

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[1] *Lancet*, 1943, **2**, 126.

[2] *J. biol. Chem.*, 1943, **147**, 59.

[3] *Nature*, 1944, **154**, 394.

[4] *Biochem. J.*, 1939, **33**, 1660.

[5] *Nature*, 1944, **153**, 650.

[6] *J. Physiol.*, 1942, **101**, 304.

[7] *Biochem. J.*, 1943, **37**, 466.

[8] *Nature*, 1943, **152**, 384.

[9] *Chinese med. J.*, 1942, **61**, 61; 1944, **62**, 1.

[10] *Children Without Homes.* 1945. London: National Council of Social Service, 26, Bedford Square, W.C.1. 2s.

memorandum on the care of children brought up away from their own homes.[11] Miss L. Rendel, who has done outstanding creative work with the Caldecott Community, estimated the number of homeless children at over 100,000, and declared that little accurate co-ordinated information about their education, treatment, and after-care is available. Many central and local authorities and many voluntary agencies are dealing with them sporadically. Probably none of the many homes considers itself adequate to meet its problems; all suffer from inadequacy of staff both in numbers and in knowledge. Unless the Government establishes some central body, with power to direct and help, confusion may reach a dangerous level. The primary necessity, Miss Rendel held, is that the best method should be sought for each child; schemes must therefore have infinite variety. Any scheme of unification must, she said, include a system of reception or allocation centres to find suitable environments for the children and suggest improvements in existing residential institutions. The adoption system, even under the new Act, leaves much to be desired, and speakers declared that adoption should be arranged only by qualified people and should be far less freely used. Mr. B. E. Astbury, of the Charity Organization Society, regards it as absolutely essential that every unwanted child should become a ward of the State.

The boarding-out of children with foster-parents has definite advantages over other types of care, because it can put the child in a family environment. Children must, however, be placed by skilful, sensible people who can fit the child to the home; supervision must be carried out by people who are able to take an all-round view of the child's life. Miss M. Dyson, of Dr. Barnardo's Homes, laid stress on the psychological testing of foster-home children and the importance of ascertaining the mental defective before he goes out to a family whom he will bitterly disappoint. All workers agree on the paramount importance to a child of home influence. The West Sussex Children's Homes, which are housed in eight cottages and a detached nursery in the midst of fields, give something approaching a real home life, and are especially valuable to children starting out to find their first jobs. Approved schools, at their best, teach boys and girls to become decent men and women and to live with others; they really seem to inspire affection in their charges. In placing children in work vocational guidance is proving more and more valuable, especially if temperament is tested as well as intelligence. Few people realize the great difficulty and importance of after-care for children who have been placed in jobs. Its object, Miss M. Chavasse (also of Dr. Barnardo's) explained, is not merely to keep the children out of prison but to give them the best possible substitute for a parent and a friend who will stick to them through thick and thin.

Staffing in these days is perhaps the most difficult part of the whole problem. Dr. R. E. Lucas, of the Tavistock Clinic, spoke of job analysis, the diagnosis of the individual, and an assessment of his personality trends, but he did not and could not indicate where the candidates were to come from. He did, however, make the important point that to raise the standard for admission to a job does not discourage applicants but attracts a better type of candidate, even if the salary is not raised. He suggested that some central body should conduct a recruiting campaign, and that the various organizations should appoint a matron and a medical psychologist to advise organizations and authorities over a wide area. The training of staff, according to Miss A. A. M. Wilson, who spoke for the Associated Council of Children's Homes, should aim at helping the students to know and understand more about children themselves and society, to deepen their experience of spiritual truth, and to bring to them the importance of presenting to the children the right kind of life, and living it. The Government has recognized the need for concerted action by appointing the Interdepartmental Committee between the Home Office and the Ministry of Health, to which the B.M.A. is offering expert evidence from the medical point of view. The problem of children deprived of a home or parental care is far too urgent to be shelved any longer.

VAGOTOMY FOR PEPTIC ULCER

Since it is generally admitted (1) that most gastro-duodenal ulcers are associated with hypersecretion of gastric juice, (2) that psychological factors are important in exacerbating ulcer symptoms, (3) that peptic ulcers may arise in experimental animals, and sometimes clinically in man after lesions of the vegetative centres in the hypothalamus, and (4) that the vagi are the extrinsic secretory nerves of the stomach, it would seem logical to examine the effect of operative division of the vagi in patients suffering from peptic ulcer. The vagi are accessible where they lie on the oesophagus at its emergence from the thorax into the abdomen, but their arrangement at this level is rather variable; certain gastric branches have already separated, a plexiform arrangement of multiple cords may replace the two main trunks, and operative intervention seldom effects a complete vagal denervation of the stomach. The alternatives are to divide the gastric nerves peripherally as they approach the curvatures, and to divide the main vagal trunks within the chest. Dragstedt and Schafer[1] have adopted the latter method in thirteen patients with duodenal ulcer, one patient with gastric ulcer, and one patient with jejunal ulcer. After extensive resection of the seventh or eighth rib and cartilage on the left side the left lung is mobilized by ligation and division of the inferior pulmonary ligament, and retracted upwards by a round broad-bladed retractor. The pleura over the lower 10 cm. of the oesophagus is opened, and the oesophagus is mobilized and elevated outwards. Both main vagus trunks and all separate nerve cords on the surface of the oesophagus are identified without difficulty, ligated, and divided. The proximal ends of the divided nerves are then sutured to the pleura to prevent regeneration, the oesophagus is replaced in its bed, the pleura is sutured, and the wound is closed without drainage. The patient begins to get up twenty-four hours after operation.

The patient who had suffered from gastric ulcer was apparently entirely cured, as judged by relief of symptoms and disappearance of skiagraphic and gastroscopic signs. The patient with jejunal ulcer, though improved, has continued under medical management. All but one of the patients with duodenal ulcer were improved or cured. Three patients developed signs of gastric stasis after the operation, and one of these proceeded to an acute dilatation of the stomach; all three were relieved by gastro-jejunostomy. This, the only serious disturbance in the physiology of the vagotomized stomach, is doubtless due to the removal of the evacuant vagal function. In all cases the excessive continuous night secretion of gastric juice was much reduced by vagal section. It is not stated whether the patients who were cured or relieved remained symptom-free under normal civilized conditions of diet, environment, and employment, and to what extent they tolerated, after operation, the fatigue, anxiety, overwork, and irregularity of diet which the normal healthy adult expects to support without symptoms of dyspepsia. That the standards of cure approached this exacting criterion, which must be the aim of treatment in gastro-duodenal disease, is suggested by the statement that only one patient remained under medical management. The authors conclude that "the striking improvement in these patients is in harmony with the view that gastro-duodenal ulcer is a psychosomatic disease, and that the central nervous system affects the stomach via the vagi, probably chiefly through greatly augmenting the secretion of gastric juice."

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[11] *British Medical Journal*, Sept. 22, 1945, p. 394.

[1] *Surgery*, 1945, 17, 742.

THE ANTINARCOTIC CAMPAIGN IN EGYPT

Sir T. W. Russell Pasha, Director of the Central Narcotics Intelligence Bureau, in his report for 1944 to the Egyptian Government reviews with well-merited satisfaction the achievements of the Narcotics Bureau during the sixteen years of its existence. When the crusade against the illicit traffic was started "the country was in what seemed to be an almost hopeless state of addiction to heroin." The seizure of heroin in 1944 amounted to 1½ grammes, compared with 80,000 grammes in 1929. This "happy immunity" is, however, partly attributable to the wartime closure of Egyptian ports to sea-borne drug traffic, but also in large measure to the work of the League of Nations in securing international control over cultivation and trade in opium as "the basic source of most of the habit-forming drugs." While the heroin problem has diminished, the seizures of hashish have, however, gone up during the last five years to an annual average of 1,688 kilos, against 723 kilos in 1939, and the seizures of opium increased by 40% in 1943. These drugs are smuggled into Egypt through a hundred-mile strip of desert which is constantly crossed by streams of military vehicles whose drivers, of many nationalities, make money by lifting the goods across the frontiers. Most of the hashish seized is grown in the Lebanon and Syria, but opium seized in Palestine after transit through Syria and the Lebanon must have come from outside. The Director is concerned about the future of alkaloid factories in the Balkans and Central Europe as sources of contraband traffic, and has received assurance that Allied control will at once be placed on these avenues of illicit trade as occupation is effected. As to the relative evils of hashish and opium addiction no doubt is entertained that while the former "are harmful the latter are deadly"; moreover, the danger is "that hashish and opium addiction predispose to heroin addiction." While in 1944 some 1,000 acres of cannabis were pulled up and 50 tons of hashish burnt, the bulk of the remaining 30 tons entered the Egyptian market, representing £E6,700,000 in the wholesale. As the report concludes, "the squandering of these vast sums of Egypt's money in smokers' dreams can only be considered a national calamity."

LIGATION OF PATENT DUCTUS

During the last few years the surgery of the heart has made remarkable progress. One of the most interesting developments is ligation of the patent ductus arteriosus. Rae Gilchrist[1] has reported 14 cases, Geoffrey Bourne[2] 11, Terence East[3] 13, and Holmes Sellors[4] 10. Cases of patent ductus arteriosus may be divided into two groups: the infected and the uninfected. In probably about half, and perhaps more, of those patients who die from the defect the ductus is infected.[5] But the chances of cure of an infected case by ligation are good, a survey of the various series showing that about two out of three are saved. There are clear reasons why operation may fail to cure. There is always the possibility that the pulmonary valves, or the aortic and mitral valves, may become attacked. Ligation of a ductus full of clot may fail to close it. The patients are sometimes very ill and there may be infarcts in the lungs. No doubt early diagnosis of infection and prompt treatment offer the best chance of success. Perhaps penicillin will prove to be useful in these cases, for the results of the treatment of early cases of bacterial endocarditis are encouraging; at present there can be little doubt that surgical treatment of an infected ductus should be undertaken as soon as possible.

Patients who have not become infected may have ligation done to protect them from infection, and also from the possibility of heart failure. A patent ductus has a variable effect on growth and development. Some children grow up well and healthy; others are weedy, stunted, and backward; and the ultimate prognosis, apart from the risk of infection, cannot be good, for it is rare to meet with cases after middle age. Apart from this, the presence of such a lesion will debar the owner from life assurance, many avenues of employment will be closed to him, and his life will probably become more and more restricted. To be able to eliminate all these disadvantages with a minimum of risk is certainly desirable. The risks of operation seem to be quite small. Haemorrhage and infection have been recorded, and in some cases ligature appears to have been ineffective; but these technical difficulties should disappear in time. A small effusion may form, a small pneumothorax may be left, or there may be a certain degree of collapse of the lung: these soon clear up with breathing exercises. Children between the ages of 6 and 12 tolerate the operation extremely well. Later on, the enlargement of the pulmonary artery may introduce difficulties and the ductus may be very short; the operation also causes more disturbance. In adults cardiac embarrassment would be an indication for operation. Probably the best time for surgery is soon after the sixth year, when the operative disturbance is relatively slight, and a lesion can be removed which may impair growth and development and incur the grave risk of infection. The immediate benefit in some children may be most striking.

NOBEL PRIZE FOR MEDICINE

It was announced in Stockholm on Oct. 25 that the Nobel Prize for Medicine for 1945 has been awarded jointly to Sir Alexander Fleming, F.R.S., F.R.C.P., F.R.C.S., professor of bacteriology, University of London, at St. Mary's Hospital Medical School; Sir Howard Florey, Ph.D., M.B., F.R.S., professor of pathology in the University of Oxford; and Dr. Ernst Boris Chain, lecturer and demonstrator in chemical pathology in the University of Oxford. This award is made by the Karolinska Institute for the discovery of penicillin and its healing effects. The Institute recognizes Sir Alexander Fleming as the real discoverer of penicillin in 1928, and praises Sir Howard Florey and Dr. Chain for exploiting his discovery by experimenting with its effect upon mice to the advantage of humanity. Penicillin, the announcement says, has rendered mankind one of the greatest services. It was in 1938 that a team of research workers at the Oxford School of Pathology began their investigations on the therapeutic uses of penicillin. The Nobel Prizes are awarded from a fund bequeathed by Alfred Nobel, who died in 1896; no awards were made for the years 1940, 1941, and 1942.

The Council of the Royal College of Surgeons of England is prepared to consider applications from demobilized officers for assistance in the completion of research work on which they have been engaged while serving in the Royal Naval, Army, or Royal Air Force Medical Services.

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[1] *Brit. Heart J.*, 1945, **7**, 1.
[2] Ibid., p. 91.
[3] Ibid., p. 95.
[4] *Lancet*, 1945, **1**, 615.
[5] Keys, A., and Shapiro, M., *Amer. Heart J.*, 1943, **25**, 158.

A NOTE ON DIPHTHERIA INCIDENCE IN CERTAIN EUROPEAN COUNTRIES

BY

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England and Wales

In England and Wales diphtheria morbidity and mortality have alike shown a spectacular decline within recent years. The year 1944 provided the lowest incidence and mortality ever recorded; and this gratifying state of affairs is to be traced to mass immunization of children against diphtheria, which, begun in 1940, has since continued without interruption. Between 1940 and 1943 no fewer than 4,829,115 children under 15 years of age had been immunized—the estimated population of those ages in 1943 having been 8,583,000. Analysis of the returns made for 1943 shows the following rates:

Annual rates of incidence per 1,000 child-years:	
(*a*) In immunized children	1·16
(*b*) In non-immunized children	4·06
Annual rates of death per 1,000 child-years:	
(*a*) In immunized children	0·0104
(*b*) In non-immunized children	0·260

The estimated death rate in 1943 from diphtheria was about 25 times as great among the non-immunized as among the immunized. In the two years 1942 and 1943 the ratio was about 23 to 1.

But England's experience in this respect has not been paralleled by that of many other European countries, certainly not in France, Germany, Belgium, the Netherlands, and Norway. Of all the communicable diseases, diphtheria has shown in those countries by far the greatest increase during the war period; and this increase has been greatest in countries—e.g., the Netherlands and Norway—where the disease had in pre-war years reached the lowest level and where in consequence the proportion of susceptible individuals was highest.

France

In France, despite the proportion of children of school age inoculated against diphtheria with Ramon's diphtheria toxoid, a very considerable incidence was observed each year—an incidence which has become significant since 1941. Thus, whereas the average annual incidence during the 11-year period 1928–38 was 19,371 cases (maximum 23,714 in 1930 and minimum 16,264 in 1936) and the median for the same period was 19,893, the number of cases, which had dropped to 14,019 in 1939 and to 13,568 in 1940, rose steeply to reach 46,539 in 1943—i.e., an increase in the morbidity rate per 100,000 from 32.3 (in 1940) to 110 (in 1943). The first half of 1944 provided 22,179 cases, as against 22,957 in the corresponding 6 months of 1943; thus showing little reduction from the abnormal increase of 1943. During 3 months of the latter half of 1944—from August to October—the number of cases fell to 6,030, as against 10,025 in the same period of 1943. Thus 9 months of 1944 yielded 28,209 cases, as compared with 32,982 in the corresponding 9 months of 1943, and with the median figure of 14,083 for the same period. The 1944 incidence in France has therefore been twice as great as in ordinary years, and the morbidity rate per 100,000 has been 90, as against 110 in 1943 and 32 in 1940.

As regards mortality, the proportion of deaths to cases would appear to have remained unaltered. In this connexion the mortality rates per 100,000 inhabitants of certain French towns during 1938 are of interest:

Town	Mortality Rate per 100,000	Town	Mortality Rate per 100,000
Bordeaux	1·9	Montpellier ..	3·3
Dijon	2·1	Nancy	3·6
Lille	6·5	Nantes	1·0
Lyons	3·2	Paris	2·5
Marseilles	4·7	Saint-Etienne ..	10·0

Greater Germany

In Greater Germany the number of cases in the first 40 weeks of 1944 is stated to have been 204,361, as against 197,831 in the corresponding period of 1943. This increase proves that the incidence, which has been progressively rising since 1939, is continuing on a still higher level. In the 11-year period 1928–38 the annual median was 78,452 for the Altreich, but epidemic peaks had been observed in 1928–9 and in 1935–7. The occurrence in the Altreich of 446,333 cases in the 3-year period 1936–8 had already placed diphtheria among Germany's major public health problems, but the position in the succeeding 5 years was aggravated in the territory by a rise from 143,584 in 1939 to 238,409 in 1943. In Greater Germany between 1939 and 1943 the incidence rose from 174,891 to 196,568 cases. As in other countries, distribution has been unequal; thus whereas the incidence was relatively low in Hamburg, Oldenberg, Bremen, Brandenburg, Württemberg, and Baden, it was high in East Prussia, Saxony, Silesia, Anhalt, Westphalia, and Bavaria.

As regards case mortality, the percentage fatality between 1934 and 1938 was respectively 4.6, 4.7, 3.8, 3.7, and 3.5. In 1939 it was 5%. In 1944 the case mortality rose to over 6%—thus showing an increase of 70% between 1938 and 1944; and it may be confidently asserted that, in view of the very large number of cases under consideration, the increase can scarcely be regarded as accidental.

In the Altreich, morbidity rates have risen during the past 5 years from 180 in 1939 and 174 per 100,000 in 1940 to over 300 in 1943 and 1944; while in Greater Germany the corresponding rates have been respectively 184, 179, and 315 per 100,000.

The severity of the type of diphtheria in Germany is further reflected in the fatality rates per 100,000: (*a*) in the Altreich between 1936 and 1939, and (*b*) in the Grossreich between 1940 and 1944.

Mortality Rates per 100,000 between 1936 and 1944

Altreich		Grossreich	
Year	Rate per 100,000	Year	Rate per 100,000
1936	9·3	1940	9·0
1937	8·4	1941	11·0
1938	8·4	1942	15·5
1939	9·3	1944	18·0

The reason underlying the high morbidity in Germany and its incorporated territories is largely determined by the absence of any nation-wide policy of immunization comparable to that so successfully applied in Great Britain. On the other hand, a large-scale campaign was introduced in the pre-war period in Western Germany, while an increase in diphtheria morbidity and mortality has since led the Reich and Prussian Ministry of the Interior to approve immunization in those parts of Germany particularly affected. Moreover, immunization is compulsory for all youths at the beginning of their Landjahr—i.e., their year of agricultural service.

Belgium

In Belgium, incidence—which had risen alarmingly from 2,419 cases in 1939 (and a yearly median of 2,089 cases) to 16,072 cases in 1943—showed a decline after the first quarter of 1944. As a result the total incidence in the first 11 months of 1944 was but 6,112 cases, as compared with 13,681 in the corresponding period of 1943. The following tabular statement provides figures to illustrate the trend quarter by quarter in 1943 and 1944.

Diphtheria Incidence in Belgium by Quarters, 1943–4

Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter (2 months)	Jan. to Nov.
1943 ..	3,085	2,885	3,621	4,090	13,681
1944 ..	3,373	1,398	647	694	6,112

The importance of the diphtheria impact on Belgium will be appreciated from the fact that between 1928 and 1938 the average number of cases annually reported was 2,111, while the average number of deaths from diphtheria was no less than 446 yearly during the same period. The subjoined table shows for the period 1930–8 the number of cases and deaths, morbidity and mortality rates per 100,000 inhabitants, and the percentage of case mortality. Morbidity and mortality rates have been calculated on a population increasing from 8,092,000 in 1930 to 8,386,000 in 1938.

Diphtheria in Belgium, 1930–8

Year	No. of Cases	Morbidity Rate per 100,000	No. of Deaths	Percentage Case Mortality	Mortality Rate per 100,000
1930	2,848	35·2	505	17·7	6·2
1931	2,016	25·0	455	22·0	5·6
1932	2,265	28·0	464	20·4	5·8
1933	2,169	26·2	470	21·2	5·8
1934	2,339	28·2	382	16·3	5·7
1935	1,780	21·4	384	21·5	4·6
1936	1,916	22·8	377	19·6	4·5
1937	2,090	24·8	476	22·8	5·7
1938	2,572	30·7	499	19·4	5·9

In 1940 the incidence rose considerably; in 1941 it was already twice the average (with 4,271 cases); and 1942, with the still higher incidence of 5.464 cases, paved the way for the explosive outburst of 1943, which provided 16,072 cases—an incidence nearly 8 times the average. The year 1944 saw a continuation of epidemic prevalence only until March, since when the curve of the incidence has fallen rapidly. November, with 447 cases, showed an incidence about one-fifth that of Nov., 1943, but one still nearly twice the normal.

It is of interest to compare the mortality of 1921 with that obtaining within recent years; in 1921 there were 884 fatal cases—representing a mortality rate of 11 per 100.000, as against the 6 reported to-day. It is stated that the mortality rate for children beween the ages of 1 and 15 years was 34.6 per 100,000 in 1910, as against 20.3 between 1929 and 1931 and as compared with 15.0 in the Netherlands. In this connexion also the 476 diphtheria deaths in 1937, which represent an overall mortality rate of 5.7 per 100 000, have to be contrasted with the Netherlands rate of 1.4 in the same year.

As regards prophylaxis, immunization with Ramon's antitoxin has been fairly widely attempted, but is not compulsory.

The Netherlands

Caught up in the epidemic wave which swept over Western and Central Europe during 1942 was also Holland, from which country the wave shows even now little sign of receding. In a country where incidence during the 11-year period 1928–38 averaged 3,700 cases annually and deaths from diphtheria 210, the number of cases, which in 1939 had reached the low figure of 1,273 (14.7 per 100.000 inhabitants), totalled 5,501 in 1941, 19,527 in 1942, and 56,603 in 1943—representing morbidity rates per 100,000 of 63.6, 226, and 655. The 1943 incidence was thus 44.5 times greater than that of 1939 and 15 times the 1928–38 annual average. It is somewhat difficult to estimate the 1944 trend of the disease, as statistics are far from complete. The occurrence of 20,669 cases in the first quarter alone, however, showed that the epidemic had reached new heights, the incidence having been nearly twice that of the corresponding quarter of 1943. Moreover, that the incidence continued on this unprecedented high level during the second quarter is proved by the following returns: April (3 weeks), 3,938 cases; May (2 weeks), 2,262 cases; and June (complete), 4,293 cases. It would be safe to assume that the second quarter yielded, therefore, about 14.068 cases, making the first half-year's total 34,737, as against 19.627 in the corresponding half of 1943. July provided 3,674 cases and August (3 weeks) 3,182, as against 2,658 and 3,466 in the complete months of July and August in 1943.

Although figures have not been made available since Aug. 20 it is evident that 1944 has provided an even greater diphtheria problem than did 1943. With some 43,654 cases in the first 8 months and incidence during the remaining 4 reported as being not less than in 1943, it would appear that 1944 constituted the peak year of the war period.

In explanation of the ravages made by diphtheria in the Netherlands it has been advanced that the immunization programme, which in respect of school-children was formerly widespread but not universal, was not carried out during the war years. Thus two-thirds of the children from 6 months to 12 years of age in the liberated areas of Holland have not been immunized against diphtheria. (A new immunization campaign, however, has now been started.)

During the epidemic years it is noteworthy that the case *fatality rate* has not increased—remaining, as in non-epidemic times, somewhere between 4.5 and 6.9%. Thus the case mortality rate in Holland is similar to that in Germany, but much lower than that in Belgium.

The following table shows the distribution of diphtheria in the four provinces of Limburg, Zeeland, Noord Brabant, and Gelderland during the years of occupation.

Diphtheria in Holland, 1940–4

Province	Population	Number of Cases				
		1940	1941	1942	1943	1944
Limburg	653,000	681	2,322	3,699	4,311	1,793*
Zeeland	254,000	9	35	333	965	493†
Noord Brabant ..	1,103,105	436	1,308	2,872	2,798	1,612†
Gelderland ..	993,000	139	515	2,434	5,676	3,578*

* To September. † To August.

In the year 1943, in respect of which complete returns are available, the morbidity rates per 100,000 are thus shown to have varied widely, but in all cases to have been extremely high—viz., Limburg, 660; Gelderland, 572; Zeeland, 380; Noord Brabant, 254.

Norway

Norway in 1939 had but 54 diphtheria cases; in 1943 it had 22,787. Thus with a morbidity rate per 100,000 mounting within 5 years from 1.8 to 760, Norway has earned the unenviable distinction of being the most intensely infected country during the worst diphtheria wave Europe has experienced in 50 years. Now, diphtheria incidence in Norway had been decreasing regularly during the decade immediately before the outbreak of World War II; and, because it was not considered necessary, immunization had not been carried out. But after the German occupation of the country the whole picture changed dramatically, apart from the fact that clinically the disease would not appear to have been more malignant than before, the case mortality still varying between 3.4 and 6.9%. In the autumn of 1941 diphtheria broke out in epidemic form, with the result that by the end of that year 2,611 cases had been reported, as compared with 138 in 1940. In 1942 the disease took heavy toll of the susceptible population, and 8,349 cases were notified—the incidence having been some three times higher in the towns than in the rural areas, and especially high in Stavanger. During this period the extension of diphtheria was mainly from the ports towards the interior and from the south northward. In 1943, when with 22.787 cases the overall morbidity rate of 760 per 100,000 had been reached, the incidence was no less than 3,400 per 100,000 of children under 15 years of age—the highest recorded in Europe during the war. Indeed, the only comparable attack on child life experienced in this war epidemic was in the Netherlands, where during the 3 years between April, 1941, and March, 1944, 102.726 diphtheria cases were reported among a population of 8,640,000, of which about 2,500.000 were under the age of 15 years. From this it emerges that during the 3 years under review as many as 4% of the child population in Holland between 1 and 15 years fell victim to the attack. In Germany the incidence among children under 15 years of age during 1943 was one-half that encountered in Norway in the same year.

After incidence began to rise in so alarming a fashion, active immunization is stated to have been made compulsory for school-children in Oslo and in many other cities, yet in 1942 only 15.000 were reported to have been thus protected. The temporary lack of toxoid was the reason assigned for so unsatisfactory a result of the immunization campaign. In any case, the campaign was launched too late to arrest the outbreak in its early stages.

As regards 1944, statistical data are incomplete. The disease would, however, appear to have declined somewhat, although in the first quarter of the year 4.884 cases were reported, as against 4,391 in the corresponding quarter of 1943. In the second quarter 1944 produced 3,215 cases; 1943 in the same period had 4.017; while the combined incidence of July and August in 1944 totalled but 1,321 cases, as against 3,410 in the corresponding 2 months of 1943. Thus in 1944 between January and August there were 9.440 cases, as compared with 11.908 in the same 8 months of 1943; the incidence, therefore, was still 18 times higher than the median (521).

Observations

From 1941 there has been in Northern and Central Europe an increase in diphtheria incidence unparalleled since control of the disease became possible.

Diphtheria has proved to be the leading epidemic war disease on the European continent, both in morbidity and in mortality.

Only in such countries as have pursued a vigorous immunization campaign over a period of years has a reduced incidence been observed.

The continued high incidence, with a proportionate increase in the number of carriers, places diphtheria high on the list of post-war problems in Germany and the liberated countries of the north and west.

PUBLIC HEALTH'S DEBT TO EXPERIMENTAL RESEARCH

LECTURE BY SIR WILLIAM SAVAGE

The Research Defence Society on Oct. 12 resumed its series of annual Stephen Paget memorial lectures, which had been interrupted by the war. This, the fourteenth, lecture was given by Sir William Savage, lately County M.O.H. for Somerset and a former president of the Society of Medical Officers of Health. He took as his subject "Public Health and its Debt to Experimental Medical Research." The chair was occupied by Lord Hailey, president of the Society.

Sir William began by pointing out that public health was not a pure science, or indeed a science at all; it embraced the application of all scientific knowledge which might be turned to its purposes. The chief contributing sciences to public health had been bacteriology, physiology (including biochemistry), and, to a less extent, chemistry. The development of many sciences, particularly physiology and bacteriology, had depended mainly upon experimental research requiring animal experiments, and many of the striking advances in public health merely reflected this knowledge as applied administratively. The whole of the indebtedness of public health to experimental medical research could not be comprehended in a single lecture; therefore he took some illustrative examples.

Control of Acute Infectious Diseases

Control over acute infectious diseases was rightly placed in the forefront of the work of a medical officer of health. Such control depended for its success upon the application of precise knowledge of causation, methods of dissemination of organisms responsible, control over spread of infection, and application of methods of immunization. Until bacteriologists and epidemiologists had established the factors concerned in this spread satisfactory progress was impossible. This potent weapon of accurate knowledge was largely due to bacteriology, and had been forged by laboratory workers with animal experiment as the necessary tool.

We now know enough to control the majority of infectious diseases, but to apply such knowledge was not always possible, and sometimes not worth while because of complicating social questions such as interference with the liberty of the subject, the reluctance of many persons to respond to preventive measures, and the likelihood that the inconveniences of control would loom larger than the damage resulting from infection.

His first example of a controlled disease was the enteric fevers. Deaths from typhoid and paratyphoid fevers numbered 371 to the million of population in 1871–5, and fell to 67 by 1911, and to 3 in 1939 and 1940. The initial decline was largely due to improved water supplies and sewage disposal. Meanwhile, field investigations and bacteriological studies showed infected shellfish and milk to be important conveyers of infection; but, while the vehicles were recognized, only rarely could the reservoir of infection and the path from reservoir to vehicle be traced. This knowledge presently emerged as the result of direct bacteriological studies which demonstrated that a material proportion of cured cases continued to harbour the typhoid bacillus and became chronic carriers. It thus became clear that, apart from direct contact infection, the chronic carrier was the key to the infection of new cases, though in paratyphoid fever the chronic carrier was often less important as an agent of spread than the symptomless recently infected person. It was also shown that food such as cream and milk was much more to blame than water as a disseminator of infection.

Recently it had been recognized that both typhoid and paratyphoid bacilli were not one and indivisible, but included a number of types to be differentiated by phage typing, thus enabling the association of a particular outbreak with infection from a carrier to be demonstrated with accuracy. Here Sir William Savage referred to the work of Bradley[1] in tracing the relationship of 22 cases, mostly in Buckinghamshire, notified over two years. These proved to be all of phage type D (an uncommon type), and all were directly traced to a milk producer who was a persistent typhoid carrier on a farm in Wiltshire, a hundred miles from the main cases in Buckinghamshire, the vehicle being milk.

Immunization against Diphtheria

Diphtheria illustrated a different point. Here, while there had been a marked decline in case mortality, until quite recently there had been no serious decline in prevalence. The deaths per million over the period 1856–65 were 247, gradually falling to 120 in 1910, to 88 in 1930, and to an average of 66 in 1936–40. The control covered three stages. The first stage was the recognition of the disease as a clinical entity, without any great knowledge as to its spread and with no specific method of treatment. The second stage started in 1894 with the introduction of diphtheria antitoxin and by the recognition that the usual method of spread was from case to case and could partly be controlled by swabbing and by other methods founded on bacteriological knowledge. Antitoxin, imperfectly used as it was at first, dramatically reduced case mortality. In Metropolitan Asylums Board hospitals the case mortality, which had ranged from 33 to 22 in 1890–5, had fallen to between 8.6 and 5.0 in 1920–5, and the greater part of this decline was due to the use of antitoxin; there was still no corresponding reduction in prevalence. The third stage was the introduction of specific immunization. This was introduced in 1926 in the U.S.A. and Canada, but in this country it had been widely practised only during the recent war. Sir William showed a table of the Canadian figures. In 1901 the deaths per 100,000 population were 35.4, and in 1920 they were still 25.7; in 1925 they were 8.1, and fell steadily until in 1940 they stood at 0.3. The incidence, which was as high as 205 per 100,000 population in 1920, was for the years 1938, 1939, and 1940 respectively 6, 4, and 2.

While efficient immunization protected the individual almost completely, statistical evidence of a general reduction in incidence was unlikely until a material proportion of the susceptible (school and pre-school) population—said by some authorities to be 50%, but he believed it to be higher—was protected; so that it was rather early to look for significant reductions in Great Britain, but the available figures were encouraging.

An Uncontrolled Disease

The lecturer's final example was whooping-cough, chosen as an illustration of the extent to which control depends upon having effective tools. Whooping-cough had been notifiable only for the last few years, so that exact figures of prevalence were not to hand; but there was little evidence of any decline in incidence. As a result of much greater care in management the deaths per million had declined from about 500, at which they stood in 1860–90, to below 100 from 1923 onwards. Deaths per million at ages 1 to 5 still remained considerable. The bacterial cause had been known for nearly forty years, but whooping-cough was so difficult to diagnose before spread of infection had taken place that it was doubtful whether control by ordinary measures was practicable. General immunization would not be worth while; on the other hand, immunization of children under 5, and especially under 2, would eliminate nearly all deaths and the bad after-effects. For this purpose a process of immunization was needed which was both effective and easy to operate.

These three diseases—the enteric fevers, diphtheria, and whooping-cough—illustrated contrasts. The first of the three was much reduced by general environmental means, but only up to a point; and continued progress depended upon accurate bacteriological knowledge and its application. Diphtheria responded not at all to measures of general sanitary improvement, and the whole cycle of control, reduction in case mortality, and final elimination turned entirely upon scientific knowledge largely gained from animal experiment. Whooping-cough was not controlled, and offered the prospect of a great reduction in child mortality only when the present valuable work on immunization became administratively practicable on a large scale.

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[1] *British Medical Journal*, 1943, 1, 438.

Environmental Improvements

How far were the more favourable health statistics due to general improvement in environmental conditions? When the Public Health Act, 1875, was passed, they were so deplorable that the primary need was to eliminate or improve them by purer water supplies, safe drainage, better food control, improved housing, and a higher living standard, all of which paid handsome dividends; but the stimulus to improvement, and to some extent the line the improvement took, were in large part derived from the growth of scientific knowledge, particularly of bacteriology. A study of public health legislation showed it to be recognized that as the grosser conditions were eliminated the dividends earned were reduced, so that further advances were associated with the application of exact knowledge to particular problems. This was well illustrated by two conditions specially susceptible to environmental improvements—namely, tuberculosis, and the group of conditions included under infant and maternal well-being.

The incidence of tuberculosis was much influenced by environmental factors, but problems connected with direct bacterial infection were also of supreme importance. Tuberculosis was influenced by two factors—the resistance of the individual and the invasive properties of the organism. Resistance was fortified by adequate nutrition, prevention of debilitating infections, and other factors, while invasion by the tubercle bacillus was greatly reduced in potency by keeping the dose of infection low. Hence the need for isolation of advanced cases, removal and treatment of active infective cases, and education of patients at home in anti-infective precautions. The decline in tuberculosis mortality was perhaps the most striking statistical fact in relation to public health.

Infantile Mortality

Again, the decline in infantile mortality in recent years was associated with better environment, but not with improvements in general sanitation. It was localized environment which had improved, and the mortality rate might be low even with bad sanitary conditions. There had been no marked decline in infantile mortality until after 1900, and it was quite unaffected by the bettering of the sanitary conditions which took place before then. The protected environment was one which shielded the infant from the various bacterial infections, especially those affecting the gastro-intestinal and respiratory tracts. The way to bring this environment into being was to be deduced directly from bacteriology and experimental research. It was true that the faulty general environment made control more difficult, but it was ancillary only, and its improvement alone was ineffective.

The downward trend of maternal mortality had been in evidence only since 1936, and was attributable to various factors—but, so far as puerperal sepsis was concerned, largely to the use of sulphonamide drugs and to a better knowledge of the bacterial causes and the practicability of excluding infection.

In concluding this part of his lecture Sir William Savage said that future progress in preventive medicine depended upon the collection and use of knowledge as to all factors which affected health. The two main sources for the acquisition of such knowledge were investigations in the sociological field based upon detailed comparative statistics, and, in the second place, the exercise of the experimental method. Both were valuable, and neither could be neglected without loss. The field method, however, had the disadvantage that there were too many variables, while experimental research could be freed from a multiplicity of variables, though it was limited in certain respects.

Control over Food Supplies

In the early days of public health, control over food supplies was based upon the prevention of chemical adulteration, better standards of cleanliness, and the elimination of gross pathological conditions. But it was soon evident that further progress could result only from the application of exact knowledge, much of it bacteriological. Sir William illustrated this by considering the diseases associated with milk and the problem of food-poisoning. About 40% of milking cows were affected with tuberculosis. True, only about 1% were excreting tubercle bacilli into the milk at any one time, but this involved an infection of the milk supply of from 5% to 7%. In 1929, when he compiled his book *The Prevention of Human Tuberculosis of Bovine Origin*, the number of deaths due to bovine tuberculosis was about 2,000 annually; it was now probably from 1,500 to 1,600. A good illustration of the value of experimental research in public health was the relationship of mastitis in cows to human infections. Acute and chronic mastitis was one of the commonest infections of the cow. There was a glaring discrepancy between the prevalence in cows and the rarity of infection in man, and it took him three years, using goats, to work out the relationship. He was able to show that the type of streptococcus which was the ordinary cause of bovine mastitis was harmless to man, and that the infections which caused human disease were associated with implantation of a pathogenic streptococcus of human origin in the cow's udder—a relatively uncommon mishap. He mentioned this as a comparatively clear-cut instance of the value of experimental research in clearing up public health obscurities.

In pre-bacteriological days there was no scientific knowledge of the causes of food contamination, and such scanty control as there was was exercised along wrong lines. The elucidation of the various bacteriological and chemical causes of food-poisoning had been mainly a laboratory affair, and would have been impossible without extensive animal experiments. It was now known that bacterial food-poisoning was not a problem of tainted or incipiently decomposing food, but was due to infection of food with specific organisms, such as the Salmonella group. With this knowledge the reservoirs of such organisms could be studied, as well as the paths by which they passed from the reservoirs to the food vehicles. Armed with these facts, it was possible largely to eliminate this type of food-poisoning. Thus food control, as a result of these investigations, had been removed from empirical guidance based upon the physical senses to a scientific foundation.

Experiments in Nutrition

Only during the last two decades (Sir William continued) had the paramount importance to public health of a sufficiency of basic foods been realized. This had come about along two lines of inquiry. The first was the discovery of vitamins and the recognition of their influence upon the health of man and animals. The basis of this knowledge was prolonged animal experiments. Concurrently with this laboratory work, public health field studies had demonstrated, on the one hand, that many people were not receiving even the minimum daily intake of essential foods, and, on the other hand, that this deficiency manifested itself in the development of pathological conditions such as rickets or simple goitre, and, less patently, in diminished resistance to infection. Field experiments had also proved that what had been regarded as good nutrition was not full nutrition, and that by the addition to the diet of selected foods rich in accessory substances children increased in height and weight and also improved in mental qualities. This optimum nutrition was being translated into administrative action in milk schemes for schools and in the provision of additional milk and accessory foods for expectant and nursing mothers and young children.

In conclusion, Sir William said that our community was now on the threshold of a third phase in the development of preventive medicine. The first phase was the drive towards environmental improvement; the second was largely one of attack on special diseases or conditions. The widening knowledge now permitted the passage of a third phase, which had as its aim the prevention of deviations from health from whatever cause. Such a new orientation implied that a full study of the causation of all diseases was within the scope of preventive medicine. This was an enormous claim which demanded better machinery of investigation, such as reliable morbidity statistics and accurate records of illnesses, close collaboration with medical practitioners, and detailed studies in workshops as well as in homes.

"Augustus found Rome of brick and left it marble. Much of public health is still of brick, but its foundations are well and truly laid. Give us the stones—in the findings of experimental research—and we will turn the structure to dazzling marble."

A vote of thanks to Sir William Savage was carried on the proposition of Prof. A. V. HILL, seconded by Major Gen. H. MARRIAN-PERRY.

TRAINING AND QUALIFICATIONS OF DIETITIANS

MEMORANDUM FROM NUTRITION SOCIETY

In July, 1944, a Special Planning Committee was set up by the Nutrition Society (English Group) to consider and report on the training of persons in charge of the provision of food in institutions, industrial canteens, hospitals, etc. The committee has summarized its findings in the subjoined memorandum, but one of its members (Miss M. Grant) has dissented from paragraph 1 (concerning membership of the British Dietetic Association and registration as medical auxiliaries). The memorandum is published by the Planning Committee with the consent of the committee of the English Group of the Society, but it should not be regarded as necessarily expressing the view of the Nutrition Society. The Planning Committee is of opinion that the present is an appropriate time for the publication of the memorandum and intends that it should serve as a basis for discussion, from which it is hoped useful suggestions for the training of dietitians will emerge. The memorandum is signed by M. Andross, M. C. Broatch, S. J. Cowell, J. C. Drummond, D. Hollingsworth, D. Johnstone, F. Le Gros Clark, A. Lumby, H. E. Magee, J. R. Marrack, H. Masters, and E. R. Smythe.

1. We consider that the description "dietitian" should henceforth be confined to such persons as are suitably qualified for registration as medical auxiliaries. Persons desiring to qualify must hold a Diploma in Dietetics from a university or training college approved by the British Dietetic Association, or alternatively a degree in dietetics if a degree course in the subject approved by the same body is subsequently established in any of the universities.

DEFINITION

2. The term "dietetics" has been variously defined as "The part of medicine which relates to the regulation of diet" (*New English Dictionary*); as "Medical or Hygienic Art relating to diet or food in health and disease" (Webster); as "The study of food in its relation to human needs, health, etc." (*Universal Dictionary*); and as "The interpretation and application of the scientific principles of nutrition in health and disease" (British Dietetic Association). Of these the last appears to us to be the more precise, and we suggest its expansion to read that dietetics is "The interpretation and application of the scientific principles of nutrition to the human subject in health and disease."

3. The terms "dietetics" and "dietetic treatment" seem to have been well established with their modern connotation by the midde of the nineteenth century; but the word "dietitian," though it occurs about the same period, is commonly of more recent usage. There is some doubt as to the correct spelling of the word. We recommend that the customary spelling be retained; and we define a dietitian as one who is qualified as above.

TRAINING

4. While we consider that the diploma course in dietetics (for particulars see Appendix A) has met the needs of dietitians in the past, the profession has widened its field of activity, and we believe that a uniformly high standard of training should now be established. The most desirable way of reaching this standard would be the opening of a university degree course in dietetics. The course should combine the requisite basic scientific training with all the essential practical work. This would bring the training into line with that of dietitians both in the U.S.A. (see Appendix B) and in the Dominions.

5. While we should always recommend such a degree course as generally to be preferred, we are of opinion that there should be another recognized mode of entry such as the diploma course to the profession intended more particularly for persons whose educational careers were interrupted by the war, or who have decided at a more advanced age than usual to take the dietitian's qualification. This arrangement should, however, be regarded as a temporary one, and it should be reviewed as soon as degree courses are in operation in a sufficient number of universities.

6. The diploma course should be open to all students who hold a university degree or professional qualification similar to those required for the present diploma course (see Appendix A).

7. The diversity of the types of preliminary training at present recognized means that the diploma course has to some extent to be adapted to the varied experience of the students entering the training, especially on the practical side of their work. It is desirable that the student should become familiar from the first with the chemical and physiological concepts implicit in the applied science of dietetics; a preliminary training in nursing and institutional management does not provide sufficient opportunity to acquire this basic knowledge. Nevertheless, we are of opinion that some opportunity should be allowed for qualification to those who, already trained in these subjects, show unusual aptitude for dietetic work.

8. The work of a dietitian responsible to a large hospital or a local authority demands high organizing skill and personal adaptability. Many of those who possess such attributes are still without the full dietetic qualification, but naturally we feel that the lack of such qualification stands in the way of their advancement. We trust that it may be possible for the appropriate authorities to offer some financial assistance to enable such of their catering managers and supervisors as seem capable of reaching the diploma standard to take a training. The profession of dietitian will be much enriched by the recruitment of persons who have successfully controlled large-scale kitchen establishments through the searching years of war.

9. We would emphasize that all courses in the subject, whether for a diploma or a degree, should include adequate practical experience in catering institutions and hospitals approved by the British Dietetic Association. The profession should not in our view be open to those who have attained a degree only in the theoretical and experimental aspects of the science. All courses in dietetics should closely relate practice to theory. The practical training of dietitians might well include some instruction in public health, and this instruction should embrace such visits to clinics and to the homes of the people as would enable the student to acquire some knowledge of the social background of the future work of a dietitian.

10. Many newly qualified dietitians will lack the experience that enables them to deal with the complex problems of catering and administration, and they will have no more than a theoretical understanding of educational or hospital etiquette. It is necessary, therefore, that they should, after qualifying, have ample opportunity of service under an experienced professional person. This can be effected only gradually as the posts of catering officers and meal organizers or dietetic advisers come to be filled by qualified persons capable of initiating their assistants in the complexities of their professional duties.

APPOINTMENTS

11. It is important that the status and function of dietitian should be clearly defined; the present position is vague and anomalous. At present there is a fairly widespread tendency to regard purely institutional work—e.g., in hospitals, orphanages, schools, etc.—as the only proper sphere for a dietitian. There is nothing in the definition of dietetics to justify this limitation of function. Food is by far the most important environmental factor which determines health, and the dietitian should in our view assume her* due place as a public health

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* It is clear to the Committee that the dietitian of the future may be a man or woman, but for the purpose of this memorandum the feminine has been used.

official. In this capacity she can exert the maximum influence on the community.

12. The medical officer of health as the person responsible for the health of the inhabitants within his area should have on his staff an experienced adviser in dietetics, just as he has special officers to advise him on sanitation, food inspection, and various branches of medicine. A post of this nature would be one for a senior dietitian, and would probably rank as among the highest in the profession. The functions of such an officer would be broadly to advise the M.O.H. on all dietetic matters falling within his sphere: diets in hospital, orphanages, and other institutions controlled by the local authority, school meals, advice on diet to mothers in clinics, and educational work. Such educational work might well include co-operation with those responsible for the teaching of nutrition in schools, welfare centres, and advice bureaux. In addition, the dietitian would be expected to play an appropriate part in the conduct of dietary surveys and other nutritional investigations. Depending on the size of the area the officer would have working under her one or more junior dietitians to whom she would delegate her detailed work. It might also be found convenient for the dietitians of the local authority or voluntary hospitals to collaborate in such a way to ensure expert advice on catering and dietetics to any institution requiring it within the area. In this way the needs for such advice of small hospitals and other institutions—e.g., orphanages and boarding schools—could be most conveniently met. Other desirable fields for collaboration are in educational work and nutritional surveys. Such diversity of function would prevent staleness and improve efficiency.

13. Every hospital of about 150 beds or more should have its qualified dietitian responsible only to the medical superintendent or his equivalent in a voluntary hospital. Large hospitals of about five hundred beds or more would require a number of junior dietitians as well as a senior one. (See Ministry of Health Circular 44/45 and *Memorandum on Hospital Diet* issued by King Edward's Hospital Fund for London.)

14. It is almost certain, too, that senior advisory posts will become available in the health and education departments of the Government, and some of the larger food and drug manufacturing firms will probably require dietitians for advice and research.

15. It is obvious that, if only a proportion of these posts were filled by qualified dietitians, many more dietitians will be required. The membership of the British Dietetic Association is at present over three hundred; many of these are registered as medicial auxiliaries. About a quarter of the members are not in practice.

ESTABLISHMENT OF THE PROFESSION

16. We are aware that the profession should be protected, as far as possible, from the competition of unqualified persons. In the case of other classes of medical auxiliaries, working for the most part under the direction of medical practitioners, this measure of protection is more or less assured. The dietitian may not, however, come into immediate contact with a patient, and for that and other reasons her position is by no means so clearly defined. We stated above the various types of employment we think might be suitably filled by qualified dietitians. It will be necessary to convince the employing bodies that it is in their own interest to seek the services of fully qualified persons.

17. It is desirable, finally, to assure the status of dietitians in local government or hospital employment. The dietitian should be given full responsibility for the work of her department. When employed by a local authority she should be responsible through the appropriate senior officer to the health and education committees. In hospital practice she should be responsible to the secretary or medical superintendent, and should be a member of a catering committee representing those concerned with hospital feeding. In many hospitals the position of the dietitian is not clearly defined in relation to the matron's sphere of control, while she may have little or no contact with the medical staff. If she and her assistant dietitians are to have opportunity of advising and directing in ward feeding, outpatient departments, schools, day nurseries, etc., they must have unquestioned right of access to the chief administrative officer concerned.

Appendix A

Diploma Course (recognized by the British Dietetic Association at present time, June, 1945)

The Diploma Course in Dietetics consists of two parts: a theoretical study of nutrition, followed by a practical course, which must be closely allied to the theoretical work and taken in a hospital recognized by the British Dietetic Association. There are at present four institutions recognized by the British Dietetic Association at which students may be awarded a diploma in dietetics. The length of the course varies from 12 months to 18 months; this time includes the theoretical training and the 6 months' practical work. Students are advised to take a further 3 months' training in large-scale catering in the general kitchen of a hospital or in a canteen.

The Diploma Course is open to students who have one of the following qualifications: (1) University Degree in one of the following: (*a*) household and social science; (*b*) domestic science; (*c*) pure science, including physiology and chemistry and followed by at least three months' concentrated cookery training in an institution approved by the British Dietetic Association. (2) State Registration in Nursing. (Extra training in physiology, chemistry, and cookery may be necessary.) (3) Teachers' Diploma in Domestic Science. (Extra training in physiology and chemistry may be necessary.) (4) Institutional Management Diploma after at least two years' training at a recognized college of domestic science. Such students must hold the School Leaving Certificate or equivalent qualification. (Extra training in physiology and chemistry may be necessary.)

Appendix B

Requirements for Membership of the American Dietetic Association

A. ACADEMIC

1. Either a bachelor's degree from an accredited college or university with the following distribution of courses and hours until Aug. 31, 1944 (academic requirements were raised after Sept. 1, 1944):

Subject	Approved Course Graduates	Experienced Applicants	
		Foods and Nutrition	Institution Management
	(Minimum Semester Hours)		
Chemistry (including inorganic, organic, and physiological. Food chemistry may replace physiological for institution management majors)	12	12	12
Biology (including human physiology and bacteriology)	6	6	6
Social sciences (selected from at least two of the following: psychology, sociology, economics)	9	6	6
Education	3	0	0
Food preparation	6	6	6
Nutrition (including an advanced course)	6	6	3
Institution economics	6	0	6

2. Or a bachelor's degree from an accredited college or university followed by courses to complete the above outline. Five semester credits in nutrition or allied fields must have been secured within seven years of the date of application, except in cases where experience is of a type acceptable to the membership committee as a substitute.

B. EXPERIENCE

The following experience is required in addition to the above college work: Either satisfactory completion of a course for student dietitians approved by the association or two years of successful experience in a position involving responsibility which seems to the membership committee to be the equivalent of such a course. The committee will consider the following types of experience: (*a*) Hospital—this must have included main kitchen supervision, diet therapy, and teaching. (*b*) College teaching in the fields of foods and nutrition or institution management. (*c*) Management of school lunch-room, residence hall, etc. (*d*) Nutrition work with a social service or public health agency. (*e*) Commercial work of a type satisfactory to the membership committee.

At least one year of this experience shall have been within seven years of the date of application.

BRITISH SURGEONS' VISIT TO PARIS

Some months ago the President of the Royal College of Surgeons of England received an official invitation from Prof. Bazy, of the Académie de Chirurgie, asking him and some of his colleagues to attend their first post-war meeting in October, 1945. Accordingly three members of the Council of the Royal College of Surgeons and three Fellows of the Association of Surgeons of Great Britain and Ireland went to Paris on Oct. 7. After years of oppressive occupation the first official meeting of a professional body with the distinguished traditions of the Académie Française de Chirurgie, and under the presidency of Prof. Monchet, could not fail to be impressive. More impressive still was the warmth and friendliness of our welcome, which showed beyond any doubt that this was a genuine expression of feeling coming straight from the heart of our colleagues, and no mere official gesture.

Mr. Max Page (Vice-President of the Royal College of Surgeons) brought official greetings, and presented the president of the Academy with a book of photographs of the Royal College of Surgeons soon after it had been bombed, and he was complimented by an invitation to take the chair at the first scientific session. Later we were given a reception by Prof. Monchet, and were entertained to dinner by Prof. Bazy. On the second day a reception was given by the British Ambassador, and a dinner by Prof. Hartman, the doyen of French and perhaps of European surgeons. A group of Belgian surgeons also gave us an unforgettable luncheon party, and their friendliness well matched the rest of our reception. The significance of this welcome must be seen against the background of Paris as it is to-day. Outwardly, in the warm autumn sunshine, no fantasy could excel its beauty, but daily life for the Parisians is extremely difficult, and we who have our needs provided, albeit in a dull pedestrian way, have little idea of their daily hardships.

We were able to see enough to prove that French surgery and French thought have not been either stagnant or sterile, and it is to be hoped that soon facilities will be available for close co-operation and more intimate personal intercourse. It is for professional bodies and individuals to make history a creative and fruitful process. At the moment this cannot be done without official help. Great Britain is committed to the role of a Continental Power, and for us France is the gateway to Europe. Professional contacts cannot determine policy, but they can make policy easy; it is therefore not unsuitable that in a professional journal we should ask for more facilities for easy and intimate contact with our colleagues in Western Europe.

H. W. S. W.

TUBERCULOSIS IN WAR AND PEACE

Prof. Charles Cameron, in his inaugural lecture as professor of tuberculosis in the University of Edinburgh, began by urging that the public should not be lulled into an illusion of security by falling death figures. Tuberculosis either killed quickly or, having lost the first round, sparred warily with its victim, and the next few years would show how the struggle would go for those who had lately swelled the notification lists. Great Britain had inherited a problem aggravated by years of war.

Scottish Figures

Quoting the main figures for Scotland Prof. Cameron said that deaths from tuberculosis rose from 3,431 in 1938 to 4,175 in 1941; they fell to 3,995 in 1942 and to 3,959 in 1943. On analysis of the age periods of those deaths, the main rise was found to be in children under 5 years of age and in young adults from 15 to 25. Turning to notification, progressive increases were found throughout the same years, but they were almost entirely in pulmonary tuberculosis, the 1943 figures for which were 54% above the 1938 level. The peak of the deaths was reached in 1941, but the peak of notifications had yet to be reached, and tuberculosis was still increasing in the community. Another point brought out by the figures for Scotland was that deaths in 1943 from non-pulmonary forms of the disease (which virtually meant disseminated tuberculosis) were for young women 42%, and for young men 34%, above the pre-war level. Prof. Cameron shared the belief that many or most of those young people were succumbing to late primary infections, but in the absence of exact knowledge of the spread of infection in age groups and areas such statements could not be substantiated.

Detection and Responsibility

Speaking of the schemes of mass miniature radiography, Prof. Cameron said that it had been estimated that in the United Kingdom there were probably 15,000 young adults suffering from unsuspected lung tuberculosis of an early symptomless type. To discover them the whole young adult population must be examined, and the examination must be repeated at intervals. Detection of these cases implied big social responsibilities, which local authorities and Government alike must be prepared to accept. Whether the care of the tuberculous should be put on a national basis was a point needing careful consideration. The disease during the past thirty years had passed into the hands of local authorities and their whole-time employees. Most patients had no alternative to local authority treatment, and the authorities must face the question whether they were fulfilling their responsibilities to those people.

Lastly, Prof. Cameron declared that the milk supply of the future must come from sources above suspicion or the milk must be treated by efficiently controlled pasteurization before it reached the consumer. There ought to be no compromise with an infection which was readily preventable.

RECOGNITION OF CIVILIAN BRAVERY

The *London Gazette* has announced the appointment as M.B.E. (Civil Division) of Mrs. Flora Livingstone Macdonald, M.B., Ch.B., of Aros, Mull, and the award of the B.E.M. (Civil Division) to Messrs. A. Cattanach, D. Ross, and W. Walker. The citation reads as follows:

> An aircraft crashed near the summit of Ben Talaidh, Mull, in very bad flying weather: The aircraft struck the mountain obliquely, at about 2,300 feet, slid downwards some 300 feet, and came to rest on snow in a highly precarious position. Any disturbance of its balance would have caused it to crash into a rocky gorge. There were eight occupants of the machine. One was thrown out at the high level and killed, another was crushed under the aircraft, a third was injured dangerously and died during the rescue work. One injured passenger managed to get down to a cottage to give particulars. The remaining four occupants were all seriously injured and unable to help themselves. Distress signals were sent up and rescue parties were organized. Cattanach was the leader of one party. Snow and ice lay everywhere, with deep drifts. The river was in flood and the banks treacherous. Dr. Macdonald's leg was cut in the ascent, and at one time she was waist deep in icy water and had to be pulled out. When they reached the aircraft she gave first aid to the injured, and the others searched for one of the occupants of the aircraft who was missing. Another search party with stretchers set out, but having no knowledge of the whereabouts of the aircraft they returned. Cattanach and Walker, who had seen their lights, went down the hill to lead the party to the scene of the crash. The stretcher party were now becoming exhausted, and Cattanach and Walker, who were leading them, did most of the heavy work with the stretchers. It had become known that one body lay where the crash first occurred. Ross had tried this climb, up a very steep and dangerous face, but failed in the darkness. A further effort was made in daylight by Walker and Ross, who climbed up successfully, reached the body, and brought it down. By the determination of the rescue parties four lives were saved. In particular Cattanach, Ross, Walker, and Dr. Macdonald displayed courage and endurance of the highest order.

Reginald Norman Macdonald, L.R.C.P.&S.Ed., of Aros, Mull, has been commended for brave conduct when an aircraft crashed.

RÖNTGEN COMMEMORATION IN LONDON

To commemorate the 50th anniversary of the discovery of *x* rays by Wilhelm Conrad Röntgen on Nov. 8, 1895, a series of meetings will be held next week in London at the Royal Society, the Royal Society of Medicine, the Royal Institution, and the Institution of Electrical Engineers. The programme has been planned jointly by a number of societies interested in the medical, scientific, and industrial aspects of *x* rays. Attendance at the inaugural meeting in the rooms of the Royal Society on the morning of Thursday, Nov. 8, will be by invitation only. At the Royal Society of Medicine on Nov. 8 at 4.45 p.m., with Lord Horder in the chair, four short addresses will be given by Dr. R. E. Roberts, Dr. James Brailsford, Prof. F. L. Hopwood, and Mr. Cuthbert Andrews. All the participating societies will hold a joint meeting at the Phoenix Theatre, Charing Cross Road, at 3.30 p.m. on Nov. 9, with Sir Henry Dale, P.R.S., in the chair, when Sir Lawrence Bragg, F.R.S., will give an address on the scientific consequences of Röntgen's discovery of *x* rays. On the morning of the same day Drs. A. E. Barclay and N. S. Finzi will read papers at a medical meeting at the R.S.M., and on Nov. 10 at 2 p.m. at the Institution of Electrical Engineers, with Dr. Russell J. Reynolds in the chair, Mr. H. T. Ferrier will give an address on postgraduate education in medical radiography. A small exhibition of historical items will be held at the British Institute of Radiology, 32, Welbeck Street, W., on Nov. 8, 9, and 10, from 10 a.m. to 6 p.m. Other meetings will be devoted to the applications of *x* rays to physics and chemistry, and to industrial radiology and *x*-ray analysis and equipment.

Reports of Societies

PSYCHIATRIC LESSONS FROM ACTIVE SERVICE

In his presidential address to the Section of Psychiatry of the Royal Society of Medicine on Oct. 9, Dr. G. W. B. JAMES gave a review of lessons learned from military service and suggested ways in which those lessons might influence the future of psychiatry. He counted himself fortunate to be a member of a generation which had survived two major wars. It had meant that nearly ten years of his professional life had been spent in the Army, almost seven of them on active service over-seas. He made grateful acknowledgment of the debt he owed in his own development to the years spent in the Army Medical Service.

The Psychiatric Casualty

After dealing with some aspects of group formation and the knowledge to be derived from a close study of groups of men, Dr. James remarked that in making contact with doctors from all over the Empire in the Middle East Force he had found them, with few exceptions, bewildered by the psychiatric casualty and unable at first to deal with it on active service. He showed a table giving the psychiatric casualties expressed as incidence per 1,000 of the Middle East Force. For all troops they numbered 24.0 in 1941, and 21.2 in 1942, whereas the corresponding figures for battle casualties were 36.7 and 31.1 respectively, for malaria 19.5 and 29.1, and for dysentery 28.9 and 33.3.

"This considerable section of casualties was often looked upon with distaste. It would appear as if the medical training of the Empire's doctors had resulted in an almost obsessional avoidance of the life situation of their patients. Immediate simple therapy in the field tended to be replaced by a frantic testing for allergies, searching for septic foci, an earnest use of x rays to discover the sources of hidden troubles; as a last resort search was made for a nomenclature decently to veil the emotions and other mysteries which might get the casualty into the hands of that less reputable practitioner—the psychiatrist. The practical result of this odd dislike of psychiatry on the part of so many doctors is too often a failure to recognize and handle adequately the recent psychiatric breakdown, whether in war or peace."

The rift between general medicine and psychiatry must not be allowed to widen. Must psychiatry remain a specialty apart? He believed that it was for general medicine to absorb and integrate within itself the principles psychiatry had to teach, while psychiatrists in turn must show their ability and eagerness to absorb the lessons of modern medical advances. The rift might be partly healed by the physical methods of treatment which had been introduced into psychiatry during the last thirty years—malaria in paresis, the insulin therapies, electric convulsive therapy, continuous narcosis, prefrontal leucotomy, and the narco-analysis which had proved so useful in rapid abreaction techniques. These were such effective weapons for the early attack on certain psychiatric conditions that the methods should be made widely familiar to a greater circle of students and doctors. Again, in order to secure facilities for a more extensive psychiatric service the future general hospital must include beds for psychiatry. Properly chosen psychiatric patients were no more trouble than the average medical case, and often gave to therapists an encouragement which could not be exceeded in medical or surgical wards.

Restatement of Terms

Some of the terms in psychiatry were used without sufficient discrimination. "Schizophrenia" was one example, and others were "anxiety neurosis" and "anxiety state," which seemed to be supplanting the old "neurasthenia" as a convenient portmanteau term for everything from alcoholism to senility. During seventeen months in the Middle East 530 cases of psychosis needed evacuation, and 80% of these left the command as cases of schizophrenia, whereas the admission rate for schizophrenia to civil mental hospitals was roughly 16 to 19% of all cases—a figure which included women as well as men. Why did schizophrenia figure so largely in military psychiatry? He was convinced that it was not always fair to the soldier to assume that the stresses of war were never the direct cause of psychotic breakdown. He had seen instances of classical schizophrenic breakdown resulting apparently from battle stress of one kind or another, occurring among men of good type, with good family and personal records. Many men arrived from oversea theatres with the label "schizophrenia"; they were symptom-free, but had a dossier which justified the diagnosis. Some had been suffering from infective conditions, others might have been unusual hysterics, but some might fairly be said to have suffered from an acute schizophrenic episode, the direct result of war service.

Another table shown by Dr. James gave the percentage incidence by units of a sample of 3,724 psychiatric casualties among British troops in the Middle East Force during a period in 1942–3. The casualties in the infantry were 22% of the total of psychiatric casualties, those in the artillery 20%, but those in the service units (the R.A.S.C., R.A.M.C., R.E.M.E., etc.) were 32%, seeming to suggest that the heaviest casualties were experienced in these services and that a smaller incidence fell on the fighting man.

Effects of Battle

Dr. James concluded his address with a discussion of the effects of battle. It was true in general to say that no soldier was quite the same after battle experience. This was the psychiatrist's first problem—the acute battle crisis in which even the trained soldier might regress to the levels of childhood. The second problem of battle was that relating to long campaigns. In his experience it was not possible for soldiers to make an infinite number of calls upon resolution and endurance. The problem of exhaustion was one of the most urgent psychiatric emergencies of war. Battle conditions, nevertheless, were relatively minor factors in the aetiology of psychiatric casualties in the Middle East. The greater number resulted from lack of adequate selection or from the harassing anxieties of separation, domestic and marital worries, climatic conditions, uncertainties, tropical illness, and impropr placement and employment.

The lesson to be learned was the need for a carefully planned organization for assessment, rapid treatment, convalescence and rehabilitation. Understanding approach and immediate sedation was the principal need of the front line. Psychiatric first aid was as urgent as surgical first aid and ought not to require specialist help. The setting up of a new convalescent depot with 200 beds allotted to a psychiatric specialist during the heavy desert fighting of 1942 showed that about 90% of the men breaking in battle could be restored to a good standard of stability, though only a fairly constant 30% returned satisfactorily to combatant duties.

RESPONSIBILITY FOR ACCIDENTS IN RADIOLOGICAL DEPARTMENTS

In his address from the chair of the Section of Radiology of the Royal Society of Medicine on Oct. 19 Dr. W. M. LEVITT, the incoming president, who is forsaking medical practice for the legal profession, discussed the responsibility for accidents in radiological departments.

The incidence of accidents in x-ray work in this country, he said, was low; nevertheless, the total number of cases was not small, and he had himself seen in consultation or for expert opinion a number of injuries due to electrical accidents and x-ray burns in patients and staff. A small proportion resulted from over-exposure in radiodiagnostic work, but by far the larger number were sustained as a result of x-ray or radium treatment. Inevitably in the future large departments would be established in institutions where there was no previous knowledge of radiotherapy, and these would be under the control of bodies with no idea of the special problems they presented.

Dr. Levitt first considered the respective responsibilities of hospital authorities, radiologists, and radiographers. Before 1942 the law was based on the well-known decision in Hillier *v.* St. Bartholomew's Hospital (1909) that the contract of the governors of a public hospital with a patient undergoing surgical operation or examination was only to supply a competent hospital staff and nurses, with proper apparatus and appliances, and unless it was shown that they had failed in this duty they were not responsible for injury caused to the patient by negligence of the hospital staff. There was one qualification to this, that the hospital was responsible for the negligence of the staff in ministerial matters—that is, matters outside their professional duties. For example, if a nurse scalded a patient by spilling a cup of tea over him, the occasion of the act being outside her nursing duties, the hospital might be judged liable, but if she scalded him by the negligent application of a hot-water bottle after an operation presumably no responsibility would lie with the hospital.

The case of Gold *v.* Essex County Council (1942), however, had altered the situation. In this case a competent and qualified radiographer in applying Grenz rays according to a prescription had caused injury by failing to screen the patient's face with the proper screening material which was available. The Court of Appeal in this case laid down certain important principles which now governed the law in the matter. The legal principles were that one who employed a servant was liable to another person if the servant within the scope of his employment did an act so negligently as to injure that person, and that principle applied even though the work was of a skilled and technical character of which the employer himself was ignorant. The liability of the master for the negligent act of the servant would exist although at the time the servant was by direction of the master under the control of a third party. One of the Lord Justices in this case distinguished between a "contract of service" and a "contract for services"; under the first the employee worked under instructions either from the employer or from some person appointed by him, and under the second he was not subject to such control in carrying out his service. It was not unknown in public authority hospitals for the medical superintendent to exercise overriding powers—as, for example, on the ground of economy to cancel a prescription given by a subordinate officer. A medical superintendent might possibly limit the number or extent of the radiodiagnostic investigations in a given case. Such powers necessarily made the medical officer's contract "a contract of service," and not a "contract for services," and threw the burden of responsibility for his acts upon the hospital.

Common-law Duties of Hospital

What were the duties which the law imposed on hospital authorities for the safety of patients and staff? Every conceivable accident that could occur to a member of the staff in the radiological department now came within the Workmen's Compensation Act, even though the employee had been careless of his own safety. In considering the duties imposed on a hospital for the safety of the radiological department—which department differed from most others in that it depended for its operation on potentially dangerous machinery—a House of Lords decision in 1938 laid it down that the duties of the employer were threefold: to provide a competent staff, to provide proper and safe plant and appliances, and to provide a proper system of conducting the work and efficient supervision of the work. The House of Lords also held that these responsibilities could not be delegated. The special meaning of "delegation" made it appear that even though the employer had taken every possible care to ensure the competence of any person to whom he delegated responsibilities, that would be no defence if the apparatus was inadequate or the system of working defective.

It was in considering the radiographer, and especially the radiotherapy technician, that difficulty began. Was the qualified radiographer necessarily qualified to act as a radiotherapy technician? The possession of a radiographer's qualification was no evidence at all of competence as a radiotherapy technician. Many important hospitals employed carefully selected nurses as radiotherapy technicians, giving them the technical training required. Were these hospitals to be in a less favourable position than those which employed a qualified radiographer? Yet many hospitals felt that they must protect themselves by employing only technically qualified radiographers, with the result that people who had acquired radiotherapy technique and experience were lost to the service. It was the radiologist alone who was capable of judging the competence of a radiographer or a radiotherapy technician.

It was the duty of the hospital also to provide a safe system of working. A safe system had two main constituents: (1) adequate protection against dangers and regular inspection and checking of the department; and (2) the framing of such rules as were necessary to ensure minimum exposure. A radiotherapy department required the regular and frequent attendance of a physicist. The common-law duties of the hospital, therefore, were to provide an adequate staff appointed with due care, safe and efficient apparatus, and a safe system of working with due supervision, which, in the case of a radiotherapy department, meant the employment of the services of a physicist, and these duties could not be delegated; they were the strict liability of the hospital throughout.

The Manufacturer's Share

Dr. Levitt finally mentioned the liability of the manufacturer and repairer of apparatus. The law was that when a manufacturer sold his product in such a manner as to indicate that it was intended to reach the consumer in the form in which it had left him, with no reasonable possibility of intermediate examination, the manufacturer was responsible for its reasonable safety on arriving at its destination. In the radiological field the supplier of *x*-ray apparatus which was defective would be liable. Many years ago, Dr. Levitt said, he had had delivered to him a deep-therapy machine from a well-known manufacturer. All measurements were carried out by the manufacturer and it was passed as satisfactory. By chance, just before he used it on a patient, he decided to make some measurements himself, and a skiagram showed that the shadow at the periphery was seven times as dense as at the centre. Further examination and calculation proved that the filter supplied was nearly one centimetre less in diameter than the beam.

SYNERGIC ACTION OF PENICILLIN AND SULPHATHIAZOLE

At a meeting of the Section of Pathology of the Royal Academy of Medicine in Ireland Dr. J. W. **Bigger** read a paper on the synergic action of penicillin and sulphathiazole on *Bact. typhosum*. By using broth from which antagonizing substances had been removed by the method of Harper and Cawson he had found that sulphathiazole in a concentration of 10 mg. per 100 c.cm. had a considerable inhibitory effect upon the growth of small inocula of typhoid bacilli. With large inocula it was almost without effect. Penicillin in a concentration of 9 units per c.cm. and less had some inhibitory effect, even on large inocula. The combination of sulphathiazole and penicillin was not only inhibitory but bactericidal: 4 units per c.cm. of penicillin and 10 mg. per 100 c.cm. of sulphathiazole sterilized broth containing 70,000 typhoid bacilli per c.cm.; penicillin, 1 unit per c.cm., and sulphathiazole, 10 mg. per 100 c.cm., sterilized broth containing 7,000 typhoid bacilli per c.cm. He outlined a scheme for trial in clinical cases.

In the course of a Chadwick Lecture entitled "Health Education, its Problems and Methods," given on Oct. 30 at the Livingstone Hall, Westminster, Dr. Walter P. Kennedy said that health education to-day had developed from hygiene and preventive medicine by emphasizing the promotion of health rather than the prevention of disease. This positive point of view was best understood by applying the methods of dynamic logic or by a statistical treatment of the components of health. By attention to the factors which made up health, improvement could be obtained even in those who would say they were healthy. Once the true meaning of health had been grasped it must be regarded from the holistic point of view. An evaluating survey of the methods of health propaganda and teaching had still to be made. Dr. Kennedy stressed three desirable developments: provision of more "workshops of health"—i.e., swimming baths, gymnasia, and the like, especially in small centres of population; the training of more teachers in biological sciences; and the greater co-ordination of the Churches with the pursuit of national health aims. His general thesis was that no health education could be complete unless it included in its ambit the physical, mental, and moral activities of man.

The rapid strides made since the end of the European war in adapting the plastic "perspex" to peacetime uses were seen at an exhibition in Birmingham recently arranged for the purpose by I.C.I. Already a wide range of commercial articles are being produced, but the only medical items shown among the main exhibits were instruments demonstrating the "piping of light through curved perspex," which could be sterilized in boiling water. The use of "perspex" in orthopaedics has been described more than once in these columns.

Correspondence

Galvanic Stimulation of Denervated Muscle

SIR,—The communications of Fl. Lieut. E. C. S. Jackson and Prof. H. J. Seddon and of Dr. R. E. M. Bowden (Oct. 13, pp. 485 and 487) have so much in common that they may be discussed together. In each of these papers evidence is adduced to show that the galvanic stimulation of denervated muscle tends to limit its atrophy, and this is in accordance with expectation. Upon this conclusion there is based the important assumption that galvanic stimulation is of high clinical value in promoting a good recovery; this assumption, however, is unsupported by direct evidence, either clinical or experimental. For example, in the cases of ulnar paralysis (Jackson and Seddon) there is nothing to show that the functional results were better in the galvanically treated cases than in the cases not so treated. Similarly, in the experimental rabbits (Bowden) there is no evidence that recovery of the galvanically treated limbs took place more rapidly and completely than in those not so treated.

If galvanic stimulation possessed any definite clinical value it might certainly be expected that this would have been noticed by experienced orthopaedic surgeons; yet there is no decided body of opinion on the subject. The general opinion appears to be that the requisites for success in nerve suture are good apposition of the axons followed by judicious after-treatment, the value of electrical treatment being left in doubt. It is certain that good results may be obtained in the absence of galvanic stimulation, either before or after operation.

It is a question that requires careful consideration whether galvanic stimulation may sometimes serve to maintain the muscles at the cost of the regeneration of the nerve, and may thus do more harm than good. This possibility is raised by the observation that the interruption of galvanic treatment has occasionally been followed by an obvious improvement in the rate of recovery. As a theoretical consideration, it is possible that the katabolic activity induced by continual galvanic stimulation may impair the anabolic activity necessary for the slow and difficult regeneration of the nerve. At a certain stage physiological rest may be the best adjunct to recovery, being gradually replaced by voluntary movements as regeneration occurs. To make a somewhat wide comparison, the frequent dressing of surgical wounds was formerly thought to be advantageous, but it is now known that they often do better if they are left alone.

The present aggregation of nerve lesions may afford the opportunity of comparing the functional results in groups of cases treated with and without galvanic stimulation. Direct clinical evidence of this kind would be a more reliable guide to practice than deductions from histological appearances.—I am, etc.,

Sheffield. R. G. ABERCROMBIE.

Morphine as Prophylactic against Ileus

SIR,—The suggestion made by Mr. J. T. Chesterman and Dr. W. J. Sheehan (Oct. 20, p. 528) that morphine can be used as a prophylactic against paralytic ileus is of great interest to the pharmacologist. When a dog is given morphine preparatory to a general anaesthetic it is usual for the dog to pass loose faeces within about 20 minutes of the injection. This I have always supposed to be due to stimulation of the vagus centre in the medulla, for there is a slowing of the pulse rate and often the dog vomits. Simultaneous stimulation of the vagal and vomiting centres is, of course, a common phenomenon. Presumably the beneficial effect of morphine on paralytic ileus is due to this early action, which leads to an increased discharge of motor impulses to the intestines.

The later effects of morphine on intestinal movements are, however, different. Magnus showed in 1908 that morphine delays the passage of a bismuth meal through the intestinal canal of a dog. Whereas in a control observation the meal was seen to enter the colon three hours after it was taken, after morphine the meal did not enter before 12 hours had elapsed. The dose given was very large—0.1 grain per kg., equivalent to 6 grains for a man. I imagine, however, that Mr. Chesterman and Dr. Sheehan would agree that in some subjects at least the ordinary therapeutic dose of morphine has a constipating effect. (See, for example, A. J. Clark's *Applied Pharmacology*, seventh edition, p. 342: "All observers agree that these drugs [morphine and opium] cause a great delay in the passage of the gut contents through the alimentary canal, and there is no doubt that this delay is chiefly caused by contraction of the pyloric and ileo-colic sphincter. Small quantities of morphine frequently cause increase in the peristaltic activity of the gut, and the observers who have studied its action most fully consider that great individual variation in reaction occurs.")

In view of these two opposed actions of morphine, what conclusion are we to draw from the figures given by Mr. Chesterman and Dr. Sheehan? I would like to see a study of the effect of 1/4 grain morphine given 6-hourly for 48 hours on the passage of a bismuth meal in 20 normal subjects. In the absence of the information which this study would supply, my personal conclusion is that Mr. Chesterman and Dr. Sheehan have demonstrated only that their proposed prophylaxis is not dangerous: it does not conduce to ileus in patients on whom a Caesarean section has been performed. The actual fall in the percentage of cases of ileus in the morphine period is of little significance in view of the fact that the control cases were not "alternate cases," but were cases in earlier years when many points in the handling of the patient must have been different.

The serious side of this paper is that some may conclude that morphine is a prophylactic against ileus after operations on the intestine itself. If we take into consideration all that is known of the action of morphine on the intestine this conclusion is not permissible; morphine is a drug likely to increase the incidence of ileus after such operations. What is fortunate is that there is a well-known drug which is there for everyone to use having none of the dangers of morphine. That drug is physostigmine. Its action is very simple. The movements of the alimentary canal are maintained by the steady synthesis of acetylcholine. This is formed in the gut wall, it exerts its action, and it is then rapidly broken down. Physostigmine delays the rate of breakdown of acetylcholine and so increases intestinal movements in the most natural way.—I am, etc.,

Oxford. J. H. BURN.

Penicillin and Synthetic Rubber

SIR,—Letters have recently appeared relating to the inactivation of penicillin by synthetic rubber tubing. Some time ago the Medical Research Council, jointly with the Ministry of Supply, called a conference to consider the possible uses of synthetic rubber for medical purposes. The members of the conference hope to be able to designate a type of rubber which may be relied upon not to destroy penicillin. It would be helpful if any others who have experienced similar difficulties with inactivation of penicillin would inform me, indicating at the same time the source and history of the tubing used if these can possibly be ascertained.—I am, etc.,

P. G. H. GELL,
Secretary, M.R.C. and Ministry of Supply
Synthetic Rubber Conference.

National Institute for Medical Research,
Hampstead, N.W.3.

Ludwig's Angina

SIR,—In view of recent correspondence in your columns by Mr. Hamilton Bailey and Mr. J. H. West *et al.* on the subject of anaesthesia for operation on cases of Ludwig's angina, I feel it is important that case notes on this subject should be given publicity, because of the possibility of sudden regrettable accidents which may occur unless the anaesthetist concerned is reminded of the dangers present in this type of case.

Supporting Mr. Hamilton Bailey's remarks (Sept. 29, p. 440), I would like to add my personal experience of three such cases which occurred during the later weeks of a nine-months period during which I was acting as temporary resident anaesthetist, in addition to my other duties, at a South London hospital recently.

Case 1.—This was in a child of 6 years with Ludwig's angina of undetermined origin. Anaesthesia was induced with gas-and-oxygen, and as soon as a trace of ether was introduced spasm of the glottis developed. Intubation under direct vision was immediately attempted, but was unsuccessful owing to severe glottic spasm; only the fact that an emergency tracheotomy set was readily available and promptly used by an experienced surgeon prevented this child from dying. As it was, several ounces of pus under tension was evacuated after further anaesthesia per the tracheotomy tube. Convalescence was rapid and uneventful. The tracheotomy tube was removed after 48 hours.

Case 2.—This was of post-operative suppurative parotitis in the edentulous woman of 54 years of age, which was at first treated conservatively. As resolution was obviously not taking place it was suggested that I should give a "shot of pentothal" while an incision was made. In view of my experience in Case 1 I decided that a careful induction with gas, oxygen, and trilene would be wiser, a tracheotomy set being handy and the larynx cocainized. Induction was smooth, and on laryngoscopy oedema of the corresponding arytenoid was seen to be present. A tracheotomy tube was passed and operation completed. Several pockets of pus were drained. Local analgesia would have been difficult and imperfect in this case.

Case 3.—This was a case of Ludwig's angina in a man of 37 following evacuation of an infected dental cyst. Post-operative penicillin therapy had resulted in the temperature falling rapidly from 103° F. to normal in three days, but at this time dysphagia was complained of. I recommended local analgesia, and under this a large quantity of sub-mylohoid pus was evacuated per a midline incision. Recovery was uneventful.

I publish these case records largely for the benefit of the less experienced anaesthetist, in the hope that they may avert a tragedy, as my first case nearly was, and in passing to stress the obvious fact, not always remembered, that penicillin, and indeed chemotherapy, will not cause resolution of an established abscess, even though the primary focus may have been promptly dealt with; also to point out (Case 2) that suppurative parotitis may, and did in the case quoted, give rise to dangerous oedema in the region of the glottis. Fortunately dysphagia usually precedes dyspnoea in this type of case. The time interval between unrelieved glottic spasm and cardiac failure in the elderly subject and in the very young, especially when toxaemia is present, allows only a very short period for emergency intubation or, failing this, tracheotomy.—I am, etc.,

Royal National Throat, Nose and Ear Hospital,
London.
K. R. OGILVIE.

Blind Intubation

SIR,—While seconding Dr. John Insley's remarks on blind intubation by way of the nose (Oct. 13, p. 512) I would also like to make a plea for blind peroral intubation, the simplicity, efficiency, and economy of which I can vouch for as a result of long experience.

When the surgical advance of rhino-laryngology demanded intratracheal intubation anaesthesia I used, *faute de mieux*, Kuhn's peroral intubation apparatus. This consists of a flexible metal tube the distal end of which is suitably fenestrated, while the proximal or outer end has a locking device for attaching it to a tube leading to the source of anaesthesia. It is introduced by means of a curved metal obturator attached to a handle. This obturator (which could be readily improvised) has a total length of 14½ in., of which 4 in. are handle. The rectangular curve starts about 7 in. from the distal end of the handle. Finding the metal tubes were clumsy and at times traumatic I substituted rubber tubes, and have since used this method with complete satisfaction. The tracheal end of the tube (the internal diameter of which varies, according to age and sex, from 5 to 10 mm.) is cut obliquely and dipped in sterile liquid paraffin, as also is the curved end of the obturator. The tube when mounted should extend at least one inch beyond the lower end of the latter. After insertion and withdrawal of the obturator the outer end of the rubber tube is connected to the tube from the gas apparatus (or, eventually, to a tube and funnel) by means of a small, curved or L-shaped metal connexion. Before introduction the larynx is sprayed with 10% cocaine solution, after which a pledget of gauze soaked in the solution is applied in the laryngeal vestibule by means of Mackenzie's laryngeal forceps and held until the resultant cough is followed by an inspiration. This can be more pleasantly achieved after general anaesthesia has been induced sufficiently to allow of wide separation of the jaws.

The main difficulties in introduction are obstruction by the epiglottis and the readiness with which the free end of the tube tends to find and enter the oesophageal ostium. To overcome these the index finger of the left hand is introduced to the hypopharynx from the angle of the widely gagged mouth. The *tactus eruditus* of this finger must be such as to allow of quick and accurate location of the epiglottis and of the apices of the arytenoid cartilages, immediately over which latter it retains its position, plantar surface forwards. Upon introduction of the obturator and tube the free end of the latter is made to occupy the potential space between the finger and the dorsal surface of the epiglottis, its oblique tip being directed into the rima glottidis by the finger, which, incidentally, is preventing the tube from entering the oesophagus. Some difficulty may be experienced in a deep larynx or from an unduly large or flaccid epiglottis, but a little patience and experience can overcome this. No force is employed. The actual passage of the rima glottidis is made during an inspiration, and its accomplishment is denoted by the sound of air going through the tube (which should be listened for) and by a short cough.

This method, while it takes time in the telling, can be carried out in a matter of seconds, and I feel that the experienced anaesthetist should be able to do it.—I am, etc.,

Cork.
J. B. HORGAN.

Anaesthetic Risks

SIR,—It is fortunate that Dr. E. Falkner Hill (Oct. 13, p. 511) has answered Dr. John Elam's unbalanced judgment on spinal anaesthesia. Notwithstanding certain disadvantages attached to spinal anaesthesia, there is a large body of experienced surgeons who will agree that it plays a very important part in surgery, and most certainly in the upper abdomen. Figures, when sanely considered, are a help.

The following figures show the death rate in this hospital after partial gastrectomy for duodenal ulcers, excluding all cases of severe haematemesis or melaena at the time of operation:

Period	No. of Cases	Anaesthesia	Deaths	Mortality
1931–5	99	General	9	9% approx.
1936–9	125	Spinal	4	3·2% ,,

It was in 1936 that the routine for these cases became a spinal anaesthetic.

I should not like to give the impression that this improvement in mortality is solely due to a change in the method of anaesthesia, but it is quite likely that it was a very important factor in the improvement. Just to make certain that 1936–9 figures were not accidental, the figures for gastrectomies for duodenal and gastric ulcers (again excluding active bleeding ulcers) for 1942–5 (June) are given:

Period	No. of Cases	Anaesthesia	Deaths	Mortality
1942–5 (June)	205	Spinal	3	1·5% approx.

Spinal was used as the principal anaesthetic. Two surgeons supplemented this with pentothal and gas-and-oxygen with a little ether or trilene to maintain sleep. Another surgeon used spinal anaesthesia only, with local infiltration with novocain along the upper end of the lesser curve during 1944–5. This series included two cases with open pulmonary tuberculosis.

The surgeons at this hospital, present and past, do not suffer from any delusions about this mortality rate. They consider that 1.5% mortality is fortuitous, even though it is in a series of over 200 cases. They feel that a mortality rate of 3 to 4% is a more accurate figure over a larger series of cases. There is one point about which neither surgeons nor anaesthetists have any doubt whatever. It is that in their hands it has made partial gastrectomy safer for the patient and less anxious for the surgeon.

In my opinion Dr. Elam would be doing a great disservice to surgery if he succeeded in dissuading surgeons and anaesthetists from using spinal anaesthesia. It goes without saying that the greatest care is needed in its administration.—I am, etc.,

Miller General Hospital, S.E.10.
F. H. MASINA.

Longevity

SIR,—Most statisticians would agree with the conclusions reached by Dr. A. Forster in his interesting letter (Oct. 20, p. 545). We have not at present enough accurate data of survival to reach statistical results much better than guesses. There is a small point, of no practical importance but biologically interesting—namely, Is it *impossible* or only *very improbable* that a human being should live to the age of Methuselah ?

Some years ago Dr. J. O. Irwin and I made a study of the bio-statistics of senility (*Human Biology*, 1939, **11**, 1–23). The most exact data we had related to 240 female and 50 male annuitants who had attained the age of 90 in the years 1920–2 and were under observation until death. None of the males survived to 100; 4 females lived to 100, and one to 102. Of course, graduating such scanty numbers is not much more than an amusement, but we found that they were not badly smoothed by a formula which involved the ultimate constancy of q_x—i.e., the probability of dying between the ages of x and $x+1$, for a value of q_x much below unity—0.439 for women, 0.544 for men. Now *if* this were verified by an experience of not 240 but hundreds of thousands of lives observed from the age of 90 to death, it would imply that the length of days of Methuselah is not an impossibility but merely a very improbable event. If the limiting value were 0.5, then the chance of a centenarian beating old Parr's alleged record would be 0.5 raised to the 52nd power—a rather small fraction, but still finite. It would be interesting if someone with leisure would collect more data. Modern annuitant experience no doubt does not run to hundreds of thousands of lives beyond 90, but surely to some thousands.—I am, etc.,

Loughton. MAJOR GREENWOOD.

Psychiatry in the Services

SIR,—I read Wing Cmdr. K. G. Bergin's letter (Oct. 13, p. 508) with great interest. As a neuropsychiatrist working in an E.M.S. hospital for the past five years I have had ample opportunity of assessing the reactions of Service personnel to psychiatric interference. It is a well-known fact that attempting to cure neurosis is an almost hopeless task when the patient is obtaining some advantage in his present environment by being ill.

However, I would not agree that such individuals "have, by conscious or unconscious deception, achieved their object." In my experience actual deception is rare, and in the vast majority of cases the symptoms are truly neurotic—i.e., expressions of disordered emotion over which the sufferer has no control unless given further insight. Had the psychiatric reports referred to gone a little deeper they might, in nearly all instances, have given evidence of unhealthy emotional attitudes in childhood, usually engendered by unsatisfactory home influences, and leading to the acquisition of fixed modes of reaction which the individuals are doomed to carry with them for the rest of their lives. It would appear that childhood experiences act as a prototype for future orientation to society, and just as trained animals bring forth their conditioned responses on the slightest provocation and without thought, so may it be truly said that the child is father to the man.

Since neurosis is thus usually a lifelong complaint with recent exacerbations due to excessive stress, it is not surprising that it takes a long time to eradicate, and anybody who hopes to be able to do this under the limitations of time imposed by the necessities of Service life is not a psychiatrist but a fool.

However, there is always the other aspect—social adjustment, which in the case of the Services means the ability or otherwise to make a useful contribution to the common effort. Most neurotics are capable of so contributing provided the motivation is strong enough, and as the mere fact that they are not doing so is an indication that the usual motive of duty to country is not effective with them, some other—i.e., escaping punishment —might well prove an effective substitute. If this line of approach were to prove a success under wartime Service conditions one cannot help wondering how far it would act in peacetime.

During recent years it has been very noticeable how many hospital out-patients have imposing symptoms which, on careful investigation, prove to be without physical foundation. During an inquiry into possible psychological factors one usually gets the request for "a note for the Labour Exchange" recommending transfer from the present job, to which they have been directed, to another, usually more pleasant, of their own choosing; compliance with such a request nearly always results in a dramatic relief of symptoms. But it is still a fact that nearly all such cases are true neurotics and that deliberate malingering is rare. Is one to take the attitude that such people are not pulling their weight and are therefore enemies of the State, to be dealt with by harsh methods, such as the suggested imprisonment, until they decide to stop making capital out of their weakness ? If so, the results might be amazingly good from the point of view of checking invalidism, but does this not imply an altered medical outlook—i.e., the patient is no longer entitled to health for its own sake and as a means of helping him to enjoy life more, but only so far as it fits him for contributing to the total effort of the State ?

There is an unpleasant element of totalitarianism about such methods, which are also not without their dangers. For example, I know of at least two soldiers whose complaints had been dealt with after the manner suggested by Wing Cmdr. Bergin who confided to me that they had obtained a loaded rifle and lain in wait for their oppressors, fortunately changing their minds at the last moment. Mass outbursts of delinquency among the general public are not pleasant to contemplate. Is it not possible that the incidence of neurotic breakdown in the Services is largely determined by the restrictions on personal liberty which have necessarily to be imposed ?—I am, etc.,

Bromsgrove. J. L. CLEGG.

SIR,—I was very interested to read Wing Cmdr. K. G. Bergin's letter, as it raises problems which some of us have been trying to solve for some years past. Let me assure him that the average Service neuropsychiatrist is as cynical as himself, and only too well aware of the fact that his patient may make a rapid recovery just as soon as he is sure of his "ticket." But whether it be pandering or no, it is surely good, sound common sense to place "bad psychiatric bets" in low medical categories. Constitutional inferiors and hysterics have not been wanted on active service during the war as they have an unpleasant tendency to break down at awkward moments and exert an undesirable effect on the morale of their comrades. That they are encouraged thereby to persist in their symptoms, with invaliding as their eventual goal, is unfortunate, but probably inevitable. It is no new thing to discover that punishment will frequently succeed where other forms of treatment have failed; but the punishment must represent something worse to the patient than the ordeal which he is hoping to avoid. For example, it is not going to cure a hysteric to send him to detention for twelve months if thereby he misses a series of Russian convoys.

In 1942 the Navy opened a special camp to which those who were suspected by psychiatrists of making the most of their symptoms could be drafted. They were under executive command and subject to ordinary Naval discipline; their symptoms were ignored so far as possible, and no limit was set to their retention in the camp. By such means it was found possible to salve many who would otherwise have required invaliding, but careful placing in various forms of restricted service was necessary in the majority of cases to achieve this result. But the chief value of this unit lay in the fact that the depot psychiatrist could assure the "non-trier" that there was no "ticket" for him, but a draft to a nasty place if he did not begin to help himself. Even so, a large number of hysterical and inferior personalities proved resistant and required invaliding.—I am, etc.,

R. R. PREWER,
Surg. Lieut.-Cmdr., R.N.V.R.

SIR,—The letter of Wing Cmdr. Bergin contains just that kernel of truth that so often makes so much mischief in generalities. There is none amongst us who has spent the years of war in the Services who has not seen just the case he describes: the man bordering on the anxiety state, a constant burden to his medical officer with his manifold complaints, until finally he is invalided on psychiatric grounds, often to recover with amazing rapidity as he returns to his more normal environment. Must the psychiatrist and the system be condemned if this man is happily healed and the Service rid of one who can never be other than a liability?

Wing Cmdr. Bergin, writing no doubt as a medical administrator, treads on dangerous ground if he further inculcates in others the unjust attitude of mind that the Service doctor should think of those who complain of such symptoms as he describes first as scheming "racketeers" and only secondly as the sick in search of relief. There is no essential difference between the symptoms and the ills of those in the Services and those we treated in days of peace. A few, a very few of each, in both the Services and civilian life, make much of their malady with an end in view; the remainder, the huge majority, have aches and pains for which an organic cause may or may not be found, perhaps depending not a little on the diagnostic acumen and enthusiasm of their doctor, but for which they earnestly and rightly seek help to be rid of. What matters it whether the surgeon or the psychiatrist succeeds? Let us as doctors in the Service remain clinicians primarily, seek for our cures first through the science of medicine, retain the spirit of detached sympathy, and leave the cynicism to others.—I am, etc.,

G. A. JAMIESON,
Wing Cmdr., R.A.F.V.R.
Inverness.

SIR,—Wing Cmdr. K. G. Bergin (Oct. 13, p. 508) should be very careful. He is on dangerous ground. He talks great wisdom when he speaks of "a system which lays too much stress on psychological illnesss and not enough on a man's responsibility to his fellows," because lack of this responsibility, or, more positively, the weakness of selfishness, is probably the most common fault of us all, beginning in childhood. But of all systems to-day modern psychiatry is not the offender to be taken to task. An experienced medical psychologist is very much concerned with responsibility to one's neighbour, for this is the very essence of his definition of sanity.

If the individual Army psychologist happens to invalid out of the Army some cases which Wing Cmdr. Bergin finds curable by the no less worthy psychological method of punishment, then indeed we may claim the converse to be true—that a future suicide might be punished instead of being discharged to "carry on a greyhound business" or "cycle merrily home five miles to work in his garden." It may be some years before he joins the ranks of those poor wretches who blow their brains out in the Army or reach the overcrowded mental hospitals. Indeed, Wing Cmdr. Bergin might never hear of the incident, but if the decision were his then his responsibility to that individual, his neighbour, would remain.

Furthermore Army psychiatry is a child of 5 years of age; its members are many of them inexperienced. If its inexperience leads to the lame leaping for joy, the blind seeing, and dyspeptics eating large indigestible meals, then it has a powerful future. But I feel that even psychiatrists cannot produce this Christ-like scene of joy. The majority of the men and women discharged from the Services for neurosis are now being treated under the after-care scheme of the Board of Control.—I am, etc.,

Surrey. JOHN A. MCCLUSKIE.

SIR,—I am sure that Wing Cmdr. Bergin's eminently sensible and vigorous letter crystallizes the views of many serving medical officers who have had to treat "those unwilling to bear the heat and burden of the day." As an Army dermatologist I have wasted much time attempting to treat such patients; those whose somatic manifestation of a disturbed psyche takes the form of a rubbed and excoriated dermatosis are known to all dermatologists. There appears to be no answer to cases of this type. Continuous narcosis, occlusive dressings, and appeals to their non-existent better natures may lead to a temporary remission, but there is an invariable relapse once they return to their uncongenial environment. A number of these patients spend a period under detention for absenteeism, but many escape from this with their lesion conveniently secondarily infected (they avoid reporting sick until it is in this state), and spend the remainder of their sentence in the comfort and security of a military hospital skin department, where they enjoy the same amenities as those invalided from operational theatres over-seas.

A few months of military dermatology make one realize that these patients are a liability to the Army Medical Service, and they are eventually written up for a medical board which will invalid them out. While awaiting their board one observes, in the less astute, the transformation to which Wing Cmdr. Bergin draws attention. The hang-dog look disappears, and the traumatized skin heals with amazing rapidity. Should the medical board decide, however, that the patient's disability does not warrant discharge there is an equally rapid relapse. In brief, these patients literally scratch their way out of the Service. Unlike those of their brethren with vague headaches and dyspepsia of nervous origin they have something "to show," which enables them to preserve their ego; at the same time they possess a most effective lever for escape.—I am, etc.,

PATRICK HALL-SMITH,
Capt., R.A.M.C.
Hove.

SIR,—I was touched by Wing Cmdr. Bergin's cry from the heart, and would beg the hospitality of your columns in order to offer him a little solace in the difficult formative period through which he is now passing.

It should comfort him a good deal, in the first place, to make him aware of some of his more glaring factual inaccuracies. In all Services during the war the rate of return to full duty of psychiatric cases has been about 80%, and far from this being "most disappointing" it has sustained mightily those whose work has lain in this field. In the second place, he himself gives, with admirable clarity, the chief reasons for disappointing results. If Wing Cmdr. Bergin always ensures that every psychiatric patient has a "clean bill of health" from every other specialist to whom he has access, and then refers his case to a psychiatrist in a spirit of "diagnostic destitution," then he must not be surprised if results are not always what they ought to be. Promptness of diagnosis, early treatment, and disposal are the keystones of management in these cases, as has been emphasized in the war literature over and over again. However, I think it would be a great mistake to assume that this practice, mentioned by Wing Cmdr. Bergin, is widespread or even common. A very large majority of medical officers with Service experience can diagnose these cases quickly and competently, and, where an ill is a minor one, treat them very satisfactorily. All psychiatrists would agree that it is no more desirable to refer every psychiatric case to a psychiatrist than it is to refer every sprained ankle to a surgeon or every case of wax in the ear to an E.N.T. specialist.

I could not understand why Wing Cmdr. Bergin should be troubled by an autogenous cynicism because his patients showed a decent and restrained jubilation at the prospect of being invalided. I have not observed deep depression as a common phenomenon in the pre-invaliding phase in any type of patient, whether psychiatric or not. It is worth recording, indeed, that great unhappiness at the prospect of invaliding is a very common feature of schizophrenia.

I would whole-heartedly agree with his observation that imprisonment is beneficial in many psychiatric reactions. There is little that is novel in this observation, for it was observed many, many years ago that the regular routine life, good food, and open-air conditions of a well-ordered prison might produce beneficial results in the psychoneurotic. There are, however, certain difficulties about adopting this as a consistent mode of therapy. In the first place, psychotic reactions have not been observed to benefit, nor do the more severe types of depression appear to improve, under these conditions. There is also the trifling matter of the ethical justification of such procedure. I do not doubt, of course, anything Wing Cmdr. Bergin says, but I can only wonder at the truly remarkable spirit of co-operation shown by his executive colleagues, who will collaborate with him in this novel mode of treatment.

Finally I would like to commend the thesis of incapacity, as opposed to unwillingness, as an object of Wing Cmdr. Bergin's most serious study, for there is a very definite school which accepts the existence of mental illness as opposed to the thesis of calculated villainy. I should estimate this school as amounting to some 99% of the medical profession, and it must, therefore, if only by virtue of numbers, command some respect.—I am, etc.,

GERALD GARMANY,
Surg. Lieut.-Cmdr.
R.N. Auxiliary Hospital, Barrow Gurney.

Fenestration for Otosclerosis

SIR,—As one who has taken an active interest in fenestration for otosclerosis continuously since 1932 I read your leading article on this subject (Sept. 29, p. 430) and also the three letters by Messrs. N. Asherson, E. Carew-Shaw, and E. R. Garnett Passe (Oct. 13, p. 509). While I entirely agree with the admirable balanced remarks of the first and last named writers, I cannot agree in any respect with those of Mr. Carew-Shaw. There is no getting away from the fact that the region of the labyrinth is one where unskilled, half-trained, or injudicious surgery is fraught with the greatest danger. "Fools rush in where angels fear to tread," and to suggest that the operation need not "remain in the hands of a few with special aptitude" to my mind is asking for trouble, and it is certain sooner or later to bring this procedure with its definite field of usefulness into discredit. Rather let it only be performed amid ideal surroundings, and let it remain in the hands of those competent aurists who *have* studied the anatomy and the technique and, by repeated experimentation on the cadaver, have acquired that intimacy with the fine points of the operative steps which alone can ensure freedom from risk and a reasonable chance of satisfactory results.

The operation, whatever may be said to the contrary by the few, is definitely an intricate one, and therefore must never be embarked on by anyone with a passion for "operating against the clock."—I am, etc.,

Salisbury. C. A. HUTCHINSON.

Acute Inversion of the Uterus

SIR,—I was very interested to read Mr. J. V. O'Sullivan's article on the treatment of acute inversion of the uterus (Sept. 1, p. 282), and would like to add yet another instance of his method having been used with success.

A primipara, aged 23, was admitted to St. Helier County Hospital at 7.20 p.m. on Sept 29. She had had a normal delivery of a 7½-lb. child in a local nursing home at 6.10 p.m. The first stage lasted 10 hours, and the second stage 2 hours and 10 minutes. Severe post-partum haemorrhage (2–3 pints) had necessitated an attempt at expression of the placenta, and this resulted in complete inversion of the uterus at 6.35 p.m. On admission she appeared to be moribund, and the accompanying midwife had felt sure she would die in the ambulance. Her colour was grey and the pulse imperceptible. Before attempting any other examinations, blood transfusion was started and she was given 2 pints under pressure within half an hour of admission. This resulted in very slight improvement, and it was just possible to feel radial pulsation, though the rate was uncountable and the blood pressure could not be recorded. At 8.30 p.m., after further transfusion and methedrine, she was exposed sufficiently to make a gentle examination of the uterus. The placenta was found to be almost completely adherent to the fundus, which extended half-way down her thighs. There was only slight bleeding. The patient's condition deteriorated after this minimal interference, and our idea of peeling off the placenta and replacing the uterus in the vagina was therefore abandoned. Transfusion was continued until 9.30 p.m., when she had had nearly 8 pints of Rh-negative blood. She was steadily getting worse, had lost a further pint of blood, and appeared to be at the point of death. It was decided that the only possible treatment was to remove the placenta and replace the uterus. She was anaesthetized with cyclopropane, the placenta gently peeled off with some difficulty, and the uterus eased back into the vagina. A "dettol" douche was then used to balloon the vagina, and the uterus immediately returned to the abdomen. Ergometrine was given intravenously and intramuscularly.

There was a dramatic improvement. Half an hour later the blood pressure was 140/70 and her pulse could be easily counted at the wrist, though its rate was 156 per minute. The transfusion was stopped. Improvement was maintained till 11.30 p.m., when she suddenly became severely shocked again, with an uncountable pulse and a systolic blood pressure of only 60 mm. The uterus was firmly contracted and there was not any vaginal bleeding. Methedrine was given and transfusion started in a saphenous vein, but the peripheral circulation was so poor that it was difficult to keep it running fast. During the next three hours there was gradual improvement. The blood pressure rose to 90/40 mm., and her pulse rate fell to 150–160 per minute. By that time she had had 10 pints of blood in all, and a slow saline drip was continued for a few more hours to ensure the patency of a vein should she get worse. At 7.30 a.m. her pressure was 104/70 mm. and the pulse rate 140 per minute. Since then she has not given us any cause for anxiety, though her haemoglobin two days later was only 54%. Serology has not shown any evidence of haemolysis. Prophylactic sulphadiazine and *B. welchii* serum were given, and her temperature did not rise above 100.4° F. She was apyrexial six days after delivery, when she was given a transfusion of 400 c.cm. packed red cells. She was discharged on the sixteenth day with a haemoglobin of 72%.

I feel certain that this woman would have died if we had not known of this simple method of correcting the inversion. It was interesting that such strenuous efforts to combat the shock were quite ineffective until replacement was carried out, and it would seem advisable in similar cases to interfere at once if resuscitation by the usual methods failed, no matter how desperate the patient's condition.

I am most grateful to Mr. O'Sullivan, who was good enough to come and give us invaluable help in the management of the case.—I am, etc.,

Carshalton, Surrey. DOREEN DALEY.

Volvulus of Small Intestine

SIR,—The report of a case of volvulus of the small intestine by Major R. Salisbury Woods prompts me to recount a case I had in September, 1944.

The patient was a married woman aged 33, multip. 5 months; before marriage she was a sister at the local hospital. On Sept. 28, 1944, about 4 a.m., I was called to see her on account of a sudden acute abdominal pain and vomiting. No previous history of abdominal pain or discomfort. No previous operations. Temperature and pulse normal. Pain referred to lower abdomen. No distension and no tenderness. Bowels open the evening before. An enema given later in the morning produced a good result, and was followed by complete relief. Seen again the evening of Sept. 28; no pain and quite comfortable.

While operating on the afternoon of Sept. 29 I received a telephone message from the husband to say that his wife had more acute abdominal pain and had been sick several times. I had her admitted into hospital at once, and when I saw her about half an hour later she was in great pain; the abdomen was distended and there was an irregular tender mass to be felt in the lower abdomen to the left of the midline. I opened her abdomen one hour later—midline subumbilical incision—and found a complete volvulus of the last foot of small intestine, which was due to the bowel becoming attached to a large "solitary" caseating gland in the mesentery of the small intestine. The gut was black and showed no signs of recovery on unwinding the volvulus. About a foot of small intestine was resected and an end-to-end anastomosis performed. The offending gland was removed. She was a grand patient and made an uneventful recovery.

On thinking over the case, although I was somewhat dismayed to find a gangrenous bowel at operation I did not feel justified in opening her abdomen sooner than I did. As in Major Salisbury Woods's case, it is obvious now that the early signs and symptoms were (to quote his apt description) "due to a subacute volvulus in which the affected loop was swinging like a ship at anchor, partially folding over and then swinging free again until it 'stayed put' some 36 hours later." Despite diet and various medicines the bowels are a little troublesome: 2 to 3 times a day, and there is nearly always a fairly urgent call; otherwise all well.—I am, etc.,

D. J. P. O'MEARA,
Bury St. Edmunds. Hon Surgeon, West Suffolk Hospital.

SIR,—I was very interested in the note by Major R. Salisbury Woods on volvulus of the small intestine (Oct. 13, p. 496). I agree that under the conditions of European practice it is a rarity, but this is not so everywhere. Between 1919 and 1932 while working in the western United Provinces of India I had occasion to operate on about 60 cases of intestinal obstruction (apart from strangulated hernia), and of these no fewer than 12 were cases of volvulus of the small intestine. Why the condition should be common there is not clear, but the following facts are suggestive.

"Intestinal colic" with constipation is very common in India. The traditional treatment is castor oil and opium, which soon relieves the milder cases, however unorthodox and alarming to

Western ideas. But the more severe cases approach the character of intestinal obstruction, with marked distension, shock, and even vomiting of intestinal contents, though sudden relief may come after repeated large slow enemata or even without treatment.

Indian patients refuse operation as often as not, and of those whose condition justified a diagnosis of obstruction by all ordinary standards a surprising number (about one-fifth of the total) recovered after one, two, or even three large slow enemata. One patient was so ill that he died a few minutes after a third enema had produced a copious watery motion. At necropsy it was evident that a volvulus had existed and become unwound. The affected loop was increasingly congested as one traced it downwards, with many ecchymoses, especially on the anti-mesenteric border. The congestion ceased abruptly at the lower end, and on the root of the mesentery was a deep groove where the bowel had crossed it. This is exactly the picture found at operation after relieving the severer cases of volvulus of the small intestine. In another obstruction case I found what I believed to be a later stage of the same picture. A year after a severe "colic" attack I found a large loop bound down at both ends to a scarred and thickened mesentery. Here the damage must have been greater, for at the scarred upper end was a stricture which had brought the patient to the operating table.

It is remarkable that both "colic" cases and those of volvulus nearly always gave a history of a large meal of coarse, indigestible food—badly ground millet, half-cooked grain, or certain green leaves (gunyan), all of which have the reputation of giving colic. From a search of such literature as was then available to me I gathered that volvulus of the ileum was not uncommon in Southern Russia, where the poorer classes consume large quantities of millet and other coarse grains. From these facts I believe that volvulus of the small intestine is not unusual in races whose food leaves a large indigestible residue (Indians excrete twice as much faeces as Europeans), and that spontaneous resolution is quite common.

I am in complete agreement with Major Salisbury Woods's picture of the loop folding over and then swinging free again, and I agree that in early cases when congestion is slight the appearances are so puzzling that the condition is easily overlooked. Eventually I learnt to recognize the volvulus by sweeping a finger round among the intestines in the right lower quadrant of the abdomen when it encountered a band of resistance. It was, I suppose, the pedicle of the volvulus; at any rate there was something going back to the lower part of the root of the mesentery which did not slip away before the finger as it should.

In these Indian cases the volvulus involves several, even many, feet of the ileum, and it is quite difficult to be sure when the reduction is complete without more manipulation than one likes. The affected coils contain little gas and may be very heavy with liquid contents and undigested food, which may account for the production of the volvulus.—I am, etc.,

R. C. McWATTERS,
Military Hospital, Penshurst. Lieut.-Col., I.M.S. (ret.).

Operation for Varicose Veins

SIR,—Mr. Harold Dodd (Oct. 13, p. 510) has done a great service in calling attention to the importance and difficulties of this subject. His statement in which he advocates that a "pool" of information is necessary brings out the fact that there is no 100% cure for varicose veins, and that, furthermore, there are many and varied opinions and techniques being practised by those interested in this fascinating subject. Most of us will agree that the operation is one which calls for the greatest care, and should be treated as a major surgical procedure. Economic conditions and the shortage of beds necessitate in many instances the use of out-patient procedure. However, even though this may be a necessity, such operations should be performed in a major theatre with all facilities for absolute sterility and for expert assistance. My attention has been called recently to certain tragedies which might have been avoided had these points been better appreciated. To mention a few: sepsis, sloughing from sclerosant injections, emboli, tearing of the femoral vein, and even ligature of the femoral artery, have occurred in the hands of qualified practitioners. The fetish of a minute incision performed in a poorly equipped out-patient theatre should be discarded.

Again, the use and abuse of sclerosants at *the time of the operation* is a subject which calls for further investigation. There are two schools of thought in this matter. Should both legs be dealt with at the same operation, or should the operation come into line, say, with that of double hernia, in which I believe the practice of dealing with one side at a time to be the usual procedure?

There are countless other "differences of opinion," and there seems to be but little correlation of the late results following the various and varied techniques. Mr. Dodd's letter will have been a great service if it serves to call together those of us who are struggling with this problem of the vagaries of the varix. —I am, etc.,

London, W.1. R. R. FOOTE.

Nerve Injuries in Children

SIR,—I should like to thank Mr. St. Clair Strange and Mr. Zachary (Oct. 20, p. 545) for their letters correcting the obvious mathematical error in my article of Oct. 6. The figures should have read 15 mm. a week and not 15 mm. a day. This is in line with Mr. Zachary's figure of 2.1 mm. a day.

Although 2.1 mm. a day does not appear to be a great increase upon the oft-quoted figure of 1.0 to 1.5 mm. a day for the rate of recovery in an adult, it is in my opinion much greater than the figures suggest.

The rate of recovery of nerve injuries in adults is very rarely as rapid as 1.0 mm. a day. In fact, the rate of recovery in adults in our own cases and those of other surgeons, which we are treating, is disappointingly slow.

The case referred to in my article of Oct. 6 was seen in May, 1944, in the out-patient department of the Royal National Orthopaedic Hospital, Great Portland Street, and was operated upon two weeks later. Both before operation and twelve weeks after operation she was also examined by my colleague, Mr. Donald Norris. The patient, Miss P., is now employed in the telephone exchange of the Royal National Orthopaedic Hospital, Stanmore, and is most co-operative in demonstrating her result to anyone who may be interested.—I am, etc.,

Royal National Orthopaedic Hospital. E. HAMBLY.

Caffeine and Peptic Ulcer

SIR,—Your annotator ends his article (Oct. 13, p. 504) with these words: ". . . at least an adequate justification for eliminating caffeine-containing beverages from the diet of ulcer patients." Why not put it in plain English? Ulcer patients are not to be allowed tea or coffee. Now the cup of tea is an institution without which no charlady, Service man or woman, private or colonel would complete a day's work. Tea was one of the few luxuries that Lord Woolton maintained during the blackest period of the Battle of the Atlantic. It fetches an enormous price in the "black market" on the Continent.

What is the evidence for its denial to the ulcer patient? An American youth who perforated after drinking 150 bottles of coca-cola; a resistant duodenal ulcer in a patient who was a coca-cola addict; experiments on cats which show they develop engorgement of the gastric mucosa after the injection of 250 mg. of caffeine sodium benzoate (the equivalent weight for weight of an average man drinking 50 cups of tea). It is difficult enough to persuade an ulcer patient to stick to a regime, but to deny him tea and coffee on these grounds will undermine any faith he may have in his doctor.—I am, etc.,

R.A.F. Station, Keevil, Wilts. J. S. ASTBURY.

Epidemic Diarrhoea and Vomiting

SIR,—We have read the very interesting paper on epidemic diarrhoea and vomiting, etc., by Drs. George Brown, G. J. Crawford, and Lois Stent (Oct. 20, p. 524), and think that our experiences during an outbreak in July, 1945, in this hospital might be of interest to your readers.

This hospital has a population of about 2,000 patients and resident staff, but the outbreak was practically restricted to female staff and patients. Altogether about 130 out of a female population of 1,300 became ill. This is all the more remarkable as one of the female wards with a morbidity of about 25% lies within the "male side" of the hospital. This is a female infirmary ward, and the patients are not much in contact with other patients. We could not find out how the disease spread to this ward. Both staff and patients were involved, but the first nurse fell ill four days after the first patient, so that it does not seem likely that the nursing staff were the carriers; we thought one nurse might have been a carrier but were unable to find proof. The very few male patients affected fell ill only towards the end of the epidemic, so it is unlikely that it started on the male side. Another remarkable feature was that in spite of precautions the disease spread rapidly within the female wards affected, with a morbidity of between 10% and 50%, but it did not spread at all in the male wards. In one six-ward block all wards were affected, and in a second only four wards were affected. The epidemic started slowly on July 1 and petered out towards the end of the month.

Bacteriologically, we did not find any non-lactose-fermenters at first, but later on, when strict orders had been given to send the very first diarrhoeic stool passed—and this was not always possible—a number of non-lactose-fermenters, not of the typhoid-dysentery group, appeared. The table below contains the detailed findings in fifty cases as compared with the same number of stools examined as a routine. It shows a considerable percentage increase in the number of organisms regarded by some workers as pathogens but by others as concomitants only.

	Routine Material	Epidemic Material
Negative	45	36
B. faecalis alcaligenes	1	3
B. coli anaerogenes	—	1
B. morgani	—	3
N.L.F. *B. coli*	—	1
B. paracolon types	3	2
Others	1	4
Total	50	50

Under the item "Others" we include five organisms which were non-lactose-fermenters but which gave varying fermentation reactions and which could not be identified serologically.

As the illness was definitely a clinical entity, while the bacteriological findings were not, the results support the views of those authors who think that these organisms grow more freely in diarrhoeic stools but have nothing to do with their causation. Unfortunately the disease occurred during a shortage of medical and laboratory staff caused by the holiday period and other reasons; consequently it was not possible to investigate the haematology, etc., and we could not even make a deductive guess as to the origin (bacterial or virus) of the epidemic.—We are, etc.,

H. H. FLEISCHHACKER.
R. F. LANE.
L. A. F. WARNE.

Shenley Hospital, St. Albans.

Young Nurses in Tuberculosis Wards

SIR,—A circular has recently been issued by the Ministry of Health which indicates that the Minister is not prepared to take action to stop the recruitment of very young girls—mere children, indeed—for work in acute tuberculosis wards. Here is a definite instance.

On her 16th birthday M. B. started a nursing career in a borough isolation hospital, being put to a tuberculosis ward. Within a few weeks she was under treatment for erythema nodosum, but soon returned to work, this time on night duty. Within a few months she complained of an aching knee and of feeling "so tired"; she was told this was a quite common experience. Her 17th birthday found her entering a tuberculosis hospital as a patient with established disease of lungs, knee, and kidney. Two and a half years later she was still there, hovering between life and death.

In the nursing papers advertisements were still appearing for girls of 17 or under for this same isolation hospital, which is a unit in the Public *Health* service of this country.—I am, etc.,

Northwood. ESTHER CARLING.

Doctors in Uniform

SIR,—It has occurred to me, in reading the many letters published in your *Journal* from R.A.M.C. officers complaining of their lot, that few of them have approached their Service from a realistic point of view. Their complaints may be summarized into two main groups: (1) lack of professional work, and (2) complaints generally about the administrative and disciplinary aspects of the Services.

Under the first head the fault is, I think, that some medical officers failed to realize that they held commissions in the Army and regarded themselves as doctors only—not accepting the fact that they belonged to the most fortunate profession in wartime in so far that they were allowed to continue with their profession in some degree, in contradistinction, say, to a lawyer or other professional man who might be an infantryman or a gunner. In other words, "there was a war on" and "there were regimental duties to be done." Incidentally they were paid at a higher rate than any other Services, and some of the grumblers even had exalted ranks. In my experience the good and keen regimental medical officer seldom complained of lack of work, and many of them were indeed overworked. War inevitably at times produces for everybody periods of boredom and inanition.

The second complaint is largely explained, too, by the above; but in addition there was an undercurrent of distrust of the regular R.A.M.C. officer, and a reaction that any instructions issued by him must be professionally inadequate and administratively bound up with red tape. Nothing could have been less true. The majority of the Regular officers it was my privilege to serve with were first class professionally, and were certainly better read and informed on non-professional subjects than their civilian counterparts.

Most of the complaints I heard were the result of ignorance of the duties of an R.A.M.C. officer on the part of the complainants. So many admitted that they were only interested in medicine, and resolutely refused even to try to learn or understand Army procedure. Of course I am only speaking of the grumblers. The large majority of the emergency commissioned officers tried to learn the new aspects of their job, and succeeded in learning them, as the wonderful record of the medical services in this war clearly shows.

May I add that I speak as a non-Regular. My experience of the Territorial Army dates only from July, 1939, but I am grateful for having had the honour and opportunity of serving with the R.A.M.C.—I am, etc.,

L. J. HAYDON,
(Late) Lieut.-Col., R.A.M.C.

Rehabilitation of Skin Patients

SIR,—You published a very excellent paper on "Rehabilitation of Patients suffering from Skin Disease" by Major R. Mason Bolam (Oct. 20, p. 539). In it he describes the work done at Ragley Hall British Red Cross and St. John Auxiliary Hospital in Worcestershire. It is one of the hospitals which was included in my area as Inspector for War Organizations during the last six years. I have repeatedly in my reports on this hospital pointed out to the Director of Medical Services, General Ainsworth, the excellent work which I have witnessed here. I should like to say how much I endorse everything that Major Bolam says and how thoroughly I agree with his conclusions at the end of his paper. May I add that the organization and treatment could only have been carried out by a wonderful team of workers. I refer, of course, to the Commandant and the Matron and her staff: they certainly deserve all the praise that can be given.—I am, etc.,

R. G. HOGARTH, F.R.C.S.,
Inspector of Hospitals for Regions 9 and 3.

Nottingham.

Permission for Aliens to Practise

SIR,—I wish heartily to endorse the plea made by Dr. Harold Sanguinetti (Oct. 13, p. 514) for allowing "enemy alien" doctors to continue to practice their profession in this country. I would also add that the permission should include "friendly alien" doctors who may have unhappy memories which they do not wish to awaken by returning to their own countries. I believe it is against our principles of humanity to force those to whom we have given refuge to return against their will, and unfair to use their services for our advantage and dispense with them when our need is less critical. Apart from the justice of the matter, it would appear from the numerous articles which have been written recently that there will be a great shortage of doctors for many years, so the services of any foreign doctors who care to remain can only be of advantage to this country.

While I hesitate to believe that the Government is waiting for an expression of medical opinion, I do think such an expression would be helpful, and appeal to all those who agree to ensure that their views are made known in the right quarter.—I am, etc.,

Leicester. JANET M. DONE.

Obituary

SIR LISLE WEBB, K.B.E., C.B., C.M.G.

Brevet Colonel Sir Arthur Lisle Ambrose Webb, who died on Oct. 7, was born on July 19, 1871. He received his medical education at University College Hospital, London, and took the Conjoint qualification in 1895. At the outbreak of the South African War in 1899 he was a district surgeon under the Basutoland Government, and immediately resigned his appointment and joined the R.A.M.C. He served throughout the war, for which he received the Queen's Medal with five clasps and the King's with two clasps. After the war he took the diplomas in public health and tropical medicine and hygiene. During the war of 1914–18 he served as an Assistant Director-General of Medical Services, and was mentioned in dispatches, awarded the C.M.G., and given the rank of brevet colonel. For his service during that war he was further, in 1919, awarded the C.B.

After the Armistice in 1918, and the consequent mass demobilization, the Ministry of Pensions was faced with the task of assessing the amount of disablement suffered by the many thousand claimants for compensation, and of providing in- and out-patient treatment where necessary. Lisle Webb was appointed Director-General of Medical Services to carry out this task, and in a comparatively short space of time medical boards were in continuous session throughout the country, and hospitals and clinics for the exclusive needs of ex-Service men were established in the large towns. Webb's work in this connexion was rewarded by the well-merited honour of K.B.E. He had been seconded to the Ministry from the R.A.M.C., and later it became a question whether he should return to the Army or not. He was, however, so obviously the man to continue directing the work which he had begun so well that his appointment in the Ministry was confirmed, and he retired from military service and became a civil servant. He continued in this position until the end of 1933, when he retired. Webb's success, while due largely to his own inherent ability, was in no small measure contributed to by the willing and efficient service rendered by his staff to a chief who considered them in every way. A piece of work well done won from him the praise which incited to fresh efforts; work was never allowed to accumulate while an official was on leave; any indication of overwork or ill-health was always met by an instruction to take the necessary rest.

When he retired in 1933 he did not sever his connexion with the Ministry, but filled the post of Secretary and Treasurer to Queen Mary's Hospital, Roehampton—an institution in which he had always taken the greatest interest, and for whose efficiency he was largely responsible. He finally retired in 1942, and spent most of his time at his home in Balcombe Forest.

He was a Knight of Grace of the Order of St. John of Jerusalem and an Honorary Fellow of University College Hospital. On his retirement from the Ministry of Pensions he was appointed consulting physician to that Department.

D. C. RAYNER, Ch.M., F.R.C.S., F.R.C.O.G.

We regret to announce that Emeritus Professor D. C. Rayner, who held the chair of obstetrics in the University of Bristol for six years, died in a Clifton nursing home on Oct. 21, aged 80. He still saw some patients until he himself became ill a short time ago.

David Charles Rayner was a student of the Bristol Medical School, and took the M.R.C.S., L.R.C.P. diplomas in 1892. He obtained the F.R.C.S. in 1896, became an original Fellow of the Royal College of Obstetricians and Gynaecologists in 1929, and received the Ch.M. degree from Bristol University in 1930. After graduating he worked for a time in the physiological laboratories, and then joined the staff of the Bristol Maternity Hospital. He was appointed assistant obstetric physician to the Bristol General Hospital, and reached the senior staff in 1923. He became director of clinical obstetrics in the University of Bristol in 1925, a year before his election as professor of obstetrics, and on his retirement from the chair at the end of 1932 he was made emeritus professor. He was for some years an examiner for the Central Midwives Board for England and Wales, and examiner in obstetrics for the University of Wales. At the Annual Meeting of the British Medical Association held at Bath in 1925 he served as vice-president of the Section of Obstetrics and Gynaecology, and he was also a past-president of the Bristol Medico-Chirurgical Society. He remained a member of the B.M.A. from 1894 until the time of his death. Prof. Rayner's published writings appeared in the *Lancet* (on rupture of the uterus in a case of normal labour), the *Birmingham Medical Record* (on puerperal sepsis), and the *Bristol Medico-Chirurgical Journal* (on the relation of gynaecology to the glands of internal secretion).

M. C. writes: Ex-students and nurses of the Bristol General Hospital will have read with distress of the loss of their old friend "Charlie Rayner." No man among the honorary staff won a greater measure of affectionate regard. His retiring and diffident manner, his unvarying kindness, courtesy, and charm, were coupled with considerable professional skill and experience. His modesty was quite disproportionate, but it failed to stem the growth of an enormous consulting practice. His services were freely available to all and sundry, at any hour of day or night. Not only was he unmercenary, but his generosity, or perhaps shyness, seemed often to prevent him from sending accounts even to the wealthiest of his patients.

Charlie appeared to have no hobbies or interests apart from his job, and when at home he lived with extreme bachelor simplicity and quietude, cared for by his devoted sister. Yet he was the friend of all, and no one in the West of England ever thought or spoke of him except in terms of the greatest warmth.

Universities and Colleges

UNIVERSITY OF OXFORD

In a Congregation held on Oct. 18 the following medical degrees were conferred:

D.M.—*W. E. Henley.

B.M., B.CH.—I. G. Waugh, H. R. Smart, T. W. Price, *V. J. K. Wright *E. L. N. Shoeten-Sack.

* In absence.

UNIVERSITY OF CAMBRIDGE

At a Congregation held on Oct. 19 the following medical degrees were conferred, all by proxy:

M.B., B.CHIR.—R. S. Lewis, J. A. R. Debenham, J. A. Rycroft, J. E. M. Whitehead, J. M. Cliff, E. D. Forster.

M.B.—W. A. Fell.

ROYAL COLLEGE OF PHYSICIANS OF LONDON

At a quarterly Comitia of the College held on Oct. 25, with the President, Lord Moran, in the chair, Dr. E. Bellingham Smith, Prof. A. W. M. Ellis, Prof. J. C. Bramwell, Dr. J. L. Livingstone, and Dr. E. R. Boland were elected Councillors.

The following were elected representatives of the College: Dr. H. E. A. Boldero on the committee of management of the Conjoint Board, Sir Comyns Berkeley on the Central Midwives Board, and Sir Francis Fraser on the Poisons Board.

The President announced the award of the Jenks Memorial Scholarship to J. C. Camac, late of Epsom College, and the Gilbert Blane Gold Medal to Surg. Lieut.-Cmdr. F. P. Ellis, M.B., R.N. Dr. R. E. Lane was appointed Milroy Lecturer for 1947.

The Comitia of the College endorsed the unanimous recommendation of its Council that the present interests of the College would best be served by remaining in its present premises. In coming to this decision the College has had the benefit of the advice of a panel of experts.

Dr. W. Russell Brain will deliver the Bradshaw Lecture on "Speech and Handedness" on Thursday, Nov. 8, at 2.30 p.m.

Membership

The following, having satisfied the Censors' Board, were elected to the Membership of the College:

Ailsa Bannerman, L.R.C.P., G. A. Copping, M.D., Lieut.-Col., R.C.A.M.C., G. D. Daruvala, M.D., C. E. Davies, B.M., A. P. Fletcher, M.B., Surg. Lieut., R.N.V.R., J. E. Francis, M.D., W. Ganado, M.D., W. W. Gooddy, M.B., Capt., R.A.M.C., S. J. M. Goulston, *M.C.*, M.B., Major, G. I. C. Ingram, M.B., A. J. Kerwin, M.D., Squad. Ldr. R.C.A.F., F. J. D. Knights, M.D., C. A. Leeson, M.B., P. F. Lucas, M.B., M. B. McIlroy, M.B., W. E. Mahon, L.R.C.P, J. A. W. Miller, M.B., Major, R.A.M.C., F. E. E. Sargent, M.D., D. Shiers, M.B., A. J. Shillitoe, M.B., J. McN. Tainsh, M.B.,

S. M. Talaat, L.R.C.P., E. C. Turton, M.B., P. Venables, M.B., D. R. Wilkie, M.D., H. P. Williams, L.R.C.P., Major, R.A.M.C.

Licences

Licences to practise were conferred upon the following 184 candidates (including 29 women) who had passed the Final Examination in Medicine, Surgery, and Midwifery of the Conjoint Board and who have complied with the necessary by-laws:

F. Alberts, R. C. Allison, Daphne S. A. Anderson, G. J. E. Ansell, E. R. Arnold, Lenorah M. Attkins, G. M. Bailey, Joan R. K. Bastable, J. G. Bearn, T. R. Bennett, F. M. Benton, M. Blackwell, Stella Booth, Camilla B. P. Bosanquet, Lesley M. McL. Bowen, H. L. Braterman, N. Brodie, D. E. St. J. Burrowes, J. P. Bush, I. Butler, N. J. Caldwell, Margaret Capra, C. L. Casimir, D. A. Chandler, D. J. Chapman, J. Clarke-Goldthorpe, J. P. Clayton, D. Cockcroft, N. C. Connell, D. E. Cullington, R. Davidson, R. H. Davidson, E. C. Davies, Elizabeth E. Davies, E. J. Ll. Davies, N. N. Davies, S. Davis, D. A. Dawson, C. H. de Boer, R. A. Denham, A. L. de Silva, D. C. de Ville, A. G. Dingley, E. M. C. Dunlop, A. L. T. Easton, A. McK. Elliott, E. Ellis, R. H. Ellis, R. F. Ewing, A. Fernandez, J. Fifield, M. L. H. Flindt, K. J. R. Ford, G. Forrester, W. S. Foster, A. E. Fyfe, G. F. J. Goddard, B. Gordon, C. W. Graham-Stewart, M. Grant, J. S. B. Greenfield, R. E. Gruchy, Tatiana P. Guercken, R. J. H. Guy, D. Hacking, H. M. Halle, Audrey Hanson, M. J. Harman, R. P. Harwood, A. G. Hayter, A. G. S. Heathcote, Mary Helmer, M. J. T. Hewetson, P. H. Hewitt, C. Hougie, Betty E. Howarth, D. E. Howells, C. H. A. Hoy, D. Hull, E. C. Hutchinson, M. S. R. Hutt, J. A. Hyde, C. C. Jackman, D. W. James, J. B. James, R. H. F. James, J. P. Janvrin, H. Jasowitz, P. M. Jeavons, F. F. Jerichower, D. J. B. Johnston, D. E. E. Jones, P. M. P. Jones, W. J. R. Jones, W. R. Juckes, H. T. Kay, H. E. M. Kay, Catherine M. R. Kirkpatrick, J. M. Kodicek, P. B. Kunkler, Stephanie A. Laing, H. A. Lane, J. G. Latimer, V. M. Leveaux, V. B. Levison, Helen M. Littler, Lilwen E. Lloyd, W. H. Lonsdale, J. D. Lucy, Joan V. Macdonald, R. C. McGregor, C. McIver, J. McMillan, P. N. Magee, J. E. Marrett, Margaret L. V. Matthews, M. Mattinson, W. G. Miln, M. Mir-Fakhrai, W. T. S. Moore, T. H. Morgan, D. R. Murley, R. R. W. Nichols, W. Niman, D. E. Oakley, Mora A. C. O'Hanlon, D. O'Keeffe, Liliane Parkinson, Deirdre Paulley, J. P. Penson, I. M. Perkins, P. J. Preston, A. H. C. Ratliff, J. W. T. Redfearn, P. A. Reed, N. C. Rees, Rosemary J. Reynolds, L. F. Richards, Rachel Richards, K. E. Rimmington, P. A. Ring, K. B. Roberts, J. O. Robinson, N. Rosedale, D. E. Rowlands, J. T. Rowling, C. M. Ruben, A. J. Rundle, Christine E. Sandford, G. A. Sedee, S. Seed, J. D. F. Shaw, D. A. Sherman, C. Shiers, Christine M. Singer, C. J. Stevenson, W. M. B. Strangeways, G. S. Tapsall, T. Taylor, H. G. Thomas, Peggy Thomas, J. M. Thompson, B. T. R. Thornton, Phyllida M. M. Thornton, W. R. R. Thursfield, J. V. Thurston, M. Tobias, D. G. L. Trust, F. T. G. Tuffnell, J. C. L. Wade, R. J. Walsh, D. A. Watkins, Mary Weston, J. A. Wheeler-Bennett, L. R. Whittaker, G. H. Whittle, W. B. Whowell, J. B. Wild, C. B. Williams, R. L. Wills, W. H. D. Wince, D. L. Woolf, K. A. A. Wray, Joan D. Wrigley.

Diplomas

Diplomas in Child Health were granted, jointly with the Royal College of Surgeons of England, to the 35 successful candidates whose names were published in the report of the meeting of the Royal College of Surgeons of England in the *Journal* of Oct. 27 (p. 588).

Diplomas in Ophthalmic Medicine and Surgery, in Medical Radiology, and in Physical Medicine were granted, jointly with the Royal College of Surgeons of England, to the following successful candidates:

OPHTHALMIC MEDICINE AND SURGERY.—D. Ainslie, F. J. Damato, A. J. Elliot, H. C. Kodilinye, J. M. Loftus, P. J. McNicholas, L. H. G. Moore, J. C. Mustardé, T. H. Negus, A. K. Pittman, D. Shorten, R. Vaughan-Jones.

MEDICAL RADIOLOGY.—R. A. Andrews, K. C. Falkner, R. M. Hall, T. M. Young.

PHYSICAL MEDICINE.—F. J. Bach, E. J. Crisp.

Medical Notes in Parliament

Bread and Nutrition

In the House of Lords on Oct. 24 Lord HANKEY moved that the health of the population should be the guiding principle governing the Government's nutritional policy, and that in the case of bread the health of the consumer should be the primary factor and milling and other interests should be developed in harmony with this policy. He said the debate on bread which had been initiated by Lord Teviot on Feb. 28 had aroused remarkable interest. The leading article on it in the *British Medical Journal* headed "The Political Loaf" [March 17, p. 372] had caused many a chuckle. Lord Teviot in that debate had secured an undertaking that if the Government had been found wrong in reducing the extraction of flour to 80% it would go back to 82½%. A second undertaking was that the Government would not reduce the rate below 80% until it was satisfied that this change would not be detrimental to nutrition. Lord Hankey said that in the subsequent eight months figures and facts had been published which suggested that the Government was wrong and ought to go back to 82½%, or better still to 85%. Figures supporting that contention were based on the seventh report of the Scientific Adviser's Division, Ministry of Food, checked by a memorandum on nutritive values of wartime foods which had been published by the Medical Research Council.

The present 80% flour showed no marked difference from the 85% flour of Lord Woolton in the figures for proteins, fats, carbohydrates, and calories. But the 85% flour contained a more valuable assortment of proteins, and their loss could not be stated in figures or corrected by enrichment or fortification. For the protective elements, which research had shown to be vital to health, the story was worse. The present 80% flour showed a loss of 10.2% in vitamin B compared with the 82% flour and 19.2% compared with the 85% flour; riboflavin showed a loss of 20% compared with last autumn's flour and 38½% compared with Lord Woolton's flour; nicotinic acid had a loss of 8.3% compared with the former but only 2½% compared with the latter. Iron in the present flour was reduced by 16½% compared with last autumn's flour and 21.7% compared with Lord Woolton's flour. That loss must be taken seriously because reduction in anaemia followed the introduction of the 85% flour. Other substances in wheat were removed progressively in passing from a whole wheat to a 75% flour. These unknown substances could be demonstrated by animal experiments to be nutritionally valuable. Obviously the millers could only put back what they knew they had taken out. Useful bran was also taken from the loaf. The 85% bread had been recommended all through the war as an optimum loaf by the Medical Research Council. The net result of the change involved the risk of an increase in anaemia, constipation, and consequential troubles.

A report on health and nutrition in the Channel Islands showed that the extraction level during the German occupation was practically 100% and that the great majority of people came to like the loaf. The medical profession of Jersey and Guernsey regretted its disappearance and its replacement by white bread when the relieving Forces arrived. While the 100% loaf was consumed the incidence of appendicitis, colds, and new cases of peptic ulcer was believed to have fallen considerably. In Jersey there had been no influenza epidemic. The first effect of the 100% loaf had been looseness of the bowels, sometimes severe, but after three months the symptoms abated and constipation, which before the occupation had been one of the commonest complaints, almost entirely disappeared. The investigators found nothing in Jersey approaching widespread undernutrition and were much impressed with the excellent condition of the teeth of the children. Lord Hankey added that vegetables had been unrationed and abundant during the occupation and were a staple food. Britain ought to go back to 82½ or 85%, and he asked the Government to publish the opinion of its scientific advisers.

NATURAL VITAMINS VERSUS SYNTHETIC

Lord HORDER, supporting the motion, said that since the debate on Feb. 28 a conference on the post-war loaf had been attended by representatives of the Ministry of Health, the Ministry of Agriculture, the Department of Health for Scotland, the Medical Research Council, the milling and baking industries, and flour importers. That conference agreed that three essential token nutrients could be specified as present in the wheat berry; that these could be assayed without difficulty and determined by the ordinary analyst; and that a minimum quantity of each of these should be present if bread was to remain the main contributory factor in the nation's health. Therefore the Government would have a basis on which it could make regulations requiring the minimum amounts of these substances to be present in flour, assuming that the Government decided to continue to regulate the character of flour.

The Chairman of the Food and Nutrition Board of the U.S.A. National Research Council reported that synthetic vitamins and vitamin concentrates were expedients which could not form the basis for a sound nutrition programme. The conference had left this question of the source of the token nutrients open for further research, but unanimously considered that in the meantime the Government should stick to the 80% extraction because it had coincided with such good health in the nation and could give the minimum quantities of the essential nutrients. Whether it did give them in the hands of a section of the milling industry could be judged only by analysis of bread obtained here and there in the country. There was no strict relation between the nutritive quality of flour and the extraction rate. Present knowledge of how these nutrients were distributed in the wheat grown was very recent, more of months than of years, but it had been confirmed. This knowledge permitted an improvement of milling to such an extent that they now knew at which part of the milling process the results should not be thrown away or even given to pigs and poultry. By the technique of milling they could direct into the flour the things they really required. The coarse fibre of bran could be diverted elsewhere and the loaf thereby made whiter and more acceptable to the average citizen.

Lord ADDISON agreed with the principle of the resolution that the health of the population should guide the nutritional policy of the Government. This country owed a debt to the Ministry of Food for emphasizing the importance of nutritional policy as underlying supply policy. The Government hoped to keep the benefits which had already arisen from that policy. It accepted the necessity for continuance of the Ministry of Food. Bread was not the only food to which the Ministry of Food had added advantageous materials: margarine had been greatly improved. He hoped the country would become accustomed to regard the existence of a Ministry of Food, performing these and other functions, as an essential part of our national economy.

He accepted the suggestion that the Government should publish the report of the conference on the post-war loaf. When that was done the discussion could be conducted on a higher level because it had hitherto been encumbered by guesswork. He noticed from the report that riboflavin was decidedly less in quantity in the 80% extraction than in the higher extraction. That was not of itself an objection to the 80% flour, because riboflavin was normally taken in other foods. He was authorized by the Minister of Food to say that he would give every help in furthering the researches which the conference recommended. The conference had unanimously suggested that in the meantime the present national flour should be maintained with the improvements brought about by the latest improved methods of milling. The Government proposed to accept that recommendation.

Lord **Teviot** said that in the last few years many of the old-fashioned stone-grinding mills had applied for licences to start again, but only a very small number had been granted. There should be an opportunity for restarting these mills.

Public Preference ?

Lord **Glentanar** said he was assured by an expert that the extraction to-day was no higher than 78%. He suggested that millers and bakers should have every opportunity to supply wholemeal bread and that white flour should be provided in small quantities for special purposes, but rationed if necessary. Lord **Llewellin**, speaking of the work done on the extraction rate of flour by the Cereals Research Station at St. Albans, said investigation there had proved that vitamin B_1 and most of the others were highly concentrated in part of the wheat germ, and that this fraction of the wheat could be segregated during milling to ensure that the great part of it went into the flour. When the extraction rate was reduced to 82½% there was a technical process in the mills to ensure that the necessary part of the germ reached the flour and did not go into the offal. It was no good towards the end of a war holding on too long to a kind of bread which the people did not like; a lot of manual workers were not enamoured of high-extraction flour. According to reports made to him when he was Minister of Food there had been an appreciable falling off in nutritional value when an 80% extraction was introduced, taking into account that other things besides bread were provided. Undoubtedly the 80% flour kept better, and the Royal Navy had insisted throughout the war on white flour for every ship commissioned for sea service. With the 85% extraction flour there had been a waste of bread.

Lord **Bledisloe** said he lived among miners and wondered whether the difficulties in securing adequate output of coal were not to some extent due to the fact that the miners preferred white bread and lean bacon. He affirmed that since the last debate on the subject in the House there had been no authoritative medical testimony in favour of a white loaf bereft of its protein, its fat, its iron, its calcium, and its vitamin B. It was the more necessary that bread should not be robbed because the present supply of whole milk was inadequate and would remain so for a considerable time.

The House agreed to Lord Hankey's motion.

Shortage of Nurses

On Oct. 25 Mr. **Bevan** announced that according to returns submitted to Mr. Isaacs there were on June 30, 1945, vacancies for about 30,000 nurses of all grades in hospitals and allied institutions, including nursing homes, in Great Britain. He added that he was consulting the Minister of Labour and the organizations principally concerned on the whole nursing position and hoped to make a full statement in two or three weeks. Arrangements were being made whereby women who are willing and suitable to be trained for the nursing profession might be released from the Forces in Class B.

Earl **Winterton** asked the Minister of Health to reconsider the regulation whereby former V.A.D.s and auxiliary nurses wishing to qualify as State-registered nurses would be exempted only from six months of their four years' training. Mr. **Bevan** replied that this was primarily a matter for the General Nursing Council, who decided after full consideration and discussion that the remission to be allowed in suitable cases should not exceed six months, thus reducing the minimum period of training from three to two and a half years. He had agreed to approve a rule to that effect.

Food of Diabetic and Tuberculous Persons.—Sir **Ben Smith** said on Oct. 10 that he was advised that the present allowances of foodstuffs for diabetic and tuberculous patients were adequate for their needs. He could only allow them extra eggs at the expense of other members of the community, some of whom suffered from complaints for which eggs were a necessity. During the present general shortage of foodstuffs he could not provide diabetic and tuberculous patients with extra eggs prescribed for them by their own doctor.

Health Insurance Benefit.—On Oct. 11 Mr. **Beechman** asked the Minister of National Insurance whether, in view of the delay before the passing into law of a comprehensive scheme of national insurance, he would forthwith introduce measures to bring the rate of sickness benefit into conformity with unemployment and other benefits, and extend to all cases of sickness provision for dependants. Mr. **James Griffiths** said that partial legislation on this matter in advance of the main insurance measure would be unsatisfactory. The Government intended so to frame the main legislation that the earliest practicable opportunity could be taken of bringing into effect, as part of a general plan, improvements in rates and conditions of health insurance benefit.

Mortality from Infectious Diseases.—Mr. **Bevan** has furnished the following table for England and Wales:

Death Rates per Million living under the Age of 15 Years

Cause	1940	1941	1942	1943	1944*
Scarlet fever	12	11	9	11	9
Diphtheria	266	280	192	134	92
Whooping-cough ..	78	279	94	129	121
Measles	95	128	53	86	28

* Rates for 1944 are provisional.

Notes in Brief

The possibility of treating Service tuberculosis patients in Service hospitals or Service wings of civilian sanatoria is being examined with a view to minimizing any delay between diagnosis and the institution of appropriate treatment.

In the British zone in Germany the minimum food value of all displaced persons is 2,000 calories per person per day.

The Ministry of Supply is the wartime production authority for *x*-ray equipment and accessories. The post-war position is under consideration, and no consultations with the industry have yet taken place.

Dr. Summerskill, in reply to a question to the Minister of Food, said on Oct. 18 that existing arrangements for supplying dried bananas to patients with coeliac disease should not cause difficulty or delay.

Correction.—The statement on release of students in Medical Notes in Parliament (Oct. 27, p. 589) contains a misprint; students eligible for release in Class B are those in groups 1–49, and not 1–19 as stated.

Medical News

The Council of the Royal Society of Medicine proposes to create a Section of Endocrinology. The 50th anniversary of the discovery of *x* rays will be celebrated by the Section of Radiology at a meeting on Thursday, Nov. 8, at 4.30 p.m., under the chairmanship of Lord Horder, and, at 8 p.m., there will be a reception and entertainment.

Dr. J. M. Alston, pathologist to the Archway Group Laboratory (L.C.C.), will lecture on the scope of penicillin therapy to the Association of Austrian Doctors in Great Britain on Nov. 8 at 6 p.m., at 69, Greencroft Gardens, N.W.6 (near Finchley Road Station). Guests will be welcome.

The Food Education Society (29, Gordon Square, W.C.) has arranged a public lecture on "Food and Behaviour," to be given by Dr. E. A. Hamilton Pearson at the London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C., on Thursday, Nov. 15, at 3 p.m.

A meeting of the Tuberculosis Association will be held at 26, Portland Place, W., on Friday, Nov. 16. Papers will be read, at 4.45 p.m., by Prof. G. Selby Wilson on "Bovine Infection and Disease" and, at 5.50 p.m., by Dr. Kalman Mann on "Incidence of Primary and Haematogenous Lung Lesions in Skeletal Tuberculosis." At 8 p.m. there will be a discussion on "Prognosis and Treatment of Combined Tuberculosis," to be opened by Dr. Harley Stevens, Mr. G. R. Girdlestone, and Dr. F. S. Hawkins.

A meeting of the Society of Public Analysts and Other Analytical Chemists will be held at the Chemical Society's rooms (Burlington House, Piccadilly, W.) on Wednesday, Nov. 7, at 6 p.m., when the following papers will be presented and discussed: "The Determination of Carotene and Vitamin A in Butter and Margarine," by Mr. T. W. Goodwin and Prof. R. A. Morton, and "A Photo-electric Method of Assaying Vitamin A in Margarine," by Messrs. J. L. Bowen, N. T. Gridgeman, and G. F. Longman.

Dr. John Scott Clark has been released from internment in Japanese hands.

David Paton Cuthbertson, M.D., D.Sc., has been appointed director of the Rowett Research Institute at Aberdeen in succession to Sir John Boyd Orr. Dr. Cuthbertson, who is Grieve Lecturer in physiological chemistry at Glasgow University, was educated at Glasgow and Leipzig Universities, and was previously lecturer in pathological biochemistry.

Prof. E. C. Dodds, M.D., F.R.S., director of the Courtauld Institute of Biochemistry at Middlesex Hospital and a member of the Grand Council of the British Empire Cancer Campaign, is visiting Norway, Sweden, Denmark, and Finland, under the auspices of the British Council, to lecture on cancer research and biological and medical subjects.

Field-Marshal Sir Bernard Montgomery, in an address to the Royal United Services Institution in London, has paid a high tribute to the medical organization of the Army, which, he said, had almost halved sickness among the troops compared with the war of 1914–18. As the B.L.A. swept through Germany, liberating prison camps such as Belsen, where thousands were dying of typhus, only 25 British troops contracted the disease, and none died of it. This was due to preventive inoculations and to the adequate supply of D.D.T. Through the use of penicillin many men who would have been permanent invalids after the last war were fit and ready to go back to the line within a month of being wounded. Doctors, the Field-Marshal said, were prepared to lay fifteen to one that once a man got into their hands, whatever his injury, they would save his life and restore him to health. It was a fine thing that these odds were achieved with a handsome margin.

Mr. Angus Rhodes, J.P., of Bradford, has generously founded a research scholarship to be associated with the Regional Radium Institute, Bradford. It is intended that the research should be of a clinical nature into an aspect of the cancer problem to be decided by the Trustees. These include the chairman of the Board of Management of the Bradford Royal Infirmary, the Town Clerk of Bradford, the donor and his solicitor, with the Medical Director of the Radium Institute as scientific adviser. The scholarship fund was established soon after the outbreak of war, but no scholar has yet been appointed. It is intended to advertise the post as soon as conditions permit, but in the meantime the Trustees feel that the existence of this scholarship might be of interest to medical practitioners both at home and in the Forces over-seas.

Dr. A. F. Foster-Carter has been appointed temporary medical superintendent of Brompton Hospital Sanatorium, Frimley.

EPIDEMIOLOGICAL NOTES

Discussion of Table

In *England and Wales* infectious diseases were more prevalent. The rises over the last week's totals included 166 for scarlet fever, 86 for diphtheria, 79 for measles, 79 for dysentery, and 61 for whooping-cough.

Diphtheria notifications equalled the greatest weekly total of the present year, the largest increases within the counties being as follows: Yorks West Riding 26, Lancashire 15, Glamorganshire 13, London 11. The rise in measles notifications suggests that the minimum level, after the epidemic which reached its maximum with 25,507 cases during the twelfth week of this year, has been passed. The rise was due mainly to London and the south-east and south-west, where altogether 58 more cases were notified than in the preceding week.

There were fresh outbreaks of dysentery in Kent (19), Staffordshire (17), and Durham (10). Lancashire recorded 55 more cases than last week, the chief centres of infection being Blackburn R.D. 48, Liverpool C.B. 24, and Manchester C.B. 12. The other large returns were London 40, Glamorganshire 18, Yorks North Riding 16, Surrey 14, Middlesex 11.

In *Scotland* there were 24 fewer notifications of dysentery, and 11 fewer of diphtheria, but 30 more of acute primary pneumonia, and 23 more of scarlet fever. Dysentery was less prevalent in the south-east and the west, but was more frequent in the other areas; the chief falls were in Glasgow, from 66 to 39, and Edinburgh, from 19 to 11.

In *Eire* there were 24 fewer cases of whooping-cough than last weeek, 9 fewer of diphtheria, and 8 fewer of diarrhoea and enteritis. Thirty-four of the 36 cases of whooping-cough, and 45 of the 54 cases of diarrhoea and enteritis, were notified in Dublin C.B.

In *Northern Ireland*, owing to sporadic cases, the notifications of diphtheria rose by 9.

Week Ending October 20

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,768, whooping-cough 1,087, diphtheria 604, measles 441, acute pneumonia 518, cerebrospinal fever 39, acute poliomyelitis 28, dysentery 284, paratyphoid 7, typhoid 5.

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INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended Oct. 13.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1945					1944 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever ..	36	4	20	1	—	43	2	20	3	3
Deaths		1	1				1	1		
Diphtheria	565	44	155	96	20	567	9	179	110	23
Deaths	10	—	1	—	—	6	—	—	1	—
Dysentery	286	40	84	1	1	358	54	106	—	—
Deaths				—	—				—	—
Encephalitis lethargica, acute	1	—	—	—	—	1	—	2	—	—
Deaths							—			
Erysipelas			37	8	—			54	6	2
Deaths		—					—			
Infective enteritis or diarrhoea under 2 years				54					33	
Deaths	50	5	23	19	6	48	10	22	12	3
Measles*	446	48	61	45	2	3,088	28	249	57	91
Deaths	—	—	1	—	—	3	1	—	—	—
Ophthalmia neonatorum	61	6	10	—	—	64	2	18	—	1
Deaths										
Paratyphoid fever ..	6	—	14 (B)	—	—	7	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenzal†	415	21	5	—	5	655	29	3	1	6
Deaths (from influenza)	11	2	—	1	—	21	2	2	—	—
Pneumonia, primary ..			151	15				190	9	
Deaths		25		4	3		33		14	8
Polio-encephalitis, acute	3	—				—	—			
Deaths		—					—			
Poliomyelitis, acute ..	45	2	1	2	—	24	1	6	5	1
Deaths		—					—			
Puerperal fever		3	15		—		3	17		—
Deaths										
Puerperal pyrexia‡ ..	145	5	13	—	—	174	8	20	3	1
Deaths		—					—			
Relapsing fever ..	—	—			—	—	—			—
Deaths										
Scarlet fever	1,849	126	341	32	42	2,152	32	326	44	105
Deaths	1	—	—	—	—	—	—	—	—	—
Smallpox	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Typhoid fever	10	2	2	7	—	9	1	4	15	9
Deaths	—	—	—	—	—	—	—	—	—	—
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Whooping-cough* ..	970	80	39		3	897	53	70	12	11
Deaths	3	1	—	2	—	6	—	1	—	—
Deaths (0–1 year) .	320	23	52	47	18	313	32	65	52	25
Infant mortality rate (per 1,000 live births)										
Deaths (excluding still-births)	4,112	655	539	176	132	4,194	534	619	203	140
Annual death rate (per 1,000 persons living)			12·2	11·4	§			14·2	13·2	§
Live births	6,865	879	869	424	289	6,640	454	1007	360	294
Annual rate per 1,000 persons living ..			17·4	27·4	§			20·5	23·4	§
Stillbirths	206	26	23			215	14	29		
Rate per 1,000 total births (including stillborn)								28		

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

‡ Includes puerperal fever for England and Wales and Eire.

§ Owing to movements of population, birth and death rates for Northern Ireland are still not available.

Letters, Notes, and Answers

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ANY QUESTIONS?

Alcoholism

Q.—*A patient suffers from drinking bouts, which last for a month or so, and in the intervals between he does not touch alcohol. The condition is hereditary, and appears to follow the male or the female line in the family. The bout begins by someone asking the patient to have a drink; the patient thereafter takes to his own room, abandons all thought of work, refuses to see anyone, even his wife, refuses normal food and consumes only alcohol. After three to four weeks he becomes so "soaked" that he is physically unable to take as much alcohol as he would like and he slowly emerges from the bout and resumes a normal mode of life. Is there any treatment to prevent the onset of attacks, apart from rigid abstinence from alcohol? I can find no literature on this subject.*

A.—A distinction should be made between ordinary "drunkenness," persistent drinking because one wants to, and "alcoholism"—a term we may reserve for such attacks as the one described, which are usually compulsive in nature, recurrent and periodic and not persistent, and in which during the intervals the patient may be free from any desire for alcohol. A hidden physical predisposition is often present; cases in point being a mild duodenitis, producing the sense of craving, and a low blood sugar is another, the correction of which alone has been known to cure these cases. The toxicity of alcohol is also increased with a low B.P. On the psychological side such alcoholism must be regarded as a neurosis, and is an attempt to escape from life. It frequently occurs, therefore, in sensitive people (artistic and intellectual) who find adaptation to the world difficult. This may account for the "hereditary" aspect of the disorder. But the family history may also be due to transmission, not by heredity but by identification of the child with the parent—a very potent influence which we have known to cause alcoholism as it does other character traits good and bad. This may be the reason why in this case the alcoholism follows either the male or the female line, since the boy identifies himself with the father, the girl with her mother.

But the tendency to escape from life is not merely due to constitutional sensitiveness, but to early environmental conditions and a sense of insecurity in childhood, which again is more likely to occur if a parent is alcoholic. The question still remains why the need to escape takes the form of alcoholism. This may be accidental, but on analysis it is often found to date back to "oral eroticism," the resort to drinking indulged in, as in infancy at the breast, not merely as a sensuous pleasure but as a comfort and solace. In other words, it is a regression to infancy due to fixation and arrest of development. In these cases deep investigation by analysis into the unconscious causes may be necessary for a radical cure. But temporary (and sometimes permanent) cure may come about by reconditioning the alcoholism by giving the patient nothing but his favourite alcohol to drink, and an injection of apomorphine to make him sick after each drink; but complete abstinence from alcohol thereafter is necessary.

As for literature I may refer the questioner to Dr. Carver's article in the *British Journal of Inebriety* (July–October, 1945), and the references there mentioned.

Sulphonamide Allergy

Q.—*What are the explanation and treatment of skin sensitivity following the local application of the sulphonamide group of drugs, and revealing itself on exposure to sunlight?*

A.—The mechanism of drug allergy is conceived as follows. The drug, or a breakdown product of the drug, combines with protein in the tissues or body fluids to form a conjugated protein. The body treats this conjugated protein as if it were foreign protein and reacts to it by the formation of antibodies. The stage is thus set for an allergic reaction with any traces of sulphonamide-protein remaining in the tissues and whenever the patient comes in contact with the drug again.

The explanation of sensitivity to sunlight in sulphonamide-sensitive patients is more controversial. It has been suggested that porphyrins are formed as a result of the toxic action of the sulphonamide, and that they sensitize the skin of the patient to ultra-violet light, in the same way as it can be sensitized by other fluorescent substances, such as eosin. This seems unlikely owing to the long duration of photosensitivity. It is more probable that the antibody formed as a specific response to the sulphonamide-protein also reacts in a non-specific way with the altered protein produced by the action of ultra-violet rays on the skin. As both proteins are probably altered skin protein, they may well be antigenically very similar. In the same way a flare-up may occur at the site of a previous tuberculin reaction on exposure to ultra-violet light, or a dermatitis due to allergy to primula may flare up if the hands are repeatedly exposed to antiseptic solutions such as bichloride of mercury or phenol.

Desensitization of patients who suffer from skin sensitivity may be attempted by giving small doses of the relevant sulphonamide by mouth—e.g., 0.1 g. four-hourly, increasing it until a dose of 1.0 g. can be tolerated without reaction. The procedure is not free from risk and requires extremely careful supervision (cf. Tate, B. C., and Klorfajn, I., *Lancet*, 1944, 2, 553).

Fat Atrophy and Insulin Injections

Q.—*I have been treating a diabetic with zinc-proteinate insulin. After about six months, during which she had remained practically sugar-free, it was found that at the sites of injection in the arms the tissues were disappearing, leaving a deforming concavity down to the bone. The insulin was changed to the ordinary variety A.B., but the atrophy of the tissues continued at other sites then used on the thighs. Can you advise me how this can be avoided?*

A.—The condition of fat atrophy which occurs at the site of the insulin injection is well known. It occurs in a small proportion of patients, and is due to some substance in the insulin solution to which the patient's tissues are sensitive. It is worth while trying whether one of the other two brands of insulin is less destructive to the subcutaneous tissues and, if so, using it. The protamine-zinc-insulins are no worse or better than the ordinary insulins for these patients. The best advice to give is to change the site of injection so that no one spot receives repeated injections. The front and sides of the thighs, the legs between the knee and ankle, the front of the abdomen and chest, the back, and the arms should all be used in turn. If this can be done the injury to the tissues will be much less and the subcutaneous tissues already damaged may slowly recover.

Nicotinic Acid for Chilblains

Q.—*I understand that favourable results in the prevention of chilblains have been claimed by the use of an intensive course of nicotinic acid taken early in the autumn—e.g., 450 mg. daily for 10 days. Is there any evidence for the claim, and, if so, what is the rationale?*

A.—I can see no rationale for the use of nicotinic acid for chilblains except that by causing flushing *temporarily* it improves the circulation. I should not expect the effect of taking an intensive course to be in any way lasting in this regard.

Infertility

Q.—*A female patient, aged 32, after having nine years' experience as a radiographer, became married eighteen months ago. When no conception had occurred after six months she submitted to an endometrial curettage. The pathological report was "anovular menstruation." Injections of serum gonadotrophin and chorionic gonadotrophin were prescribed, and five months later a second premenstrual endometrial curettage was performed. This time the report stated that secretory changes were occurring "in rather less than one-half of the cells." Gynaecological examination reveals no pathological condition other than a tendency to retroversion of the uterus. What are this woman's chances of becoming pregnant, and is her profession as a radiographer the possible cause of her sterility?*

A.—The facts indicate that during one menstrual cycle ovulation did not occur and that during another cycle, five months later, it did. It is hardly permissible to assume that anovular menstruation was a constant or frequent phenomenon before treatment, or that the gonadotrophin played any part in determining ovulation later.

It is quite impossible to give any sort of estimate of the chances for conception without knowing more of the case. Is there any information as to the fertility of the husband? Have other investigations—e.g., tubal patency tests—been carried out? Has the position of the uterus been corrected for trial? On the evidence it seems hardly justifiable to conclude that the infertility is due to a failure of ovulation; all other possible causes will need to be excluded first. The varying response of different areas of the endometrium ("irregular ripening") is an interesting observation, but it is by no means uncommon. It might mean defective action on the part of the corpus luteum, or a variable sensitivity on the part of the endometrial cells. However, the fact that any secretory change occurred does indicate the presence of functional corpus luteum tissue at the time.

If it is established that menstruation is nearly always anovular in this case, then it must be admitted that exposure to *x* rays over a long period may have damaged the follicular apparatus. Such an effect, however, is not necessarily permanent. Moreover, it remains only a possibility, for anovular menstruation frequently occurs without any apparent cause, and the usual precautions adopted by *x*-ray workers give adequate protection to the ovaries. It might be added that minimal doses of *x* rays are *reputed* to be stimulating to the ovaries.

Little's Disease

Q.—*What is considered to be the cause of Little's disease, and what is the outlook for a patient suffering from the condition?*

A.—The answer to this question is provided by R. M. Stewart (*Proc. roy. Soc. Med.*, 1942–3, **34**, 25), whose paper includes a review of the relevant literature. Briefly, there is no single cause. The commonest abnormality is a prenatal primary degeneration of the cerebral neurones, for which there are probably many causes. The outlook depends upon the severity of the motor disability and the presence or absence of mental defect. When the motor disability is not too severe, and mental development is good, slow improvement may be expected during the first ten years of life, but considerable residual difficulty in walking is inevitable in all but the mildest cases.

Iron and Thrombosis

Q.—*Could administration of iron—e.g., as ferrous sulphate—precipitate or predispose to cerebral thrombosis? One patient treated with iron for about ten days suddenly developed aphasia. Another, who persisted in taking iron for many years in spite of absence of anaemia, developed hemiplegia. These cases may be coincidental.*

A.—There is no evidence that iron favours thrombosis. Cerebral accidents sometimes occur in patients with arterial disease and anaemia, when the anaemia is repaired by liver or iron. This is presumably due to an increase of blood pressure and blood viscosity as a result of the rise in the red cell count and total red cell volume, and not to the iron or liver *per se*.

Heredity in Cleft Palate, Hare-lip, and Spina Bifida

Q.—*Are spina bifida, cleft palate, and hare-lip hereditary? Are parents with spina bifida occulta likely to have children with spina bifida?*

A.—Cleft palate and hare-lip undoubtedly have a strongly hereditary basis, though the story is not a simple one. It seems clear that a recessive gene is responsible in the great majority of instances, but not all individuals who possess the requisite genetic constitution suffer from the abnormality. Additional influences have to play their part before the defect can become manifest. One of these additional factors is sex, for boys are more commonly affected than girls. What other factors are involved is not known; they may be genetic or non-genetic. It may be that the double dose of the recessive factor makes the developing embryo unduly sensitive at critical periods to what would otherwise be unimportant variations in uterine environment. Perhaps a quarter to half of those bearing the double dose of the recessive gene develop the condition; but this is largely a guess. It is likely that the recessive gene responsible is not always the same, and it has been shown that one gene pair, sometimes responsible, is partially sex-linked. This discovery is very interesting academically, and in practice means that males tend to transmit to more of their male than of their female relatives, and vice versa. It would also appear that the partially sex-linked cases are especially severely affected. Some pedigrees make it likely that sometimes, though very rarely, inheritance may be dominant. If so, the dominant gene also is one which does not always express itself, so that the skipping of a generation is common.

Spina bifida is genetically more obscure, perhaps because it has not been studied so systematically. The great variation in expression and the occurrence of spina bifida occulta are obvious difficulties as regards investigation. No doubt, however, heredity is involved; it has been thought to be recessive. If so, the union of two persons both of whom had spina bifida occulta would in all probability greatly increase the chances of frankly affected offspring in the next generation.

LETTERS, NOTES, ETC.

Venereology

Dr. Robert Cook (University College, Dundee) writes: I have followed with great interest the correspondence on the word "venereology" by Brig. T. E. Osmond (Oct. 20, p. 556) and Lieut.-Col. H. Richards (Sept. 22, p. 414). Looked at from a very broad point of view certain diseases are connected with "love," and hence association with the goddess Venus is not altogether inappropriate. To discountenance any suggestion of male prejudice we may remark that Eros has his name already in well-established adjectival usage. A study of Smith's admirable *Classical Dictionary* suggests the goddess in her primitive form—Astarte.

> "Where are they, Cotytto or Venus,
> Astarte or Ashtaroth, where?"

I suggest "astartic diseases" and "astartology.". If a portmanteau word is wanted for a specialist in the three diseases, as a humble suggestion (constructive, I hope) why not the word "syphogossologist"?

Elongated Styloid Process Causing Symptoms in Throat

Mr. A. J. d'Abreu (Newtown, Waterford) writes: Early in February, 1926, a man aged 51 consulted me for discomfort on the left side of his neck and throat. On examination the left tonsil appeared large, globular in shape, and pushed out. Palpation revealed a bony structure, which could be traced by the finger towards the neck. It was slightly movable. Pre-operative diagnosis of the much-elongated styloid process of the temporal bone pressing on the tonsil was made. Under regional analgesia the tonsil was enucleated. The point of the styloid process was now easily felt. It was denuded of the fascia surrounding it, the process bared, and about an inch of it cut away with bone forceps. The chief difficulty of the operation was the huge tongue of the patient, who, however, was very co-operative, and the analgesia was perfect. No radiograph was then available; the other tonsil was also removed, but no styloid process was felt or any symptoms complained of on that side. Seen a few weeks afterwards, and again after some years, the patient was well pleased, for all symptoms had disappeared.

In Aid of the Grenfell Mission

In a year in which there will inevitably be many calls upon sympathy and generosity for the suffering in Europe we would nevertheless ask doctors to remember, even more generously than usual, the work of healing and of education and welfare that goes on continuously among the scattered poor population of Newfoundland and Labrador. The Grenfell Mission, whose hospitals and nursing stations in remote places are the only means of bringing help in times of distress to the people and whose schools provide the only education to be had by children in isolated settlements, needs funds urgently, and doctors can help by purchasing their Christmas cards from the Grenfell Association in this country. This year there are two attractive cards in colour, price 10d. each, a number in black and white, price 5d. each, and a pocket calendar, price 2d., postage extra. They may be obtained from the Grenfell Association at 66, Victoria Street, London, S.W.1, or at 21, Bothwell Street, Glasgow, C.2.

A Boarding School for Maladjusted Children

All who are concerned with the care of difficult and maladjusted children have recognized the need for hostels or (better) residential schools for some of such children where they can be not only taught but also treated by child-guidance experts. Among the problems of war evacuation was that of the care of "unmanageable" children, many of whom were orphans and backward. To meet this need the Friends Relief Services established a residential school at Chaigeley Manor. This was so successful that an effort is being made to continue the work in Cheshire in connexion with neighbouring child-guidance clinics. Although the new Education Act requires education authorities to make provision for maladjusted children, it is the custom in this country to leave the pioneer experimental work to voluntary effort, so that the best method may be discovered before the taxpayer shoulders the burden. Money is therefore needed to promote the Chaigeley venture, and we can be confident that the object is worthy of whole-hearted support. The address of the school is Thelwall, Lymm, Cheshire, and the office is at Friends' Meeting House, 6, Mount Street, Manchester, 2.

Messrs. H. K. Lewis and Co. are considering the extension of their lending library to include foreign medical and scientific books. To obtain information about the desire for such books a short questionary has been prepared for circulation to subscribers and others likely to be interested. Those who would like a copy of the form may have one on applying to 136, Gower Street, London, W.C.1.

BRITISH MEDICAL JOURNAL

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THE USE OF MICRO-ORGANISMS FOR THERAPEUTIC PURPOSES*

BY

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There can be no one in the whole history of surgery who more deserves commemoration than Lister, and to be asked to deliver a memorial lecture is at once a great honour and a somewhat heavy responsibility. I am not a surgeon, and it did not seem appropriate for me to lecture on an exclusively surgical subject, but as Lister in his own person combined great capacities as an experimentalist with an ability to make epoch-making innovations in surgery, I thought that to-day it might be permissible to treat of some of the scientific background which is becoming more and more important in the practice of surgery.

It may not be realized by all that Lister made some most important contributions to bacteriology—a subject which was to him of the greatest significance when he had grasped the bearing of Pasteur's observations on his own problem of "putrefaction." Lister's aim was essentially what is now called aseptic rather than antiseptic, his object being to exclude all organisms at operation, including those of the air, by means of chemical antiseptics. It is true that he used antiseptics in the treatment of established infections, but his main aim was the exclusion of pathogenic bacteria, which he at first conceived to be those floating in the air. I can imagine that Lister would be delighted to know that in the course of time some of these same organisms have been made to yield substances with almost ideal properties for the treatment and prevention of sepsis. It is a widespread idea that our knowledge of the existence of such substances is of recent origin, so I have thought it might be of interest to trace the development of this subject, partly to give a background against which to measure modern achievements and partly to help to orientate further work from both the biological and the more strictly surgical points of view.

Early Conception of Antibiosis

The antiseptic substances which we now know to be produced by many micro-organisms are beginning to be known as antibiotics. The word "antibiosis" was first used by Vuillemin in 1889. He wrote:

> "The lion that springs on its prey and the serpent that poisons the wound before devouring its victim are not considered to be parasites. There is nothing equivocal about it—one creature destroys the life of another in order to sustain its own, the first being entirely active and the second entirely passive; one is in unrestricted opposition to the life of the other. The condition is so simple that it has never been named, but instead of being examined in isolation it can be viewed as a factor in more complex phenomena. For simplicity we shall refer to it as *antibiosis*; the active participant will be the *antibiote*."

Marshall Ward blessed the word in 1899, and it has been frequently used since. The use of the word antibiotic for the actual chemical substances involved in bacterial antagonism was recently introduced by Waksman.

Just as Pasteur's conception of bacteria as the cause of disease was the starting-point of much of Lister's work so Pasteur, with his colleague Joubert, was the first to describe in 1887 the existence of this antibiosis affecting a disease-producing micro-organism. They were working on anthrax, and wrote:

> "Neutral or slightly alkaline urine is an excellent medium for the bacteria. If the urine is sterile and the culture pure the bacteria multiply so fast that in the course of a few hours their filaments fill the fluid with a downy felt. But if when the urine is inoculated with these bacteria an aerobic organism, for example one of the 'common bacteria,' is sown at the same time, the anthrax bacterium makes little or no growth and sooner or later dies out altogether. It is a remarkable thing that the same phenomenon is seen in the body even of those animals most susceptible to anthrax, leading to the astonishing result that anthrax bacteria can be introduced in profusion into an animal, which yet does not develop the disease; it is only necessary to add some 'common bacteria' at the same time to the liquid containing the suspension of anthrax bacteria. These facts perhaps justify the highest hopes for therapeutics."

Pasteur himself seems to have done no more work on this phenomenon, but in 1885 several papers of considerable interest appeared. The most important of these was by Babès, who demonstrated on solid as well as in liquid media that one organism can elaborate a substance which will stop the growth of another. He wrote that he had "studied experimentally the way in which bacteria of a known species produce chemical substances or modify the culture medium in such a way as to harm bacteria of other species. If the study of the mutual antagonisms of bacteria were sufficiently far advanced a disease caused by one bacterium could probably be treated by another." And later in his paper he said: "A further and wider study of this reciprocal action of bacteria may lead to new ideas in therapeutics." In this year, 1885, also appeared a paper by Catani, who opened with the words: "The known fact that certain bacteria can destroy other, even pathogenic, microbes if they come in contact with them in any way gave me the idea of exploring this procedure for the treatment of various infectious diseases." He took an organism which was called *Bacterium termo* (it appears to have been a mixture of species) and showed its lack of pathogenicity for animals. He then treated a patient suffering from severe tuberculosis by insufflating

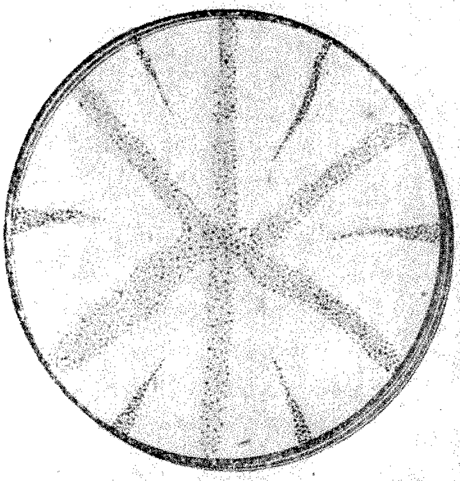

FIG. 1 (from Frost, 1904).—Drawing showing Garré's method of studying antagonism by means of alternate streaks. The large streaks of *Ps. fluorescens* were allowed to grow for 24 hours and then streaks of *Bact. typhosum* were made. These grew only where they were furthest from the streaks of *Ps. fluorescens*.

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* The Lister Memorial Lecture, delivered at the Royal College of Surgeons of England, Oct. 11, 1945.

directly into the lungs by means of an atomizer a culture mixed with gelatin. The tubercle bacilli disappeared from the sputum and *Bact. termo* appeared in their place, while at the same time the patient's condition improved. He suggested that this method of bacteriotherapy might be applicable to infected surfaces. This, then, was the first example of the idea of replacing one organism by another less harmful—an idea which, we shall see, frequently recurs in succeeding years.

In 1887 an important bacteriological contribution was made by the Swiss, Garré. He introduced methods for the examination of bacterial antagonism which differ little from those in use at the present day. Fig. 1 is an illustration of one of Garré's methods which was given in a paper by Frost nearly 20 years later. In this the streaks of the antagonist and the organism to be antagonized are arranged alternately, radiating from the centre, but sometimes the streaks were put down parallel to one another at increasing distances. Garré wrote:

> "I inoculated on the untouched cooled [gelatin] plate alternate parallel strokes of *B. fluorescens* and *Staph. pyogenes*. This was carried out so that the distance between the inoculated strokes increased from 3 to 15 mm. *B. fluorescens* grew more quickly. Its products of secretion diffused into the surroundings and were completely inhibitory for the near-by staphylococcal inoculation. . . . It is thus not a question of overgrowth or crowding out of one by another quicker-growing species, as in a garden where luxuriantly growing weeds kill the delicate plants. It is also not due to the utilization of the available foodstuff by the more quickly growing organism, but it is a question of antagonism caused by the secretion of a specific, easily diffusible substance which is inhibitory to the growth of one species but completely ineffective against the species producing it."

He also had the idea of using this phenomenon in therapeutics.

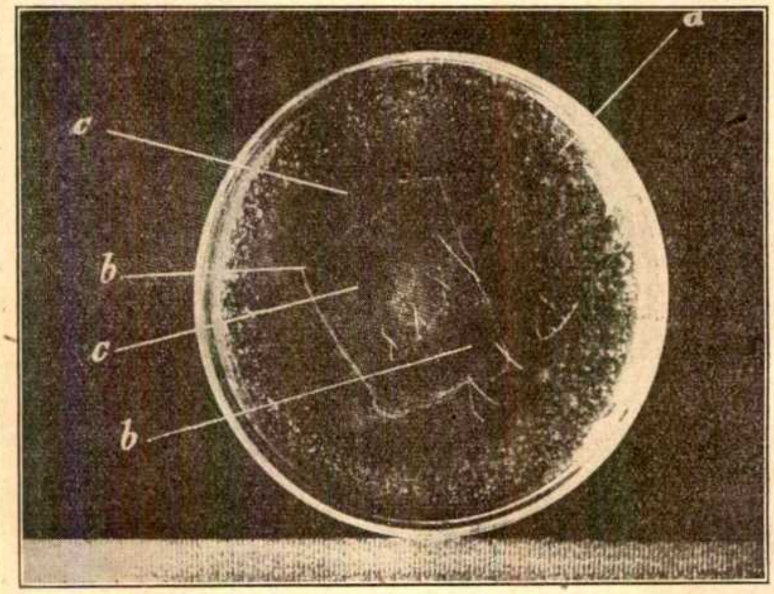

FIG. 2 (from Doehle's thesis, 1889).—A plate was poured with gelatin containing anthrax bacilli. On the surface was planted a square of *M. anthracotoxicus*. Surrounding this square is a zone in which no anthrax colonies have developed, owing to the diffusion of an inhibitory substance from the micrococcus.

There were other publications on the same subject about this time; but the work of Doehle, who published his thesis in 1889, is of outstanding interest, as it contains the earliest illustration of antibiotic action that I have encountered (Fig. 2). Doehle mixed anthrax bacilli with melted gelatin and poured the mixture into a dish and then planted in a square on the surface a certain micrococcus which he had isolated and called "*Micrococcus anthracotoxicus*." After incubation the square where the micrococcus had grown was surrounded by a clear zone in which the anthrax bacilli were completely inhibited. This technique and Garré's differ little, if at all, from those employed by some workers at the present day. Doehle hoped to use his organism for the protection of animals against infection by *B. anthracis*, but his results were indecisive.

Non-specific Immunity

While these clear-cut bacteriological observations had definitely shown that there were micro-organisms which produced substances harmful to the growth of some pathogenic bacteria another approach to bacteriotherapy was being made, which had as its basis the idea of a non-specific immunity produced by one type of organism against another. Clinicians had for long believed that an attack of erysipelas was beneficial in certain chronic infections, and in 1883 Fehleisen deliberately treated a case of lupus by injecting streptococci obtained from a patient with erysipelas. In 1887 Emmerich made observations on anthrax infection which showed that an injection of streptococci enabled a substantial proportion of rabbits to survive a subsequent dose of anthrax bacilli large enough to kill all the control animals. Moreover, the intravenous injection of streptococci into rabbits already showing "clinical" anthrax prevented the death of 60%. Emmerich demonstrated that there was no antagonism between the two organisms *in vitro* on the surface of a solid medium, so he ascribed his results to stimulation by the cocci of the body cells, which were then able to demolish the bacilli. This work was confirmed by several people, some of whom used other organisms than the streptococcus and in some cases killed the cultures before injection.

A paper by Bouchard in 1889 started work on another organism which still continues even at the present time. He published results showing that the inoculation of *Ps. pyocyanea* conferred a considerable degree of protection against *B. anthracis* infection in rabbits, though in guinea-pigs the results were not so good. This same organism was actually injected by Rumpf in 1893 for the treatment of typhoid fever in man, but the good results which he claimed were not confirmed by Kraus and Buswell (1894) or Presser (1895).

Local Application of Bacterial Products

During this period a number of authors contributed to the further accumulation of knowledge, but from a clinical point of view the observations of Honl and Bukovsky (1898) are of most interest. These Russian investigators described in enthusiastic terms the results of the local application of "proteins" from cultures of *Ps. pyocyanea*. They thought that they might accelerate the healing of ulcers by applying the proteins or products of micro-organisms isolated from the ulcers, but gave no details of how they made their preparation. They treated by local application more than a hundred infected ulcers of the leg and similar cases, some of which were so bad that amputation was under consideration, and they were very pleased with their results.

Unconnected with this work, Emmerich and Löw in 1899 introduced the first antibacterial extract into medicine. This extract, which they called pyocyanase, was capable of lysing suspensions of *B. anthracis in vitro* in a short time, and was also bactericidal to *Bact. typhosum*, *C. diphtheriae*, staphylococcus, and *P. pestis*. It was prepared from old cultures of *Ps. pyocyanea*. They performed therapeutic experiments on animals with the substance, but their views as to the rationale of the treatment are not by any means clear. Apparently they became confused between their knowledge of its antibiotic effect and their wish to bring it into line with the prevailing views on immunity.

Following Emmerich and Löw's work there was a remarkable outburst of energy both in the laboratory and in the clinic. Laboratory work fully confirmed that the extract was bactericidal, but controversy raged over the nature of the substance. Emmerich and Löw maintained that it was an enzyme (that is, a protein), while other workers found good evidence that it was a "lipoid" (that is, soluble in certain organic solvents) —a view which is confirmed by recent work.

A few years after the beginning of the century the idea of using it in the clinic by injection was replaced by that of using it as a local antiseptic. There can be no doubt that it was bactericidal, and Emmerich and Löw also thought that it was more harmful to bacteria than to animal cells. This important idea of differential toxicity, which so largely governs the choice of antiseptics to-day, must have been widespread at that time, for Escherich wrote in 1906: "The resumption of these endeavours first became possible when the march of science made known to us a substance which possessed a high bactericidal capacity without at the same time harming the tissues as do previously known antiseptics. This material is the bactericidal substance from the autolysis of bacteria, discovered by Emmerich and Löw." In 1913, in a review of the position, Sonnenberger echoed these views, for he wrote: "The use of pyocyanase as a therapeutic agent is based on exact theoretical considerations. These are backed by clear-cut experiments both *in vitro* and *in vivo*. Its harmlessness within the limits of its usual employment is well established. Its capacity for healing in a large number of diseases has been proved in the clinic. Pyocyanase may be considered an important addition to therapeutics. Its widespread use is recommended within the limits given in this work." This material was very extensively used in the clinic. Many papers deal with its employment as a local antiseptic in diphtheria both for acute cases and for carriers. Meningococcal carriers were also, it was claimed, successfully treated, and the suggestion was made that it might be useful as a prophylactic spray during epidemics. It was used for conjunctivitis and other eye infections, for injection into abscesses, for the treatment of infection of the accessory nasal sinuses and diseases of the mouth such as Vincent's angina. It was injected into the trachea and even injected intrathecally in cases of meningitis. Many of these procedures have their parallel in recent uses of penicillin. It was used in veterinary medicine for streptococcal mastitis by injecting it into the udder, much as gramicidin and penicillin are used at the present day, and in addition both chemical and pharmacological examinations on a considerable scale were done to determine its properties. Thus it can be said with some truth that there is little that has been done with penicillin which was not attempted with the earlier antibiotic so far as the means then available allowed.

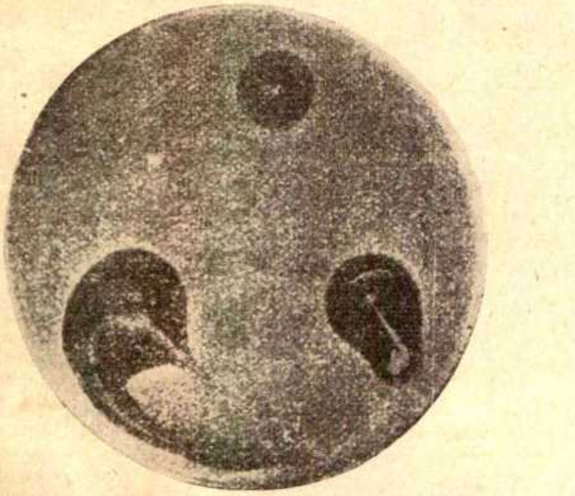

FIG. 3 (from Lode, 1903).—This shows a plate thickly sown with *M. tetragenus*. Colonies of an accidental air contaminant —a coccus—have been planted at three places, and around them are zones in which the growth of *M. tetragenus* is inhibited.

While this work was being actively pursued other investigations of great interest were recorded. In 1903 Lode wrote of an accidental contaminant he had found while preparing a plate of *M. tetragenus* for class demonstration purposes. This contaminating organism, which was a Gram-positive coccus, was subcultured and shown to produce a diffusible inhibitory substance (Fig. 3). It strongly inhibited anthrax bacilli and *Staph. aureus*, but not *Bact. coli* or Friedländer's bacillus. Lode did considerable work on the production of the antibiotic in fluid cultures, and showed that it was bactericidal. It was not an enzyme, though it was thermolabile, being inactivated slowly by heat. It could be dried by vacuum distillation and was soluble in alcohol but not in ether. Neither the micro-organism nor its metabolic products were toxic to animals, but unfortunately in artificially produced infection in mice the product had no chemotherapeutic effect. Nevertheless, this work is remarkable for the comprehensive and painstaking investigation which it displays.

In 1904 Frost published an important paper in which he described as many as seven different technical procedures for the investigation of bacterial antagonism both on solid and in liquid media. One of his most interesting techniques was to interpose a collodion membrane between culture fluid containing the organism he was trying to inhibit and culture fluid containing the organism which he suspected of producing an antibiotic. Fig. 4 is his illustration of this technique.

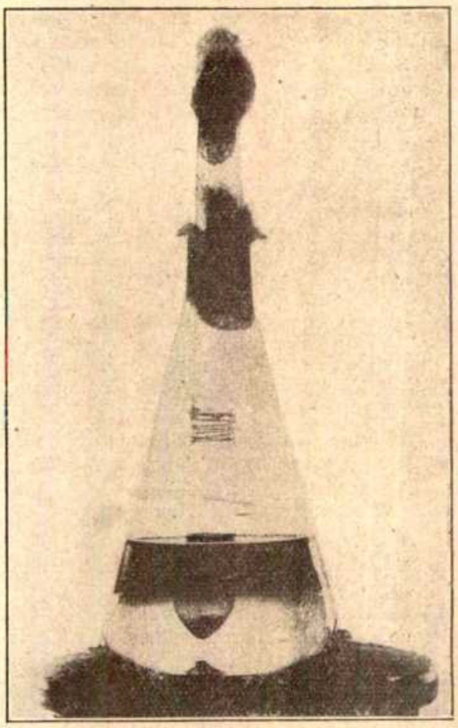

FIG. 4.—Frost's (1904) collodion sac for the study of bacterial antagonism. One organism is sown in the broth in the sac and another in the broth outside it in the flask. Inhibitory substances can pass through the collodion membrane, but the bacteria are kept apart.

The First Crystalline Antibiotic from a Mould

Somewhat before this time the first example of a crystalline antibiotic obtained from a mould was recorded. The mould was a *Penicillium* and the antibiotic is now called mycophenolic acid. Gosio, who did this work in 1896, showed that the crystalline material inhibited the growth of anthrax bacilli, but regretted that he was unable to perform any animal experiments owing to lack of material.

Chemotherapeutic Experiment

Nicolle demonstrated in 1907 the existence of bactericidal substances produced by *B. subtilis*; but of more immediate clinical interest are observations published by Rappin in 1912 in a journal which probably circulates little outside France. He found that *B. subtilis*, *B. mesentericus*, and *B. megatherium* acted strongly on *B. tuberculosis in vitro* and that the effect could be produced by filtered broth cultures. He went on to say:

> "After having established a long time ago that these diastases [as he believed the active substances to be] were very active I naturally went on to consider whether they might not have important effects on the evolution of the tuberculous process. Nearly two years ago I started an investigation with the object of verifying this hypothesis. Several guinea-pigs which had previously been infected with tuberculosis were injected with filtered cultures of *B. mesentericus*, and I possess to this day one of the first series of animals which, treated in that way, lived more than 21 months after a virulent inoculation, with every appearance of perfect health. Another which died after 9 months had put on weight regularly and shown no sign of illness, and no lesion was seen at necropsy except a swelling at the site of inoculation and one in the opposite side. It is a very important fact that scrapings from these swellings inoculated into another animal have not so far

produced in it any sign of a reaction. When this experiment was repeated on other guinea-pigs similar results were obtained, and I have several animals which were treated in this way at varying intervals after infection with tuberculosis which are apparently in good health, while the controls have died with the classical lesions of experimental tuberculosis. These results have been obtained with a relatively small number of injections. Some animals received only two injections of filtered *mesentericus* broth in doses of one to two cubic centimetres given subcutaneously, and others the same amount into the peritoneal cavity. Neither group appeared to be disturbed by the injections, and there were no reactions."

Vaudremer wished to dispute the question of priority with Rappin, for he had found about the same time that *Aspergillus fumigatus* would also "digest" the tubercle bacillus. It is now known that this mould produces four powerful antibiotics, at least one of which—helvolic acid—has been shown to be active *in vitro* against *M. tuberculosis*. In 1913 he reported animal experiments, and went on to say that he had injected *A. fumigatus* filtrates into man, in the following terms (the italics are Vaudremer's):

> "From the point of view of the treatment of tuberculosis in man any conclusion is premature. *Since 1910 we have treated more than 200 patients with extracts of A. fumigatus* in several hospitals and sanatoria in Paris. From the cases we have observed it is justifiable to conclude that the injections, which have never caused any febrile reaction, are harmless. Sometimes healing which we had not hoped for has taken place unexpectedly. In other cases there has been transient improvement, but unfortunately there are still many instances in which the tuberculous process continues to take its course."

He had obviously been trying to get a direct effect on the tubercle bacillus *in vivo* by injecting a mould metabolism solution.

Replacement Therapy

It will be recalled that Cantani had tried in 1885 to replace the tubercle bacillus with *Bact. termo*, and in 1909 this idea received another application. Schiøtz, a Danish physician, noticed that a patient with a staphylococcal infection, wrongly diagnosed as having diphtheria and placed in a diphtheria ward, did not develop the disease. Schiøtz then deliberately sprayed suspensions of staphylococci into the throats of carriers with, he claimed, good results. Many other people tried a similar procedure at different times, and some claimed that benefit was obtained—at any rate, none mentioned any disastrous infection from the staphylococcus. It may sound a somewhat absurd and empirical procedure in the absence of bacteriological information, but it is, as a matter of fact, true that many strains of staphylococcus will inhibit the growth of the diphtheria bacillus —as was shown, for example, by Dujardin-Beaumetz in 1932. In 1915 Colebrook suggested using the pneumococcus in the same way to combat the meningococcus in carriers, following on an *in vitro* observation of antagonism. Later still, in 1921, the pneumobacillus of Friedländer was suggested by Papacostas and Gaté for the treatment of diphtheria carriers.

The best-known example of replacement therapy, however, was furnished by the suggestion of Metchnikoff for the displacement of harmful gut organisms by the Bulgarian bacillus, which was later to give place to *B. acidophilus*. There is a very considerable literature on this subject, into which we will not go except perhaps to call attention to the fact that the lactic acid bacillus was used for the treatment of various infections in addition to those of the intestine. Newman in 1915, in this country, was treating cases of cystitis by injecting lactic acid bacilli into the bladder, and many authors treated infections of the nose, mouth, and sinuses, including diphtheria. Cultures of the bacilli found application in the treatment even of puerperal fever, breast abscesses, and other infections. The good clinical effects were ascribed to the production of lactic acid, which stopped the growth of the pathogens.

Another interesting replacement was suggested by Nissle in 1916. He maintained that certain strains of *Bact. coli* were antagonistic to other and more harmful organisms and that these antagonistic strains should be established in the gut: he even went so far as to say that newborn infants should be deliberately given these desirable strains. He put on the commercial market a preparation of living *Bact. coli* called "mutaflor," which apparently had a considerable sale. Here again there is pictorial evidence that such antagonistic strains of *Bact. coli* exist; for Gratia, who had described such an antagonism in 1925, figured this organism in 1932 (Fig. 5).

In connexion with the idea of "fighting" one intestinal bacterium with another, an interesting line of reasoning was displayed by Nitsch (1908). Apparently at that time two towns in France, Lyons and Versailles, were notorious for their freedom from epidemics of cholera. Nitsch reasoned that the only thing of which all the inhabitants of Versailles partook in common was air, and so it occurred to him that bacteria in the air might inhibit the growth of the cholera organism and if they were swallowed would exert their antagonistic effects in the intestine. On putting this to the proof he found 11 strains of air bacteria out of 220 from various parts of Versailles and 4 out of 253 from Paris which when cultured at 37° C. inhibited the growth of *V. cholerae*. He obviously tested them on solid media, for he described sterile zones round the colonies varying in radius from a few millimetres to a centimetre, while many others had slighter effects. Most of the antagonistic organisms were like streptococci. He thought the next stage was to see if the faeces of the good inhabitants of Versailles harboured these organisms, but apparently this was never done —possibly Nitsch went home to Poland. Another Pole, Choukevitch (1911), carried on the observations with three of Nitsch's Versailles strains—Gram-positive organisms whose colonies had the appearance of streptococci when grown on agar. He confirmed that if a streak of one of these organisms was planted on an agar surface and *V. cholerae* was planted at the same hour on the following day, growth of the vibrios did not take place within a distance of 1 cm. from the antagonist. He found that the inhibition was not due to acid, that the inhibitory substance developed in broth as well as in solid media, and that it was thermolabile and not capable of filtration. He attempted to establish the antagonists in the intestines of newborn rabbits—animals which Metchnikoff had shown to be susceptible to cholera—but he was not able to demonstrate any protection against ingested cholera organisms, perhaps because he could never show that the cocci had established themselves. This episode is of considerable interest in that it was another early attempt to utilize for medical purposes organisms which produced one or more antibiotics.

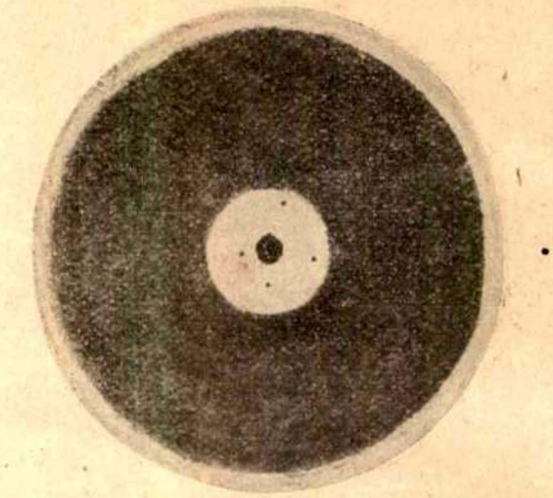

FIG. 5.—Gratia's (1925 and 1932) demonstration of the inhibition of one strain of *Bact. coli* by another. The strain sown over the plate is inhibited round the central colony of the other strain except for a few resistant colonies.

Some New Ideas and Procedures

The nineteen-twenties saw the introduction of some new ideas, new procedures, and new antagonistic organisms. In 1921 Lieske published a monograph on the actinomyces, the great majority of which are harmless soil saprophytes. He wrote: "It is easily shown that actinomycetes secrete a specific substance acting extracellularly. There is a fairly wide zone round an actinomycete colony where other organisms are killed. This inhibition is not simply due to exhaustion of the medium by the actinomycete, for colonies of bacteria which have already grown are lysed and disappear entirely." He studied particularly the effects on killed bacteria, many species of which were lysed, but he also saw lytic and inhibitory effects on live bacteria. He had in mind the possibility of making use of this property in therapeutics in a similar way to that in which pyocyanase had been used but nothing came of this.

Later Gratia and Dath confirmed his observations; they found a streptothrix which was particularly active, and examined many sources for antagonists (Fig. 6). They wrote: "We have exposed plates of 2% gelatin in tap-water, incorporating a suspension of a sensitive microbe, such as the cholera bacillus, to air, and to such vehicles as tap-water, drain-water, mud, etc. By this means we have isolated active colonies not only of the usual streptothrix but of other moulds and also of various saprophytic bacilli, both Gram-positive and Gram-negative. As we see it these are examples of a general phenomenon in which a great variety of agents act against many saprophytic and pathogenic bacteria. Among these agents the streptothrices are the most widespread and the most active." Gratia proposed to use the lytic powers of his streptothrix for the purpose of preparing vaccines. He dissolved certain organisms, such as the staphylococcus, by means of the product of the streptothrix later called actinomycetin, and produced what was known as a mycolysate. This mycolysate was used for immunizing purposes with, it was claimed, results which were better than those obtained by ordinary vaccines. This idea, however, was not even then new, for Nicolle had performed experiments on animals in 1907 in which he showed that immunity could be produced by using the products of *B. subtilis*. Working in 1923, 1924, and 1925 with the same group of spore-forming organisms, Kimmelstiel, Much, and Sartorius had described the production of a lysin from certain *B. mycoides* strains which they named *B. cytolyticus*. By means of this organism lysates of numerous pathogenic organisms were made and produced commercially under the name of "sentocym," and there are clinical reports of their efficacy in such conditions as *Bact. coli* infection of the urinary tract. As well as using it for producing vaccines, Much had the idea of employing the lytic substance as a chemotherapeutic agent, for he wrote:

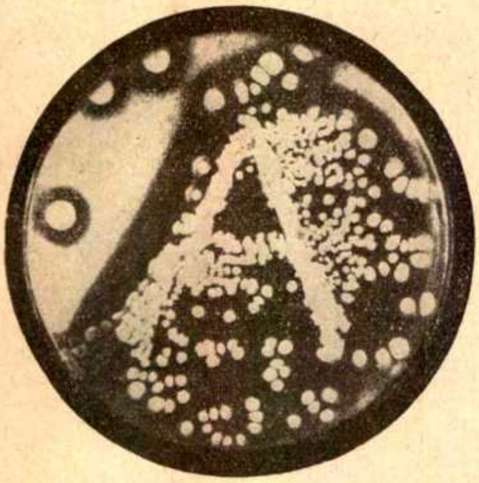

FIG. 6.—Demonstration by Gratia and Dath (1924 and 1934) of the lytic power of a streptothrix. The gelatin contained a heavy emulsion of staphylococci. After 3 days, as shown, there was lysis of the staphylococci round the streptothrix (planted in the shape of an A), and after 7 days the plate had cleared completely.

> "The material for injection obtained by the activity of *B. cytolyticus* contains, firstly, a solution of a particular bacterium, that is a colloidal dispersion of the bacterial content—the lysate. Secondly, it contains the dissolving agent—the lysin. This lysin acts in three ways. Firstly, the bodies of the highly reactive *B. cytolyticus* (Much) form a powerful unspecific therapeutic stimulus. Secondly, the lysin acts on the infecting bacteria in the body as a lytic agent and so frees the body directly from the bacteria. We are dealing here, therefore, with a real 'bacteriolytic' power, which is quite different from the hypothetical power of a serum. This power is clearly and unambiguously shown *in vitro*. Thirdly, products from the bacterial bodies destroyed *in vivo* by the lysin are added to assist the stimulating action of the lysate."

In 1925 Zukerman and Minkewitsch found on a plate of pseudo-diphtheria bacilli an accidental contaminant which was antagonistic to their growth. This is yet another example of an accidental contaminant which was noticed because of its inhibitory properties and subsequently isolated and examined. The organism was *B. mesentericus vulgatus*, and it showed antagonism only to diphtheria and pseudo-diphtheria bacilli, not to staphylococci, *Bact. coli*, *Bact. typhosum*, or a number of dysentery bacilli. Just as pyocyanase and the substance of Lode had selective antibacterial action, so this material showed the phenomenon to a very marked degree. The antibacterial substance was demonstrated to be mainly bactericidal—a 1% solution of a broth filtrate being potent enough to kill *B. diphtheriae* in 24 hours. Experiments were done with animals to see if the filtrate, the activity of which was heat-stable, was capable of affording protection to guinea-pigs against *C. diphtheriae*; but no sure results could be obtained, and the authors did not report them in detail. In 1925 Rosenthal also contributed work on the bacteriolytic powers of *B. scaber*, another spore-forming organism.

In 1929 Fleming noticed an accidental contaminant—a mould this time—which was also lytic to certain pathogenic organisms. The substance it produced was found to appear in the broth and to belong to the slow-acting type of antiseptic. It had marked differential powers of inhibiting bacterial growth. The crude metabolism liquid was shown not to be more toxic to animals than broth in which nothing had grown. No experiments were performed on experimental infection in animals, but the suggestion was made that the substance would be useful for dressing septic wounds in man, and indeed some were so treated without, however, any very striking results. The clinical possibilities of this antibiotic were not pursued at that time.

About that time, too, the explanation was forthcoming of why pyocyanase had largely dropped out of use in the clinic, as Lode complained when he wrote in 1929, referring to the views of Sonnenberger (1913): "In spite of these recommendations papers on therapy with pyocyanase have almost disappeared from recent literature. This is unjustifiable, so experienced clinicians like Herzog the otologist inform us, for the base of suppurating or very dirty wounds is cleaned quickly without damage to the tissues." There is no doubt that active pyocyanase had often been prepared in the laboratory, and probably commercial preparations had been active at first; but Wagner in 1929 and Kramer in 1935 showed that what activity commercial pyocyanase possessed at that time was almost entirely due to its contained phenol—a good example of what may happen to commercial biological preparations without the necessary strict control. How powerful active pyocyanase can be is shown by the recent work of Rake *et al.* (1943), who found that it inhibited the growth of *Str. pyogenes* at a dilution of 1 in 24,000.

In the nineteen-twenties another idea which has never been thoroughly examined was introduced by Schiller (1924a, 1924b, 1925a, 1925b, 1927; Schiller and Giltscher, 1928). In a series of papers he brought forward evidence that yeasts and possibly other organisms could be made to produce substances that were antagonistic to certain bacteria by growing them on media in which the only source of nitrogen was the bodies of the bacteria it was desired to antagonize. He claimed that in such experiments yeasts developed a thermolabile inhibitory substance which might be of value in therapeutics. He called the phenomenon "induced" antagonism, in contradistinction to the "natural" antagonisms we have so far been considering, and it seems likely that much more might be done to develop this line of research.

During the nineteen-thirties examples of antibiotic effects continued to be recorded and some suggestions made for therapeutic employment of the products; for example, Weiland in 1936 described the action of *B. mesentericus* against diphtheria bacilli and proposed that culture material from this organism would be at least as good as pyocyanase.

The Position in 1939

We may perhaps summarize the position at the end of the nineteen-thirties thus. A very large number of observations on antibiosis had been recorded from 1877 onwards—some of the most striking have been considered, but there were a great many more—and from all this work certain proposals had emerged for the use of micro-organisms in therapeutics:

1. The replacement of a pathogenic organism by another and less harmful organism—for example, "*Bact. termo*" to replace the tubercle bacillus in the lungs; staphylococci to replace diphtheria bacilli, and pneumococci to replace meningococci, in the throat; lactic acid bacilli and *Bact. coli* to replace organisms infecting the intestine.
2. Artificial immunization by one organism to protect against infection by another.
3. The use of lytic substances from one organism for the preparation of soluble vaccines of other species—for example, Much's sentocym and Gratia's mycolysates.
4. The use of soluble bacterial or mould products by parenteral injection to treat established diseases—for example, pyocyanase in anthrax, and Vaudremer's extracts of *Aspergillus fumigatus* and Rappin's extracts of *B. subtilis* in tuberculosis. These were examples of true chemotherapeutic use.
5. The use of soluble bacterial or mould products as a topical application for the treatment of local infections—for example, pyocyanase and penicillin broth.

The Crystalline Polypeptides

In spite of an enormous bulk of work extending over 70 years, much of which has not been considered here, up to the end of the nineteen-thirties no antibiotic substance from a mould or bacterium had found an undisputed and permanent place in medicine. But in 1939 important papers were published by Dubos in which he described the isolation of a very active selective antibiotic from a spore-forming soil bacillus, *B. brevis*. The work embodied in these and subsequent papers comprised systematic and detailed investigations, both chemical and biological, and reached a new level in the scientific investigation of antibiotics. The active substance, now called tyrothricin, was separated into two crystalline polypeptides—gramicidin and tyrocidine—the first of which was particularly active against Gram-positive organisms such as pneumococci and streptococci. With this material animal experiments were performed, and it was shown that, although it was very toxic when introduced intravenously, it protected mice infected with pneumococci intraperitoneally to a high degree when small amounts of the drug were introduced into the peritoneal cavity even some hours later than the infecting dose of organisms. The work was then carried to the clinic, and it was clearly established that in some ways this antibiotic was superior to any known chemical antiseptic for local application to sites infected with susceptible organisms. A very considerable literature has now collected on the subject, some of it reminiscent of early pyocyanase work, and it seems probable that gramicidin will not occupy a permanent place in medicine only because of the discovery of less toxic substances soon after its introduction. Such, however, is the repercussion of one branch of science on another that *x*-ray analysis of these crystalline polypeptides and others like them may help to elucidate the structure of proteins. Already much interesting chemical and biochemical work has been done on these substances.

Penicillin

We have seen that the idea of using an antibiotic for parenteral injection into an infected animal had been brought forward for pyocyanase by Emmerich and Löw, for the products of *B. subtilis* by Rappin, for *B. mycoides* by Much, and for *Aspergillus fumigatus* by Vaudremer, but no antibiotic had been unequivocally shown to possess curative properties when so used. In 1940 the first observations on penicillin from Oxford were published (Chain *et al.*) which distinguished clearly this antibiotic from any of the preceding ones, for up to this time the real significance of penicillin had escaped detection. There are a large number of substances of both synthetic and natural origin which kill bacteria. Unfortunately most of them also damage animal tissues. Lister clearly realized this in the early days of antiseptic surgery. As his biographer, Godlee (1917), wrote:

> "The antiseptic system aimed at destroying the germs by chemical agency, either before they gained access to a wound at the time of its infliction, or so soon afterwards that they had no chance of developing and multiplying; and, this end having been attained, it further aimed at preventing by means of chemical antiseptics the access of germs to the wound until the process of healing was complete. The problem as thus stated sounds simple, and so it appeared to be in the early days. But, even from the first, one great complication was apparent. Lister recognized the power of the living tissues to control the growth of micro-organisms, and the importance of not interfering with the vitality of the tissues by any harmful agency whatever. Therefore he felt bound to reduce the strength of the chemical substances which he employed to the minimum consistent with efficiency."

It has been seen how pyocyanase was used as a local antiseptic, and later it was proposed that penicillin broth could be used in the same way. The experimental work at Oxford disclosed, however, that an extract containing penicillin could be made which was of such incredibly low toxicity that it could be injected intravenously or by other parenteral routes in amounts far greater than those required for therapeutic effect without producing any sign of toxicity (Abraham *et al.*, 1941). It could thus circulate in the blood and body fluids in sufficient quantity to destroy sensitive bacteria in combination with the natural body defences without the least damage to those defences or to other tissues.

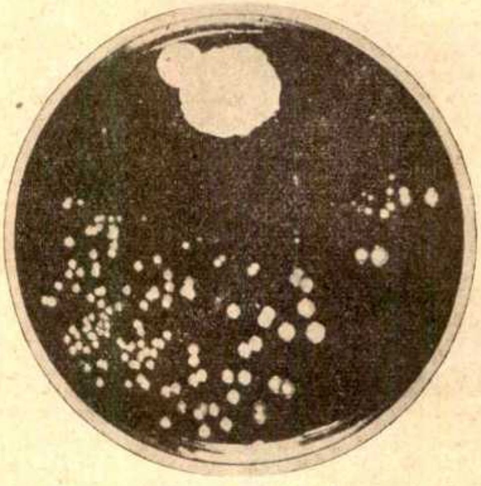

FIG. 7.—Photograph of a culture-plate showing the dissolution of staphylococcal colonies in the neighbourhood of a penicillium colony. (Alexander Fleming, *Brit. J. exp. Path.*, 1929, **10**, 226.) (Reproduced by permission of the Editors of the *British Journal of Experimental Pathology*.)

This clear-cut experimental demonstration of its chemotherapeutic action was the starting-point of the serious endeavour to apply penicillin in the clinic. By the time these observations were made—in 1940 and 1941—it had already been clearly established that synthetic chemicals of the sulphonamide group could be absorbed into the blood stream in sufficient concentration to deal in a spectacular manner with many infections—for example, lobar pneumonia and meningococcal meningitis and certain streptococcal infections such as puerperal sepsis. It was natural to suppose that these compounds would be of the greatest use in war surgery, and they were employed in large amounts both by mouth and by local application to wounds throughout the war. Probably the sulphonamides have been instrumental in diminishing generalized sepsis by preventing the spread of streptococci from wounds into the blood stream, but it was evident fairly early in the war that their use was not the final solution of the treatment of the suppurating wound or even for prophylaxis. The main reason for this is probably that there exist many inhibitors of the antibacterial action of the sulphonamides and that some of these are present in pus and in the breakdown products of tissues. It was therefore of the greatest good fortune that it had been discovered by 1941 that extracted penicillin was fully active in the presence of pus and tissue breakdown products, for it was the knowledge of this fact in conjunction with knowledge of the diffusibility and lack of toxicity of the extracts which made much of the subsequent work to bring the substance into clinical use appear worth the great effort necessary. From the results of experimental work it seemed more than likely that penicillin could be applied with success to septic infections involving pus formation either by injecting it into the blood stream or by local administration. These expectations have been fully borne out by subsequent clinical investigations, which have shown clearly that infection by sensitive organisms can be checked and overcome. An additional encouragement lay in the fact that the staphylococcus was highly sensitive to penicillin, thus bringing into its therapeutic field a group of infections which were outside the range of any of the sulphonamides then known.

In the use of penicillin in war surgery there has been an evolution. Attention was at first directed to the relatively small proportion of wounds which had become severely and chronically infected, as it was thought that here the small amounts of penicillin then available would have the greatest effect. But the slow and sometimes disappointing progress in these deeply infected wounds drew attention to the fact that the use of penicillin in warfare involved not one consideration but two—not only the best methods of application but also the best time at which to make the application. So a move was made to the forward hospitals, and wounds of a few days' standing, even though septic, were treated by appropriate surgery, including suture, and penicillin applications, and in this way an attempt was made to prevent serious and chronic sepsis ever developing. Later, when penicillin became more plentiful —at the time of the invasion of North-West Europe—it was possible to give penicillin prophylactically soon after wounding. Though many factors have contributed to the excellence of the surgical results obtained in the later years of the war few will, I think, now dispute that penicillin has played an important part.

You would not wish me to describe again the reasoning on which the procedures for the use of penicillin in surgery were founded, but on this occasion it may be appropriate to point out that the position has now been reached when a very great measure of success can be claimed in the treatment and prophylaxis of sepsis for a combination of aseptic methods—that is, of methods not associated with chemicals and of antiseptic methods which involve their use. The really important point with regard to the latter is the recognition that there exists an antiseptic beyond the dreams of Lister—an antiseptic which can be applied through the blood stream as well as by appropriate local means, one immensely powerful against many pathogenic organisms but at the same time harmless even to very delicate tissues, and one fully active in surroundings where the sulphonamides fail.

An Outburst of Research

With the demonstration that at least one of the antibiotics was not simply an antiseptic, as had previously been supposed, but a chemotherapeutic agent in the sense in which that word is now used, a great outburst of research has taken place all over the world. Workers who had abandoned the field years ago again became interested, and it was not long before the air was filled with the cries of those wishing to join the new experimental gold rush and to secure what had previously been abandoned. In these days it is uncommon to peruse a medical journal without finding a record of some new organism with antibiotic powers or the re-examination of one already known. One of the most piquant has recently appeared: a mould isolated from human hair in New York has been found to produce a red dye which is active against *Bact. coli.* What a chance for journalists, who have already shown something of their imaginative powers in connexion with penicillin, to wax lyrical and romantic if this substance should ever be of therapeutic importance and it should be disclosed that it was a woman's hair ! I cannot help feeling that Lister would be mightily amused to see the army of eager enthusiasts now stretching out suppliant Petri dishes in the hope that they will receive some miraculous therapeutic manna. Some workers think that the energy spent in the search for new antibiotics would be more profitably spent in investigating more minutely the action of those already known, with the object of understanding bacterial metabolism better. This may be true, but, on the other hand, the search for more antibiotics with a chemotherapeutic action may be of service to surgery; for, successful as the application of penicillin has been not only in war but also in civilian surgery, it cannot be said that all forms of sepsis can yet be controlled. Penicillin is ineffective against the Gram-negative bacilli, such as *Ps. pyocyanea*, *Bact. coli*, and *Proteus*, and these organisms can still cause mild suppuration in wounds free from streptococci and staphylococci. There is in addition the possibility of resistant strains arising, and though this has so far happened relatively rarely with penicillin, alternative drugs which will do for penicillin-resistant strains what the latter has done for some sulphonamide-resistant strains would be a valuable acquisition. The search, perhaps less urgent now the war has ended, goes on, and already a most interesting compound, streptomycin, has been isolated by Waksman and his collaborators (Schatz, Bugie, and Waksman, 1944) from an actinomycete—one of the group of organisms which, it will be recalled, was first shown to produce antibiotics by Lieske in 1921. Streptomycin is a base which is remarkably non-toxic to animals and can be given in large doses in much the same way as penicillin, and it is active against some of the Gram-negative organisms such as *Bact. coli* and *Ps. pyocyanea.* It has been shown, in mice, to have true chemotherapeutic action against infection by *Ps. pyocyanea* and other Gram-negative organisms, and it has been tried clinically—though with no clear-cut success—in typhoid fever and other infections. It has also some effect, both *in vitro* and experimentally *in vivo*, against the tubercle bacillus. As yet little has been reported of its use in surgery. Besides this most interesting compound this group has furnished streptothricin (Waksman and Woodruff, 1942), similar to but more toxic than streptomycin, and proactinomycin, a substance isolated by Gardner and Chain (1942) from an accidental contaminant. This last substance acts against Gram-positive organisms, and has recently been shown to have chemotherapeutic properties against peritoneal infection by the streptococcus when given by mouth (Florey, Jennings, and Sanders, 1945). It may be a measure of the progress in the chemotherapeutic field that this fact has not excited us greatly, for eleven years ago, before the discovery of the sulphonamides, it would have been considered almost miraculous. Some recent unpublished work which the authors permit me to mention illustrates clearly how very careful one has to be in assessing the powers of antibacterial substances. These three substances from the actinomycetes are all bases, and Dr. Abraham and Dr. Duthie find that their antibacterial power is considerably altered by relatively small changes in the reaction of the medium in which they act. Thus at *p*H 8 their activity is many times greater than at *p*H 7, and at *p*H 7 more than at *p*H 6. When it is realized that autolysing tissues and pus are quite acid it becomes clear that *in vitro* observations carried out in media at *p*H 7.4 or thereabouts may give far too optimistic a picture of what these substances are capable of achieving in the body.

Another development which illustrates fully the great importance of the biochemist in this field of work has recently been furnished by Doisy and his colleagues (1945). Biochemists and bacteriologists working together have isolated four crystalline substances from the organism on which so much sustained work was done in the early days—*Ps. pyocyanea.* These substances, which the workers call Pyo I, II, III, and IV, act powerfully against Gram-positive organisms and appear to have little toxicity to animal tissues, but experiments with infected animals have not yet been reported. It would be intensely interesting if this organism which has been worked on for so long should at last yield a substance of permanent value in therapeutics.

The field for research is obviously vast, and at the moment much attention is being applied to the possibility of discovering an antibiotic which will be effective against tuberculosis. That such a possibility exists no one will deny, but the urge to fame is such that I greatly fear there will be many unreliable and premature publications on this subject. The exploration of the possibility that skin fungal infections and protozoa may be susceptible to some antibiotics has only just begun—with what prospects no one can yet say.

Conclusion

I hope I have been able to make clear that the present happy position in the prevention and treatment of sepsis has not been reached by a flash of insight on anyone's part, but that we at Oxford made a choice from among the many antibiotics known and had the great good fortune to be able to show for the first time that an antibiotic could also be a chemotherapeutic agent.

One great lesson which a survey of work on antibiotics should have taught us is that real and continuous progress and understanding can be obtained only by the collaboration of people with various outlooks and experimental accomplishments, and, in particular, that little progress can be made without first-class biochemical work. The other important point is that steady and rapid progress is possible in the clinic only when the clinician has firmly based experimental foundations on which to work. It is easy to exaggerate the importance of antiseptic drugs in surgery, and I have indeed noticed signs of restiveness among surgeons when misguided people have wished to attribute all their success in dealing with septic conditions to penicillin. I have always maintained that the introduction of such drugs demands better, not worse, surgery, and a better understanding of inflammatory processes. And it is, I think, quite clear that penicillin and substances like it will only be used with maximum effect if surgeons have a real appreciation of the properties of the drugs—not only what they can do, but also what they cannot do and the reasons for their limitations.

Perhaps I may close with some words of Lister's written in 1867: "And I may take this opportunity of warning some of your readers that they must not expect carbolic acid to act like a charm; but that, whether they employ this agent or some other of analogous properties, it is only by the light of sound pathology, and strict attention to practical details, that they can hope to attain in their full measure the magnificent results which the antiseptic treatment is capable of affording."

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NEUROLOGICAL COMPLICATIONS OF INFECTIVE HEPATITIS

BY

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Cerebral changes in fatal cases of infective hepatitis have often been recorded. They have usually taken the form of coma, delirium, convulsions, and incontinence—symptoms which are common to the clinical picture of acute hepatic necrosis of any origin. Other neurological findings are, however, less well recognized, and it is the purpose of this paper to discuss various signs observed independently in cases of infective hepatitis by four persons in different parts of Assam and Bengal during 1944.

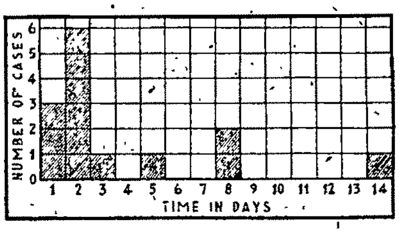
The neurological findings have been protean, but it is possible to dissect out four main groups. First, the picture commonly found in the fatal case, which is too familiar to need detailed description. Secondly, a symptom-complex comprising generalized or localized muscular rigidity with increased tendon-jerks, sometimes but not invariably associated with extensor plantar responses; in addition chloreiform movements have been observed, and in one case a Parkinsonian tremor. Thirdly, a group of cases with large focal haemorrhages into nervous tissue, which may or may not produce localizing signs. Fourthly, those cases showing signs of peripheral neuritis for whose direct relation to the onset of infective hepatitis there is good evidence.

The Common Type

This group may be illustrated by a "type" case:

S., aged 28, developed anorexia, followed by jaundice and bile-stained urine, on Dec. 19, 1944. He remained deeply jaundiced, and on Jan. 3, 1945, became drowsy and apathetic. The liver dullness was diminished, but there were no objective signs in the nervous system. On Jan. 4 he became alternately stuporous and maniacal. The urine contained no leucine or tyrosine crystals, and the cerebrospinal fluid, under a pressure of 100 mm., contained 60 mg. of protein per 100 c.cm. He died on Jan. 5. Necropsy showed characteristic changes of acute hepatic necrosis in a liver that weighed 750 g. The only demonstrable change in the brain was that of congestion of small vessels in the white matter.

There is nothing unusual about this case, but it illustrates well the short time that often elapses between the first onset of mental change and death. A histogram of this interval in 14 cases is shown in the accompanying figure.



Interval between onset of mental changes and death in 14 fatal cases of infective hepatitis

Some degree of mental depression is very common in infective hepatitis. Any increase in this depression or any behaviour change should be treated as a danger sign and as an indication for such protective therapy as is available.

The Striatal and Pyramidal Group

Nine cases have been observed in this group. The distribution of the relevant physical signs is shown in the accompanying Table. The following are brief histories of Cases 4 and 6.

Case 4.—A British private aged 30 was admitted on May 25, 1944, complaining of anorexia and dark urine for two weeks and jaundice for 10 days. On examination he was afebrile and deeply jaundiced.

The liver was palpable and tender. Otherwise there were no abnormal signs. There was bile in the urine, and a diagnosis of infective hepatitis was made. There was normal progress up to May 31, when the jaundice was barely discernible, except that he had been found sleep-walking on the nights of May 29 and 30. He was not, so far as he knew, in the habit of sleep-walking. On May 31 he was drowsy all day, but took food and answered when spoken to. In the evening he became distant and unapproachable, and the same night was incontinent of urine. Examination revealed slight spasticity of both arms. On June 1 he was in coma. There was deep jaundice and the liver was still palpable. Both arms were spastic, adducted, and pronated. Both legs were spastic, adducted, and extended. Plantar responses were flexor. All tendon-jerks were very brisk and there was sustained left ankle clonus. The pupils were not dilated and gave normal reactions; corneal reflexes were absent; fundi were normal. During the day these physical signs remained unchanged, but there appeared in addition choreiform movements of both arms, more marked on the right side, and purpuric spots on both upper arms. He died early on June 2 with more purpura on the right hand and a sharp terminal rise of temperature. Lumbar puncture revealed no abnormality. A white blood count showed a slight polymorph leucocytosis. There were no malaria parasites in repeated blood slides. There was no albuminuria.

Distribution of Striatal and Pyramidal Signs in 9 Cases of Infective Hepatitis

Case No.	Muscular Rigidity	Increased Jerks and Clonus	Involuntary Movements	Extensor Plantar Responses	Outcome
1	+	—	—	—	Death
2	—	+	—	—	"
3	—	+	+*	—	"
4	+	+	+*	—	"
5	+	+	+†	—	"
6*	+	+	—	+	"
7	—	+	—	—	Recovery
8	+	+	—	+	"
9	+	+	—	—	Death

* Frank choreiform movements. † Parkinsonian tremor of hands.

At necropsy there were numerous subpleural, subpericardial, and mesenteric petechial haemorrhages. The liver was not diminished in size; it had a red-and-yellow blotchy appearance and the architecture was clearly destroyed in patches. The brain showed no macroscopic abnormality, there were no malaria parasites in brain smears, and there was no bile staining of brain tissue.

Histology.—Liver:—Marked degeneration of the parenchyma with a moderate amount of fibrosis and cellular reaction. Proliferation of bile ducts and formation of new parenchyma very pronounced. Evidence of degeneration even in newly formed epithelial cells. Brain:—Generalized oedema of white matter. No perivascular cuffing or general increase in cells. No cellular degeneration. Virchow–Robin spaces widely separated from the vessels. A small extravasation of red cells into the brain tissue from one vessel in the midbrain.

Case 6.—A British N.C.O. aged 24 was admitted on Sept. 16, 1944, complaining of anorexia for five days and dark urine for three days. On examination he was moderately jaundiced and there was bile in the urine. There were no other abnormal signs. Infective hepatitis was diagnosed. On Sept. 19 he became drowsy yet restless. Jaundice was more intense and the liver dullness was diminished. There were no abnormal signs in the nervous system. Later in the day he became delirious. On Sept. 20 he was still more deeply jaundiced and in coma. The pupils were dilated but not fixed, and the fundi were normal. There were bilateral extensor plantar responses, but no alteration in muscular tone and no involuntary movements. Later in the day his temperature rose slightly. Both legs became spastic and were held adducted and extended. There was bilateral sustained ankle clonus. The temperature rose steadily to 105° during Sept. 21, coma deepened, and the physical signs remained unchanged. He died early on Sept. 22. There was never any purpura. The urine contained no albumin, and repeated blood smears were negative for malaria.

Necropsy revealed endocardial petechial haemorrhages. The liver was small and flabby with a shrunken capsule, and the cut surface was blotchy yellow and red. The brain showed no macroscopic abnormality, no bile staining, and negative smears for malaria parasites.

Histology.—Liver:—Extensive parenchymatous degeneration with marked leucocytic infiltration. Brain:—Generalized oedema, especially of the white matter. Perivascular lymph spaces greatly enlarged. No haemorrhages. No degenerative changes. Occasional vessels in the caudate and lentiform nuclei showed a few round cells, perivascular, but the appearances were not suggestive of an encephalitis.

In all fatal cases the liver showed the characteristic pathological changes of acute or subacute hepatic necrosis. Histological sections of the brain are available in five cases, including the two detailed above. They consisted of scanty round cells, perivascular around the basal ganglia, in the meninges, and in one case in the subcortical white matter. A greater or lesser degree of cerebral oedema was always present, and extravasation of small numbers of red blood cells throughout the brain was sometimes observed. These changes are in alignment with those found by Baldwin Lucké (1944) in his excellent analysis of fatal hepatitis in the U.S.A., except that in one of our cases lymphocytic infiltration was found in the subcortical white matter as well as in the meninges and basal ganglia.

The pyramidal and striatal signs may be accounted for by one of three theories: a mutation of the infective hepatitis virus, giving it a neurotropic character; a specific attack upon the basal ganglia and pyramidal systems by products of autolysed liver cells; or by toxins from the gut which are allowed to pass through an incompetent liver.

The virus theory is improbable on account of the following facts. The onset of striatal signs coincides with a sudden increase in liver damage and not with the onset of the infection. The cellular reaction round the small vessels of the brain is very slight and can hardly be considered to indicate a meningo-encephalitis. It is conceded, however, that the tempo of the disease, once cerebral changes have appeared, is so swift that more dramatic histological changes may have no time to appear; again, it is possible that special methods of staining which were not available might have demonstrated more extensive damage.

The chemical theory is more likely. It is interesting to note the relation between striatal and pyramidal disease and diffuse liver damage in such diverse conditions as kernicterus (Hawksley and Lightwood, 1934), umbilical infection (Biemond and van Crefeld, 1937), Kinnier Wilson's disease (Greenfield, Poynton, and Walshe, 1924), Laennec's cirrhosis (Waggoner and Malamud, 1941), and such metabolic disturbances as haemochromatosis and the lipoidoses (Brouwer, 1936). Many of these conditions are characterized by diffuse liver disease of a chronic nature in which there is no active autolysis of liver cells. It is for this reason that we prefer the last explanation—namely, that of poisoning of nervous tissue by the passage of intestinal toxins through an inefficient liver.

The pathogenesis of these signs is probably the same as that of the "type" picture, but the association between hepatic and striatal damage in so many diseases is too frequent to be pure coincidence and demands further investigation.

The Haemorrhagic Group

It is the rule rather than the exception to find diffuse petechial haemorrhagic phenomena in fatal cases of infective hepatitis as in any disease causing liver failure. We have observed three cases which are worth noting, since they showed massive haemorrhages—into the caudate nucleus in one case, and forming a subdural haematoma in the other two.

Case A.—A British officer became ill on July 1, 1944, with nausea and vomiting followed by jaundice. On July 14 he became unconscious and incontinent; the plantar responses were both extensor, but later in the day the right response became flexor. On July 18 there was a petechial rash and he bled extensively from ulcers on his scalp, shoulder, and wrist. Necropsy on July 22 showed the common hepatic changes of necrosis; the brain contained an area of softening lateral to the right lateral ventricle and a large haemorrhage into the right caudate nucleus. Histology demonstrated small extravasations of blood into the meninges and into the Virchow-Robin spaces in the pons; there was also slight perivascular round-cell infiltration.

Case B.—A sapper developed infective hepatitis on July 26, 1944. There were small subconjunctival haemorrhages and haematemesis. Blood slides showed a few benign tertian rings. On Aug. 3 he suddenly lapsed into coma and died the same day. Necropsy showed a right parietal subdural haematoma. The surface vessels of the brain were congested and there were petechial haemorrhages throughout the white matter. Brain and spleen smears showed no malaria parasites, and the liver changes were those of acute hepatic necrosis.

It is suggested that in the first case the lesion (possibly a venous thrombosis) giving rise to the area of softening occurred at the same time as the extensor plantar response was observed. The caudate haemorrhage which gave no signs was probably terminal. The subdural haematoma both in the case quoted and in the other was silent.

This is a small and somewhat artificial group which should be regarded aetiologically as a gross manifestation of the general haemorrhagic tendency in liver failure.

Peripheral Neuritis

In the Arakan in 1944 there was a small and short-lived outbreak of peripheral neuritis which coincided precisely in time with the development of jaundice in each case. This outbreak will be reported elsewhere by Byrne, who considers, with some reason, that the symptoms and signs of peripheral neuritis were due to the emergence of a neurotropic element in the virus of infective hepatitis. We have observed one such case:

A British private aged 38 complained of a painful heel on July 26, 1944. He had cellulitis of the heel, which cleared up by Sept. 20. There was no open ulcer. He then noticed difficulty in walking (the difficulty involved both legs), and a week later he developed infective hepatitis. Jaundice was persistent, the weakness of the legs became gradually worse, and the arms became weak also. On Nov. 12 (the last day on which he was seen, as he developed amoebic dysentery and had to be evacuated) examination showed normally reacting pupils, no cranial nerve lesion, general weakness of the upper limbs with absent tendon reflexes, and general weakness of the legs with absent knee- and ankle-jerks. There was wasting of the dorsiflexors, with blunted touch sensation on the legs and slight Rombergism.

It seems doubtful whether the peripheral neuritis in this case was causally related to the infective hepatitis. Hurst (1943) observed similar cases in Gallipoli in the 1914–18 war, and it is by no means certain that they did not represent the simultaneous occurrence of two fairly common diseases.

Summary

The neurological complications of infective hepatitis are reviewed.

Four main groups are illustrated by cases observed in Assam and Bengal in 1944.

It is concluded that neurological changes may appear in association with infective hepatitis due to a number of causes, most of which are still a matter for speculation.

Our thanks are due to Lieut.-Col. G. A. Ransome, I.A.M.C., for records of Cases 1, 2, and 3, analysed in the Table.

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A TRICK TEST TO DETECT NIGHT-BLINDNESS "MALINGERERS"

BY

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The tests that have so far been evolved to examine scotopic vision—pentagon, hexagon, and the various adaptometers—are all subjective in nature and therefore demand the full co-operation of the subject. From the military point of view this is of little value in eliminating the few genuine cases of night-blindness from the many who simulate the condition. To help in sifting these cases the following test was devised and preliminary experiments have been carried out.

It was thought that if it could be shown that the subject was co-operating fully, then more reliance could be placed upon the subjective results of one of the above-mentioned night-vision tests. A mass of experimental data (Hecht and Williams, 1922; Hecht and Mandlebaum, 1939; McDonald, 1940; Mandlebaum, 1941) indicates that red light stimulates the cones of the retina only and that the rods are unaffected. On this basis, subjects with normal central vision—that is, adequately functioning cones at the macula—should be able to identify a pure red light at minimal intensity even if the rest of the retina is diseased or defective.

Experiments performed by us have shown that the minimum threshold for pure red falls within a very narrow range of intensity of illumination (Fig. 1). An individual with defective night vision but with normal cones—that is, normal macular function—should theoretically be able to see red light within this narrow normal range of minimal intensity. This hypothesis has been confirmed by the few cases of early retinitis pigmentosa, diffuse choroido-retinitis (maculae unaffected), and advanced glaucoma with very contracted fields but good central vision which we have so far been able to test. One possible exception, suggested by the literature (Wald, Jeghers, and Arminio, 1938; Wald and Steven, 1939; Hecht and Mandlebaum, 1939; Mandlebaum, 1941)—for we have not been able to find such a case—is severe nutritional deficiency (vitamin A), because it is reported that in experimentally induced vitamin A deficiency the cone threshold for white light, and therefore we presume the red threshold as well, is raised. In practice, however, this exception can be dismissed, as this condition cannot arise on Army diets and would, in addition, show other well-marked features. Finally, it is necessary that known cases of night-blindness (familial) with no signs of disease or abnormality of the fundi should be tested to ascertain if such cases fall within the above established normal range of minimal thresholds. This would substantiate the universal application of the test.

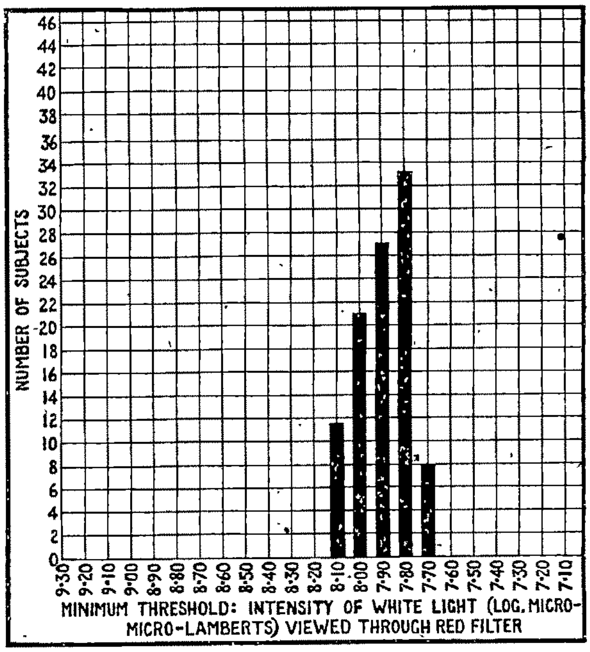

FIG. 1.—Range of minimum threshold for red light of 100 subjects chosen at random and including those with hypermetropic and myopic errors of refraction.

Method

The test evolved is briefly as follows. The individual who complains of night-blindness at the out-patient clinic is given a careful routine examination including colour vision, then placed in a dark room, given dark goggles, and left to dark-adapt for 20 minutes. Other patients are seen meanwhile, so that no time is wasted. After 20 minutes' adaptation the "night-blind" patient is asked to state when he can just see the faint red light which is shown him and increased gradually in intensity; as soon as he can see the light it is dimmed and the test repeated a few times until a constant result is obtained. It is simple to deduce whether the patient is co-operating or not. The general procedure of the test suggests to the subject that his night visual ability is being tested, and the malingerer reasons that he must not admit seeing the light until it is very bright; but this, of course, does not tally with the results of the general routine investigation, which shows that he has normal macular function. Further, the several readings taken often give inconstant results in this type of case, as it is difficult for the malingerer to judge an equal brightness intensity each time.

This test takes up about five minutes of the operator's time. When a result within the normal range is obtained it can be assumed that the patient is co-operating, and one of the tests of scotopic vision can be performed with reliance upon the results.

The apparatus used is Crookes's adaptometer 1944 (Fig. 2) (Godding, 1945), which consists of a screen illuminated by a constant source. The intensity exhibited is varied by neutral density filters and rotating polaroids placed between the screen and the observer. This has been calibrated by the National Physical Laboratory. The red filter used is Dufay-Chromex No. 2257, which transmits the longer waves of red light as shown in Fig. 3—i.e., 680 to 720 mμ. Of the various filters tried this was found to be the best, as it "crossed the threshold coloured," the other filters allowing the transmission of shorter waves, which were perceptible as a faint grey before the light was seen as red, thus making it difficult to determine the threshold and giving a wider variation in the normal range. A square aperture, subtending an angle of 1°, diagonally, at the testing distance, is used in front of the filter, and the patient is placed in position and shown this before the test so that he knows where to look and can fix on it. A square aperture is used as suggested by Sloan (1939) to avoid confusion with the vague sensations of light experienced by subjects at threshold values. A 1° aperture at threshold values for red light stimulates only the macula and is not appreciated by paramacular regions.

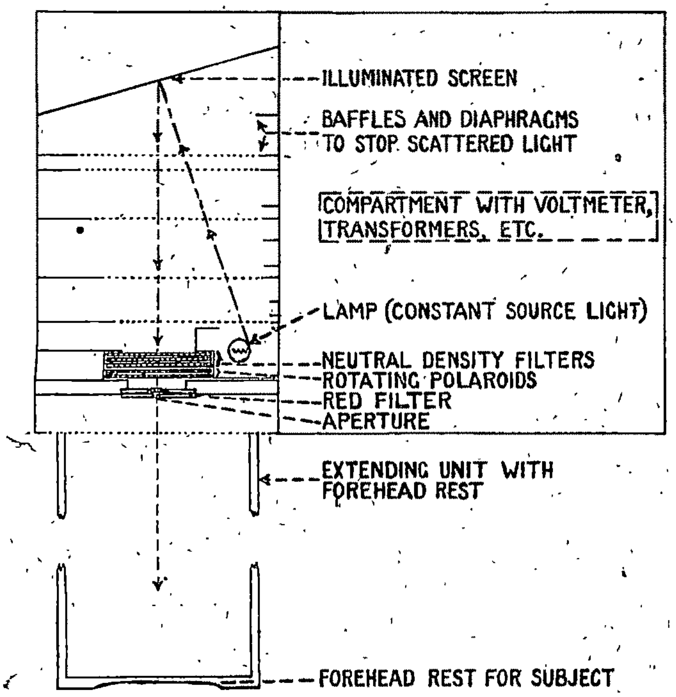
ILLUMINATED SCREEN
BAFFLES AND DIAPHRAGMS TO STOP SCATTERED LIGHT
COMPARTMENT WITH VOLTMETER, TRANSFORMERS, ETC.
LAMP (CONSTANT SOURCE LIGHT)
NEUTRAL DENSITY FILTERS
ROTATING POLAROIDS
RED FILTER
APERTURE
EXTENDING UNIT WITH FOREHEAD REST
FOREHEAD REST FOR SUBJECT

FIG. 2.—Horizontal section of Crookes's adaptometer 1944.

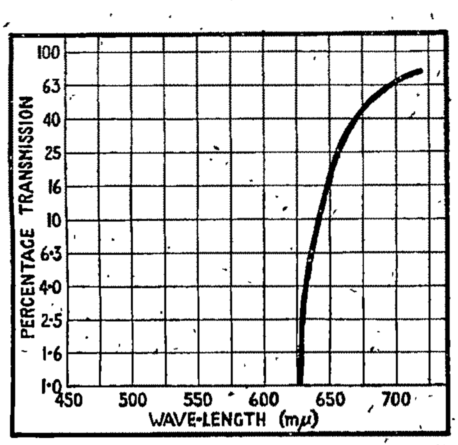

FIG. 3.—Transmission of Dufay-Chromex filter No. 2257.

The subject is first tested without spectacles. It was noted that many cases with high refractive errors gave subnormal results without their glasses and normal readings with them. The value of spectacles in these instances was not only refractive but helped maintenance of fixation, for the esophoria of hypermetropes and exophoria of myopes became manifest in the dark. The more observant of these subjects volunteered that their eyes seemed to have wandered in the dark and that they suddenly saw the red light when they moved their eyes a little to one side. Cases with small refractive errors—less than +3 or −3D—usually gave the same result with or without glasses; or those cases giving a very good result without glasses might give a slightly worse reading, though well within normal, with the spectacles. No doubt the explanation of this is the absorption and reflection by the lenses of some of the incident light.

Illustrative Case Histories

Case 1.—Lieut. A. had complained of night-blindness in 1943, when he was examined at an ophthalmic centre and a very poor result (1/5) was obtained with the Army pentagon test. He was considered bad enough to be excused night duties, but was left in Category A. He was seen in Jan., 1945, after posting to a new unit, the authorities of which considered it incongruous for an officer to be Category A though deemed so night-blind as to be excused night duties. Routine examination revealed no abnormality, but, tested with the red light, he admitted seeing it only when it was very bright and well outside the normal range. Before taxing him with this incongruity he was referred to a psychiatrist—Major McCarthy, R.A.M.C.—who diagnosed an extremely abnormal state bordering on psychopathy.

Case 2.—Lieut. B. had always had difficulty in the black-out. When with the B.L.A. he found that one relatively dark night he was unable to see to drive, and had to employ a driver, who managed quite easily. The fundi showed numerous small retinal cysts (Blessig) which reached to well behind the equator. The red test gave a normal result. The dark-adaptation curve showed a slow rate of adaptation and a final threshold definitely higher than normal. This officer was considered to be handicapped in the dark; he was suitably categorized.

Case 3.—Gnr. C. had difficulty in getting about at all in the black-out. Routine examination, red test, and dark-adaptation curve were all normal. Further questioning revealed the story of an accident during the first month of the black-out, when he had run into the back of a stationary lorry with no tail light and had severely bumped his right eyebrow. He then realized that the pain which he had been experiencing above his eyes in the black-out was a "memory" of this accident. Reassured of his perfect sight, he went away feeling much happier. His medical officer was advised to refer him to a psychiatrist if his symptoms recurred. A follow-up four months later elicited that he had not complained about his eyes and was performing his duties satisfactorily.

Case 4.—Pte. D. had difficulty in driving in the black-out. Red test and dark-adaptation were normal. Close questioning revealed that he disliked driving at any time. He was referred to the psychiatrist, who reported a severe anxiety neurosis necessitating institutional treatment.

Case 5.—Sign. E.'s eyes were normal. The red test showed non-cooperation. Further questioning revealed nothing of note. His medical officer was notified to disregard all complaints of visual defect at night.

We wish to thank Brig. Sir Stewart Duke-Elder for permission to publish this paper, and we are grateful to the Crookes Laboratories for the loan of their adaptometer.

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The first issue of a new American periodical, *Quarterly Review of Psychiatry and Neurology*, is now in preparation. The editor-in-chief is Dr. Winfred Overholser, and the quarterly will be published by the Washington Institute of Medicine, 1720, M Street, N.W., Washington 6, D.C. (annual subscription $9.00).

GENERAL ANAESTHESIA AND THE TEMPERATURE OF INHALED GASES

BY

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It would appear that for long there have been misconceptions regarding the temperature of gases and vapours as presented to the patient for inhalation. There have also been differences of opinion on the advisability of warming these gases. The idea seems particularly to have prevailed that ether vapour must necessarily have the objectionable quality of coldness. Gwathmey (Hewitt, 1912), in 1908, stressed the need for raising the temperature of the vapour in order to prevent the loss of heat by the patient incurred in warming up a cold vapour in his air passages. Seeling (Hewitt, 1912), on the other hand, in 1911, concluded that the warming of anaesthetic vapours was unnecessary. In 1918 Pembrey and Shipway advocated warming the vapour, with a view to maintaining the patient's body heat; Shipway's warmed-ether apparatus was introduced at that time. Minnitt and Gillies (1944b) do not consider that warming the gases is essential when administered by modern methods, but "if, however, the old method of insufflation is used, in which there is no reflux of exhaled gases, and especially if the gases are blown through ether at a fairly high flow-rate—say 8 litres per minute—then the resultant mixture passing into the lungs is of a sufficiently low temperature to be detrimental, and some form of heating is advantageous." Minnitt and Gillies (1944c) state: "There can be little doubt that the blowing of a cold mixture of gas, oxygen, and ether at a high rate of flow—10 litres or more per minute—into the patient's lungs is a major cause of the high incidence of post-anaesthetic respiratory complications, which are frequently noted when continuous-flow machines of the Boyle type are used, or, perhaps one should say, abused."

The closed circuit and the Oxford inhaler are both commended by some because they maintain a *warm* anaesthetic mixture for inhalation. Open ether, when ether is administered by a perhalation system, is almost invariably associated with the appearance of patches of snow on the gauze, and doubtless this suggests to many the inhalation of a "frosty anaesthetic vapour." Referring again to Minnitt and Gillies (1944a), when the subject of shock and anaesthesia is under discussion a factor contributing to shock production is given—namely, "heat loss by exhalation, and particularly if the patient has to breathe through ether on an open mask."

To test the various opinions expressed on this subject the following observations were made. Temperatures are expressed in degrees Fahrenheit, and were taken with a sensitive chemical thermometer. When obviously unimportant, fractions of a degree were not recorded.

The ether in a drop-bottle, the ether, and the ether vapour and air mixture in the ether bottle of a Boyle machine were all at theatre temperature—73°. The face-piece was removed from the 30-in. wide-bore delivery tube of the machine, and the thermometer was inserted well within the face-piece end of the tube. When a mixture of 1 litre of oxygen and 5 litres of nitrous oxide was allowed to flow the temperature was 73°. The mixture was allowed to pass over the ether in the ether bottle—temperature 73°, and then to bubble through the ether in the ether bottle—temperature 73°. Two litres of oxygen and 10 litres of nitrous oxide were now allowed to bubble through the ether; in 10 minutes the outer surface of the bottle was coated with ice; the temperature of the mixture gradually fell to 69°, at which it remained stationary.

Temperatures of the mixtures as actually inhaled by the patient during anaesthesia were recorded in a large number of cases. *Open ether:*—The mask was a simple one covered with 16 layers of surgical gauze. The temperature was taken by inserting the bulb of the thermometer through a small aperture in the gauze, so that it was situated in the mixture of air and ether vapour within the mask. It was noticeable that the lower temperatures were recorded when the patient's respirations were vigorous, and the higher temperatures when the breathing was quiet. The lowest temperature recorded was 80° and the highest 91°. *Boyle's machine:*—Gas, oxygen, and ether with limited rebreathing; the temperature of the mixture within the face-piece was 90 to 97°. *Closed circuit:*—Temperature within the face-piece was 92 to 95°.

The conversion of liquid nitrous oxide into a gas and of ether into a vapour are both associated with loss of heat, but the gas and vapour apparently at once acquire the temperature of their environment, and when inhaled are above room temperature, owing to their admixture with the warm exhaled gases. The results obtained in estimating the temperature of the inhaled mixture when the perhalation method is employed may give rise to some surprise. Presumably the important factor here is that 16 layers of gauze, with the entangled air, form a very efficient non-conductor of heat. It can be demonstrated that if a mask of this description is placed in position over the patient's face the temperature of the air within the mask rises in about two minutes from 73° (room temperature) to 87°, and in about the same time becomes saturated with water vapour. The formation of patches of snow is a phenomenon similar to the freezing of the skin with the ethyl chloride spray.

The body heat of the patient during anaesthesia was also studied.

The patient's temperature was taken in the axilla, first immediately before induction and then at frequent intervals—as a rule every 10 minutes. In short simple operations variations in temperature were negligible. A fall of from one to two degrees was noted in the more severe cases; occasionally there would be a rise of temperature. Duration of anaesthesia was in this respect an unimportant factor as compared with the nature of the surgical procedures. A particular study was made of the patient's temperature where open ether was the method of administration throughout the operation. There was quite definitely no fall in the patient's temperature on completing induction, and the temperature was maintained at the pre-induction level during lengthy operations not involving severe surgical measures. Colporrhaphies, for example, lasting 50 minutes, gave records such as 97.2°, 97°, 97.2°, 97.4°, 97.4°. As an example of a more severe operation, a panhysterectomy with difficult adhesions, duration 80 minutes, showed variations in temperature which were obviously associated with the surgical manipulations; before and after induction the temperature was 97.8°, falling after 50 minutes to 96.5°, and rising to 97.2–97.5° on closing the peritoneum. Partial gastrectomies and resections of bowel gave very similar figures. The most marked fall of temperature (from 98° to 96°) was recorded when the operation was an osteotomy of the femur, duration 90 minutes—anaesthesia, cyclopropane and ether, closed circuit.

Discussion

The maintenance of the patient's body heat during anaesthesia is an important matter, but it would appear that in this respect the influence of the temperature of the inhaled anaesthetic gases has been unduly stressed. According to the physiologists (Starling, 1941), in the adjustment of the temperature in man, regulation of the heat loss plays a greater part than heat production. Of the heat loss 80% is by the cutaneous circulation and evaporation of sweat, 11% by evaporation of water in the expired air, 4% in the liberation of carbon dioxide from the lungs, and 5% in warming *food* and air from 58° to 99° F. It is obvious that a very small percentage will be lost in warming up the air from 75° to 99°. Buxton (1914), quoting Kappeler, states that the body temperature is reduced 0.5 to 2.7° under ether. The body temperature is, however, susceptible to many different influences: it falls with loss of blood, and markedly so, in surgical shock. Many factors during an operation may influence the patient's temperature. It, moreover, is obvious that the warming of gases not only is unnecessary but is impracticable. The warmed gases would be at room temperature by the time they reached the face-piece.

Conclusions

It is not necessary to warm the gases or vapours when conducting inhalational anaesthesia.

Open ether should not be condemned as presenting a "cold vapour" to the patient for inhalation.

There is no evidence that general inhalational anaesthesia is associated with loss of body heat.

The variations in the patient's temperature during operation are due to other factors.

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FOREIGN BODIES IN THE BRONCHI AND OESOPHAGUS IN CHILDREN

BY

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Out of a number of cases of foreign bodies in the bronchi and oesophagus which have passed through my hands during the past five years it is thought that the following five are worth reporting as they illustrate various points which may materially affect the ease or difficulty with which these bodies may be removed.

Foreign bodies are less common in the bronchi than in the oesophagus. On account of the more rigid structure and small diameter of the bronchus, especially in children, removal is always more difficult in these cases. Removal is also complicated by the fact that, unless the foreign body is impacted, it tends to move up and down the lumen of the bronchus with respiration and cough, thus causing irritation of the mucous membrane and producing a varying amount of oedema, which may ultimately occlude any view of the offending article. The lumen of the oesophagus is considerably larger than that of the bronchus, even in a child, and the walls are lax and distensible, providing more space for manipulation, which considerably facilitates the removal of a foreign body.

Case I

A male child aged 5 was admitted to hospital on April 24, 1944, with a history of having inhaled two glass beads three days previously. One of these he had subsequently coughed up before admission, and it had been retrieved. Several severe attacks of coughing were accompanied by partial respiratory obstruction, alarming enough for the practitioner in charge of the case to send the child to hospital. On admission the patient appeared comfortable and continued so as long as he remained in one position. Any change, however, tended to bring on an attack of coughing, which at times was accompanied by signs of dyspnoea. This was explained, and subsequently demonstrated at the time of removal, by the bead being forced up into the trachea and impinging on the lower surface of the vocal cords. There were no signs of collapse of the lung, and *x*-ray examination revealed the bead situated in the left main bronchus.

Operation was performed under chloroform anaesthesia and the 25-mm. Irwin Moore bronchoscope passed down into the bronchus. The glass bead was easily visible in the bronchus, and was propelled up and down the lumen with each act of respiration. Attempts to seize the bead were found difficult for two reasons: (1) the extremely smooth surface of the bead, which allowed of no firm grip; and (2) although the bead was not impacted, there was hardly enough room to pass the forceps ends over it on either side in order to grip it. After several unsuccessful attempts the patient began to come round and the tube was withdrawn. While this was being done he coughed, and the bead was seen to be propelled into the trachea up against the lower surface of the cords, but before the forceps could be reintroduced it had been sucked back again into its original position. Under deeper anaesthesia the tube was reintroduced and a cotton-wool swab soaked in adrenaline held against the mucous membrane around the bead for a few seconds. This resulted in shrinkage of the tissues, and after one or two more attempts it was possible to secure a firm grasp of the bead and withdraw it into the lumen of the bronchoscope, and then to withdraw the whole. Further examination showed no damage to the bronchial mucous membrane. Beyond a slight laryngitis for a few days, the child suffered no ill effects, and was discharged about a week later.

Case II

A boy aged 3 was admitted to hospital on Jan. 9, 1945, at 3.30 p.m., having swallowed an open safety-pin at midday. Immediate *x*-ray examination showed the pin, open end downwards, lodged in the oesophagus just below the post-cricoid region (Fig. 1).

The interest in this case lies in the fact that the safety-pin had passed into the oesophagus point downwards—a very unusual occurrence, but one which considerably facilitates the removal. It is interesting to compare this case with the one reported by Mr. Ritchie Paterson in the *Journal* of Feb. 17, 1945, in which the pin entered the oesophagus point upwards. Mr. Ritchie Paterson described the dangers associated with the removal of a pin in this position and the dexterity required to effect this without perforating the oesophageal walls, with the possible consequence of mediastinitis.

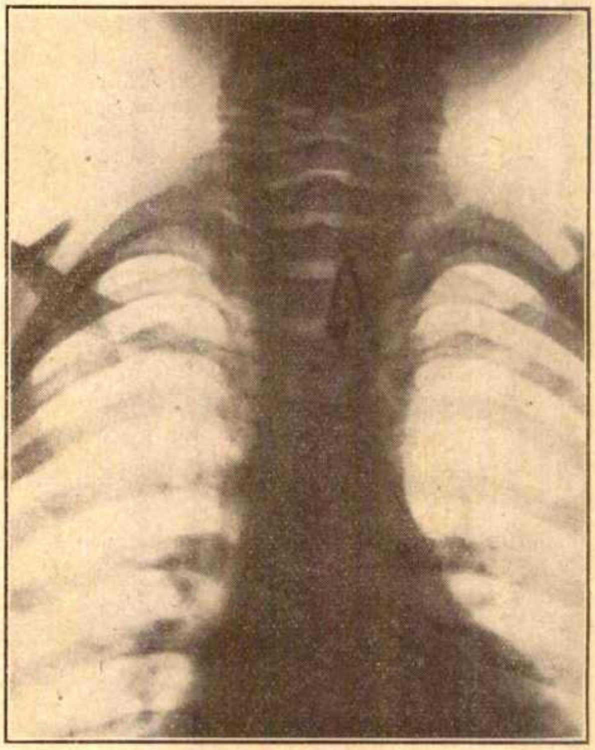

FIG. 1

In the present case, on introduction of the oesophagoscope under general anaesthesia, the pin was seen lightly poised on the posterior wall of the oesophagus. The point had presumably been caught between two folds of the mucous membrane without actually perforating the tissues. It was an easy matter to seize the rounded end with the forceps and withdraw the pin into the lumen of the tube and then to remove the oesophagoscope and its contents in one act. There was no damage to the tissues, and the whole operation, including demonstrating to the nursing staff, took at the most five minutes. The patient was sent home next day, none the worse.

Case III

On Jan. 9, 1943, a girl aged 14 was admitted complaining of cough and pyrexia for two weeks before admission. Clinical examination showed signs of collapse of the right lung. Skiagrams of the chest revealed a very large paper-clip, with a round head and two prongs, lodged head downwards at the bifurcation of the right main bronchus (Fig. 2). Each prong of the clip was later found to be 3/4 in. long. A preliminary bronchoscopic examination was done under chloroform anaesthesia, as it was thought that a good deal of pus and oedema might be present and preventing a view of the clip, thus interfering with its removal by direct vision. This surmise proved correct, and even with gentle pressure with a long wool-carrier the foreign body could not be felt. It was therefore decided to defer any further attempt at removal until this could be done under the *x*-ray screen. Owing to the disproportion in size between the diameter of the bronchus and the length of the prongs, it was obviously impossible to manipulate the clip so as to remove it with the points dangling and thus avoid damage to the mucous membrane. The only hope was to attempt to seize the prongs about half-way down their length, close them as much as possible and draw them into the lumen of the bronchoscope.

The patient was laid on the *x*-ray table and chloroform anaesthesia induced. A further examination through the bronchoscope proved the clip still invisible by direct vision. Under the screen, however, it was clearly seen, with the head firmly lodged down the right main bronchus. A pair of forceps was then passed down the tube to the clip and several attempts were made to secure a hold of both prongs together, but these were not successful. It was felt that the clip must be removed at all costs, even at the risk of damage to the surrounding tissues. A firm grip of one of the prongs was therefore obtained and gentle traction applied. This was accomplished only after turning the child on her right side. Watching all the time through the screen, the clip was pulled up for about an inch. It then stuck, and it was seen that one prong had caught in the tissues. Further gentle traction showed that this prong was acting as a fulcrum round which the head was rotating. Traction was therefore continued, and the prong, with its point embedded, was seen to be gradually bending at its centre. Traction was continued till the prong was bent double and no further progress was being made. Then, still with a firm grip on the first prong, a slight downward push was made in an attempt to dislodge the point. This was successful, and by a stroke of luck the now-doubled prong entered the lumen of the bronchoscope when further traction was applied. Thereafter it was a comparatively easy matter to draw the whole clip into the tube and withdraw the latter and its contents in one movement. The proceedings were viewed the entire time through the *x*-ray screen, and it would have been impossible to remove the foreign body without the vision thus afforded.

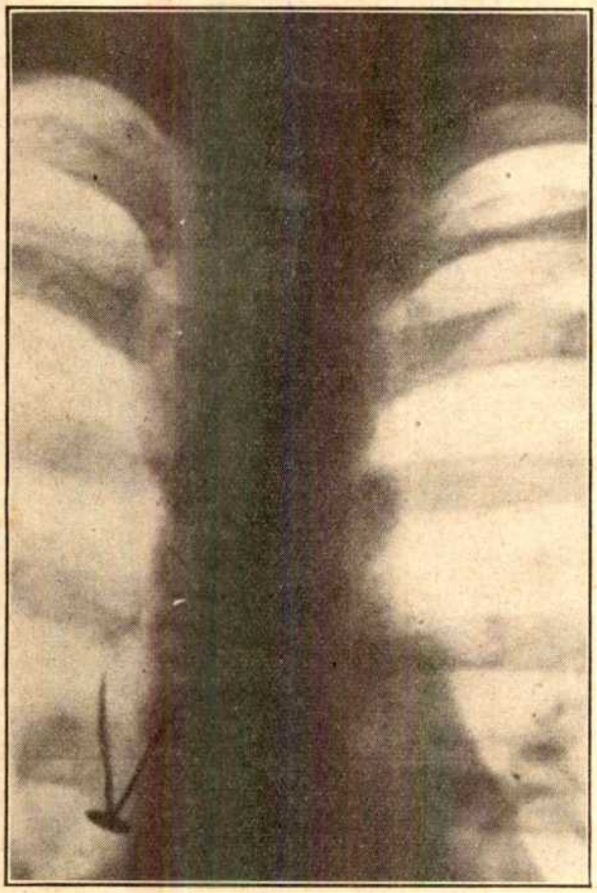

FIG. 2

The patient subsequently developed, not surprisingly, a complete collapse of the right lower lobe and a swinging temperature for a while, but with the help of sulphapyridine and breathing exercises she made a satisfactory recovery, and was discharged from hospital on March 25, 1943, to attend the chest clinic as an out-patient.

Case IV

A boy aged 12 was admitted on April 30, 1945, with a history of having swallowed or inhaled a bent pin which he had been holding between his teeth in an effort to straighten it. The patient was not distressed in any way and there were no abnormal physical signs. *X*-ray examination showed an apparently straight pin lodged in the commencement of the right main bronchus. An ordinary white steel pin similar to that involved was seen to have some ornamentation of an orange-coloured composition material around the head.

The child was placed on the operating table and chloroform anaesthesia induced. On introducing an Irwin Moore bronchoscope into the right bronchus one-half of the pin could be easily seen. With a little manipulation the ornamented head end came into view on the right, and it was seen that the pin was in fact bent into a "V," as stated by the child, though this was not apparent on the films. Having ascertained the shape and position of the pin, forceps were introduced and a firm grip obtained as near the point as possible, which was then drawn into the lumen of the tube. The decorated head of the pin impinged on the rounded end of the bronchoscope. This was then gently withdrawn without any difficulty till the subglottic region was encountered, when there was a slight hitch; but a little manipulation sufficed to withdraw the pin past the vocal cords, after which there was no further difficulty.

Other than a moderately severe laryngitis for a few days after the operation there were no ill effects, and the child was discharged fit on May 7.

Case V

A baby aged 18 months was admitted at 10 p.m. on May 19, 1945. The mother said she thought the baby had swallowed a piece of bone or button—"there were plenty of bits on the floor." Immediate *x*-ray examination revealed a shadow about the post-cricoid level, but it was difficult to be sure whether it was in the air or the food passage. From an oesophagoscopy performed under general anaesthesia it was evident that there was no foreign body in the oesophagus. Bronchoscopy was then attempted, but, owing to a misunderstanding as to the age of the child in the first place, the smallest-sized bronchoscope was not available, and the next size was too large to pass through the glottis without undue force, which would have damaged the cords. A brief glimpse was obtained, however, of the upper part of the trachea, but no foreign body could be seen. The child was breathing comfortably and was in no way distressed, so it was decided to postpone further examination till another skiagram could be taken the next day. This was done, and a lateral view showed a small pointed body at the level of the sixth cervical vertebra, but it was still not clear whether it was in the bronchus or the oesophagus. A barium meal was therefore given, and it immediately became clear that the offending article was in front of the oesophagus in the left bronchus, possibly exerting slight pressure on the oesophagus.

The baby was taken to the theatre and chloroform anaesthesia induced. The smallest-size Negus bronchoscope was then introduced through the larynx with the aid of a Mackintosh electrical laryngoscope. Owing to the small lumen of the tube the view was very restricted, but by keeping well to the left side of the trachea the bronchoscope passed easily into the left main bronchus. After sucking away some mucus there appeared to be a small dark hair-line across the lumen of the bronchus, which could not be sucked away and was presumed to be the foreign body, although no adequate view could be obtained. A very fine pair of forceps was introduced down to the site and gentle palpation performed, when something hard could be defined. The forceps were opened and manipulated till it was felt that a grip on the hard body had been obtained; traction was then exerted until the forceps ends and their contents were within the lumen of the bronchoscope. The latter and its contents were then withdrawn in one movement. On examination the foreign body was seen to be an irregular piece of button of some composite material, approximately half an inch long and a quarter-inch in diameter.

Beyond slight pyrexia for a few days the baby suffered no ill effects, and was discharged from hospital on May 25.

I am indebted to Dr. W. E. Crosbie, medical superintendent of Alder Hey Hospital, for permission to publish the above cases, and to Dr. Bennett-Jones for the anaesthetic in Case III and Dr. Derham in the four remaining cases. I have also to thank the radiographer, Mr. Lucas, for the *x*-ray films and prints and his valuable assistance in screening the patient in Case III.

AN UNUSUAL CASE OF ERYTHROBLASTOSIS FOETALIS

BY

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AND

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The possibility that erythroblastosis foetalis may sometimes be due to a heterospecific pregnancy (i.e., to maternal anti-A or anti-B iso-agglutinins) has been considered by Wiener (1943); and Boorman, Dodd, and Mollison (1942, 1944) have reported three cases in which this seemed to have happened. A fourth and rather striking case has been investigated by us, with the following findings.

Clinical History

Mrs. A., a primigravida aged 24, attended the antenatal clinic at the City Hospital, Nottingham, on Jan. 28, 1944, and was seen by one of us (J. B. C.). Her L.M.P. was Sept. 29, 1943, and her fundal height at 14–16 weeks corresponded with the period of amenorrhoea. She was found to have an intermediate degree of pelvic contraction, but otherwise her general condition was satisfactory. When aged 9 years she had had scarlet fever complicated by acute rheumatism, but was nursed at home and was off school for three months, apparently making a complete recovery.

She attended the ante-natal clinic regularly throughout and, apart from the failure of the head to engage at the 36th–38th week, her condition was entirely satisfactory and normal in every respect. Arrangements were made to admit her on July 3, 1944, three days before the expected date of confinement, for investigation of the pelvic contraction. She was admitted in labour to hospital on July 1—approximately at term. The foetus was in the vertex left occipito-lateral position and the head poorly flexed and mobile: no hydramnios was present.

On admission skiagrams for foeto-pelvic disproportion were taken and, as no disproportion seemed to be present, it was decided that she be given a trial labour. After a first stage of labour lasting just over 22 hours, and a second stage of two hours, it was found that the head remained arrested in the transverse diameter of the pelvis at the level of the ischial spines.

Under spinal anaesthesia a live mature male infant with gross hydrops foetalis was delivered by manual rotation and forceps. It weighed 7 lb. 2 oz. and was 17¼ in. in length. After birth the infant's colour and cry were both very poor, and remained so despite lobeline injected into the umbilical vein. The infant died 25 minutes later.

The placenta and membranes looked normal, did not show any of the typical macroscopic features generally associated with such a foetus, and weighed 21 oz.—a normal ratio in weight to the infant. At delivery blood was taken from the umbilical cord for investigation, the results of which are given below.

Necropsy of the infant showed gross oedema of all the viscera, with much free greenish fluid in all the serous cavities. The lungs were surprisingly well aerated though markedly oedematous, and apparently had been expanded as fully as was possible under the circumstances. The liver and heart appeared normal, but the spleen was large, though normal in shape. No evidence of injury to the meninges or of intracranial haemorrhage was found, but the brain was very oedematous and much more friable than normal. The thymus was also much larger than normal, although its consistency was not apparently altered. Pieces of liver, thymus, spleen, sternum, and a lymph node were sent for histological examination, and these showed the very characteristic histological picture of erythroblastosis foetalis.

The patient made an uninterrupted recovery and was discharged on July 17. She was seen at the post-natal clinic on Aug. 15, when her condition was satisfactory from an obstetric point of view. She was asked to return in four weeks' time for further serological investigations, but has so far defaulted.

Serology

Father's blood—Group A Rh-negative. Mother's blood—Group B Rh-negative. Foetal blood—Group A Rh-negative. No irregular iso-agglutinins were found in the mother's serum, but her anti-A titre—determined against A_1 cells of average sensitivity by the method of Taylor and Ikin (1939)—was 16,000,000. Anti-A was looked for in a sample of foetal blood (obtained from the cord) and was found present to a titre of 128. Despite the presence of this anti-A in the foetal plasma, the foetal erythrocytes were not agglutinated; we think that this may have been due to the gradual elimination of the more sensitive foetal red cells (i.e., those containing substantial amounts of A substance) by the powerful maternal anti-A iso-agglutinin, since the foetal red cells were relatively insensitive to anti-A sera, and were agglutinated by the maternal anti-A only to a titre of 1024. The husband's cells were agglutinated to a titre of 250,000 by the mother's serum.

On Aug. 8, five weeks after delivery, the maternal anti-A titre was 4,000,000. Unfortunately, it was not possible at the time to determine the A subgroups of husband and baby owing to lack of the necessary sera. As the patient failed to attend again no further serological investigations were possible.

In view of the extraordinarily high maternal anti-A iso-agglutinin titre, and of the presence of Anti-A in the foetal blood, it is difficult to avoid the conclusion that this was a case of erythroblastosis foetalis due to heterospecific pregnancy.

Our thanks are due to Dr. W. R. Harvey, Royal College of Physicians Laboratory, Edinburgh, for the histological report, and to Dr. C. L. Crawford Crowe, medical superintendent, City Hospital, Nottingham, for permission to publish this case.

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Medical Memoranda

Full-term Extra-uterine Pregnancy associated with Extensive Prolapse

The following case shows many points of interest in addition to its rarity. There was complete lack of symptoms pointing to an early emptying of the uterine contents into the abdominal cavity. Toxaemia occurred at 36 weeks' gestation. The persistent transverse lie and extensive prolapse were aids to the diagnosis.

Mrs. P., 7-para, aged 41, first reported to the ante-natal clinic when four months pregnant. Her past obstetrical history was as follows: the first two children had been born prematurely at eight months, the first surviving 7 weeks and the second 2 days; she then had four normal pregnancies and labours, all the children being alive and healthy.

At her first attendance at the clinic her only complaint was of "dropping of the womb." On examination the fundus was enlarged to the size of a 16-weeks pregnancy, and on vaginal examination an extensive prolapse, with slightly eroded cervix, was present. The cervix was disinfected, pushed up, and a large ring pessary inserted. The date of her last period was rather uncertain; but there had been no irregular bleeding or pain, and the estimated date of delivery worked out at about the middle of March.

The pregnancy progressed, but the ring pessary was unsatisfactory because it failed to keep the prolapse in position and failed to stay in the vagina for any length of time. As the cervix was now more ulcerated and bleeding, it was decided to admit the patient to hospital. Improvement occurred after admission on Jan. 19, 1945, and while she was in bed the prolapse was not evident except after a bowel action. As the patient had another two months to go before full term, a Napier's pessary was fitted and she was discharged with suitable instructions. She was then very much more comfortable, but had to be readmitted a month later—Feb. 19—with toxaemia of pregnancy. There was gross pitting oedema of feet and legs, the B.P. was 182/110, and the urine contained a trace of albumin. After a week's rest in bed the B.P. had fallen to 140/88 and the urine was clear. The oedema had improved but not quite disappeared.

The foetus at this stage was lying in a transverse position high up in the abdomen. When version was attempted the foetus immediately reverted to its former position. An *x*-ray examination was carried out and the following report obtained: "This is a single pregnancy, transverse presentation, spine upwards, the head being opposite and above the level of the left iliac crest. The biparietal diameter is estimated at 3.6 in."

It was suspected that we might be dealing with an extra-uterine pregnancy or that the placenta might be occupying the lower uterine segment. However, before further investigations could be carried out the patient started to have violent abdominal pain, with vomiting and rapid rise in pulse rate. The pain seemed to be localized at first to the right iliac region, and there were no palpable uterine contractions; but the pain and tenderness rapidly became generalized over the abdomen, together with rigidity of the rectus muscles.

A laparotomy was obviously indicated, and when the patient was anaesthetized with cyclopropane the contour of the abdominal swelling was seen to be quite irregular, and, the muscles being relaxed, foetal parts could be felt very easily. An incision was made in the midline below the umbilicus, and a thin-walled bluish sac presented at the wound with the foetus plainly visible inside. A live male baby was delivered; but, unfortunately, in spite of all efforts at resuscitation, he died about an hour later.

The umbilical cord was about 18 in. long and its distal half was divided into two separate vascular bundles, which entered the placental mass separately. The latter had an extensive attachment in the pelvis, the peritoneal surfaces of the bladder, caecum, enlarged uterus, and broad ligaments being involved. Separation of the placenta, tentatively tried at one spot, was easily effected, and the whole placental mass was removed much in the same way as an adherent placenta is removed from the uterus. No attempt was made to pick up bleeding-points, but the whole bed from which the placenta had been removed was packed with a length of wide ribbon gauze, the end of this being brought out through the lower part of the abdominal incision. The packing was removed 24 hours later under gas anaesthesia, and the opening through which it came was closed.

The patient had a happy convalescence and was able to go home 18 days after her confinement.

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G. E. Morris (*New Engl. J. Med.*, 1945, **233**, 180) states that multiple ulcers of the legs are often due to infestation of the clothing with body lice, especially in the middle-aged. Search for each parasite therefore should be made in all suspicious cases.

Reviews

PUBLIC MEDICAL CARE

Public Medical Care: Principles and Problems. By Franz Goldmann, M.D. (Pp. 226. $2.75 or 18s. 6d.) New York: Columbia University Press; London: Oxford University Press. 1945.

The object of this book cannot be better stated than in its own words: "an attempt to give a complete picture of public medical care as a social movement." The author, as associate clinical professor of public health at Yale and lecturer in the New York School of Social Work, is well qualified to make this attempt. Mr. Gradgrind used to say, "What I want is facts." This book would have satisfied him, for it is full of relevant facts derived from almost every civilized country. Great Britain is freely drawn upon for both facts and historical derivations. Equally important is the critical examination of these facts and of the tendencies they disclose. Public medical care in the U.S.A. has had a long and tortuous history, as it has had here. Dr. Goldmann traces its American development back to the English Poor Law system, through the poor-house, the lunatic asylum, the clinics arising from charitable dispensaries, the rise of the general hospital, and the gradual transfer of responsibility from voluntary agencies to larger and larger political units. This is a familiar picture to British students of the subject, and Dr. Goldmann's comparisons and analogies will be found useful everywhere. Running through the U.S.A. picture are, however, complications from which we have been happily spared, caused by the existence of 48 States, jealous of their independence and only reluctantly consenting to transfer responsibility to the Federal authority even where central control is obviously needed.

The familiar factors—free choice of doctor, means tests for insurance, whole- or part-time doctors, group practice, etc.—are all there, and the author deals with them judicially. There is a good deal of the "on the one hand—on the other hand," but it is evident that on balance Dr. Goldmann is impressed with the administrative convenience and the smaller liability to abuses of the salaried doctor. He is emphatic that the administration, at all events, of medical care should be in the hands of salaried medical superintendents, and has some revealing remarks on the still existing tendency in some areas to put "political pets" into these positions.

As regards health insurance, he is against any "means test," which he says has the disadvantage that it discourages the more deserving from applying, often till it is too late to prevent serious complications or life-long disability. Summing up the various methods of dealing with medical insurance, he is of opinion that the Russians have the only logical plan, though he realizes that it is often impossible to make any progress if one insists on strict logicality—and this certainly applies in the U.S.A. He grants that "under such a system most or all of the members of the health professions would become civil servants, and that private practice if allowed to continue would have to rely on the demand and purchasing power of a relatively small fraction of the population. Those [medical care functions] owned by the non-governmental organizations, if legally permitted to operate, would be faced with constant financial difficulties and would gradually disappear." The bearing of this forecast on problems now facing the British profession will not be overlooked. The book can be cordially recommended to all who desire to study these problems with as wide a background as possible.

THE TISSUES OF THE BODY

The Tissues of the Body. An Introduction to the Study of Anatomy. By W. E. Le Gros Clark, F.R.S. Second edition. (Pp. 388; illustrated. 21s.) Oxford: At the Clarendon Press. 1945.

Notwithstanding the continuance of the great war from 1939—the year when *The Tissues of the Body*, by Prof. Le Gros Clark, was first published—until 1945, the date of issue of the second edition of this book, a very considerable amount of important research in anatomy has been accomplished. This work has been concerned with problems having a distinct practical bearing, and includes, among other researches, special studies on the regeneration and repair of striated muscle and on the nerve- and vascular-supply of muscle, and also detailed descriptions of the vascular patterns and innervation of blood vessels in animals. The solution of some of these problems had been in progress before 1939, and much of the recent work recorded or referred to in the new edition has arisen from questions which have emerged as a direct outcome of the initial stages of these investigations—for example, the restoration of function of muscles or nerves deprived respectively of their nerve- or vascular-supply. To indicate the type of work referred to, one may mention the effects of re-innervation of paralysed muscles by *sensory* nerve fibres, which has now been conclusively shown by Gutmann to be ineffectual with regard to restoration of their motor function, since atrophy and fibrillation of the muscle proceed in the same manner as in cases in which the motor nerve has been divided and no re-innervation has been attempted. In re-innervation of striated muscle by a *sensory* nerve, even when new sensory fibres succeed in reaching motor end-plates, no connexion is made with these, and sensory fibres are unable to form new end-plates; moreover, stimulation of the grafted sensory nerve does not make the muscle contract. In line with the above example is the demonstration, by methylene-blue injections, of the existence of interconnexions by arterial anastomoses between the branches of intramuscular vessels arising from different sources; though uncertainty exists about the establishment of efficient immediate intramuscular anastomoses with complete regeneration of partially devascularized or injured muscle, which result has lately been demonstrated by the author in conjunction with L. B. Blomfield.

Besides additions to the text recording progress in anatomical research work, a considerable number of excellent new illustrations have been added, and the new edition fully maintains the high standard and practical character of the book.

PERSUASIVE PSYCHOTHERAPY

Active Psychotherapy. By Alexander Herzberg, M.D., Ph.D. (Pp. 152; 12s. 6d.) London: Research Books Ltd., in association with William Heinemann Medical Books.

Nearly all psychotherapists now agree that treatment of the psychoneuroses and sexual maladjustments must rest on an analytical basis, though they are not agreed as to which of the various analytical methods is the best to use. All, however, are conscious of the need to shorten and simplify all existing methods of treating these forms of mental illnesses, since at present such treatment takes a very long time and there are too few psychiatrists to do the work, and far too many patients who require help.

This book is a description of the methods of a very experienced psychotherapist who worked for many years in Berlin, before he had to leave and come to this country, where he found opportunity to continue his work at University College, London. He, in common with others, uses analytical methods as the basis of his treatment, but has devised a method of imposing tasks upon the patient with the idea of shortening the course. These tasks require efforts of will on the part of the patients to which they have been persuaded by the author. It seems remarkable that they should submit to some of these tasks, since they involve such things as giving up an object of love, forcing themselves into situations of which they are terrified, and so on. It speaks much for the persuasiveness of Dr. Herzberg and for the influence he exerts over his patients that he can make some of them carry out these tasks; but it is doubtful if all psychotherapists could aspire to this persuasiveness, or that all patients would find themselves able to carry out the instructions, however they might wish to do so. Nevertheless, when success is attained, there is no doubt whatever that treatment will be very much shortened and more lasting success achieved, since the ability to carry out the tasks almost amounts to cure.

This book is certainly worthy of careful study by all psychotherapists, as there is great promise in Dr. Herzberg's methods if they can be carried out; but those who are not fully acquainted with the difficulties and complexities associated with the treatment of the psychoneuroses and sexual perversions must not expect that a new short method of therapy of universal application has been discovered.

CHEMICAL DISCOVERIES AND ECONOMIC LIFE

This Chemical Age. The Miracle of Man-made Materials. By Williams Haynes. (Pp. 288. 12s. 6d.) London: Secker and Warburg. 1945.

This book is mainly a historical narrative of the developments of chemistry in the economic life of the world. It is written in a bright and racy style such as may well attract readers who are not acquainted with the science or technology of chemistry. Indeed, in the preface, which is entitled "A Word with the Reader," the author says: "I am rather proud how little chemistry there is in this book, which deals with all the new synthetic chemical products." Yet the contents are informative in a high degree to those who are trained chemists, and the volume will be found good by students of chemical history.

The lively and vigorous treatment of the facts of history makes entertaining reading, and the author is to be commended for the thoroughness with which he has explored the available sources of information and for the acute insight which has enabled him to reconstruct pictorially the background and environment of episodes which were critical in the history of discovery. Nothing appears to have been omitted that has or has had an interest to the public who have benefited by chemical discovery. The author has brought his history to the present day, and only finished a little too soon for a discussion of the atomic bomb. His comments on the political and economic effects of chemical discoveries are also shrewd and far-seeing. The discussion covers dyes, synthetic textiles, perfumery and flavouring agents, the sulphonamides and chemotherapy, synthetic rubber, plastics, the influence of chemistry on warfare, and a great number of other subjects, all written in a flowing sequence that makes easy reading. The addition of a glossary under the title "Words that Puzzle," and a very full index, completes a useful book.

A YEAR'S PROGRESS

The Medical Annual, 1945. Edited by Sir Henry Tidy, M.D., F.R.C.P., and A. Rendle Short, F.R.C.S. (Pp. 410. 25s.) Bristol: John Wright and Sons Ltd.

In our last review of this publication we suggested that "the usefulness of the volume as a whole would be much improved by a yearly article under the heading of 'Vital Statistics.'" Whether the Editors acted on this hint, or arrived simultaneously at the same conclusion, an article under this heading by Dr. Percy Stocks now appears and fills "an obvious gap." It is intended to make a review of this subject a yearly feature. As the Editors say, ". . . statistics are invading the life of the medical profession," and statistics is something the doctor, as a practical biologist, does not take kindly to. Yet medicine is becoming more and more a matter of exact measurement, and many an investigator in the past—and in the present—would have been saved endless trouble if he had first of all planned his investigation with a medical statistician at his elbow, and had submitted his observations to the same exact, and exacting, eye before committing himself to print. A very full review on penicillin fills in another gap left in the last *Annual.* "D.D.T." is referred to under the heading of "Pediculosis," but this is hardly a measure of its importance, and we can trace no reference in the edition now before us to its use in the control of malaria. A separate article on insecticides and insect-repellants would seem to be needed to put this subject into proper perspective.

The *Medical Annual* has always included a number of illustrations which relieve the bleakness of the printed page, but nevertheless to devote two coloured plates to depict the pinhole meatus, and yet a third to show up the meatal ulcer of infants, seems to be out of proportion; and does the coloured plate demonstrating gangrene of the toes in the condition of "immersion foot" say something that cannot equally well be said in a less paper-consuming way? More informative, we believe, would be the use of isotype illustrations to put statistical matter in a visual form easily grasped by the mind which boggles at numbers and formulae.

Needless to say, this year's *Annual* bears all the usual marks of careful editorship and indexing, and for the many now returning from the Forces to civil life should prove to be an indispensable reintroduction to current medical practice.

Notes on Books

We have received from the Library of the U.S. War Information (1, Grosvenor Square, London, W.) a collection of articles reprinted from *War Medicine* under the general heading *Convalescent Medicine,* the subdivision being devoted respectively to physical therapy, occupational therapy, and emergency treatment of acute war neuroses; also *Tuberculosis,* a collection of articles in two volumes reprinted from various American periodicals, the first volume relating to diagnosis and the second to treatment. These three assembled reprints may be seen at the Library of the British Medical Association.

Clinical Case-Taking, by G. R. HERRMANN (Henry Kimpton; 9s.), of which a third edition has now appeared, gives a compact and detailed account of history-taking and physical examination. Prof. Herrmann believes that a thorough examination of a few patients is a better discipline for the student than a superficial glance at a large number. His book sometimes reads like a drill manual, but there is a great deal to be said for a well-drilled student.

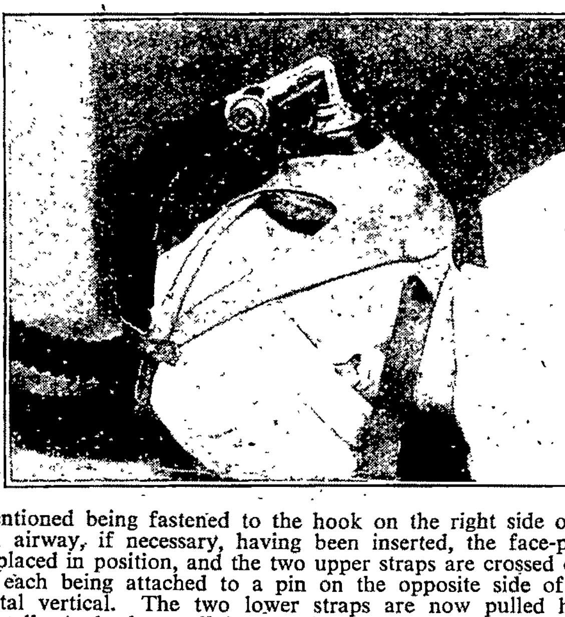
Preparations and Appliances

A COMBINED HARNESS AND TUBING SUPPORT

Dr. HARVEY NICHOL, honorary anaesthetist, Royal Gwent Hospital, Newport, Mon., writes:

Whereas in most cases the harness in common use will retain the face-piece satisfactorily in position, it is sometimes necessary to support the jaw with the hand in order to obtain an unobstructed airway, especially if the face-piece is strapped on tightly enough to ensure a gas-tight fit, as is essential if a completely closed circuit is to be maintained or a "draw-over" principle is being employed. Also the heavy circle type of absorber tubing tends to pull the face-piece out of position.

The apparatus illustrated is composed of a harness made of rubber and a metal L-shaped portion, on which the patient's head rests and to which the harness and tubing are secured. The harness is shaped to fit closely round the chin and face-piece, and has five straps attached to it. The single strap attached to the left side of the harness is threaded through two lugs on the distal end of the horizontal part of the tubing support, which is then placed under the patient's head. The harness is now brought into position under the chin, the free end of the strap mentioned being fastened to the hook on the right side of it. An airway, if necessary, having been inserted, the face-piece is placed in position, and the two upper straps are crossed over it, each being attached to a pin on the opposite side of the metal vertical. The two lower straps are now pulled horizontally, and when sufficient tension has been applied to give a free airway these are also fastened to the pins already mentioned. Finally the end of one (or each) of the latter straps is made use of to support the tubing by passing it over same and fixing to the pin on the opposite side.



When thus adjusted the jaw is supported, the face-piece held in position with a gas-tight fit whatever the contour of the face, and the tubing does not drag on the face-piece. A good airway is assured, and the patient can be moved into any position without displacing the face-piece or tubing.

The apparatus was made for me by Messrs. Coxeter and Son, Ltd., in conjunction with Messrs. A. Charles King, Ltd.

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MICROBIAL ANTAGONISMS

Few users of penicillin are aware that its development as a chemotherapeutic agent was the culmination of a long series of studies on microbic antagonism going back more than sixty years. Yet this is the theme of the Lister Memorial Lecture delivered by Sir Howard Florey to a large audience at the Royal College of Surgeons on Oct. 11 and printed in our present issue. To many people the idea that one micro-organism may attack another presented itself first in the fully developed and highly refined form of penicillin, but in fact this sort of antagonism was fully recognized even by Pasteur himself, and very numerous examples of this phenomenon were brought to light even between his time and the end of the last century. The lecturer's diligent search of the older literature has revealed a whole series of observations covering a wide area of the field of microbiology which together make a fascinating story.

The use of one micro-organism in an attempt to eliminate infection by another has taken several forms other than that with which we are now generally familiar. Two of them are in reality methods of immunization, involving either the administration of preparations of one micro-organism in order to excite active immunity against infection by another, or the lysis of the specific micro-organism by an extract of another in order to produce a sort of dissolved vaccine—the "mycolysate" of Gratia. These methods involve a different principle and mechanism, but those which depend directly on microbic antagonism—the power of one micro-organism to attack another—are also of two kinds. The less familiar of these is replacement therapy—the introduction of a living micro-organism into the body with the intention that it shall displace another. Thus there is some evidence that staphylococci can displace diphtheria bacilli; the introduction of pneumococci has been suggested as a measure to dislodge meningococci from the nasopharynx; there is even the suggestion that one strain of *Bact. coli* can advantageously be used to eradicate another. This and the use of *L. bulgaricus* or *L. acidophilus* in an attempt to change the flora of the alimentary tract must be viewed in a somewhat different light from the attempted replacement of definite pathogens causing actual infection.

All these proceedings, throughout the long history of such studies, are subsidiary to the use of microbic extracts as antiseptics. That some micro-organisms form substances lethal to or inhibitory to the growth of others has been fully recognized since 1885, and only two years later than this we see the first use of the method of adjoining streaks on plates of solid media, whereon the growth of one micro-organism prevents that of another within a zone in which the antagonizing substance diffuses. Nor was it long before the study of these substances came to embrace moulds. Further still than this, a mould extract was used therapeutically over thirty years ago: Vaudremer employed an extract of *Aspergillus fumigatus* in the treatment of over 200 cases of tuberculosis between 1910 and 1913. It is of peculiar interest that this fungus has quite recently been shown to produce several distinct and very potent antibacterial substances, one of which certainly has the action on the tubercle bacillus *in vitro* which Vaudremer claimed for his extracts, although the possession of this property is unfortunately far from guaranteeing any therapeutic powers. Even the word "antibiosis" was coined as long ago as 1889; hence "antibiotic" as a noun generally descriptive of all such substances has at least the sanction of precedence, and, however inappropriate it may seem, it has evidently come to stay.

The history of the discovery of such substances as this, including the outstanding one of penicillin itself, pursues an almost unbroken course from 1885 to 1940. Many were used therapeutically as antiseptics. One, pyocyanase, became an article of commerce and was extensively used on the Continent for many years. As Florey points out, the new era in antibiotic therapy was ushered in by the work of Dubos on gramicidin. The properties and powers of this substance were systematically investigated. It was chemically characterized and shown to be capable of exerting a systemic effect, although it was too toxic for therapeutic use of this kind. We are led to infer that the example of Dubos encouraged Florey and his colleagues to undertake a similar systematic investigation of penicillin, with what results the world is now well aware. That it proved to have such unheard-of properties—to be not only a true chemotherapeutic agent in the sense of exerting a systemic affect, but almost devoid of mammalian toxicity and singularly indifferent to the adverse conditions which prevent the action of so many other antimicrobic agents—all this was more than anyone could have expected. But these properties were conclusively demonstrated and the foundation laid for production on an industrial scale. It is indeed appropriate that a lecture commemorating Lister should deal with the modern apotheosis of the method which he founded.

Not the least entertaining part of the Lister lecture is that in which Florey describes the present microbiological "gold rush," as he calls the search after new antibiotics which has followed the penicillin revelation. How extensive this search has become and how wide the net is being cast few people can realize who do not closely follow the literature. The most promising genera of fungi have been systematically studied by many investigators, and many antibacterial substances produced by them have been identified. A good idea of their distribution among different genera may be gained from the painstaking studies of Wilkins and Harris,[1] who have now examined 400 species. The same authors[2] have examined 700 species of the larger fungi, while a start has been made on the higher plants by Osborn[3] and on a smaller scale by Huddleson *et al.*[4] Russian authors[5] have discovered mysterious virtues in the vapour emitted by crushed onions and other plants, which they call "phytoncides." Also from the Soviet Union come reports[6] of a different and superior gramicidin. An alga is the source of chlorellin, the promising characters of which are described by Pratt *et al.*[7] It is an extraordinary fact that among all these substances, which must now run into thousands, not one has yet been found which improves on the therapeutic performance of penicillin without having some countervailing disadvantage either in toxicity or in the limitation of conditions for its activity. This is a field in which premature enthusiasm should be guarded against. The early therapeutic promise of patulin was not fulfilled, and the astonishing *in vitro* performance of notatin—a far more potent antiseptic under certain conditions than penicillin itself—has no therapeutic counterpart at all. Streptomycin, one of the few reasonably non-toxic fungus products which act on Gram-negative organisms as well as Gram-positive, and recently used for treating typhoid fever by Reimann *et al.*,[8] may perhaps break down, as Florey reveals here, for the simple reason of inactivation by changes in *p*H. There is no knowing where these studies may lead, and the complete conquest of microbic infection may yet be their culmination. The study of such agents has become a task for collaborative effort, in which perhaps the most important of several parts will have to be played by the biochemist. An idea of where such studies may lead may be gained from the work of Hays *et al.*[9] on what used to be called "pyocyanase." From extracts of *Ps. pyocyanea* cultures they have isolated no fewer than five crystalline antibacterial substances, one at least of which has very promising characters.

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[1] *Brit. J. exp. Path.*, 1944, **25**, 135.
[2] *Ann. app. Biol.*, 1944, **31**, 261.
[3] *Brit. J. exp. Path.*, 1943, **24**, 227.
[4] *J. Amer. vet. med. Ass.*, 1944, **105**, 394.
[5] *Amer. Rev. Soviet Med.*, 1944, **1**, 237, 239, 242, 244.

TRIUMPH AGAINST MALARIA

Now that the war is over, the security silence is being lifted and many scientific developments can be made known to the world at large. After the entry of Japan into the war and the loss of Java with its supplies of quinine, intensive research in the U.S.A. and this country was carried out on the control and prevention of malaria. Some of the results of this work have already been disclosed, others will appear in due course. One of the greatest triumphs was made public early this week, when the discovery of an extremely active new antimalarial compound in the laboratories of Imperial Chemical Industries was announced. The following account is based upon information acquired by the Medical Research Council during the development of this substance.

Early in 1942 a team of chemists and biologists began the search for a new synthetic antimalarial which could replace the lost supplies of quinine and which would prove more effective in preventing and treating malaria than this somewhat imperfect medicament. Antimalarial activity was found in several interesting types of chemical compounds, but no satisfactory result was obtained until 1944, when Mr. F. M. Rose, working in collaboration with Mr. F. H. S. Curd, synthesized a substance which was at first known by the code number M.4888. This was tested by Mr. D. G. Davey upon experimental infections of *Plasmodium gallinaceum* in chicks and on other forms of avian malaria, and was shown to be remarkably active in destroying malaria parasites; its toxicity for mice and similar small animals was relatively low. Clinical trials were initiated by Dr. A. R. D. Adams and Prof. T. H. Davey at the Liverpool School of Tropical Medicine, and its therapeutic activity was shown to be as great for naturally occurring human malaria as it was for infections in the laboratory. Later Dr. Adams was joined by Prof. B. G. Maegraith, who explored its pharmacology in volunteers and the way in which it was absorbed, distributed, and excreted by the body. Supplies of the compound were sent by air to Australia, where its action in preventing the development of malaria following exposure of volunteers to infected mosquitoes was investigated by a team at Cairns working under the direction of Brig. N. Hamilton Fairley. Other studies on various aspects of this compound are in progress in certain military hospitals in Britain, at the London Postgraduate Medical School, and in India.

Altogether the compound has now been given to over 200 patients. Until its use is more widespread any account of its action must be provisional. It is a white powder which does not stain the skin as does mepacrine. The chemical formula is not yet disclosed, but it is relatively simple and differs fundamentally from previously known antimalarials; the manufacture will be easy. When given by mouth the drug is rapidly absorbed. Excretion is somewhat slower, and on repeated twice-daily doses the plateau of the concentration in the plasma is not reached for several days. About a third of the dose is excreted in the urine. The compound is very well tolerated, and up to half a gramme can be given twice daily; the only untoward effect produced to date by larger doses has been signs of gastro-intestinal irritation, which might be avoided by subdividing the dose. So far the course of treatment has consisted of twice-daily doses for fourteen days. The smallest dose on this regime which will terminate a clinical attack of benign tertian malaria appears to be 10 to 50 mg., which is only about a fifteenth of the maximum tolerated dose. Unfortunately (as with quinine and mepacrine) relapses of benign tertian often occur, and even with large doses a quarter of the patients have relapsed. The response of malignant tertian malaria resembles that of benign tertian, but (as with other drugs) relapses are less frequent. The effect of the drug on quartan malaria has not yet been studied. If used to protect men against malaria, when exposed to infected mosquitoes, it has been found that 0.1 g. daily prevented all clinical signs of malaria in a small group of volunteers who were bitten by mosquitoes carrying *P. vivax*, although parasites were later demonstrated in a small proportion of the subjects. Apparently this antimalarial action is a suppressive one, exerted upon the trophozoites as soon as they appear in the erythrocytes. The action upon *P. falciparum* is more complete and there is less tendency for a latent infection to be acquired. Gametocytes are injured by the drug, but they are not completely removed from the circulation.

So far as can be seen from the information now available the new drug acts upon the same stages of the malaria parasite as does quinine or mepacrine, but there is a wider range between the minimum effective dose and the maximum tolerated one. The greatest need in malariology at present is a drug which will prevent relapses due to benign tertian malaria. Although not dangerous, these relapses are troublesome. The new compound certainly does not prevent all relapses; whether it prevents more or fewer than do quinine and mepacrine cannot be told until certain comparative trials now in progress are completed. It should be cheaper to produce than either quinine or mepacrine, and it is free from the drawbacks of the latter, which stains the skin yellow. As a suppressive, to prevent clinical malaria following exposure to infection, it seems to be equal or superior to mepacrine and much superior to quinine. Provided that widespread use reveals no occurrence of dangerous idiosyncrasies, such as agranulocytosis or nervous lesions, it may well displace quinine and mepacrine from general use in malarious areas.

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[6] *Lancet*, 1944, 2, 715, 716, 717.
[7] *Science*, 1944, April 28, p. 351.
[8] *J. Amer. med. Ass.*, 1945, 128, 175.
[9] *J. biol. Chem.*, 1945, 159, 725.

Before congratulating Imperial Chemical Industries and the research workers concerned on this brilliant discovery, a minor criticism must be made against the nomenclature of the substance. "Paludrine" is an excellent euphonious word of obvious significance, but unfortunately it had already been applied to an earlier less successful product (compound M.3349) and as such had appeared in a medical journal.[1] For some time to come this use of the same name for two different substances will cause needless confusion, and the new product will have to live down the less favourable impression which may have been created by the older one. Apart, however, from this minor blemish, all concerned in this discovery deserve admiration and praise—the directors of I.C.I. for their far-sighted support of large-scale chemotherapeutic research, Messrs. Rose, Curd, and Davey for the actual discovery, and the clinical workers named above for their careful exploration of the medical uses of the new remedy which was placed in their hands. The whole story forms a good example of the team work which is necessary for progress under modern conditions. This latest success is valuable not only in itself but also as a proof that British brains and organization, when properly applied, can produce quite as great discoveries as those of Germany or of any other nation. With such encouragement it is to be hoped that this country will no longer delay in giving to research on chemotherapy and tropical medicine the support which our wide Colonial Empire requires.

RADIOTHERAPY FOR VASOMOTOR RHINITIS

Unless the antigen which produces the allergic symptoms of vasomotor rhinitis can be discovered treatment remains unsatisfactory. Even if the antigen or antigens are known, it does not follow either that they can be eliminated easily or that the patient can be desensitized. Local treatment by ionization, by cautery, and by vasoconstrictor drugs all have disadvantages, and the application of radium to the mucous membrane of the nose is an uncertain and dangerous measure. The suggestion that radiotherapy by means of *x* rays might prove effective is therefore worth serious consideration. Axel Renander[2] states that in 1936 experimental irradiation of the nose in a case of pronounced vasomotor rhinitis was followed by complete freedom from symptoms for eight months. Since then he has treated 400 patients in this way, and has recorded a series of 226 cases. He notes that Schmidt[3] reported on a favourable result in a case of hay-fever as long ago as 1915, but very few systematic attempts have been made to ascertain the value of this treatment. Of the 226 patients, 126 were females (56%) and 100 males (44%). Mucous polypus was present in 11 cases (5%)—in 8 men and in 3 women. Of the 226 cases, 133 received one series of treatments only; of these, 80 did not return, so that the results could not be ascertained. In the remaining 53 cases which were followed up, 41 were free from symptoms, 9 were improved, and in 3 there was no change. Sixty-three cases received two series of treatments. After the first series 38 were free from symptoms or much improved, 19 improved, and 6 showed no change. Of 24 observed after the second treatment, 18 were free from symptoms, 3 improved, and 3 unchanged. In a third group of 22 cases receiving three courses of treatment there was only one in which it had no effect. There were also two other small groups receiving four and five series of treatments respectively. In all these the results were satisfactory. Of the 146 cases followed up, 18 (12%) were insensitive to one or more of the series of treatments; 8 of these reacted favourably to some of the series of treatments, and in 10 (7%) the treatment had no effect.

The author calculates from a survey of the cases that freedom from symptoms, or at least improvement, may be expected in about 85%. The dosage recommended is 150 *r* repeated three times with an interval of one or two days between the treatments. The sinuses and nasal cavity are irradiated with a filter of 0.5 Cu + 1 mm. Al distance 40 cm., with the eyes and eyebrows protected. Decreasing the dose to 100 *r* or 75 *r* did not produce such good results. The author therefore advises 100 or 150 *r* × 3, after a careful survey of the effects of different doses. Neither anosmia, atrophy, nor ozaena followed in any of the cases, and the sense of smell returned in a few. It appears, therefore, that with such small dosage no damage to the mucous membrane need be feared. It is suggested that the good effect is produced by the action of the *x* rays on the blood vessels of the mucous membrane, rendering them insensitive to the antigens. Should this form of treatment be found effective on further trial, it should be a valuable addition to the management of a troublesome condition hitherto difficult to treat.

ERGOTAMINE FOR MIGRAINE

It is now generally known that ergotamine tartrate is effective in treating typical migraine; this is defined as a condition in which there are periodic headaches, usually hemicranial, associated with nausea, vomiting, scotomas, and a family history of similar headaches. The use of ergotamine tartrate for this purpose was introduced by Maier[4] in 1926; it is usually given by subcutaneous or intramuscular injection in a dose of 0.25 mg. or 0.5 mg., not more than 1.0 mg. being administered in 24 hours. If it is given orally in tablets to be allowed to dissolve under the tongue larger doses must be used, since absorption is less complete, and, after an initial dose of 5.0 mg., 2.0 mg. may be taken hourly to a total of 11.0 mg. On the whole it is preferable to inject ergotamine, as there is less likelihood of untoward effects. Von Storch[5] has reviewed 42 accidents described in the literature, of which 21 were gangrene; ergotamine is of course one of the active principles in ergot which have led to gangrenous ergotism. Accidents are likely to arise only when ergotamine is used continuously, and no serious complications have been observed in migraine. The best results are obtained when it is administered early in the attack, and when care is taken to give no more than is needed.

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[1] Das Gupta, B. M., Lowe, J., and Chakravarti, H., *Ind. med. Gaz.*, 1945, **80**, 241.

[2] *Acta otolaryngol.*, 1945, **33**, 44.

[3] *Münch. med. Wschr.*, 1915, **62**, 773.

[4] *Rev. Neurol.*, 1926, **33**, 1104.

[5] *J. Amer. med. Ass.*, 1938, **111**, 293.

The mechanism of the action of ergotamine is still unknown. It causes a rise of blood pressure and an increased cerebral blood-flow, but other agents which have these effects, such as adrenaline or inhalation of CO_2, do not always relieve headache. Graham and Wolff[6] state that the curative effect is exerted in parallel with a reduction in the amplitude of pulsation in the temporal artery, and is to be attributed to a constriction of the cranial vessels. Recently Horton, Peters, and Blumenthal[7] have tried the effect of a derivative, dihydroergotamine. This is stated to be less toxic than ergotamine and to produce gangrene to a much smaller extent. No experimental details in support of these statements have yet been published, and it is wise to wait for the evidence, since dihydroergotamine is a vasoconstrictor, and like ergotamine produces (in sufficient dose in animals) paralysis of the sympathetic. Nevertheless evidence from 120 patients indicates that this substance is as effective as ergotamine tartrate in the treatment of migraine, 75% of the patients receiving relief. (This is less than the 90% described as getting relief by Lennox and von Storch.[8]) If it is true that dihydroergotamine is less prolonged in action than ergotamine, this property would make it a safer substance to use.

It is interesting to note that in the period of nearly twenty years since ergotamine was used for migraine no one has thought it worth while to investigate the value of ergotoxine. This substance ought to have precisely the same action as ergotamine in migraine, judging from its pharmacological properties.

BIOTIN

Biotin, the most recently discovered member of the vitamin B complex, is a growth factor for many bacteria and moulds and an essential nutrilite for most animals, and possibly man, in whom biotin deficiency has been reported by two groups of observers. Experimental biotin deficiency in animals has been brought on by limiting the biotin intake over long periods; including in the diet raw egg-white, which inactivates the vitamin; and by adding sulphonamide drugs to an adequate diet. The feeding of sulphonamides, particularly sulphaguanidine and succinylsulphathiazole, is one of the most recent methods of inducing vitamin deficiencies in animals. These drugs act by interfering with the bacterial synthesis of vitamins in the intestine, particularly the synthesis of the vitamin B complex and vitamins E and K. Waisman and his colleagues[9] have recently produced chronic biotin deficiency in monkeys by all three methods. This is characterized by a thinning of the fur, a gradual loss of colour of the hair, and in the later stages a heavy, scaly dermatitis covering the whole body but most conspicuous on the face, arms, and legs. The loss of hair is also affected by hormonal influences, as indicated by the slower regrowth of fur in menstruating and adolescent females. Twenty µg. of biotin daily was sufficient to prevent the deficiency symptoms. The biotin deficiency from feeding egg-white was similar to that from adding sulphonamides to the diet. The prothrombin time was not appreciably affected—a finding in contrast to the increased prothrombin time found in rats given sulphaguanidine or succinylsulphathiazole with their food.[10] Biotin deficiency in man, caused by administering large quantities of egg-white, has been reported by Sydenstricker and his co-workers.[11] They observed a greyish pallor of the skin, anaemia, atrophy of the lingual papillae, and increasing dryness of the skin, which progressed to a maculo-squamous dermatitis of the neck, hands, arms, and legs. A decreased excretion of biotin was observed after seven weeks on the egg-white diet.

Experiments have recently been made on the vitamin activity of biotin isomers and analogues. Biotin is a *d*-compound. The *l*- and *dl*- (or racemic) compounds are active only when tested on bacteria in very large quantities,[12] although when assayed on rats maintained on a ration containing egg-white *dl*-biotin is stated to be half as active as biotin.[13] When assayed on chicks *l*- and *dl*-biotin show no activity at all.[14] It is indeed remarkable how slight changes in the chemical constitution, or even the optical activity, of a vitamin can profoundly affect its physiological activity. This is seen not only in the case of biotin but also with other B vitamins. Slight modification of the chemical constitution of pantothenic acid,[15] vitamin B_1,[16] and riboflavin,[17] for example, results in products which are not only devoid of any vitamin-like action, but when fed to animals actually produce deficiency symptoms identical with those produced by lack of the vitamin they resemble chemically.

A JOURNAL OUT OF BONDAGE

Before the war the journal of the Norwegian Medical Association—*Tidsskrift for den Norske Laegeforening*—was a fortnightly publication in a faded brick-red cover of small size but with quite meaty contents. Soon after the German invasion a handful of quisling doctors took it over. Dr. J. H. Berner, its editor for many years, was dismissed and locked up. The colour and format of the journal remained, but its contents became a quaint parody of the past. Its cover was the cover of medical science, but its voice was the voice of Terboven and Quisling. The writers of original articles would no longer write for the *Tidsskrift*. So the decree went forth that no Norwegian doctor could publish his observations elsewhere without the permission of the reigning authorities. Whereat original articles remained locked up at home, awaiting better times. So the captive journal came to consist mainly of abstracts (from German publications, of course) and of editorial notices drafted alternately in truculent tones and come-home-to-mother sobs. Now the old staff of the journal is back in place, and to celebrate its liberation it has changed its colour and format. The upper third of the cover is a greyish-green; the lower two-thirds are white. The format has grown, and it is now a few centimetres larger in both directions than the *British Medical Journal*. The contents are a judicious blend of home and foreign medicine—altogether a very agreeable set-up. We send greetings to an old friend in new guise.

The Central Medical War Committee is informed that Royal Air Force medical officers in age-service groups 19 and 20 will be released during November. These groups have been brought forward from December. Groups 21 and 22 will be released during December, and Group 23 during January, 1946.

Sir John Boyd Orr, M.D., F.R.S., has been elected Director-General of the Food and Agriculture Organization of the United Nations, now in conference at Quebec.

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[6] *Arch. Neurol. Psychiat.*, Chicago, 1938, **39**, 737.
[7] *Proc. Mayo Clin.*, 1945, **20**, 241.
[8] *J. Amer. med. Ass.*, 1935, **105**, 169.
[9] *J. Nutrit.*, 1945, **29**, 1.
[10] Black, S., *et al.*, *J. biol. Chem.*, 1942, **145**, 137.
[11] *J. Amer. med. Ass.*, 1942, **118**, 1199.
[12] Stokes, J. L., and Gunness, M., *J. biol. Chem.*, 1945, **157**, 121.
[13] Emerson, G. A., ibid., 1945, **157**, 127.
[14] Ott, W. H., ibid., 1945, **157**, 131.
[15] McIlwain, H., and Hawking, F., *Lancet*, 1943, **1**, 449; Barnett, J. W., and Robinson, F. A., *Biochem. J.*, 1942, **36**, 357.
[16] Woolley, D. W., and White, A. G. C., *J. biol. Chem.*, 1943, **149**, 285.
[17] Woolley, D.W., ibid., 1944, **154**, 31.

TUBERCULOSIS AMONG PRISONERS OF WAR IN GERMANY

BY

A. L. COCHRANE, M.B., B.Ch.
Capt., R.A.M.C.

During my four years as a prisoner I worked in a transit camp, a "Krankein-revier" (camp reception station), doing sick parades for the surrounding camps, a general hospital, and the special hospital for cases of tuberculosis. All these hospitals were mixed—i.e., contained prisoners of war of more than one nation—and in all of them I looked after the Tb.s, so that I was able to get some idea of the general picture of tuberculosis among these prisoners in Germany.

General Considerations

The living conditions of P.O.W. workers in Germany varied. They depended on the area of Germany, the type of work, the nationality of the prisoner, and the character of the Kommando Führer. In general the Russians had the worst conditions; all Russian Kommandos that I saw were overcrowded, badly ventilated, and dark, but I was not allowed to see many. The British and Americans, in general, had the best conditions, but even they were usually overcrowded.

Diet also differed: the German rations varied according to the type of work done, and also, to some extent, according to local supplies and nationality (Russians until the summer of 1944 received lower rations than others doing the same type of work). It is always difficult to determine from hearsay how much someone else is eating, so I am giving here only the diets I myself received. Doctors, orderlies, and patients were classed as "Normal-Arbeiters" along with the non-manual workers, and their diet in the various places where I worked was as follows:

1941: Transit camp	Approx. 1,000 cals. p.d.	for 6 months
1942–3: General hospital	" 1,600 " "	" 2 years
1944: Special hospital for Tb.s ..	" 1,800 " "	" 1 year
1945: "Revier"	" 1,300 " "	" 5 months

With such low basic diets, Red Cross food parcels became very important. The Americans and British were fortunate in usually having a parcel a week, which added about 1,500 calories a day to their diet. The French until 1944 also received parcels regularly, but Serbs, Poles, and Italians received very little and the Russians nothing at all.

The Germans apparently realized that such conditions were likely to produce a high incidence of tuberculosis, so in 1942 they instituted routine mass radiography. I was told verbally by a German that their reason for doing this was not humanitarian, but their fear that tuberculous P.O.W.s would infect German civilian workers. This view of the matter was supported by the German refusal to *x*-ray officers at Oflag (who had little contact with the civilians) until long after they had *x*-rayed all the working camps in the same area, and also by the lack of treatment and facilities given when the diagnosis had been made. The *x*-raying was carried out efficiently and quickly by mobile units, usually staffed by women. No figures are available as to the proportion of the P.O.W.s who were *x*-rayed. It was probably about 60%; but it is only fair to say that in some areas some P.O.W.s had two mass radiographs in five years. The diagnosing of the films was in general poor. There were also cases—far too many—where the films were correctly diagnosed but no action was taken, and the P.O.W. was left for another year spreading bacilli until he was diagnosed clinically.

Some idea of the poorness of the evaluation of the films can be obtained from the figures from Elsterhorst. During 1944 I analysed 68 consecutive sputum-positive cases admitted into Elsterhorst under my care. Of these, 19 had been diagnosed by means of radiography; the remaining 49 were diagnosed by clinical means. Of the latter, 13 had had routine skiagrams and been "missed," or were found positive but no action had been taken. It was very easy to check up on these cases, as the small skiagrams arrived with the patients with the diagnosis attached—*x*-ray positive or negative. It is important that the double danger of these "missed" cases should be realized. It is psychologically very difficult for an M.O. to make a diagnosis of tuberculosis when he knows that the patient has recently been radiographed and been declared negative. Another danger, due to the lack of explanation given by the Germans, arising from the mass radiography was the "Tb. neurosis" which spread rapidly among the prisoners.

The "Revier" and the Sick Parades

When doing such jobs the P.O.W. medical officer was responsible for the sick parades for all the surrounding working Kommandos and had a 50-bed hospital at his disposal. I did this work at Wittenberg for the last five months of the war, and it is on that area that most of these remarks are based. Some idea of the incidence of tuberculosis is given by the following figures for the French and Russian P.O.W.s in this area.

Population.—There were in 1943 1,000 French and 1,200 Russians. The number of French remained remarkably constant; the number of Russians fell to 1,000 in 1945. All these P.O.W.s were mass *x*-rayed in 1942 and the early part of 1943. All those who were found positive were removed to hospital. The figures thus give the incidence of pulmonary tuberculosis in a population from which practically all *x*-ray-positive men had been removed by the spring of 1943.

Procedure.—Suspects were discovered by the British M.O.s on sick parades, and a portion of these suspects were screened by a German M.O., who decided, rather arbitrarily, whether they were to be considered as cases of active tuberculosis or not. Only those accepted by the German M.O. are included in these figures, which can therefore be considered as minimal.

Figures.—A double check was possible through the "screening" reports and the admission and discharge book. The figures were also checked by my Dutch secretary. Those for 1945 are given for the first three months only.

	French (1,200)	Russian (1,200–1,000)	British (250)
1943, July–Dec.	0	6	0
1944, Jan.–June	1	14	0
" July–Dec.	1	31	0
1945, Jan.–April (3 months) ..	4	11	0

Comment on the high incidence of tuberculosis among the Russians is almost superfluous. Reference has already been made to the conditions under which they lived and the diet they received. In Wittenberg it was striking that there were scarcely any big Russians left in 1945: lower metabolic demands had a very definite survival value. The raised incidence among the French in 1945 was doubtless a reflection of the absence of parcels from France after 1944.

Another interesting feature of Wittenberg medical life in 1945 was the appearance of 350 Danish policemen. These men, who were all of outstandingly good physique, had been made prisoners of war in Sept., 1944. They spent three months in a concentration camp and then came to a working party in Wittenberg. In the concentration camp the living and working conditions were fearful, but their diet was adequate, as they got excellent food parcels from Denmark weekly. They stayed only two months at Wittenberg, but I diagnosed seven cases of open active tuberculosis and four of pleurisy with effusion. In this instance it seemed that living conditions, other than diet, were mainly responsible.

On these sick parades the early diagnosis of tuberculosis presented quite unusual difficulties. They lasted from 8 a.m. until frequently to 2 p.m., and after 11 o'clock my efficiency deteriorated, particularly as we were at the time without parcels and on the 1,200-cal. German diet. With me latterly was a German sergeant, trying to get me on a sabotage charge, so the atmosphere was not restful!

Then there were the languages—Russian, Serbian, French, Dutch, Indian, Danish, Slovakian, Italian, Polish—to say nothing of the German I had to talk to the sergeant. I learnt to take a decent tuberculosis history in Russian, French, Serbian, Dutch, Italian, and German, and then to my dismay found I was no further on. All the patients were tired and wanted a rest; all of them wanted to do as little work as possible for Nazi Germany. I was a new doctor, and it was unreasonable to expect them to trust me at once; so I found that all Serbs and Indians said they suffered from haemoptysis, and all Serbs gave gruesome family histories. All Frenchmen seemed to have had pleurisies (they muddled up "pleurite" and "pleurisie").

Serbs and Indians all gave good histories of night sweats, and nearly everyone coughed and really had lost weight. The Russians were interesting; they rarely admitted tuberculous symptoms. I discovered the reason for this later; they were terrified of being sent to the special hospital for Russian cases because they thought everyone died there, and, so far as I could make out, they were quite right. The advanced Russian cases, while waiting at Wittenberg "Revier" for transport to "Zeitheim," actually escaped to avoid going there.

When the histories proved so fallacious, I tried doing a larger number of B.S.R.s. Here too I found new difficulties. The high incidence of skin disease and slight hypoproteinaemic oedema made the B.S.R. more difficult than usual to interpret.

Having collected one's suspects, the next step was to get them *x*-rayed or screened. In many areas this was very difficult indeed, the Germans being most obstructive. At Wittenberg I was lucky in that I finally persuaded the German M.O. to let me screen 10 to 12 cases with him each week. In some other areas a positive sputum in addition was demanded before cases could be sent to hospital, and the Germans tended to argue that one negative sputum was proof that the case was inactive. This was particularly dangerous, as the German laboratories were very slack about P.O.W. sputa. There were also other difficulties. I once sent three sputa from one case to three different laboratories. Each one was said to have been destroyed by bombing. German M.O.s claimed that if they heard nothing abnormal clinically there could be nothing wrong with the patient.

The General Hospital (Reserv Lazarett)

My experience of this comes from looking after Serbian, French, and British tuberculosis cases at a Reserv Lazarett for two years. Here the problems of the early diagnosis of tuberculosis were slightly easier, as one could do one's own sputa and there was more leisure for multilingual activities; but the German doctor would never accept the sputum results done by prisoners of war—they had to be sent to a German laboratory; and I had for a time to take histories in Serbian and write them in German!

As regards screening, I had the same arrangements at Wittenberg. I screened about 6 suspects a week with a German civilian doctor—in this case a woman. At one period a German M.O. made a written protest against my being allowed in a dark-room with a German Frau—it was apparently a risk to the purity of German blood (!); but after a short interruption the screenings continued.

The great problem at the Reserv Lazarett was that of treatment. This should never have been a problem at all, as the cases should have been evacuated to the special hospitals; but in practice they stayed three to six months. There were many reasons for this: (*a*) Owing to lack of repatriation the special hospitals got overfilled. (*b*) The Germans made absurd transport rules. One was that you must have six of one nationality before you could have a transport. We then had relatively few British, and by the time we had five cases of tuberculosis the old ones started dying. (*c*) Sheer obstructionism: on many occasions when the Chef-arzt stated that he had asked for transport we found through our spy in the office that he had not. (*d*) In some general hospitals there was a regrettable lack of information about even the facilities at the special hospital, and cases were often kept for over a year, and cases of A.P.T. with adhesions were abandoned before being sent there. This lack of information was entirely due to the inefficiency of the Germans.

The basic diet, as already stated, was about 1,600 calories in these hospitals, and of this the tuberculosis patients found a large proportion uneatable. Frequent requests were made for extra food, but these were always refused until early in 1943, when a little milk was allowed, and later occasional eggs and white bread; but the available diet from the Germans was never more than 1,900 calories a day. The British patients did not suffer, as a satisfactory diet could always be made up from Red Cross food parcels and invalid comfort parcels; but the problem was very difficult for a British doctor looking after tuberculous Serb and French patients. (There were no Russians in this particular hospital.) We were unable to get any instructions from London, and there was unfortunately some feeling against giving British food to other nationalities. I think, however, that all British M.O.s did give as much food as could be spared; I certainly did, and the results were well worth it.

Active treatment was very difficult there—the German doctor had never heard of it. Finally in 1943 I got an A.P.T. machine, but was then forbidden to use it, because the German doctor believed that A.P.T. cases could not travel in trains and thus could not be evacuated. The patients at Hospital 1251 did get complete rest, but often under difficulty. One reason for this was the shortage of orderlies. At one stage we had seven orderlies for 120 patients, of whom 20 were cases of tuberculosis. These orderlies had to fetch food and run the laboratory in addition to their ordinary day and night duty. They, too, were afraid of treating the disease, and some became very neurotic.

When working at Elsterhorst one was able to get some idea of the amount of rest tuberculous patients were obtaining at the various other general hospitals in Germany. On the whole the information was very depressing. Only a few of the open active cases were at complete rest; some had even been encouraged to do physical jerks, many had been for walks, many did their own cooking. There seemed unfortunately to be a widespread belief that if a patient was afebrile he could get up and walk, however big his cavity. That was found not only among German but also among Allied and British doctors.

It is worth while mentioning the cemetery at Hospital 1251. The P.O.W. section there served both a surgical and a medical hospital, but 80% of the graves were filled with victims of tuberculosis. This, I think, gives some idea of the prevalence of the disease in imprisonment.

The type of transport between general hospitals and the special tuberculosis hospitals was very bad. Originally patients travelled in unheated cattle-trucks without even straw and orderlies. After persistent complaint we evolved step by step—getting first straw, then orderlies, then heat, and finally reserved third-class compartments. Later we degenerated again. I remember in 1944 some tuberculous Canadians arriving at Elsterhorst. They included a case of tuberculous meningitis, a spontaneous A.P.T. with empyema, and a case of tuberculosis with diabetes; they had travelled three days in an unheated cattle-truck, with no orderlies, little food, and no insulin. In spite of innumerable complaints travelling facilities got worse and worse as the end of the war approached.

Special Hospitals

1. "Königswartha" was originally a hospital for tuberculous French P.O.W.s. The first English cases arrived there after the fiasco of the Rouen evacuation. Originally a blind asylum, it had limited accommodation, poor cooking facilities, pleasant gardens, and bad sanitation. At that time the repatriation prospects were *nil*, and inevitably the hospital developed into a pleasant place to die in rather than a serious hospital, although much good work was done there.

2. Elsterhorst became the chief hospital for tuberculosis in 1943 after numerous complaints from the British about the overcrowding at Königswartha. This was a modern German standard hutted hospital. The cooking facilities, the sanitation, and the wards were good, but unfortunately it was situated in the middle of a sandy plain, and there was a severe water shortage and no shade in summer. The hospital was six kilometres from the nearest station, and inevitably a large number of advanced bilateral cases were forced to walk that distance carrying their kit. There was, too, the inevitable wire round the hospital. Security measures were not too severe until 1944, when a stringent curfew at 9 p.m. was introduced, and doctors and orderlies were not allowed to move from one barrack to another after that time without a guard. As it took five or ten minutes to get a guard this made emergencies at night very dangerous. Searches also started at this time; it was an odd sight to see soldiers of the Third Reich search men with advanced tuberculosis in bed and remove excess food—in case they escaped! Actually the soldiers were ashamed; they did the work gently, and it cleaned the lockers. There was another odd sight when a big convoy of tuberculous patients arrived from Lamsdorf. The truck drove into the hospital and was then surrounded by soldiers with fixed bayonets to prevent doctors getting near until the men had been searched. I was finally thrown out of the hospital when I stated that it was

ein Skandal im Lande von Robert Koch" when the Chefarzt ordered me to put a febrile bilateral A.P.T. case with fluid on to an open truck with snow falling and the temperature well below zero.

Dietetically the Germans were not over-generous; they provided about 2,000 calories a day, of which ill patients could manage to eat only part. However, with the help of food parcels, invalid comfort parcels, and a black market, the patients were probably the best fed in Europe. They suffered only from a lack of fresh vegetables and a somewhat monotonous menu. It was very striking that, there in the heart of Germany in the middle of the war, three-fifths of the food eaten should come from the Allies.

All the usual methods of collapse therapy were employed in the hospital, except Monaldi's, and on the whole the patients rested well. It is difficult to present any picture of the type of treatment given in a hospital without going into great detail, but the following figures from a series of consecutive positive cases in 1944, when the hospital was at its best, may help:

Positive cases with at least 3 months' stay in hospital	44
No. of A.P.T.s attempted	39
„ „ successful	31

Of the A.P.T.s 2 were made bilateral and 5 were abandoned. Of the 13 failed or abandoned A.P.T. cases 7 later had a phrenic avulsion and one in addition a rather unsuccessful pneumoperitoneum. Of the successful A.P.T.s which were not abandoned (26) 20 had thoracoscopies with or without adhesion-section. Of all these, one died at Elsterhorst and 24 became negative before leaving, after an average of 3.3 months in hospital—i.e., 54.4%. The latter figure should not be taken too seriously—the total is too small and our facilities for detecting bacilli were not very advanced; but all the cases which I have so far checked up on in England have remained negative, and several more have become negative.

The hospital was originally completely international; there were Australians, New Zealanders, Canadians, South Africans, Cypriots, Indians, Americans, French, Poles, Serbs, Dutch, Norwegians, Spaniards, Italians, negroes, to say nothing of the English, the Welsh, the Irish, the Scots, and the Channel Islanders, among the patients; and the Russians helped with the work of the hospital. On the whole they lived together in peace—chiefly, perhaps, because they all received British Red Cross parcels !

It would be wrong to mention Elsterhorst without naming Lieut.-Col. Le Souef, A.A.M.C., and Major Wallis, R.A.M.C. Everyone at Elsterhorst owes them a great debt of gratitude, and I am sure the vast majority share my admiration and affection for them both.

Nova et Vetera

THE HISTORY OF SYPHILIS

In the month of February, 1495, Charles VIII of France arrived with his mercenaries before the city of Naples. The city fell almost without opposition, and there followed in the armies of both sides, and in civilians, an outbreak of a virulent disease which had not been long known in Europe. The results of this mixing of mercenaries and civilians were tragic, and when Charles disbanded his army at Lyons seven months later the disease was already causing many deaths in addition to horrible features and painful symptoms. Ruy Dias de Isla called it the *Morbo Serpentino*—hideous, dangerous, and terrible as the serpent itself. Throughout much of the following century the disease was epidemic, and presented all the characters of any serious epidemic disease which attacks an unprotected population. Thereafter the people of Europe developed some degree of immunity, so that the disease now became more remarkable for its chronic manifestations. In 1530 Fracastorius, the greatest of the early epidemiologists and the wielder of a Latin measure almost as stately as that moulded by the swan of Mantua, wrote a poem in which he named the disease "syphilis." Nearly two centuries later the name found its way into medical writings. In the four and a half centuries since it first attracted attention it has been the subject of a vast literature. There have been many histories of syphilis, but there is even now no agreement on certain moot points. In a recent Vicary Lecture at the Royal College of Surgeons Mr. J. Johnston Abraham[1] tackled the subject again, and his contribution will be read with great interest even by those who are familiar with the subject.

There will always be those who regard the first origin of syphilis in Europe as a purely academic question. Mr. Johnston Abraham does not commit himself on this point, but it is perhaps not difficult to see where his sympathies lie. Although he says that syphilis was *apparently* an unknown disease in Europe in 1495, in his discussion of the Columban origin he cites writers such as de Isla, Fernandez de Oviedo, and las Casas, who were impressed by the violence of the outbreak—unlike anything they had previously known. There is an important school which believes that syphilis had been known in Europe since the earliest times. Sudhoff, for example, considered that mercury was being used from at least the twelfth century for certain skin conditions which were probably syphilitic. The matter will probably never be settled. Apart from the dramatic events of the fifteenth and sixteenth centuries, the author concentrates in this lecture mainly on methods of treatment and on the monist and dualist theories of the disease. The condition which we now know as gonorrhoea had been recognized for centuries. John Arderne mentioned "chaude pisse," as it was then termed. Paracelsus lent his great weight to the theory—advanced shortly before his time—that syphilis and gonorrhoea were one and the same disease. The unfortunate experiment which John Hunter performed on himself in 1767 seemed to prove that the monists were right. Although Benjamin Bell published evidence to the contrary in 1793, and Richard Carmichael taught in 1814 that they were different diseases, it was not until the publication of the painstaking experiments of Ricord in 1838 that the dualist theory became widely accepted. There is evidence—for example, the statement of Gaspar Torella—that mercury was used in the treatment of syphilis before the end of the fifteenth century. As a result partly of the unscrupulous action of quacks the orthodox profession was forced to give larger and larger doses, until a course of mercurials was an abominable ordeal for the unfortunate patient. China root and sarsaparilla enjoyed a brief hour on the stage, but guaiac, first introduced in 1517, had a longer run. Wallace of Dublin used potassium iodide in the eighteen-thirties, and Auzias-Turenne in 1850 recommended inoculation of the patient with pus from a soft sore. He continued to advocate his method of "syphilization" for a period of twenty-eight years! The modern armamentarium, based on the work of Schaudinn and Ehrlich, is outside the scope of the lecture.

There are few diseases whose history is so difficult to write concisely and fairly as that of syphilis. Mr. Johnston Abraham has succeeded in a difficult task in this admirable and well-illustrated lecture. Many will also be grateful to him for giving the true derivation of the term "Lock Hospital"—from the French *les loques* (rags), with which the lazars wiped their sores before they entered the lazar houses in the days when these institutions, used less and less for their original purpose, were turned over to the victims of syphilis, the new epidemic disease.

E. A. U.

VARRIER-JONES MEMORIAL LECTURE

As a memorial to the late Sir Pendrill Varrier-Jones, the founder and first medical director of Papworth Village Settlement for the Tuberculous, near Cambridge, an annual memorial lecture has been instituted. The first was given by Wing Commander, now Air Commodore, R. R. Trail, who has succeeded Sir Pendrill as medical director of Papworth and its associated centre at Enham, and the second by Sir Arthur MacNalty, who was Chief Medical Officer of the Ministry of Health from 1935 to 1941. The third lecture of the series is to be given in London at the Hospital for Sick Children, Great Ormond Street, on Wednesday next, Nov. 14, by Dr. Alan Moncrieff. His subject is "Tuberculosis in Childhood," and in it he will make special reference to the exhaustive survey of the children of Papworth, prepared from Papworth records extending over more than 25 years by Dr. E. M. Brieger. This survey, published under the title *The Papworth Families*, establishes the success of Papworth in protecting Papworth-born children against tuberculosis, and demonstrates anew that the children of the tuberculous need not contract the disease and indeed will not do so if the family's domestic conditions permit medical advice to be carried out.

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[1] *Brit. J. Surg.*, 1944, 32, 225.

BRITISH ORTHOPAEDIC ASSOCIATION

ANNUAL DINNER

The British Orthopaedic Association held its Annual Meeting Dinner at Lincoln's Inn on Oct. 26, when some 200 members and guests were present. Mr. St. J. D. Buxton presided. Proposing the health of the B.O.A., Dr. Charles Hill, Secretary of the B.M.A., referred to the contributions which the Association had made in recent years to the profession's planning of medical services and, in particular, of accident services. He added that the B.M.A.'s Report on Fractures was the starting-point of much progress. Referring to present problems and to the new situation with which the profession was confronted, he said that the profession had little to fear provided that in its proposals it adhered to what was in the public interest. The unity of the profession in all its branches was essential at the present time.

In response, Mr. Buxton said that it was in 1918–19 that, thanks largely to Sir Robert Jones, the position of orthopaedic surgery in relation to the Services had been well established. By 1939 much had been forgotten, and orthopaedic work had to be organized by individuals. It was, however, true that the education of young surgeons and would-be surgeons in orthopaedics had developed, and should be developed further, in co-operation with other surgical specialties. Prof. H. J. Seddon gave an entertaining account of the guests, among whom were Lord Moran, Sir Alfred Webb-Johnson, and Sir Wilson Jameson. Sir Alfred, he said, was now breaking down the barriers between specialist and general surgeons, and there was now no antagonism "between the great realm of orthopaedic surgery and the little rump known as general surgery." Replying for the guests, Sir Wilson Jameson, Chief Medical Officer to the Ministry of Health, spoke of the need for interchange between different departments of medical work, and referred to the way in which orthopaedic surgeons had grown accustomed to co-operation with central and local government. He hoped that this example would be widely followed, so that the National Health Service could be built up in the best possible way. The President's health was drunk with musical honours on the proposal of Mr. George Perkins, President-Elect.

HEBERDEN SOCIETY

At the dinner of the Heberden Society last week, Dr. C. W. Buckley, in his presidential address, said that the Society was now entering a new chapter in its history—a chapter which he hoped would be associated with important advances in the study of the common diseases grouped under the term "rheumatic." "They have appeared frequently to be regarded as unworthy of the attention of professors of medicine interested mainly in higher things. . . ." Among men whose names were associated with rheumatism were the Heberdens, father and son, and the Garrods, father and son again. To Archibald Garrod belonged much of the credit for advancing the study of chronic rheumatism. The appointment by the B.M.A. of a committee in 1931 to report on chronic rheumatic disease was an important indication of awakening interest. Three years after this the Royal College of Physicians appointed a committee with a similar object, and the publication of its *Reports* was a forerunner of the *Annals of the Rheumatic Diseases* (now published quarterly by the B.M.A.). Another landmark was the formation of the Empire Rheumatism Council, which owed its inception largely to the vision and energy of Lord Horder. In addition to its propaganda work, the Council had done much to direct and subsidize research. When the Empire Rheumatism Council was being formed the medical staff of the Red Cross Clinic formed with others a society for the discussion of the clinical and pathological aspects of chronic rheumatic disease, and adopted the name of Heberden. Notable among the researches carried out by members of this society had been the work of Copeman and his colleagues on fibrositis. The revival of the Heberden Society had been marked by its affiliation with the Empire Rheumatism Council, and its proceedings would be published in the *Annals of the Rheumatic Diseases.*

General practice, Dr. Buckley went on to say, provided an unrivalled field for clinical observation on hereditary, family, social, occupational, climatic, and meteorological influences, and he hoped that the Society would encourage practitioners to study these problems. He questioned whether any group of diseases had suffered more from methods of treatment advised without any consideration of the underlying pathology. There were few cases in which properly directed physiotherapy was not a most essential part of the treatment of chronic rheumatism; but a wide acquaintance with physical methods did not make a specialist in rheumatic diseases. The primary object of the Heberden Society was the study of rheumatic diseases from the standpoint of clinical medicine and pathology. At the moment the number of members was limited to 100.

After the presidential address, the toast of the guests was proposed by Brigadier F. D. Howitt, who extended a special welcome to Colonel C. W. B. Littlejohn and Colonel J. H. Anderson of the Australian Army Medical Corps, to Sir Frank Fox, secretary of the Empire Rheumatism Council, and to Mr. Tom Williams, the Minister of Agriculture and Fisheries. Mr. Tom Williams and Colonel Littlejohn then replied on behalf of the guests.

RESEARCH ON AGEING

In 1939 a Club for Research on Ageing was established. This actually represents a team of medical and scientific research workers for study and research on ageing, and is not a society in the ordinary sense of the word. There are branches of the club in Great Britain, the United States of America, France, Argentina, and also members in Denmark and Switzerland. A branch in Sweden is in process of formation.

The governing bodies of the branches of the club consist of the following members of the British branch—Prof. G. R. Cameron, Prof. E. C. Dodds, F.R.S., Prof. Sir Robert Robinson, F.R.S. (chairman), Lady Robinson (hon. treasurer), Prof. M. J. Stewart, Dr. V. Korenchevsky (hon. secretary); of the branch in U.S.A.—Prof. W. de B. MacNider (chairman); Dr. E. J. Stieglitz (secretary), and of the executive committee—Prof. E. V. Cowdry (chairman), Prof. A. B. Hastings, and Prof. H. S. Simms; of the group in Argentina—Prof. B. H. Houssay (chairman) and Dr. E. E. Krapf (hon. secretary); of the French branch—Prof. R. Courrier (hon. secretary).

The number of members is limited; there are only 75 at present, and only those scientific and medical research workers are invited to join the club who are engaged in or direct research on ageing, or promise to do so, and who belong to qualified research laboratories or hospitals. Unfortunately the war has badly handicapped the activities of the club, especially in Great Britain and Europe.

Lord Nuffield, and later the Nuffield Foundation, generously supported a scheme of clinical research work carried out in co-operation with the London County Council at one of the Council's hospitals (Tooting Bec Hospital). The results of these clinical trials are now being examined. At the end of 1944 Lord Nuffield also made a donation of £3,000 in order to establish an experimental laboratory for research on ageing, the Gerontological Research Unit, at present housed at the Departments of Zoology and Physiology of Oxford University (head of the unit—Dr. V. Korenchevsky). Thus the foresight and generosity of Lord Nuffield have made actual research work possible in this country.

In the U.S.A. the branch of the club has had annual conferences, at which the schemes of research were discussed and planned; a museum of senile tissues has been established; clinical research on the effects of vitamins on old persons was started at the Elgin Hospital; and finally a *Journal of Gerontology* has been started. For the latter purpose a special "Gerontological Society Inc." was formed, consisting of the members of the American branch of the club. The editor-in-chief of the journal is Dr. Robert A. Moore, professor of pathology of Washington University. The committee on publications consists of Professors Roy G. Hoskins, M.D. (chairman), and W. de B. MacNider, M.D., and Drs. P. Bronson, L. K. Frank, and E. J. Stieglitz. The correspondent for Great Britain is Dr. V. Korenchevsky.

The journal will be published quarterly, the first number appearing at the beginning of 1946. Besides original papers, it will contain reviews and abstracts on gerontology. It will also contain a special section, "Browsing through the Ages," devoted to a scholarly treatment of some topic from the field of art or literature related to ageing and the aged. The address of the *Journal of Gerontology* is 507, South Euclid, St. Louis, U.S.A.

D. Solomons (*J. roy. nav. med. Serv.*, 1941, **31**, 178) in the course of a year saw 19 cases of infective mononucleosis, in 8 of which meningism was the outstanding feature; in 4 a rise in the pressure of the cerebrospinal fluid was the only abnormality. Nothing abnormal was found in the fluid of any of the other cases.

MEDICAL PRISONERS IN SINGAPORE

The following letter from Dr. R. E. Anderson, honorary secretary of the Malaya Branch, has just been received by the Secretary of the B.M.A., and in view of the interest and especially of the concern we all feel in the fate of our colleagues in the Far East we publish it in full.

c/o The Bank of New South Wales,
Melbourne, Victoria,
Australia.
October 18, 1945.

Dear Dr. Hill,

I am writing to you following on my arrival in Australia after release from internment in Singapore to enclose lists of the medical profession who were civilian internees or military prisoners in Singapore. I have marked with an "M" all those who were on our list as members of the Malaya Branch at the time of the fall of Singapore.

I regret to inform you that four civilian doctors died during their internment: Dr. C. A. Stanley, Dr. J. H. Bowyer, Dr. E. S. Lawrie, and Dr. H. J. Lawson; all of them were members of the Malaya Branch. Dr. Norris was killed while working at Kandang Kerbau Hospital shortly before the capitulation; he was also a member. As far as I know none of the Malayan doctors who were in the prisoner-of-war camps died, but it is regretted that Dr. D. F. Irvine and Dr. W. R. Logan, both members, and Dr. Donaldson (of the Malacca Medical Board) were killed in the fighting which preceded capitulation. Drs. Stanley and Bowyer died as a direct result of the cruelties of the Japanese Military Police, the former dying while in their hands and the latter was returned to us *in extremis*. Of those whose names appear on the lists a few are invalids and received all care and attention on release, but I am happy to say that the majority of us are reasonably well and have all been repatriated.

As you have doubtless heard, conditions in Japanese prisoner-of-war and internment camps left much to be desired; overcrowding was the rule and semi-starvation, especially in the past year, was common. I am not in a position to give information regarding the prisoner-of-war camps, and what follows applies to civilian internees. We were housed for the first two years of our internment in the Changi Prison, Singapore, over 3,000 persons being housed in a criminal prison designed for 600 delinquents. For the last year and a half we were housed in the Sime Road Camp, former R.A.F. headquarters which had been burnt out and rebuilt. While conditions on the whole were better in the second camp the reduction of rations and lack of suitable food and drugs brought many to the verge of grave deficiency disease. All admit that had it not been for the efforts of our profession and the expedients adopted such diseases would have taken a heavier toll, and excellent work was done by our medical staff, despite the lack of essential foods and drugs, to maintain a reasonable standard of health.

The chief medical officer of the camp was first of all Dr. J. H. Bowyer (since dead), and then Dr. J. W. Winchester, our president-elect for 1942. The chief health officer was Dr. D. W. G. Faris, and both these men were assisted by medical and health officers from the Malayan Medical Service and from private practice. Mention must also be made of a committee to which all nutritional questions were referred; it consisted of Dr. G. V. Allen (Editor of the *Journal*), Dr. W. R. Duff, and Dr. R. G. Scott MacGregor. These men by their sound advice and unerring judgment have been instrumental in saving much serious illness. But to mention all by name would be invidious; there were too many of us to permit all of us to function as doctors, and many of us (including myself) played the part of the ordinary internee and worked on general fatigues, which included wood-cutting, gardening, kitchen work, and latterly work of a military nature forced upon us by the Japanese. But I must not omit to mention the good work done by the women doctors, Mesdames Hopkins, Smallwood, Worth, Robinson, and Misses Williams and Elliot, who, with the assistance of sisters and nurses from the Malayan nursing service, ran the hospital for female internees with conspicuous success.

The conditions and medical arrangements were of the worst; for some time we were permitted to send patients to a civil hospital for treatment, but latterly patients were not allowed to leave the camp. The supplies of drugs and dressings were extremely limited and the Japanese medical officer of negative assistance; in fact the impression gained from the few Japanese medical officers we saw was that they were not interested. I believe Dr. Ando, a locally trained Japanese, did what he could, as might be expected from a member of our Association. The supplies we received from the Red Cross were a godsend, though much of the better stuff did not reach us. I am not in a position here to discuss our hospital records, but I may mention that apart from dysentery, malaria, and tropical typhus, we were singularly free from communicable disease. Deficiency diseases and tropical ulcers were our greatest concern.

We were unfortunately unable after the first year or so to hold professional meetings, as these were prohibited by the Japanese along with all other meetings, although when such were allowed we held them under the auspices of the Association. Regarding the Association, I had no time to write you before capitulation; as you can imagine my hands were too full. I am afraid that my records are lost, and while I made an effort to send them to Singapore (you will remember my office was in Ipoh) they did not arrive. Until I am able to make further inquiries I must presume them to be lost. After the Japanese surrender I was able to contact Dr. Lee Choo Neo, our Branch Treasurer, and she was able to tell me that some of her records have been saved, since she was not interned. She believes that what cash assets we had will be safe, as the bulk of them were held by the Post Office Savings Bank.

As to the future of the Branch, which at the moment is in suspense, I can only make a rough forecast. At present Malaya is being run by a military administration and the medical men in this administration are all in uniform. It will, therefore, be possible for them to be military members. But our many Asiatic members are still not catered for, and I can see little hope for them until Malaya returns to more normal conditions. When, however, such conditions prevail and the Malayan Medical Service takes over again from the military administration and private practitioners return to their practices I am confident that the Malaya Branch will resume its activities with renewed vigour. I am concerned, however, about our many Asiatic members, whose names will be found in the supplement to the *Journal of the Malaya Branch* of the British Medical Association for June, 1941. They are anxious to receive journals, I know. Perhaps if you communicated with our treasurer, Dr. Lee Choo Neo, at the Lee Dispensary, Bras Basah Road, Singapore, she might be able to contact those who wish to continue membership, and until further arrangements can be made keep you in touch with them. I am unlikely to return to Malaya for at least six months, if not longer, so I regret that until I do I can be of little assistance. While in Australia my address will be c/o The Bank of New South Wales, Melbourne, and I will keep you informed of any change.

Our president-elect, Dr. J. W. Winchester, is at present in Australia; when I write you again I shall give you his address. Dr. W. H. Brodie (Municipal Health Officer, Penang) left Malaya on leave before hostilities began, and I believe he went to England. He was our president, and I am sure will have contacted you if it were possible. You will doubtless have visits or correspondence from many of our members who are now in England or on their way there, and if it is possible I would be glad to have news of them, though I realize that communications with Australia are slow and erratic. I will probably be in England myself in the spring of 1946, when I hope to call on you. In the meantime, I have seen Dr. Dickson, medical secretary of the Victorian Branch, who has offered me the hospitality of his branch and has kindly offered me the service of his clerical staff for any correspondence with you.

In closing I would like to say that it was with great regret that I heard on my release of the death of Dr. G. C. Anderson, with whom I had corresponded in the past. You naturally have my permission to make public all or any part of this letter in the *Journal* should you consider it to be of general interest.

Yours sincerely,
R. E. ANDERSON.

MEDICAL CIVILIANS INTERNED IN SINGAPORE

Malayan Medical Service

M Allen, G. V.
M Anderson, R. E.
Baeza, J. I.
Beattie, D. A.
M Blackmore, W. G.
Boyd, C. J.
M Braine, G. I. H.
Bynoe, M. L.
M Calderwood, R.
M Cameron, A. A.
M Cameron, J. A. P.
M Campbell, S. J.
M Chitty, E. C.
Cocheme, M. A. X.
M Currid, P. G.
M Day, L. F.
M Diamond, W. C. E.
M Dickson, I. T.
M Dive, H. R.
Divine, T. A.
M English, J. S.
M Evans, L. W.
M Evans, T.
M Evans, W. G.
M Eveson, S. W.
M Faris, D. W. G.
M Field, J. W.
M Fisher, O. E.
M Gray, J. C. P.
M Gross, R. D.
Grove-White, R. J.
M Hardy, E. A.
M Holmes, W. E.
M Home, B. F.
M Hopkin, D. A. B.
M Hopkins, H. O.
M Hudson, J. H.
Jaques, F. V.
M Johns, B. M.
Johnson, R. S.
Jones, G. E.
Landor, J. V.
M Lowis, R. M. B.
M Lowson, J. M. A.
M Lowther, A. H.
M McBeth, R. I.
M MacCarthy, C. T.
M McGladdery, H. M.
M MacGregor, R. B.
MacGregor, R. G. S.
M McMahon, J. E.
McNab, R. A.
M McSwan, D. M.
M Mekie, D. E. C.
Molesworth, B. D.
M Monro, J. K.
Nevin, H. M.
M Pallister, R. A.
Poynton, J. O.
M Puleston-Jones, W.
M Ryrie, G. A.
M Scrimgeour, H.
M Shelley, R.
Shield, A. L.
M Struthers, E. A.
M Swift, S. H.
Tyson, W. J.
M Wakefield, T.
M Wallace, H. B.
M Williams, C. H.
M Williamson, H. D.
Wilson, C. S.
M Winchester, J. W.
M Young, W.

Private Practitioners

M Ainsley, W.
M Allan, H.
Ansley-Young, W.
M Bain, M. C.
M Canton, N. A.
M Carlile, J. P.
M Dixon, W. J.
M Duff, W. R.
M Dugdale, J. N.
M Duncan, W. J.
M Egan, J.
M Elder, E. A.
Engel, C.
M Geale, W. J.
Gibson-Hill, C. A.
M Gilmour, G. C. B.
M Gunstensen, E.
M Heron, J.
CM Hodgkin, E. P.
Klemperer, H.
McGinley,
M McIlvean, D. D.
M McIntyre, F.
M Mackay, A. F.
M Mason, J. B.
Moudgill.
Sclater, J. M.
Slot, S. A.
M Smith, H.
M Tweedie, D. R.
M Watson, W. H.

Women's Camp

M Miss P. R. Elliot
M Mrs. Hopkins (M.M.S.)
Mrs. Robinson (M.M.S.)
M Mrs. I. A. M. Smallwood (M.M.S.)
M Miss C. D. Williams (M.M.S.)
M Miss H. I. Worth (M.M.S.)

MILITARY MEDICAL PRISONERS NORMALLY DOMICILED IN MALAYA

	Name	Last Known Location
M	Lieut.-Col. J. Coutts-Milne	Changi
	„ Hutchison	„
M	„ J. H. Strahan	„
M	„ G. F. West	Palembang
M	Major R. C. Burgess	Changi
M	„ R. Crawford	Thailand
M	„ A. L. Dunlop	„
M	„ E. Egan	Saigon
	„ Garlick	Changi
M	„ A. T. H. Marsden	Thailand
M	„ H. R. Morrison	Changi
	„ McGarry	Thailand
	„ Reid	Changi
M	„ P. E. F. Reutley	Singapore
	„ Webster	Changi
M	„ E. D. B. Wolfe	Kranji
	Capt. Donaldson (M.A.M.B.)	Believed killed
M	„ E. J. Emery	Changi
M	„ R. Hall (Johore)	Saigon
M	„ R. S. Hardie	Thailand
M	„ D. Irvine	Believed killed, Alexandra Hospital
	„ Jennings (K.L.)	Changi
M	„ W. R. Logan	Believed killed, Alexandra Hospital
	„ Lopez	Changi
M	„ G. H. Lowe	„
M	„ I. MacIntosh	Thailand
M	„ J. F. Mitchell	Singapore
M	„ W. T. Quaiff	Changi
M	Surg. Lieut. J. G. Reed	Palembang
	Capt. Rodger (K.L.)	Changi
	„ C. C. Ross	Thailand
M	„ N. K. Sen	Nee Soon (?)
	„ Simpson (I.M.R.)	Thailand
M	„ R. B. Wallace	Changi
M	„ T. Wilson	„
	„ Young	Thailand
M	Lieut. D. R. MacPherson	„
	„ McMerine	Changi
	„ Mummery	Mukden
	„ Nicholas	Singapore
M	„ S. S. Pavillard	Thailand
	„ Poh Chee Juay	„
M	„ P. Temlinson	„
	„ Turner	Changi
M	„ E. C. Vardy	Thailand
M	„ L. A. Watson	„

M = Member of Malaya Branch B.M.A.
CM = Complimentary Member of the Malaya Branch B.M.A.

His Majesty's Government has decided that inventions made in Germany since 1938 shall not be allowed to form the basis of valid applications for the grant of patents, or for registration of designs in the United Kingdom, and accordingly such applications will not be accepted by the Comptroller of the Patent Office. Any rights lawfully acquired by non-enemies before Sept. 3, 1939, in inventions for which protection was applied for in Germany in the twelve months preceding that date will be safeguarded.

Reports of Societies

HYPERTENSION

In his presidential address to the Section of Medicine of the Royal Society of Medicine on Oct. 23 Dr. T. Izod Bennett said that he had chosen as his subject a morbid condition which caused approximately 100,000 deaths in this country every year. His choice of hypertension was made because he felt that we were on the eve of discoveries which would give the profession control over this scourge. Progress towards control of a disease was made usually in three stages: an initial stage in which the condition became defined; a stage during which there was a large accumulation of data; and a stage in which the explanation of its occurrence was worked out—in other words, the stages of "What?" "How?" and "Why?"

It was a long time before any definition or understanding of the problem of hypertension was reached. Not until the last years of the nineteenth century was an answer obtained to the question "What?" Then followed the accumulation of a mass of material which in time answered the question "How?" The final question, "Why?" was still unelucidated, but the darkness was not entirely unrelieved. Here he referred to the brilliant experimental work of Goldblatt and his colleagues in the United States, who, a few years ago, published observations showing that when the renal arteries were partially occluded by the placing of clamps severe hypertension was caused in animals. Byrom and Wilson in this country showed in a number of experiments, extraordinary in conception and equally clever in technical achievement, that if one kidney alone was partly occluded by clamps, not only was hypertension produced but the untouched kidney underwent a change analogous to what was seen in hypertension, and if both kidneys were affected and the original clamp on one of the arteries was removed, the other kidney in certain conditions cleared up.

This work had had as one of its results the use by surgeons of unilateral nephrectomy. In a discussion on this subject in the Section of Urology in 1943 the position was usefully summarized by Dickson Wright, who concluded that "the importance of the surgical kidney in hypertension should be written down rather than up." Simultaneously with the work of Goldblatt and his followers was an important series of observations by the more purely chemical school of workers, the name most prominently associated being Page in the U.S.A. These two schools were now united; all the exponents of the Goldblatt school—or most of them—were of opinion that the effects they brought about must ultimately be due to chemical agents from the affected kidney.

As a practical physician Dr. Izod Bennett reminded the meeting that there was yet another substance which must not be overlooked—namely, potassium thiocyanate. Nobody seemed to know how this acted, but there was no doubt at all that in early cases—cases in which actual sclerosis had not yet taken place—brilliant results were occasionally achieved by its oral administration. The substance was uncertain in its action and toxic if given in too high dosage, but with careful control it could be safely used and undoubtedly afforded great relief in many cases. But he did not anticipate that thiocyanate would continue for long; soon a more logical and probably more effective treatment would be forthcoming.

The Ischaemic Kidney

Major Clifford Wilson said that the ischaemic kidney might show no structural damage. Unilateral renal ischaemia would cause persistent hypertension—that was to say, failure of renal excretion and increasing load on the kidney increased by hypertension. Unilateral renal ischaemia set up acute vascular and parenchymal changes in the opposite kidney and other organs, closely resembling the lesions of malignant hypertension and chronic interstitial nephritis. In man prolonged hypertension might persist after removal of the affected kidney. The speaker showed diagrams of the technique of experiments on renal artery constriction in the rat, and photomicrographs of the damage to the kidney tissue. The most important result of this animal experimentation was that hypertension was shown to produce lesions in the kidney which previously had been regarded as inflammatory or nephritic in origin. It also established beyond doubt the fact that malignant hypertension was an entity—there was a variety of essential hypertension which started without any apparent renal damage and later went on to renal destruction.

These observations suggested the possibility of a vicious circle in Bright's disease in which hypertension was maintained at an increasing tempo, with the result that clinically these patients suddenly got worse and went downhill. It had long been recognized that in any patient with chronic kidney disease and with hypertension the terminal histological picture was very similar. This common picture had been called chronic interstitial nephritis, and that was why chronic interstitial nephritis had been so confusing—it did not correspond to any common entity.

On the question of unilateral-renal hypertension in man, there was naturally a good deal of excitement when many cases were reported in which unilateral disease of the kidneys was shown to produce hypertension and after removal of the kidney the hypertension disappeared. But after a very long search for unilateral kidney disease most people had come to the conclusion that the condition was very rare. It was very rare in cases of essential high blood pressure to be able to attribute the condition to a unilateral renal lesion, though such cases did occur and it was important to recognize them. But operation should not be performed until the intravenous pyelogram showed no excretion from one kidney and normal excretion from the other.

The Role of Renin

Dr. Mary Lockett discussed the role of renin and the renin-hypertensin system as an effector mechanism in experimental hypertension resulting from constriction of the renal artery. Renin had been demonstrated in the blood in many cases of experimental renal and essential hypertension, but its responsibility for the hypertension of renal ischaemia could not be said to have been clearly established by the methods of assay, and further work was needed to establish whether it was in fact the causative or the only causative agent. The results of slow renal infusion experiments raised some doubt as to whether a sustained increase of renin secretion could cause prolonged hypertension. After very considerable lowering of the blood pressure from trauma or from haemorrhage renin was shown to be liberated by the kidney and was demonstrated in the systemic blood. Although anoxaemia did not prevent the secretion of renin when the blood pressure was lowered, anoxaemia alone did not cause renin secretion. The properties of renin made it appear possible that renin was normally concerned with the regulation rather than the maintenance of normal blood pressure, and the development of tachyphylaxis gave cause for doubt whether excess of renin could be responsible for a persistently elevated blood pressure. The pressor action of renin, through the formation of hypertensin, had been shown to be due to its direct action on the blood vessels. Dr. Lockett also analysed the results of the work of investigators in North and South America and elsewhere and the varying terminology used.

Dr. W. N. Rogers asked whether anybody had tried thiouracil in cases of hypertension. Dr. Bruce Pearson said that in his experience the only benefit to be seen in medical treatment of hypertension was in patients who had crises during which the blood pressure was above its usual level. Such cases showed a response to dilator drugs. Nervous people with persistently high blood pressure would respond to sedative drugs or even to the removal of a cause of chronic anxiety, but people whose blood pressure rose when they got slightly excited tended to develop permanent hypertension. Dr. Thompson Hancock spoke of the use of potassium thiocyanate. One of the important things noticed was that in the bad cases in which it was used there was very often a greatly decreased excretion of thiocyanate, and unless one was very careful in such cases one might get a very high blood thiocyanate. Dr. H. Warren Crowe spoke of a recent paper in the *Lancet* on experimental prevention of nephrosclerosis with ammonium chloride. It was shown that desoxycorticosterone caused nephrosclerosis, and death of the rats was prevented by ammonium chloride in their drinking-water. This might account for the very satisfactory result of small doses of hydrochloric acid, given between meals, in reducing high blood-pressure. Ammonium chloride broke down into urea and HCl.

Sir Henry Tidy referred to the long period over which an organ might nurse an injury after the original cause has been removed. In renal lesions the opposite kidney might for a time show no effect and the blood pressure might fall, but once the damage had been done the effect persisted and might gradually multiply. He doubted whether the cases in which success was claimed for the unilateral operation had been observed long enough yet to say what their end might be. An example was to be found in the very large number of cases of trench nephritis in the first European war. With proper care and long rest the majority appeared to recover completely, but when a test was made on them ten years later it was found that the number showing renal deficiency had grown considerably over that shown in a previous test made about two years after the original attack. The organ once injured tended to nurse that injury and slowly to multiply its effects, and once this process had started it was likely to go on although the original cause had ceased to operate.

THE TRAINING OF CLINICAL TEACHERS

In the Section of Disease in Children (Royal Society of Medicine) on Oct. 26, Prof. Norman Capon took for the subject of his presidential address "The Training of Clinical Teachers." He prefaced his main discussion with the claim that paediatricians had adhered more closely to the tenets and discipline of the science and art of medicine than any of the specialists. The conditions of their work, both personal and professional, placed them in an unusually favourable position for promoting improvements in basic medicine.

How was it possible to ensure (Prof. Capon continued) that while the student learned what was essential in factual knowledge he was at the same time given a real education, a basis on which he could continue to build from his increasing experience? It was not enough to recommend a modification of the subjects which comprised his curriculum. Moreover, there was no certainty that a lecturer busily engaged in the treatment of the sick would remind the student that some people, at any rate, were healthy. It was from the teacher that the life-blood of education flowed. He quoted the article on "Education" in the *Encyclopaedia Britannica*:

> "No doubt all education is effected through the experiences of the educated, but it does not follow that all experiences are educative. . . . It follows that an education may be good or bad, and that its goodness or badness will be relative to the virtue, wisdom, and intelligence of the educator."

Prof. Capon suggested that in a given university a small group of senior clinical teachers, aided by one of the preclinical teachers and the professor of education, should undertake preliminary discussions with a view to organizing a vacation course for junior clinical teachers. The students would be restricted to, perhaps, 15, and would come from different centres, because discussion would form an important feature of the course, and so the views and habits of different medical schools should be represented. The following aspects of medical education would need to be covered, partly as lectures and partly as discussions and demonstrations: (1) The meaning of education, with some reference to educational methods in general. (2) The scope and aims of medical education, with special reference to (*a*) undergraduates and (*b*) graduates, including general practitioners, specialists and consultants, research workers, public health workers, and demonstrators. (3) The historical approach in medical education and the value of non-medical literature (as illustrating the value of one aspect of non-medical literature he mentioned two books—Francis Thompson's *Essay on Shelley*, and *Early One Morning*, by Walter de la Mare). (4) The artistic (or humanistic) approach. (5) The scientific method, with special reference to experimental inquiry, and its clinical application, including the technique of medical examination. (6) Elementary logic, including critical analysis of evidence and assessment of values. (7) The technique of clinical teaching. (8) The place of psychology in teaching. (9) The use of medical libraries. (10) The preparation of scientific reports and papers. He next showed a list of books which might usefully be studied before the class began—just a selection which had been of personal help to himself. They included Herbert Spencer's *Education*, Sir Thomas Browne's *Religio Medici*, Wilfred Trotter's *Collected Papers*, Sir William Osler's writings, Sir Thomas Lewis's *Clinical Science*, Francis Bacon's *Novum Organum*, W. S. Jevon's several books on logic, and many others, ancient and modern, covering the fields set out above.

It might be argued that clinical teachers had little time and sometimes little inclination for work which was not strictly technical or vocational. Lack of time was a defect likely to be corrected by a change of policy regarding teaching duties. As for lack of inclination, his own experience was that clinical teachers were most anxious to learn. Some might say that at present there were no clinical teachers who were equipped for the difficult task of conducting a course on the general lines he had just suggested. If the proposed course was to be effective it must be conducted mainly by practising clinicians, and it would be a mistaken policy to leave this basic education solely in the hands of clinicians whose experience was largely, if not solely, confined to hospitals.

The view had been put forward that teachers were born and could not be made, and that if a clinician was merely proficient in his professional work and knew his staff, the student learned by precept and example. He (Prof. Capon) gave place to no one in his respect for the first-class practising clinician; to him he represented the highest degree of excellence attained in the profession. But they did him less than justice if they assumed that by an active effort to broaden the basis of his knowledge and to cultivate wisdom he would thereby reduce his authority. A final question was whether a teacher could learn anything worth knowing of medical education in a three-weeks vacation course. He did not claim that such a course could do more than give a viewpoint, but here was the first stone of a foundation on which the teacher could build.

Discussion

In some discussion on the address Sir ADOLPHE ABRAHAMS, speaking as one who had been a teacher for 25 years and an examiner for 15, said that a clear distinction ought to be made between the two factors which were concerned in teaching—the teaching of students to pass examinations and the teaching of students to be practitioners of medicine. There were certain geniuses in the teaching world who could sustain this dual role, but he did not believe that a teacher could be "made"; the true teacher was naturally a teacher. No system of teaching would in itself produce the teacher-personality. He added that it was often urged that a general practitioner should be introduced from time to time to give students lessons in those particular parts of the art of medicine which were employed in general practice. He doubted whether that would be an advantage. The student who could follow the general practitioner on his rounds for a year would be in a different position, but that a general practitioner would be able to convey by ordinary teaching methods that particular skill which he possessed in the exercise of his practice seemed to him very unlikely.

Sir ERNEST ROCK CARLING suggested that they should ask themselves what kind of education they would like if they wished to be teachers of medicine. It must begin with the humanities. If a man had a real working knowledge of any of the Latin languages and literatures it was a very important beginning to his education. It was important that the teacher should understand the function of words and know what he was doing when he wrote or talked. Teachers in the future would have to do what they had not done in the past—namely, give instruction in the social aspects of medicine and in the maintenance and purpose of health. They would require a wide biological outlook on man, woman, and child. At some period in the apprenticeship which the future clinical teacher went through he must go into a place where research was conducted. He set very little value on the myriads of reports of research which were put out, particularly in America, but for some period the future teacher should work in a research laboratory. Then, since he must have the dual outlook in his teaching, he should himself have a full factual memorized knowledge of the whole literature and technical details of some small field, while no longer burdening his memory with factual material concerning the rest of medicine. Much could be learned by the teacher in travelling to clinics in this country and abroad, especially if he accompanied other teachers on such travels. This enabled him to keep right up to date in his work. Sir Ernest said that if he took on a chief assistant his plan would be for a year to lay himself out to teach him all he could; if the pupil was satisfactory he would continue him for a second year, during which he would expect him to help him, and if at the end of that second year he was still satisfactory he would in the third year put everything on his shoulders and merely stand by. Some plan along those lines would turn out a first-class set of young people. Dr. ALAN MONCRIEFF pointed out that in future a great deal of their teaching must be given to patients or potential patients, and the more one set out upon the care of the healthy as distinct from the care of the sick the more did medical practice become a purely educational process.

Correspondence

Demobilization of Doctors

SIR,—The rate of demobilization of medical officers in the Forces will be watched with critical eyes until demobilization is complete. So far there have been two phases. The first began with the end of the German War. The Royal College of Physicians was disturbed at that time by the general assumption that the demobilization of doctors in the Services could not keep pace with the release of other members of the Forces. It was even affirmed that the war with Japan, owing to the distances from our bases and the sickness rate, would be even more of a drain on medical man-power than the conflict in Europe and North Africa had been. Representations were made to those who had the power to act, and this phase came to an end when an order was given at the highest level for the demobilization, forthwith, of 1,600 doctors (the contribution from the Army was to be 1,100).

In consequence of this order the position was transformed overnight. It was no longer necessary to argue that the demobilization of doctors ought to keep pace with the release of other members of the Forces. It only remained now to make it possible by partial replacement for the Government to carry out its own policy.

Why is the partial replacement of demobilized officers necessary? Since the average age of Service doctors is higher than the rest of the Army, the number of doctors in the early groups for demobilization was correspondingly high. For example, when Group 11 had been demobilized 1,100 doctors were released—that is, 10% of all the doctors in the Army, while only 3% of the rest of the Army had been released; in other words, doctors were being demobilized three times as fast as the rest of the Army. Only when Group 26 was reached would the rate of demobilization be the same for both. But it is plain that the demobilization of the R.A.M.C., particularly of specialists, cannot continue indefinitely to outpace the rest of the Army, for the simple reason that a time would come when there would be no doctors left with the Forces. To ensure, then, that doctors can be released with their age groups, recruitment by the Central Medical War Committee must go on, otherwise medical demobilization will inevitably be slowed down. Replacement will of course be less difficult if an appreciable proportion of those who are eligible for release elect to remain in the Service. Of 1,100 doctors in the Army first due for demobilization, 250 have already asked for deferment of their release.

This, however, is a detail, if an important detail, in the machinery of demobilization. The second phase began with the order to which I have referred, which ensured that the demobilization of doctors would keep pace with that of other members of the Forces. In this phase it is the rate of demobilization of the combatant ranks which determines how quickly doctors are set free. That is alleged to depend on our commitments; it really depends on who is responsible for estimating those commitments. In time of war we are all content to leave this to the leaders of the Forces, but now that peace has come we have commitments on the home front which are even more urgent than those in occupied countries, and it is not within the province of the heads of the Services to assess those civil needs. If doctors are to be demobilized in time to meet civil emergencies, the estimates of the number of those who must be kept under arms will have to be revised by the Cabinet itself. We need more doctors in civil practice and we need them quickly. As things stand, by the end of this year the Army and the Royal Air Force will have released a quarter of their medical officers.

For some time the Royal College of Physicians has been considering what steps can be taken to ensure that in filling vacancies on the staffs of hospitals the claims of doctors now in the Services shall not be overlooked. Most of the hospitals in this country, large or small, have not filled the vacancies which have occurred in the last six years, and at the present time a large number of posts are vacant. The fort is being held by very senior members of the profession, many of whom for reasons of health or of years feel that they cannot go on now that the war is over. There is a danger that such vacancies may be filled before doctors in the Services are demobilized, and without their applications receiving the consideration they so plainly deserve. There is no simple remedy; there are many difficulties which confront anyone who is anxious to help. For example, hospitals may wish to interview the candidates, and we must at once concede that it will not be possible to bring applicants back from the armies of occupation for that purpose, for plainly if so much is conceded to one calling it cannot be denied to others. Once, however, an appointment is made, the procedure is simple. When a Service doctor is appointed to a vacancy on the staff of a hospital that hospital applies for his transfer to Category B for immediate release. Nor can we doubt that the Central Medical War Committee would support the release of the successful applicant, since the efficient staffing of hospitals is half the secret of an efficient health service.

When should these posts be advertised? The Demobilization Committee of this College believes that the vacancies ought to be staggered; for instance, one-third should be advertised immediately, one-third in January, 1946, and one-third on July 1, 1946. If such a suggestion is thought to be too rigid a hospital might be advised to advertise a reasonable proportion of such posts now, but in fairness to practitioners serving abroad no such appointments should be made for at least four months.

It matters little who gets the credit for speeding up the demobilization of doctors. Top marks ought to go to those members of the Coalition Government who were responsible for the order to which I have referred. I do not doubt that the present Cabinet will be equally sympathetic, for the health of the country is involved. It is not within the province of the Directors-General of the Medical Services to lay down the rate of demobilization, but once that has been decided I must testify to the energy and good will with which they proceeded to put their instructions into practice. They consented readily to serve on the College Demobilization Committee and welcomed junior members of their Services as colleagues on that committee. For my part, I owe a special debt of gratitude to General Hood, who made it possible for me and Dr. H. E. A. Boldero, the Registrar of the College, to go to Germany for five days with Prof. Stanley Davidson, to discuss on the spot problems associated with demobilization with more than half the medical officers in Germany, Holland, and Belgium.—I am, etc.,

London, S.W.1. **MORAN.**

Pernicious Anaemia and Cancer

SIR,—In 1933 (*Acta med. scand.*, 1933, **80**, 466; *Quart. J. Med.*, 1933, n.s., **2**, 281) I discussed the association of pernicious anaemia and cancer and added 6 cases of my own to the 29 definite cases collected from the literature at that time. Your annotation (*Journal*, 1944, **2**, 503) refers to the surprisingly high frequency (12.3%) of cancer of the stomach and pernicious anaemia noted by Kaplan and Rigler from an examination of post-mortem records and by Rigler, Kaplan, and Fink from an examination of a small series of patients radiologically. On looking through my own records I find a much smaller frequency; thus, in my first 1,600 consecutive patients with pernicious anaemia who have been under regular observation and treatment in my clinic during the last seventeen years I have observed only 28 patients (1.75%) with cancer; of these 12 (0.75%; 6 males and 6 females) had cancer of the stomach after 17, 11, 14, 5, 11, 8, 13, 5, 4, 1, 2, and 1 years respectively (an average of 7.66 years), while 1 developed pernicious anaemia at the age of 58 years, five years after the diagnosis and excision of a gastric cancer. Nine of the 12 were over 60 years of age when cancer was diagnosed.

In my series also 1 male with pernicious anaemia developed cancer of the caecum six years later, 2 (male aged 58; female aged 66) cancer of the colon after nine and six years respectively, while 2 females (aged 66 and 67 years) had pernicious anaemia diagnosed simultaneously with the diagnoses of cancer of the caecum and the colon respectively. Two patients with pernicious anaemia developed cancer of the pancreas after intervals of twelve and three years respectively, and 2 patients had pernicious anaemia with cancer of the throat, mouth, or tongue, 2 involved the uterus or vagina, and 1 had a breast cancer.

A radiological examination at six-monthly intervals of 1,600 patients is manifestly impossible under present conditions, and in my opinion is not necessary when these patients are under proper and regular supervision in an established clinic. It is important to be on the constant look-out for slight changes or recurrence of symptoms in adequately controlled patients with pernicious anaemia. Thus the gradual onset of vague dyspepsia, bowel disturbances, loss of weight, or anaemia in spite of adequate treatment with preparations of liver or stomach, and with the usual hydrochloric acid-pepsin mixture, should at once suggest further investigations, not only radiologically, but for the presence of occult blood in the faeces and changes in the fractional test meal.

As I have previously observed (*Quart. J. Med.*, loc. cit.) one must also be aware of the greater frequency of other diseases developing in or being associated with pernicious anaemia. Thus in the same 1,600 patients I have seen the development of diabetes mellitus in 28 patients, and thyroid disease (hyperthyroidism or myxoedema) in 36 patients. Here again slight changes in the well-being of the patient in the early stages, with the gradual onset later of the typical symptoms and signs of these three diseases, should immediately suggest further investigations and the appropriate additional treatments.

Obviously, with the considerable prolongation of life and the good prognosis in patients suffering from pernicious anaemia who are adequately and properly treated and kept under regular observations in special clinics, it must happen that these patients, in the ordinary course of things, will be liable to develop other diseases just as the normal individual may do if he lives long enough. Nevertheless, it is important constantly to keep in mind the possibility of complications such as these, so that early and proper treatment may prevent their further development and the impairment of the proper response of the pernicious anaemia to anti-anaemic therapy. It is essential that fully equipped haematological clinics should be established so that these cases and their treatments can be properly supervised at regular intervals, in the same way that diabetic clinics operate.—I am, etc.,

Royal Infirmary, Manchester. **JOHN F. WILKINSON.**

Effects of Choline

SIR,—The letter from J. A. Barclay, R. G. Kenney, and W. Trevor Cooke (Sept. 1, p. 298) and your subsequent leader (Oct. 27, p. 573) on the dosage and effects of choline chloride offer us an excuse to report the following experiments and observations.

The experiments were carried out in the attempt to confirm Davis's idea that heavy dosage with choline chloride depresses the blood count, and might possibly be used as the basis of a biological test for the activity of liver extracts for the treatment of pernicious anaemia. We took three rabbits and made daily counts of the red cells, white cells, haemoglobin, and reticulocytes. After a control period of one month we began treatment with single daily doses of choline chloride, 10 mg. per kilo by stomach tube. The dosage was increased at intervals of approximately ten days to 20 mg., 50 mg., and 100 mg. per kilo, but no change was observed in the behaviour of the rabbits or the condition of their blood. After forty days the dose was therefore increased to 500 mg. per kilo, but on the fifth day of this regime one of the rabbits had a convulsion and died shortly after receiving its daily dose of choline. There was no gross lesion post mortem, and there was no change in the blood count in any of the rabbits. Treatment was now suspended, and the other two rabbits were observed for a further fortnight, during which their blood counts remained as constant as ever.

Our conclusion from this small series of experiments was that it was unlikely that a simple method of assaying liver extracts could be devised along these lines. It is also evident that heavy dosage of choline chloride by mouth may be followed by sudden death, presumably due to stimulation of the parasympathetic nervous system. The fatal amount corresponds with a single dose of 30 grammes in man. This is not much more than the 20 grammes a day recommended by Barclay and his colleagues as the curative dose of choline chloride in man. When large amounts of choline chloride are administered in man the dose should therefore be fractionated, and the patient should be under careful supervision so that pharmacological antidotes can be administered in the event of a mishap.

We have given large doses of choline by mouth to two women with cirrhosis of the liver. A woman aged 58, with atrophic cirrhosis of non-alcoholic origin, received 5 g. three times a day for five weeks with no demonstrable effect, good or bad. A woman aged 22, with a more subacute type of cirrhosis, received the same dose, 5 g. t.d.s., p.c., but treatment had to be stopped at the end of a fortnight because of persistent nausea. In a third patient we used a much smaller dosage of choline chloride. This was a woman who contracted infective hepatitis during pregnancy and had been jaundiced for six weeks. She received choline chloride 2 g. a day for nearly a fortnight, and during this period her symptoms greatly improved.—We are, etc.,

SYLVIA M. LIVINGSTONE.
Oxford. L. J. WITTS.

Bronchial Embolism in Tuberculous Reinfection

SIR,—I think that your annotation on the pathogenesis of tuberculosis (Oct. 20, p. 537) dismisses the importance of bronchial embolism too lightly. You refer to some observations of mine and state: "The suggestion has been made that the frequent occurrence of reinfection lesions in the posterior parts of the upper lobes may be explained by the fact that foreign material, such as iodized oil, tends to be inhaled into these areas when the patient lies on his back and that tuberculous reinfection is therefore the result of bronchial embolism." This is not quite what I said. My first point was that the lung abscess affects the posterior subapical part of the upper lobe and the apical part of the lower lobes so frequently that an explanation is needed, and that bronchial embolism seems a reasonable and correct explanation. In order to show that bronchial embolism *could* cause a lesion in these sites my colleagues, F. Hodgkiss and H. O. Jones, and I (*Guy's Hosp. Rep.*, 1942, 91, 131) demonstrated that iodized oil could be made to enter these parts of the lung by simple posturing of the patient on his side or on his back. The association of inhalation of infected blood-clot, nasal secretions, etc., with a subsequent lung abscess is undoubted, and a parallel was then drawn with reinfection lesions in pulmonary tuberculosis. The radiological mimicry between a lung abscess and an acute tuberculous lesion may be so close that differential diagnosis may be impossible unless or until tubercle bacilli are found. This behaviour of tuberculosis is an observed clinical fact and demands an explanation. It was not my intention to suggest that it could be explained by inhalation experiments with iodized oil. These observations were made merely to show that such a mechanism is possible; the basis of the hypothesis rests on the study of numerous cases of undoubted bronchial embolism.

You also state that "it is difficult to see why the individual should be lying down when he acquires his infection." Here again I think the approach is incorrect. My argument was that it is *while the patient is lying down* that infection can occur and does occur in these parts of the lungs. That is a fact which must be accepted for further consideration and argument and is not to be dismissed by saying it is difficult to see why the individual should be lying down. You also state "a minute inhaled droplet might behave differently from a blob of iodized oil introduced artificially." I agree. The natural inference is that the mechanism of bronchial embolism is not by a "minute inhaled droplet"; the inhaled material must be larger in amount.

During working hours the larynx is on guard against inhalation of material from the pharynx; it is during sleep (and anaesthesia) that the guard is relaxed and material can enter the lungs. If the individual is sleeping in an infected room or ward, especially with a tuberculous subject, his nasal, oral, and pharyngeal mucus can certainly become infected and could then carry tubercle bacilli to the lungs. An individual exposed to infection during waking hours will sustain droplet infection of his nasal and pharyngeal mucosa; much of this will be washed away, but it is not unlikely that bacilli are held in crypts in lymphoid tissues and in other sites, and are liberated into mucus during rest and sleep and can then pass into the sites of election in the lungs. Saliva often collects in the mouth and dribbles on to the pillow during sleep; it must be equally easy for it to run back into the pharynx. Germs can reach the patient by droplet infection, but there is little evidence that they reach the lungs solely by droplet infection. I suggest the evidence points to their reaching the lungs by inhalation of gross material from the nose and pharynx, and particularly during sleep.—I am, etc.,

Guy's Hospital, S.E.1. R. C. BROCK.

Sequelae of Emphysematous Lung

SIR,—I was very interested in the article on massive surgical emphysema, pneumothorax, and pneumoperitoneum by Dr. Ronald Jones (Oct. 20, p. 530), in which he described in Case I an unusual sequence of events after intubation of the trachea with the bronchoscope. He states that after intubation there developed a surgical emphysema of the face and neck with deep cyanosis, which was associated with swollen tracheo-bronchial mucosa and a complete blockage of the right and a partial blockage of the left main bronchus. Four days later a radiograph of the chest and abdomen showed a right pneumothorax and pneumoperitoneum. Ten days later the pneumothorax and pneumoperitoneum had disappeared. Truly a problem at first sight.

I would venture to give a probable explanation in this case. It would appear to me that the outstanding feature was not so much possible damage to the tracheo-bronchial tree, causing a pneumomediastinum, as the blocking of the main bronchi. When this latter occurs over a short period of time there is a ball-valve action, with marked increase in the intrapulmonic pressure—i.e., more air enters the lung than can escape. Having achieved this temporary state of a ballooned emphysematous lung there are two alternative catastrophes, and both may happen: (*a*) a peripheral alveolus ruptures into the pleural space, causing a pneumothorax; (*b*) the rupture may take place through both visceral and parietal pleura in the region of the mediastinum, causing pneumomediastinum. I have seen pneumomediastinum occur in post-operative atelectasis, due to the forced expiratory coughing effect, which attempts to clear the bronchus and leads to rupture of the mediastinal pleura.

Having established pneumomediastinum the free gas or air has an interesting roving commission. It may travel in a cephalic direction or caudally: (1) in a cephalic direction as surgical emphysema into the neck, shoulders, and face; (2) caudally as two linear paravertebral gaseous shadows into the retroperitoneal space of the abdomen via the route of the great vessels through the diaphragm.

The retroperitoneal gas appears first in the subdiaphragmatic region, and radiographically and clinically is indistinguishable from pneumoperitoneum. There would be a tympanitic note in the upper abdomen, and the insertion of a needle into the flanks would allow the escape of gas. The retroperitoneal gas also passes into the flanks and perirenal region. The perirenal distribution is an important differential diagnostic factor from pneumoperitoneum. As Dr. Jones states, there is no communication between the retroperitoneal space and the peritoneal cavity, unless some obscure accident causes a breach in the peritoneum. This is unlikely. I feel that Case I was probably a marked degree of retroperitoneal gas simulating pneumoperitoneum. An interesting diagnostic test would have decided this point. In pneumoperitoneum the gaseous sites move to the most dependent portions when the patient is changed from the vertical to the lateral decubitus, but retroperitoneal gas remains fixed in its loose areolar space.

In retroperitoneal perforations of the gastro-intestinal tract, fortunately rare, the reverse of the above retroperitoneal pathway holds good—i.e., perirenal, the flanks, subdiaphragmatic, and on with the great vessels through the diaphragm into the mediastinum and neck. An acute abdomen plus surgical emphysema spells only one thing—a retroperitoneal perforation somewhere in the gastro-intestinal tract. A more detailed description of the behaviour of retro- and intra-peritoneal gas will be found in my address to the annual meeting of the Faculty of Radiologists under the title of "Investigation of Free Gas in the Peritoneal Cavity." This has gone to press and should appear in the November issue of the *British Journal of Radiology*.—I am, etc.,

Hull. J. E. BANNEN.

Epidemic Diarrhoea and Vomiting

SIR,—The account by Drs. George Brown, G. J. Crawford, and Lois Stent (Oct. 20, p. 524) of the outbreak last spring and summer in Salford tallies closely with the epidemic experienced in the East Riding over the same period. A very rough estimate suggests that perhaps 20,000 cases occurred in this county of only some 190,000 population, with possibly 1 in 4 being seen by a doctor. Recovery in a few days was apparently invariable, so that few faecal or other specimens were sent for examination except on the request of the laboratory. Though *B. sonnei* had shortly before been readily recovered from two-thirds of cases of a local dysentery outbreak, pathogenic organisms were noticeably absent from the 28 sample specimens from this widespread condition, and no agglutinations to *B. sonnei* were found in the 12 cases examined in a mental hospital group. A questionary to a few doctors scattered over the county elicited a clinical picture like that of the above authors, with liquid diarrhoea lasting three to four days in 100% of cases, vomiting for half a day to three days in 20% to 50%, and little else but a variable abdominal discomfort. It frequently spread through a family or community group, with intervals between cases of one to five days, probably more often spreading among those in contact than among those eating from a common source.

Such considerable economic loss as there has been this year, with the possibility of recurrence as in the Philadelphia outbreak described by Reimann, which has taken place the last two autumns, makes especially opportune the study of the Salford doctors.—I am, etc.,

Driffield Emergency Hospital, York. H. F. BARNARD.

REFERENCE

Reimann, H. A., Hodges, J. H., and Price, A. H. (1945). *J. Amer. med. Ass.*, **127**, 1.

SIR,—It was with a sigh of relief that I read the article by Drs. George Brown, G. J. Crawford, and Lois Stent (Oct 20, p. 524); and my gratitude to them is great. There was the exact description of an "epidemic" which has dogged my footsteps with its endemicity for all my ten years here. In Bedworth, a town of some 20,000 people, it has flared up about once a year—not at any set season—and often trespasses a bit into a neighbouring city. At each flare-up I should guess that 10% of the total population is affected, and I think that partial immunity develops. As for diagnosis, its maddeningly exasperating bacteriological negativeness sank into me eight or nine years ago (and my early efforts, which included sending a few cases into a city hospital, apparently did not start epidemics there).

Its absolute "non-fatalness" is mirrored in the fact that my patients and I have developed for it a pet name; we call it "Bed'orth disease"—i.e., we have developed a mental immunity, greater, fortunately, than our physical immunity. I believe it has been termed locally "gastric influenza," this name being started by a medical new-comer to the district, who was, perhaps, slightly less immune. As to treatment, it was early obvious (about 1936) that the traditional preliminary dose of ol. ric. was wrong; the treatment advocated at Salford has long been used here, plus the first 24 hours with water only (no milk) and in bed.

An interesting confirmation of the theory that some immunity develops has occurred this year. A community new to the district (240 people in a resident training college) arrived on June 1. On July 2 77 of them—i.e., 33%—reported sick, all within a few hours. The outbreak ran its usual mild course, and "mental immunity" was quickly caught by infection from their M.O. (a local practitioner). The college christened their unwelcome and uninvited local guest "the plague." The probability of personal partial immunity being possible is based on myself as a patient. My first attack (1936) was the worst, and subsequent attacks have become progressively milder. My first was very acute (with vomiting) for 24 hours; as I could not lie up I was mildly afflicted thereafter for two months.

I shall be interested to hear whether other districts of England, encouraged on to paper by the Salford report, have similar past histories.—I am, etc.,

Bedworth, Warwickshire. JOYCE HENRY.

SIR,—The writers of the article on epidemic diarrhoea (Oct. 20, p. 524) are undoubtedly correct in their surmise of the universality of this harmless type of diarrhoea. It would be interesting and highly instructive to know why these epidemics of one thing and another suddenly flare up all over the place *at the same time*. There is something of a superstition among we "old chaps," that grows with further experience, that many troubles which cannot by any stretch of the imagination be regarded as infections come in waves—e.g., accidents, births, deaths, particular types of non-infectious illness. I have recently, for example, seen three cases of coma within two days. It is months since I saw one before. Is this sort of thing really coincidence? It would be extremely interesting to keep track of such happenings over a wide field for some time, to see if we get waves or epidemics of such non-infectious happenings over wide areas at the same time. I suspect this to be the case, and suggest that the matter be investigated. Should this turn out to be so, it would suggest some common factor operating over wide areas at any given time—a factor that from the magnitude of the area involved could only be something that affected perhaps the human nervous system and through it the whole body economy.

I suggest that the cause is likely to be found in Lakhovsky's theory that cosmic radiation around the 8-metre band is responsible for the supply of electromagnetic energy which drives the body and its cells, and that meteorological and other conditions which vary the intensity of these radiations greatly modify the activity and even the health of the body cells. In his book *The Secret of Life* Lakhovsky appears to make out a very good case for his theory. If such life-giving electromagnetic radiation is subject to disturbances due to meteorological conditions over a wide area, why not, in the same areas, variations in the sensitiveness of the human nervous system leading at times to accident-proneness, the onset of labour, conditions favourable to the onset of certain types of disease, etc.? Here surely is a field for investigation that gives promise of being productive of most interesting and far-reaching results, not the least of which would be to settle the question of the "old chaps'" superstitions once and for all.—I am, etc.,

HUGH L. MACKINTOSH.

Pasteurization of Milk

SIR,—As one closely associated with the milk problem in medicine I feel that the letter written by Dr. Tudor Edmunds (Sept. 15, p. 367) calls for some comment. He is suggesting that pasteurization should be only a temporary measure, the main reason given being that the development of good herds and dairies will be neglected and that people will tend to call anything that is pasteurized perfect milk. I would refer the author to Prof. G. S. Wilson's very detailed report to the British Government on pasteurization of milk (1942).

I wish to state very emphatically that even if one attains clinically perfect herds and dairies it is still impossible to have 100% perfect milk. Even in a tuberculin-tested herd, or any first-class herd, tubercle bacillus, *Bacillus abortus* of Bang, not to mention all the streptococci, may abound. Now in Great Britain all city milk is of necessity "bulked"—tuberculin-tested and non-tuberculin-tested. One infected cow can, therefore, grossly infect up to 20,000 gallons of milk, and the poor unfortunate individual is drinking it under the impression that it is absolutely bacteria-free clean milk.

U.S.A. public health literature makes abundantly clear the great reduction that occurs in infectious diseases and tuberculosis when pasteurized milk is used. Conditions in U.S. dairies are much better than will obtain here for a great many years, if ever. The cost of pasteurization is minute when put against the cost of treating infectious diseases and tuberculosis, not to mention the damage and loss of life. The result is permanent, safe, and lasting. Pasteurized sewage is at least sterile and is probably preferable to tuberculin-tested milk with typhoid bacilli. Something practical for a change like permanent pasteurization is much better than theorizing on a beautiful scheme that gets no further than the M.O.H.'s desk.—I am, etc.,

RONALD R. J. R. CLARKE,
Tuberculosis Hospital, Machynlleth. Assistant Tuberculosis Officer.

The Child with Frequent Colds

SIR,—I am sure most general practitioners will have read the article by Drs. D. H. Irwin and E. Frankel on the child with frequent colds (Oct. 27, p. 566) with great interest and equally great disappointment that their conclusion as to treatment is that it is "entirely a problem for the ear-nose-and-throat surgeon." Although the authors say note was taken of the environment of the children, no further reference is made to this essentially important factor save a statement that the majority of the children came from middle- and artisan-class families. What would be thought of a psychiatrist at a child-guidance clinic if in investigating cases no study was made of the children's parents and sibs and general family and social background? Yet surely the child with frequent colds is as much a victim of his family and environment as his fellow with difficult or abnormal social behaviour. Little headway will be made with the problem until it is investigated on these broader lines and a serious endeavour is made to find the source of recurrent infections and not just to study the results.

In my experience as a general practitioner children with recurrent colds and throat infections can nearly all be classified in one of two groups: (1) those who commence their infection in infancy, often below the age of 9 months, and have attacks with such frequency that they are rarely well though usually ambulant; (2) those children whose infection starts when they first attend school.

The origin of infection of children in Group 1 is usually some older member of the family with a chronically infected throat or nose. They are largely of the poorer classes, where such factors as small rooms and overcrowding accentuate the intensity of infection, but they can also be found in higher social strata. One serious result of these chronically catarrhal and coughing children is that the mothers are no longer able to judge their state of health, and will send the children to school with severe colds and in the early stages of more severe infections, such as measles and pneumonia. Many of the children in this group would be much more benefited by the removal of their parents' tonsils than their own. The children in Group 2 get their frequent colds from the large mass of infection brought to school by the children in Group 1. This is helped by old, overcrowded, and badly ventilated school buildings. As the children grow through adolescence their colds become less frequent, but many develop permanently infected sinuses. They are the parents of the next generation, and so the cycle is complete.

This vast problem has many more aspects than can be dealt with in a letter, but I think it is only by the study, not of the individual child, but of the family in its biological setting (to use the words of Dr. Innes Pearse), that progress can be made.—I am, etc.,

Sittingbourne. F. M. MALLINSON.

SIR,—The article by Drs. D. H. Irwin and E. Frankel (Oct. 27, p. 566) appears to be a good example of modern medicine gone wrong. We are told the results of many investigations made, except the most important. Does the child normally keep its nose clear and breathe through it with the mouth shut? Apart from the statement that "in 33 cases the mothers complained that their children snored at night and were mouth-breathers," I can find no mention of this most important factor. Nor is it clear to me from the above sentence whether other children were mouth-breathers, though their mothers failed to complain about it; nor whether the mouth-breathing referred to is at night only, or in the day too; nor whether it was their usual practice or just when they had a cold. Nor is it emphasized that it is more than usually important to keep the nose clear and breathe through it when the child has a cold. The beneficial or other results of removal of tonsils and adenoids depend, too, mainly on this factor.

Lastly the authors say this "is entirely a problem for the ear-nose-and-throat surgeon, who should keep these children under supervision in a special clinic"; they might add "and teach them adequately to blow their noses." This is just the sort of thing the neglectful parents wish: they would do better to read page 165 in the current number of the *Health Education Journal*.—I am, etc.,

Pettswood, Kent. G. C. MILNER.

Psychosomatic Reactions

SIR,—Your annotation "A New Reaction to Emotion" (Oct. 13, p. 504) asked two extremely pertinent questions. It is becoming increasingly evident on clinical grounds that the suggestions inferred from such questions are indeed "probably true," in that there are other important physiological responses to emotional stimuli; and that there are other, as yet unidentified, hormonal activities associated with such stimuli, not only on the positive side, as shown so effectively by Verney and his co-workers, but also as a (? exhaustion) hypofunctioning along the same psychosomatic train of events.

Similar associations in clinical research tend to show that the prevalent curse of non-articular rheumatism may be intimately related to a psychosomatic reaction. While it has been recognized for many years that emotional or mental stress factors are operative in rheumatic cases, it has become evident during these last two years that there is certainly a type of generalized "fibrositis" showing a typical syndrome, of which the fibrositis is but a single symptomatic unit, and a unit of a syndrome closely associated with pituitary hypofunction. That this syndrome, in history, signs, and symptoms, is so strictly similar in each of these cases points to the probable association of the pituitary, which may well have a wider significance to rheumatic cases in general.

These cases have been prominent in their numbers recently, due, it is thought, to six years of emotional stimuli in various major and minor forms from bombs to queues. Contrary to the reaction described by Verney, which no doubt occurred at the time in these cases in a typical manner during the period of prolonged stimuli, they then develop the rheumatic complaint characterized by a hypofunction of the posterior pituitary—i.e., diuresis, polyuria, polydipsia, and an indurated swelling of typical tissues due to fluid retention leading eventually to an extremely painful state, which, for want of a better term, one designates an acute rheumatic panniculitis. Features of this syndrome other than fibrositis are tiredness, lassitude, both physical and mental, spontaneous or excessive bruising on minor trauma, flatulence, menopausal symptoms in women, increase in weight, rather rapid and weak pulse, and a blood pressure rather lower than normal. Some of these features may be ascribed to exhaustion of the sympathetic autonomic nervous system, but some are more directly attributable to pituitary hormonal control.

In my cases it has been found that the antidiuretic control may be rapidly regained by giving the posterior pituitary hormone in the preparation pitressin, but without evident effect on the rheumatic symptoms. *X*-ray examination shows typically normal outlines to the fossa. It is reasonable to postulate, therefore, in reference to your question that there are other hormones of the pituitary or hypothalamus probably associated in this psychosomatic cycle of physiological events. "Directed team research" is avidly and hopefully working along such lines, and for the moment, as a result of much biochemical research upon the blood, interest is now centred round the adrenocortical hormone of the anterior pituitary.

While in a more direct way to answer your question, a similar emotional psychosomatic reaction has been delineated as a laboratory biochemical reaction upon certain hepatic functions, drawing an interesting graph, since before the fall of Singapore, which closely parallels the emotional state of the populus in its reaction to bombs, politics, and peace.

The purpose of this letter, Sir, is therefore to underline the importance of the questions you have postulated, to comment upon the real value of these annotation reviews, and to stimulate research workers on non-articular rheumatism to review the very many closely associated features recorded of pituitary function in the light of their own particular field; and to summarize by stating that in the final evaluation of the pathogenesis of non-articular rheumatism an answer will probably have to be found to the further question: What functional activity or lack of activity in the hypophysis or hypothalamus can be shown to be paramount in these severe cases of generalized fibrositis?—I am, etc.,

London, W.1. HARRY COKE.

Surgical Catgut

SIR,—I believe I am correct in saying that before the war a large proportion of surgeons in this country used catgut made by a well-known American firm. This has been unobtainable during the war, so that those of us who used this catgut have had to use English makes which we had previously found unsatisfactory. The makers in this country have had a wonderful opportunity during the war of getting their makes established as favourites with surgeons, and thus increasing their sales and maintaining them when the American make is again available.

I have yet to use a British make of catgut which can be relied upon to be consistent in size and strength: the contents of tubes of the same nominal strength are often exasperatingly variable. This inconsistency seems to have increased considerably since the numbering of the sizes was changed a little time ago. The makers are aware of this variability in strength and size, for they make excuses for it. It may be difficult to overcome, but it is possible, as the Americans have shown.

Theatre sisters and retailers of catgut have told me that they will welcome the return of the American catgut so that complaints (and curses) from surgeons about catgut will cease. Is it too much to hope that now, at the eleventh hour, the British catgut-makers will endeavour to standardize their catgut so that this commodity need not be largely imported? There has been a large return to linen and cotton thread, but catgut is still necessary in places. Why, too, cannot the English makers maintain a standard length of tube for catgut? Many tubes will not fit into surgeons' sterile catgut containers.—I am, etc.,

London, W.1. JOHN HOSFORD.

Haematuria following Injection for Varicose Veins

SIR,—Surely the haematuria which sometimes occurs following ethamolin injection of varicose veins and referred to by Mr. Harold Dodd (Oct. 13, p. 510) is ominous. I met with one such case: a patient whom I injected several times as an out-patient and who consistently got profuse haematuria within the first twenty-four hours of injection. I have never been able to get an explanation of the occurrences. I had never heard of a similar incident until I read Mr. Dodd's letter. Can he suggest the pathogenesis?—I am, etc.,

London, S.E.13. W. KEVIN BARRY.

Chin-Chin!

SIR,—Your correspondent "Four Chins" in his interesting letter (Oct. 20, p. 547) advises "any fat person to count up the calories consumed regularly every day for some years back"; this, for a layman, would prove to be a rather tedious and difficult task. About 15 or 20 years ago "slimming" was the vogue, and patients occasionally consulted me regarding their over-weight. My simple but effective plan was to give the applicant on a slip of paper his or her normal weight for sex, age, and height, with instructions gradually to reduce in amount at each meal the ordinary diet, until the normal level was reached and maintained. Advice was given as to checking the weight on a reliable machine at regular intervals, say, weekly or monthly, and recording it, any difference in weight of clothing being noted. Those of us who were in practice at the time mentioned may remember patients who, from total avoidance of certain kinds of food which they believed were "fattening," induced some degree of ill-health, and we know that adiposity may have other causes than that of overheating.—I am, etc.,

Burgess Hill. W. W. SHRUBSHALL.

Psychiatry in the Services

SIR,—I was extremely interested in the letter by Wing Cmdr. K. Bergin. I would like to add my quota of experiences and express my opinion on the subject.

There is no doubt that the responsibility as regards the disposal of all psychiatric patients lies largely in the hands of the regimental medical officer. He needs to sort out his cases judiciously and exercise care when initiating a probable series of events which might culminate in "the final scene" of invaliding. I have never had a case returned to me by the psychiatrist without a recommendation of down-grading, and this has been the experience of many of my colleagues with whom I have discussed the matter. Presumably the psychiatrist—who, after all, has only seen the man for the first time in an interview lasting about half an hour—justifiably assumes that the patient has been regularly observed by the company commander and the medical officer, and that the latter has concluded that down-grading is the only possible solution. The ultimate problem is, therefore, the determination of the category in which the patient is to be placed, and this is decided by the higher authority.

I, myself, have been very cynical of some of these cases. When a man with ? anxiety neurosis relates his symptoms I almost invariably give him a little "pep" talk and ask him to report again in a week if there is no improvement. During this time I request that the company commander keep him under his observation. If the man returns—often he does not, my initial chat with him having been apparently successful—and says that the symptoms are the same or worse, I decide from my own observations and those of the company commander whether he should be sent to a psychiatrist.

The assessment of psychological dysfunction in the Army I find extremely difficult, and many so-called sufferers are often regarded as having "got away with it," especially when their condition after invaliding has been so much improved. But I am certain that in many cases invaliding in itself is the only successful treatment. In peacetime jobs these men have been relatively happy, and their tolerance of change is inherently low. When the change is of a military nature they, consciously or subconsciously, try every means to enable them to revert to their previous mode of existence by getting themselves invalided or their medical category reduced. Failure to obtain their objective will probably act as the seed for more severe psychogenic disorder. I consider, therefore, that many of these men who have been therapeutically down-graded or returned to civil employment and have benefited therefrom are true cases of low mental tolerance. Employing them as A1 soldiers might be risking irreversible mental ill-health.

I regret that there are many who have with repulsive cunning secured a far more tolerable existence than the average soldier. But until diagnosis in psychiatry is made more exact (and the ideal is extremely difficult to perfect), these cases are inevitable and will always infest the community of true sufferers, who might by the over-sceptical medical officer be regarded as malingerers and treated accordingly.—I am, etc.,

WILLIAM BRAND,
Uckfield, Sussex. Capt., R.A.M.C. (R.M.O.).

SIR,—In these enlightened days it is indeed disheartening to read Wing Cmdr. Bergin's comments on the disposal of psychoneurotics in the Services. That he has "become very cynical of these cases" is surely to admit defeat. His catalogue of neurotic symptoms is comprehensive, but his understanding of their mechanism is unfortunately coloured by an attitude of mediaeval mysticism. He is apparently obsessed by the notion that the psychoneurotic is possessed by the devil and that he is endeavouring with this preternatural skill to outwit the poor medical officer. In truth, such a battle is the creation of a closed mind.

Very few of these patients are malingerers. And in any case, in view of his maladaptation, should we not also treat the malingerer as a psychiatric problem? One does not have to be a Sigmund Freud or invoke the awesome precepts of the Oedipus complex to appreciate how such psychoneurotic manifestations as chronic headache, dyspepsia, palpitations, bronchospasm, etc., may arise. They are the physical expression of abnormal intrapsychic tension in the absence of structural changes. Indeed, they may be regarded as a valve-mechanism that acts as a safeguard against complete emotional blow-out.

In considering the nature of abnormal intrapsychic tension in Service personnel we may conveniently recognize two factors: (1) psychoneurotic predisposition; and (2) environmental stress. I think Wing Cmdr. Bergin will agree that Service life has its stresses. By far the great majority of people succeed in weathering this little storm, but those with neurotic predisposition "have the pants taken off them," laying them bare in all their emotional inadequacy. Such members are temperamentally unsuited to Service life, though, of course, they may be able to achieve equilibrium in some relatively quiet backwater in civil life.

It is high time we realized that emotional illness can be just as severely incapacitating as organic illness.—I am, etc.,

A. BALFOUR SCLARE,
Flying Officer, R.A.F.V.R.

Silverstone, Northants.

SIR,—Wing Cmdr. K. G. Bergin raises some interesting points which have not been dealt with by subsequent correspondence. All station and unit medical officers in the R.A.F. will sympathize with him, but it is unfair to blame the psychiatrists for becoming, as they have done, "the porter at the back door." It is true that many people who are unsatisfactory in the Services and who get invalided on grounds that are obviously not connected with loyalty are invalided on the recommendation of the psychiatrists, but it should be remembered that they were not taken in on the recommendation of the psychiatrists.

Where does the fault lie? Surely it lies with the civilization which we have built up. For years before the war, through the Press and other means, the danger of living and the necessity to conserve and preserve life had been stressed. One has only to read the advertisements of the Safety First Association, to say nothing of the advertisements of those who sold preparations for the prevention of constipation and "other evils of mankind." Self-preservation is a natural instinct. Courage or the anti-self-preservation factor is not an instinct but a factor to be inculcated. It is therefore really surprising that we have had as many courageous people as we have had.

In industry before the war it was being increasingly recognized that misfits in employment did not lead to better work or increased production. Similarly, in the Services misfits do not lead to better individual or collective work. War does bring a necessity sometimes to make pegs fit holes not designed for them. To what extent we are prepared to ram the pegs in is another matter. Other nations, perhaps, are prepared to do this by inhuman means. That, surely, is one of the things we have been fighting against. It is a problem of society and not of the Services. Admittedly it is unsatisfactory to the more loyal to see the less loyal getting out on psychiatric grounds, but this does not make these psychiatric grounds any less justifiable in the interests of the individual and of the team which their presence has been seriously handicapping. The remedy lies in better psychiatric control of our outlook and civilization. The fact that Wing Cmdr. Bergin gets good results by disciplinary action does not prove that disciplinary action is the method in any but a very small percentage of cases.—I am, etc.,

London, W.C.2. RICHARD W. DURAND.

SIR,—Wing Cmdr. K. G. Bergin's letter interested me greatly, for I have long had somewhat similar views with regard to the methods of dealing with cases of the "escape mechanism" type described by him. I can also confirm by examples that as soon as an airman obtains his desire a startling transformation occurs and his symptoms appear to vanish completely, but I have noticed this happen in a good number of cases not invalided but whose category had been lowered to home service only. I have seen airmen, frequent attenders on sick parade, be temporarily down-graded and never be seen for the next six months, then to reappear with symptoms as soon as they realize they may be up-graded and be fit for over-seas again.

I cannot, therefore, agree that "the first step on the downward path is now taken" as soon as the medical category is lowered and the patient's oversea service restricted. In my view a temporary lowering of category to service at home enables many patients to carry on serving, and since the end of hostilities I have also been surprised at the number who express a desire to have their original category restored after their period of temporary down-grading has expired. This would appear to indicate that in the lower age-service release groups patients have come to the conclusion that they are now "safe" so far as oversea service is concerned and symptoms are no longer necessary. There is also the fact that they have to find civilian employment soon, when a "reduced" category may be a drawback.

The answer, so far as I can see, is to distinguish where possible between those showing mainly "affective" symptoms and those showing mainly symptoms of hysteria (the "escape mechanism" type), for it is this latter who apparently do well with a little more discipline and benefit more by action by the executive rather than by the medical officer. The former, in my opinion, are a bad risk and ought to be invalided before they really develop fully: it is they who will be a problem in "civvy street."—I am, etc.,

Tealing. J. LAURIE, Squad. Ldr.

Medicine in the U.S.S.R.

SIR,—When I wrote to you on Oct. 2 in connexion with Dr. Norman Henderson's letter (Sept. 1, p. 302) I assumed that, as is usually done, Dr. Henderson would in reply put forward some facts in explanation of his statement: ". . . in the event of a full-time medical service failing (as it has to a large measure in Russia) . . ." In the *Journal* of Oct. 13 (p. 514) you printed my letter together with Dr. Henderson's reply to Dr. Culbert and Dr. Fieldman. Evidently you, Sir, took it that this reply would serve as an answer to my letter as well, and thus the question could be considered as closed. Since to me, as a Soviet doctor, this method of criticism in a medical press appears strange, I feel compelled to draw attention to the following facts.

(1) In his reply to Drs. Culbert and Fieldman Dr. Henderson did not prove by facts or basic investigation of the subject of discussion anything that would give foundation for his allegation. As such data do not exist Dr. Henderson seems to draw his own inferences from literary sources such as *Red Surgeon* by Borodin, and to refer his statement to Prof. A. Semashko's quotation: "The most popular doctors and professors are able to earn extra money from private medical practice in addition to their salary from the State." Even if the above is a quotation from Prof. A. Semashko, one wonders why Dr. Henderson wishes to bring this statement as evidence of the failure of full-time medical service in the U.S.S.R. Although private medical practices exist in the U.S.S.R. on a legal basis, that does not, to any extent, affect the efficiency of full-time medical service. Trying to escape the difficult position created by the question of full-time medical service, Dr. Henderson suddenly turns to the Institute of Experimental Medicine in Moscow, and attempts in one sentence to bring into a doubtful light the activities of this, one of the oldest and greatest medico-scientific institutions of the Soviet Union. It is quite obvious in all his inferences Dr. Henderson lacks a sober attitude to the matter in question.

(2) I have found nothing in the February, 1945, issue of the *American Review of Soviet Medicine* that would corroborate Dr. Henderson's criticism of the Soviet medical service. It therefore appears that Dr. Henderson is not correct in referring to that journal.

(3) We consider that the mutual interests of the medical workers of Great Britain and the Soviet Union deserve to be given a more serious and basic study of medical questions in both countries than Dr. Henderson does. Only then mutual help and fundamental criticism will bring even nearer the medical workers of Great Britain and the U.S.S.R.

Although you state that correspondence on this subject cannot be continued, I feel it is most necessary to have this letter published.—I am, etc.,

London, W.2. S. SARKISOV.

⁂ Out of respect for Prof. Sarkisov we allow him a last word. Dr. Henderson has already had much space and must be content with the reply he has given to two other readers who challenged his statement about Russia.—ED., *B.M.J.*

Obituary

JAMES SHERREN, C.B.E., F.R.C.S.

Mr. James Sherren, consulting surgeon to the London Hospital, who died at his home, White Barn, Broadstone, Dorset, on Oct. 29 after a long illness, had a remarkable career.

He was born in 1872 at Weymouth, the eldest son of J. A. Sherren, and went to school at Weymouth College. With an inborn love of the sea and ships he left school early and served before the mast. After hard and testing experiences at sea he quitted that life to enter as a medical student at the London Hospital, winning distinction in anatomy and physiology and scholarships in medicine and obstetrics. He qualified at the age of 27, and took the F.R.C.S. in 1900. His ability soon made its mark and he was appointed demonstrator of anatomy and surgical tutor in the Medical College, and in 1902 was elected assistant surgeon to the hospital. This was at a time when abdominal surgery was making rapid progress, and Sherren, following the footprints of Frederick Treves, took every opportunity to gain experience in this branch of work. He also did pioneer research with Henry Head on the peripheral nervous system and published in 1908 a monograph on *Injuries of Nerves and their Treatment.* During the war of 1914–18 he served with the rank of colonel, A.M.S., as consulting surgeon attached to the War Office, surgeon to the King George Military Hospital and to the King Edward VII Hospital for Officers, and consulting surgeon to the Yarrow Military Hospital in Broadstairs. His war services were rewarded by the C.B.E. in 1919.

[*Lafayette, Ltd.*

At the Royal College of Surgeons of England he had been Erasmus Wilson lecturer in 1906, Hunterian professor in 1920, and Bradshaw lecturer in 1925 on gastro-jejunostomy. He examined in anatomy for the Primary Fellowship, was for a short period a member of the Court of Examiners, served on the Council of the College from 1917 to 1926, and as vice-president for two years; he examined also in surgery for the University of London and was a member of the Senate. At the age of 54, and at the peak of his surgical career, with a very large consulting and operative practice, Sherren suddenly gave up his hospital appointments, left London, and went back to sea as a ship's medical officer. When he finally settled on his estate at Broadstone he did not altogether abandon professional work but gave service for some years as surgeon to the Cornelia and East Dorset Hospital at Poole.

He joined the British Medical Association in 1906 and held office as vice-president of the Section of Surgery at the Annual Meeting in Nottingham in 1926, just before his retirement from work in London. Apart from the book on nerve injuries he contributed to Choyce's *System of Surgery* and published *Lectures on the Surgery of the Stomach and Duodenum* in 1921; he had also been joint editor of Sir Robert Hutchison's *Index of Treatment*, and wrote some of the articles in the earlier editions.

Mr. H. S. Souttar writes:

The passing of James Sherren closes a unique career and removes a figure memorable in the story of the London Hospital. To go to sea before the mast, to rise in a few years to be first mate on one of the great shipping lines with a master's certificate, to leave the sea, start afresh as a medical student, and reach the surgical staff of a great London teaching hospital by the age of 30, argue ability and driving force of the rarest quality. To those of us who had the good fortune to know him at the London Hospital those were his most distinctive characters, and we still feel the power of their infection. He was a great surgeon and a great teacher, but it will always be as a real man that we shall remember him.

He qualified in 1899, and after that his progress was without parallel. After holding all three house appointments, H.P., H.S., and R.A., he became surgical registrar in succession to Henry Newland, whose career in Australia was to emulate his own, but he held this post for only one year, for in 1902 he was appointed to the surgical staff of the hospital. In spite of a very busy post he managed to find time for a research with Henry Head upon injuries to the peripheral nerves which still remains of fundamental value, but with the death of H. L. Barnard in 1908 he took up the field of abdominal surgery to which Barnard had made such brilliant contributions. He had found his true vocation, and it is as one of the creators of modern gastric surgery that his name will be remembered.

He developed a large surgical practice, but he never allowed it to interfere with his hospital work, and if his demands upon his assistants were sometimes reminiscent of his early days at sea, he never spared himself, and served his patients with a rare devotion. Yet he still had one other great passion in music, for he was a fine performer on the violin, and every week a group of professionals met at his house to spend an evening in classical quartettes. He never spoke of it to us, but those of us who knew him realized that in his life there were three great loves—the sea, music, and his work.

His manner of leaving the hospital was characteristic of the man. One afternoon when he had finished his operation list he took off his gloves, and going over to the Sister said, "Good-bye, Sister; that is my last operation." He shook hands with the others in the theatre, and went down alone in the lift. In the front hall was standing the secretary, Mr. Morris, the only man who knew he had resigned, holding his hat and coat. The hall porter came forward to turn out his light on the board, but he waved him away, stood for a moment looking at his name, and then himself turned off the switch. With one pressure of Morris's hand he left for ever the scene of all his triumphs. He had gone back again to his real love, the sea.

R. D. GILLESPIE, M.D., F.R.C.P.

Dr. R. D. Gillespie, who died on Oct. 30 at the age of 47, was physician for psychological medicine at Guy's Hospital and had identified himself with the York Clinic there. He became civil consultant to the Royal Air Force in September, 1938, entered the R.A.F.V.R. on the outbreak of war, and relinquished his commission as air commodore on account of ill-health last April. At the end of 1941 he went to the United States to report to the American medical profession on the psychological effects of air warfare on the British people, and gave the Salmon Lectures in New York on psychoneuroses from the standpoint of war experience. He lectured also in Canada, and after his return described in this *Journal* (for which he often wrote) a survey by the American Committee for National Morale under the heading "German Psychological Warfare" (April 4, 1942). In the B.M.A. he served as secretary of the Section of Mental Diseases at the Annual Meeting in Edinburgh in 1927 and vice-president of the Section of Neurology and Psychological Medicine in 1937; he was also a member of the Committee on Mental Health set up in 1938.

[*Press Portrait Bureau*

Prof. D. K. Henderson writes:

The untimely death of Robert Dick Gillespie has come to all of us who have been closely associated with him as a shattering blow. There has been removed from our midst a man who was at the very height of his powers, a man who had made many brilliant contributions to psychiatry, and who was loved and respected by all those he had inspired and influenced. At this time it is difficult to collect one's thoughts, so as to do adequate justice to his attainments and to determine the place he had come to occupy, both in this country and abroad, among his medical colleagues. I had known and been associated with him throughout his entire professional career. The bonds between us were very close, and I pay my tribute to his memory and his accomplishments with a sore heart.

He was born and brought up in Glasgow, was educated at Hutcheson's Grammar School and at Glasgow University. Both at School and at the University he greatly distinguished himself, gained many honours, and easily outdistanced the majority of his fellows. After graduating M.B., Ch.B. in 1920, he held appointments as house-physician and house-surgeon with Prof. Stockman and Mr. Edington at the Western Infirmary, Glasgow, and there laid the foundation of a brilliant clinical career. While he was always interested in the problems of general medicine, yet he was more especially attracted to the study of psychiatry and decided to devote himself to it. I can remember as if it were yesterday the day on which he came to see me to ask my advice as to how he might organize his future course of study. He was in the garden of my house in Glasgow and eagerly inquired what books he should read so as to prepare himself for his future work. He was rather puzzled and taken aback when I told him that what I wanted him to do in the first place was to apply himself to the care and management of patients and to base his reading on his practical experience.

I was delighted to appoint him as an assistant physician on the staff of the Glasgow Royal Mental Hospital, Gartnavel. From the first he revelled in his work, his interest grew, he gained the confidence of patients and staff, and showed his ability to formulate his views and express them cogently. I know of no one who could so readily and aptly translate his thoughts to writing; literary expression never seemed to cause him the slightest trouble. It was during that period in July, 1923, that we first collaborated as co-authors and published a paper in the *American Journal of Psychiatry* dealing with the problems of the care and treatment of ex-Service men incapacitated mentally as a result of their war experience. That was a problem very near his heart because he had been bitterly disappointed when he was not considered physically fit for military service. At the end of his clinical training with me he applied for and obtained a McCunn Scholarship in the Department of Physiology in Glasgow University. While there he applied his mind to the problem of fatigue, produced an interesting and original thesis, and was awarded a gold medal for the degree of Doctor of Medicine, Glasgow University.

We had often discussed the advisability of increasing his experience by visiting the United States. To enable him to do so he was awarded a Henderson Research Scholarship and was appointed assistant psychiatrist on the staff of Prof. Adolf Meyer at the Henry Phipps Psychiatric Clinic, Johns Hopkins Hospital, Baltimore. This was an absorbing period in his life. He enjoyed his work there, he made many friends, he was ever grateful for the kindness and hospitality which he received. On his return to Glasgow and while a further appointment was pending I asked him to collaborate with me in writing a *Text-book of Psychiatry* so as to embody and introduce into British psychiatry the psychobiological viewpoint of Adolf Meyer which both of us had found so stimulating. The first edition of our textbook was published in 1927, and ever since that time we have been in the closest association. The success which that book has attained has been due in great measure to Gillespie's enthusiasm, his literary ability, and the apparent ease with which he kept so fully in touch with all the rapid advances in psychiatric work. He had a sure and accurate touch, a fine critical sense, clinical insight to an exceptional degree, and he inspired the confidence of patients and students so that as doctor and teacher he gained the respect and friendship of all associated with him.

In the meantime he was awarded the Pinsent-Darwin research scholarship in mental pathology, University of Cambridge, and was also for a time assistant physician at the Cassel Hospital, Penshurst, Kent. While there he became an ardent admirer of the late T. A. Ross and was influenced considerably by Ross. In 1929 he was called to succeed Sir Maurice Craig as physician for psychological medicine, Guy's Hospital, and lecturer in psychological medicine, Guy's Hospital Medical School. A mere statement of the appointments held, the honours which came to him, and the busy consulting professional life which he led all packed into a short life would have been sufficient to test the endurance of the physically strong among us. Many of us wondered how his slight frame could endure the strain as well as it did, because he never spared himself and responded generously to all the claims which were made upon him. During all this time, in addition to his hospital work and his life as a consultant, he was writing and publishing articles of outstanding merit. His papers, for instance, dealing with hypochondriasis, the association of anxiety states with skin diseases, the psychology and psychopathology of childhood, constitutional psychopathy, and numerous others indicated a fertile mind and easy pen which are given to few. He also found time for more extensive contributions, and his books dealing with *Sleep* (1929), *The Mind in Daily Life* (1933), and his memorable Salmon Lectures delivered in the United States in 1941 on the *Psychological Effects of War* show the breadth of his viewpoint, his interest in social medicine, and his sympathetic understanding of those whom he delighted to help.

During the war years he willingly sacrificed his wide professional and personal interests to serve in the Royal Air Force, and attained the rank of air commodore. I know that his advice was widely sought and approved of and that his judgment was at all times greatly valued. Towards the end of this war period he saw one of his dreams come true—the completion and opening of the York Clinic, Guy's Hospital, the first psychiatric clinic in this country in association with a general hospital. If he had been spared I believe that he would have made this clinic into one of the most valuable training grounds for psychiatry.

Apart from the professional side I would like to take this opportunity to testify to the man himself. Robert Gillespie devoted himself heart and soul to the work which he loved, and in consequence it was not easy to get into touch with his underlying personality. He was handicapped to a considerable extent by his general physique, which was never robust, but yet in his younger days I remember the enthusiasm he showed and the interest he took in captaining the Cricket XI at the Glasgow Royal Mental Hospital. He was a bowler with a deceptive swerve which enabled him to outwit the opposing batsmen and take many wickets. He enjoyed those Saturday afternoon matches and allowed himself to be spontaneous to a degree which many of his later-day colleagues would hardly credit. He had wide cultural interests, was well read in all branches of poetry and prose, and in conversation had a ready and nimble wit which could relieve many an awkward situation. We had many happy times together which it will be a never-failing pleasure to recall, but his passing leaves a blank which it will never be possible to fill. A great man, a loyal friend, and a psychiatrist whose achievements will always do honour to British medicine.

Dr. Frederick William Kerr Tough, who formerly practised at Leith, died in the Western General Hospital, Edinburgh, on Oct. 24. He had studied medicine in Edinburgh, took the Scottish triple qualification in 1901, and was admitted a Fellow of the Royal College of Surgeons of Edinburgh in 1903 after serving as a civil surgeon in the South African War. During the war of 1914–18 Dr. Tough held a commission as major in the R.A.M.C., and later received the Territorial Decoration. On returning to civil life he set up in practice at Leith, where he had been house-surgeon at Leith Hospital. During the second world war he held a commission as major in the Canadian Army, in which one of his two sons is serving. Dr. Tough joined the British Medical Association in 1908 and was a member of the Scottish Committee in 1931–2.

News has been received from Barbados of the death of Dr. Stanley Branch, who had been a member of the B.M.A. for 45 years. He died on Aug. 6, after a very brief illness, at the age of 73. He was fourth in the direct line of a family of medical men, and one of his sons, Dr. Gordon Branch, of the West African Government Service, carries on this tradition to the fifth generation. Stanley Branch received his medical training at the University of Edinburgh, graduated M.B., Ch.B. with honours in 1898, and took the D.T.M. of Liverpool some years later. After holding appointments in St. Lucia, Uganda, and St. Vincent, he was seconded as director under the International Health Board campaign for eradication of hookworm disease in St. Lucia, and held that post until 1924, when he was appointed chief medical officer and health officer for St. Vincent, retiring in 1935. His four sons were all in the Forces during this war, and two are still serving.

Universities and Colleges

UNIVERSITY OF LONDON

Dr. G. A. H. Buttle has been appointed to the University Chair of Pharmacology tenable at the College of the Pharmaceutical Society of Great Britain as from Oct. 1, 1945. For the past six years he has been officer commanding Base Transfusion Unit M.E.F. and 21st Army Group, and latterly consultant for blood transfusion to the War Office.

The title of Reader in Nutritional Science in the University has been conferred on Gladys A. Hartwell, D.Sc., in respect of the post now held by her at King's College of Household and Social Science.

London School of Medicine for Women

Miss Elizabeth Bolton, C.B.E., M.D., B.S., has been elected to the office of President of the London (Royal Free Hospital) School of Medicine for Women on her retirement from the office of Dean. Miss Katharine Lloyd-Williams, M.D., B.S., has been elected Dean in succession to Miss Bolton. The Hon. John Mulholland has been elected Honorary Treasurer of the School in succession to Lord Rennell.

UNIVERSITY OF WALES

The following candidates at the Welsh National School of Medicine have satisfied the examiners at the examination indicated:

M.B., B.CH.—*Hygiene:* T. J. Anthony, A. H. Beynon, Norah C. Curran, D. K. L. Davies, G. E. Davies, G. R. Davies, E. D. Edwards, Gwenllian M Griffith, D. B. Harries, J. M. Hughes, A. S. Jones, Nest Jones, R. L. H. Jones, Mary Lawrence, Bernice G. Lewis, J. M. Lewis, R. Medlicott, Goronwy Owen, Barbara M. Parker, B. F. Richards, Beryl P. Roberts, K. I. Roberts, Jean T Smith, S. L. Stone, W. D. C. Thomas, J. G. Tomkins, D. M. Watkins.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

The Earl of Athlone and Princess Alice visited the Royal College of Surgeons in Lincoln's Inn Fields on Oct. 26, and, after taking luncheon with the President and members of the Council, toured the buildings and inspected plans for rebuilding the damaged parts.

Twelve surgery lectures will be delivered at the College (Lincoln's Inn Fields, W.C.), beginning on Monday, Nov. 12, and ending on Thursday, Dec. 6, at 5 p.m. on each day. Details will be published in the diary column of the *Supplement* week by week. Fellows and Members of the College will be admitted free of charge, but a fee of £2 2s. is charged in the case of others. Tickets may be obtained from the secretary of the College.

The following candidates were successful in the recent Primary Fellowship Examination: D. Aiken, C. E. Baker, E. V. Barling, A. E. Bartolo, J. Borrie, A. Brown, J. Davies, D. H. L. Evans, C. O. Fung-Kee-Fung, R. H. Gardiner, J. L. Gild, G. W. V. Greig, G. F. Homer, J. P. Jackson, R. N. Jones, A. Klidjian, D. W. Lacey, J. W. McNamara, G. E. Mavor, F. T. Moore, T. K. Morgan, G. B. Morris, K. W. Priddis, R. G. Robinson, W. J. W. Sharrard, R. H. Shephard.

ROYAL COLLEGE OF OBSTETRICIANS AND GYNAECOLOGISTS

Prof. Leonard Parsons, M.D., F.R.C.P., F.R.C.O.G., will deliver the sixth William Blair-Bell Memorial Lecture, entitled "Ante-natal Paediatrics," on Friday, Nov. 23, at 5 o'clock in the library of the College House, 58, Queen Anne Street, London, W.

The following have satisfied the examiners and have been awarded the Diploma of the College:

D. W. Bentinck, K. J. R. Cuthbert, Ada I. Date, Ann Donnelly, W. Donovan Mary Downey, Mary M. Essex-Lapresti, Margaret Fitzherbert, S. F. Hans J. O. Harrison, D. W. James, P. S. Jaikaran, G. T. Johnson, J. C. Miller, G. W. Mills, Marjorie B. Morton, D. C. Mundy, Diana J. Myott, J. R. Owen, Ada V. V. Parkes, A. J. Partridge, S. S. F. Pooley, D. P. Jones, O. A. Schmidt, Victoria M. D. N. Shaw, L. S. Stephens, C. E. R. Wood, G. Worden, and J. H. Young.

CONJOINT BOARD IN SCOTLAND

The following candidates, having passed the final examinations, have been admitted L.R.C.P.Ed., L.R.C.S.Ed., L.R.F.P.&S.Glas.:

M. Amin, J. Batchelor, E. J. Bates, G. H.-F. Beith, C. K. Black, R. Burns, W. K. Christopher, S. J. Gelman, J. N. Gould, J. A. Gowans, Hilda Granat, D. Groad, S. Hillman, Ll. B. P. Jones, H. R. Levine, S. G. Loh, D. W. A. McCreadie, I. A. MacGregor, A. B. Mackenzie, A. A. R. Meek, A. S. Mitchell, A. Moselhi, F. A. Murray, W. M. Murray, S. R. Orens, A. C. Parry, A. G. Pollacchi, Margaret MacL. Roake, J. N. Robertson, D. O. Stonewall-Payne, W. R. Taylor, Y. E. Zaki.

L. Nabel, M.D., graduate of a recognized foreign university, was also admitted a Licentiate.

R. B. Logue and J. F. H. Hanson (*Amer. Heart J.*, 1945, **30**, 205) record a case of complete heart-block occurring in the pre-eruptive stage of rubella in a man aged 23. The heart-block was of short duration, and at the end of two weeks the conduction time had returned to normal and the infection had subsided.

The Services

Col. W. E. R. Dimond, C.I.E., O.B.E., I.M.S., V.H.S., Major-Gen. D. V. O'Malley, O.B.E., I.M.S., V.H.S., and Col. R. N. Khosla, O.B.E., I.M.S., have been appointed Honorary Surgeons to the King in succession to Cols. W. C. Spackman, I.M.S.(ret.), and B. C. Ashton, C.B.E., I.M.S. (deceased), and Major-Gen. H. J. M. Cursetjee, C.S.I., D.S.O., I.M.S.(ret.), respectively.

Temp. Acting Surg. Cmdr. A. C. K. Yates, R.N.V.R., has been awarded the D.S.C., and Temp. Surg. Lieut. P. H. Cardew, R.N.V.R., has been mentioned in dispatches for gallantry, skill, and great devotion to duty while serving in one of H.M. ships during the operations performed in collaboration with the U.S. Pacific Fleet in the capture of Okinawa and the Nansei Shoto area, over a period from March 26 to April 20, 1945.

Major-Gen. Sir P. S. Tomlinson, K.B.E., C.B., D.S.O., retired pay, has been appointed Colonel-Commandant in succession to Major-Gen. J. W. West, C.B., C.M.G., C.B.E., retired pay, who has attained the age limit for the appointment.

Major (Temp.) D. L. Charters and Capts. A. L. Cochrane and R. F. K. Webster, R.A.M.C., have been appointed M.B.E. (Military Division) in recognition of gallant and distinguished services while prisoners of war.

Capts. J. H. Patel and V. K. Pillay, I.M.S., have been mentioned in dispatches in recognition of gallant and distinguished services in the field.

Capt. J. G. Lawson, R.A.M.C., has been mentioned in dispatches in recognition of gallant and distinguished services in the field.

It was announced in the *Journal* of Aug. 4 (p. 168) that Major (Temp.) W. M. Macleod, R.A.M.C., and Capt. R. Ramachandra, I.A.M.C., had been mentioned in dispatches in recognition of gallant and distinguished services in Italy. These names should have read Major (Temp.) W. Macleod, R.A.M.C., and Capt. R. R. Rao, I.A.M.C.

Freed in the Far East.—Major H. G. G. Robertson, R.A.M.C.

CASUALTIES IN THE MEDICAL SERVICES

Died.—Capt. James Raymond Dunn, R.A.M.C.

Died at a prisoner-of-war camp in Malaya.—Major John White, I.M.S.

Died at Changi Prisoner-of-war Hospital, Singapore, of beriberi.—Capt. John Diver, R.A.M.C.

Previously reported missing at Arnhem, now officially presumed killed in action.—Capt. Percy Louis, R.A.M.C.

Missing from Sumatra end of Feb., 1942.—Surg. Cmdr. T. C. Stevenson, R.N.V.R.

Medical Notes in Parliament

Christian Science "Nurses"

Mr. LINSTEAD on Oct. 17 moved that the Nurses Regulations (1945) Order made by the Minister of Health under Proviso (b) of Subsection (1) of Section 6 of the Nurses Act, 1943, be annulled. He said that it was an offence for any person not a registered nurse to use the title "nurse" either alone or in combination with any other word. There was a proviso under which the Minister could make regulations authorizing the use by specified persons of specified names or titles containing the word "nurse." Under that proviso the predecessor of the present Minister of Health made a regulation providing that any person recognized by the Church of Christ Scientist as qualified for employment by members of that body might use the title of "Christian Science Nurse." He made no reflection on the Christian Science Church and had seen the authorities of that Church. These explained that before the war trainees were sent to America for the course at a Christian Science school followed by experience in a Christian Science nursing home. Since the war their training had consisted of experience for nearly two years in a Christian Science nursing home. There was no preliminary education, qualification, or examination. There was no statutory register and no oversight of their work. In the case of State-registered nurses in this country there were a high preliminary qualification, certificates of examination, a set course of training, and a State register with disciplinary control by the General Nursing Council. Far less than justice was done to the State-registered nurse by allowing this other group of practitioners to use the name and title of "nurse." When in the Public Health Act, 1936, Section 193 gave an exemption in respect of Christian Science nursing homes this was only done on condition that they were not called nursing homes. He suggested the application of that precedent so that if Christian Science nurses were exempted it should be on condition that they described themselves as "attendants on the sick" and not as "nurses." Mr. MESSER seconded the motion, saying that the General Nursing Council and the Royal College of Nursing both opposed the exemption of Christian Science nurses.

Mr. ALFRED EDWARDS opposed the motion and said the matter had not been slipped through the House. There had been a thorough investigation and a special reference to Christian Scientists which had caused the House to insert the name "Christian Science Nurses." He said these nurses had a thorough training, and a large proportion of them were trained medical nurses who had become Christian Science nurses. They must be recognized like other nurses by a competent body, and there could be no confusion as each must use the title "Christian Science nurse."

Mr. ANEURIN BEVAN said the merits of Christian Science were not at issue. The House was discussing whether in the interests of legal clarity and the nursing profession a people who had not the qualifications which nurses professed should be described as "nurses." The lack of nurses in this country had reached a crisis and was not due entirely to the existence of this regulation. Nevertheless nurses had represented to him that they regarded this exception as one which derogated from the status of their profession. He asked the mover of the motion to withdraw it, and suggested a meeting for the purpose of considering whether a form of words could be found which would be agreeable to all parties. He was bound to say that the concession must come from the advocates of Christian Science, and that if there was to be a modification that modification must be at the expense of those words. After such a discussion he could easily make an amendment to the Regulation. No one would lose his rights and the Regulation could always be annulled. He would take steps to see that organizations which ought to be consulted were consulted. The motion was then withdrawn.

Paper for Book Publishers

Mr. JOHN WILMOT announced on Oct. 22 that the allocation of paper to book publishers generally was being raised as from next month to 65% of their pre-war consumption. He could not say what tonnage of this was used for educational books. The Board of Trade also administered a special reserve to make possible the publication of important books which would not otherwise be produced. A large proportion of this reserve went to educational books.

Infant Mortality in Malta

Mr. HYND stated on Oct. 24 that the infant mortality rate in Malta, which rose during the first years of the war to the maximum figure of 345 per 1,000 in 1942, declined sharply last year to 116 per 1,000—a rate substantially lower than that of the best pre-war year, 1936, when it stood at 190. The rate up to the end of September this year was 154. The lower rate of 1944 was attributed to the fact that there was a substantial increase in the birth rate that year with a large number of first babies. Mr. Hynd suggested that these tended to receive more care and attention from their mothers than their successors. In Malta tinned evaporated milk was reserved exclusively for babies and was rationed. Full-cream milk powder was rationed to children from 19 months to 5 years.

Shortage of Doctors

Mr. AYLES reported on Oct. 25 that the supply of doctors for the urban district of Hayes, Middlesex, was one for every 4,000 inhabitants, and in the near future would be reduced to one for every 5,000 inhabitants. Mr. BEVAN replied that the medical position in this area was difficult. He was in communication with the Central Medical War Committee, which was going into the matter with the local committee. He was doing all he could to increase the supply of doctors for civilian purposes. He hoped there would shortly be a very substantial increase.

Medical "Call-up" and Release

On Oct. 29 Mr. CALLAGHAN asked the Minister of Health to accelerate the rate of demobilization of doctors by calling up newly qualified medical men when they had completed six months' house appointment, by reviewing the cases of those who had been passed medically unfit, and by calling up those medically fit doctors who had remained in civilian life although in the calling-up age limits. Mr. BEVAN said newly qualified medical men were already being called up for the purpose stated. Others up to the age of 40 were being called up to the limited extent required to provide substitutes for certain medical officers whose release was contingent on replacement. The prevailing shortage of doctors in civil practice would not permit a more general recruitment as suggested in the question. Any revision of the standard of medical fitness for the Forces would be a matter for the Ministers in charge of Service Departments.

Compulsory Vaccination

Mr. PETER FREEMAN inquired on Oct. 25 whether the Minister of Health would consider abolishing the compulsory powers of the Vaccination Acts. Mr. BEVAN announced that this was among the matters under examination in connexion with the proposals for a comprehensive health service.

M.O.s in the Army

Mr. LAWSON stated on Oct. 30 that the number of doctors serving in the Army on D Day was 11,328. The number serving at the present time was 10,091. There had been a net reduction of 510 during the month of October.

Future of the Temporarily Registered

Mr. SOMERVILLE HASTINGS on Nov. 1 asked if any decision had been reached as to the cancellation of the temporary registration of alien doctors practising in this country; and whether Mr. Bevan had considered the position of the anti-Nazi Sudeten doctors and others who had no country to which to return. Mr. BEVAN said the Government had considered these matters in connexion with the Bill foreshadowed by the Home Secretary for keeping alive for a transitional period certain Defence Regulations which would otherwise lapse in February.

Navy Demobilization

Mr. W. J. EDWARDS said on Nov. 1 that although a number of doctors in the Royal Navy were anxious to take up civilian practice, Mr. A. V. Alexander could not accept the suggestion that there were doctors in the Navy who were redundant. Doctors would be released as rapidly as possible. Age-and-service group 20 should be reached by the end of this year, and up to Group 30 by the end of June, 1946.

Osteopathy and Further Education Grants

Mr. GEORGE ISAACS disclosed on Nov. 1 that after consultation with Mr. Bevan it has been decided that osteopathy was not a profession for which grants should be given under the Further Education and Training Scheme.

Medical News

Sir John Boyd Orr, M.D., F.R.S., Member of Parliament for the Combined Scottish Universities, was elected Rector of Glasgow University on Oct. 20. He stood as Independent and received 597 votes, the other two candidates, Lord Lovat and Sir Thomas Beecham, receiving 317 and 203.

A meeting of the London Association of the Medical Women's Federation will be held at B.M.A. House (Tavistock Square, W.C.) on Tuesday, Nov. 13, at 8.30 p.m., when Dr. Kathleen Harding will speak on "Physio-psychological Aspects of Pregnancy and Labour."

The Benjamin Ward Richardson Lecture will be delivered by Mr. W. Brennan de Vine, F.R.C.V.S., before the Royal Sanitary Institute (90, Buckingham Palace Road, S.W.) on Wednesday, Nov. 14, at 2.30 p.m. His subject is "The Economic and Public Health Advantages of Centralized Slaughtering."

The Food Education Society (29, Gordon Square, W.C.1) announces that Dr. E. A. Hamilton-Pearson will give a lecture on "Food and Behaviour" at the London School of Hygiene and Tropical Medicine, Keppel Street, on Thursday, Nov. 15, at 3 p.m.

A meeting of the Middlesex County Medical Society will be held at the Central Middlesex County Hospital, Park Royal, on Friday, Nov. 16, at 4.30 p.m.

As part of the 50th anniversary celebrations of the discovery of *x* rays an additional meeting is to be held to-day (Friday, Nov. 9) at 8 p.m. at the Royal College of Surgeons, Lincoln's Inn Fields, W.C., with Sir Alfred Webb-Johnson, Bt., in the chair. Prof. Sidney Russ, D.Sc., honorary secretary of the British *X*-ray and Radium Protection Committee, will speak on dangers associated with the use of *x* rays, and Prof. H. J. Muller, D.Sc., of Amherst College, Massachusetts, on genetic effects in relation to *x* rays and other ionizing radiations.

Alderman Charles Key, Parliamentary Secretary to the Ministry of Health, said on Oct. 31, in opening the Nursing Exhibition at Liverpool, that the Minister of Health is giving his close personal attention to the supply of nurses and midwives and is expecting in the near future to make a statement about the whole position.

The Nutrition Society announces a whole-day conference on the training, qualifications, and functions of dietitians to be held at the London School of Hygiene and Tropical Medicine, Keppel Street, W.C., on Saturday, Nov. 17, beginning at 11 a.m. Papers will be delivered by Prof. S. J. Cowell and Miss R. Pybus, The Training of Dietitians: the Current Position; (a) Miss M. C. Broatch and (b) Lieut.-Col. A. N. Childs, The Function of Dietitians and their Role for the Future—(a) General, and (b) with Special Reference to U.S.A. and Canada; (a) Dr. C. F. Brockington, (b) Mr. F. Le Gros Clark, (c) Miss F. C. R. Brown, and (d) Miss J. I. Mills, Scope of Work of Dietitians in Specialized Groups—(a) Public Health, (b) Schools, (c) Industry, and (d) Hospitals. Non-members wishing to attend should apply to a member of the Society for a ticket of admission. Further details may be obtained from the Honorary Secretary, Dr. L. J. Harris, Nutritional Laboratory, Milton Road, Cambridge.

The Medical Research Council has appointed the following to be members of its Industrial Health Research Board until Aug. 31, 1948: Prof. F. C. Bartlett (chairman), Dr. A. N. Drury, Prof. T. Ferguson, Lord Forrester of Corstorphine, Prof. A. Bradford Hill, Dr. Donald Hunter, Prof. Esther M. Killick, Prof. R. E. Lane, Prof. J. M. Mackintosh, Dr. E. R. A. Merewether, Prof. J. A. Ryle, and Mr. J. L. Smyth. (Dr. R. S. F. Schilling, seconded to the Council's headquarters staff from the Factory Department of the Ministry of Labour and National Service, continues to be secretary of the Board.)

EPIDEMIOLOGICAL NOTES

Discussion of Table

In *England and Wales* whooping-cough, acute pneumonia, and diphtheria increased in prevalence. The notifications rose in number by 117, 103, and 39, while those for scarlet fever fell by 81.

The diminution in scarlet fever was principally in the northern counties. The largest variations in whooping-cough were a rise in Southampton of 54 cases, and a fall in Warwickshire of 30. The increase in the incidence of diphtheria was contributed by only a few counties; the largest rises over last week's totals were 13 cases in Surrey, 12 in Warwickshire, and 10 in Gloucestershire.

The only fresh outbreak of dysentery was in Hertfordshire, Harpenden U.D. 12 cases. The other large returns were London 50, Lancashire 40, Surrey 32, Glamorganshire 17, Kent 15, Middlesex 14, Warwickshire 13.

A case of smallpox has been reported in London. The patient was a soldier returned from abroad.

In *Scotland* the only variation of note in the returns was an increase of 34 in the incidence of scarlet fever. The notifications of diphtheria in Glasgow increased by 16. The largest returns of dysentery were Glasgow 40, and Edinburgh 19.

In *Eire* the notifications of diphtheria were 20 fewer, but the incidence of measles rose by 47, and of diarrhoea and enteritis by 27. Measles was mainly confined to Dublin C.B. 51, and Dublin North U.D. 34, the remaining 7 cases appearing in six registration areas. Sixty-one cases of diarrhoea and enteritis were notified in Dublin C.B.

Diphtheria

A study of the recent returns of diphtheria suggests that a large continuous reduction in incidence, which seemed likely from the trend of the disease during the first months of the year, will probably not occur. Since 1942 the successive seasonal rises have decreased and the autumn level has been lower than that of the preceding spring rise, but this may not characterize the returns of this year. The following table gives a comparison of the returns for the most recent period and the first weeks of the year with the corresponding periods of the preceding year.

Weeks	Notifications 1942	1943	1944	1945
1–13	11,658	10,799	9,005	6,061
29–42	10,988	8,952	6,873	6,206

The incidence of diphtheria may be reverting to the size of that of a year or two ago, although it is too early to state whether the increase has any real significance or is just a chance occurrence. The present trend is disappointing.

Week Ending October 27

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,754, whooping-cough 1,029, diphtheria 576, measles 422, acute pneumonia 547, cerebrospinal fever 35, dysentery 247, paratyphoid 5, poliomyelitis 27, typhoid 12.

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INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended Oct. 20.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease. are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1945					1944 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever	39	3	22	—	—	36	1	19	3	1
Deaths		—	—				1	—		
Diphtheria	604	40	161	76	15	580	24	175	153	25
Deaths	7	1	—	—	—	7	—	5	1	—
Dysentery	284	50	87	1	3	391	57	110	3	—
Deaths				—	—				—	—
Encephalitis lethargica, acute	4	1	1	2	—	1	—	2	—	—
Deaths		3					1			
Erysipelas			42	12	2			63	14	5
Deaths		—					—			
Infective enteritis or diarrhoea under 2 years				81					39	
Deaths	57	3	16	11	6	50	3	19	13	1
Measles*	441	40	70	92	—	3,779	54	253	33	106
Deaths	—	—	1	1	—	2	6	—	—	—
Ophthalmia neonatorum	66	8	14	—	—	73	6	16	—	1
Deaths										
Paratyphoid fever	7	1	1 (B)	—	1 (B)	6	1	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenzal†	518	32	7	1	2	640	40	5	1	3
Deaths (from influenza)	11	3	1	—	—	25	4	4	3	—
Pneumonia, primary			154	15				194	21	
Deaths		24		4	4		28		11	5
Polio-encephalitis, acute	2	—				—	—			
Deaths		—					—			
Poliomyelitis, acute	28	3	6	4	1	14	—	5	3	1
Deaths		—					—			
Puerperal fever		8	11		—		8	15		1
Deaths										
Puerperal pyrexia‡	159	18	11	1	—	157	9	21	3	—
Deaths		—					—			
Relapsing fever	—	—			—	—	—			—
Deaths										
Scarlet fever	1,768	151	375	39	31	2,176	44	322	48	59
Deaths	—	—	—	—	—	2	—	—	—	—
Smallpox	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Typhoid fever	5	—	1	8	1	9	—	6	10	4
Deaths	—	—	—	—	—	—	—	—	—	—
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Whooping-cough*	1,087	88	44	44	2	970	49	78	19	12
Deaths	3	—	—	—	—	6	—	—	1	—
Deaths (0–1 year)	322	31	52	34	12	334	32	72	43	20
Infant mortality rate (per 1,000 live births)										
Deaths (excluding stillbirths)	4,082	662	535	177	117	4,288	573	605	235	108
Annual death rate (per 1,000 persons living)			12·1	11·4	§			13·9	15·2	§
Live births	6,519	827	713	397	225	6,559	478	997	357	266
Annual rate per 1,000 persons living			14·3	25·6	§			20·3	23·2	§
Stillbirths	202	26	23			202	17	23		
Rate per 1,000 total births (including stillborn)			31					23		

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

‡ Includes puerperal fever for England and Wales and Eire.

§ Owing to movements of population, birth and death rates for Northern Ireland are still not available.

Letters, Notes, and Answers

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: *Aitiology Westcent, London.* ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated.

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ANY QUESTIONS?

Bed-sores

Q.—*What principle underlies the use of spirit in the prophylaxis and treatment of bed-sores? What are the correct prophylaxis and treatment of bed-sores in view of the fact that any spirit is detrimental to skin lesions?*

A.—When a part of the body is subject to recurrent or prolonged pressure it is essential to keep the area quite clean. This is done at stated intervals by washing it carefully with soap and water. After washing and drying the part with a smooth towel it is customary to apply spirit for three reasons: first, to complete the drying process; secondly, to harden the skin and make it more resistant to pressure; and, thirdly, with the hope that the alcohol may exert an antiseptic action on any organisms in the vicinity. Some authorities do not believe that its action in any of these respects justifies its use, and prefer to place their reliance in the prevention of bed-sores upon a complete relief of pressure on the threatened area.

The treatment of an actual sore includes relief of pressure, the application of antiseptic and astringent solutions, or the use of adhesive strapping across the affected part. For the various substances applied the questioner should consult a textbook on nursing.

Bite of Culex molestus

Q.—*Is there any antivenene for the bite of Culex molestus? A patient has lost 18 days' work this year as a result of successive bites of this insect. Within two hours of the bite there is a local erythema and induration about 2 in. in diameter, but by 24 hours there is gross oedema of the part, usually the hand and forearm, with lymphangitis and lymphadenitis in upper arm and axilla. Sulphonamides, adrenaline injections, and ephedrine are without effect. The condition subsides in 3 to 5 days, but during this period the man cannot work.*

A.—Unfortunately there is no antivenene for protection against the irritant effects of mosquito-bites. Normally people become gradually immune to the severe after-effects; for example, people going to live in the Tropics are sometimes badly affected at first but gradually become more or less indifferent to the actual bites. The best course to be adopted for the patient in question is to use a repellent while he is exposed to the bites (e.g., dimethyl phthalate). If possible the breeding-site of the mosquito should be traced and dealt with.

"Soma" and "Psyche"

Q.—*Is there any drug known at present (apart from the morphine, cocaine, cannabis, benzedrine, and mescaline compounds) which has the specific property of producing euphoria in the human subject? Such an agent, if free from the undesirable side-effects associated with the above-mentioned compounds, might have important applications in the therapy of some forms of mental disorder. Has any research on this subject been carried out or published in recent years?*

A.—The specific euphoric effect of these drugs is very unreliable. All of them, with the exception of benzedrine, produce a clouding of consciousness which is found by some people agreeable (more frequently so with heroin and cocaine) but by others unpleasant. For the most part they produce euphoria in the same way as does alcohol—i.e., by narcotizing the cortex and removing tensions and inhibitions. The euphoria produced by benzedrine does not depend on this mechanism, but is in most persons very slight. It was first introduced to psychiatry by Guttmann and Peoples for the treatment of depressive states, but has been found of comparatively little value for that purpose; its value in the treatment of narcolepsy, enuresis, certain syndromes found to accompany cerebral dysrhythmia, etc., does not depend on any euphoria produced by it.

A drug, such as Aldous Huxley's "soma"—i.e., almost non-toxic but producing a high degree of euphoria—could have enormous social consequences, but would be unlikely to have more than palliative value in the treatment of mental disorder. The treatment of such conditions must depend in the first place on the correction of a dysfunction or the remedy of a deficiency.

Vitamin B in Dried Yeast

Q.—*Do the spores of the yeast organisms persist as such in tablets of dried yeast, and if so, given suitable conditions, do they grow? Are the amounts of the vitamin B complex fairly constant in the various dried-yeast tablets on the market? In other words, if one prescribes a 5-grain yeast tablet, is one prescribing a given dosage of the B vitamins?*

A.—Yeasts do not normally multiply by spores at all, but by the budding of vegetative cells. Dried yeast preparations may contain sufficient viable cells for multiplication to begin if they are moistened and allowed to stay in the presence of a suitable liquid medium. A few spores may be present, but they are of little importance for purposes of further culture. The extent to which sufficient viable vegetative cells will be present must naturally depend on many conditions, including the degree of desiccation to which the product has been submitted and the length of time that it has remained dry, as well as, probably, temperature of storage. In general, however, it is better not to regard dried yeast as a suitable source of *living* yeast cells, but rather as a subsidiary food reasonably rich in certain essential nutrients.

The amounts of the various members of the vitamin B complex present even in yeast of one strain are likely to vary somewhat, and the variation will be *pro tanto* greater in harvests from mixed strains. Certain manufacturers of proprietary dried yeast "standardize" for vitamin B_1, by assay and suitable blending of various batches. This must inevitably mean that the other members of the complex, of which riboflavin and nicotinic acid are probably the most important in human nutrition, have simply to "take their chance." Dried yeast should in any event not be used as a standardized source of individual vitamins, but rather as a foodstuff rich in certain nutrients the concentration of which, in a reputable brand, is unlikely to fall below a certain fairly high figure.

Diphtheria Prophylaxis

Q.—*Is it safe to give, without a preliminary Schick test, T.A.F. to a child of 5 years previously immunized at 1 year with A.P.T.? In a busy practice the Schick test takes more time than can be afforded.*

A.—It would be perfectly "safe" to give either T.A.F. or a further "boosting" dose of A.P.T. in these circumstances. The latter would be preferable, since it immunizes better, and children of this age rarely react badly to it. The question does not convey the reason for supposing that such an injection might have harmful effects: if it is meant that some form of sensitization might have occurred, the answer is that the amount of protein in the materials is too small for any such effect.

Antispasmodics

Q.—*Trasentin is said to be a good antispasmodic. Would its continued use (say, 1 tablet t.d.s.) be harmful in any way? (I have in mind the type of patient, described by Alvarez, with a super-hypertonic stomach and spasmodic contractions in the colon.) Incidentally, would it be calculated to relax vascular spasms?*

A.—No reports have been seen of harmful effects from the prolonged use of trasentin. Trasentin is a synthetic analogue of atropine, and it is characteristic of this group of alkaloids that they are relatively free from toxic effects. Although trasentin is described as having a papaverine-like action in relaxing the smooth muscle of the intestine, there is no evidence that it has a similar action on the blood vessels. Atropine itself only dilates the blood vessels when given in toxic doses, and one would not expect trasentin to be superior in this respect.

Osgood-Schlatter's Disease

Q.—*A girl aged 13 has had Osgood-Schlatter's disease for about 12 months. She is training to be a ballet dancer, but is handicapped by the pain in both tibial tubercles. She has been told to rest, but this will interfere with her career. Are there any other methods of treatment, and what is the prognosis if she continues to dance?*

A.—Osgood-Schlatter's disease is comparable with adolescent coxa vara. Both are lesions in which various degrees of epiphysial separation occur as the result of repeated violence or continual static stress in association with metaphysial chondritis, the latter in the more extreme forms being due to constitutional and metabolic disturbances. There is some similarity to certain types of stress fracture. In Osgood-Schlatter's disease the element of extension stress must be realized, and immobilization of the knee in almost complete extension for six weeks or so is desirable, followed by rest from dancing or running for a further two months. In a young dancer failure to treat it seriously will almost certainly delay recovery indefinitely. Various other measures have been recommended, such as drilling, but conservative measures are sufficient. Rest for the knees at the age of 13 may interfere temporarily, but unimportantly, with her career: a persistently painful tibial tubercle may ruin it.

Causes of Deaf-mutism

Q.—*What are the causes of deaf-mutism—other than the accepted theory of the mother contracting rubella while pregnant? Is it possible that large doses of quinine taken in an attempt to produce abortion in early pregnancy would be responsible for this condition?*

A.—There is no evidence that quinine taken during pregnancy is a cause of deaf-mutism. It is in fact unlikely that any external factors operating before birth can be responsible for more than a small proportion of instances. Deaf-mutism may be hereditary or acquired; an estimate of 50% of cases falling into either category may, perhaps, prove to be not very wide of the mark. Any disease which destroys the hearing sufficiently early in life may be the causal factor—for example, scarlet fever, meningitis, or syphilis.

Simple recessive inheritance accounts for at least the very large majority of the hereditary cases. The criteria by which the type of transmission may be recognized are well exemplified: (*a*) The majority of deaf-mutes are the offspring of normal parents. (*b*) Frequently more than one child in the sibship is affected. (*c*) Consanguineous marriages among the parents are commoner than in the general population. (*d*) Affected persons who marry each other have affected children only. This is the usual finding in deaf-mutism. Certain instances in which the offspring were all normal are to be explained either by the condition being an acquired one in one or both parents (as has sometimes been observed), or it may be that more than one recessive gene may give rise to deaf-mutism—which would also lead to apparent exceptions.

Deaf-mutism is sometimes encountered as part of more complex syndromes. For example, its occurrence in association with retinitis pigmentosa serves to distinguish one variety of that condition. This syndrome, like uncomplicated deaf-mutism, also depends upon a recessive gene.

Maturing of Threadworms

Q.—*How long do threadworms take to mature, and what interval must elapse after the appearance of the last worm to consider the cure certain?*

A.—The period of development, from the ingestion of the infective egg to the time of oviposition by the gravid female, is given by different authorities as from fifteen days to two months; probably it rarely exceeds one month. It must be remembered that under suitable conditions the ova may remain alive and infective for periods up to five days, and possibly longer. In such circumstances the patient may become infected from his own fomites, even when not in contact with infected neighbours.

Safety of Butter and Cheese

Q.—*There is much talk at present of the danger of allowing children to drink unboiled milk. Is there any similar danger in allowing them to eat (a) farm butter, (b) National butter, (c) cheese? I believe that the milk used in making farm butter is not generally heat-treated in any way, but I am not aware by what process National butter and cheese are manufactured.*

A.—For general interest the answer to this question may be slightly expanded: At present about 94% of butter distributed in this country is imported, 4% is home-produced in factories, and 2% is home-produced on farms. Practically all imported and factory butter is made from pasteurized or otherwise heat-treated cream, and may therefore be regarded as free from living tubercle bacilli or other pathogenic bacteria. Farm butter is made from raw cream and must be considered potentially dangerous. Most pathogenic organisms, however, including the tubercle bacillus, die out fairly rapidly in butter, owing partly, perhaps, to the amount of acid produced. Though it would be unjustifiable to dogmatize, it is probably fair to say that the danger of contracting disease from farm butter is confined mainly to the fortnight following its manufacture. It may be added that nearly all farm butter is consumed in farming households, and that very little finds its way to the open market.

Of the cheese consumed in this country, 92% is imported, 7% is home-produced in factories, and 1% is home-produced on farms. Probably not less than 60% of imported and factory cheese is made from heat-treated milk; the remainder, including farm cheese, is made from raw milk. Before the war most "hard" cheeses (Cheddar and Cheshire types) were ripened for several months before being offered for sale—a process that led to the death of all pathogenic bacteria; but, as pointed out in the *Journal* (June 12, 1943, p. 730), it became common during the war to distribute imported cheese from the United States and Canada which had had no adequate period of ripening. That unripened cheese may cause disease is illustrated by the occurrence in Canada during the past few years of three or four outbreaks of typhoid fever traced to this source. These outbreaks were caused by cheese that had been consumed within two or three weeks or so of manufacture, and it is doubtful whether the cheese would have proved infective if it had been kept for longer. Between manufacture in America and distribution in this country several weeks elapse, and it is possible, therefore, since pathogenic bacteria are known to die out almost completely within two months in cheese kept at 50° F. or over, that very few, if any, of these organisms are alive by the time the cheese reaches the consumer in this country. There is not enough evidence to assess accurately the risk of disease being carried by cheese made from raw milk, but, considering the relatively small quantities that are eaten at a time, the danger of infection resulting from the consumption of factory-produced cheese must be very small. On the other hand, cheese produced on farms in this country—particularly if it is of the "soft" or cream cheese variety—should be treated with caution, since such cheese is often eaten within a week or so of production. Children had better avoid it altogether.

LETTERS, NOTES, ETC.

Pasteur Institute during the Occupation

Dr. Ronald MacKeith (chairman, Medical Committee, Scientific Film Association) writes: I read with interest the leading article on Pasteur (Sept. 29, p. 429). Your readers may like to know that the French Office of Information (54, Queen Anne Street, W.1) have just received from France a film made during the occupation, illustrating the work of the Pasteur Institute. *L' Institut Pasteur* contains also some historical matter, and although designed for the general public it will be of real interest to a medical audience. It is a sound film, available 16 or 35 mm., with a French commentary. The running time is 20 minutes.

Sprouting Legumes

J. A. N. writes: Your editorial note on sprouting legumes suggests that it might be of interest to recall the earliest mention of this expedient that I have so far come across. Capt. T. Forrest in his *Voyage from Calcutta to the Mergui Archipelago* (published in 1792) closes the book with "Thoughts on the Best Mode of Preserving Sea Provisions or of Victualling Ships in Warm Climates." In this chapter he mentions "that great antiscorbutic salted limes, lemons or oranges"; he also relates (p. 135) that he sprouted his peas, a trick which he says he learnt from the Malays. I wonder if this is still practised in Malaya. Did Fürst or Chick and Delf know where and how the idea came to be revived?

Books for Polish Doctors

The Polish Medical Association in the British Empire is appealing for gifts of medical and scientific books to reconstruct the libraries in Poland that have been destroyed in the war and to replace books that were confiscated or stolen during the German occupation. In the efforts now being made to train young people for the work of reconstruction the greatest problem is the lack of books. In the field of medicine teachers badly need textbooks for their students, and books, reference books, and periodicals to bring their own knowledge abreast of the scientific progress made in recent years. Doctors in Great Britain are invited to offer to the Polish profession any medical or scientific books or periodicals they can spare; the language may be English, German, or French. Their help will be greatly appreciated. Books and periodicals may be sent to the Secretary of the British Medical Association at B.M.A. House, Tavistock Square, W.C.1. Correspondence on the subject should be addressed to Dr. B. Jedlewski, 43, Eaton Place, S.W.1.

Corrigenda

Owing to delay in the post the corrected proof of the letter on significance of the erythrocyte sedimentation rate by Drs. D. G. McIntosh and D. M. Keay was received after we had gone to press with the issue dated Oct. 27. On page 584 in the fourth numbered paragraph (*Disregard of Physiological Variations*), line 20, the figures should be 13 of 53, instead of 18 of 55. In the table the reference to Abeles and Pinner should read 86 in the second column, instead of 91.

Dr. K. R. Ogilvie wishes to correct an error in his letter on Ludwig's angina published on Nov. 3. In column 1 of page 623 when describing Case II he wrote "tracheotomy tube" by mistake for "endotracheal tube."

By an error, the name of Prof. J. R. Marrack, one of the signatories of the Memorandum on Training and Qualifications of Dietitians, was omitted from the second sentence of the introductory paragraph of the report published in the *Journal* of Nov. 3 (p. 617). The sentence should have read: "The committee has summarized its findings in the subjoined memorandum, but two of its members (Miss M. Grant and J. R. Marrack) have dissented from paragraph 1 (concerning membership of the British Dietetic Association and registration as medical auxiliaries)."

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THERAPEUTIC EFFECT OF INDUCED JAUNDICE IN RHEUMATOID ARTHRITIS

BY

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It is an old observation that when patients suffering from rheumatoid arthritis develop jaundice there may be a remarkable improvement in the condition of the joints (Still, 1897; Wishart, 1903; Hench, 1938), but until jaundice could be induced without undue risk to life it was difficult to study this phenomenon systematically. Attempts to imitate the condition by the intravenous injection of bile salts and bilirubin (Thompson and Wyatt, 1938) failed to reproduce the effects observed in the naturally occurring disease, but in 1944 MacCallum and Bradley reported remissions in 6 patients who had been successfully inoculated with material from cases of infective hepatitis. Since then we have induced infective hepatitis and homologous serum jaundice in 29 patients. The present paper contains a report of the results obtained in these patients and in three of the patients referred to by MacCallum and Bradley who were under our care in Oxford.

Jaundice is not easy to induce and is not entirely without risk. Before accepting volunteers care was taken to explain to them the experimental nature of the treatment and the risks involved. Emphasis was laid on the uncertainty of the benefit to be derived, and it is perhaps some indication of the courage and the present hopeless state of the rheumatoid subject that large numbers of patients were anxious to take part in the experiment. The work was carried out at several different centres, and, as it was impossible to foretell which patients would develop jaundice, only the simplest type of pilot investigation was undertaken. Our intention was to discover whether remissions in the joint condition occurred often enough to justify a more detailed study of the phenomenon at a later date.

From time to time batches of dried serum have produced jaundice when used for transfusion purposes. A small amount of such serum injected subcutaneously will produce jaundice in a high percentage of cases (Bradley, Loutit, and Maunsell, 1944). This method of inducing jaundice could have been used for all cases, but when planning the experiment it appeared to have two disadvantages. The first was the long incubation period, averaging nearly 100 days. The second was the fact that jaundice is sometimes unduly severe when the disease is induced in this way. At first, therefore, we attempted to transmit the disease with material from cases of infective hepatitis and, in order to discover the route with the shortest incubation period, we inoculated patients by the nasopharyngeal route as well as by parenteral injection. Unfortunately many of these attempts proved unsuccessful and only a small percentage of the patients developed jaundice. Later in the experiment we used icterogenic serum and induced jaundice in a high proportion of cases. The severity of the hepatitis produced in this way was no greater than in the previous cases, and the effect on the rheumatoid arthritis was essentially similar. Details of these experiments, in so far as they concern the transmissibility of infective hepatitis and homologous serum jaundice, will be discussed elsewhere.

All the patients had received other forms of treatment in the past. Several had responded to gold but had lately either become insensitive to this or had developed toxic reactions. Others had had spa treatment, vaccines, salicylates, or physiotherapy. So far as was possible only patients who had recently failed to obtain benefit from these treatments were included in the present investigation. At first no patient who had received gold injections during the previous six months was allowed to take part, but later this period was reduced to three months. After inoculation patients continued to have physiotherapy and aspirin, but no other treatment was allowed.

Details of the Investigation

The patients were all suffering from polyarticular arthritis of the rheumatoid type. They were arranged in four groups according to the classification of rheumatoid arthritis suggested by Sclater in 1943:—Group I: Periarticular swelling and stiffness, but only slight limitation of movement. Group II: Periarticular swelling and more marked limitation of movement than in Group I, but no evidence of ankylosis; still capable of employment. Group III: Fixation of joints and flexion deformities; either inability or great difficulty in continuing employment. Group IV: Gross deformities and severely crippled; usually bedridden and unable to walk.

Only 32 of the 312 patients inoculated developed jaundice. Ten were in Group I, five in Group II, eleven in Group III, and six in Group IV. Their ages ranged from 22 to 61 years, and there were 24 females and 7 males. The severity of the hepatitis induced was variable. In the mildest cases jaundice lasted only one week, and in the most severe it persisted for 45 days. The disease ran its usual course, and in most cases a few days of anorexia, vomiting, and low-grade pyrexia preceded the appearance of jaundice and biliuria. The liver became enlarged and tender in most cases, and in two the spleen was palpable. Persistent vomiting was a troublesome complication in some of the severely ill patients; fleeting erythematous rashes were seen and petechial haemorrhages occasionally occurred. Maximum serum bilirubin values ranged from 2 to 19 mg. per 100 c.cm. One patient had a recurrence of jaundice two months after her first attack; otherwise convalescence was uneventful.

All the patients who were inoculated were kept under observation for at least six months. During this time occasional minor fluctuations in the arthritis occurred among the subjects who failed to develop jaundice, and two patients had a genuine remission. This was ascribed by the patients to the inoculation they had received, but there was in fact no evidence to support this view. One remission may have been due to a recent course of gold injections. The other patient began to improve immediately after she received her inoculation.

In the cases successfully inoculated an interval which varied from 27 to 131 days elapsed between the day the inoculation was given and the day jaundice appeared. During the incubation period there was no radical change in the rheumatic condition, but with the appearance of jaundice dramatic improvement was noticed in many of the patients. In one instance this improvement began three days before jaundice was detected, in 8 it started on the first day, in 13 within the first ten days of jaundice, and in 3 after the first two weeks. One patient was exceptional in that all the affected joints became more painful during the attack of hepatitis, but immediately after recovery all pain and stiffness disappeared. She has remained free from symptoms since—a period of over three months.

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* With a grant from the Medical Research Council.

The remissions, which were temporary, have been classified as follows:

A. *Complete.*—Ten patients became completely free from pain in all joints. Periarticular swelling disappeared and free movement was restored except where this was limited by permanent deformity.

B. *Marked Improvement.*—Eight patients became free from pain in many but not all affected joints. Periarticular swelling diminished and there was greatly increased mobility.

C. *Slight Improvement.*—Seven patients obtained some relief of pain and swelling with increased movement, but this was less marked than in Group B.

D. *No Change.*—In 7 patients the joint condition was unaltered.

In Groups A and B the amelioration in the joint condition was remarkable. Disappearance of pain and swelling was quickly followed by increase of power and range of movement in the affected joints. These changes were observed in both the larger and the smaller joints, but they were perhaps most pronounced in the fingers. One patient whose fingers had been locked for two years was able to move them on the third day of jaundice. Thereafter the swelling rapidly subsided, and by the sixth day she had full and painless movement of her fingers. Three other patients were able to wear their wedding-rings for the first time for several years. In Group C the joint changes were less obvious, but there was considerable subjective improvement. Two patients who had had constant pain and were unable to turn over in bed found that within a week of the onset of jaundice they could move freely and painlessly, and thereafter their general condition improved considerably. Details of the 32 cases are given in the accompanying Table.

The Results of Induced Jaundice in 32 Patients with Rheumatoid Arthritis. For Clue to the Roman Numerals recording the Rheumatic Status, see Text

Age and Sex	Duration of Rheumatoid Arthritis (years)	Rheumatoid Status (Sclater's Classification)	Period of Optimal Improvement (days)	Maximum Serum Bilirubin (mg. per 100 c.cm.)	Duration of Jaundice (days)	E.S.R. (mm. per hour) Pre-icteric	E.S.R. During Jaundice	E.S.R. After Recovery
(A) Complete remission:								
41 F	14	I	7	14	25	36	38	21
48 F	1	II	20	10	24	27	13	40
47 F	4–5	III	28	18	21	49	11	64
23 F	9	III	28	6	28	26	18	—
30 F	0·5	I	30	4·2	26	7	4	7
50 F	1	III	34	6·4	27	20	15	42
35 F	3·5	I	39	6·4	16	6	16	6
42 F	2·5	II	71	—	14	25	—	34
42 F	8	II	93	18	46	12	10	15
41 F	6	III	93+	2	21	18	—	24
(B) Considerable improvement:								
54 F	4	IV	20	6	16	32	19	77
32 F	0·6	I	23	10	23	60	8	25
22 F	3	I	30	5	7	8	—	—
56 M	12	IV	31	8	33	31	4	37
52 M	7	II	37	10	38	7	17	30
48 F	7	III	40	13	54	35	6	45
57 F	10	III	58	10	32	30	15	20
52 M	13	I	78	3	10	10	7	9
(C) Slight improvement:								
46 F	10	III	7	4	14	8	14	9
43 M	6	IV	25	12	18	42	8	25
58 F	7	IV	32	10	30	45	12	40
29 F	10	III	35	6	21	20	10	38
52 F	2	I	56	4·5	30	5	—	10
39 M	12	III	85	4	35	6	—	35
61 M	8	IV	154+	4·5	40	34	34	63
(D) No improvement:								
58 F	0·8	III	0	19	46	95	42	14
23 F	0·5	I	0	4	21	2	5	4
50 M	5–6	IV	0	15	40	25	10	38
29 F	7	I	0	8	14	13	10	10
38 F	8	II	0	4	12 and 7	23	35	—
58 F	10	III	0	6	30	20	—	—
43 F	10	I	0	3	7	—	42	37

The following case histories illustrate the changes observed.

Case I (Sclater Group II; Type A Remission)

Housewife aged 42. 1936:—Pain and swelling in ankles and shoulders. 1940:—All joints affected. Unable to work. Course of bee venom injections without improvement. 1943–4:—Gold therapy, with gradual improvement. Able to do light housework.

Dec. 20, 1944.—All joints painful. Swollen interphalangeal joints. Grip weak. Extension of elbows limited by 50°. Knees swollen. Flexion to 45° only. Ankles swollen; only 5–10° of movement. E.S.R., 12 mm. Serum bilirubin, 0.25 mg. per 100 c.cm. Inoculation with nasal washings from case of homologous serum jaundice.

March 30, 1945.—Anorexia, vomiting, icteric sclera. Joint condition unchanged.

April 8.—Appetite improved. Joints less painful. No swelling of fingers; grip. Elbows—full extension. Knees still painful; flexion to 80°. Ankles—no swelling; full range of movement. E.S.R., 10 mm. Serum bilirubin, 18 mg. per 100 c.cm.

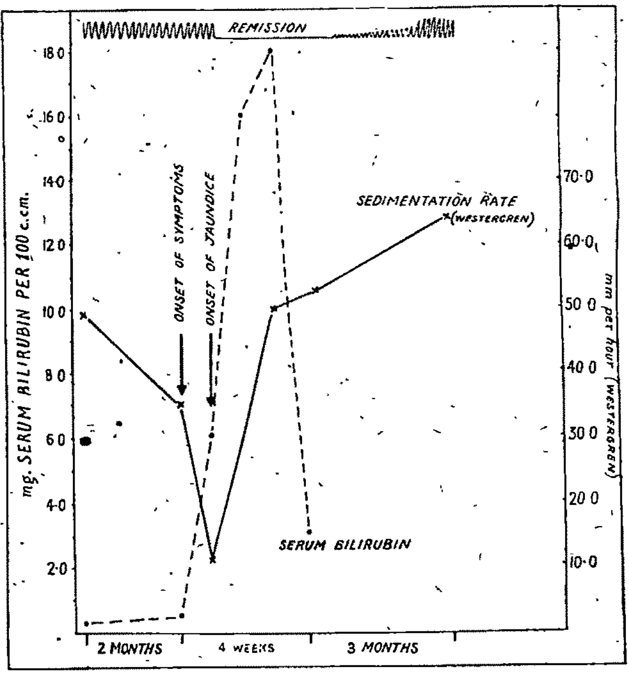
April 12.—All joints free from pain and swelling. Knee flexion to 90°. Other joints—full range of movement.

June 18.—Well. Able to do all her own housework. Full painless movement of all joints.

July 16.—Recurrence of pain, with swelling and limitation of movement in one finger of left hand; otherwise all joints remain satisfactory. E.S.R., 15 mm.

Case II (Sclater Group III; Type A Remission)

Housewife aged 47. 1940:—Pain and swelling in feet and hands. 1942:—Exacerbation, with involvement of all joints. Temporary remission following gold. Two further courses of gold, with no improvement. Unable to work for three years.



Case II. Diagram to show the relation between the E.S.R., serum bilirubin, and the temporary remission of the rheumatoid arthritis.

Nov. 7, 1944.—Ambulance case. Walks a few steps with difficulty. Gross flexion deformity of hands; swollen wrists, minimal movement of these joints. Feet swollen and painful. Moderate limitation of movement at shoulders, elbows, and knees. Right knee swollen. E.S.R., 49 mm. in 1 hour. Plasma bilirubin, 0.2 mg. per 100 c.cm. 0.5 c.cm. icterogenic serum given by subcutaneous injection.

Dec. 28.—Severe backache. Nausea. Non-irritating rash on arms and legs. Joint condition unchanged. E.S.R., 35 mm. Bilirubin, 0.5 mg. per 100 c.cm.

Jan. 2, 1945.—Vomiting, giddiness, and abdominal pain. Rash fading. Jaundiced sclera. Liver palpable and tender. Movements in right hand improved. Onset of pain in temporo-mandibular joints. Other joints i.s.q. E.S.R., 11 mm. Bilirubin, 6 mg. per 100 c.cm.

Jan. 5.—Lying comfortably in bed. No nausea. Appetite good. Jaundiced. Considerable relief of pain in all joints except right knee and jaw. Increased range of movement in fingers. No improvement of wrist movements. Bilirubin, 16 mg. per 100 c.cm.

Jan. 16.—Feels well. Still jaundiced. No pain except in right knee. Moves easily in bed. Full range of movement in hands and wrists. No visible swelling in any joint. E.S.R., 50 mm. Bilirubin, 18 mg. per 100 c.cm.

Jan. 23.—No symptoms. Jaundice almost faded. Complete relief of pain. Walking freely and using hands. Full range of movement in all joints. E.S.R., 52 mm. Bilirubin, 3 mg. per 100 c.cm.

Feb. 23.—Home doing housework for 5 weeks. Slight recurrence of pain in finger-joints 3 weeks ago. Since then pains in neck and left arm. Still free from pain in legs and shoulders. E.S.R., 52 mm.

April 25.—Steady deterioration in joint condition during last 2 months. Now no better than before jaundice. E.S.R., 64 mm.

Case III (Sclater Group IV; Type C Remission)

Ex-coalminer aged 56. 1932:—Pain and stiffness in the hands, 1940:—All joints affected; had to give up employment. 1943:—Gold therapy; discontinued because of generalized oedema.

Nov. 7, 1944.—Constant pain, unable to move in bed. Wrists ankylosed and painful. Wasting of interosseus muscles; swelling and limitation of flexion of finger-joints. Knees and ankles painful; full range of movement but great loss of power. E.S.R., 30 mm. Serum bilirubin, 0.2 mg. per 100 c.cm. Inoculation with 0.5 c.cm. icterogenic serum.

Jan. 13, 1945.—Nausea, vomiting. *Jan. 18.*—Jaundiced; joints less painful.

Jan. 22.—Anorexia. Deeply jaundiced. Liver enlarged. Moving freely in bed. All joints except feet free from pain. Range of movement and swelling of joints unaltered.

Feb. 8.—Up and about. Eating well. Wrists painless. Occasional pain in feet.

April 28.—Subjectively very well. Joint pain and swelling gradually returning. E.S.R., 37 mm.

The degree of improvement seemed to be influenced more by the duration of the rheumatoid arthritis than by the severity of the jaundice, but the number of cases is small and the difference is not statistically significant. Twelve patients had had the disease for less than 5 years. Of these, 6 had complete remissions, 4 had some relief, and only 2 failed to improve. Twenty patients had suffered from rheumatoid arthritis for over 5 years. Of these only 4 had complete remissions, 11 had some improvement, and 5 obtained no relief.

Twelve patients developed a maximum serum bilirubin of over 9 mg. per 100 c.cm. Of these, 4 had complete and 6 partial remissions, while 2 failed to improve. Twenty patients never had more than 8 mg. per 100 c.cm. serum bilirubin. Of these, 6 had complete and 9 had partial remissions, while 5 obtained no relief. There is no statistical difference between these results.

In most cases the period of optimal improvement was short, but it was often several months before the joints reverted to their pre-icteric condition. In Group A (complete remission) the average period of complete freedom from pain was 44 days, the longest time being 93 and the shortest only 7 days. In the cases with an incomplete remission the period of greatest relief averaged 41 days, the longest period being 154 and the shortest 7 days.

The Erythrocyte Sedimentation Rate

In rheumatoid arthritis the E.S.R. provides an index of the activity or quiescence of the disease process. In infective hepatitis it has been shown that the E.S.R. is higher in the pre- and post-icteric stages of the disease than it is when jaundice is present. It is therefore probable that when a patient with rheumatoid arthritis develops infective hepatitis the E.S.R. no longer reflects the joint condition alone.

Changes in E.S.R. were observed in some of our cases. In 14 there was an abrupt fall shortly after the appearance of jaundice, in 7 there was no change, and in 4 the E.S.R. was raised. Two or more months after the recovery the E.S.R. had fallen below the pre-icteric level in 5 cases, in 7 it was unchanged, and in 15 it was well above its original value. These alterations were not apparently related to changes in the clinical status of the rheumatoid arthritis. The early fall occurred in patients who failed to benefit from the intercurrent jaundice as well as in those who obtained relief. At the time of the late rise in sedimentation rate only a few of the patients had relapsed; in 6 cases the joints were still much better than they had been before jaundice was induced, in 5 they were essentially unchanged, and in 4 they were worse than they had been before inoculation.

Somewhat similar changes in E.S.R. have been observed in tuberculous patients who develop infective hepatitis. Penman (1943) recorded an epidemic in a sanatorium in which all the patients showed a remarkable fall in E.S.R. while jaundiced. In his cases the E.S.R. had returned to its pre-icteric value within a month of recovery from the intercurrent infection.

Discussion

The natural course of rheumatoid arthritis is so variable that it is difficult to assess the value of any remedy which produces only temporary benefit. But the fact that only two of the patients who failed to develop jaundice had a spontaneous remission during the period of observation, whereas 10 of the 32 who were successfully inoculated became completely free from pain and 15 showed some improvement, suggests that the two events are related. Some change which occurs during the course of infective hepatitis must exert a favourable effect on the joint condition, but as to the nature of this change we have as yet no clue.

Hench (1938), who analysed all the cases in the literature and observed this phenomenon in many of his own patients, came to the conclusion that the improvement obtained was related to the intensity of the jaundice, and that below a threshold value of 8 mg. per 100 c.cm. serum bilirubin little improvement was to be expected. Our results do not confirm this view, and the fact that Thompson and Wyatt (1938) failed to produce remissions by artificial hyperbilirubinaemia suggests that the jaundice owes its effect to something more than the mere accumulation of bile in the blood stream.

The changes in the E.S.R. which occur in infective hepatitis have already attracted considerable attention. The view has been expressed that the inhibitory effect which is present while the patient is jaundiced may be due to an increase of bile salts in the blood (Miles, 1945). Recent work, however, has shown that the blood level of free and conjugated cholic acid in infective hepatitis is very little raised. In the 22 cases studied by Sherlock and Walshe (personal communication) it never approached the levels required to produce the retardation obtained in the *in vitro* experiments of Miles. The E.S.R. is known to be affected by minute changes in the protein composition of the fluid in which the red cells are suspended (Gordon and Wardley, 1943), and a temporary rearrangement of the blood proteins undoubtedly occurs in the early weeks of infective hepatitis (Gray and Barron, 1943). Whether such a change is capable of exerting a favourable effect on arthritic conditions is still unknown, but further investigations might reveal some relation between these changes and the temporary improvement in the joints.

The remissions which are induced in rheumatoid arthritis by an attack of jaundice are striking, and show that the disease is capable of undergoing considerable regression. They are unfortunately temporary, and treatment of rheumatoid arthritis by jaundice cannot be recommended for general use. Though the immediate improvement is more dramatic the long-term results are inferior to those of gold. Only in the field of research is the induction of jaundice in patients with rheumatoid arthritis justifiable. Here it provides an opportunity of producing a remission under controlled conditions and the possibility of analysing the mechanism by which it is produced.

Summary

Jaundice was induced in 32 patients with rheumatoid arthritis, and temporary improvement in the latter condition was obtained in 25 cases.

The remissions were unequal in degree and of short duration. Ten patients became completely free from pain and swelling, and 15 showed some improvement. The average period during which optimal improvement was observed was 42 days, but a longer time elapsed before the joints reverted to their pre-icteric condition.

Complete freedom from pain and swelling was obtained more often in patients who had had rheumatoid arthritis for less than 5 years than in those who had had it for more than 5 years.

There was no definite relationship between the intensity of the jaundice and the type of remission evoked.

In many cases a fall in the E.S.R. was noticed during the icteric phase. This was followed by a rise to a level above that recorded before jaundice was induced. These changes did not necessarily correspond to changes in the joint condition. A similar phenomenon has been observed when patients with active tuberculosis develop infective hepatitis.

The suggestion is put forward that improvement in the joint condition and the changes in the E.S.R. may be related to changes in the plasma proteins, but no evidence is available to support this view.

The induction of jaundice in rheumatoid arthritis is justifiable only as a research measure. Its aim is to identify the substance or mechanism responsible for the remission of the joint condition and ultimately to reproduce this mechanism by other less dangerous methods.

This therapeutic trial was carried out with the support of the Jaundice Committee of the Medical Research Council. Many of the investigations were made at centres other than Oxford, and we are indebted to the staff and management of the Royal Sheffield Infirmary and Hospital, the City General Hospital, Sheffield, the Montagu Hospital, Mexborough, and the Liverpool Royal Infirmary, for providing unique facilities and help. It would have been impossible to carry out the work unaided, and we wish particularly to acknowledge the friendly co-operation and help of Prof. Barnes and Prof. Wayne, Dr. Abercrombie, Dr. Imrie, Dr. Barrie, and Dr. Brodie, of the Royal Sheffield Infirmary and Hospital; Dr. Clark and Dr. Milne, of the City General Hospital, Sheffield; and Prof. Henry Cohen and Dr. Simonds of the Royal Infirmary, Liverpool.

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ACUTE NON-SPECIFIC MESENTERIC LYMPHADENITIS

BY

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Although often described in British, American, and other medical literature, acute non-specific mesenteric lymphadenitis has found no general acceptance as one of the commonest causes of acute abdominal pain in children and as an occasional puzzling affection of adults. As a rule the term is omitted from the index and text not only of surgical manuals but even of encyclopaedic reference works, and there are hospitals in which all inflammatory enlargements of abdominal lymphatic glands are presumed to be tuberculous. If the condition is mistaken for acute appendicitis, as it frequently is, no great harm is done; it may be wise to sacrifice accuracy for safety. Material injustice may be caused, however, if the disease is wrongly labelled tuberculosis: the patient's medical record is distorted, relatives are subjected to unnecessary anxiety, and later the premium for a life insurance policy may be loaded. Acute non-specific mesenteric adenitis is commoner in this country now than is acute abdominal tuberculosis; during last year the incidence of the disease has increased, and in my charge in the children's hospital there have been admitted during the year 37 patients suffering from non-specific adenitis, as compared with 83 suffering from acute appendicitis and four suffering from abdominal tuberculosis. These figures are only very roughly approximate; they underestimate the incidence of non-specific adenitis in children: a considerable number of children in whom a diagnosis of non-specific adenitis has been made in the out-patient department have not been admitted, but have confidently been allowed to go home.

Pathological Features

To the previous description of Wilensky (1920), Foster (1938), Klein (1938), and others there is little to add. The mesenteric glands—*juxta-intestinal* along the mesenteric attachment of the lowest few feet of ileum, *intermediate* along the ileal arteries, and *terminal* on the main superior mesenteric trunk—are discretely enlarged. The first or the last of these groups may be involved alone, or all three groups may suffer together. The anterior and posterior caecal and the ileo-colic glands may or may not be simultaneously affected. The juxta-intestinal glands are predominantly involved in early stages of the disease; early in an attack they may be pink in colour, but usually they are found to be white. The intermediate and terminal glands are predominantly affected in later stages of the disease; they seem always to be white in colour. The enlarged glands are soft and juicy at first, elastic later, and finally quite hard; it is uncertain whether calcification ever occurs in non-tuberculous adenitis. Suppuration has been recorded in the mesenteric glands, but usually as a result of specific bacterial infection.

The leaves of the mesentery, and, if the terminal superior mesenteric glands are involved, the adjacent peritoneum of the posterior abdominal wall, may be congested. The peritoneum of the anterior abdominal wall is nearly always unaltered; I have found it slightly inflamed only once, in an adult. The ileum, and sometimes the caecum and appendix as well, may show serous hyperaemia, and sometimes a palpable oedema of the whole thickness of the bowel wall. This inflammatory appearance of the intestine is commonly found only during earlier attacks of the disease. Seldom of more than slight degree, it may be absent even in a first attack; it may affect a considerable length of lower ileum, or several discrete stretches of bowel, or only one short segment; or it may be restricted merely to palpable thickening of Peyer's patches. Frequently, with or without an inflammatory appearance of the bowel, there is a small quantity of clear fluid free within the peritoneal cavity.

Histologically the glands present a non-specific hyperaemia and cellular hyperplasia. In my experience, glands removed at operation, and free fluid from the peritoneal cavity, prove sterile on culture and on animal inoculation.

Symptoms

The history is not particularly characteristic. The patients, more often male than female, are usually children beyond the years of infancy, but the condition has been recorded at 10 months and at 70 years of age; the extremes in my own series have been 3 and 39 years. The pain is essentially a general abdominal colic, often of extreme severity, and more intense and alarming than the initial colic of appendicitis in childhood. Between spasms of colic there is entire freedom from pain, and the patient is happier and livelier between spasms than is any patient who harbours an inflamed appendix. Even during the actual attack of pain the patient moves freely always, and violently sometimes, with a constant changing of position which would be unusual in acute appendicitis. As in appendicitis, when the patient who has given a history of generalized abdominal pain is asked to indicate the site of most intense pain, he points to the right lower quadrant. In contrast to the patient with acute obstructive appendicitis, however, he cannot locate the site of maximum pain precisely, but indicates an ill-defined area on the right side. When first seen by a doctor, four out of five patients tell of a previous attack, and most have had more than one previous attack of an almost precisely similar character. Nausea, usually with vomiting, accompanies one at least of the initial attacks. Diarrhoea is exceptional. There has quite often been a recent sore throat or other upper respiratory infection.

Signs

Clinical examination provides no more specific evidence than does the history. The patient may seem little affected, except by pain, or may be flushed and obviously fevered, or pale; he is seldom or never prostrated or ominously motionless, and during the examination limb and body movements occur normally. If taken early in an attack, the temperature is elevated to 101° or even substantially higher, and on the first day also there is an almost invariable leucocytosis of 15,000 to 20,000, with 80% or more of granular cells. As a rule the white count falls again on the second day—its elevation is quicker, higher, and shorter-lived than in acute appendicitis. A bright-red pharyngitis is a not unusual concomitant of non-specific mesenteric adenitis, but neither its presence nor its absence is highly significant, for in more than 70% of my cases pharyngitis has not been detected, and acute pharyngitis sometimes closely precedes acute appendicitis.

On abdominal examination, tenderness is elicited in the right iliac fossa, higher and more medial than the usual tenderness of acute appendicitis. The lowest limit of tenderness is just below and to the right of the umbilicus. When the terminal (superior mesenteric) glands are widely involved a band of tenderness may be outlined as it extends upwards and to the left towards and sometimes just beyond the midline of the epigastrium. The right lower abdominal muscles are nearly always in slightly higher tone than their fellows of the opposite side, but rigidity is not maximal or, if it is, the muscles soften perceptibly under continued gentle pressure. Rebound tenderness is not unusual, particularly if the leaves of the mesentery are inflamed, or the serosa of the bowel. I have never elicited pain in the right iliac fossa by palpation of the left. One sign, "shifting tenderness," is said to be pathognomonic; certainly its presence is most suggestive, though its absence is not significant. To elicit shifting tenderness the site of maximum tenderness is located while the patient lies supine; the position is then changed to the left lateral, and after a few minutes, if the sign is present, the point of maximum tenderness will be found to have moved leftward to or beyond the midline. The sign depends upon postural displacement of the lower ileum with its mesentery, and is elicited only if the juxta-epiphysial glands are inflamed. Rarely it may be positive early in acute appendicitis if the caecum is highly mobile.

The enlarged glands are seldom palpable, even those at the root of the mesentery fixed against the background of the posterior abdominal wall, and free fluid is not often of sufficient amount to be detected by percussion.

It would be easy to elaborate degrees and varieties of acute mesenteric lymphadenitis, based on the severity of the symptoms and on the gland groups affected, but any too detailed classification is artificial, for degrees and varieties merge imperceptibly into each other, and a single patient may manifest at different times all degrees of severity, all combinations of symptoms and signs, and, in cases submitted to more than one operation, more than one variety of pathological picture. A chronic form of the disease has been described, but seldom has any kind of continued and prolonged ill-health been proved to be due to non-specific adenitis. In this disease attacks are commonly recurrent, but they are separated by periods of a few months' freedom from discomfort: persistent ill-health and frequently recurring fever and pain, with constant abdominal discomfort, have been found to be due nearly always to tuberculous rather than to non-specific adenitis if laparotomy has finally offered an opportunity for biopsy.

Differential Diagnosis

Safety demands that acute appendicitis be distinguished from lymphadenitis; justice and accuracy demand that non-specific be distinguished from tuberculous adenitis. Other causes of abdominal pain, numerous though they are, offer less difficulty in differentiation.

Confusion with appendicitis is less likely to occur in practice than seems possible when the symptoms and signs of the two conditions are compared on paper. The sharp spasms of colic with complete or almost complete freedom from pain between them, the rolling and kicking of the child in an attack, the high and medial situation of the tenderness, the absence (if it is absent) of rebound tenderness even at the point of maximum tenderness, the presence (if it is present) of shifting tenderness, the relaxation under steady pressure of apparently rigid muscles, and the history of previous typical recurrent attacks, if these have occurred, all inspire confidence in a negative diagnosis of "this is not appendicitis" even if they fail to suggest the positive diagnosis of non-specific mesenteric adenitis. If such a pathological condition did not exist it would almost be necessary to invent it as an answer to the question, "If it is not appendicitis, then what is it?" If the term "non-specific mesenteric adenitis" is adopted for official record purposes, in any charge, five important sequels are observed, and cannot be entirely ascribed to misguided and indiscriminate enthusiasm:

(1) The syndrome of non-specific mesenteric adenitis is found to lose the vagueness of its verbal description.

(2) A considerable number of patients are found suitable for inclusion in the adenitis group.

(3) Acute appendicitis can be excluded with greater certainty and with less anxiety.

(4) Substantially fewer normal appendices are removed.

(5) The incidence of "mural appendicitis" and "non-obstructive appendicitis" falls.

That there is no danger in attempting to distinguish appendicitis from lymphadenitis has been shown in my own charge; during the past two years only three children suffering from non-specific mesenteric adenitis have been mistakenly subjected to appendicectomy, yet the converse error—delay in removing a diseased appendix due to a misdiagnosis of mesenteric adenitis—has not occurred.

Differentiation of non-specific from tuberculous mesenteric adenitis is not always easy. In the latter condition leucocytosis is usually absent throughout, the abdominal wall is almost completely lax, enlarged matted glands are usually palpable, and pain or at least discomfort is more constant between attacks. If operation is not performed, and doubt exists, it is not only more accurate, but it serves better the interest of patient and of community, to regard the condition as non-specific unless there is clear evidence of tuberculosis elsewhere —in neck or chest, for example. If the question arises at operation, a diagnosis of tuberculosis is justifiable only if surface tubercles are seen, or if the glands are matted and partly caseous, or if the tuberculous nature of the condition is proved by biopsy.

Other forms of mesenteric gland enlargement seldom produce acute abdominal symptoms. At operation, malignant glands can usually be recognized by their character. In lymphadenoma and infectious mononucleosis glands elsewhere in the body are simultaneously enlarged. Even so, it is wise in non-specific adenitis to carry out a differential white count and the Paul-Bunnell test.

Pathogenesis

It might be argued that the causes of mesenteric gland enlargement are so numerous that this condition cannot be regarded as a pathological entity, yet the clinical features are so commonly repeated in characteristic combination, and are associated with such uniform pathological appearances, that in the light of our present knowledge it would seem expedient to regard the disease as clinically and pathologically distinct, even if it should be proved in the future to be due to more than one cause.

The appearances in the glands, and more especially the appearances, when they are present, in the wall of the intestine, are those of acute inflammation, and strongly suggest a response to infection (Stephens, 1938). It would be unjustifiable, however, to class the condition as an enteritis, for at operation the glandular enlargement is invariable, whereas the appearances of inflammation in the bowel, at least from its serious aspect, are exceptional. Foster (1938) and Adams and Olney (1938) have suggested that the appendix is the portal of entry to the inflamed glands and, admittedly in a few cases but by no means in all, the appendix shows the same serous flush as may the neighbouring ileum. The appendicular origin of non-specific adenitis, however, is difficult to substantiate when it is remembered that the juxta-ileal glands, predominantly and invariably enlarged in the early case of adenitis, are not found enlarged at operations for overt appendicular infections (Wilensky and Hahn, 1926) unless perforation and peritonitis have supervened: the appendicular lymphatics drain to the ileo-colic glands, and thence direct to the terminal superior mesenteric group. Felsen (1935) suggested that organisms of the dysenteric group might be responsible, but these organisms can rarely be cultured from the stool, and Klein (1938) found a positive agglutination reaction in only three patients out of 30 tested. Tuberculosis can confidently be excluded in most of those cases which show no tubercle formation to the naked eye, no matting, and no caseation, and in which tubercle bacilli cannot be isolated from lymph glands or peritoneal fluid, guinea-pig injection is negative, and the histological picture is not that of tuberculosis. Rosenburg (1937) found a smaller percentage of positive tuberculin reaction in patients suffering from non-specific mesenteric adenitis than in controls suffering from other acute non-tuberculous abdominal conditions. Non-specific adenitis has been ascribed to the passage of a hypothetical virus through the mucosa of the intestine to its submucous lymphatic tissue, and thence to the mesenteric glands. Some support is lent to this hypothesis by the failure to culture bacteria from glands which are apparently the seat of acute inflammation. The coincidence or precedence of upper respiratory tract infection is an additional argument in favour of a more or less generalized virus infection, though most observers find respiratory infection much less common in mesenteric adenitis than do Adams and Olney (1938), who regard mesenteric adenitis as "a local manifestation of a generalized condition from upper respiratory tract infection."

A relationship might be suggested between mesenteric lymphadenitis and the acute regional ileitis of Crohn. The gland enlargement in the mesentery of the affected bowel in regional ileitis is identical with that seen in non-specific mesenteric adenitis; indeed, it *is* a non-specific mesenteric adenitis. Conversely, an early non-specific adenitis accompanied by a patchy pink inflammation of the serous coat of ileum and, more significantly still, by an oedema of all coats sharply demarcated from healthy bowel, suggests an early, mild, self-limiting regional ileitis; indeed, it *is* a regional ileitis in the widest sense of the term. The identity or diversity of the two conditions could be proved only by the demonstration of the ultimate cause of one of them or the causes of both.

Treatment

Little can be said of treatment. Appendicectomy is specifically advised by some. Foster (1939) claims that if appendicectomy is performed patients seldom report a return of pain after operation, but that those treated conservatively usually complain of recurrence. His argument is not conclusive, however, for abdominal pain is always regarded more anxiously by a child's parents if the appendix is present than if the appendix has been removed. Abdominal pain of any kind except the most severe, occurring after appendicectomy, seldom brings a child to his doctor. Rosenburg (1937), in a careful follow-up, finds that two-thirds of the patients treated by appendicectomy for non-specific adenitis do in fact have a recurrence of pain after operation. My own experience is similar to that of Rosenburg and of Adams and Olney in that it gives no reason to believe that appendicectomy affects the course of the disease, which in any case is self-limiting and from which ultimate recovery seems to be invariable.

Summary

The desirability is argued of recognizing acute non-specific mesenteric lymphadenitis as a clinical and pathological entity.

The frequency of this condition is compared with that of acute appendicitis and of tuberculous mesenteric adenitis.

The pathological features and the distribution of affected glands are described.

The possibility of a pre-operative diagnosis is discussed, and the diagnostic value of such signs as localized tenderness, rebound tenderness, and shifting tenderness is assessed.

The evidence supporting various hypotheses of pathogenesis is weighed, and virus infection is accepted as the most probable cause of the condition, in spite of a present lack of full bacteriological proof.

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The Ministry of Health has sent to port health and riparian authorities in England and Wales a circular letter enclosing the new Port Health Amendment Regulations, 1945, which have been made by the Minister under the Public Health Act, 1936, and will come into operation on Dec. 1. Their purpose is primarily to give effect to the provisions of the International Sanitary Convention, 1944, so far as those provisions affect the Port Sanitary Regulations, 1933. This convention, modifying the International Sanitary Conventions of 1926 and 1938, has recently come into force following its signature by the necessary number of Governments. It is now on sale as a Command Paper (Cmd. 6637). The opportunity has been taken to introduce some amendments of the 1933 Regulations which experience has shown to be desirable and which can, without inconvenience, be made at the present time. The form of declaration of health has been revised, and it will be the duty of port health and riparian authorities to furnish copies of it to the master of every foreign-going vessel arriving in England and Wales from a foreign port. Other changes in general procedure are intended to clarify existing instructions and to tighten control. The new Port Health Amendment Regulations are published by H.M. Stationery Office at 2d. as Statutory Rules and Orders, 1945, No. 1282.

THE DIETS OF SCHOOL-CHILDREN IN TWO INDUSTRIAL TOWNS

BY

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The vitamin-feeding tests made in Ipswich and Glossop in 1941–2 (Bransby *et al.*, 1944) included no dietary data to show the vitamin intakes obtained from the diets. The studies to which this report relates were designed to provide dietary information for a sample of the children participating in similar feeding tests in two North of England industrial towns, A and B.

Method

Two dietary surveys were made in both A and B, the first in Aug./Sept., 1943, and the second in March, 1944. These two periods were chosen because during the former vegetables were relatively plentiful and during the latter relatively scarce. Over 5,000 children participated in the feeding tests; a random sample of children was selected from the school lists for inclusion in the dietary survey. Dietary data were collected in March, 1944, only for those children for whom such data had been obtained in Aug./Sept., 1943. Data were obtained for 426 children in Aug./Sept., 1943, and 289 in March, 1944.

Shortly before the survey began the mothers of the children selected for study were sent a letter signed by the medical officer of health, asking for their co-operation by recording during one week the amount of food eaten by their children. During the week the dietary data were recorded each of the co-operating mothers was visited at least three times by a field worker of the Wartime Social Survey, who checked the dietary data and collected other relevant information.

The method used for collecting the dietary data was evolved after trials which had shown that it was acceptable to and workable by the large majority of a randomly chosen sample of working-class housewives. That it proved so is shown by the fact that in the Aug./Sept. survey only 22% of the mothers refused to co-operate —some of these for unavoidable reasons. All foods, where possible, were recorded in "homely measures." Milk was measured in cupfuls, and the size of the cup was also measured; bread was recorded in slices, and the number of slices cut from a loaf was counted or a sample of slices was weighed; standard tablespoons were provided for serving such foods as vegetables, breakfast cereals, and puddings; standard teaspoons were provided for serving sugar and jams. Each mother was also given a poster with illustrations of variously sized pieces of meat, cheese, jam tart, and steamed pudding, and different-sized potatoes. In addition, the poster included a diagram showing the amount of potato to be served in each tablespoonful. The amount of food eaten by each child during the week was calculated from the number and the weight of units of the various foods eaten. Trials have shown that the average intakes of nutrients by groups of children found by this method tended to be just slightly greater than those obtained by the precise technique of Widdowson and McCance (Widdowson, 1936; Widdowson and McCance, 1936).

School Meals.—Special steps were taken to ascertain the amount of food provided in the school meals in A and B. For two or three weeks immediately before or during each survey period representative meals served to children of different ages and attending different schools were weighed to determine the amounts of the various foods provided. Information was then obtained on the school meals actually provided during the survey period. The total food intake of children eating school meals was the sum of the food provided at home and that provided at school. For all children, information was obtained for the amount of "school milk" consumed.

Ascorbic Acid Content of the Diets.—Special attention was given to the ascorbic acid content of the diet, because the amount of ascorbic acid in vegetables is very variable and because multivitamin capsules provided a supplement of 25 mg. a day. It was hoped that information on the amount of vegetables eaten and the methods of cooking them would enable reasonably accurate estimates to be made of the actual ascorbic acid intakes of the individual children. The mothers were therefore asked for details of the methods by which the vegetables were cooked and the ascorbic acid content was estimated from the information provided. The following percentage retentions of ascorbic acid in green vegetables were allowed:

Cooked in little water	60% retention
About half covered with water	40% ,,
Completely covered with water	20% ,,
Length of time kept hot	50% per hour loss

For potatoes and root vegetables the factor of 50% retention was adopted throughout. In addition, samples of cooked vegetables collected from homes and schools were analysed for ascorbic acid by Dr. Neil Jenkins. The values found for the different schools were applied directly for estimating the ascorbic acid intakes of children eating school dinners. The results of the study of the ascorbic acid values of home-cooked vegetables will be published separately by Dr. Jenkins. He found that there was good agreement between the average values of a number of samples determined by analysis and by calculation as described above, but that there was little agreement between the two values for individual samples of cooked vegetables.

Standards of Nutrient Requirements.—The League of Nations (1938) standards of nutrient requirements were used for comparing the average nutrient intakes both of groups of children and of individual children with their estimated needs. The age groupings used by Magee (1943), whose standards of requirements were based on those of the League of Nations, were too wide for the present purpose, and standards for yearly age groups were obtained from them by interpolation. An estimate was also made of the adequacy of the nutrient intakes of the individual children by comparing their actual intakes with the estimated requirements of children of the same age. The intake of each nutrient was graded "adequate" if it reached the level of the League of Nations standards, "fair" if it was within two-thirds of that standard, and "poor" if below two-thirds. It is appreciated that this method of classification has severe limitations because of the wide variation in individual requirements, as has been amply demonstrated by Wiehl (1944).

Standards of "Cost Coefficients."—For the purpose of demonstrating the dietary intakes at different levels of food expenditure the children were grouped according to the "food expenditure per expenditure unit" of the families to which they belonged. The procedure was as follows. The cost of adequate diets was estimated for persons of different ages; the cost of the diet of an adult male was reckoned as one expenditure unit and the cost coefficient of all other persons was calculated from the relative cost of their diets and that of the adult male. The "food expenditure per expenditure unit" for each family was obtained by dividing the actual food expenditure per week by the number of food expenditure units in the family. The standards used are given below.

TABLE I.—*Cost Coefficients (Cost of an adequate diet for an adult male was calculated to be 9s. 6d. per week at the time of the surveys)*

	Full Price*	Free School or National Milk	Free Dinners†
Adult male	1·00	—	—
„ female	0·93	—	—
Expectant and nursing mothers	1·25	1·10	—
17–21 years	1·00	—	—
15–17 „	1·05	1·03	0·76
12–15 „	1·03	1·01	0·75
7–12 „	0·82	0·80	0·61
5–7 „	0·63	0·61	0·38
3–5 „	0·52	0·39	—
1–3 „	0·40	0·28	—

* Includes school and national milk and vitamin concentrates at reduced price
† Allowance for school dinners: one-third daily cost of food, five days per week.

Table of Food Composition.—The values submitted to the Sub-committee on Food Composition of the Accessory Food Factors Committee of the Medical Research Council supplemented by values given in *The Chemical Composition of Foods* (McCance and Widdowson, 1940) were used for calculating the nutrient values of the diets.

Presentation of Results.—A large number of tables were prepared from the analysis of the data collected during the two surveys. Generally four sets of tables were obtained for each classification: (1) the actual intake of foods or made-up dishes per head per week; (2) the actual nutrient intakes per head per week; (3) the percentage of estimated requirements represented by the latter; and (4) the percentage of the children whose nutrient intakes were adequate, fair, or poor. The principle adopted for selecting the tables for inclusion in this report was to give priority to (3).

Results

Average Intake of Food and Nutrients.—Table II shows the percentage of nutrient requirements consumed by boys and girls in A and B as found in the Aug./Sept., 1943, and March, 1944, surveys. The average calorie and protein intakes were adequate in both surveys. The calcium intakes were deficient by about 40%, and the iron intakes in March, 1944, tended to be somewhat below requirements. Slightly less than half the vitamin A potency was provided by carotene, the remainder being preformed vitamin A from either the diet or the cod-liver oil. The ascorbic acid intakes were 118–150% of requirements in both surveys, but the intake during March, 1944, was raised above the normal level for that season of the year by a distribution of oranges during the survey period. Without the ascorbic acid provided by the oranges the average intake in March, 1944, would have been of the order of 20–25 mg. a day. The difference between this intake and that in Aug./Sept., 1943, was due to a lower consumption of green vegetables and the lower ascorbic acid value of potatoes. The proportion of children who had diets poor in the various nutrients are as follows, the first figure relates to Aug./Sept., 1943, the second to March, 1944: calories, 13% and 20%; protein, 3% and 6%; calcium, 64% and 67%; iron, 8% and 14%; vitamin A, 17% and 33%; vitamin B, practically none; ascorbic acid, 4% and 20%. It is probable that a much higher proportion of children would have had a poor intake of ascorbic acid in March, 1944, but for the distribution of oranges.

TABLE II.—*Percentage of Requirements Consumed by Boys and Girls in A and B*

	No. of Children	Calories	Protein	Calcium	Iron	Vit. A	Vit. B_1	Vit. C
				Aug./Sept., 1943				
Town A: Boys and girls	172	108	111	63	109	130	136	150
Town B: Boys and girls	254	107	116	61	105	115	140	133
				March, 1944				
Town A: Boys and girls	116	103	110	61	98	101	140	118
Town B: Boys and girls	173	97	107	57	88	199	133	118

Table III shows the consumption of certain foods, per head per week, in Aug./Sept., 1943, and March, 1944. It must be noted that the weights, etc., refer to foods as eaten—that is, cooked edible portion—and not foods "as purchased."

TABLE III.—*Average Weekly Consumption of Certain Foods*

	Aug./Sept., 1943	March, 1944
Meat, bacon, and fish	15 oz.	17 oz.
Stews, soups, pies, etc.	22 oz.	28 oz.
Eggs	1	1
Cheese	2 oz.	3 oz.
Bread, etc. (as flour)	55 oz.	60 oz.
Potatoes	41 oz.	44 oz.
Porridge and other breakfast foods	14 oz.	14 oz.
Vegetables, green	7 oz.	5 oz.
„ others	12 oz.	15 oz.
Fruit and tomatoes	41 oz.	5 oz.
Fats	7 oz.	6 oz.
Sugar and preserves	11 oz.	10 oz.

The consumption of all forms of milk, including an estimated amount used in puddings, was of the order of the equivalent of 5 pints per head per week. The principal difference between the consumption of the various foods in Aug./Sept., 1943, and March, 1944, was the greater consumption of stews, etc., and bread at the latter time, and milk and fruit and tomatoes at the former. The higher consumption of fruit and tomatoes in Aug./Sept., 1943, was due to a glut of tomatoes at the time of the survey.

Nutrient Intakes on Various Days of the Week.—The data collected in the Aug./Sept., 1943, survey were analysed to show the nutrient intakes for the sample as a whole—that is, 426 children—on each day of the week. In Table IV daily intakes are expressed as percentages of the average daily intake for the whole week.

TABLE IV.—*Comparative Intake of Nutrients by Day of Week*

	Calories	Protein		Fat	Carbohydr.	Calcium	Iron	Vit. A	Vit. B_1	Vit. C
		Anim.	Veg.							
Sun.	102	106	100	104	100	89	108	121	111	133
Mon.	101	94	100	99	103	102	92	89	102	95
Tues.	99	97	100	100	99	105	100	101	96	86
Wed.	101	106	100	101	99	108	100	114	95	93
Thurs.	96	97	100	97	101	106	100	98	98	98
Fri.	101	106	100	102	100	109	100	85	98	95
Sat.	96	86	98	96	97	82	100	93	98	98

The differences in nutrient intakes on the different days of the week were not pronounced. The diet was slightly more generous on Sundays and that on Saturday slightly less generous than on other days of the week. On both of these days the calcium intake was less than on other days, owing presumably to the absence of school milk.

Nutrient Intake According to Age.—The data of each survey were analysed to show the average daily nutrient intake for yearly age groups. Table V shows the average intakes for boys and girls and for both surveys combined.

Table V.—*Daily Nutrient Intakes According to Age*

Age (yrs.)	No. of Children	Protein		Fat	Car-bo-hydr.	Cal-ories	Cal-cium	Iron	Vit. A	Vit. B_1	Vit. C
		Anim.	Veg.								
		g.	g.	g.	g.		g.	mg.	i.u.	i.u.	mg.
5	23	30	36	82	279	2,100	0·84	10	3,400	380	35
6	71	36	37	93	281	2,250	0·92	11	3,700	420	35
7	70	31	37	82	272	2,100	0·80	10	2,800	410	33
8	91	36	37	88	277	2,200	0·89	11	3,700	430	38
9	113	35	40	89	293	2,250	0·84	12	3,300	450	39
10	79	33	43	82	300	2,250	0·80	12	3,500	450	38
11	69	36	48	93	332	2,500	0·86	14	3,500	500	43
12	124	37	50	95	348	2,600	0·84	14	3,400	530	44
13	71	37	55	100	363	2,700	0·89	15	3,400	550	42

Compared with the League of Nations standards of requirements the mean calorie intakes were sufficient below about 7 years and slightly insufficient at 12–13 years; protein intakes slightly insufficient at 12–13 years; calcium intakes about 40% deficient at all ages; iron intakes somewhat insufficient above 10 years; and the vitamin intakes sufficient at all ages. The differences between the actual calorie intakes and calorie requirements were fairly substantial, the former being in excess of the latter by about 500 calories for children of below 7 years and 300 calories below for children of 12–13 years. It is apposite in this connexion to state that Cook, Davidson, Keay, and McIntosh (1944) found that the average intake of 45 boys aged 14–15 years was 2,228 calories daily, which is about 700 calories daily lower than the League of Nations standards, and that Virtue and McHenry (1945) found that the mean calorie intake of every type of person was below the recommended allowances (National Research Council of the U.S., 1943), and in some cases markedly so.

Nutrient Intake According to Food Expenditure per Expenditure Unit.—Data on food expenditure could not be obtained from all the mothers co-operating in the survey; hence the sample entering this analysis is smaller than that for other analyses. Table VI shows the percentage of nutrient requirements consumed according to food expenditure per expenditure unit.

Table VI.—*Percentage of Nutrient Requirements Consumed According to Food Expenditure per Expenditure Unit*

Food Exp. per Exp. Unit per Week	No. of Children	Cal-ories	Pro-tein	Cal-cium	Iron	Vit. A	Vit. B_1	Vit. C
Towns A and B: Aug./Sept., 1943								
Under 9s. ..	12	94	101	60	89	111	125	120
9s.–11s. ..	31	96	104	54	98	84	127	110
11s.–15s. ..	124	106	111	64	109	132	134	150
15s.–19s. ..	74	112	119	64	114	122	146	153
Over 19s. ..	39	128	133	67	121	137	159	151
Towns A and B: March, 1944								
Under 11s. ..	35	97	108	57	94	96	143	118
11s.–15s. ..	86	100	109	57	96	91	138	114
Over 15s. ..	85	105	116	64	92	104	142	122

In general there was for all nutrients an increase in adequacy of intake with increasing expenditure per expenditure unit. The calcium intake was low at all expenditure levels, but, apart from that, diets were on the average adequate at expenditures of about 11s. per expenditure unit per week. The improvement in the diet with increasing food expenditure per expenditure unit was due to small increases in the consumption of meat, fish, milk, puddings, cake, cereal breakfast foods, potatoes, green vegetables, and fruit. The consumption of bread tended to decrease with increasing expenditure.

Table VII shows the percentage of children with adequate nutrient intakes, in each survey, according to food expenditure per expenditure unit.

Table VII.—*Percentage of Children with Adequate Nutrient Intakes*

Food Exp. per Exp. Unit per Week	No. of Children	Cal-ories	Pro-tein	Cal-cium	Iron	Vit. A	Vit. B_1	Vit. C
Aug./Sept., 1943								
Under 11s. ..	45	35	51	79*	35	35	72	58
11s.–15s. ..	124	61	70	61*	60	58	86	85
15s. and over	113	76	80	55*	67	61	92	88
March, 1944								
Under 11s. ..	35	42	61	83*	19	31	92	56
11s.–15s. ..	86	45	55	73*	36	39	87	58
15s. and over	85	56	73	54*	33	47	87	66

* For calcium these represent the percentage of children with *poor* intakes.

The percentage of children with adequate intakes decreased as food expenditure per expenditure unit decreased. In the under 11s. group a large proportion of the children had a diet deficient in some respect. Even in the higher expenditure groups, for which the actual expenditure on food was more than sufficient to purchase an adequate diet, many children had diets insufficient in some nutrients. This indicates that the inadequate intakes were to some extent due to unwise spending of the money available.

Nutrient Intake According to Size of Family.—There was, on the average, little change in adequacy of the diets with changes in family, except that the larger the family the smaller the intakes of vitamin A and ascorbic acid. An increase in family size was accompanied by an increased consumption by the child of bread and porridge, and a reduced consumption of meat, fish, puddings, cake, breakfast cereals, and fruit.

Table VIII shows the percentage of children receiving adequate diets according to family size.

Table VIII.—*Percentage of Children with Adequate Diets According to Size of Family*

No. in Family	No.	Calories	Protein	Calcium	Iron	Vit. A	Vit. B_1	Vit. C
Aug./Sept., 1943								
Up to 3	93	60	73	66*	58	58	89	81
4	111	68	75	48*	59	59	86	76
5	103	56	65	67*	50	52	86	83
6	117	59	68	74*	57	46	83	74
March, 1944								
Up to 3	55	51	69	67*	38	45	89	62
4	88	50	64	59*	32	48	84	68
5	63	32	48	73*	25	35	79	63
6	79	43	57	78*	28	24	90	49

* For calcium the percentage refers to children with *poor* intakes.

A somewhat higher proportion of children belonging to large families compared with those belonging to small families had inadequate nutrient intakes. There was, however, a reverse tendency for calcium.

Diets of Children taking and not taking School Dinners.—The data from each survey were analysed to compare for towns A and B the adequacy of the total diet of children taking and those not taking school dinners. The results are given in Table IX.

Table IX.—*Adequacy of Nutrient Intakes according to whether School Meals taken or not taken. Percentage of Requirements Consumed*

	No. of Children	Cal-ories	Pro-tein	Cal-cium	Iron	Vit. A	Vit. B_1	Vit. C
Aug./Sept., 1943								
Town A:								
School meals ..	66	106	109	65	114	125	136	163
No school meals	106	109	112	62	107	133	134	140
Town B:								
School meals ..	81	111	120	64	110	119	147	137
No school meals	173	104	113	60	101	113	137	133
March, 1944								
Town A:								
School meals ..	55	101	106	61	98	105	138	110
No school meals	61	103	113	61	98	98	142	125
Town B:								
School meals ..	66	101	112	60	93	109	137	102
No school meals	107	94	106	54	85	93	130	128

In A the diet of children taking school dinners was not, on the average, quite as good as that of those not taking school dinners, while the reverse was true for B. Special studies showed that the school dinners provided in B were somewhat better than those provided in A. Children eating school dinners had a somewhat higher average consumption of meat, puddings, and potatoes than did children not eating school dinners.

Diets of Children According to whether Mother was or was not Working Outside the Home.—Table X shows the percentage of

Table X.—*Percentage of Nutrient Requirements Consumed According to whether Mother was Working or Not*

Mother Working	No. of Children	Cal-ories	Pro-tein	Cal-cium	Iron	Vit. A	Vit. B_1	Vit. C
Towns A and B: Aug./Sept., 1943								
Full time ..	96	101	105	59	96	113	128	130
Part time ..	49	106	111	62	101	117	131	133
Not working ..	188	112	120	63	109	117	147	137
Towns A and B: March, 1944								
Full time ..	73	97	107	59	90	101	131	113
Part time ..	50	98	106	59	92	109	133	116
Not working ..	159	101	111	59	94	97	140	120

requirements consumed by children according to whether the mother was working full time, part time, or not at all, outside the home. The data from both surveys show that the diets of children whose mothers did not go out to work were generally somewhat better than those whose mothers went to work, either full or part time.

Discussion

The purpose of the surveys described in this report was to obtain a picture of the food consumption of a sample of the subjects of the vitamin-feeding tests in towns A and B. For this the data were analysed principally in two ways: by considering the adequacy of the nutrient intakes of the whole sample, or subgroups of children within the sample, and by grading the nutrient intake of individual children into one of the categories "adequate," "fair," or "poor." It is with some hesitancy that the latter results have been included in this report, as they are rightly open to criticism. For this grading it was necessary to compare the individual child's intake of each nutrient with uniform standards of nutrient requirements. Wiehl (1944) found no agreement between estimated calorie expenditures and calorie intakes, and there is little doubt that for all nutrients there are considerable differences in individual requirements which invalidate the adoption of a single standard for all children. Also, the variations in the composition of foods and made-up dishes may result in considerable errors in the estimation from food tables of the nutrient intakes of individuals. Further, small differences in standards of nutrient requirements may make an appreciable difference in the number of children falling into the various categories (U.S. Dept. of Agriculture, 1941). Hence the figures given for the proportion of children falling into the various categories can only be broadly interpreted, being intended merely to make the order of the deficiencies of the nutrient intakes.

The diets of the children studied were, on the average, generally adequate in all nutrients except calcium, for which there was a deficiency according to the adopted standard, 1.4 mg. a day, of about 40%. The large majority of the children had poor intakes according to that standard. Although the average intakes of the other nutrients were fairly adequate, a considerable proportion of children had poor intakes of calories, iron, vitamin A, and vitamin C, while many had only fair intakes. Reference has already been made to the ascorbic acid intake during March, 1944, and this was raised above the normal level for that month by a chance distribution of oranges. There is little doubt that it was customary at that season for some children to receive but a few milligrammes of ascorbic acid daily from their diet. One such group of children were those regularly taking school dinners cooked a considerable time before being eaten, with the result that a large part of the ascorbic acid present in the vegetables was destroyed. Actual determinations showed that the school dinners served in B in March, 1944, provided 2 to 19 mg. of ascorbic acid a day. Children eating school dinners receive the major part of their ascorbic acid from that source, and it is apparent that the ascorbic acid intake of those taking the dinners provided at certain schools must have been very small.

The adequacy of the diet did not change as much as was expected with an increase in the size of the family to which the child belonged, although there was undoubtedly some worsening. No similar pre-war data are available for comparison, but family surveys showed that the adequacy of the family diet worsened as family size increased (County Council of the West Riding of Yorkshire, 1939). In the present study the gradient was fairly steep for the relationship between adequacy of nutrient intake and food expenditure per expenditure unit. Thus in the Aug./Sept., 1943, survey the adequacy of the calorie intake improved from 94% to 128%, and the protein intake from 101% to 133%, with an increase in the food expenditure per expenditure unit of from under 9s. to over 19s. per head per week.

Summary

Data on the food consumption of 426 school-children in Aug./Sept., 1943, and 289 in March, 1944, were collected in two towns, A and B. As part of this investigation studies were made of the nutritive value of the school meals provided and the ascorbic acid content of home-cooked vegetables and of vegetables provided in school meals.

In both Aug./Sept., 1943, and March, 1944, the diets in A and B were on the average satisfactory, except for the calcium intakes, which were about 40% deficient according to the League of Nations standards. The proportions of children who had diets poor in the various nutrients are as follows, the first figures relating to Aug./Sept., 1943, the second to March, 1944: calories, 13% and 20%; protein, 3% and 6%; calcium, 64% and 67%; iron, 8% and 14%; vitamin A, 17% and 33%; vitamin B, practically none; ascorbic acid, 4% and 20%.

The data collected in Aug./Sept., 1943, were analysed to show the nutrient intakes on the various days of the week. The differences between the various days were small, the diet being slightly more generous on Sunday and slightly less generous on Saturday.

The nutrient intakes by children of various ages were compared with the League of Nations standards of nutrient requirements. The mean calorie intakes were sufficient below about 7 years and slightly insufficient at 12–13 years; protein intakes were slightly insufficient at 12–13 years; calcium intakes about 40% deficient at all ages; iron intakes somewhat insufficient above 10 years; and the vitamin intakes sufficient at all ages.

Generally the adequacy of the intake of all nutrients improved with increasing "food expenditure per expenditure unit." Also the proportion of children with poor nutrient intakes decreased as food expenditure per expenditure unit increased.

There was a tendency for a greater proportion of the children belonging to large families to have unsatisfactory nutrient intakes than for children belonging to small families.

In the town where the school dinners were satisfactory the diets of children taking school dinners were better than those of children not taking school dinners. The reverse was the case in the town where school meals were not satisfactory.

The diets of children whose mothers did not go out to work were, on the average, somewhat better than those whose mothers went out to work.

We are glad to record our appreciation of the very efficient way in which the staff of the Wartime Social Survey did the survey. We record with pleasure our grateful thanks to Dr. J. L. Burn and the late Dr. D. M. McKechnie and other staffs for their unstinted assistance and co-operation in every possible way. We wish also to thank Dr. Neil Jenkins, Dr. L. P. Kendal, and Mr. I. F. Langmuir for the ascorbic acid determinations, and Mr. H. U. Thompson for laboratory accommodation and assistance.

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Better provision for the help and care of the unmarried mother and her child, through co-operation between local authorities and existing voluntary agencies, is recommended by the Secretary of State in a circular issued by the Department of Health for Scotland. The high death rate among illegitimate children was brought out in the report on infant mortality in Scotland by a subcommittee of the Scientific Advisory Committee, and last year (when the mortality was 108 per 1,000 illegitimate births) local authorities were asked by the Department to consider improvements for the care of illegitimate children. The problem has acquired new importance in view of the increased numbers of illegitimate births during the war years. If the unmarried mother is unable to stay in her parents' home local authorities could provide reliable guidance and help on such matters as accommodation, aliment, employment, foster-parents, and legal adoption. The statutory services which are available to all expectant and nursing mothers and to infants and young children are available to the unmarried mother and her child. The authority should "take positive steps" to set up a close liaison between the public health and the public assistance departments as problems are brought to light during the ordinary administration of public assistance. The most promising line of attack and the one likely to give the quickest results, the circular suggests, is "close and mutually sympathetic co-operation" between local authorities and voluntary agencies already dealing with the problem of the unmarried mother and her child.

REPORT ON NEARTHROSIS OF THE SHAFT OF THE HUMERUS FOR AMPUTATIONS ROUND THE ELBOW-JOINT

BY

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The loss of an arm, especially in the case of a manual worker, is a much more serious matter than the loss of a leg, and everything should be done to enable the sufferer to make use of whatever remains of it. Two alternatives offer themselves for this purpose: (1) the provision of an artificial limb, or (2) cineplastic operations (in suitable cases).

For many good reasons cineplastic surgery has not been popular in this country, and the almost universal trend has been to provide an artificial arm with fitments in the form of appropriate appliances for toilet, feeding, and work. In the majority of cases this has proved successful. There is, however, a marked difference in the success attained, depending on whether the amputation is above or below the elbow, the prosthesis for the latter being infinitely more useful. So much has this fact been impressed on us that every endeavour is made to save at least some inches of the forearm, and the limb-makers have succeeded in fitting useful limbs to short forearm stumps. Hitherto, arms which had of necessity to be amputated primarily just above the elbow-joint, through the joint, or immediately below the joint required reamputation at the site of election, which is 7 or 8 in. below the tip of the acromion, so as to provide enough space below the end of the humerus for the simple mechanism of the artificial elbow-joint.

The loss of often healthy skin, muscles, and bone in these reamputations caused me to wonder if more use could not be made of them, and the idea was conceived to construct a simple hinge-joint in the shaft of the humerus and so conserve the power of the muscles surrounding it and give a short secondary stump which would, to some extent, act as a forearm.

So far as one could see, nothing could be lost except some time. If the arthroplasty proved a failure, then the joint having been made at the normal site of election, reamputation could still be carried out without further loss of tissue than would have been the case had the normal reamputation been undertaken in the first instance.

Purpose of the Operation.—This is: (1) to conserve the muscular power of the flexors and extensors of the forearm and harness their power usefully; and (2) to make a joint in the shaft of the humerus so that there is about 4 in. of bone distal to the joint. Up to the present 24 operations of this type have been performed on 16 patients.

Problems Concerned in Making the Nearthrosis

1. *Prevention of Callus Formation and Subsequent Ankylosis of the Joint.*—It is interesting to note that fractures of the middle third of the humerus have a tendency to non-union. The treatment of the bone-ends and medullary cavity with bone-wax, we had hoped, would further discourage bony union, but in the first eight cases bony union was taking place and exuberant callus being formed. Over one hundred years ago Charles Bell wrote: "Scrape a bone and its vessels bleed; cut a bone and its granulations sprout up; break a bone and it will heal; cut a piece away and more bone will readily be produced; burn it and it dies."

From the eighth operation onwards we adopted the following methods to prevent callus formation and bony union: (1) We removed 1½ to 2 in. of the shaft of the humerus, *extraperiosteally*, at the proposed site of the new joint. (2) The bone-ends were fulgurized by electrocautery. (3) 10 to 15 g. of sulphanilamide powder was packed into the space between the bone-ends. Sulphanilamide in high concentration is said to inhibit phosphatase activity, which is intimately concerned with calcification. (4) The arm was immobilized in a straight plaster case for two to three weeks and muscle activity was discouraged at first.

2. *Provision of a Useful Range of Movement.*—Lateral instability is largely controlled by the hinge prosthesis, and is not so important as might at first appear. As regards the range of movement necessary to be of real value, we are advised by experts on artificial arms that in the case of a single arm amputation a range of 90°—that is, from the straight 180° to 90°—would be very valuable, but half this range would still be useful. Our last 10 cases have an active range of 90° and a passive range of a little more. In double arm amputations the important arc of movement is from 90° to 30°, so that the hand can be brought to the mouth. It seems unlikely that this could be achieved with the nearthrosis described without additions to the prosthesis. In general, the simpler the type of joint made the greater the range of movement. If only freedom of movement at the nearthrosis can be maintained, one can expect an increase in the active range owing to shortening and accommodation of the flexors, with improved muscle power and co-ordination.

3. *Provision of a Fulcrum.*—This is a problem, and crepitus and telescoping of bone-ends reduce the efficiency of the muscles acting round the new joint. However, the operation of removing 1½ to 2 in. of bone not only encouraged non-union but also enhanced the range of movement and eliminated crepitus of the bone-ends, which was sometimes irritating to the patient but never painful. Improvements contemplated in this respect include the trial of a simple compact vitallium hinge, the limbs of which consist of two short spikes which could be pegged into the medullary cavity of the bone-ends or metal caps to fit the bone-ends. This again has obvious theoretical advantages, but the hinge might soon become so closely invested in fibrous tissue as to "seize up."

Operative Details

Type of Case.—The operation is indicated in: (1) above-elbow amputations, where at least 4 in. of the shaft of the humerus below the insertion of the deltoid muscle still remains; (2) in through-elbow amputations; (3) in very short below-elbow amputations which cannot be fitted with a below-elbow prosthesis; (4) in cases of congenital absence of the forearm.

Pre-operative Treatment.—We think it is important to explain to the patient the nature of the operation and impress on him that his remaining muscles will be able to perform their own function again. He is taught to contract his muscles before the operation and to develop maximum power.

Operative Technique.—For the first 16 operations the incision used for exposure of the shaft of the humerus was a 3½-in. incision over the lateral intermuscular septum. The brachialis anterior and biceps were retracted forwards and the triceps retracted backwards. Sometimes the musculospiral nerve was seen. It, too, was retracted backwards. This incision was altered to a muscle-splitting posterior incision in the last eight operations because it was felt: (*a*) that, however carefully the operation was performed, a certain amount of weakness of the flexor muscles was inevitable; and (*b*) that an incision passing through the triceps muscle was of more value because extension was not so important and, in any case, is assisted by gravity. At first the periosteum of the humerus was exposed and incised. The humerus was sawn through and about half an inch of the shaft removed and the ends bevelled at an angle of 45° in front so as to allow maximum flexion (Figs. 1 and 2).

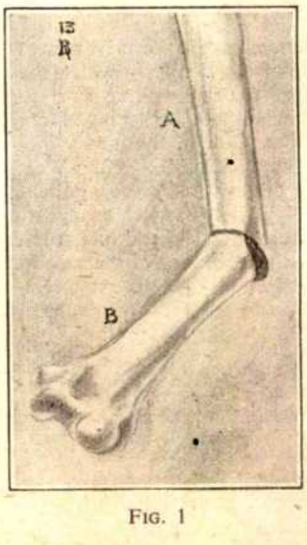


FIG. 1

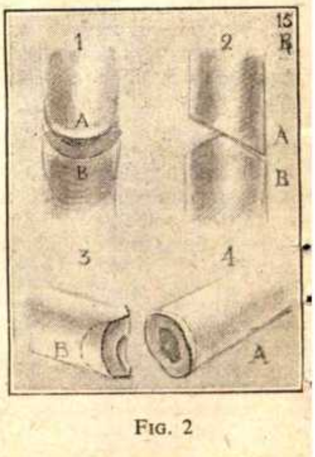


FIG. 2

The medullary cavity of the bone was curetted, the bone-ends were treated with Horsley's wax, and the medullary cavity was plugged with the wax. This has now been supplanted by liberal excision of the bone—i.e., at least 1½ to 2 in. of it—and fulguration of the bone-ends.

Post-operative Treatment

Originally the new forearm was put up in acute flexion, which was retained for 24 to 48 hours by a posterior plaster support. In the first six cases the patient began to contract his flexor muscles actively within 24 hours of the operation. Faradism was started on the third day. After three to four days the patient realized he had control of the distal end of the stump. A special plaster arm cage was supplied to keep the stump flexed and to improve flexor power. After one week he was allowed to leave the apparatus off for an hour in the morning and an hour in the afternoon, and graduated exercises were given. The new forearm could be flexed to a right-angle without interfering with the nutrition of the distal stump.

The revised post-operative treatment now starts about three weeks after the operation, when a straight plaster case in which the limb has been immobilized is removed. Apart from faradism, graduated exercises, and swimming, it is important to flex the stumps and bandage them with a figure-of-8 crepe bandage, which reduces the oedema, helps to stretch the triceps muscle, and allows the flexors to take up the slack. The patients also sleep quite comfortably with this figure-of-8 bandage, which is put on with maximum tension.

Up to the present it has not been necessary to interfere in any way with the retracted muscle or tendon ends which re-insert themselves in the fibrous mass of the amputation stump.

Case I

Pte. P., aged 34. Shell wounds of left arm and forearm on Oct. 24, 1944, in Holland. Amputation through the elbow-joint was performed the same day, and compound comminuted fracture of the upper third of the humerus treated by wound toilet and immobilization. By Jan., 1945, all wounds were healed and the fractures of the humerus were soundly united in good position. Despite the fracture and scarring, the arm muscles were well developed and powerful, the tendons of triceps, biceps, and brachialis apparently being firmly adherent to the end of the stump.

Operation, Feb. 1, 1945.—The shaft of the humerus was exposed through a 3½-in. vertical incision on the outer side of the lower third of the arm and by blunt dissection through the lateral intermuscular septum. The bone was divided 4 in. from the distal end with an electric saw. The ends of the bone were turned out into the wound and shaped to fit loosely one in the other. A hole was drilled through them and a steel wire passed through the hole to act as a pivot. All bone dust and chips were carefully removed from the wound, but no bone wax was employed in this case. A posterior plaster slab was applied, keeping the stump flexed to a right-angle.

After-treatment.—After 48 hours the slab was removed and active movements encouraged. The slab was replaced at night and when resting. About a week after operation a light hinged elbow cage was applied to the arm and movement was encouraged.

Progress since Operation.—The operation wound healed cleanly. After two weeks there was marked improvement in voluntary contraction, and the stump could be flexed actively through 45° from the straight. Considerable crepitus occurred on active movement, but surprisingly this caused no pain. One month after operation the range of movement remained the same, but there was marked improvement in power and control of the nearthrosis. Six weeks after operation, although accurate measurement was difficult, we had the impression that the range of movement was decreasing.

Second Operation.—Ten days later there was no doubt that the range of movement was diminishing, only a few degrees of active movement being then possible. Radiography revealed a well-marked sheath of callus around the bone-ends. It was plain that bony union was imminent. Operation was decided upon, and on March 26 the original incision was reopened. A spindle-shaped mass of callus was found surrounding the bone-ends and the wire which had been left in at the previous operation. The ossifying mass was chiselled and scraped away; the steel wire was then removed and the bone-ends trimmed. In an attempt to prevent further new bone formation the bone-ends were then treated as follows: The medullary cavity was curetted; the bone-ends were cauterized all over their exposed surfaces with a hot soldering-iron and an electrocautery. After this, bone wax was smeared over them and the medullary cavity plugged. The whole periosteal cavity was then thoroughly swabbed out with alcohol in the hope of still further inhibiting the osteoblastic cells in the periosteum. The wound was closed and a plaster slab applied, holding the stump flexed. This patient is now wearing a prosthesis flexing his new forearm to a right-angle, and has great muscular power. He does carpentry.

Case II

L/Cpl. B., aged 22, wounded in Holland on Nov. 20, 1944. On admission he presented a healed amputation stump of the left arm. Radiographs showed that the humerus had been sawn off immediately above the condyles. The muscles had evidently been sutured together over the bone-end, as a terminal pad of soft tissue could be moved voluntarily.

Operation, Feb. 22, 1945.—Humerus exposed (as described). The bone was divided with an electric saw and osteotome 4½ in. from the distal end. The bone-ends were in turn projected out of the wound and about 1/4 in. of bone trimmed off each. The upper end was then bevelled to a convex shape and the lower end excavated into a cup shape to receive it. Both bone-ends were smeared with Horsley's wax, and the medullary cavity was plugged with the same substance. No anchorage of any sort was attempted. A posterior plaster slab kept the lower fragment flexed at a right-angle.

After-treatment.—The slab was removed after 48 hours, and active exercise and faradism to the arm muscles were given. After four days an elbow cage was applied.

Progress.—Three weeks after operation the wound was soundly healed and muscle power and control were improving. The range of active movement was about 30° (i.e., from 180° to 150°). Considerable crepitus with overlapping of the bone-ends, was felt when flexion was carried out against resistance, but there was no pain.

Increasing limitation of movement necessitated a second operation on June 27, under the revised technique. The patient is at present wearing a prosthesis and is able to flex well to a right-angle. He is a farm labourer, and is pleased with the result.

Case III

Rfm. B., aged 24, had a traumatic amputation of the left forearm on Jan. 18, 1945, by shell-burst in Germany. Reamputation, with primary suture, was performed above the elbow-joint the next day at a field surgical unit. The amputation wound healed by first intention, and on admission he presented an arm stump of 11½ in. (from acromion to bone-end), with a soundly healed scar. The arm muscles were very little wasted, retaining good power of voluntary contraction, the cut end of biceps and triceps tendons being firmly adherent to the scar on the end of the stump.

Operation, March 2, 1945.—The shaft of the humerus was exposed as previously described. The humerus was divided transversely 3½ in. from the lower end with a Gigli saw (this has proved to be technically much the easiest and neatest method of osteotomy). The bone-ends were dislocated out into the wounds and a "step" was cut in the upper one, the lower one being bevelled anteriorly. The cut ends of the bone were treated with Horsley's wax and the medullary cavity was plugged with that substance. The bone-ends were then drilled from before backwards, and two stout silk sutures were passed through and tied so as to keep the bones in apposition, yet loosely enough to allow flexion and extension. A plaster slab was applied to keep the lower fragment flexed at a right-angle. After-treatment was carried out as in Case II.

Progress.—Two weeks after operation the wound was soundly healed and there was an active range of 40° flexion from the straight; in this case there appeared to be less instability of the joint. Passive flexion to a right-angle was possible, but this could not be achieved by the patient's own efforts.

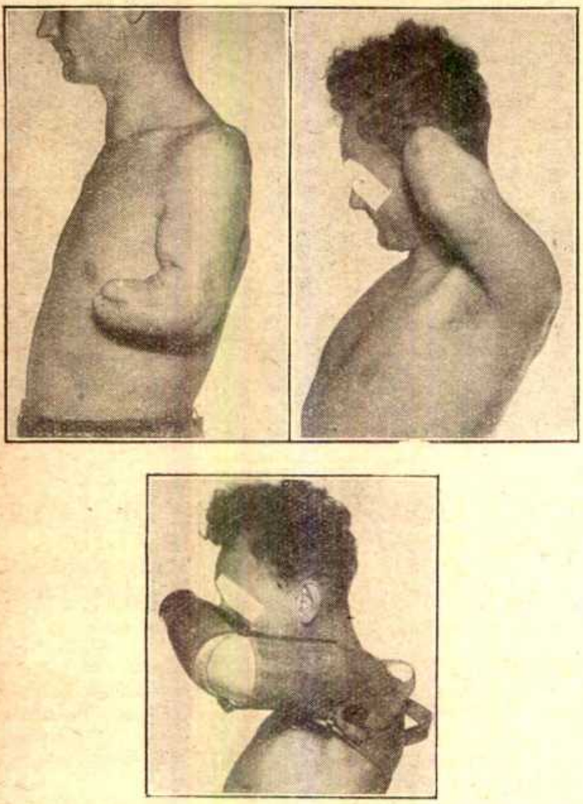
Increasing limitation of movement necessitated a second operation on June 28, under the revised technique. The patient is at present wearing a prosthesis and is able to flex well to a right-angle.

Case IV

Spr. L., aged 25, wounded by mortar in Holland, Nov. 3, 1944. Amputation through the upper third of the left forearm was performed on Nov. 5, the flaps being left open owing to gross sepsis. The remains of the head and shaft of the radius were removed after two weeks; the stump of the ulna separated as a sequestrum a few weeks later, leaving the olecranon and coronoid notch intact. By the end of Feb., 1945, the stump was almost healed. A few degrees of movement were present in the olecranon stump, but a forearm prosthesis was out of the question.

Operation, March 14, 1945.—Incision and exposure as before. The shaft of the humerus was divided 4½ in. from the distal end with the Gigli saw. In this case the bone-ends were bevelled at a more acute angle, the object being to facilitate flexion even at the expense of loss of full extension. Holes were drilled laterally through each bone and a double stout silk ligature was passed through them, which, when tied, formed artificial lateral ligaments and served to anchor the bone-ends together. The bone-ends were treated with wax as previously described and the wound was closed.

Increasing limitation of movement necessitated a second operation on May 24, under the revised technique. The patient is at present wearing a prosthesis and is able to flex well to a right-angle (Figs. 3-5). He is back at work driving a tractor.



FIGS. 3 to 5.—Photographs showing amount of flexion obtained with the stump, the temporary prosthesis worn, and the useful movements accomplished.

Case V

Lieut. L. G., aged 22, wounded in Italy May 29, 1944. Arm amputated through elbow the same day. This was a through-elbow amputation soundly healed, with a terminal scar.

Operation, April 5, 1945.—Through a 3½-in. incision over the lateral intermuscular septum the humerus was exposed. On this occasion the periosteum was not raised, but an aneurysm needle was passed round the bone *outside the periosteum*, and with a Gigli saw the bone was divided. Half an inch of bone was cut off each end. The distal end was slightly bevelled in front and the medullary cavity curetted. The ends were then treated with the electrocautery. The medullary cavity was plugged with wax and the bone-ends replaced. The arm was then put up in full flexion with a plaster slab.

Increasing limitation of movement necessitated a second operation on June 12 under the revised technique. The patient is at present wearing a prosthesis and is able to flex well to a right-angle. He is back at work farming.

Conclusion

Up to date I have performed 24 operations, the first 16 through the lateral approach described. The last 8 have been performed through a posterior muscle-splitting incision. The bone-ends have been fulgurized with diathermy after removal of at least 1½ to 2 in. of humerus. The cavities resulting between bone-ends have been packed with sulphanilamide powder. The first eight cases have been operated on twice, either for removal of exuberant callus or for removal of the wire or the twisted silk, which had become involved with the callus and caused the new joint to "seize up."

In 10 of these cases the new forearm can be actively and painlessly flexed to a right-angle. The remaining 6 have varying degrees of active flexion, which is still improving. Passive flexion in all the cases can be increased beyond the range of active flexion. All these patients have good position sense and can manipulate their new forearms so that they can either scratch the back of the head or bring the stump to the mouth. The nutrition of the distal stump has not been interfered with. The point which has been established is that the arm muscles are capable of acting on a new joint in the humerus to effect and control a useful range of movement. The new forearm can be fitted with a very useful below-elbow prosthesis.

At present not all the problems referred to in this paper can be answered, and their satisfactory solution must await further study. In the meantime, the above series of cases may serve to direct attention to this work, and we hope will bring forward suggestions for solving those problems. Some possible uses of this operation include: (1) to provide a controlled "forearm" stump for amputations as described; (2) to enable a forearm prosthesis to be fitted to very short below-elbow amputations, the elbow being arthrodesed; (3) to use the short end of the new forearm as a cineplastic stump.

Summary

A new operation is described for making a joint in the shaft of the humerus for cases of amputation near the elbow-joint. The muscles are able to act over this joint with useful power and without pain. Work is in progress to try to improve the actual joint and to overcome the technical difficulties.

I should like to thank Sir Walter Haward, O.B.E., Director-General of Medical Services, Ministry of Pensions, for permission to publish this article, which does not necessarily represent the view of that Ministry; Major-Gen. Brooke Purdon, D.S.O., O.B.E., *M.C.*, medical superintendent, Roehampton Hospital, for his enthusiasm and co-operation; and all my colleagues on the staff of Roehampton Hospital who have so kindly assisted in this work.

AGRANULOCYTOSIS AFTER SULPHONAMIDE SENSITIZATION: PENICILLIN THERAPY: DEATH FROM PS. PYOCYANEA SEPTICAEMIA

BY

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AND

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This case is reported because of the unusual circumstances of onset, and in view of the recent interest centred round *Ps. pyocyanea* infection and penicillin therapy.

Case Report

An otherwise healthy soldier, aged 19, was admitted to hospital on Nov. 14, 1944, with extensive scarring of the left forearm which had resulted from a gunshot wound on Sept. 19. Between Sept. 19 and 22 he had received sulphanilamide 10 g. and sulphadiazine 35 g., with no signs of intolerance. On admission the wound was completely healed except for a small dry scab. On Nov. 24 the patient became ill, and complained of a sore throat. On examination a grossly enlarged and inflamed right tonsil was found; temperature 101.6°. Sulphathiazole, 1 g. 4-hourly, was started.

Nov. 26.—Temperature 102°. A throat swab was reported to grow pneumococci. The throat was much improved, but the wound now showed early inflammation.

Nov. 28.—Temperature 101.6°. Inflammation of tonsil subsided and patient stated he felt much better. The wound showed a surrounding area of induration with inflammation, and superficial vesiculation in the centre. Sulphathiazole discontinued (total 15 g. in 4 days).

For the next two days the patient stated he felt quite well, but he continued to run a temperature of 101-102°.

Nov. 30.—Temperature 103°. Wound sloughing; axillary adenitis. Sulphapyridine 1 g. 4-hourly started.

Dec. 2.—Temperature 102°. Wound showed a large central slough; a swab from the wound was reported to grow (1) penicillin-sensitive *Staph. aureus*, (2) penicillin-insensitive *Ps. pyocyanea*. Penicillin, 15,000 units intramuscularly 3-hourly, was started.

Dec. 3.—Patient was flushed and ill. Temperature 103.4°; pulse 120. A waxy pallor of the skin was noted. The throat was normal, but breaking down of the wound was extending in spite of treatment. Blood count: R.B.C., 3,500,000 per c.mm.; Hb, 65%; W.B.C., 2,000 (80% lymphocytes). Sulphapyridine was discontinued (14 g. total in 2 days). Pentnucleotide, 10 c.cm. intramuscularly 6-hourly, was started.

Dec. 4.—Temperature 104°; pulse 120. W.B.C., 1,000 per c.mm. (lymphocytes 900, polymorphs 90, myelocytes 5, eosinophils 5). Two pints of fresh blood were transfused, and penicillin, 20,000 units 3-hourly, was given by drip in addition to the I.M. course.

Dec. 5.—The throat showed ulceration for the first time and the breath had rapidly become extremely fetid. The patient went rapidly downhill and died in coma at 3 p.m., the temperature having become subnormal five hours previously. Two separate blood cultures showed profuse growths of *Ps. pyocyanea.*

There was never any other evidence of sulphonamide intolerance such as rash, conjunctivitis, joint effusion, or haematuria.

Bacteriological Examination.—The *Ps. pyocyanea* from the blood culture was found to grow in broth with a concentration of 3,000 units of penicillin per c.mm. Tested against sulphanilamide, sulphathiazole, sulphamezathine, sulphadiazine, sulphapyridine, and sulphaguanidine, normal growth occurred in concentrations of 50 mg. per c.cm. (i.e., concentrations higher than those usually obtained in the blood).

Rosenthal and Vogel (1939) and Sweeney and Allday (1940) draw attention to the dangers of repeated sulphonamide therapy. Erskine (1942) and Park (1944) believe that agranulocytosis is a result of sensitization and not a toxic effect. Nixon, Eckert, and Holmes (1943) treated with the same drug three cases of agranulocytosis following sulphadiazine, and all three recovered. They believe that the neutropenia is transient, and that the continued use of the drug controlled the infection until the marrow recovered.

The lethal capabilities of *Ps. pyocyanea* even in the absence of agranulocytosis are emphasized by the following reports:

Botterell and Magner (1945) describe 11 cases of meningitis due to *Ps. pyocyanea,* with 9 deaths. Penicillin, sulphadiazine, and sulphapyridine were ineffective in the nine fatal cases. Three cases were given repeated intravenous injections of sodium iodide, and two recovered.

Evans (1945) describes 2 fatal cases of *Ps. pyocyanea* septicaemia following spinal analgesia.

Roberts, Tubbs, and Bates (1945) describe a case of venous thrombosis complicating a penicillin drip in a case of pulmonary actinomycosis secondarily infected with *Ps. pyocyanea.* The thrombus became infected with that organism, and a fatal pyaemia resulted.

The relative infrequency of *Ps. pyocyanea* infection in agranulocytosis is shown by Kracke and Parker (1934), who analyse 74 positive blood cultures out of 469 cases, the other cases being either negative or not stated. *Ps. pyocyanea* was grown in only 3 cases; 32 were streptococcal, 8 staphylococcal, and 8 pneumococcal, and the remaining 23 were from the coliform group. Reference is also made by these writers to a German series with one case of *Ps. pyocyanea* infection out of 23 cases. The causes of the agranulocytosis are not stated, but sulphonamides were not in use at that time.

Discussion

Our patient originally had 10 g. of sulphanilamide and 35 g. of sulphadiazine in four days with no signs of intolerance. After an interval of 62 days he received 15 g. of sulphathiazole over 4 days, and two days later 14 g. of sulphapyridine over 2 days. No white cell count was made during the original sulphonamide therapy, and it is regretted that one was not undertaken earlier in the second course. On looking back it appears that the neutropenia developed soon after starting the sulphathiazole, and that the breaking down of the wound must have been secondary to a deficiency of leucocytes. The long interval of 62 days between the courses of sulphonamides, and the early onset of symptoms during the second course, would suggest that sensitization was the mechanism in this case.

The agranulocytosis was treated with pentnucleotide, 70 c.cm. in 2½ days, and penicillin, 360,000 units I.M. and 120,000 units I.V. in 3 days. The effect of crude liver injections was to be tried, but a suitable preparation was not available in time.

When the diagnosis of agranulocytosis was established it was reasoned that penicillin would be of value in controlling the infection until the marrow had time to recover. The penicillin controlled the staphylococcal infection in the wound, but the *Ps. pyocyanea* invaded the blood stream and caused death. The continuance of sulphonamide therapy as suggested by Nixon *et al.* would in the presence of this resistant organism have been useless.

Although *Ps. pyocyanea* septicaemia has been described in agranulocytosis, no report of its occurrence in agranulocytosis following sulphonamide therapy has been found in the literature. Although local infections with *Ps. pyocyanea* are usually of little importance, systemic and meningeal infections are a menace owing to the lack of efficient methods of treatment. Treatment with sodium iodide appears to warrant further investigation.

Summary

A tragic case of agranulocytosis after sensitization to sulphonamides is described, emphasizing the dangers of repeated sulphonamide therapy.

It is suggested that penicillin in most cases of agranulocytosis will control the infection and so give the marrow time to recover. In this case death resulted from a *Ps. pyocyanea* septicaemia.

Our thanks are due to Dr. R. Clive Walker, medical superintendent, Highroyds Emergency Hospital, for permission to publish this case; and to Dr. C. J. Young, Bradford Royal Infirmary, for all the bacteriological investigations, and also for help in preparing the paper.

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ACUTE YELLOW NECROSIS OF THE LIVER FOLLOWING TRILENE ANAESTHESIA

BY

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The possibility of acute yellow atrophy developing as a sequel to chloroform anaesthesia has for long been taught, and this distressing misadventure has been emphasized as one of the lethal potentialities of chloroform, so daunting the tyro and, in some cases, making even the experienced chloroform administrator forsake his old favourite.

Despite points of resemblance chemically and pharmacologically between chloroform and trichlorethylene which might lead one to expect some similarity in their sequelae, acute yellow atrophy has not up to the present been regarded as a risk of trilene anaesthesia, nor, so far as we are aware, has a case been recorded. The following case history is presented on account of its unique nature and bearing in mind the oft-repeated plea for a fuller and more candid discussion of anaesthetic misadventures.

Case History

On March 4, 1945, a Dutch officer aged 28 sustained deep cordite burns of the face and hands, for which he received treatment in two other general hospitals in B.L.A. The following relevant facts are taken from their records:

March 13.—Deep burning of all four eyelids—already very septic.

April 14.—Sepsis finally got under control. Patch grafts applied to residual raw areas on face, forehead, and hands. Lids healed.

May 28.—He was transferred to this hospital to be under the care of an eye specialist, from whose records the remainder of this history is extracted.

"There was severe cicatricial ectropion of all four eyelids—the left worse than the right—and the corneae were exposed. Operation was indicated to save the eyes from destruction by corneal ulceration. Left eye worse than right—to be operated on first.

June 1.—Operation under general anaesthesia (pentothal followed by gas, oxygen, and trilene). Left eyelids and outer canthus: Dissection of scar tissue; tarsorrhaphy; split-skin graft sutured in position over raw areas.

Except for a complaint of tiredness and drowsiness, convalescence ran a normal course for the first four days.

June 5.—Abdominal pain with 'guarding' in epigastrium; vomiting of food material; liver enlarged.

June 6.—Liver 3 in. below costal margin; tenderness over liver ++; skin and conjunctivae yellow; bile salts in urine. T. 99°; P. 110; R. 20.

June 7.—More deeply jaundiced. Liver smaller—1½ in. below costal margin. T. 100°; P. 115; R. 20.

June 9.—Drowsy. Graft dressed; taken 100%.

June 10.—Hiccups; drowsy and uncommunicative; tongue and lips dry. Urine: acid; albumin and bile +; occasional granular casts. Icteric index, 114. Blood urea 34 mg., blood sugar 115 mg. per 100 c.cm. Abdomen distended with flatus; little result from flatus tube or turpentine enema.

June 11.—General condition deteriorating.

June 12.—Died at 08.15 hours."

The patient was treated with liberal glucose and fluids—at first orally and later by intravenous glucose-saline drip, alternating with plasma. Towards the end he received 20 units of insulin b.i.d.

Anaesthetic History

Pre-operative Condition.—Patient fit and well. He was keen to undergo this operation, though immediately before it he appeared somewhat apprehensive. Heart and lungs normal.

Premedication.—Morphine 1/4 gr. with hyoscine 1/100 gr. one hour before operation.

Anaesthesia.—Induction: Pentothal (freshly prepared) 0.8 g. intravenously. Intubation: Nasal route—blind. Maintenance: Gas-and-oxygen passed over trilene, using Boyle field-pattern apparatus (no CO_2 absorber attached). Duration, 4½ hours. Total quantity of trilene, 2 oz. Anaesthesia was smooth throughout and the patient was kept fully oxygenated. There was no tachypnoea, and no pulse irregularity was observed. The endotracheal tube was removed on the table, by which time the cough reflex was brisk. Trilene from the same bottle was used in the same apparatus for other patients with no untoward effects.

Necropsy Report

Abdomen.—Free bile-stained fluid in peritoneal cavity—about 2 pints. Bladder full, distended with bile-stained urine. Numerous large subendothelial haemorrhages involving the whole gut and mesentery. Parietal peritoneum showed marked engorgement of stellate vessels.

Spleen.—Soft, and enlarged to twice normal size.

Liver.—About two-thirds normal size. Cut section showed typical features of acute diffuse yellow necrosis as a mottling of red and yellow areas. Microscopically: Central, mid-zonal, and peripheral necrosis, with scanty regeneration of bile ducts. The liver cells had entirely disappeared except for scanty islands of necrotic hepatic cells peripherally arranged.

Kidneys.—Congested and oedematous. Capsule stripped easily. Demarcation of cortex from medulla less obvious than normal. Blood dripping from cut section. Otherwise no obvious macroscopic lesion.

Heart.—About 6 oz. of clear straw-coloured fluid in pericardium. Small petechial haemorrhages under visceral pericardium. Heart showing terminal right-sided dilatation. Myocardium flabby. No other abnormality detected.

Lungs.—A little free fluid in pleural cavities. Large subendothelial haemorrhages under visceral pleura. Congestion of parietal pleura. Marked engorgement of basal lobes of both lungs. Trachea, bronchi, and bronchioles showed congestion, but no other abnormality.

Conclusions.—(1) Acute yellow necrosis of liver. (2) Ascites. (3) Subendothelial haemorrhages.

Commentary

An endeavour must be made to determine whether the fatality is to be regarded as attributable to an idiosyncrasy of this patient towards trilene or whether an error of judgment was made in using trilene as the main anaesthetic agent.

The patient's history of burns and sepsis immediately suggests the possibility of liver damage having occurred; but the burns, though deep, involved a very small area, and it is recorded that sepsis had been finally cleared up fully six weeks before operation. It would appear justifiable to assume that enough time had elapsed to allow of full recovery of hepatic function.

The operation was a prolonged one, but the total quantity of trilene used—2 oz.—would not appear to be excessive, and suboxygenation was not allowed to occur. Some additional strain may have been thrown on the liver by the use of both pentothal and trilene, though hitherto we have used this sequence as a routine. As this patient belonged to the Netherlands Army, the question arose whether his liver might have suffered as a result of malnutrition during the German occupation; but his widow, on questioning, affirmed that his diet was fully adequate throughout that period. Perhaps it is worth considering whether a patient who is to undergo a prolonged anaesthesia with trilene as the main agent should be prepared as for chloroform—by intensive administration of glucose in the pre-operative and immediate post-operative periods.

Trilene has now become firmly established as an anaesthetic agent of considerable value, and up to the present remarkably few untoward sequelae have been reported, so long as the CO_2 absorption technique is avoided. (In this hospital during the past 10 months trilene has been used as the main anaesthetic agent in 333 cases. One fatality occurred in this series, the operation being laminectomy of the fourth cervical vertebra for removal of a fragment of metal which had practically destroyed the spinal cord at that level. Only one-half of the diaphragm was in action, and this patient, who weighed 16½ stone, was regarded as a desperate operative and anaesthetic risk. Apart from this one case no untoward sequelae have occurred except for very occasional and transient nausea or vomiting.) Perhaps this has tended to lull us into a false sense of security, and, while it is not for a moment suggested that the fatality reported here should lead us to abandon this useful agent, it would appear that perhaps we should exercise a little more care than has been our custom in the selection of our cases and in safeguarding the liver by ensuring full glycogen reserve both before and after any prolonged administration of trilene.

Summary

A case is reported in which death occurred from acute yellow necrosis of the liver 11 days after a prolonged trilene anaesthetic.

The main necropsy findings are recorded.

Some aetiological factors are considered, and the suggestion is made that liberal administration of glucose should become a routine practice, both before and after any prolonged administration of trilene.

I wish to record my thanks to Col. R. G. Shaw, *M.C.*, for permission to publish this case; to Lieut.-Col. J. W. Osborne, R.A.M.C.(T.), Lieut.-Col. D. H. Young, O.B.E., R.A.M.C.(T.), and Major H. B. Stallard, M.B.E., R.A.M.C.(T.) (eye specialist), for the clinical records; and to Major R. Winston Evans, R.A.M.C.(T.), for the necropsy report.

Medical Memoranda

Strangulation of Foetal Intestine before Term

The following maternity case came under my observation with some interesting features which warrant further discussion.

A multipara 4, aged 31, was admitted to the Maternity Department for her confinement owing to unsuitable home surroundings. She was rather feeble-minded. There was nothing relevant in her obstetric history, and progress of pregnancy was uneventful. B.P. 135/90, fundus 39 weeks, position R.O.A., and foetal heart heard.

At 3 p.m. next day labour began, membranes rupturing half an hour later, and the foetal head was born at 5 p.m., but the shoulders failed to be delivered. She was put under a general anaesthetic, and the cause of obstruction was found to be a contraction ring almost encircling the child's trunk just below the 9th rib. This was "ironed out" with some difficulty and the birth completed. There was nothing to my knowledge in the circumstances to favour the presence of such a ring. Moreover, the stillborn child was found to have gross ascites.

At necropsy a large quantity of semi-opaque golden-brown fluid containing brownish flakes was found free in the child's peritoneal cavity. A greenish-black mass was seen lying transversely just above the umbilicus, and was adherent at one point on the left side to the parietal peritoneum. On gentle separation from the adherent coils of intestine this mass was found to contain a loop of small gut which had obviously been strangulated by an omental band running downwards from the transverse colon to be attached near the root of the mesentery of the small intestine. The continuity of this loop had apparently dissolved with the extrusion of meconium between the layers of its peritoneal covering. The specimen can be seen at the Museum of the Royal College of Surgeons of England. I presume that this strangulation must have occurred some time before term, and an aseptic necrosis of the strangulated loop had resulted. There was nothing abnormal in the remaining contents of the abdomen, nor was there any evidence of peritonitis.

Probably the death of the child was caused by the difficulty in effecting delivery, but it obviously would not have lived any length of time had it been born alive.

I wish to thank the medical superintendent for his criticism and kind permission to publish the case.

A. H. Esmat, L.R.C.P.&S.Ed.,
Resident Surgical Officer, County General Hospital, Worksop.

Improved rates of pay in Scotland for nurses in mental institutions are recommended in the fourth report of the Taylor Committee just published. An Exchequer grant of 50% of the increased expenditure will be paid to all local and hospital authorities adopting the recommendations, which provide, among others, for new salary scales. These scales came into force as from April 1, 1945, but provision is made for the payment of arrears from April 1, 1943. A 96-hour fortnight and twenty-eight days' holiday a year with pay are other recommendations.

Reviews

A TEXTBOOK OF PATHOLOGY

A Textbook of Pathology. Pathologic Anatomy in its Relation to the Causes, Pathogenesis, and Clinical Manifestations of Disease. By Robert Allan Moore, Edward Mallinckrodt Professor of Pathology, Washington University School of Medicine, St. Louis. (Pp. 1,338; 513 illustrations, 34 in colour. 60s.) London and Philadelphia: W. B. Saunders Company.

This textbook is an important addition to pathological iterature. The author has made a determined and successful effort to correlate the aetiology of disease and its structural accompaniments with recent developments in physiology and biochemistry on the one hand, and with clinical signs and symptoms on the other. In spite of this, the basic facts of morbid anatomy and histology are generously and faithfully recorded. The style is crisp and direct, the book is packed with information, and covers a remarkably wide field; it is bulky but far from unwieldy, and is well documented. The large majority of references are to articles written in English. This, the author explains, is "a frank and practical acknowledgment that few Americans read any other language except their own." The illustrations are superb; many are in colour and well reproduced. They are not limited to photomicrographs and morbid changes in organs; many of them are clinical, and there are several excellent radiographs; a few are historical, these being well chosen and skilfully scattered through the text.

To the advanced student who has grasped the general principles of pathology and has some knowledge of the problems of infection and immunity this book will undoubtedly prove to be of great service, as well as being stimulating and refreshing. It may be "strong meat" for the elementary student in this country just beginning his crowded and top-heavy clinical curriculum.

The attempt made in this book to correlate abnormality of structure with basic biological science and clinical observation s a sign of the times which future authors of British textbooks cannot afford to disregard.

RESEARCH ON SCABIES

Human Guinea Pigs. By Kenneth Mellanby. (Pp. 96. 4s. 6d.) London: Victor Gollancz. 1945.

t is uncommon to find romance and science wedded together, but Major Kenneth Mellanby seems to have succeeded in his very readable book *Human Guinea Pigs,* in which he records he story of the work at the Sorby Research Institute in Sheffield.

During and some time after the war of 1914–18 scabies ssumed epidemic proportions, and it seemed likely that history would repeat itself. In the checking and (as it may eem) in the control of the epidemic the Sorby Institute and ts human guinea-pigs, who were all conscientious objectors, can claim an honourable part. Major Mellanby's investigations are so well known to medical readers that no more need here be said than to recall that he showed the relative unimportance of bedding and clothing as a source of infection to others—which must have saved the public health authorities both time and money—and that he set the seal of official approval on benzyl benzoate as a sarcopticide. This was not everything, or as a sort of scientific by-product dietetic experiments were lso carried out, providing valuable information on, for xample, calcium metabolism.

Human Guinea Pigs is written for the layman, successfully avoiding the so-called scientific jargon which, because it is not lways understood, often misleads. The author also discusses he problem of the conscientious objectors, to whom he pays ribute for their zeal and co-operation in an environment where hey were encouraged and sympathetically treated.

In this account of the Sorby Research Institute Major Mellanby has provided a very human document, quite apart rom its professional interest and its record of a considerable achievement.

THE HOSPITAL AT WORK

The Hospital in Modern Society. Edited by Arthur C. Bachmeyer, M.D., and Gerhard Hartman, Ph.D. (Pp. 768. $5.00 or 28s.) New York: The Commonwealth Fund; London: Oxford University Press.

This is an unusual kind of book. It might claim to be an encyclopaedia of all matters affecting hospitals, but its information is conveyed in articles chosen from various publications, and their style is much less formal than one expects to find in an encyclopaedia. It would be difficult to mention any aspect of hospital life which is not dealt with here by a well-known authority. The compilers of the book say that it is intended for (1) hospital administrators, (2) the department head, (3) the student of hospital administration; and they go on to say that each article was "chosen for its judicious analysis of a problem, and because it stimulated thought on that problem regardless of the view of the editors, and at times in contradiction with opinions expressed in other articles." There are 145 articles by 98 authors. The book's claim to be encyclopaedic is strengthened by the fact that each chapter ends with copious "references for further reading."

It is impossible in the space at the reviewer's disposal even to mention all the subjects dealt with, but a good example of the book's quality and variety may be found in the first chapter, on "The History of Hospitals." This begins with an article by Dr. S. Goldwater, who deals in an attractive way with the motives underlying the establishment of some of the earlier hospitals. The second part, by Dr. Faxon, is learned and full of interesting detail. For example, it mentions an inquiry into the hospitals of Paris in 1788 which showed a yearly mortality of 6 to 12% among the surgeons and attendants, whereas, the reporter says, "it should not ordinarily exceed 3%." The chapter on "The Hospital, the Family Doctor, and the Patient," by Dr. Goldwater, though dealing mainly with American problems, shows once more that these are the same all the world over. The author protests against the too-prevalent idea that the United States is a country where everybody is well off and therefore able to pay for his medical care. As a proof that this is not so he shows the steady growth of group practice attached to hospitals, many of them now including domiciliary attendance. He is a firm believer in keeping the family doctor in association with hospitals, because not only would this be of benefit to the patient but "the physician who enjoys a proper institutional association avoids the danger of being careless and superficial in his clinical methods." Dr. W. H. Spencer in "Hospital Organization and Management" thinks that all privately supported institutions in the United States, including hospitals, will have much more financial difficulty in the future owing to a decrease in the benefactions they have had from wealthy people, whose numbers and incomes are steadily declining. Among the urgent financial difficulties of the hospital is the question of the proper payment of its administrative staff. Hitherto there has been a tacit assumption that the personnel, like the doctors, are partly paid by a feeling of satisfaction in participating in the relief of suffering humanity. He thinks this assumption unfair, and that in any case it is steadily being undermined by vocational organization among the hospital subordinate staffs.

There are contributions on "Medical Staff Organization and Relationships," "Pharmacy," "Medical Records," "Admitting and Discharge," "Legal Aspects," "Construction of Hospitals," "Hospital Purchasing," "Laundry Management," to mention only a few; and the book ends with chapters on "Group Hospital and Health Insurance" and "Public Health."

This brief review of a readable and important book will, it is hoped, induce many hospitals to put a copy on their shelves. Nobody interested in hospital work could fail to find in it stimulus, instruction, parallels, and ideas as worthy of consideration here as in the U.S.A.

EMBRYOLOGY FOR MEDICAL STUDENTS

A Class Book of Practical Embryology for Medical Students. By P. N. B. Odgers. (Pp. 63; illustrated. 7s. 6d.) London: Oxford University Press.

The study of serial sections of embryos at different stages of development is greatly helped by explanatory drawings and diagrams, such as have been assembled by Dr. P. N. B. Odgers, Reader in Human Anatomy in the University of Oxford, and published under the title *A Class Book of Practical Embryology* *for Medical Students.* The drawings have been made by Miss A. F. Arnott from transverse sections of 6-mm. and 10-mm. pig embryos, and comprise typical cross-sections illustrating two important stages in the development of the heart and the adjacent blood vessels, nerves, and neighbouring organs, with explanatory notes; these are supplemented by three diagrams indicating the position of the corresponding parts when seen in sagittal or coronal section. In order to keep the drawings simple no attempt has been made to portray details in the structure of the various tissues, an arbitrary method having been adopted which serves to distinguish clearly nerves, vessels, tubes lined with epithelium, and such organs as the liver. Only the more important vessels and nerves have been delineated, though some of these of practical importance, such as the phrenic and recurrent laryngeal nerves, which one would have liked to see indicated and labelled, have been omitted.

The book in its present form is naturally limited in scope, but it will serve as a most useful and reliable guide for the recognition of the parts corresponding to the drawings when studying actual sections under the microscope, and it can be strongly recommended for this purpose.

Notes on Books

In six lectures to ward sisters on *Temperament, Character and Personality*, forming part of a course organized by the Royal College of Nursing, Mrs. N. MACKENZIE has given a fair presentation of normal psychological processes. In the first three she deals with the subject in a general way, explaining terms and showing how instinct and emotions are integrated into sentiments. In the last three she deals with the special aspects presented by the patient, the student nurse, and the ward sister herself. Though these lectures are necessarily incomplete, and perhaps oversimplified, it is refreshing to find that such information is being given to nurses, whose training in the past has been so conspicuously lacking in the psychological approach. If it could only be realized how much the comfort and well-being of the patient depend on the correct psychological approach of the nurse, and that every woman is not capable of this by intuition, we might look for more of this very necessary teaching. It is to be hoped that every nurse will not only read but study and take to heart these lectures, which have been published in the *Nursing Times*, and, if hospital physicians and surgeons could be sure that they themselves appreciated all that Mrs. Mackenzie is trying to teach, much good would ensue.

Positioning in Radiography, by Miss K. C. CLARK, is a superb book on radiography now in its fourth edition, and well deserves the high reputation it has earned in the radiological world. It is designed particularly for radiographers, but there can be few radiologists who will not learn something from it; most will learn much. The photographs of the subject, the skiagrams, and the diagrams are all of the highest quality, and the print and paper remind one of the happy days when books were books. If there be any *x*-ray diagnostic departments that do not possess a copy of this work, let them buy one quickly. Seventy-five shillings could hardly be better spent. The publishers are Heinemann Medical Books Ltd.

Practical Physiological Chemistry for Medical Students, by G. M. WISHART, D. P. CUTHBERTSON, and J. W. CHAMBERS, of the Institute of Physiology, Glasgow University, first appeared in 1936; a third and revised edition has now been published at 7s. by John Smith and Son (Glasgow), Ltd. The book is designed to present a course of practical chemical physiology to large classes of students whose time is limited to two-hour periods. The clinical aspect is stressed both in the choice of material and in the general treatment of the subject.

We have received from the National Institute for Research in Dairying, Shinfield, near Reading, a copy of *Advisory Dairy Bacteriologists*, being papers published from 1925 to 1943, edited by Mr. H. BARKWORTH. These reprints are grouped under three main headings: clean milk production, bacteriology, technology—and there is a foreword by Dr. A. T. R. Mattick. The pamphlet ends with eight pages of references, an index, and a list of centres and officers. It was in 1925 that advisory dairy bacteriologists were appointed to serve in the various provinces into which the country was divided. These officers were usually attached to the agricultural faculties of universities and to agricultural colleges.

An eighth edition of the late Mrs. J. LANGTON HEWER'S pamphlet *The Baby of To-day: First Principles in his Management*, revised by Dr. M. Scott-Brown, has been published by John Wright and Sons Ltd., of Bristol, at 1s.

The U.S.S.R. Society for Cultural Relations with Foreign Countries has issued from Moscow, as a 30-page cyclostyled document, No. 5 of the *Medical Chronicle* for May, 1945, being a special issue on the Academy of Medical Sciences of the U.S.S.R. The copy received from the Embassy in London may be seen at the library of the B.M.A.

Preparations and Appliances

AN AID TO TRANSFUSION

Dr. W. D. LINSELL writes from Cambridge:

The accompanying diagrams and photograph show a small piece of simple apparatus designed to assist transfusion practice. The inferior quality of much of the wartime adhesive strapping used in transfusions, with its tendency to work loose on the slightest movement of patient or apparatus, led me to evolve this simple appliance, which gives really rigid clamping of transfusion tubing to the arm or leg.

The procedure is simple: the transfusion is set up and the webbing strap passed round the arm and the splint, the rubber tube is placed in the open jaws, and these are clamped firmly on to the tube by simply pulling the strap tight. All rotation, wriggling, and pulling or pushing of the tube and consequent needle displacement are eliminated, except with the use of extreme force.

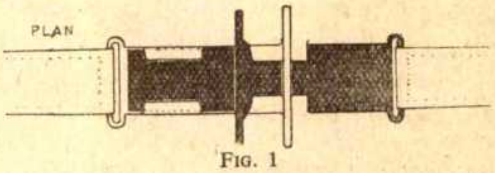

FIG. 1

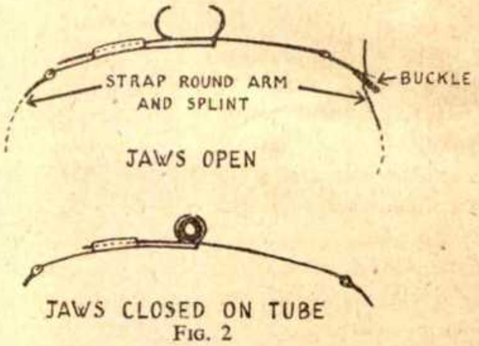

FIG. 2

The apparatus has been found to be of value in any cas where transfusions are subject to movement and violence; i would, I feel, have been of value on the battle fronts wit stretcher cases; it has been found that much "cutting down" on veins and tying in of cannulae is avoided where long-standin transfusion is required.

The photograph shows a leather strap; this has since bee replaced by webbing. The whole apparatus can be boiled.

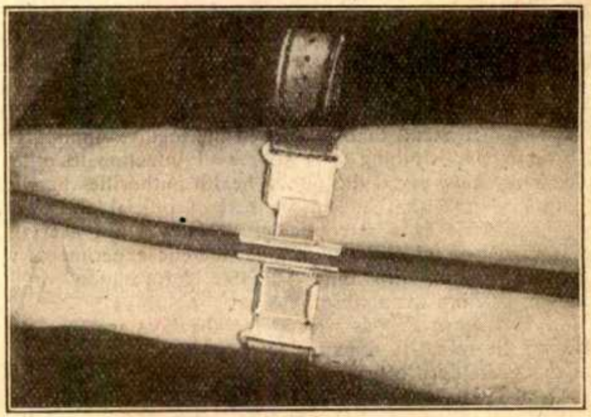

FIG. 3

I wish to thank Dr. Paul Sherwood and his colleagues Hill End Hospital, St. Albans, for trying out the apparatu and for helpful advice; I also wish to thank Mr. W. J. Harri of Messrs. Bailey and Son, Ltd., Oxford Street, W.1, for h kind co-operation in the manufacture of the improved patter

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THE MEDICAL FUTURE OF THE COLONIES

Although through Parliament the ordinary British citizen is responsible for the administration of the Colonial Empire it is no exaggeration to say that before this war most people were profoundly ignorant of conditions in this Empire. Private individuals were not as a rule encouraged to visit our tropical dependencies, and unless one had many personal friends in the colonies it was impossible to get a close-up view of them. During the war many people, among them doctors, have had to reside willy-nilly for considerable periods in our tropical dependencies. The degree of poverty, illiteracy, and ill-health, which cannot be hidden from even the most casual observer, has come as a shock to many who were brought up to regard the British as experts in colonial administration. It is therefore not surprising that the volume of informed criticism of the conditions under which colonial peoples live has increased, and with it a general resolve that conditions must be rapidly and radically altered. Among the tasks which must obviously be tackled on a large scale is a raising of the standard of health of indigenous populations. Peoples who from early childhood are riddled with malaria, who constantly suffer from intestinal worms, not to mention urinary bilharziasis, whose venereal disease rate is one of the highest in the world, whose diet is constantly deficient in first-class protein, even when, as in the "hungry seasons," it is not deficient in everything, whose countries are swept by devastating epidemics of cerebrospinal fever and smallpox—such peoples cannot be expected to display much energy; yet without energy they cannot hope to raise their standard of life. That the physique and mental alertness of colonial peoples can be improved out of all recognition when good food and hygienic conditions are applied has been demonstrated in no uncertain manner in the Army in the case of West and East African troops. If these things can be done in war they can likewise be done in peace. Before such an improvement can take place it is essential—yet perhaps sometimes overlooked—that there must be a highly efficient medical service. It is therefore pertinent to consider whether the medical service which now exists in our colonies is efficient, and if it is not whether it can be made so.

It is usual to speak of a colonial medical service, but it must be remembered that the Colonial Medical Service is a far more nebulous organization than that which guards the health of the three fighting Services. Its central organization consists solely of a Chief Medical Adviser to the Secretary of State for the Colonies and a small assistant staff; there are no full-time specialists or consultants such as advise, for instance, the Director-General of the Army Medical Service. Even before the war the number of colonial medical officers was quite inadequate to deal with the enormous amount of work to be done. Statements such as the following[1] were all too common: "There were in 1934 hospitals at Tamale, Salaga, Yendi, Bawku, Navrongo, Lawra, and Wa, each under the direct charge of a medical officer when one was available." At the end of the war, what with deaths, retirements, resignations, and invalidings, there is a very real possibility of a dearth of suitable medical officers for service in the Colonial Empire. In Nigeria, with a population of approximately 21,000,000—nearly half that of Great Britain—there is at present one doctor to every 175,000 people, and in certain districts one doctor for an area containing 1,000,000 inhabitants. It may be that many Service medical officers who have been stationed in the Tropics during the war will be anxious to take up appointments in the Colonial Medical Service, but nevertheless there is a widespread feeling, rightly or wrongly, that it is not an entirely happy Service. The feeling of frustration, which is far too common among medical officers serving in our tropical dependencies, is due less to the trying climate and the often inevitable isolation than to the Sisyphean task of grappling, often single-handed, with overcrowded and badly built hospitals, to inefficiency of the nursing staff, to insufficiency of up-to-date apparatus and drugs, and above all to lack of stimulus and advice from specialists in particular departments. Each colony at present has its own medical establishment with its own director of medical services. Medical and surgical specialists are available in the larger colonies, but these officers reside in the capital of the colony, and in addition to their official duties are engaged in private practice and sometimes in teaching: they do not as a rule tour their colonies or come into close or frequent contact with subordinate medical officers. The question of private practice in the Colonial Medical Service is undoubtedly a very difficult and controversial subject, and one which leads to much discontent. Of the possible reasons for joining the Service one is the hope that eventually, while still drawing a Government salary, it will be possible to carry on a considerable private practice. There are, however, comparatively few stations where large private practices are available, and hence competition for such appointments is keen. Many would welcome the abolition of private practice if it were compensated by an all-round increase in salaries derived from insurance payments by all those, native and European, who are not entitled to free medical attention.

What can be done to provide an efficient medical service for the colonies? It is suggested that to attract suitable men there should be a true Colonial Medical Service with its own Director-General, responsible directly to the Secretary of State for the Colonies. The Director-General should in his turn be advised by consultants in medicine, surgery, hygiene, pathology, and biochemical research, who though normally working at the Colonial Office would visit colonial countries at frequent intervals—a not too arduous task now that air travel has come to stay. In each colony, instead, as now, of an almost autonomous medical directorate, there should be a local director of medical services, subsidiary to the Director-General in London and again advised by consultants in the various specialties. Many more specialist appointments with additional pay should be made available in each colony, while with a more co-ordinated service it would be possible to arrange for more frequent transfer of officers from one colony to another. Thus the possibility of having one's wife and family with one would be greatly increased; the prospect of spending all one's working life on the West Coast of Africa would be small. The possibility of abolishing private practice should be considered. With a co-ordinated medical service throughout the Empire the poorer colonies would not be unduly starved of medical officers, as has happened in the past, because of the smallness of their budgets. Short-service commissions of five years with a reasonable gratuity at the end, and the provision of tropical house-physician and house-surgeon appointments in the larger colonial hospitals for a year, would do much to make up for the present shortage of staff.

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[1] Report on the Northern Territories of the Gold Coast for the Year 1937–8, Accra.

These reforms are suggested only for European medical officers. It is obvious that if anything like an adequate number of doctors is to be provided they must in large part be derived from the indigenous population. Whether or not such medical officers are to receive their education in the United Kingdom, or in the colonial medical schools as yet hardly out of the period of gestation, it is essential that conditions in the Colonial Medical Service should be so attractive that locally trained doctors do not regard Government service as a servitude to be exchanged as rapidly as possible for the more lucrative freedom of private practice.

UNDERNUTRITION IN BELGIUM

The great advances in the science of nutrition made between the two world wars have directed attention mainly to the vitamins and to tests for vitamin deficiencies. It was commonly felt that much more would be done during the second world war both to prevent such deficiencies and to detect those that occurred. However, the diets eaten throughout Europe, in both wars, have been made up largely of wholemeal flour and vegetables. On such diets deficiency of any of the vitamins, except D, is unlikely. This is recognized in the report of the investigations carried out at the University of Liège under the direction of Prof. Lucien Brull,[1] and is confirmed by studies on the vitamin content of the blood, the excretion of vitamins, and the effect of supplements of ascorbic acid. The diets contained adequate amounts of iron. Much of this was derived from wholemeal flour, and studies described in this report indicate that this iron was well absorbed in spite of the phytic acid. Anaemia due to deficiency of iron was therefore improbable. The question then arises, What tests are there by which the effects of undernutrition of this type can be detected and recorded?

In the first place, the population as a whole lost weight. By the end of 1941 the average loss among those attending the out-patient department of the medical polyclinic at Liège was 12%. Then, with more regular distribution of rations, the growth of the black market, and increase in home-grown vegetables, weights became stabilized, and during 1943 rose to about 8% below the pre-war level. Young persons under the age of 30, however, lost only about 4.6% in weight, and recovered this loss in 1943, while those over 40 lost 15% or more and remained considerably lighter up to 1944. The more severe losses were largely of superfluous fat. Again, workers in a railway goods yard lost from 3 to 15 kg., but most of them recovered from 3 to 5 kg. in 1943. Official rations, which included almost all the important foodstuffs other than vegetables, supplied no more than 2,022 calories in March and 1,754 calories in May, 1944. The question arises, How did these workers maintain or gain weight on such scarcity rations? Actual records showed that only 5 out of 24 consumed less than 3,000 calories; some were eating more than twice the official rations of bread, potatoes, or butter, most of which must have reached them through the black market. But few exceeded the meat ration; only 5 got more than 25 g. of animal protein per day, and 11 got less than 15 g.

It has been suggested that a low intake of animal protein may lead to reduction of serum proteins. Among the out-patients seen at Liège the average concentration, calculated from the refractive index, checked by Kjeldahls, was 6.99 g. per 100 ml., and more than 7 among persons under 40 years old. This cannot be considered low. Among 100 boys and girls, most of whom were between 12 and 15 years old, the average was 6.42 in 1942; low figures were found in a group of nurses (6.54) and workers in an electric generating station (6.6). In a small group of workers the mean fell from 7.2 in May, 1941, to 6.6 in June, 1942. However, the average concentration found among blood donors in the N.W. London blood-supply area[2] in 1943 was 6.56, though the amount of animal protein in the British diet, while slightly below the peacetime level, was about double that in Belgium. Cases of famine oedema occurred, and in these the concentration of protein in the serum ranged about 4.5 g. per 100 ml.; it was shown by studies described in Prof. Brull's report that the nitrogen balance was negative on the official rations of 1941–2. But nitrogen balance became positive when enough butter was added to the diet to make the calories adequate. It appears that nitrogen balance is maintained when the calories are sufficient, unless the total protein falls to a level difficult to reach on a diet of ordinary foodstuffs; famine oedema occurs only when the total calories are low. The significance of moderate reduction of serum protein remains uncertain.

Among the Belgian children the concentration of haemoglobin was rather lower than was found in Britain in the M.R.C. survey[2]: out of 34 estimations among a group of workers, 9 only were above 14.75 g. per 100 ml., which Dumont and Dor considered to be the average level in the neighbourhood of Liège. There is therefore evidence of a slight anaemia. Low concentrations of carotene were found in the plasma of adolescents examined in April, 1942. This was probably the result of a temporary scarcity of green vegetables after a hard winter. The concentrations of vitamin A among these adolescents and among workers examined in 1941 were normal. The only other deviation from normal found was in the plasma cholesterol of the adolescents, which was 29.4% below the normal average; 11.7% reduction of lipid phosphorus could hardly be considered significant. A similar reduction of cholesterol was noted at the end of the last war.

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[1] Brull, L., *Les États de Carence en Belgique pendant l'Occupation Allemande, 1940-4*, Herman et Cie, Paris, 1945.

[2] Med. Res. Cncl. Spec. Rep. Ser. No. 252, H.M. Stationery Office, 1945.

These investigations illustrate the paucity of tests for undernutrition of this type and the need for standardization of methods if conclusions are to be drawn from comparison of the results found in different places and at different times. If the serum protein in Liège were estimated by methods of the same accuracy (or inaccuracy) and under the same immediate conditions as those in the N.W. London centre, it can be concluded that the amount of animal protein in the diet is not the main factor that influences the serum protein. But Chibnall and his colleagues have pointed out that the techniques used by Kjeldahls in clinical laboratories do not estimate all the nitrogen in proteins; also, serum proteins change considerably with changes of posture and exercise. For these reasons it may not be legitimate to compare the results found in the two laboratories. It is to be hoped that every effort will be made to compare the methods used in various laboratories throughout Europe, in order that the real significance of their observations may be settled.

PROGRESS IN THE INVESTIGATION OF SHOCK

During the war a large amount of experimental work has been done, chiefly in the United States, but also in this country and in Canada, to elucidate the problem of shock. Until now little progress has been made, and shock has often seemed an insoluble problem; but recent work by Dr. Sanford Rosenthal has begun to shed new light. Many other workers have used dogs for their investigations, probably for the reason that changes in the circulation could not be readily observed in smaller animals. Rosenthal, being a pharmacologist, has learnt the lesson that it is wise to use small animals whenever possible because large groups can then be taken and the percentage in which a particular change occurs can be established. He has therefore worked on mice, and has devised methods[1,2,3] for producing burns of uniform extent, trauma of uniform severity, and, jointly with Tabor and Kabat,[4] haemorrhage of uniform degree. Rosenthal found that in all three types of injury a high percentage of animals survived an otherwise fatal injury if isotonic sodium salts were given in amounts of 10% of the body weight. This effect depended on the sodium, for all sodium salts were effective, and potassium on the other hand was deleterious. Jointly with Tabor,[5] Rosenthal has now shown that mice in which shock has been produced by application of a tourniquet are very sensitive indeed to potassium chloride, being killed by as little as one-eighth of the dose necessary to kill the same percentage of normal mice. This increased sensitiveness to potassium is specific for potassium, for, while there is some increased sensitiveness to other substances, like quinidine, it is slight. The increased sensitiveness to potassium was shown not to be due to diminished excretion in shocked mice. In another publication Tabor and Rosenthal[6] have examined the salt content of the shocked area. They "pooled" the hind-legs of groups of mice, and found that there is a fluid loss into the injured area amounting to 3% of the body weight, the sodium loss into this area being equivalent to 25% of the total sodium of the extracellular space; this area loses one-third of its potassium. In other experiments they induced shock and then studied the effect of administering NaCl by mouth: during the next two days it was mostly retained and not excreted, though in normal mice it was all excreted; the potassium excretion was much greater than in normal mice. If the potassium had not been excreted, as would have happened if the mice were suffering from anuria, the amount of potassium retained would have been toxic.

The great advantage of this new work is that it has been done on large numbers of animals, and the results are convincing. Since the increased toxicity of potassium for shocked mice has also been confirmed for rabbits, it is now beyond doubt that three important changes occur in shock: a large loss of fluid and of sodium into the shocked area and a large escape of potassium from it. The likelihood that death in shock is a potassium death is increased by this evidence. Since the urinary changes are the opposite of those in adrenal insufficiency, it is evident that this is not the cause of shock, as has been suggested.

PITUITARY STIMULATION BY LIGHT

Last year Benoit and Ott[1] summarized the results of their experiments on the stimulation of gonadotrophin secretion by light. In general, previous experiments have shown that in birds red light is most effective and blue-green light least effective. The authors made a careful study of this aspect of the subject, using immature male ducks. Variously coloured filters were placed in front of the light source and the birds were exposed for 8 to 15 hours every third day, being kept immobile at distances from the light source so arranged that the energy density of the light was the same in spite of differences in wave-length. In the intervals, and during the 3 to 6 weeks before the start of the experiment, the birds were kept in a dim blue light. Ten exposures were made and the stimulation assessed by measurement of the area of the silhouette of the testes. The curve relating increase in area to wave-length shows a gradual rise through the blue-green end of the spectrum to a peak in the red band at about 680 mμ and a rapid fall with extreme red and infra-red rays. Histologically, full spermatogenesis was present in all the birds except those exposed to blue light or infra-red rays.

When the optic nerves were cut or the eyes removed light stimulation was still effective. On the other hand the wave-length: activity curve closely resembles that of normal sight sensitivity in birds. It is concluded that light is probably effective through the retina, but is certainly effective by direct transmission, probably to the hypothalamic regions. The authors prove that the tissues of the duck's head do in fact transmit orange and red light but very little blue or green light. When, however, light is transmitted almost directly to the hypophysis through a quartz rod, blue light is very active—equally active as or more so than red light. The general shape of the curve is therefore explained by the interplay of two factors. The inactivity in the blue region of the spectrum is a measure of the insensitivity of the retina to blue light and the lack of penetration through the tissues. The increase in activity with increasing wave-length indicates the greater sensitivity of the retina and greater penetration of the tissues, reaching a maximum in the red region beyond which, though penetration may still be high, the direct effects of such long waves on the hypophysis are negligible. This differential tissue penetration in birds may not be present in mammals, since Marshall and Bowden[2] found little difference in the stimulation produced by different wave-lengths in ferrets.

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[1] *Publ. Hlth. Rep. Wash.*, 1942, **57**, 1923.
[2] Ibid., 1943, **58**, 513.
[3] Ibid., p. 1429.
[4] Ibid., 1944, **59**, 637.
[5] Ibid., 1945, **60** 373.
[6] Ibid., p. 401.

[1] *Yale J. biol. Med.*, 1944, **17**, 27.

The effects are probably not confined to gonadotrophin. In amphibia Voitkevitsch[3] has demonstrated an increased thyrotrophin content in the anterior hypophysis of frogs collected in spring and exposed to continuous light for 5 days. He has also shown that the effect is not cumulative, but that continued exposure to the light eventually leads to a fall towards the normal thyrotrophin content. Thus it is the increase in the amount of light that is the effective stimulus—not the absolute amount of light. This is what would be expected, as the effects described are the cause of one of the most important phases in the rhythm of Nature—the recurrence of the breeding season every spring. Ornithologists have long been aware that the young bird's fancy does not turn to thoughts of love merely because it is fine weather, but may be induced to do so in coldest winter if the bird is exposed to increasing amounts of light in the 24 hours. As the evenings begin to draw out in spring the increasing hours of light stimulate the hypophysis in birds and frogs and others, and the breeding season is with us once again.

MEDICAL RELIEF IN YUGOSLAVIA

Dr. K. Sinclair-Loutit, U.N.R.R.A.'s director for health, welfare, and displaced persons in Yugoslavia, recently gave an account at the U.N.R.R.A. headquarters in London of his experiences in that Balkan country. During an extensive tour from Belgrade through Bosnia and Herzegovina he found almost incredible destruction, with multitudes of people facing winter without shelter save for shell-holes and burnt farmhouses. An appalling condition of starvation and poverty was manifest. The unfortunate thing was that there could be no effective partial relief; it was necessary to give total relief; otherwise one might almost as well give none at all. Thus it was pointless, for example, to deposit food at certain places if no transport was available for its distribution, and for such transport as there was the truck-wear for one mile in Yugoslavia was reckoned to be equal to that for twenty miles in England. A serious outbreak of typhus occurred in an overcrowded population in Bosnia and called for unusual measures. The country was short of doctors, and it was out of the question to wait for the graduates of the next university year. Therefore the expedient was tried of training a number of high-school girls in the technique of injections, and within three to six weeks, under the supervision of a few doctors, nurses, and pharmacists, these girls inoculated half a million persons; and, thanks to the vaccine and D.D.T., the epidemic was stayed. Malaria control had to be carried out on a large scale; some villages in Macedonia, said Dr. Sinclair-Loutit, were "100% malarious." One of the legacies of Turkish occupation was endemic syphilis, and Yugoslavia was the first country in Europe in which penicillin was used on a large scale to deal with that scourge. He had been able to help the Yugoslav Government in obtaining the first supplies of penicillin for civilian use, and he gave penicillin for the first time to a case of pneumonia in a town on the border of Hungary—the man was in a moribund condition, but with penicillin rallied in a day or two. Conditions of medical practice so far as facilities and appliances were concerned were just now of the eighteenth century, while the knowledge was of the twentieth. The improvisations necessary in the medical and nursing field were extraordinary, and so were the economies that had to be practised. In Belgrade the poorest could have a physiologically adequate diet, but the deprivation of the rich milk for which Yugoslavia was famous before the war was severely felt. The Yugoslav Government in its zeal for child health had devoted one complete section of the Ministry of Social Welfare to this. A serologist from Yugoslavia was being brought to England to study methods of concentrating sera, and a British plastic surgeon was in Belgrade to establish a school of plastic surgery there.

DIETARY ACCOMMODATION IN RENAL FAILURE

The composition of the blood is determined not by what the mouth ingests but by what the kidneys hold back.[1] When critical selection is seriously reduced by disease the kidneys keep what they should excrete, and eventually there is uraemia. On an ordinary mixed diet the end-products excreted by the kidneys are predominantly acid and the protein end-products demand much renal work. In renal failure, therefore, it is reasonable to suppose that a diet which provides an alkaline ash and fewer protein end-products lessens renal work. The dietary coat can be cut according to the renal cloth, and there may then be an increased prospect of the kidneys' living within their diminished exercise tolerance. A diet conforming to these principles has been advocated by Kempner.[2] Although, perhaps, he arrives at his working hypothesis in a more original manner, Kempner reports good results in the treatment of renal disease with a diet composed of rice and fruit juices. In a daily total of 2,000 calories the diet contains only 20 g. of protein and 5 g. fat. Unless there is evidence of salt deprivation, no salt is allowed. No extra water is given, and the total fluid is usually limited to 700–1,000 c.cm. of fruit juices. A vitamin and iron supplement is given daily. Nitrogen equilibrium was maintained on the diet over prolonged periods, and there was no significant depletion of salt or fall in haemoglobin. Such a diet would be unobtainable in England at the present time, and Kempner agreed it will never be popular. The food is monotonous and does not taste good. The patient has to eat it for a long time before its full effects become apparent, and the diet becomes worthless if it is modified by so-called small or minimal additions according to the patient's own taste. There is, in fact, only one excuse for such a therapy—and that is, it helps. The most impressive effects of Kempner's diet were in chronic Bright's disease with renal failure. In more than half the cases treated there were a reduction of retained nitrogenous end-products, a fall in blood pressure, and a general clinical improvement. In essential hypertension, also, the blood pressure was often significantly reduced. The results are a reminder that even when structural and functional contraction of the kidneys is beyond repair, what the mouth ingests may rectify what the kidneys keep. It would perhaps embarrass the kidneys less in the process if they were provided with a more generous fluid intake.

The next session of the General Medical Council will begin on Tuesday, Nov. 27, at 2 p.m., when the President, Sir Herbert Lightfoot Eason, will take the chair and deliver an address.

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[2] *J. exp. Biol.*, 1934, 11, 409; 1936, 13, 383.

[3] *C. r. Acad. Sci. U.R.S.S.*, 1945, 46, 357.

[1] Smith, H. W., *Lectures on the Kidneys*, 1943, Baltimore.

[2] *North Carolina med. J.*, 1945, 6, 61, 117.

A STUDY OF NEUROSIS AMONG REPATRIATED PRISONERS OF WAR

BY

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The problems of the soldier returning home after a long period as a prisoner of war are so important that special study and consideration are necessary. In view of the large numbers who have recently returned and others who are yet to be repatriated from the Far East I feel that the facts already recognized should be made available. This study is based upon the investigation of 100 soldiers, all returned prisoners of war, consecutively admitted to a military neurosis hospital between January and May, 1944. As Wilson (1944) has pointed out, these patients are in many ways unlike any other type of neurotic and require special handling. This is because during their period of absence they have been living a peculiar and unnatural existence in which restrictions, boredom, deprivations, and living in a limited community are the most important features.

Clinical Picture.—All cases could be classified into the usual clinical types. Nevertheless, all patients showed certain symptoms which were more intense than is usually seen. Irritability and inability to stand any form of restriction, combined with a marked restlessness and depression, dominated the clinical picture. Paranoid features occasionally seemed striking, but these rapidly subsided as co-operation was established. The men showed limitation of all interest, difficulty in making any social contacts, poor concentration, preoccupation with their own problems, and a well-marked tendency to show resentment towards anyone and anything.

Onset of Symptoms

Pre-capture Conditions.—24% of cases had developed their symptoms before being captured. These were the usual types of psychoneurosis which show themselves under battle stress. They were mostly men with marked neurotic traits: 50% had a neurotic family history, 25% had shown previous breakdowns, and 60% had shown pronounced neurotic traits in childhood. Thus they all had a definite predisposition to break down.

On Capture and in P.O.W. Camp.—44% first showed symptoms on capture or in the P.O.W. camp. In these a wide variety of factors were of aetiological importance, but in most instances the traumatic factor was chiefly of consequence because of the way it fitted into the previous personality pattern. The last thing the men thought of before capture was the possibility of being taken prisoner; only death and wounding had been envisaged. The result was that their shock on capture was all the greater because of lack of mental preparation.

Restriction of freedom was felt by all, but the traumatic effect seems to have depended upon predisposition in the previous personality. Of particular importance was a disturbed early home life with consequent poor father relationship and a tendency to rebel. Of 30% who stressed restriction 22% had shown delinquency in childhood, such as stealing and wandering. Another 33% had had disturbed early home-life conditions, and two of these had been continually in trouble in the Army because of resentment of all discipline. Thus 55% were individuals who, from their history, one would have expected to react badly to any restriction of liberty.

Food was an all-absorbing, all-important subject in the Stalag, becoming the main centre of interest and conversation around which everything else revolved. There were, however, two main types who emphasized food problems particularly: (*a*) Men with backgrounds of insecurity who could not stand any deprivations. The limitation of food was more than they could bear; they had no faith in their ability to recuperate, and became absorbed in their fears about their bodily health with marked hypochondriacal trends. In some this was the beginning of continued dyspeptic symptoms for which no physical basis could be found. Others had shown a tendency to dyspeptic symptoms at any time of crisis in civil life. (*b*) The second group was those who had always laid particular stress on physical strength and prowess. When they found themselves becoming weak through inadequate food they began to fear that they would never be real men again.

The case of a corporal who received news that his fiancée had given him up and married someone else is of interest because it leads on to the next point—namely, guilt about being captured. He received a letter from his fiancée to say she had now got a "real" man—"not one who was a coward and had got himself captured." He commented that other men got similar letters.

The feeling of guilt at being captured was most common in the men who were of good morale before capture. Not only was this a reaction to the traditional attitude that a good soldier is not taken prisoner, but a number of men who were feeling the strain of action before capture and were having difficulty in adjustment to their fears experienced a feeling of relief when first taken prisoner. "At any rate I'm alive. The war is over for me now," were the consolations they offered themselves.

This very feeling of relief brought a subsequent feeling of guilt, and was a potent factor in precipitating the onset of depression during the P.O.W. period and of difficulties on repatriation. It made them afraid of not being wanted on return home, of being despised or thought badly of, making them withdraw into themselves, avoid company, and become suspicious of every approach made to them. It should be emphasized that in only a small proportion of cases is this sense of guilt realized by the man himself and that one must be very cautious about approaching it, otherwise acute reactions may be precipitated.

The "Release" Syndrome

The discomforts of camp life, the lack of space, the overcrowding, the lack of privacy, the outbreaks of disease, the lack of food, were all overshadowed by their resentment and disappointment at the non-fulfilment of their hopes on repatriation. Of this series 32% developed the "release" syndrome described by Newman (1944). All these showed fewer predisposing personality factors than were present in the other groups. Only 4% of them had had marked neurotic traits in childhood, 6% were cyclothymic personalities, 2% had a history of delinquency in childhood, and 2% were obsessionals but had not had previous breakdowns. These "release" problems have several aspects. The common ones of fear of open spaces and feelings of helplessness, of having to manage one's own life like a child bereft of routine and authoritarian guidance, soon faded, and were replaced by an ambivalent attitude of wanting to be free and wallow in their freedom, and a longing for the monotonous security of camp life again.

On their return to this country the men were given a long leave, and during this time they found it difficult to adjust to the changes produced here by the war. England in wartime was very different from the pre-war England of their nostalgic dreams. Some of them had little desire to mix with people, finding that they knew scarcely anything of the current topics of conversation, and wanted to shrink into themselves. Their only topic was the life of a prisoner of war, and they felt themselves in danger of becoming crushing bores on that subject. They also pictured the home standing still—home and themselves being just as they were—forgetting that with the passage of time both had changed. This is true of all men who are away from home for long; but Stalag life gives excess time for fantasy elaborations and fewer factors which bring one back to accepting reality. They could not realize other changes they would find, such as wives and relatives all working long hours. After the first rejoicing at home-coming, friends therefore seemed to have no time to give to the man returned. He felt obliged to entertain and look after himself, which is just what he cannot do at first. He feels like Rip Van Winkle—so many things are strange and different. He is shy of making a fool of himself, or making himself ridiculous asking for things in shops which are no longer obtainable, not knowing all about points and coupons. It is difficult for relatives to realize all the things which these men will find strange and bewildering. They have spent day after day in a dull ordered routine, no plans to make, no decisions to take, no responsibilities. Then suddenly they are back and have to organize their own lives all over again, often taking over responsibilities they are not yet ready for from a wife who has been carrying too much. As one man put it: "I found myself transplanted from a place of quietness to a busy town. I seemed to be trying to grasp so much all at once. I couldn't absorb it all."

One of the most important problems on return home was that of the broken marriage, which formed the main feature of 25% of the series. Relatively few of these men had known or would have tolerated the thought of their wives' infidelity while they were "in the bag," and consequently found themselves confronted with an entirely unsuspected situation. Another group of men, emotionally immature and with fundamental insecurities about their domestic situations, had found their fears of infidelity accentuated by irregular mail during captivity. This led to many misunderstandings on repatriation leave, although often there was no basis for these suspicions. Finding that wife or fiancée had become more mature, more sophisticated, or had developed new and wider interests demanded readjustments which some found impossible. In all these problems relatives may need almost as much help as the patient himself, and the psychiatrist must be prepared to encourage visits and close co-operation throughout treatment. This has been particularly stressed by Torrie (1945).

Treatment

All the usual methods of treatment—continuous narcosis, modified insulin therapy, and abreaction under pentothal—were used. Those showing acute anxiety symptoms responded best to continuous narcosis. Otherwise individual interview, augmented by group psychotherapy, was the most effective approach. By free discussion in groups they were able to ventilate grievances or misunderstandings. They discovered that others were facing similar problems, and so no longer felt isolated or "queer." Confidence rose while working out common difficulties, and they were helped to appreciate more what their relatives at home had been contending with in their absence. Social readaptation was further helped by dances and parties to which local inhabitants invited them. At first, however, most men avoided these, tending to cling to their own group and fearing to extend contacts to a wider circle. The presence of A.T.S. and V.A.D. personnel in the hospital helped to break down the barrier.

All the repatriates showed great fear of being pitied, and felt at first that no one who had not been through similar experiences could appreciate their particular feelings and problems. Consequently at interviews they needed to be allowed to lead the conversation. The normal discipline of a military hospital was relaxed and they were given more free time in which to try out the freedom which at first they found so difficult to accept. In a ward together they were able to draw a feeling of security from each other, and this could then be used to wean them from undue dependence. Gradually broadening their social field, they were later able to take part in every sphere of the full community life of the hospital.

Feeding was found to present interesting and important problems. Their lives had centred around food for so long that it had come to symbolize all their recent deprivations and insecurities. A suspicious, almost paranoid attitude about rations was sometimes apparent, and they felt they were being unfairly treated if anything different was served in any other part of the hospital. The sister in charge helped them over these and other difficulties by listening to their worries and complaints with unwearying patience.

Throughout treatment it became clear that those repatriated prisoners of war who show neurotic symptoms need a special approach to avoid their symptoms becoming aggravated into asocial trends. Careful handling and understanding not only bring a greater happiness and security to the individual but avoid what might otherwise become a wider social problem if men are left feeling restless and disgruntled because they do not understand themselves.

Summary

A review is made of 100 returned prisoners of war who showed evidence of psychoneurosis.

Factors prior to capture, in the prisoner-of-war camp, and on release are discussed.

It is suggested that the type of stress most traumatic to each individual depends upon the previous personality factors.

The importance of broken marriages and of welfare problems needing help on return home is emphasized.

The methods of treatment found most useful are outlined.

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Nova et Vetera

MEDICAL POETS

Many medical men in this country have been poets—one bibliography gives 156 names—but only two, in the view of Sir **Arthur MacNalty**, who devoted his presidential address in the History Section of the Royal Society of Medicine to the influence of medical poets on English poetry, have scaled the heights of Parnassus. Those two were John Keats and Robert Bridges, and both of them abandoned medicine for poetry.

Sir Arthur MacNalty traced medical poets from the Spenserian period, beginning with Phineas Fletcher (1582–1650). The most noteworthy name among Elizabethan poet-physicians was Thomas Campion (1567–1619), who was educated at Peterhouse, Cambridge, but took no degree. His first collection of poems appeared in 1601, but not until 1606 did his name appear as a doctor of physick; he had probably studied medicine at one of the Continental universities. W. E. Henley described him as a curious metricist, and Sir Sylvanus Vivian, who edited his works, said that he was a master of subtle cadences. Sir Thomas Browne (1605–82) was not often thought of as a poet, but the *Religio Medici* was one of the most beautiful prose poems in the language, belonging to that brilliant age before poetry and prose divided their domain. A medical poet of the time of James I was Abraham Cowley (1618–67), an exponent of the metaphysical flight in poetry, whose lyrics survived in modern anthologies. Cowley never practised medicine, but, believing botany necessary to a physician, composed several books on herbs, flowers, and trees. Another medical poet of this period was Henry Vaughan (1621–95). In the neo-Augustan period there were many medical poets and wits, among them John Arbuthnot (1667–1735), friend of Pope and Swift; Sir Samuel Garth (1661–1719), Sir Richard Blackmore (1650–1729), and, in spirit if not strictly in time, Mark Akenside (1721–70), who had true poetic gifts, though his first works were overrun by learning and exactitude. Erasmus Darwin (1731–1802) must be mentioned if only for his poem *Botanic Garden*, Goldsmith (1728–74) as representing the new age in poetry when it began to deal with nature and everyday life, and Crabbe (1754–1832) as one of the last of the classicists in form and one of the first of the realists in matter.

Then came Keats (1795–1821), whose writing was the reincarnation of the Greek spirit of poetry, and whose far-reaching influence was traceable among the poets of the Victorian age. Lovell Beddoes (1803–49) had never received due recognition, perhaps because he never decided whether to devote himself exclusively to physiology or to dramatic poetry. Medicine's poet laureate was Robert Bridges (1844–1930)—her only laureate, though Southey was for a short time a medical student in the department of anatomy at Oxford. Bridges's *Testament of Beauty*, published in 1929 on his 85th birthday, was unique as the work of an octogenarian. Of his earlier poems, *On a Dead Child* could probably only have been written by one who had been a children's physician. The name of Ronald Ross should be mentioned; and Henry Head and Charles Sherrington had written poems of merit in intervals between their scientific work. But it was evident, Sir Arthur MacNalty concluded, that a divided allegiance prevented the attainment of the sublimest heights in poetry. It was fortunate that John Keats laid down his lancet to take up his lyre. The student of medicine who received the divine afflatus should decide forthwith at which altar he would serve if he desired to be pre-eminent in either calling.

THE DISCOVERY OF X RAYS

COMMEMORATIVE MEETING AT R.S.M.

To commemorate the fiftieth anniversary of Röntgen's discovery a series of meetings were arranged in London on Nov. 8, 9, and 10. An inaugural meeting at the Royal Society of Medicine was presided over by Lord Horder and attended by the Minister of Health, Mr. Aneurin Bevan, and four short addresses were given.

Lord **Horder** spoke as one who had consistently believed in the potentialities of *x* rays and had done his utmost to see that the field of medicine was infiltrated effectively by the new (as it was in his young days) method. It was actually in the year before he qualified that Röntgen announced his discovery. In 1898 Hugh Walsham wrote his first paper on the subject, saying characteristically that the experience of the last three years had been sufficient to prove the usefulness of Röntgen's discovery to the surgeon, but that in his view the systematic application of the rays to the diagnosis of chest diseases would prove of equal value to the physician. To-day there was scarcely a nook or corner of the body which had not had this method applied to it, and this was becoming more and more true in respect of function as well as of structure. Indeed, the limits of the uses of *x* rays were not yet known. The adaptation of this instrument to special purposes marched with their extended knowledge of the range and applicability of the method. The lack in the field of radiology at the present time was in respect of availability to the community.

In medicine the discovery of a principle, or of a new tool, led to an era of rapid advance, and the summation of those advances produced the corpus of knowledge which the doctor possessed at any one time. "With the discovery of principles," Lord Horder said, "we associate immortal names: Harvey, Jenner, Pasteur. With tools we associate names no less immortal: Layvenhook, Helmholtz, Laennec, Röntgen."

After those present had stood for a few moments in silence in memory of Wilhelm Conrad Röntgen, the first of the several tributes was paid by Dr. R. E. **Roberts**, representing the Faculty of Radiologists. He paid a tribute not only to Röntgen, but also to all the early workers, lay and medical, some of whom had suffered grievously in making their pioneer investigations. Radiology was indebted not only to medical men but to lay radiographers, physicists, electrical engineers, builders of *x*-ray apparatus, chemists, mineralogists, and photographic experts. What all these had contributed to the technique, the scope, and the safety of the task of the medical radiologists was beyond computation, but first of all medical radiologists recalled with admiration and respect Wilhelm Conrad Röntgen, the founder of their science.

Radiology's Position in Medicine and Surgery

Dr. **James Brailsford**, representing the Royal Society of Medicine, said that by 1896, the year following the discovery, almost every structure of the body had been investigated. In that year, during a military expedition on the Nile, fragments of metal and other foreign bodies in the tissues were detected and localized, as well as stone in the urinary tract. Fluoroscopy, stereoscopy, ciné-radiography, flash photography—in short, most of the radiographic procedures familiar to-day were devised within a few months of the discovery. The *Archives of Clinical Skiagraphy* was published in 1896, with the object of putting on record some of the most striking applications of the new photography to the needs of medicine and surgery. This was the forerunner of all the radiological journals of the world. The Röntgen Society of London was founded in 1897, preceding by eight years the foundation of the German Röntgen Society. It eventually became the British Institute of Radiology. As illustrating the advances which had been made he mentioned that a radiograph of the hand in 1896 had an exposure of 15 minutes and then only the coarse structure of the bones was revealed. With improvement in the construction of the *x*-ray tube and the speed of plates and intensifying screens, radiographs could now be taken of the thickest part of the body in one-hundredth of a second or less. Much had been learned about the normal and the abnormal; often it was possible to recognize the nature of pathological processes. In the realm of radiotherapy there had been great achievements, although the cure for cancer remained elusive.

At this point the Minister of Health had to leave, as he stated, "to meet the doctors" at the House of Commons. In reply to a vote of thanks for coming to the commemoration, proposed by Dr. Rohan Williams, Mr. **Aneurin Bevan** said that his reason for being there was to identify the Government with their grateful recollection of the work of Röntgen. He had been provided by his Department with a learned speech which he might have delivered, but to do so would have been a pretence to knowledge which he did not possess. Part of his own task was to make the discovery of healing science and art available to the great mass of the population. What better tribute could he pay as a layman to the memory of Röntgen than to try to make the results of his work available to everybody in the country no matter how poor or how remote? The desire of the Government was to create for the people the best kind of medical service that medical science could provide, and in that endeavour he knew he would have the support of all those who were working in this field.

Röntgen's Influence on Medical Physics

Prof. F. L. **Hopwood**, representing the British Institute of Radiology, said that Röntgen was a physicist, not a medical man; and it was surely no accident that it was another physicist, Silvanus Thompson, who was the prime mover in founding the Röntgen Society. Röntgen, indeed, created three new professions: those of radiologist, radio-biophysicist, and radiographer. Alluding to the great work which had been done in the field of protection and to the international agreements governing apparatus and material, he said that there need be no more *x*-ray martyrs. There was international agreement also with regard to the principles and use of *x*-ray dosage. Based on the new knowledge of nuclear physics of which Röntgen was one of the early pioneers, one line of research had led to the production of the atomic bomb, another to the understanding of the phenomena in the interior of the farthest star, and another to the production of artificially prepared radioactive elements in amounts and variety far exceeding anything previously thought possible. Prof. Hopwood mentioned the development of supervoltage equipment and the new researches in the field of radio-activity and the living cell. The "new alchemy" must exert a profound influence on the medical physics of the future. It foreshadowed a new type of therapy—radio-chemotherapy. He spoke specifically of the work of the department at St. Bartholomew's, in association with a team of workers in Berlin, the result of which had been the production of radio-activity in elements not hitherto so transformed. The new discoveries and resources of röntgenology would enable his clinical colleagues to achieve a degree of control over pain and disease hitherto unobtainable. It was in his faith that the medical physicist paid his tribute of respect and admiration for the work and gifts of Röntgen.

Mr. **Cuthbert Andrews**, representing the Society of Radiographers, paid the final tribute. In the early days of *x*-ray work, he said, the significance of the technician as distinct from the medical man had not been worked out. By 1920 some of the more far-seeing radiologists had realized that the lay worker was fast becoming a very important factor in the development of *x*-ray work. The Society of Radiographers, with the late Sir Archibald Reid as its first president, was founded in 1921. He recalled some of the well-known names, medical and lay, associated with its early days and with the development of this growing science—Robert Knox, Campbell Swinton, Harrison Orton, C. E. S. Phillips, Stanley Melville, and many others. To-day the membership of the Society was 2,123, the majority being women, and the relations between the medical radiologist and these ancillary workers were excellent.

Dr. A. E. **Barclay**, in proposing a vote of thanks to Lord Horder for presiding, recalled that Lord Horder in his Mackenzie Davidson lecture ten years ago declared himself more indebted to the radiologist than to his colleagues in other branches of medicine, not even excluding surgery and pathology. Lord **Horder** said that he still subscribed to that statement, and that certain criticisms which he had made of radiology on the same occasion were now no longer valid.

Correspondence

Acute Inversion of the Uterus

SIR,—I unfortunately overlooked the *Journal* of Sept. 15. When I read Dr. O'Sullivan's paper (Sept. 1, p. 282) I looked upon it as an interesting clinical record, but when I found from the correspondence on Sept. 15 (p. 366) that it has stimulated an advocacy to scrap the basic principle of the treatment of the complication which has proved successful for the past fifty years, or the substitution therefor of a kind of Chinese torture, I feel it incumbent to intervene.

The basic principle of the past fifty years is pointed out by Dr. Batty where he says, "Far more emphasis should be placed on the *immediate* reinversion—i.e., replacement—of the uterus *whatever* the condition of the patient," and "Surely the treatment of any case of shock is to treat the cause first if this is known." Dr. O'Sullivan suggests a method of doing this which may be an improvement on the method by manual taxis, and Dr. Batty observes, "If this simple method were used as the first treatment to combat the shock, few other measures would be required." But Dr. O'Sullivan only advocates this "before shock develops," and says the treatment is to be deferred until the shock is controlled. Again Dr. Batty gets to the core with, "But will it not usually be found that the shock appears at the same time as the inversion develops?" and he confirms Dr. O'Sullivan's observation that the degree of shock is out of all proportion to the amount of blood lost. Further, as seen from the six cases recorded, the shock is not easily or speedily combated, and, as in Dr. Batty's third case, may even cause death within a couple of hours. It is with full recognition of these facts that the basic treatment by *deep anaesthesia* and *immediate replacement* has been evolved in the past fifty years.

Munro Kerr (1916) collected 21 cases; 6 of the patients died; but he wrote: "The reduction was usually accomplished without much difficulty. In two it failed and in two it was difficult." We haven't the details of his cases, but conditions for midwifery at this time were very different from the present day; a great deal was domiciliary and conducted by very unobservant persons; therefore one is justified in assuming that there was much greater delay than in the six cases just reported, four of which occurred in modern institutions in the hands of skilled attendants. The other two patients were admitted to such an institution about two hours after collapsing.

Munro Kerr discussed the methods of treatment, essentially condemning radical surgery suggested at the time. He shows his preference for immediate replacement, while endorsing the fact that spontaneous reduction did sometimes occur, and stated, "In such cases undoubtedly deep anaesthesia and especially chloroform is of great advantage." Others with experience of the complication endorsed these views. I, from a study of the cases in the Rotunda Maternity since 1896 and my own experience of two cases, did the same. Solomons had two cases and found the treatment easy and the speedy recovery dramatic. No case of complete inversion has occurred in the Rotunda since 1915. In my book (1923) I said: "The fundus must be replaced at once. . . . Complete anaesthesia will help to relax the cervix. . . . Ergotinine and pituitrin should never be given before reduction." I saw no reason to alter the paragraph in my second book (1937).

It is worth considering the nature of the complication. There are two stages rather than types—partial and complete; they follow fairly rapidly on each other. It is not necessary for the uterus to be atonic; it may be actively contracting but going extremely flabby between contractions. The placenta may be wholly adherent *in situ*, and in that case the inversion is started by pressure from above, so-called Credé's method, or traction on the cord. More often the placenta is partially detached, and probably has some area of abnormal adhesion which drags down the fundus as the placenta is being extruded even by the uterine action, but most often aided by efforts to express it, as it is in these cases that there is some degree of third-stage haemorrhage. It is difficult to conceive how the development of the partial stage can be overlooked during the management of the third stage of labour by anyone competent to conduct even a normal case.

Two partial cases occurred in the Rotunda during my mastership, were recognized at once by abdominal palpation, the placenta was removed manually, and the mere introduction of the hand replaced the fundus. There was no shock. The reason for this is perfectly shown by Fairbairn (1924) in his illustration of a specimen of partial inversion: the fundus is down to the cervix but the ovaries are still on the brim of the inversion funnel. When the inversion becomes complete the ovaries are drawn within powerful muscle walls and subjected to severe and continued, even if intermittent, pressure. Intense shock immediately appears and persists because the cause is persisting. The condition is exactly comparable to a not uncommon sight on the football field from a blow on the testicle, or a foul blow in boxing, and the appearance of the victims very alike—pallor, sweating, agony. I think there has been a death from a foul blow in boxing, but as a rule the symptoms rapidly subside because the cause is not continuing and the footballer resumes the game. In the case of inversion the cause persists and will be removed rapidly only by replacement. If this is not effected the patient remains critically ill for several days until ovarian sensation is lost. From this it seems obvious to me that the first essential is deep anaesthesia, irrespective of the state of the patient, sufficient to eliminate all sensation, and then immediate replacement, which will be found to be remarkably easy and the manipulations for which will not precipitate further shock if the anaesthesia is complete. When the patient returns to consciousness she will be completely free from signs of shock.

Dr. O'Sullivan has suggested a remarkably interesting substitute for manual taxis, but the delay in preparing the douche may discount any advantage; to me the hydrostatic distribution appears an ideal method of applying the pressure necessary to replace the uterus, but that is all; it does not justify his and others' suggestions that the essential treatment should be deferred while shock is treated. He is also to be congratulated on his photographic enterprise, for he has produced the most perfect illustration of the condition, which I hope will take the place of the deplorable post-mortem travesty reproduced from Bumm, which is given in several old, and repeated in some new, textbooks.

To complete the subject I would like to refer to one point which was not settled definitely thirty years ago. If the placenta is partially detached, as it is in most cases, it should be removed before replacement; but if it is wholly adherent it is utterly impossible to locate the demarcation between its edge and the uterine wall, the replacement should be effected with the placenta, and when in place the edge of the placenta becomes normally evident. If this practice is adopted it will probably avoid the further complication met by Dr. O'Sullivan of a ruptured uterus.—I am, etc.,

Dublin. GIBBON FITZGIBBON.

The Aetiology of Gall-stones

SIR,—Sir James Walton (Nov. 3, p. 593) has lent the weight of his authority to the theory that gall-stones arise because of infection of the gall-bladder. In many fields of medicine and surgery there has been, since the discovery of micro-organisms, a tendency to overstress the importance of bacterial infection and to underestimate metabolic and mechanical factors. Nowhere is this more clearly seen than in gall-bladder disease. There is a considerable body of evidence, to which your distinguished contributor makes little reference, that gall-stones arise aseptically, that complicating gall-bladder lesions are essentially mechanical in origin, and that bacterial invasion is a possible but not inevitable consequence. The danger that Sir James's professional distinction may help to perpetuate a theory unsupported by scientific observation and investigation impels me to submit some of the evidence for the thesis that infection of the gall-bladder arises because of the pre-existence of stones. My argument is based upon numerous observations (only in part published owing to the intervention of the war, but see *Glasg. med. J.*, 1931; *Brit. J. Surg.*, 1934, 1937, and 1940), from which I take leave to select and quote a few.

1. Gall-stones are encountered on occasion in sterile, histologically normal gall-bladders, but inflammation or infection of the gall-bladder is excessively rare apart from the presence of stone or stones.

2. "Acute obstructive cholecystitis" is essentially a condition of infarction of the mucosa of the gall-bladder due to the impaction of a gall-stone in the neck of the gall-bladder. This is true even in the rare examples of the disease occurring in infancy.

3. While it is rare to encounter the typhoid bacillus in the gall-bladder, the biliary carrier state is dependent upon the pre-existence of cholelithiasis.

4. In a histological and bacteriological study of large numbers of surgically removed gall-bladders certain well-defined groups can readily be arranged in series as follows: (*a*) Histologically normal, sterile gall-bladders. (*b*) Cholesterosis gall-bladders, also sterile. (*c*) Histologically normal and cholesterosis gall-bladders, containing stones, but sterile. (*d*) Examples of "acute obstructive cholecystitis" (*vide supra*), from about half of which organisms are recoverable. (*e*) Chronically inflamed, fibrosed, stone-containing gall-bladders, about half of which contain cultivable organisms. (*f*) Examples of empyema of the gall-bladder, all giving positive cultures, and almost invariably containing stones.

The organisms isolated are, generally speaking, quite non-specific—e.g., coliform bacilli, streptococci, mainly non-haemolytic, occasionally anaerobic bacilli, rarely typhoid bacilli.

The conclusion seems to me inescapable that in the chain of inflammatory, degenerative, and infective processes to which the gall-bladder is subject the first incident which marks the departure from normal is the formation, as a consequence of metabolic error (in the widest sense of the term), of a gall stone or stones. The stones having formed, obstructive attacks may follow, and organisms of varying degrees of virulence find lodgment as a result of quite fortuitous combinations of circumstances.

To conclude, a striking metaphor endures when flat statements of a fact are forgotten, but in this quality of persistence danger lies, when a cherished ornamental phrase obscures truth. An excellent example of this phenomenon is Moynihan's dictum (quoted by Sir James): "Every gall-stone is the tomb-stone of a dead bacterium." It is so untrue that it has no place except on the museum shelves of surgical catchwords. If its removal seems to leave an intolerable gap I offer in its place an inelegant couplet:

> "When gall-stones dam the bilious stream
> Its banks may rot and microbes teem."

—I am, etc.,

Glasgow. W. ARTHUR MACKEY.

Acroparaesthesia

SIR,—In the *Journal* of Nov. 3 (p. 596) Dr. F. M. R. Walshe elaborates a simple explanation for the majority of cases of acroparaesthesia in women. From his array of circumstantial evidence he suggests that most cases constitute a rib-pressure syndrome due to atonic drooping of the shoulder girdle, the rib in question being the normal first rib. The word "atonic" in this sense should, I think, refer not merely to muscle, but also to ligamentous and other fibrous constituents of the shoulder girdle.

I have been more or less interested in acroparaesthesia almost since the term was first introduced fifty-three years ago (Schulze, *Dtsch. Z. Nervenheilk.*, 1892, **3**, 300), but the increased number of cases during the war (notably in hospital out-patients) made me recently sum up the main data bearing on the nature of the condition (Weber, *Med. Pr.*, 1945, **214**, 226) as I saw them, and I remarked that much still remained to be elucidated. Dr. Walshe's paper does, I think, really throw some fresh light on the subject, and he comes to a conclusion of fair plausibility. With Ben Jonson one may say:

> "How near to good is what is fair,
> Which we no sooner see,
> Than with its form and outward air
> Our senses taken be."

There is, however, one feature, which Dr. Walshe does not take into consideration—namely, the frequency of the association of acroparaesthesia in middle-aged women with Heberden's nodes. This has been obvious during the recent war, but the frequency of this association was already observed by Rosenbach (*Z. Nervenheilk.*, 1890, **13**, 199), two years before the actual term "acroparaesthesia" was first introduced. Indeed, Rosenbach, from a study of cases of acroparaesthesia, seems actually to have re-discovered and carefully re-described what we usually call Heberden's nodes. To a certain extent this association supports Dr. Walshe's explanation. In my recent account (cited above) I wrote:

> "Though Heberden's nodes may be met with in elderly women who have never done any hard work with their hands (constitutional predisposition may undoubtedly play a part), they are far more often seen in those who have had to do manual housework, more or less like a charwoman—and in those who have done much needle-work or knitting. That is why, I think, they [Heberden's nodes] have been very frequent during the recent war amongst women who previously had been unaccustomed to hard work of any kind."

Heberden's nodes, as I understand them, constitute a conservative *osteo-arthritic reaction* towards stress of work involving the finger-tips. When they commence to develop there may be slight local tenderness and redness of a mild *non-infective inflammatory* (i.e., *reactive*) nature, but afterwards, when once fully developed, they are not tender and the skin is not red over them, and they give rise to no trouble except from their unsightliness. I take it that Heberden's nodes represent a conservative reaction occurring especially in middle-aged or elderly women of an osteo-arthritic disposition as a result of too frequent (though usually mild) traumatic stress, which in many other individuals would not be sufficient to call forth any similar reaction. In other words, Heberden's nodes are the expression of a reaction towards stress of work, comparable to the stress of work which calls forth the ordinary rather mild complaint known as "acroparaesthesia." Contributory predisposing factors in both complaints probably include nutritional and general hygienic errors, climacteric changes, and over-fatigue. These considerations, as far as they go, support Dr. Walshe's main conclusions.
—I am, etc.,

London, W.1. F. PARKES WEBER.

Sciatic "Neuritis"

SIR,—Dr. J. MacD. Holmes and Mr. B. R. Sworn (Sept. 15, p. 350) have described a condition which they interpret as a primary radiculitis. In the article concerned they state: "We have not yet encountered any cases conforming to Dandy's description"—i.e., of a concealed disk.

I think the three cases they describe are examples of what Dandy refers to as concealed disks but which are perhaps better called degenerated disks (*Med. J. Austral.*, Aug. 25, 1945, p. 234). Dandy described the abnormal mobility of the vertebra above the affected disk as a method of diagnosis and location, and he made a plea for the elimination of contrast myelography in these cases. Dr. Holmes and Mr. Sworn appear to have underestimated the importance of these points in Dandy's work. No mention is made of the mobility tests in any of their operations, and in all three patients the diagnosis was made by contrast myelography. The adhesions which they describe around the nerve roots are frequently encountered with degenerate disks, and swollen oedematous nerve roots are sometimes seen. Contrast myelography is quite unnecessary in these cases, and the deliberate incision of a disk to see whether it is soft inside or not may be harmful. If a disk is normal, incision only adds to the patient's disability. The disks concerned were almost certainly abnormal, and the incision of, and insertion of a sharp spoon into, the disk would then do no harm. Considerable force is necessary to incise the posterior common ligament and insert a spoon into a normal disk (the annulus being at least 1/4 in. thick), and the soft nucleus pulposus would then escape. Mr. Sworn must be a careful and gentle dissector to demonstrate adhesions around a nerve root, and, as he does not mention that force was necessary to introduce his spoon into the disk, I feel sure that he was dealing with abnormal disks.

Dr. F. J. Clark and I failed to recognize the first two degenerated disks we encountered, and I feel sure that Dr. Holmes and Mr. Sworn have made the same error and have incorrectly interpreted the condition as a primary radiculitis. We at first failed to appreciate the importance of the pathology of the concealed disk as described by Dandy. The degenerated disk is excessively mobile, and it is recognized by its mobility. The annulus is thinned and can be penetrated by a blunt instrument without using force. Sometimes there is a hole in the annulus through which a probe can be dropped. The interior of the disk is often empty, and I have only once seen a soft brown interior.

I feel that a disk should not be incised for diagnostic purposes, as the mobility test is simple and accurate, and I would suggest that the radiculitis observed by Dr. Holmes and Mr. Sworn was secondary to a disk lesion and not a primary condition, and that Symonds's statement still holds good—i.e., "the vision of an inflamed and swollen sciatic nerve, so confidently stated to be the cause of the syndrome in question, has never yet been granted to human eyes."—I am, etc.,

Perth, Western Australia. JAMES H. YOUNG.

Nutritional Macrocytic Anaemia

SIR,—"We know now that the pathognomonic feature of this large group of deficiency diseases of the blood-forming organs pernicious anaemia and its congeners) is the proliferation of megaloblasts in the bone marrow and the restoration of the normal type of erythropoiesis by liver." It is possible, with much more justification, to be quite as positive in an opposite sense as the writer of this sentence in the leading article on the above subject (Oct. 13, p. 501), and to state that the existing evidence is against pernicious anaemia being in essence a deficiency disease; that, on the contrary, there is considerable justification for believing that its cause is organic disease of the bone marrow, and that this differentiates it from the macrocytic anaemias where only functional changes in an otherwise healthy marrow occur; that haemocytoblasts, primitive and definitive (and not megaloblasts and macroblasts), are the predominating cells in the marrow of pernicious anaemia and macrocytic anaemia, respectively; that megaloblasts and megalocytes occur only in pernicious anaemia and are quite different, in origin and morphologically, from the macroblasts and macrocytes of macrocytic anaemia; and that neither the bone marrow nor the blood in pernicious anaemia, even after prolonged treatment with liver, ever returns to normality. These and other differences between megalocytic and macrocytic anaemias are dealt with by myself in detail in the following communications: *B.M.J.*, 1930, **2**, 204, and 1942, **2**, 257 and 328; *Edinb. med. J.*, 1935, **42**, 293, and 1942, **49**, 568.

In connexion with the discussion on anaemia in pellagra, it is relevant to mention that an anaemia occurring in pigs in a condition alleged (by others) to be pellagra, and remediable in dramatic fashion by liver extract, is described by me in this *Journal* (1938, **1**, 917; 1944, **1**, 232) and in *Nature* (1939, **144**, 244).—I am, etc.,

Aberdeen. J. P. McGOWAN.

Glandular Fever with Neutropenia

SIR,—I am afraid Lieut.-Col. Gerald Slot and Major F. D. Hart (Oct. 13, p. 495) are mistaken if they think cases of glandular fever with marked neutropenia have not been published or mentioned in standard works of haematology. H. L. Tidy in his excellent survey on glandular fever (*Lancet*, 1934, **2**, 236) brings in a table of six cases from five different authors with a neutropenia of 3,000. The neutropenia may be maintained throughout the course of the disease or may change into a moderate leucocytosis and show neutropenia again in the convalescence. J. R. Paul, who described the agglutination test, found neutropenia in half of his cases (*Bull. N.Y. Acad. Med.*, 1939, **15**, 43). I. Davidson (*J. Amer. med. Ass.*, 1937, **108**, 289) mentions the case of a student with a neutropenia of 1,500 with 15% polynuclears, and of a physician who was first diagnosed as agranulocytosis. Wintrobe in his textbook of haematology (1942) emphasizes the occurrence of neutropenia, quoting seven cases of extreme neutropenia of A. Bernstein.

I may add a case of my own experience. An unmarried woman aged 21 years, seen July 16, 1939. Diagnosis: tonsillitis with moderate enlargement of cervical glands. Treatment: 3 × 1 g. sulphanilamide. July 20, 1939: condition very much worse; temperature 104°; exudate on both tonsils increased; spleen palpable. W.B.C. 2,700/2,900; differential count: mostly large lymphocytes, hardly any normal polynuclears found. Diagnosis discussed with two colleagues; ? agranulocytosis or acute lymphatic leukaemia. Large doses of pentnucleotide given. July 21, 1939: condition slightly improved. One colleague, expert on blood diseases, diagnosed from the type of lymphocytes glandular fever as probable. July 22, 1939: W.B.C. 3,600/3,800; diagnosis confirmed by Paul-Bunnell test 1/128 positive. Course of disease unusually severe, with two exacerbations with fresh exudates on tonsils, and high temperatures for nearly three weeks. The patient, who was well observed in a nursing home, showed always subnormal W.B.C.

I intended to publish this case because I thought the severe neutropenia was caused by sulphonamide therapy. But after studying the literature and in view of the small dose given I dropped the idea. In the meantime sulpha drugs have been recommended against glandular fever; though I should not go so far, I should not hesitate to give sulphanilamide in case of septic complications in spite of neutropenia.—I am, etc.,

London, W.9. F. MULLER.

Acid-fast Organisms in Gastric Juice

SIR,—Dr. John Yates rightly points out in his article (Oct. 20, p. 530) that acid-fast saprophytes may occur in the gastric juice in the absence of pulmonary tuberculosis. I cannot recall that the observation has previously been made on *resting* gastric juice, but numerous workers have reported similar findings in gastric washings; C. R. Smith (*Amer. Rev. Tuberc.*, 1944, **50**, 330) gives a fair selection of references. Some few years ago, in an article written in collaboration with the late Dr. Gregory Kayne (*Journal*, June 10, 1939, p. 1170), I wrote: "The possible confusion with acid-fast saprophytes is another strong argument against the use of the direct-smear method in connexion with the gastric contents unless animal inoculation or culture is practised in addition." Another source of error is that described by Belgorod and Schain (*Quart. Bull. Seaview Hosp.*, 1939, **4**, 182), who showed that fine particles containing tubercle bacilli (killed in sterilization) may adhere to the interior of the stomach tube or glassware and become dislodged when the apparatus is used for another patient, so giving erroneous results by the direct-smear method. For both these reasons the results of smear examinations of fluid from gastric lavage are no longer reported at this hospital.

Errors due to acid-fast saprophytes are by no means restricted to gastric-lavage examinations; such organisms have been repeatedly demonstrated in sputum, in both healthy individuals and patients with non-tuberculous pulmonary disease (e.g., S. L. Cummins and E. M. Williams, *Tubercle*, 1933-4, **15**, 49). E. R. Baldwin (*Amer. Rev. Tuberc.*, 1942, **45**, 760) found non-pathogenic acid-fast bacilli in a variety of common vegetables and fruits and commented: "The inference seems justified that acid-fast soil bacteria are so often eaten with food that cultures from the mouth or stomach contents might occasionally reveal them. The bearing this might have on diagnosis is apparent."

One or two important practical points emerge: (1) No person should be labelled tuberculous merely because a few acid-fast bacilli are identified in sputum or gastric contents (or laryngeal swab). Many bronchiectatics have been so misdiagnosed. (2) Non-pathogenic acid-fast bacilli may be present in the sputum or gastric contents of *tuberculous* patients and may cause confusion when the disease has become quiescent. In such patients also occasional dead bacilli may be extruded from an obsolescent focus. One must therefore not attach too much importance to the finding of a few acid-fast bacilli on one occasion, which are probably best ignored if they fail to grow on culture. (3) Most tuberculosis workers are agreed that the presence of living tubercle bacilli in sputum, laryngeal swab, or gastric contents must be taken to indicate active tuberculosis.—I am, etc.,

County Sanatorium,
Clare Hall, South Mimms. A. G. HOUNSLOW.

Infant Feeding and Duodenal Ulcer

SIR,—I should be interested in the experimental, clinical, or statistical basis on which Dr. J. M. Morgan's statement (Oct. 27, p. 585) is founded, that infant feeding is responsible for duodenal ulcer 25 to 30 years later. Otherwise his statement seems not justified in condemning a scientific method of infant management which has stood the test of time and proved its value, as statistics of infant mortality for the years before the 1914 war and now show. It has taught the mother punctuality and some scientific approach to the care of her infant, and, as any person experienced in the care of the infant knows, the interval between 10 p.m. and 6 a.m. is well tolerated by the infant if it is handled correctly. Small adjustments during the first few weeks may be necessary, but soon a conditioned reflex is established which allows the child the most important rest between these hours. If the child still cries in the early hours of the morning this may be due to insufficient calorie- or volume-content of the meals during the day, or even more often to the cold of the early hours. It is not yet sufficiently recognized by doctor and mothers that restlessness of the child then is often due to freezing in a damp bed with not enough blankets. A warm drink relieves this stress; of course, but upsets the routine and will lead to gastro-intestinal upset.

Duodenal ulcer may be more frequent now, but this may be only apparent because of the increased accuracy of x-ray diagnosis. If it is actually increased, why try to bring a well-established step of advance in infant management into disrepute, when other factors, as increased stress and faulty dietetic habits in later life caused by the modern conditions which followed the war, are sufficient explanation and more in line with scientific investigations? Modern youth is not allowed the comfortable ease at meals and peaceful meditating life their parents and grandparents enjoyed, and to this they themselves have added the deleterious but quite universally encouraged habit of earlier smoking of cigarettes—all factors undoubtedly promoting the formation of peptic ulcers.—I am, etc.,

K. A. GRAF.

Anaemia in the Child with Frequent Colds

SIR,—I and a number of colleagues read with some surprise and no little respect the article entitled "The Child with Frequent Colds" (Oct. 27, p. 566). One felt that respect was due to Drs. Irwin and Frankel who had the courage to draw definite and sweeping conclusions on a complaint so widespread and frequent from investigations carried out on 100 or even 130 children drawn from one small area of the British Isles. No reservations are made as to the effects of climate or of living in large industrial towns. All children are assumed to conform to those living in South-West Essex.

Another curious assertion is made farther on in the same article. It reads as follows: "Though minor degrees of anaemia occur, the children cannot be regarded as physically defective." Since 2 of the children showed haemoglobin between 60% and 70% and 6 between 71% and 80%, and since only 100 children are under consideration, then 8% of these children exhibited fairly marked anaemia. Supposing the conclusions arrived at in this survey to be accurate, then had 1,000 children been investigated, although the percentages would have remained the same, nevertheless 80 children showing the above low haemoglobin levels out of 1,000 children would surely not have passed as more or less unimportant. Of 200 cases of anaemia referred to the laboratory where I work in the past three months whose haemoglobin levels ranged between 60 and 80%, all had symptoms referable to the anaemia which cleared up when appropriate treatment was instituted. These patients were certainly not regarded by their own doctors as being without physical defect. Again, as no erythrocyte counts or blood-film examinations are discussed in the article, presumably these were not carried out. There is, therefore, no way of knowing whether the anaemias were macrocytic or microcytic or whether due to nutritional or other causes. Again, I would be glad to know the reason for the statement that "there was no relation between the positive Mantoux reaction and anaemia or frequent colds."

While I have no desire to level carping criticism at a piece of work obviously conscientiously and painstakingly carried out, I feel that such positive conclusions based on such a limited and regional survey cannot be anything but misleading.—I am, etc.,

Glasgow. ANNE C. V. GREIG.

Treatment of Denuded External Skull Table

SIR,—I was interested in the letter from Mr. G. H. Colt (Oct. 20, p. 544) regarding the treatment of avulsion of the scalp. As assistant to a plastic unit, of which Mr. Gabarro is in charge. I have had to treat seven cases of this injury in the last two years. Three admitted direct have been treated by minimal toilet, and the immediate application of a split skin-graft cut by the dermatome. The results have been very satisfactory, the first dressing after ten days revealing a complete take. In these cases the avulsed portion of scalp included the galea, and there was usually pericranium over most of the bone. Raw bone was present in two cases, however, the largest area being 3 in. in diameter, and no loss occurred over this. When seen several months after the operation the grafts were found to be movable on the skull and of very even texture.

Three other cases have been transferred to us late with a granulating surface, and grafted after preparation with "eusol" dressings. These did well, but there was not the excellent take which resulted from primary grafting. In particular, there was failure over raw bone. In 10 to 14 days after the first dressing, however, granulations spread across the areas, and complementary grafts were applied by Gabarro's method. Complete healing was achieved 7 or 8 weeks after admission, compared with 2 or 3 weeks in the cases grafted primarily. I think this again emphasizes that skin loss should be replaced as soon as possible after injury, and that in civilian type injuries, at any rate, immediate grafting is the treatment of choice.

The final case is still under treatment. Here the avulsed portion of scalp (7 in. × 5 in.) was collected from the machine and brought in sterile saline. Six hours after the injury the hair was cut away, the aponeurosis and subcutaneous tissue were removed by sharp dissection, and the resulting full-thickness "graft" sewn into position. After twelve days it was adherent but looked as if mummified. It remained like this for seven weeks, after which the outer layer began to separate, leaving what now appear to be deep skin layers, with hairs 1/4 in. long growing from it. It is hoped to report this case in detail later, but it can be said already that the very conservative line of treatment has preserved some at least of the hair follicles.—I am, etc.,

Hale, Cheshire. FRANK ROBINSON.

Rehabilitation of Fractured Limbs

SIR,—I read with great interest Sir Morton Smart's letter (Oct. 27, p. 581) describing the method of "producing controlled contractions and relaxations of any of the muscles of the body" practised by him with success since 1899. What strikes me is that either this treatment or early massage has not become standardized by the profession. There must be some explanation. On page 518 of *Manual of Surgery*, Rose and Carless (1933 edition), massage and mobilization is stressed, and the text runs: "The days of prolonged splinting and immobilization are over (or should be)."

I imagine that shortage of nurses trained in massage is responsible for the neglect of these methods, though the massage work required after weeks of immobilization must take much longer than if instituted at the start. Sir Morton Smart's electrical treatment must be much more economical of time and nurse-power, and I imagine an intelligent patient could manage the apparatus himself.—I am, etc.,

Stone, Staffs. R. MURRAY BARROW.

Subcutaneous Oxygen for Sciatica

SIR,—Mr. Herbert H. Brown (Oct. 20, p. 544) does not mention the possible danger of air embolism. When a resident under the late W. J. Adie I was taught by him to paint an iodine streak along the course of the nerve from its root origin to the ankle, and then to bring up small subcutaneous oxygen blebs at short intervals along this line; the oxygen was supposed to find its own way to the inflamed nerve. There was no rationale to this treatment other than the psychological effect.

It appeared to me that if one could get a reasonable degree of deep oxygen surgical emphysema in and around the nerve sheath one could hope to vitalize the nerve and perhaps separate some adhesions. With this object in view I used the "sparklet" pocket resuscitator holder with "J"-size oxygen bulb and nasal catheter with a No. 12 hypodermic needle (later the Sparklet company produced at my suggestion an oxygen injector with bag reservoir). I used this treatment only when all others had failed (including several patients who had been advised laminectomy) and had a large number of spectacular cures, until on one occasion (the needle apparently having slipped) my patient suddenly complained of pain over the heart and faintness; in fact he presented a complete picture of air embolism. Fortunately the infra-red lamp and nikethamide were to hand, and the patient rapidly improved and walked home half an hour later. He has never had any sciatic pain since, but neither have I used the treatment since.—I am, etc.,

Streatham, S.W.16. HARRIS AVERY.

Volvulus of the Small Intestine

SIR,—I was interested in Major R. Salisbury Woods's case of volvulus of the small intestine (Oct. 13, p. 496). I was unaware that the condition was considered as rare as he suggests. In about 15 years' experience of native surgery in East Africa I have seen at least six cases.

I have met both types: the local "knot" similar to the condition found by him, and the complete clockwise rotation of the whole small intestine on its mesentery. Symptoms of the latter may be of the "high" type with early urgent vomiting due to obstruction of the jejunum where it enters the twist a few inches below the duodeno-jejunal junction, or the obstruction may not be complete, in which case the picture is that of a lower iliac block of obscure origin with slower progress and definite distension.

In complete rotation the condition at operation is confusing, as suggested in the reference he quotes. One is presented with small intestine distended apparently throughout. The colon is empty, and there is no lump to prove an intussusception.

A clue to the problem, which has no doubt been noted before, though I have not seen it described, is that the fingers searching in the right iliac fossa for the ileo-caecal valve in order to follow back collapsed intestine to the supposed site of obstruction cannot find the caecum because it is not there. The ileum in its rotation has pulled it up and round with the valve to the limit of its mobility, and it will eventually be found tucked up deep in the right hypochondrium about "eleven o'clock."

Eventration is usually necessary. When the whole small intestine wrapped in warm saline packs is unwound anti-clockwise reduction is effected easily, and gas and fluid can be seen entering the right colon once again with the caecum back in its place.

In one of my cases a local tangle was present in addition to the complete rotation, based on a knuckle of gut adherent to an inflamed mesenteric gland. Presumably the continuance of exaggerated peristalsis had swung the whole gut round on its anchor.

I have seen the condition only in Kenya natives, who tend to overload their intestines by gorging after a period of fasting, and it must be coincidence that the European case Major Woods describes occurred also in East Africa.—I am, etc.,

Dublin. MAIBEN ROBERTS.

Descent of the Testis in Relation to Temperature

SIR,—Wing Cmdr. A. W. Badenoch's article on temperature and the descent of the testis (Nov. 3, p. 601) treats a fascinating subject that is possibly of even greater practical than academic interest—which is saying a lot. I do not see how the migration can strictly be described as "a search for a lower temperature," since it normally occurs *in utero* where the whole foetus is kept at a uniform temperature, yet it seems clear that a lower temperature than the body is essential for full spermatogenesis. Theories for the method of descent have always seemed to me unconvincing, and a case of undescended testicles I treated in 1938 seemed to suggest a more reasonable hypothesis. The boy was aged 10, no testicle was palpable on the left side, and the right one was measured as 1⅞ in. from the root of the penis on Jan. 15. On that day I gave him a first injection of 2.5 mg. of testoviron. Three days later, to my surprise, the right testicle had moved down quite half an inch and the left testicle was easily palpable. On the 21st the right testicle was only 1⅛ in. from the penis, shortly after which it got stuck in what was proved at subsequent operation to be a mass of fibrous tissue, from which it was then difficult to release it. On Jan. 25, after three injections, the left testicle was only just 1 in. from the root of the penis. It subsequently descended satisfactorily into the scrotum at a more leisurely pace, with considerable delay before actually entering the scrotum. Curiously enough it has since been liable to sudden attacks of swelling with violent pain that neither I nor the consultant he has seen have been able to explain or prevent.

The immediate question is: "What made the testicles move and how did they do so?" I had watched this lad for months beforehand, so the only explanation is coincidence or some hormone action—in this case testosterone propionate. I got a hint of the possible mode of action when we operated on the undescended testicle, for I noticed that instead of being quite compact and rounded it was rather elongated, almost like a stumpy worm, presumably owing to the epididymis being somewhat separated from the testis. Now the epididymis is liberally provided with smooth muscle, and the idea flashed into my head that the testoviron might have stimulated contractions in this muscle which had urged the whole organ forward along the fascial planes. If this is so—i.e., that the immature testicle is really a motile organ subject to hormonal control—it would at least fit in with many observations made on its normal and abnormal descent.

Turning from this academic aspect, may I suggest a few practical matters which may depend on the temperature control of the scrotum? Any youth knows the pleasurable and stimulating sensation of wearing shorts and the impact of cool air. Any physician knows that long and especially febrile illnesses such as typhoid where the scrotum is kept warm in bed may be followed by temporary or even complete impotence. Pampering and over-clothing may not diminish libido but they do virility. It is curious that the adoption of pyjamas instead of the cooler nightshirt has coincided with diminished birth rate among the pyjama population and also a tendency towards the eunuchoid or intersexual type of both men and women.

The whole subject seems worthy of serious study. It is certainly one for fascinating speculation, and Wing Cmdr. Badenoch's article, by summarizing observations by himself and others, should do much to stimulate both, for such facts as we possess suggest that male clothing—and perhaps female as well—may be having a profound biological effect on the quality of our population. Anthropologists will have much interesting evidence to adduce, but without leaving this island one can surmise that the "hardy Scots" may owe more to their kilts than some are aware.—I am, etc.,

Winsford, Cheshire. W. N. LEAK.

Medical Photography

SIR,—Having read in recent numbers of the *Journal* various letters with reference to medical photography, and as a dermatologist who has focused his attention and camera lenses on many clinical cases seen both in out-patient skin departments in hospital and in private, I would like to say that I quite agree wth Dr. Watson Smith (Oct. 20, p. 548) on the need for the photographer-physician combination; otherwise it is almost impossible to be sure that certain clinical details which one wishes to emphasize in a picture are brought out—e.g., the sheen on the surface and the angularity of a lichen planus papule, the burrow of an acarus in a scabies lesion, or the typical "apple-jelly" nodule present on diascopic examination of a patch of lupus vulgaris. I have also found out by actual experience that hospital authorities, up to the present, will not interest themselves in the matter of making provision for facilities for clinical photography. Possibly this apathetic attitude towards clinical photography might be easier to overcome in the case of the larger teaching hospitals, although it would be a great pity to neglect the vast flood of clinical medical interest that flows through provincial and other non-teaching institutions.

With regard to the statement made by Dr. Watson Smith that "no snapshot is good or near enough: a suitable camera with portrait lens is a necessity," on looking up the definition of the word "snapshot" I find it briefly described as "an instantaneous photograph taken with a hand camera." How could one take a picture, for instance, of a young baby suffering from infantile eczema of the face, who is more or less continually on the move scratching or rubbing the affected parts? All my colour photographs are taken at a speed of 1/30th of a second exposure and a lens aperture of f 3.5, while for ordinary black-and-white photographs the speed is usually either 1/40th or 1/60th second using artificial illumination. Regarding portraits or "close-ups," I think the use of a suitable extension tube inserted between the lens and the camera body is preferable to employing supplemental lenses, as the latter, apart from expense, etc., tend to slow down the rate of exposure necessary. For close-ups between 9-in. and 5-ft. distances it is essential to have some method of correcting the parallactic error associated with short distances in focusing.

Personally, for dermatological cases I much prefer colour photographs, for many obvious reasons. For demonstration purposes they have one great advantage in the fact that one gets a coloured transparency that is ready for projecting on the screen right away without the necessity for making a lantern slide from the negative. One present drawback to the coloured photograph will, I hope, very soon be removed so far as this country is concerned. It is that, evidently owing to wartime difficulties here, one cannot get colour prints or coloured enlargements made from their coloured transparencies. This has been possible now for some time in the U.S.A. by the Kodak Company, and presumably will soon also be feasible here now hostilities have ceased. As a further step in colour photography, I do not think many people have seen colour photomicrographs, but I can assure any pathologist who is interested in the matter that they are really very excellent, comparatively easy to take, require no expensive outlay, and are well worth while. I described the method of doing them in detail in the *Journal* of Jan. 29, 1944 (p. 164).

I agree with Dr. Watson Smith when he states that "in the past the pictorial art has been made too little use of in medical literature"; but even so, should we not take a lead from the most recent trend in the photographic and cinema world, where the black-and-white picture will soon be as extinct as the silent film. I possess many black-and-white and also several hundreds of coloured pictures of dermatological subjects; I much prefer the latter, and so do most medical men to whom I show them. They are a little more difficult to take and the exposure and lighting must be accurate, but then if a thing is worth doing, it is worth doing well. During the recent war years one has had to contend with very many insurmountable difficulties in colour photography, but these should soon all be things of the past.—I am, etc.,

Leicester. F. A. E. Silcock.

Study of Food Habits

Sir,—I applaud your statement of Oct. 20 (p. 536) that "it is our duty as medical men and women to see to it that the wartime improvements in the national dietary are maintained in the period of peace." It would indeed be lamentable if even such negative improvements as the enforced diminished consumption of artificial and devitalized substances, like white flour and white sugar products, were allowed to lapse.

I consider, however, that the medical profession, fully occupied as it is, and has been, with the Sisyphean task of cleaning up the mess of ill-health caused by modern living conditions, is not alone capable of instituting effective dietetic reforms, as this would involve not only the correction of faulty eating habits based on thoughtless acceptance of custom and inability to recognize or obtain health-giving natural foods, but also the overriding of vested interests which might prove an obstacle to enlightened progress.

You mention education and propaganda: excellent and very necessary, but too slow in themselves. Action must be taken now, or yet another generation will be growing up among us wearing the triple insignia of nutritional *laissez-faire*: dentures, spectacles, and appendicectomy scar. If the remedy is additional influence on nutritional legislation by doctors, aided by agricultural experts and dietitians if necessary, then let us have it as expeditiously as possible.—I am, etc.,

Hospital for Infectious Diseases, Burnley. G. Gemmill.

Nutritional Diarrhoea

Sir,—I was much interested in the leading article on nutritional diarrhoea (Aug. 25, p. 258). While serving in Burma I had the opportunity of seeing large numbers of British "other ranks" with diarrhoea which was not immediately diagnosed as either amoebic or bacillary dysentery. They were nearly all long-standing cases and corresponded with the description given by you. In a very few cases the *Amoeba histolytica* was found in the stools after much searching. Test meals and the estimation of salt in the urine were done for twenty cases. In all cases free hydrochloric acid was absent or grossly subnormal. In addition it was found that the salt concentration in 75% of cases was 3 g. per litre or less. From this it could be argued that the condition was primarily due to a shortage of salt with a resulting failure to manufacture acid in the stomach. Sodium chloride 1 drachm, with acid. hydrochlor. dil. ♏ 30, was given three times daily. This had a rapid effect. The diarrhoea diminished, the appetite returned, and the individual felt more alert. This was then boosted with nicotinic acid, multivite, and iron, according to the clinical condition. Owing to Service conditions it was not possible to see the end-result, but all made great progress before evacuation.

The underlying theory is open to argument. The suggestion to be put forward is this. In hot climates as found in Burma, with supplies difficult, it is possible that a man over a period may not take in sufficient salt to replace that lost in sweating. Sooner or later there is insufficient from which acid can be made in the stomach and the gastric acid curve fails. This results in digestion being upset and an intestinal hurry. From this follows a failure to absorb food, including vitamins, giving rise to the clinical picture. Further, I have since found that not a few men recently arrived in the East suffered from a loose stool, loss of appetite, and a feeling of mental inertia. This condition is cured most dramatically by taking salt—1 drachm three times daily. The condition is most interesting. The above argument is put forward as a possible answer.—I am, etc.,

S.E.A.C. J. C. Holman.

A Coincidence?

Sir,—Twinning has long been admitted by both the medical and the actuarial professions to be a hereditary character, and the second family described by Dr. J. C. Joyce (Oct. 20, p. 548) is a particularly good example of this. Moreover, one of a pair of monozygotic twins occasionally shows *situs inversus*. It therefore appears probable that in both the cases described the patient was one of a pair of monozygotic twins, of which the normal individual died at an early stage of gestation. It would be interesting to know, if possible, whether any of the other twins in either family show *situs inversus*.—I am, etc.,

Galton Laboratory Serum Unit, Cambridge. A. E. Mourant.

The Effects of the Rope in Rock-climbing Accidents

Sir,—As is well known, difficult rock-climbing is usually undertaken by "roped" parties consisting of two or more climbers. Where the difficulties warrant it only one climber moves at a time, and therefore on upward climbing, although not on traverses, the security afforded by the rope is complete to all except the leader. When an ascent is approaching vertical and a leader falls the force generated in the rope is very great, and, if the second man is properly placed and holding by the shoulder belay, he may be subjected to a shock load amounting to, in theory, anything from 1/2 to 1 ton, as is perhaps proved by instances of the leader's rope breaking in such circumstances.

The point arises as to the effect of this on the leader and the second, who should normally be holding the rope over his shoulder, of the result of the shock passing first to his shoulder and then to his hands which are grasping the rope. The British Mountaineering Council is anxious to secure evidence of the effects on the leader, round whose waist the rope is tied, and on the second of this great shock. In the case of the leader the shock comes on his ribs or spine. Can readers of the *Journal* give the results of actual experience of injuries sustained by the leader due to the effect of the rope on his body in the arrest of a fall? Further, can actual facts be given of injuries sustained by a second in stopping the fall of the leader, particularly where such falls have been stopped by means of the rope being held so that the shock comes primarily on the shoulders of the second.

There are probably some doctors whose work lies in Wales, the Lake District, or Scotland, where much rock-climbing is done, who could give information on these points, and records of facts would be greatly appreciated by this Council.—I am, etc.,

J. E. Q. Barford,
Hon. Secretary,
74, South Audley Street, W.1. British Mountaineering Council.

Diet in Morphine Addiction

Sir,—I feel that your correspondent Major Stungo (Oct. 20, p. 547) has not been fair to Comerford and Kirman in criticizing with such severity their paper on pellagra in a morphine addict. I fail to see why a case of pellagra should not benefit rapidly from proper diet even in a morphine addict. Major Stungo says: "In no circumstances have I ever known a patient to gain weight in the first two weeks." This statement presumably refers to morphine addicts without pellagra, but exactly how many addicts suffering from pellagra has Major Stungo treated? In my experience cases of pellagra do respond rapidly to treatment, and it appears to me credible that this case behaved in the same way. It seems to me that Comerford and Kirman have described a most interesting case, and should a similar one fall into my own hands I should not hesitate to treat it similarly. I cannot believe that the patient could obtain a supply of morphine over a period of several months while under mental hospital observation, as Major Stungo suggests, and the fact that this patient could walk several miles after discharge does not sound as if she were still taking the drug, in spite of the fact that she did not co-operate in other ways.—I am, etc.,

London, W.1. CLIFFORD ALLEN.

Telling the Patient

SIR,—The correspondence in your recent issues on "Telling the Patient" is of very real value, as this is a most important portion of our daily work and one that is only too often exceedingly badly practised. We G.P.s are infinitely better at it than the specialists because we live with and know our patients and talk their language. I know how often I have to act as interpreter of medical pronouncements. Only last week a consultant said to a patient of mine: "Well, you have no need to worry; the diverticulitis from which you suffer should respond to modern therapy, with suitable diet and antispasmodics." Outside in my car the patient said to me: "Mac, what on earth does he mean: divertic-what-you-may-call-it; and what on earth is therapy and antispas-what's-it's-name?"

The art of clear translation of medical terminology to rational common-sense phraseology which the lay patient can understand is a real and very important one, but in thirty years' experience I find it far too rare, thus leading often to confusion and even real, but avoidable, psychological trauma.—I am, etc.,

London, S.W.1. DESMOND MACMANUS.

Psychiatry in the Services

SIR,—Wing Cmdr. Bergin has raised an interesting, if ancient, problem in his letter. Briefly it amounts to the assertion that psychiatrists are frequently mistaken in the diagnoses and recommendations they make respecting Service personnel who complain of various nervous symptoms (including depression, with or without suicidal tendencies). In fact sending such a patient to a psychiatrist frequently displays merely the diagnostic incapacity of the medical officer and is the first step on the downward path for the (alleged) patient. Wing Cmdr. Bergin does not express his views quite so directly or bluntly as I have done, but endeavours to evade the more personal implication by laying the blame on the "system." Clearly, however, his meaning can only be what I have stated; a "system" doesn't diagnose or make recommendations.

While, it is true, he asks for the views of others on the subject, he must presumably be fairly sure of his own ground before he would venture to write so challenging a letter, giving instances. He has, he says, become cynical about such cases, and describes with something of an air of triumph the success he achieved with a senior N.C.O. who had become "neurotic" and whom he referred, or threatened to refer, for disciplinary action. Will he be good enough, therefore, to instruct us in his method of distinguishing between the genuine neurotic (if he believes there is such a type) and the malingerer? How did he know the N.C.O. in question was "lead-swinging"? Also, how did he know: (1) that he would recover at the threat of a court martial, and (2) that if he were court-martialled he would receive a prison sentence of hard labour? May we assume that this man is now free from symptoms? As I have said, the problem is far from being new. It has cropped up later in this war (if I may be pardoned for using the present tense; it almost appears to me justified). In the 1914–18 war Wing Cmdr. Bergin's method was the official one at the beginning. It gave place to the theory of "commotio" and later to the psychological view.

A final point needs clarification. If the psychiatrist's methods with these cases, which Wing Cmdr. Bergin condemns, result in "a chronic state of neurotic invalidism," how does he correlate this with the improvement he describes as taking place when the patients are discharged from the Service? He gives three examples of this.—I am, etc.,

London, W.1. FREDERICK DILLON.

SIR,—Wing Cmdr. Bergin has given eloquent expression to thoughts which many of us must have had during the past six years. I have always felt, however, that the first duty of the Service medical officer is to consider the efficiency of the Service which employs him, and then the individual; it goes without saying, of course, that this individual is entitled to proper medical treatment when required. Surely the uncontrolled neurotics are more nuisance than they are worth, and are better out of the Service, which they merely hinder. What to do with them in civil life is someone else's headache at the moment, though it will soon be ours as well.

At the same time Wing Cmdr. Bergin's fear that neuropsychiatry is inducing "a chronic state of neurotic invalidism" making the patients "a burden to all concerned" is hardly supported by his three instances—namely, the successful greyhound manager, the industrious waitress, and the merry gardener. Or is it? What about a later report on those three people: how long will they cope? After all, novelty is a great thing.—I am, etc.,

P. R. KEMP,
Ballykelly, N. Ireland. Squad. Ldr., R.A.F.V.R.

SIR,—Wing Cmdr. Bergin has opened a subject which has caused considerable uneasiness among a lot of Service medical officers in the last few war years. My own observations are that the Service medical officer in general and the Service neuropsychiatrist in particular have become the escape route for Service personnel from anything distasteful, be it parades, oversea service, or even life in the Service itself. Furthermore, it seems at times that there is some hidden hand guiding us towards what I consider the calamitous folly of substituting the neuropsychiatrist for the guardroom. It is alarming the number of cases medical officers get on sick parades who ask to see the nerve specialist, and one can rest assured that if granted their wish they have learnt all the correct answers to the neuropsychiatrist's questionary well in advance.

About two years ago I was in charge of a large station hospital: I found a "W.A.A.F." wandering about the main passage, obviously lost. I asked her if I could be of help and she informed me she was looking for the specialist. The conversation went something like this. *Self:* "We have a very nice selection of specialists here; which one did you want to see?" *W.A.A.F.:* "The specialist in discharges." I directed her to the gynaecologist, but, alas, my intuition was rather like Hitler's, slightly awry; she wanted to see the neuropsychiatrist.

In a train recently I sat next to two members of the A.T.S. Their conversation interested me in only one place. *1st A.T.S.:* "Did you hear about Lily?" *2nd A.T.S.:* "No." *1st A.T.S.:* "She has had a nervous breakdown and is in hospital." *2nd A.T.S.:* "Poor thing, and she's only been married a month. I expect that means she will get her ticket." *1st A.T.S.:* "Yes; it usually does, don't it?"—I am, etc.,

PHILIP H. PERKINS,
Wing Cmdr., R.A.F.

*** This correspondence is now closed.—ED., *B.M.J.*

"Reasons" for Scientific Research

SIR,—My thanks to Fl. Lieut. M. Hamilton for his letter (Oct. 20, p. 549), which sent me back to the leading article on Pasteur. "Social" is the word that contains the key to the value of Pasteur's work, the answer to Fl. Lieut. Hamilton's questions, and to all our questions and plans for reconstruction. *Socius* means a companion. "Society" means a group of companions, birds of a feather. The quality of a society depends on the character of the central person round which the companions group. Its results depend on the thoroughness with which the companions put into practice the qualities of the central character. No one can say that the Belsen practitioners, though few in number, were not productive in results. Pasteur and his companions, though few in number, produced results of a diametrically opposite character to Belsen, but far greater though not spectacular, and people generally did not become companions of Pasteur. So we have less than £1,000,000 a year for medical research.

Democracy has no clearly defined character round which its adherents can rally. The common man is a character that varies in different places and at different times. So democracy, though it has innumerable adherents, cannot have companions and cannot correctly be called society. It is at best a large and ill-defined group of small ill-defined groups. Its common denominator is hard to find. Its results are great, but not in proportion to its adherents, and those results are contradictory: health and avoidable sickness; luxury and avoidable poverty and squalor; U.N.R.R.A. and the £5,000,000,000 atomic bomb.

The only society of about the same initial size as Pasteur's which can show bigger, better, and more lasting results was formed in Palestine 2,000 years ago. It suffers at present through having more colourless consenters than companions, and being more divided by ritual than united in reproducing the everyday life of its Founder. If mankind is not to destroy itself it must transfer its allegiance from the Pantheon called "democracy" to Christian theocracy."—I am, etc.,

Market Rasen, Lincs. DUDLEY F. TORRENS.

The "Stamping" of the Guards

SIR,—I have only just seen Sir Lenthal Cheatle's letter (Sept. 22, p. 404) referring to this subject. With all due respect I submit that he sees the matter in a wrong perspective. The Guards do not stamp their feet for amusement but because it is smart and impressive. In the two and a half years during which I had the honour to be R.M.O. of a battalion of the Coldstream Guards I watched them take part in ceremonial parades in many towns of Africa and Italy, and was frankly amazed at the immense and genuine rise in British prestige which invariably followed. Unfortunately Britain is lamentably bad at propaganda, but one of her few real assets in this sphere is the Brigade of Guards. I think that most medical officers in the Brigade realize this, and consider that the price—some varicose veins and a few cases of march fracture—is not unreasonable. Sir Lenthal Cheatle is quite wrong in thinking that the medical officers cannot assert their authority. The five commanding officers under whom I served invariably treated my advice with the greatest possible courtesy and consideration.—I am, etc.,

E. GREY TURNER,
Medical Directorate Headquarters, B.A.O.R Major, R.A.M.C.

Training for Released Service Doctors

SIR,—Col. C. D. Evans's letter (Oct. 27, p. 585) should arouse not only indignant sympathy but acute alarm in the minds of doctors about to be released from the Services. I was privileged to serve under him during the last two appointments of his military career. In the former he had charge of the medical services of a large area of Belgium and Holland centred on Antwerp, whose importance at the time was acknowledged by the biggest concentration of "V" bombs ever aimed at a single target. The latter post covered the district of Hamburg, greatest port on the Continent and largest city in purely British occupation. That an ex-officer who, to say the least, has deserved well of his country, and whose modest ambition is to spend a year at a bread-and-butter salary learning the specialty that interests him most, should be denied even this meagre recognition of his services on some purely technical pretext will inspire little confidence that the much-advertised Government scheme is to be taken even at its not very inspiring face value. Surely a more generous and helpful attitude to returning practitioners would do much to allay the bitterness and distrust which, all too evidently, are now undermining the unity of our profession.—I am, etc.,

G. M. ADDISON,
Westgate-on-Sea. Late Major, R.A.M.C.

Five international organizations—the International Committee of the Red Cross, the Save the Children International Union, the Caritas Catholica Internationalis, the World Council of Churches, and the World Jewish Congress—have made a joint appeal to "the countries which have food, clothing, vitamins, and medicines" to come to the resue of Europe's children before it is too late. "Only by immediate and co-ordinated effort can a colossal catastrophe be avoided," say the five organizations, which pledge themselves "to work together in meeting the needs without regard to nationality, race, or creed."

Obituary

E. E. YOUNG, M.S., F.R.C.S.

We regret to announce the death on Oct. 16 of Mr. Ernest Eric Young of Newcastle-under-Lyme, consulting surgeon to the North Staffordshire Royal Infirmary, Stoke-on-Trent, with which he was closely associated for 40 years, becoming its president in 1936.

Born in 1875, Eric Young studied medicine at St. Bartholomew's Hospital, and gained second-class honours in materia medica and pharmaceutical chemistry at the Intermediate M.B.Lond. examination of the University of London in 1899; two years later he graduated M.B. and B.S. with first-class honours in obstetric medicine, and in 1904 proceeded to the M.S. By that time he had won the Bentley Surgical Scholarship at Bart's, and served as house-surgeon there to Sir Henry Butlin, who recognized his exceptional ability, and as resident midwifery assistant. His long connexion with the North Staffs Infirmary began as resident surgical officer; he also became consulting surgeon to the North Staffs' Cripples' Aid Society, the Stoke-on-Trent Hospital, and the Leek Memorial Hospital, and surgeon to the Longton Hospital. Eric Young brought to the North Staffs Royal Infirmary an unusual organizing talent, and he established specialized services which have been of the utmost value to patients over a wide area. The high degree of professional skill he showed in his work gained him a reputation which spread rapidly through the North Staffordshire district and far beyond. He was appointed full honorary surgeon in 1927, and at the beginning of 1936 succeeded to the post of president, having before then been senior acting vice-president of the hospital and chairman of the house committee. He published a number of papers in the *Lancet* and the *Transactions of the Obstetrical Society*, and in 1937 was elected a Fellow of the Royal College of Surgeons of England without examination. He was a J.P. for Stoke-on-Trent, and held office as chairman of the North Staffs Division of the B.M.A. in 1924–5.

Sir HAROLD GILLIES writes:

Eric Young was a stalwart of the old Bart's School which comprised so many well-known and charming people. Their devotion to their profession only vied with that of Bart's. Young had that power which many of those men had in creating intense friendships —a sort of dynamic personality which prevented anyone from quarrelling with them. His interest in games and other activities in connexion with the hospital was just what one would expect from him; but one could never cease to admire the enthusiasm with which he kept right up to date with his surgery and travelled far and wide to many clinics to gain so much further proficiency. He was very fond of travelling, which came easy to him because he made such friends when he visited those various surgical clinics and conferences. The Surgical Union of Great Britain owes a very great deal to his genial and stimulating influence, and he will be sorely missed in those directions.

His life's work lay in Newcastle-under-Lyme and the Potteries, and the North Staffordshire Royal Infirmary owes its high position to Eric Young's excellent surgery and devoted interest. He held the position in that populous area of a true consulting surgeon, and one to whom all doctors and specialists in the neighbourhood could look with certain confidence. He so wished to raise the standard of surgery and lived to see this ambition well fulfilled. I feel sure that all who knew him in North Staffordshire recognize the immense services he gave to surgery. At the Royal Infirmary he was very progressive in stimulating the development of all special departments, and long before he became president of the hospital was instrumental in winning much wealth for such developments.

As a companion and as a host those who knew him were indeed privileged, but in his private life it was not only he alone but he and Mrs. Young who together constituted a centre of kindness and joy to those who were fortunate enough—and there were many—to receive their hospitality. It was a tragic but brave end with a hopeless recurrence of which he was well aware and which he hid from his devoted wife. He did a big operation within a fortnight of his death—a great surgeon and a gallant friend.

E. A. SADLER, M.D.

Ernest Alfred Sadler died at the Mansion, Ashbourne, Derbyshire, on Oct. 16. He was in his 82nd year. His strength had been failing for some time, but he had continued in his practice and had visited some patients within two days of his death.

Sadler came to Ashbourne soon after leaving Birmingham, having held resident appointments at the Queen's Hospital, where the excellence of his notes and the beauty of his handwriting became a legend. He remained in Ashbourne for more than 50 years. He was assistant M.O.H. for Ashbourne from 1894 to 1905, and M.O.H. from 1905 until he died. His major professional interest lay in a large family practice, and in this work he was not exceeded for alertness of mind, tirelessness of body, and gentleness of spirit. If one may adapt the famous description of the strawberry made by his hero, Samuel Johnson, one may write of him that "doubtless God could have made a finer country doctor, but doubtless also He never did." His professional skill remained with him to the end, and in his 81st year he did a difficult forceps delivery, and was gratified to find that his hands had not lost their dexterity. His standards of duty were truly Victorian, and even at the end of his life he would, each evening, compel his tired body to write the day's letters and reports, leaving nothing till the morrow—letters such as few persons, and perhaps no doctors, find time to write to-day—letters of counsel, of comfort, and of charm. If his ideal of duty was Victorian, his shining courtesy had an eighteenth-century air. It was formal yet benign; it was constant, for nothing surprised him out of it; it was infectious, and men grew more civilized in his company. His humanity was inspired by an unshakable belief in man's virtue, well aware though he was of human morbidity, unhappiness, and evil.

The house in which he lived and died is well remembered by all students of Boswell's *Life of Samuel Johnson*, and it has become a place of pilgrimage for Johnsonians, both English and American. No doubt its traditions in some degree formed Sadler's character and directed his interests. It was built in 1680 and rebuilt in 1765, to the design of the Adam brothers, by the Rev. Dr. John Taylor, lifelong friend of Johnson; its best features are the octagonal drawing-room and the large hall with its two beautiful alabaster columns. Sadler wrote a description of the house which was printed by his friend Dr. L. F. Powell in his great edition of the *Life* (vol. iii, p. 498). He made some other important investigations into the Ashbourne associations of Johnson, Boswell, and Taylor, to which Dr. Powell makes repeated acknowledgment in his work. In recognition of these researches Sadler was elected an honorary member of the Johnson Club of London—a distinction which brought him the greatest pleasure. He had many archaeological enthusiasms which resulted in the publication of several interesting papers, notably a fine and scholarly account of the parish church of St. Oswald, Ashbourne, published in 1934. His most important contribution to medical literature was an article in the *Birmingham Medical Review* (July, 1898, **44**, 45) on the pedigree of an Ashbourne family of haemophiliacs, an inquiry which profitably combined his medical and antiquarian interests. During his long life he had collected a good library, which was particularly strong in eighteenth-century works.

Sadler did not neglect his public responsibilities, either civic or professional. He was chairman of the Governors and Assistants of Queen Elizabeth's Grammar School (Old Trust), Ashbourne, and a former chairman of the Derbyshire Insurance Committee. The life of the country family doctor was, is, and perhaps will be, full, happy, and devoted; no country doctor has had a fuller, happier, and more devoted life than Ernest Sadler. His wife, together with two sons, one daughter, and ten grandchildren, survives him.

D. V. H.

R. D. GILLESPIE, M.D., F.R.C.P.

The following is a tribute from a Guy's colleague:

R. D. Gillespie came to Guy's Hospital as physician for psychological medicine in 1926 as a young man. He was appointed to the staff at the age of 29. His teachers, including Adolf Meyer, D. K. Henderson, and T. A. Ross, had no doubts of his future success, nor were they disappointed. His forceful personality and clear thought soon attracted to his department students of all ages. The undergraduate found at his clinics an inspiration to think for himself in terms both of physiology and of psychology, and his lectures on psychology, for which there was no signing-up or official credit, were largely attended. His appeal to the postgraduate was even greater. He gathered round him more and more of those who were attracted by his powerful intellect and critical mind. Thus despite the cares of an increasingly busy private practice, almost without effort it seemed, he built his department larger and larger. Not that there was really effortless achievement, for his work for the hospital was given without stint and at more cost to his sensitive spirit than most realized. He aimed high and found in success no solace but a stimulus to ever greater endeavour. Perhaps it was this spirit of unrest driving his great intellect which was the mainspring of his power. The facts of his personal achievement are witness to its extent. When he came to Guy's his duties involved an occasional attendance for special cases, a weekly out-patient demonstration, and set lectures, but these were soon extended to a thrice-weekly out-patient session, and out of this grew the establishment of Psychiatric Social Service and Child Guidance Clinic, and the enlistment as clinical assistants of many men who are now distinguished in psychological medicine.

His devotion to psychiatry and to his patients bore fruit, too, in another direction, for those who could bear witness to his power for individual good were ready and forward through him to help others. Thus was established the York Clinic for psychological disorders, the first institution of its kind in this country to be an integral part of an undergraduate teaching school. Built at the expense of anonymous donors, the York Clinic with Gillespie as its director came into being during the war, and has served and is serving the needs of Service and ex-Service men and women, as well as others, needing in-patient treatment. The opportunities thus afforded for teaching and research were at once and widely recognized, and in the last year postgraduate students from our own Services and those of our Allies have sought them. The enormous amount of time and energy devoted by Gillespie to the planning and development of the York Clinic in the face of great difficulties occasioned by the war was a measure of his strength of purpose and courage. At the outbreak of war he at once joined the Royal Air Force, in which for more than five years he applied himself to Service problems. Compelled to resign his commission by ill-health early this year, he returned to Guy's and continued at his work until his death.

Always somewhat aloof and inscrutable, he engaged the respect and admiration of his colleagues to a degree which forbade intimacy to all but a few, yet for them all there is a sense of grievous personal loss. "R. D." was not only the head of his department and a great name in the psychiatric world, he was a much-loved person—more loved assuredly than he ever allowed himself to know. No one appealed to him for help in vain. If it were in aid of a patient, one could rely upon his sympathy and skill: no superficial show, but all he had. If it were appraisal of an idea or theory that was sought, the reaction might be acid but was always honest and generally true. Quiet and gentle in his manner, he could flash on occasion when principle was at stake, and would never hesitate to follow the course which he believed true because it was unpopular. Serious as a rule, he had an incisive and quick wit which in conversation delighted his friends as in debate it disconcerted his opponents.

His contribution to the development of psychological medicine at Guy's Hospital can be measured to-day in the strength and size of the department he created. It will be measured in the future by the influence of his example and teaching upon many future generations of Guy's men.

Herbert Edward Durham, Sc.D., F.R.C.S., who died at Cambridge on Oct. 5, aged 79, was the son of Arthur E. Durham, sometime senior surgeon to Guy's Hospital, and a grandson of William Ellis the economist, who inaugurated secondary technical schools. He was educated at University College School, London, King's College, Cambridge, where he took his B.A. in the Natural Sciences Tripos of 1887, and at Guy's Hospital. He qualified M.B., B.Ch. in 1892, took the F.R.C.S. in 1894, and the Sc.D. at Cambridge in 1909. For a time Durham was assistant in the throat department at Guy's, and resident obstetrical officer, and later assistant M.O., at the North-Eastern Fever Hospital, Tottenham. He then devoted himself to scientific research, and held the John Lucas Walker Studentship at Cambridge, the Gull Research Studentship in pathology, and a Grocers' Research Scholarship. At the end of the last century he went out as a working member of the Tsetse Fly Disease Committee of the Royal Society. He next took charge of expeditions to investigate yellow fever in Brazil, organized by the Liverpool School of Tropical Medicine, and beriberi, organized by the London School of Tropical Medicine. Owing to impaired vision he had to give up active prosecution of research and worked for 30 years as supervisor of the laboratories of H. P. Bulmer & Co., Ltd., cider-makers, at Hereford. He published many papers on medical, pathological, and hygienic subjects, and on horticulture and fruit-growing.

Universities and Colleges

UNIVERSITY OF CAMBRIDGE

Refresher Courses for Medical Officers released from H.M. Forces

A 14-day general refresher course will begin on Monday, Dec. 3, at Southend-on-Sea General Hospital, and a special 14-day course on "Pulmonary Tuberculosis, its Differential Diagnosis and Treatment," at Addenbrooke's Hospital, Cambridge, in conjunction with Papworth, on Jan. 14, 1946. General practitioners may attend these courses should vacancies occur. No accommodation is provided, and all those attending must make their own arrangements. Applications for further information and admission should be made to Dr. Firth, Trinity Hall, Cambridge.

The Raymond Horton-Smith Prize for 1944–5 is awarded to R. I. N. Greaves, M.D., for his thesis on the preservation of proteins by drying, with special reference to the production of dried human serum and plasma for transfusion. G. W. Harris, M.D., is *proxime accessit* for his thesis on the secreto-motor innervation and actions of the neuro-hypophysis, an investigation using the method of remote control stimulation.

During October the titles of the degrees of M.B., B.Chir. were conferred by diploma on M. M. Mason, of Newnham College.

UNIVERSITY OF SHEFFIELD

At a meeting of the University Council, held on Nov. 2, the following appointments were made: *Lecturer in Medicine,* Dr. T. E. Gumpert, F.R.C.P. *Lecturer in Surgery* and *Lecturer in Surgery to Dental Students,* Mr. J. C. Anderson, F.R.C.S. *Lecturer in Industrial Medicine,* Dr. G. B. Oliver. *Tutor in Surgery,* Mr. A. G. Butters, F.R.C.S.

Profs. H. N. Green, M.D., and Wilson Smith, M.D., were appointed representatives of the University on the Sheffield Hospitals Council.

ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW

At the annual meeting Mr. William Alexander Sewell was elected President; Dr. Geoffrey B. Fleming, Visitor; Mr. Walter W. Galbraith, Honorary Treasurer; Dr. W. R. Snodgrass, Honorary Librarian; and Mr. Andrew Allison, Representative of the Faculty on the General Medical Council. The following were elected members of the Council: Dr. John Gardner, Mr. Archibald B. Kerr, Mr. G. T. Mowat, Mr. James H. MacDonald, Mr. J. W. Macfarlane, Mr. Eric G. Oastler, Mr. Charles Read, Mr. Matthew White, Dr. J. H. Wright, Mr. Roy F. Young.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND

At the monthly meeting of the President and Fellows of the College, held on Nov. 2, Dr. Maurice Gerald Nelson and Dr. Michael Stanislaus O'Beirne were admitted Licentiates and Members of the College.

Medical Notes in Parliament

The Government and the Hospitals

Mr. Churchill on Nov. 8 asked Mr. Attlee by private notice whether in view of the public anxiety aroused he would state the decision reached by the Government on the future of hospitals, both voluntary and municipal.

Mr. Attlee replied that the Government could not be held responsible for any anxieties caused by unauthorized statements in the Press. The Government was not in a position to make any statement on the matter at present.

Mr. Churchill asked the Prime Minister to take into consideration that considerable harm had been done by an unauthorized statement, and that the springs of private charity might dry up before public benevolence began to flow. He pointed out that from day to day people were giving large sums to the voluntary hospitals or were leaving sums under bequests and that great disturbance had been caused by this unauthorized publication. Mr. Attlee said he was not prepared to admit that there had been a leakage of the Government's intention. He had made inquiries and could not find that there had been any leakage. He hoped that in view of his statement the general public would not be deterred. Mr. Churchill asked whether the House could now take it that these were idle and unauthorized rumours and that when the Government had a plan it would announce it. Mr. Attlee replied that at the right time a statement would be made by the Government. The intention was that it should be made to the House of Commons. The Government could not be responsible for intelligent or unintelligent anticipations or imaginations in any section of the Press.

Penicillin Supplies

New factories for production of penicillin are under construction, which, with those now working, will provide sufficient to meet all foreseeable requirements. The Ministry of Supply is consulting with Mr. Bevan with a view to penicillin, "as soon as supplies permit, being made more widely available for use by doctors in those cases where experience indicates the need for its use."

Publicity for Diphtheria Immunization

The expenditure on publicity for the immunization of children against diphtheria has been: 1940–1, £800; 1941–2, £2,276; 1942–3, £19,909; 1943–4, £30,777; 1944–5, £32,467. Since the immunization campaign started the number of deaths from diphtheria has fallen to one-third of the pre-war average. The number of cases has fallen by 28,000. Mr. Bevan calculates this means a saving of £800,000 for hospital care.

Doctors' Cars

Mr. John Foster suggested on Nov. 5 the granting of permits for reconditioned motor cars to doctors demobilized from the Services. Mr. Alfred Barnes said the present limited supply of these vehicles fell far short of the number of deserving applications from disabled ex-Service men, nurses, and midwives, for whom they were being reserved. He regretted that he could not adopt Mr. Foster's suggestion.

Mr. Dalton refused on Nov. 6 to arrange for qualified medical practitioners to be allowed to buy motor cars free of Purchase Tax for use in their professional duties. He said that administratively the remission would be very difficult.

Demobilization of Doctors

Mr. Key said on Nov. 6 that the demobilization of doctors was receiving the urgent consideration of the Ministers concerned, and a statement would be made as soon as possible.

Sale of Practices

Mr. Bevan told Sir Ernest Graham-Little on Nov. 7 that he was aware that the uncertainty as to his future intentions with regard to the continuance of the system of sale of practices was causing difficulties for doctors who were being demobilized in making agreements necessary to settle in practice. Asked to announce his policy, Mr. Bevan referred to an answer he had given on Oct. 11.

Shortage of Nurses

In a statement on Nov. 8 Mr. Bevan said Mr. J. Westwood, Mr. G. Isaacs, and he had considered what action could be taken to remedy the shortage of nurses and domestic staffs in hospitals. They had consulted with representatives of hospital authorities and the organizations and trade unions representing nurses, midwives, and domestic staff. An agreed statement would be issued on Nov. 10. This dealt with the extent of the need and the causes of shortage and outlined the administrative measures which would be taken in an endeavour to remedy the present unsatisfactory position. He added that an urgent appeal was made in the statement to men and women to offer their services in one or other of the many fields of hospital work. This appeal would be supported by appropriate publicity. Publicity was not in itself sufficient. Conditions of service were of equal or greater importance, and codes had been drawn up in agreement with all concerned defining the conditions which it would be the aim of the Government and hospital authorities to ensure. The Government recognized many long-term problems relating, for example, to the training of nurses and the prevention of wastage. These could not be dealt with fully in the statement and would require continuous study. The Government would give close attention to these matters.

Civilian Doctors this Winter

Mr. Bevan told Cmdr. Douglas Marshall on Nov. 8 that in the United Kingdom the present proportion of civilian doctors of all kinds to population was about 1 to 1,350, or in the case of general practitioners only, 1 to 2,500. The extent to which this position would be improved during the winter depended on the number of doctors to be released from the Forces, which was receiving the urgent consideration of Ministers. Mr. Bevan added that the shortage of civilian doctors was itself an obstacle to organizing in advance any mobile units, although if the need arose mutual assistance would be arranged locally. He said he had arranged with Service Ministers for the loan of medical officers so far as their resources permitted if an urgent need arose.

Diphtheria Immunization

A statement circulated by Mr. Bevan on Nov. 8 shows that the numbers of children under 15 immunized against diphtheria in England and Wales under local authority arrangements during the past five years were:

1940 and 1941 (separate totals not available)	2,365,400
1942	1,399,750
1943	1,039,490
1944	561,320

In the same period, during which diphtheria mortality in this country fell by nearly two-thirds, of 135,431 children notified as suffering from diphtheria 17,084 were immunized; and of 3,346 children who died from diphtheria 118 were immunized and 3,228 unimmunized. He added that the cost of carrying out immunization fell on local authorities except for the cost of the toxoid supplied to them free by the Government, which has averaged about £13,500 a year. He had no information about the number of doctors who, as medical officers of local authorities or as practitioners engaged on a sessional basis, had taken part in this work.

The Public and the Common Cold

Cmdr. **Maitland** asked Mr. Bevan on Nov. 8, in view of the number of working days lost during the winter months by epidemics of the common cold and influenza, to initiate a nation-wide campaign to encourage the voluntary use of inoculation against these diseases and to arrange for the inoculation to be given at the expense of the Government. Mr. **Bevan** said the general results so far obtained of inoculation against the common cold and against influenza were not such as to justify the measures suggested. The publicity campaign would be actively continued, to make known the rules of healthy living and to check infection through careless coughing and sneezing.

The Invalided Psychoneurotic

On Nov. 8 Sir **Ian Fraser** asked the Minister of Pensions to undertake an inquiry into the attitude of his Ministry towards cases of psychoneurosis with a view to securing more sympathetic and generous treatment of them.

Mr. **Paling** said he was satisfied that cases of psychoneurosis were sympathetically and generously treated by his Department. As in the case of any other disability, pension was dependent on whether the condition was causally connected with war service. But where a man who had been invalided for psychoneurosis was in need of and likely to benefit by institutional treatment, free treatment was provided in special centres even though the condition was neither attributable to nor aggravated by war service. Attention was given as part of the treatment to the man's re-establishment in employment, and where necessary vocational training was arranged.

Raynaud's Disease and Vibrating Machines

Dr. **Morgan** inquired on Nov. 8 whether any reports had yet been made of the number of cases with an increasing incidence of alleged Raynaud's disease or dead hand or disabilities classified as vibrational diseases as the result of handling by workmen of vibrating rotating machines in a factory at Trafford Park, Manchester.

Mr. **James Griffiths** answered that he had no information in regard to such cases at a factory at Trafford Park. Extensive investigations had been carried out by the Medical Inspector of Factories and the Medical Research Council in collaboration into the effect of electrically driven vibrating tools in factories in Lancashire and Cheshire. These had not disclosed evidence of disability beyond frequently recurring transient effects, which in some cases might be sufficient to cause the man to seek a change of employment. There was not enough evidence that Raynaud's disease was so specific to employment as to justify its inclusion in the Schedule of Industrial Diseases under the Workmen's Compensation Act.

Public Assistance Medical Care.—Mrs. **Castle** suggested on Oct. 25 that the Minister of Health should, pending the establishment of a national health service, encourage public assistance authorities to introduce the open-choice system of medical assistance for needy persons not covered by the Health Insurance Acts, so that they could obtain free medical treatment from their own doctor. Mr. **Bevan** said he was prepared to consider favourably any application for his consent from a public assistance authority which found it practicable to introduce the open-choice system.

Medical Examination of Tin-miners.—Mr. **Beechman** on Oct. 25 asked the Minister of National Insurance to ensure that intending tin-miners were medically examined before they took up work and that all tin-miners had periodical medical examinations. Mr. **James Griffiths** regretted that the difficulty of finding doctors with the special experience necessary to carry out the examinations made it impossible now to propose such extension of the statutory requirement. The matter would be kept under review.

The Services

The following have been awarded the R.N.V.R. Officers' Decoration: Surg. Cmdr. H. P. Widdup, Acting Surg. Cmdr. D. A. Imrie, and Surg. Lieut.-Cmdrs. P. D. Daly, M. G. Stratford, W. G. Campbell, and W. Gough, R.N.V.R.

The following awards and mention in dispatches have been announced in recognition of gallant and distinguished services in the field:

M.C.—Major (Temp.) O. G. Prosser, Capts. E. F. M. Caraher and A. C. P. D. Thomson, and Lieut. M. A. Egan, R.A.M.C.

Mentioned in Dispatches.—Capt. D. R. Macaulay, R.A.M.C.

Repatriated.—Capt. Hugh Edward De Wardener, R.A.M.C.

CASUALTIES IN THE MEDICAL SERVICES

Killed.—Surg. Lieut. Colm Nolan, R.N.V.R.

Killed in road accident in Rome.—Major John French, R.A.M.C.

Wounded.—Surg. Lieut. J. Wedgwood, R.N.V.R.

Medical News

A sessional meeting of the Royal Sanitary Institute will be held at Halifax Town Hall on Saturday, Nov. 17, at 10.15 a.m., when papers will be read by Mr. J. W. Beaumont on "Rodent Control" and by Dr. G. C. F. Roe on "The Nature, Incidence, and Treatment of Mental Defect."

A course for Dominion and Allied Forces arranged by the British Council at the Overseas Club, Birmingham, from Nov. 19 to 24, will include a talk by Dr. H. Guy Dain, Chairman of Council of the B.M.A., on "The State and Medicine."

Dr. A. S. Parkes, F.R.S., will speak on "Some Problems of Reproductive Physiology" at a meeting of the Eugenics Society to be held on Tuesday, Nov. 20, at 5.30 p.m. in the rooms of the Royal Society, Burlington House, W., with Mr. Eardley Holland, P.R.C.O.G., in the chair. All interested in this subject are invited to attend.

Dr. G. Macdonald, Director of the Ross Institute, London School of Hygiene and Tropical Medicine, will read a paper on "Tropical Hygiene and the Oversea Empire" at the Royal Society of Arts, John Adam Street, Adelphi, on Tuesday, Nov. 20, at 1.45. Sir Rickard Christophers will preside. Tickets may be obtained from the acting secretary of the Dominions and Colonies Section, Royal Society of Arts, John Adam Street, London, W.C.2.

A meeting of the Medico-Legal Society will be held at 26, Portland Place, W., on Thursday, Nov. 22, at 8.15 p.m., when a paper will be read by Mr. T. Mervyn Jones on "The Medico-Legal Aspects of War Injuries."

A general meeting of the Medical Society for the Study of Venereal Diseases will be held at 11, Chandos Street, W., on Saturday, Nov. 24, at 2.30 p.m., when an address on the prevention of syringe-transmitted hepatitis will be given by Major S. M. Laird, R.A.M.C.

The British Empire Leprosy Relief Association has arranged a public meeting to be held at Friends House, Euston Road, N.W., on Tuesday, Nov. 27, at 6.30 p.m. The Archbishop of Canterbury will take the chair and Dr. Ernest Muir is among the speakers. An exhibition will open at 6 o'clock; there will be a cinematograph film, and singing by the Toc H male voice choir. Admission is by ticket (free) on application to the Organizing Secretary, B.E.L.R.A., 167, Victoria Street, S.W.1.

An open meeting of the Neurosis Subcommittee of the Royal Medico-Psychological Association, to which all interested are invited, will be held at 11, Chandos Street, London, W., on Thursday, Nov. 29, at 11 a.m., when there will be a discussion on "Education in Mental Hygiene," to be opened with short papers by Dr. Clifford Scott and Dr. R. Sutherland. The next quarterly meeting of the Association will be held at 11, Chandos Street, W., on Friday, Nov. 30, at 10 a.m., when papers will be read by Dr. Elizabeth Casson on "The Psychiatric Approach to Work of Rehabilitation" and by Dr. T. M. Ling on "Psychiatric and Industrial Aspects of Rehabilitation." A discussion will follow. At 2.30 p.m. the twentieth Maudsley Lecture will be delivered by Sir Laurence Brock, lately Chairman of the Board of Control, on "The Place of Psychiatry in the Public Health Service," at the Royal Society of Medicine (1, Wimpole Street, W.). Psychiatrists and other medical practitioners, psychologists, and members of the legal profession, teachers and students, and all interested are cordially invited to attend. Admission is without ticket.

Members of the Welsh Branch of the Society of Medical Officers of Health from a wide area, accompanied by their wives, attended a complimentary dinner in honour of Prof. Ralph M. F. Picken, Acting Provost of the Welsh National School of Medicine, and immediate past-president of the Society of Medical Officers of Health, at the Park Hotel, Cardiff, on Nov. 8. Prof. Picken was accompanied by Mrs. Picken, and the toast of the evening was proposed by Dr. D. Rocyn Jones, Medical Officer of Health for Monmouthshire, seconded by Dr. E. Colston Williams, late County Medical Officer for Glamorganshire. Dr. James C. Gilchrist, Cardiff (president of the Branch), presided.

On Oct. 20 (p. 543) Sir Arnold Lawson, president of the Royal Medical Benevolent Fund, made a moving appeal for contributions to the Christmas Gifts Fund. Readers who meant to respond but have not yet done so are asked to send their contributions marked "Christmas Gifts" to the Secretary, R.M.B.F., 1, Balliol House, Manor Fields, Putney, S.W.15.

The fourth All India Obstetric and Gynaecological Congress will be held in Lahore in December. The subjects for discussion are: puerperal sepsis, pelvic inflammation, and ante-natal care. The address of the Secretary of the Scientific Section of the Reception Committee is 39, Chamberlain Road, Lahore.

The faculty of the Medical School of the University of Rio de Janeiro has recently conferred the degree of doctor *honoris causa* on Dr. Pasteur Vallery-Radot, head of the French Cultural Mission to South America now at Rio de Janeiro.

The Board of Control wishes to remind medical practitioners who before enlistment had been approved for the purpose of making recommendations in respect of voluntary and temporary patients under the Mental Treatment Act, 1930, and who are returning to civilian practice from the Forces, that before making medical recommendations under the Act they should ascertain by inquiry addressed to the Board of Control at the Clifton Hotel, St. Annes-on-Sea, Lancashire, whether their approval is still current. This is necessary as in some cases approvals may have expired during the absence on service of an approved doctor.

Dr. William Baron Cockill, who has long practised at Kendal and is a J.P. for Westmorland and consulting physician to the County Hospital, has been made an honorary freeman of the borough of Kendal.

Prof. L. P. Garrod has lately visited Belgium to lecture on penicillin to medical audiences at the invitation of the University of Louvain and under the auspices of the British Council.

Dr. Alizon Frances Stookes has been released from internment in Japanese hands.

EPIDEMIOLOGICAL NOTES

Discussion of Table

In *England and Wales* infectious diseases were slightly less prevalent than in the preceding week, the only exception being acute pneumonia, notifications of which went up by 29; the incidence has increased by 81% during the past four weeks.

The largest variations in the incidence of diphtheria were a rise of 13 in Durham, and a fall of 20 in Lancashire. London reported 32 fewer cases of whooping-cough than last week. The largest new outbreak of this disease during the week was in Merioneth, Dolgelley R.D., 18 cases.

No fresh outbreak of dysentery was reported during the week, and the total notifications fell by 37. The largest returns were Lancashire 67, London 43, Warwickshire 21, Yorks West Riding 13, Glamorganshire 13, Middlesex 11, Essex 10.

For the six weeks ended Oct. 20, influenza deaths in London and 126 great towns numbered 54 as compared with 96, 75, and 60 in the corresponding period of the last three years.

In *Scotland* there were increases of 24 in the incidence of diphtheria, and of 31 for whooping-cough, while notifications of scarlet fever fell by 22, and of dysentery by 21. The only large return of dysentery during the week was that of Glasgow, where 35 of 66 cases were notified.

In *Eire* there was a general fall in the incidence of infectious diseases, notifications being fewer than last week by the following amounts: diphtheria 16, enteritis and diarrhoea 16, measles 46, scarlet fever 15, whooping-cough 21. Fifty-one of the 65 cases of diarrhoea and enteritis were reported from Dublin C.B.

In *Northern Ireland* notifications of diphtheria rose by 11, and of scarlet fever by 12.

Week Ending November 3

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,819, whooping-cough 1,041, diphtheria 585, measles 496, acute pneumonia 458, cerebrospinal fever 35, dysentery 211, smallpox 1, paratyphoid 6, typhoid 9, poliomyelitis 24.

No. 43

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended Oct. 27.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1945					1944 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever	35	3	20	3	—	47	4	15	3	3
Deaths		—	1				—	1		
Diphtheria	576	46	185	60	26	554	9	204	128	29
Deaths	9	—	1	—	—	8	1	2	2	—
Dysentery	247	43	66	2	—	362	38	101	—	—
Deaths				—	—				—	—
Encephalitis lethargica, acute	1	—	1	—	—	3	—	—	—	—
Deaths		1					—			
Erysipelas			52	10	—			56	14	—
Deaths		—					—			
Infective enteritis or diarrhoea under 2 years				65					37	
Deaths	63	7	19	21	6	37	2	13	18	7
Measles*	422	47	71	46	3	4,442	65	309	30	99
Deaths	1	—	—	—	—	3	—	1	—	—
Ophthalmia neonatorum	49	5	14	—	—	64	3	19	—	—
Deaths										
Paratyphoid fever	5	—	2 (B)	—	—	14	—	1 (B)	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenzal†	547	54	3	5	1	538	32	10	2	2
Deaths (from influenza)	16	4	4	—	—	17	1	1	—	—
Pneumonia, primary			162	20				178	26	
Deaths		29		10	2		23		10	8
Polio-encephalitis, acute	5	—				1	—			
Deaths		—					—			
Poliomyelitis, acute	27	2	2	5	—	14	—	1	—	—
Deaths		—					—			
Puerperal fever		3	18		—		7	15		—
Deaths										
Puerperal pyrexia‡	113	8	19	2	3	162	10	10	1	1
Deaths		—					—			
Relapsing fever	—	—			—	—	—			—
Deaths										
Scarlet fever	1,754	145	353	24	43	2,288	60	325	51	82
Deaths	—	—	—	—	—	2	2	—	—	—
Smallpox	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Typhoid fever	12	2	—	3	—	9	—	1	7	2
Deaths	—	—	—	—	—	—	—	—	—	—
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Whooping-cough*	1,029	56	75	23	3	1,061	52	76	20	10
Deaths	1	1	—	1	2	7	1	—	1	—
Deaths (0–1 year)	318	42	48	32	12	342	19	55	40	31
Infant mortality rate (per 1,000 live births)										
Deaths (excluding stillbirths)	4,223	673	557	171	115	4,279	589	551	182	132
Annual death rate (per 1,000 persons living)			12·6	11·0	§			12·7	11·8	§
Live births	5,913	814	826	343	233	6,728	508	983	361	250
Annual rate per 1,000 persons living			16·5	22·1	§			20·0	23·4	§
Stillbirths	169	18	33			197	13	29		
Rate per 1,000 total births (including stillborn)			38					29		

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

‡ Includes puerperal fever for England and Wales and Eire.

§ Owing to movements of population, birth and death rates for Northern Ireland are still not available.

Letters, Notes, and Answers

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: *Aitiology Westcent, London.* ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated.

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ANY QUESTIONS?

Exercises during Pregnancy

Q.—*What is the value of exercises in pregnancy, with the idea of freeing the pelvic joints for labour?*

A.—There are many exercises designed to loosen pelvic joints, and the following are examples:

1. Swinging first one leg and then the other while holding on to a support. Forward and backward kicking and circular movement of the leg.
2. Standing in front of a chair and raising each foot in turn and placing it on the seat.
3. Flexion and extension of the trunk, bending low as if to "touch the toes."
4. Squatting low with the knees well apart, and also with knees together.
5. Ascending and descending stairs, two at a time, without the support of the banister.
6. Kneeling and alternatively adopting the knee-chest position and sitting back on to the heels.

Exercises of such kinds are advised for the later weeks of pregnancy, but can with advantage be performed regularly throughout pregnancy. Those who believe that free movement of the pelvic joints is important for natural delivery emphasize the need for such movements—e.g., manual labour involving low bending, and low squatting for defaecation during earlier life. Reference should be made to *Safe Childbirth* by Kathleen O. Vaughan (Baillière, Tindall and Cox, London, 1937). Antenatal exercises are also mentioned in several of the semi-scientific books written for expectant mothers; yet they receive scanty if any mention in obstetrical textbooks. This is probably because most obstetricians appear to take the view that set exercises are rendered unnecessary if a woman performs her normal household duties, which involve bending, stooping, kneeling, scrubbing floors, running up and down stairs, etc.

Cholecystitis: Diet and Treatment

Q.—*With reference to the question and answer "Heartburn and Cholecystitis" in the* JOURNAL *of Sept. 22 (p. 412), I would be grateful for detailed instructions on the treatment of this condition, with special reference to diet and medicinal treatment.*

A.—On theoretical grounds which are difficult to defend, various diets have been prescribed for cholecystitis. In particular, a low-fat diet has been recommended because the liver may be diseased, or because the flow of bile is scanty, or because cholesterol forms gallstones. In the ordinary uncomplicated case of cholecystitis there is no reason to believe that any of these fears is justified. Fat is the normal stimulus for the discharge of bile into the duodenum, and this promotes the drainage of the biliary system. The dyspepsia of cholecystitis is probably due to reflex disturbances of gastric tonus, and the diet should be planned from this point of view. Provided fried foods and indigestible types of fatty foods, such as pork, are avoided, the patient should tolerate ordinary quantities of natural fats, such as butter, milk, cream, and eggs. Small dry meals are probably better than slops, as in other forms of gastric flatulence, and fluids should be taken between meals. A bland diet should, therefore, be planned on these lines. Spices and condiments, rich foods, new bread, hot rolls, pastry, and gaseous vegetables such as turnips and those of the cabbage family, should be avoided, and raw fruit and greens taken with forbearance. Many patients with cholecystitis are obese, and their diet should be reduced to a level at which they will lose weight.

Biliary antiseptics are probably of little value. There is no evidence that hexamine or sodium salicylate is excreted in the bile in antiseptic concentrations. Sulphonamides, on the other hand, do reach effective levels in the bile, but they are dangerous drugs to give over long periods of time. Medicinal treatment therefore comes down to biliary drainage and symptomatic remedies for dyspepsia. Biliary drainage is best promoted by a teaspoonful or more of 25% solution of magnesium sulphate on waking in the morning, and a dessertspoonful of olive oil before the midday and evening meals. For the flatulence alkalis may be given combined with carminatives such as cardamoms or spirits of ether.

"He Died Peacefully . . ."

Q.—*The Press frequently report, "So-and-so died peacefully in his sleep." Excluding senile decay or a ruptured brain vessel, is there any justification for such statements? Novel writers also dispose of characters by the same procedure. One must also exclude "coma" from various causes. What proportion of people "die peacefully"?*

A.—It is impossible to say what proportion of people die peacefully during sleep, for there are no available statistics. If senile decay, cerebral haemorrhage, and coma from various causes are excluded, as the question suggests, the number is probably fairly limited.

A distinction must be drawn between those suffering from an advanced disease and those apparently healthy. In the former, death frequently occurs in the early hours of the morning during sleep and occasions no surprise. On the other hand, death of this sort is quite unlikely in the latter group, but it may arise in people with unsuspected disease of the heart, such as coronary disease or fatty degeneration. In young children, sudden death sometimes happens from bronchopneumonia and gastro-enteritis which had given rise to no serious symptoms. Such death may take place during sleep.

Disseminated Sclerosis and Trauma

Q.—*A patient suffering from severe injury to the left leg followed by osteomyelitis necessitating amputation develops disseminated sclerosis. Could the shock of the injury or the sepsis be a causative agent? History: injury December, 1940; sepsis—osteomyelitis; amputation December, 1942; symptoms of disseminated sclerosis first noticed November–December, 1942.*

A.—Many cases similar to this have been reported, and some clinicians find it difficult to resist the view that severe trauma may cause disseminated sclerosis to develop. Isolated cases, however, prove nothing statistically, and one has to set against them the enormous number of injuries which are sustained by young men in wartime and which are not followed by disseminated sclerosis. Since we do not know the cause of the disease we can neither explain how an injury could precipitate it nor on *a priori* grounds exclude the possibility. In the present state of our knowledge, therefore, the only possible proof is a statistical one, in the absence of which the verdict must be "not proven".

Methods of Vaccination

Q.—*I would be grateful for an opinion on the intradermal method of vaccination. In my experience this method never causes a patient the slightest inconvenience. Difficulty in following up cases has prevented a personal opinion on its efficacy. Many practitioners, both recently qualified and with long experience, still seem to use the "scratch" method.*

A.—The objections to injecting vaccine lymph intradermally are that it contains glycerin, which is an irritant, and may, in spite of glycerination, contain living bacteria, which are much more likely to cause secondary infection if actually injected into tissue. The scarification or multiple-pressure methods (see *B.M.J.*, 1944, 2, 781), in which the lymph is placed on the surface and the vaccinia virus is simply given access to epidermal cells by very superficial trauma, have not these objections; they are fully efficient and simpler to perform.

"Difficult Eaters"

Q.—*Not uncommonly mothers come to me with the complaint that "I can't get my child to eat." Physical examination usually excludes such possible causes of anorexia as tuberculosis and rheumatism. I would like advice on the general management of the "difficult eater." Would there be any point in prescribing vitamin B_1 in such cases, even though one knows the daily menu is satisfactory?*

A.—This common problem is most difficult to solve without much more information, and preferably with an interview so as to see exactly the mother-child relationship. It is not the type of question to be answered by correspondence. Moreover, the question raises difficult points, for neither tuberculosis nor rheumatism is at all likely to produce anorexia as a *dominant* symptom in a child, nor are they easy to exclude by physical examination. The sort of approach may be on the following lines: Is there any intestinal trouble? State of teeth and throat? Is there chronic infection of tonsils, lungs, kidneys? What is the daily dietetic programme? Is the child allowed to get hungry by a strict three meals a day, or is milk, apple, orange-juice, or cod-liver oil, for example, allowed to spoil the development of an appetite? Does the child feed alone?

Is there active resistance or a mere passive lack of interest? Is there anything the child really likes? What is the age? Does he go to school? Is he any better eating with strangers or in company? Mere prescribing of vitamin B or anything else is useless unless a broad approach is made. Finally, does it really matter? Many children brought for anorexia are found to be over weight and gaining steadily. Reassurance of the mother is often the only "treatment" required.

Salty Taste in Mouth

Q.—*An increasing number of patients complain of an unpleasant salty or metallic taste in the mouth, without relation to food, and with no abnormal conditions of teeth, gums, tongue, or accessory sinuses; no signs of hysteria or of perverted taste sensations. Testing the sense of taste in the usual way gives normal results. Is there any possible dental cause?*

A.—Patients who have had recent amalgam fillings occasionally complain of a metallic taste, especially if the filling is in contact with another gold or amalgam filling or gold denture; but this usually passes off after a time. If the abnormal taste is really distressing and can be traced to the new filling, this must be removed and replaced by some non-metallic material. That this complaint is on the increase does not seem to be a general observation. Patients who are receiving injections of the heavy metals sometimes complain, especially when the gums become inflamed.

Ocular Diplopia

Q.—*I find that the subject of ocular diplopia, in particular the diagnosis of the muscle or muscles involved, is not very well done in many of the eye and general medical textbooks. Is there a textbook or monograph you can recommend?*

A.—Diplopia is so wide a subject that any short description must lack sufficient clarity to make the subject really understandable. Double vision may be divided into that which is met with in one eye and that which appears only when both eyes are open. The former is, *inter alia*, found with lens opacities and sometimes during orthoptic training, when both a true and false macula are being used in one eye. Binocular diplopia is of course seen as a normal appearance of objects nearer than or beyond a constant point of fixation of the gaze. This type is called physiological. Artificial diplopia can be produced by digital pressure on one eye, especially in an upward or downward direction or by a prismatic effect—as, for example, when spectacle lenses are badly dispensed. The third type (pathological) is seen in many different kinds of case—e.g., displacement of the eyeball and partial or complete paralysis of one or more of the extraocular muscles. The above is merely a list of some of the causes of diplopia; to extend the list and to embark upon a differential diagnosis of any practical value would entail the writing of a small handbook. The method of diagnosing a paresis of one of the extraocular muscles is confusing to many. A succinct account is given in Bishop Harman's *Aids to Ophthalmology* (Baillière, Tindall and Cox, 5s.); having once seen a practical demonstration, no one should experience any difficulty.

Briefly, the underlying principles are to discover which eye is at fault, and then which muscle of the affected eye is deficient in movement. To find the faulty eye, spectacles with red glass in front of one eye and green or white in front of the other are worn by the patient, who is told to keep his head still and only to follow the movements of a light in front of him with his eyes. An elongated light such as a candle flame should be used. The false image is the one which lies farthest in the direction of greatest diplopia and because of its colour can be traced to the affected eye. If the images were crossed over—i.e., right eye image to patient's left—then the eyes are divergent, and an in-turning muscle is at fault. To determine which muscle is weakened, reference must be made to the diagram found in the textbooks. This diagram may be learnt by heart or by repeated reference.

Ichthyosis

Q.—*A girl of 12 years has a chronic dry scaly skin, worse in winter, when the skin of the legs cracks. Lately she has been put on thyroideum siccum, one 1/10-grain tablet daily, with no improvement so far. What is the usual experience of such treatment in these cases?*

A.—The somewhat brief description in this case suggests a mild form of ichthyosis. This is a chronic dryness of the skin, often a familial disorder, and sometimes associated with asthma and hay-fever. The object of treatment is to replace Nature's deficiency by supplying some oily material which does not become rancid, and for this purpose liquid paraffin is usually well tolerated; it is sometimes an advantage to add a small amount of powdered starch to the liquid paraffin before applying it. The object of the treatment should be to make the skin less harsh and dry, using the remedy as often as is necessary to produce this result. Opinions differ as to the value of thyroid, which in the writer's experience is valueless in this condition.

Methylene Blue for Threadworms

Q.—*I have heard methylene blue described as better than gentian violet for treating threadworms, and less likely to cause vomiting. What dose would be needed for a 4-year-old child?*

A.—Pakenham-Walsh (*Lancet*, Nov. 4, 1944, p. 612) records success in two cases of threadworm infection which he treated with methylene blue, "gr. 3 t.d.s. for a week"; so far these results do not appear to have been confirmed. Chopra and Chandler (*Anthelmintics and their Uses*, 1928, p. 197) state: "Methylene blue in doses of 20 grains, large enough to cause nausea and vomiting, acts only as a feeble anthelmintic." The suggested dose for a child 4 years old is 1/4 to 1 grain t.i.d.

Bursa on Knee

Q.—*A man aged 25 received three years ago a shrapnel wound of his right knee. Shrapnel lodged in the end of the femur was removed at operation within a few hours, and he was left with a knee-joint which functioned normally. A month ago, while playing football, he fell on this knee and suffered great pain. The swelling round the joint was excessive but subsided with two days' rest and local lead and spirit lotion; but he was left with a great amount of fluid in the suprapatellar bursa. After a further week's rest the absorption of the fluid from the bursa appeared to cease. About 35 c.cm. of almost pure blood (which did not clot on standing) was aspirated aseptically, and the knee then appeared normal; but in spite of a crêpe bandage the fluid appeared again within a day. A week later another 25 c.cm. of a similar fluid was aspirated, and again, within a few hours, the bursa had refilled. He gives no history of bleeding into or swelling of any other joint, etc. X-ray examination shows no bony abnormality. What is the most likely cause of this condition, and what lines of treatment could be adopted?*

A.—This is a difficult question to answer without clinical contact with the problem. The fact that this young man was able to play football suggests that the previous shrapnel wound is of no importance in the recent episode, particularly if, as is stated, radiography is negative. An independent intra-articular lesion is probable, such as a cruciate ligament rupture or meniscus tear. The statements that "the knee then appeared normal" and that "x-ray examination shows no bony abnormality" are not convincing unless backed by detailed positive or negative notes relating to sites of tenderness, stability, range of movement, muscular competence and wasting, or, on the other hand, the state of bone densities and outlines, joint interval, soft-tissue shadows, etc.

"Non-specific Urethritis"

Q.—*Cases labelled "non-specific urethritis" occur with increasing frequency. What are the latest views on aetiology, bacteriology, and pathology? A man became infected six months ago after intercourse with the woman he wishes to marry. When he is pronounced cured, what are the possibilities of reinfection should the union take place?*

A.—It is not possible to answer this question fully within the space available. There is a good deal of evidence that non-specific urethritis is not an entity but includes a number of conditions such as chronic gonorrhoea (the gonococcus being difficult or impossible to find) and traumatic, chemical, or bacterial conditions due to such organisms as staphylococci, streptococci, *B. coli*, etc. Infestation with *Trichomonas vaginalis* is thought by some to be a not uncommon cause, and a virus has been suspected but not yet incriminated.

Treatment will depend on the cause: a traumatic or chemical urethritis will clear up if the cause is removed, and an alkaline diuretic is often helpful. Inquiry should be made as to the previous use of injections for prophylactic purposes or of irritating contraceptives by the partner. If masterly inactivity, with or without alkaline diuretics, fails, the "sulpha" drugs may be tried, or even penicillin, on the chance that the infecting organism is a sensitive one. Gentle irrigation with mercury oxycyanide 1:8,000 is often successful in bacterial cases, whilst if *Trichomonas vaginalis* is responsible the urine should be rendered and kept alkaline. If all the above measures fail, a careful urethroscopic examination should be carried out in view of the possibility of a stricture or a Littritis being the cause.

Both "sulpha" drugs and penicillin have cured numerous cases, but by no means all; when they have been successful, chronic gonorrhoea was probably the correct diagnosis. Such therapy is, of course, usually empirical. It is doubtful how far patients with non-specific urethritis are infectious. When it is realized how frequently married women suffer from leucorrhoea and what a menagerie of organisms can be found in the vagina of the average multipara, it is surprising how few married men become infected. It is always wise to examine the partner of the patient, remembering to look for *Trichomonas vaginalis*; but Regulation 33B cannot be invoked, since it applies only to the three official forms of venereal disease—syphilis, gonorrhoea, and soft chancre.

In the case of the man who was infected six months ago by the woman he proposes to marry, it is fairly obvious that he is liable to be reinfected by her unless she is treated. Certainly it would be wise to examine her, because if she infected the man, obviously she herself was infected.

There is no doubt that a mild urethritis, difficult to cure and liable to relapse, has become much more common during the last three or four years than it was previously. A good deal of work has been done on it, but the cause has not yet been definitely identified and treatment is largely empirical in consequence. (See also *Brit. J. vener. Dis.*, 1942, **18**, 106.)

INCOME TAX

Payment to Wife

W. B. asks what is "the highest sum one can pay one's wife (for clerical assistance, etc.) free of income tax from the practice account."

*** The only possible answer to this question is that the wife can be paid as much as her services to the practice are worth—and no more. The effect on taxation depends on the extent to which the wife's earnings as an employee would be taxable. At present the wife is entitled to a maximum allowance of £80 against her earnings, and to the 10% earned income allowance, if the husband is not already receiving the maximum amount (£150) of that allowance.

Eire Resident: English Building Society Interest

M. M. asks: "Is an Eire resident liable to the Eire Government for income tax on dividends received from an English building society?"

*** The only reason why such dividends are not assessed on British residents is that under a special arrangement the building societies make payment to the British Government of sums estimated to be a reasonable composition for the tax which would otherwise be due from depositors, etc. So far as we are aware no such payment is made to the Eire Government and the answer to this question is apparently "Yes."

LETTERS, NOTES, ETC.

Names of Drugs

Dr. **Donald V. Bateman** (Woodford Green, Essex) writes: In "Any Questions?" (Oct. 13, 1945, p. 519) there is a question on "Generalized Sweats," in the course of which the questioner refers to phenobarbitone. In the answer mention is made of the same drug but as represented by the word "luminal" with neither capital initial letter nor inverted commas. It is disappointing to find your correspondent falling into the habit of referring to a proprietary product as though the name were an official pharmacopoeial word. Not so very long ago many candidates in a final examination, asked about nikethamide, were nonplussed by what seemed a mysterious word, when they could have written about "coramine" with familiarity. Our authority for a drug's correct name is the *British Pharmacopoeia*; *not* one particular commercial firm's trade mark for its own preparation of the drug.

*** At the same time we should remember that the discovery of the drug is often made by the commercial firm in the first instance, or rather by its chemists.—Ed., *B.M.J.*

Bell's Palsy

Dr. **Edgar Cyriax** (London, W.1) writes: I have read with great interest the article by Drs. H. P. and Cecily M. Pickerill on the early treatment of Bell's palsy (Oct. 6, p. 457). But I feel I must draw attention to a method of treatment of peripheral facial paralysis which is very little known. Briefly speaking, it consists of manual vibrations applied over the mastoid process to promote absorption of the exudation so often present, and of manual mechanical stimulation of the facial nerve by means of "nerve friction" according to the methods of Henrik Kellgren. This treatment, especially as regards the vibrations, can be started immediately, and the combined manipulations give very good results indeed. A complete technique has been described by me in *International Clinics* (1912, 22s, 1, 40) and *Brit. J. phys. Med.* (1943, **6**, 37).

Liver Extracts

Dr. **H. M. Walker** (London) writes: In "Any Questions?" (Oct. 6, p. 482) an inquiry is made regarding the treatment of aplastic anaemia or essential thrombocytopenia with liver extract. The reply contains some statements which seem to be contrary to all established fact, and in many ways misleading. The statement that "it is a good rule that no patient with a blood disorder should be denied the opportunity of responding to liver therapy" is completely at variance with experience and practice. What effect would liver extract have on myelogenous leukaemia or haemolytic anaemia? Liver extract is specific in macrocytic anaemias, and, although it may have some value in combination with iron in iron-deficiency anaemia, its use in the latter condition is by no means generally accepted. The statement that purified extracts are more reliable than crude, and the conclusion that this is due to greater care in clinical testing, is incorrect. Both purified and crude extracts are reliable, and they are submitted to exactly the same type of test. Finally, the statement that the use of proteolysed liver therapy by mouth is superior to any form of intramuscular therapy is just incorrect. Injection treatment is the method of choice, and is supported by all the authoritative writers on the subject.

Infection from Dead Teeth

Dr. **Sydney Pern** (Ballarat, Victoria) writes: In your issue for May 26 (p. 749) Dr. J. B. Parfitt discusses infection from dead teeth. I cannot say that from twenty-five years' experience I am in agreement with him. I have long ago given up the idea that *x*-ray examination was of any value in deciding infection or otherwise, as on so many occasions where the film proved negative extraction showed gross infection and the patient recovered. I would like to quote from a paper by Dr. Russell Hayden, published in the *Dental Cosmos*, read before the Radiological Society of North America on Dec. 10, 1924. The experiments were carried out in the Department of Medical Research, Deaner Institute, Kansas City. Cultures were made in deep tubes of glucose brain-broth agar. He states: "The changes which from the *x*-ray standpoint are usually considered as indicative of infection are all, in fact, evidence of resistance of the host to the infection. In cases of systemic disease arising from chronic foci the very existence of the systemic lesion is in itself evidence of lack of resistance to the focal lesion. It is logical also to assume that the infected pulpless tooth which shows no evidence of infection is a far greater source of danger than one which does show definite radiographic evidence. . . . Cultures have been made of the apical tissues of 1,307 vital and pulpless teeth and the findings compared with the radiograms. Of 490 pulpless teeth negative in the radiogram 10% showed from 1 to 10 colonies, 44% showed 10 or more, and 24% showed over 100 colonies. Of 425 pulpless teeth with positive radiograms 10% showed from 1 to 10 colonies, 60% had 10 or more colonies, and 44% showed over 100 colonies. The incidence of infection is almost as high in the radiographic negative group as in the radiographic positive group. The absence of radiographic evidence of infection at the apex of a pulpless tooth never excludes the presence of active infection. In many cases the radiographic negative tooth is a far greater source of systemic infection that the radio-positive tooth, since in the former there may be little resistance to the infection." With root infection of dead teeth the general belief is that the infection comes from the tooth itself. In many cases this is not so, as Rosenow has shown that intravenous injections of organisms can and do lodge in the pulp of live teeth and set up foci of infection; thus, however carefully teeth are prepared there is always a possibility of their becoming infected at some future time from food-borne micro-organisms, and so it comes about that any dead tooth is always a source of potential danger. Another fallacy is that because a person is not feeling ill he is therefore not receiving any injury from an infected tooth. Organisms can be poured into the blood stream for years before any particular organ or tissue becomes sensitized to that organism, but that does not say their bodies are receiving no injury; bacterial toxins may be circulating in the blood, causing deterioration of blood vessels and cartilages which eventually results in hyperpiesis and chronic arthritis long before any symptoms are manifest to the individual. One finds that a large proportion of the diseases we are called upon to treat are the result of dental infection from either gingival or root infection. An eye specialist not long ago made the remark that a third of his work resulted from dental infection. If we take the fact that *x*-ray examination is of no value in assessing apical infection and that an individual can be receiving gross pathological damage from bacterial toxins without showing any definite symptoms, we have to ask ourselves the question: Is it worth while carrying a dead tooth when the penalties are so great? Surely the time has come for the dental profession to give us some conclusive evidence as to the usefulness or otherwise of any form of treatment in gingival or apical infections. Personally I cannot say that I have seen any permanent results, which means that the individual is left with a virulent streptococcus entering his blood stream.

Herpes Zoster and Varicella

Dr. **B. H. Symon** (London, S.W.8) writes: On Oct. 16 a middle-aged woman consulted me with regard to a definite patch of herpes zoster round the left side of her waist. The symptoms were characteristic. Two days later she sent for me, having developed an attack of varicella, also with characteristic symptoms and hard palate affected. This would surely imply that the virus of the two diseases is the same.

Correction

In Dr. W. W. Shrubshall's letter (Nov. 10, p. 668) there is a small typing error which, though obvious, needs correction. In the last line "over*h*eating" should of course be "overeating."

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A SURVEY OF FUNGOUS DISEASES IN GREAT BRITAIN

RESULTS FROM THE FIRST EIGHTEEN MONTHS

BY

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The new interest manifested in fungous diseases during the last three decades is in some measure a result, but probably in greater measure the cause, of the recent notable advances made in medical mycology, especially in the United States, some South American States, France, and Italy. The study of medical mycology has been neglected by us, but it should not be thought that fungous diseases are less important in Great Britain and the Colonial Empire than in other countries. At the present time little is known of the nature, the incidence, or the gravity of our indigenous or imported systemic mycoses, and much remains to be learned of our common epiphytic infections. Towards the end of 1943 the Committee for Research in Medical Mycology (Medical Research Council) proposed a survey of fungous diseases in Great Britain, and a tentative scheme to collect data was prepared. Pathologists of the Emergency Pathological Service and members of the Pathological Society of Great Britain and Ireland were invited to submit, for mycological examination and identification, morbid specimens or cultures from known, suspected, or possible mycoses, and at a later date a similar invitation was made to readers of the *British Medical Journal* through an annotation (*B.M.J.*, 1944, 2, 283). The response to these appeals, during the first eighteen months, has been gratifying, and correspondence and specimens were received from 140 pathologists and clinicians—the correspondence bearing evidence of the increasing interest which is being taken in the subject. In all, 1,094 specimens were received, which may be classified as follows: From suspected epiphytic infections, 688; fixed tissues for sectioning, 41; fresh tissues for culture, 42; smears and sections, 130; pus, exudates, and other body fluids, 16; cultures for identification, 62; miscellaneous specimens, including sputum, 115.

As no report of any of the grave systemic mycoses referred to in this paper has yet been published by the doctor concerned, detailed clinical or other descriptions of the cases cannot be given in the following summary.

Mycoses of the Central Nervous System

Torulosis.—Fresh and preserved specimens were received from three cases of torulosis of the central nervous system, in all of which a diagnosis of tuberculosis had been made on the symptoms and clinical signs. In two of these cases torulosis was diagnosed at necropsy, and both showed extensive involvement of the brain and spinal cord and their meninges. In the third case the diagnosis of cerebellar tuberculoma was corrected at operation, and this case is of additional interest because a culture of *Debaryomyces neoformans* (syn. *Torula histolytica*) similar to that isolated from the cerebellar lesion was obtained by nasopharyngeal swabbing, which suggests the possible path of the infection. The cultures from these three cases will be compared with those from earlier English cases and several foreign ones.

Mycotic Meningitis.—Mounted sections were received of the spinal cord and meninges of a case of chronic mycotic spinal meningitis. The causative fungus was present in the greatly thickened pia arachnoid, but in the absence of reproductive forms it could not be identified generically. No culture was available for examination.

Mycotic Cerebral Abscess.—Preserved material was received of a localized abscess of the brain, in the pus of which the mycelium of the causative fungus was present in masses. No reproductive form was found, and in the absence of a culture the generic identity of the fungus could not be determined. The abscess seems to have been secondary to a similar infection in the lung.

Actinomycosis.—Pus from lumbar puncture on a case of cerebrospinal actinomycosis yielded a culture of *Actinomyces bovis* Harz. The meningeal infection seems to have started in the region of the temporal bone, and the disease was rapidly fatal.

Mycoses of the Lung

Pulmonary Moniliasis.—Many specimens of sputum were examined from conditions suspected to be moniliasis of the lung, and from the greater number of these *Candida albicans* (= *Monilia albicans*) was cultivated, but as this pathogenic species is known to vegetate as a saprophyte or a harmless parasite in the throats of healthy persons its mere presence in the sputum is of uncertain diagnostic significance. In one case, however, the *fresh* sputum contained masses of actively vegetating *Candida tropicalis* intimately associated with pulmonary cells: the reported symptoms and physical signs and the *x*-ray picture were consistent with the accepted description of pulmonary moniliasis, and the disease yielded quickly to treatment with potassium iodide. Only a single specimen was available for examination, and it is regrettable that a more complete mycological examination of the case could not be made.

As a precautionary measure against contamination of the sputum by fungi present in the fauces and adjacent cavities, it is a common practice to gargle, wash the mouth, and clean the teeth before expectorating into a sterilized receptacle. This method was used in the controlled examination of the sputum of 32 patients suffering from pulmonary tuberculosis with cavitation. In 68.75% of these patients *Candida albicans* was more or less constantly present in the sputum both before and after mouth-cleansing, and it seems possible that in some of these cases the fungus may have been vegetating saprophytically in the lung cavity; but as bronchoscopic exploration was not feasible in this series of cases the significance of the fungus in the sputum is uncertain. In another group of patients with non-tuberculous cavitation of the lung, on whom bronchoscopic swabbing was allowed, *Candida albicans*, although found in the sputum of some both before and after mouth-cleansing, was never found in the bronchoscopic swabbings. It would seem, therefore, that the method of mouth-cleansing in use is not a safeguard against the contamination of the expectorated matter by fungi vegetating in the mouth and adjacent cavities.

Mould Infections.—The potentially pathogenic mould *Aspergillus fumigatus* was found occasionally in samples of sputum, chiefly from tuberculous patients, but its pathological significance could not be established from examination of the sputum alone. However, in one patient with tuberculous cavitation of the lung on whom observation was kept over a period of four months the fungus was found more or less constantly in the sputum, whether collected before or after mouth-washing. Towards the end of the period, with the shrinkage and ultimate closure of the lung cavity, the fungus gradually disappeared from the sputum. It seems possible that in this case *A. fumigatus* was vegetating in the lung cavity; but probably as a saprophyte, for the patient's recovery was not retarded. A culture identified as an unusually thermophilic strain of *A. fumigatus* was isolated from the sputum of a unique case of apparent acute aspergillosis of the lungs. Although the patient's state was critical, complete recovery was effected by administration of potassium iodide after sulphonamide therapy had failed. Convincing proof of mycosis in such a case is difficult to obtain, but the clinical signs and symptoms, and the fact that the fungus was present in the sputum in clumps visible to the naked eye and the patient's serum contained precipitating antibodies against antigenic extracts of the fungus, provide strong presumptive evidence of aspergillosis. The case was reported by Delikat (1945). Histological evidence of mould infection of the lung is rare, but sections of lung tissue from two cases were received. In the first of these the gross appearance suggested miliary tuberculosis, but the "tubercles" were formed of colonies of a mould surrounded by the kind of tissue reaction seen in localized mycoses. The patient was a diabetic who died from gastric haemorrhage, and the fungal infection was probably a secondary incident on the favourable diabetic soil. The distribution seemed to be haematogenous, but the primary focus was not known. No doubt, if the patient had survived the haemorrhage he might soon have succumbed to the mycosis. In the second case the patient had died from Hodgkin's disease involving the lung, and sections of the lung tissue showed a mould, similar in appearance to that seen in the first case, vegetating on the walls of the bronchi. In neither case, however, could the species of mould be identified with confidence in the absence of culture.

Farmer's Lung.—Correspondence and several specimens relating to this disabling pulmonary disorder, described by Fawcitt (1936a, 1936b), were received from practitioners and pathologists in Yorkshire, Cumberland, Lancashire, Wales, Lincolnshire, and Devonshire. It is clinically and radiologically a fairly well characterized disease, and is commonly believed to be a kind of pulmonary mycosis. Briefly the usual history is that a farmer, after working continuously for a time with *mouldy* hay from which a steam-like cloud of fungus-laden dust arises, develops a short dry cough with little or no expectoration; he may also suffer from general malaise, weakness, and slight fever, but the outstanding feature is distressing dyspnoea provoked by any physical exertion. The dyspnoea is related to inspiration and not, as in asthma, to expiration. Removal from exposure to mouldy hay dust is followed by rapid recovery, which is usually complete and permanent if further exposure is avoided. If, as almost invariably happens, the farmer returns to work with mouldy hay, all the symptoms of the attack are repeated, but relief can still be obtained if the exposure is discontinued. With successive seasonal recurrences the disease tends to progress to chronicity; the cough becomes more productive, the abundant sputum is tenacious and frothy or purulent, and slight haemoptysis may occur; physical weakness is marked, and so great is the dyspnoea, after even slight exertion, that the man becomes incapacitated for work. It is an incapacitating rather than a fatal disease. At this stage the lung may show fibrosis, emphysema, and possibly bronchiectasis, and the *x*-ray picture is usually characteristic. The relation of farmer's lung to inhalation of mouldy hay dust is unquestioned, but the commonly held view that it is a true pulmonary mycosis is based only on the occupational history of the patient and the cultivation of moulds from his sputum.

Several specimens of sputum from cases of supposed farmer's lung were received from different parts of the country, and mould spores were often found present. From one specimen alone six different species of *Aspergillus* were cultivated, as well as other moulds. There is no doubt that the fungal elements in the sputum represent, in the main, recently inhaled matter, and it is significant that fungal conidia are scarce or absent in the sputum of patients who have been removed for even a short time from exposure to hay dust. The rapid clinical improvement brought about by a change from the dust-laden atmosphere does not suggest a progressive mycosis, and, although evidence from post-mortem examination is rarely obtainable—for the disease does not tend to cause early death—it is noteworthy that the single necropsy in Fawcitt's (1936a) series of cases did not reveal any sign of pulmonary mycosis. Stall-fed cattle are exposed in a much greater degree than farm workers to inhalation of mouldy hay dust, and a study of these animals, from which post-mortem lung material can readily be obtained, may shed some light on the pathology of the disease. In this connexion it is noteworthy that veterinary surgeons believe that "broken wind" of horses, a disorder similar to farmer's lung in its symptomatology, is caused by feeding on mouldy hay, and it can be prevented if the hay is wetted sufficiently to prevent the dust from rising and being inhaled.

Undoubtedly the fungus is an essential factor in the aetiology of farmer's lung, but its role has not been determined:—(*a*) Does it cause a true pulmonary mycosis? (*b*) Does it behave as an allergen? (*c*) Does it produce, in its growth on the hay, some noxious substance which causes the symptoms and pathological changes? (*d*) Does it, by breaking down the hay fibre, produce a sufficiently fine vegetable dust to cause, by inhalation, a disorder analogous to the byssinosis of cotton-mill workers? The suggestion conveyed in the last question seems to be the most plausible, but there is need for research on this disease.

Actinomycosis of the Lung.—The anaerobic species *Actinomyces bovis* was cultivated from the sputum in two cases. In one of these the lesion appeared to be confined to the lung, but in the other case the lung infection, complicated by empyema, was part of a generalized disease which proved rapidly fatal.

Generalized and Other Mycoses

Sporotrichosis.—A case of the localized, ulcero-gummatous type of sporotrichosis affecting the tissues about the left knee-joint, with partial ankylosis of the joint and some rarefaction of the lower end of the femur, was reported from East Anglia. The disease was of eight years' duration, and *Sporotrichum schenckii* was isolated from the specimen of tissue submitted. Another case, also in East Anglia, was diagnosed as generalized sporotrichosis, but material was not received for examination.

Histoplasmosis.—A unique case of histoplasmosis in which the lesions, apparently confined to the skin, simulated annular lupus was identified histologically and by culture. The *Histoplasma* isolated may prove to be a hitherto undescribed species. Recent observations by American mycologists indicate that some of the grave systemic mycoses formerly thought to be relatively rare but essentially fatal may represent only the terminal stages of an unfavourable development in a much more widespread, milder, and unrecognized disease. It seems possible that the apparent sporadic incidence of histoplasmosis may be explainable by some such occurrence; in fact, Palmer (1945), from the results of mass radiography observations combined with the histoplasmin dermal test, has put forward the hypothesis that a non-fatal unrecognized form of histoplasmosis may be common in certain areas in the United States. A fatal case of histoplasmosis in England was identified before this survey was inaugurated.

Blastomycosis.—Stained sections were received of a lesion on the forearm, excised at biopsy, which presented the character and the parasite of blastomycosis of the American type (Gilchrist's disease). The patient, an airman, had contracted the infection abroad.

Torulosis.—From a case of disseminated torulosis with multiple subcutaneous abscesses *Debaryomyces neoformans* was isolated. No history was obtainable, and the patient was soon lost to sight.

Moniliasis.—In addition to the pulmonary conditions already discussed, *Candida albicans* was isolated frequently and *C. tropicalis* once from cases of dermal moniliasis affecting the feet, hands, finger-nails, groin, axilla, and perineum, and from the mucous membranes of the mouth, vagina, and bladder. Of special interest was a case of chronic glossitis with involvement of the lips, of 21 years' duration, in a naval seaman aged 25. The ulcerating and fibrosing lesions, in which *C. albicans* was present in great masses, had caused much deformity.

of the mouth and tongue. The same species of *Candida* was isolated from recurrent intertriginous lesions on the patient's feet, groins, and axillae.

Cultures were received of *Candida albicans* from three cases of acute mycotic otitis. The mycosis seems to have been secondary to a staphylococcal otitis media which yielded to local application of penicillin, leaving the hitherto dormant *Candida* to dominate the field. That the mere removal of the staphylococcus may have enabled the fungus to spread and cause an acute mycosis seems possible, but it is noteworthy that Keeney *et al.* (1944) have observed that some fungi which are resistant to penicillin may be stimulated to greater activity by this antibiotic.

Tissue sections were received in connexion with two cases of apparent generalized fatal moniliasis from which *Candida albicans* had been isolated. The clinical details are not yet available.

Actinomycosis.—In addition to the three cases, already mentioned, of actinomycosis of the central nervous system and the lung, caused by *Actinomyces bovis*, this anaerobic species was also isolated from three other cases of actinomycosis. A preliminary study was made of six cultures of aerobic types of actinomycetes: from mycetoma of the hand, apparently contracted in India 30 years previously; from actinomycosis of the appendix; from chronic otitis externa contracted in North Africa; from an abscess of the neck following teeth extraction; an acid-fast species from multiple abscesses contracted in India; and another acid-fast species from a deep wound in the lumbar region contracted in North Africa. Correspondence in connexion with these cases confirms the value of penicillin in the treatment of actinomycosis caused by the aerobic as well as that caused by the anaerobic species of *Actinomyces*, and it is to be hoped that some, at least, of these cases will be published by the doctors concerned. In the meantime the further mycological study of the cultures awaits a favourable opportunity.

Miscellaneous Mycoses.—There were two cases of otomycosis or "tropical ear" caused, in England, by *Aspergillus flavus.* Scrapings were received from two cases of "hairy tongue," but the only fungi isolated from them were yeasts of the genus *Saccharomyces*, which may be regarded as contaminants. There is no evidence that hairy tongue is in fact a mycosis. Another example of a doubtful mycosis was a case of chronic sinus of the neck communicating with a deep-seated mass from which ichorous pus was discharged intermittently over a period of eight years, the sinus closing in the intervals between evacuations. Apparently no bacterial cause had been found, and the possibility of epithelial cyst was considered. A specimen of the necrotic pus received for examination contained masses of fungal mycelium, from which a pure culture of a species of *Cephalosporium* was isolated. The relation of this fungus to the lesion is uncertain; it may have been the primary cause or merely a secondary invader which succeeded in establishing a parasitic foothold. No further information or specimens were obtainable.

Idiopathic Lymphadenopathy.—A series of lymphatic glands from cases of possible non-pulmonary tuberculosis was examined mycologically, but no pathogenic fungus was found. Although acid-fast bacilli were not discovered by microscopy in any of the glands, there is little reason to doubt that they were tuberculous, and, in fact, a few were found to be so by inoculation into guinea-pigs.

Mycoses of the Lower Animals.—In addition to epiphytic infections, the naturally acquired deep mycoses of the lower animals, especially rodents, may be important in connexion with fungous diseases of man. Nearly all the grave systemic mycoses have been found in domesticated animals, but none of these animals can be regarded as a reservoir of the infection. On the other hand, desert rodents are known to be the natural reservoir of coccidioidomycosis, and rodents have been suspected in connexion with histoplasmosis. Rats and mice are susceptible to artificially induced infection by many pathogenic fungi. It was hoped, therefore, that material from wild rodents would have been obtained for examination, but none has been forthcoming up to the present time. Two pathologists sent sections of tissue which showed mycoses of the kidney in laboratory rabbits, but in the absence of cultures the genera of the infecting moulds could not be determined. Many specimens were received of aspergillosis of birds in captivity, from all of which *Aspergillus fumigatus* was isolated. This ubiquitous fungus invades the air system and lungs and frequently the solid organs of birds in captivity, but the disease is almost unknown in birds in the wild state. The fungus is commonly present on grains and seeds, but diving birds are affected as well as seed-eaters, and it seems probable that the infecting form of the fungus is the mycelial growth vegetating in stale drinking or other water, which gains entry through the nostrils.

Ringworm Infections

Specimens of materials from ringworm disease of man were received from places as remote as Aberdeen and Northern Ireland, but the greater numbers were from the southern and south-western counties, the London area, and East Anglia. Isolations of 490 cultures of dermatophytes were made, and of these isolates 216 were species usually parasitic on the lower animals; until shortly before the end of the eighteen-months period, however, the total number of "animal" kinds of ringworm fungi isolated had exceeded that of the peculiarly "human" kinds. The species and their respective numbers were as follows: *Microsporum audouini*, 200; *M. felineum*, 98; *M. lanosum*, 58: *Trichophyton tonsurans*, 4; *T. sulphureum*, 6; *T. acuminatum*, 1; *T. rubrum*, 17; *T. discoides*, 15; *T. asteroides*, 24; *T. persicolor*, 2; *Trichophyton* with downy culture (like the "niveum" group of Sabouraud, but probably a pleomorphic variant of *T. asteroides*), 16; *T. rosaceum*, 2; *Epidermophyton floccosum*, 33; *Achorion schönleinii*, 13; and *A. quinckeanum*, 1.

The Microsporons.—*Microsporum audouini* was the most widely distributed fungus causing tinea capitis, and it was the species responsible for epidemics of ringworm in schools and other institutions for the young. The total number of isolates of this species was swollen by the numbers of specimens received from single outbreaks. *M. audouini* seems to be the predominant species causing tinea capitis in the Midlands and the North; while the cat and dog types, *M. felineum and M. lanosum* (now regarded as a single species), were common on school-children in the southern counties and in the London area. In London *M. audouini* and *M. felineum* were found in approximately equal numbers. In an area of Devonshire between Exeter and the coast *M. felineum* predominated in 11 towns or villages, apparently to the exclusion of other microsporons, and the species was also found widely distributed in other parts of Devon, Dorset, and parts of Hampshire. In Portsmouth, where, despite the evacuation of part of the child population, there is statistical evidence of a striking increase in the number of cases of ringworm during wartime, the fungus concerned in the indigenous infections is *Microsporum lanosum*; other species isolated have always been traced to sources of infection outside the borough area. In Lincoln a series of sporadic infections by *M. felineum* occurred over a period of a few months, and, although the same peculiar strain of *M. felineum* was identified in all the cases, there was in no instance a history suggesting infection from another child; presumably all had been infected directly from an animal source. *M. lanosum* and *M. felineum* are transmitted chiefly from child to child, but it seems probable that frequent renewals from the animal reservoir of the infection are necessary for the propagation of this kind of ringworm among children. How long this disease can be transmitted as a child-to-child infection without renewal from the animal reservoir was not determined in the present survey, but among the Portsmouth cases Dr. T. E. Roberts, the school medical officer, obtained in about one-fourth of the *M. lanosum* infections a history of possible contact with a dog or cat presumed to be suffering from ringworm; and in a group of *M. lanosum* infections originating from a puppy in Cardiff Dr. B. A. Thomas noticed that the skin lesions on children infected directly from the animal were more severe than those resulting from the first subsequent child-to-child transmission; which might suggest an early attenuation of the fungus. Some time later Dr. Thomas traced second and third child-to-child transmissions in this series.

Lesions of the scalp caused by the animal microsporons were, on the whole, more acute and showed a greater epidermal reaction than those caused by *M. audouini*, but inflammatory reaction was rare, and only one, rather doubtful, kerion caused by *M. felineum* was reported. Infection of the glabrous skin by the animal types occurred, with or without associated tinea capitis, and, especially in the case of *M. lanosum*, the skin lesions were often inflammatory or crusted. *M. audouini*, on the other hand, usually caused only a simple pilary infection with little if any epidermal reaction and no associated lesion of the glabrous skin; but occasionally a scaly or very mild inflammatory condition of the scalp was reported, and in school epidemics some of the children showed transient circinate lesions on the face or neck and rarely on the trunk. In only one such case, however, was material from the body lesion available for examination and confirmation of the clinical diagnosis. It is therefore not always possible, except in the presence of severe skin lesions, to distinguish the human from the animal types of microsporosis by clinical inspection alone.

Tinea capitis caused by the animal microsporons usually yields readily to treatment with fungicidal ointments, which provoke a local inflammatory reaction, and it is not often necessary to have recourse to *x*-ray epilation. *M. audouini* infections, on the other hand, usually require *x*-ray treatment.

Strain peculiarities were shown in cultures of some species, especially *M. felineum* and *M. audouini*, and were useful in tracing the distribution of an infection. Two cultures of *M. felineum*, from brothers, formed slowly developing glabrous colonies resembling those of *Microsporum ferrugineum*, but in later subcultures the organs characteristic of *M. felineum* were found, albeit in an imperfect form.

The existence, in certain areas, of a relatively large amount of tinea capitis caused by microsporons of the animal type tends to simplify treatment but introduces new problems in epidemiology and control.

The Endothrix (Human) Trichophytons.—Trichophyton sabouraudi (= *T. acuminatum*) was found once only, on chronic onychia of the finger-nails of a hospital nurse who had contracted the infection in childhood. *T. tonsurans* (= *T. crateriforme*) was isolated from three cases of tinea capitis and one case of tinea circinata without scalp lesions. *T. sulphureum* was isolated from six cases in a nursery outbreak of tinea capitis with associated tinea circinata.

The Small-spore and Large-spore Ectothrix (Animal) Trichophytons.—Trichophyton asteroides (= *T. mentagrophytes*, *T. gypseum asteroides*, etc.) was isolated from lesions on the glabrous skin, from tinea capitis, and from "athlete's foot." It was found on adults, on children, and even on babies. The lesion on the glabrous skin was usually a well-defined raised plaque or circle; profuse scaliness and some vesiculation were frequently reported, but, except in one case, no marked inflammation or suppuration. The scalp infection was sometimes mistaken for microsporosis, but the skin of the scalp was more often affected than the hair. In one case there was a double infection in which *T. asteroides* attacked the scalp epidermis and *M. felineum* the hair, and there was a single case of true kerion. In five cases the hair was attacked, usually with involvement of the scalp epidermis. In other cases the lesion the chest, forearms, and shoulder (1 each), the thigh (2), was situated on the scalp epidermis alone (1), the hand (2), the knee (3), the finger-nails (1), in the condition of athlete's foot (4), and in a situation not stated (3).

The suspected animal sources of the infection were horses, cats, dogs, and rodents (white mice), but materials from the suspected animals were not obtained for examination. In other cases the infection was attributed to handling hides, rubbing against a farm gate-post, and falling in a farmyard; in the last case the ringworm developed on an abrasion of the knee caused by the fall.

Trichophyton persicolor was isolated from sycosis on a farm worker and from lesions on the fingers of a farmer's young daughter. *Trichophyton* sp. with downy culture, which is probably a pleomorphic variant of *T. asteroides* and not the "niveum" type of Sabouraud, was isolated from 16 cases, including seven cases of athlete's foot. The character and distribution of the lesions and the histories given were similar to those of the *T. asteroides* infections.

Trichophyton discoides, a common cause of cattle ringworm, was found on farm workers and children, usually "evacuees," living on or visiting farms. In four cases it caused a simple ectothrix-megaspore hair lesion, sometimes associated with tinea circinata, apparently without inflammatory reaction, but there were five cases with severe kerion. In four cases there were only simple scaly lesions of the skin without inflammation, but in two others the skin lesions showed a marked inflammatory reaction. In all cases a history was obtained, directly or by inquiry, of contact with infected calves.

Favus.—Achorion schönleinii was isolated from 13 cases of favus, 8 of which seem to have been clinically atypical. In three—a woman aged 32 and her two young children—the diagnosis of microsporosis had been made because of the greenish fluorescence given with Wood's lamp—an example of the danger of basing the diagnosis on the result of "lamping" alone. The cases of favus had occurred in Sussex, Caernarvonshire, Cambridge, and Aberdeen, and in all except one instance more than one member of a family was affected.

Athlete's Foot.—Tinea pedis and the associated lesions on other parts were investigated in civilian and military patients, and 62 isolations of dermatophytes were made, of which 33 were *Epidermophyton floccosum*, 15 *Trichophyton rubrum*, 5 *T. asteroides*, 2 *T. rosaceum*, and 7 *Trichophyton* sp. with downy culture—probably a pleomorphic variant of *T. asteroides*. On the whole, *T. asteroides* seemed to be associated with the more severe kinds of lesion, and *T. rubrum* infections were the most resistant to treatment. Athlete's foot is of special importance in naval and military practice and in the coal-mining industry, and it merits a fuller investigation in Great Britain. The work on this group of infections will be made the subject of a separate report.

Conclusion

The number of serious systemic mycoses reported may appear small, but it must be admitted that the most promising field for such material has not yet been explored. Of the specimens from grave fungous diseases, 66% were received from one general hospital, and there is no reason to assume that mycoses gravitate to that hospital. It is significant, however, that the pathologist concerned is deeply interested in medical mycology, and no fungous disease escapes his attention. If careful and constant watch were kept for possible fungous diseases in all hospitals it is probable that a considerable number would be found; for mycoses, because of their clinical resemblance to tuberculosis and other infective granulomata, tend to elude diagnosis unless sought for specially. In assessing the results of this survey up to its present stage, it should be understood that under the existing emergency conditions all the examinations and the considerable volume of correspondence devolved, as a part-time duty, on one person, which restricted the scope of the work; but the results obtained indicate that fungous diseases, both indigenous and imported, are not less important in Great Britain than in other countries, and they present a field for further investigation and research.

[The work of mycological examination hitherto carried on at Winchester has been transferred to the Laboratory for Medical Mycology at the London School of Hygiene and Tropical Medicine.]

It would not be possible to acknowledge individually the help of the large number of contributors to the collecting scheme, but it may not be invidious to express special thanks to Dr. J. C. Cruickshank, of Exeter, Dr. W. G. Millar, of Lincoln, Dr. T. E. Roberts, of Portsmouth, Dr. B. A. Thomas, of Cardiff, Dr. Clara M. Warren, of London, and Brig. R. M. B. MacKenna and the dermatologists of the Royal Army Medical Corps for very helpful co-operation in the survey of dermatomycoses.

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H. E. Twining, H. W. Szylejko, and R. A. Kern (*U.S. nav. med. Bull.*, 1945, 45, 479) treated 41 cases of Vincent's angina by penicillin, and found that the majority (29) were cured by one course of ten intramuscular injections of 20,000 units. The remainder were cured by a second similar course given a day later, or a total of 400,000 units. The average number of hospital days for the penicillin treatment was seven, compared with 23 for cases treated by all other methods.

TREATMENT OF ACUTE APPENDICITIS

A STUDY OF 480 CONSECUTIVE CASES

BY

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Acute appendicitis is still a very serious problem in spite of widespread propaganda aimed at early treatment and the avoidance of purgation by well-meaning parents in cases of undiagnosed abdominal pain in children. The overall mortality appears to vary fairly widely in different clinics. Grey Turner (1943) gives his own mortality figures over a period of some years as 3.49%. The figures of Busch and Spivack (1940), Arnheim and Neuhof (1940), and Jennings *et al.* (1942) vary between 1.8 and 2.2%. Dennis *et al.* (1942), who reviewed the reports from a number of American clinics, found that the death rate varied between 2.3 and 6.3%, with an average of 4.12%. Jennings *et al.* (1942) published tables summarizing the mortality figures from various reviews and found that they varied from Lazzarini's (1937) of 12% to their own of 1.9%.

Since the beginning of 1943 up to the present—i.e., the middle of 1945—I have personally dealt with a total of 480 cases of acute appendicitis. During 1943 the cases were treated at Glasgow Royal Infirmary and at an E.M.S. hospital. Since the beginning of 1944 the cases included have been those which came under my care in Greenock Royal Infirmary. In this consecutive series there were two deaths—an overall mortality of well under 0.5%. The series comprises patients of all ages from 4 to 72, and thus represents a very mixed collection of appendicitis cases. It is proposed to discuss briefly the treatment of these cases in an attempt to evaluate the factors responsible for this low mortality figure.

Classification and Treatment

We have divided the cases into four groups. The general methods of treatment will be discussed with each group.

1. Acute Appendicitis without Peritonitis

Into this group fell cases where the appendix was congested but showed little or no fibrinous deposition on its surface. Most of these were admitted within 24 hours of the onset of illness. Histologically there was usually ulceration of a crypt and leucocytic infiltration in the submucosa extending into the deeper parts of the muscularis. The cases were those frequently called acute catarrhal appendicitis. Of our cases 177 belonged to this group. Appendicectomy was carried out in all of them. The mortality was *nil*, and there were no post-operative complications.

2. Acute Appendicitis with Local Peritonitis

In this group the length of illness varied from 12 to 72 hours. The appendix showed the varying stages of pathology from acute suppurative or phlegmonous inflammation up to gangrene. All of them had much fibrinous deposit on the peritoneal surface, with a varying quantity of turbid or sero-purulent fluid in the abdominal cavity.

This group comprised 188 cases. Early appendicectomy was carried out in all but two of them—one an elderly woman who showed evidence of marked cardiovascular degeneration, the other a young male subject who had a tuberculous pleural effusion. They were treated by the "delayed" method, and the omental mass around the inflamed appendix slowly decreased in size and disappeared. Delayed removal was not considered advisable in these cases. Care was taken in this group to mop up most of the free fluid in the abdomen, as a positive culture was got in two-thirds of the cases tested. In most of them the organism found was coliform in type, although a streptococcus was present in two. All were closed without drainage except two in which there was a marked oozing of blood from the appendix bed. In these a little packing was inserted and brought out through the lower end of the wound. In cases in which the free fluid is frankly sero-purulent we believe it is advisable to irrigate the tissues of the abdominal wall with acriflavine solution and then dust them with sulphanilamide powder. This should be done immediately after the peritoneum has been closed. In the more advanced cases in this group we also sprinkled sulphanilamide into the peritoneum.

In one case a residual abscess developed a week after the operation and was drained by the suprapubic route. There were 5 septic wounds, all of which cleared up without trouble. There were no deaths.

3. Acute Appendicitis with Spreading Peritonitis

In all but four of the 52 cases included in this group the appendix was ruptured. In every one of them there was evidence of spreading peritoneal inflammation at a distance from the appendix, with diffuse fibrinous deposition and pus formation. Mere reddening of the peritoneum was not by itself taken as indicative of peritonitis, as this was found in many of the cases included in the previous group. In 27 of the cases the patient was classified as "desperately ill" and the condition was accompanied by marked toxicity and some degree of paralytic ileus. Early rather than urgent operation was carried out in all these cases except one, which was treated by the "delayed" method. In the very ill cases intravenous therapy was started—at once in the case of adults, and during the operation in children, who were otherwise more readily upset by the procedure. In all these ill patients it was found that a few hours in the Fowler position and the parenteral administration of sulphanilamide not only made them more fit for operation but caused the inflammatory products to gather in the lower abdomen, from which they could be more readily removed. In four of the cases an immediate enterostomy was carried out because of advanced paralytic ileus. In a fifth this was required six days after the primary operation. The fistula closed in all these cases but one, in which it eventually closed after five months.

Gastric suction was used in all the cases in which post-operative vomiting and distension became pronounced. When this happened a Ryle tube was passed by the nasal route and aspiration carried out by a syringe every half-hour.

Sulphanilamide was freely used in this group, particularly locally, and will be discussed later in this article. All the cases but four were drained. In one of the latter a large abscess developed in the abdominal wound two weeks after the operation.

The only patient treated by the real "delayed" method was a young seaman who had been operated upon in mid-Atlantic. The ship's medical officer had failed to find the appendix, and closed the abdomen without drainage. When seen by us some days later the patient had a diffuse peritonitis. He was treated in the Fowler position, with sips of water and intramuscular sulphonamide. The tenderness slowly decreased and finally faded off into the right lower abdomen after five days.

In many of the cases in this group the patient had a few days of grave illness, during which great emphasis was placed upon intravenous sulphonamide therapy. After this a steady recovery was made. The mortality rate was *nil* in this group.

4. Appendiceal Abscess

In most cases the abscess lay in the pelvis or behind the caecum. In a few it was retro-ileal, and in one it lay completely enclosed in omentum, forming a mass which was freely movable in the abdomen. There were 63 cases in this group. All but five of them were operated upon at once, and of the latter two were drained after a few days because of signs of extension of the inflammatory process. Thus, only three were treated by the real "delayed" method. In all but four of the cases the appendix was removed at the time of operation. We agree with Arnheim and Neuhof (1940), who pointed out that it is preferable to remove the appendix in these cases, not only because it may remain a potentially infected focus in the abdomen but also because other abscesses may lie behind it and be opened only after it has been detached. When the pus had been swabbed from the cavity sulphanilamide powder was liberally shaken into it and a drainage tube left in position.

The patients in this group were on the whole not nearly so ill as in Group 3, and intravenous therapy was required much less often. The only two deaths in the whole series of cases occurred in this group. One was that of a child who died suddenly, a few hours after operation, of what looked like an acute oedema of the lungs. A necropsy was not allowed. The other was that of a man aged 35 who died of a recurrent pelvic abscess eight days after the original operation. This case and the mistake which led to this complication will be referred to later.

Special Points in Treatment

Before beginning the present series of cases I attempted to formulate the most frequent causes of death in acute appendicitis. The most early important cause appeared to be the practice of operating at once on very ill patients "as a last resort." Another, particularly in children, was post-operative bronchopneumonia, and this seemed to be at least partly attributable to the anaesthetic. After some days cellulitis of the abdominal wall and residual abscess became important causes of morbidity and mortality. It was then decided to pay particular attention to means which might conduce to the prevention of these complications. The following points in technique appeared to be of importance.

(a) Anaesthetic

Well over 80% of the anaesthetics given to the cases of this series were administered by house-surgeons. We believe that there is nothing more injurious to a seriously ill patient than a raw house-surgeon attempting to use one of the complicated series of tubes and dials which constitute a modern anaesthetic apparatus. My house-surgeons are therefore instructed in the method of giving open ether without chloroform, and this is the anaesthetic always used in cases of acute appendicitis. Recently the induction has been made more rapid and comfortable for the patient by the use of vinesthene mixture. In extremely ill cases nitrous oxide with light ether has been given. In ill patients ether tends to stimulate the heart, and, in children particularly, there is a stage immediately after the completion of the operation when this stimulant effect wears off and the tendency to cardiac collapse becomes marked. This is minimized by having the intravenous drip started before completing the operation and by administering enough plasma to keep the circulatory volume up to normal. A mild post-operative bronchitis has been common, and in some cases a basal pulmonary collapse has occurred. These chest complications were not serious, and in regard to the death already mentioned as being due to pulmonary oedema there was doubt whether this was primarily due to the heart or to the lungs. Immediately after the operation patients are instructed in deep-breathing exercises and in many cases are made to inhale carbogen frequently. It is our impression that this has definitely reduced chest complications.

(b) Fluid and Chloride Replacement

In all very ill patients an intravenous drip was set up—in adults at once and in young children while under the anaesthetic—and saline, glucose, and plasma were administered. In most of the cases the lower end of the internal saphenous vein was found to be the best site of administration, and, particularly in restless children, the application of a light plaster to the foot and ankle will allow the intravenous therapy to be continued for days on end. Where the patient is very collapsed it is often exceedingly difficult to run fluid into the saphenous, and in such a case a vein of the antecubital space is more suitable. The speed of administration is regulated according to the needs of the patient and the effect on his pulse. The danger of overloading the right heart appears to us to be much less in the shocked and dehydrated patient than is usually suggested; and it is very gratifying to bring a patient literally back to life by running one or two pints of fluid into his circulation at a fairly rapid rate. We cannot overstress the importance of intravenous therapy in these very ill cases of peritonitis, and we feel that this has played a most important part in the low mortality figures.

(c) Time of Operation

The "delayed" or Ochsner-Sherren method of treatment in the advanced but localized appendiceal inflammatory process is too well known to require elaboration. It is in the treatment of diffuse peritonitis that there is some difference of opinion. It is interesting to note in passing, as has been pointed out by Guerry and McCutchen (1942), that it was really with reference to this type of case that Ochsner's (1934) original description of the "delayed" treatment was given. To quote from his article on appendicitis:

> "The temperature was 104° F., the pulse 140, the abdomen enormously distended, and the features pinched. My experience with this and other similar cases has taught me that whenever I operated upon patients approximately in this condition the patient invariably died. Some years ago . . . I frequently operated upon patients in this condition as a last resort, thinking that this gave them the last chance of recovery. The majority of these patients recover if the delayed treatment is followed."

There has been abundant evidence of the truth of Ochsner's observation, although most authors do not differentiate very well between the localized and the diffuse type of peritoneal involvement. Coller and Potter (1934) reduced their mortality from 52 to 8.6% by the "delayed" treatment in this type of case. Davis and McLaughlin (1940) reduced theirs from 60 to 14%, and Guerry and McCutchen (1942) reported a mortality rate of 10.6% in 96 cases treated by immediate operation and one of only 1.4% in 139 cases treated by expectant means.

Where there is pus, free and unlocalized, in the peritoneal cavity it is surely a fundamental surgical principle that it should be mopped up as soon as possible and the suppurating focus dealt with. Thus we have preferred early operation in these cases but have waited for some hours with the patient in the Fowler position in order to allow the inflammatory products to settle in the pelvic region and the initiation of intravenous therapy. Our results have been very satisfactory, all of our 52 cases making uninterrupted recoveries. We must remember, however, that the use of sulphanilamide may have played an important part in the recovery of this type of case, as we shall see later.

(d) Abdominal Incision

We now use Battle's incision in all our appendicectomy cases. Our only exception to this rule has been where the gridiron approach has been more directly over an abscess. We have had no example of sepsis spreading up the rectus sheath, nor have we seen an incisional hernia follow its use. The abdominal contents can be better visualized and a "difficult" appendix removed more easily and with less tendency to break down protective adhesions than with any other incision we know. As it is unnecessary to tear through muscular strata, and as the approach is a more direct one, there is less tendency to "pocketing" of pus in the abdominal wall than with the gridiron incision.

(e) Use of Sulphonamides

There is now much experimental and clinical work which proves the value of the sulphonamide group of drugs in the treatment and prevention of peritoneal infection. McGehee (1941) reported 401 cases of appendiceal perforation in which sulphanilamide had been used, with the low mortality figure of 6.2%. By the use of sulphonamides in the post-operative treatment of acute appendicitis in children Wattenberg and Heinbecker (1942) were able to reduce their mortality rate from 7.89 to 2.2%. Favourable results have also been reported by Thompson *et al.* (1941) and Stafford (1942).

The experimental work of Rosenburg and Wall (1941) and of Epps *et al.* (1942) in rats and dogs demonstrated that the mortality rate of peritonitis in these animals fell rapidly when sulphonamides were used. There is still some speculation as to which is the best individual sulphonamide compound to employ in peritonitis. Sulphanilamide powder appears to be the most popular local application, although sulphathiazole is preferred by many because of its greater potency in the usual peritoneal infections. Sutton (1942) has, however, reported adhesions following the use of this drug, a secondary intestinal obstruction actually developing in one case. This might be avoided by the suggestion of Epps *et al.* (1942) that a suspension of the drug would be more readily disseminated throughout the peritoneal cavity. Ambrose and Griswold (1942) found that sulphadiazine is absorbed from the peritoneum more slowly than either sulphanilamide or sulphathiazole, and Lyons and Burbank (1942) showed that sulphapyridine and sulphadiazine remained longer *in situ* than any of the other compounds. Gardiner (1944) obtained satisfactory results by using a suspension of sulphapyridine in saline, the rate of absorption from the peritoneum being very slow, and the drug still being present in the blood up to a week later.

Again, there is no unanimity as to the safe intraperitoneal dosage of the sulphonamides. Jackson and Coller (1942) found that after implanting 5 g. of sulphanilamide powder in the peritoneum the maximum blood concentration of nearly 10 mg. per 100 c.cm. was reached in about two hours. At 24 hours the level was less than 2 mg. per 100 c.cm. Hudson and Smith (1942), using an average of 15 g., found the peak concentration in the blood stream in about 12 hours, the figure falling to zero in 36 to 48 hours. Tashiro *et al.* (1942) pointed out that a blood concentration of 1 mg. per 100 c.cm. could be expected for every gramme of sulphanilamide placed in the peritoneum. Waugh *et al.* (1943) calculated that the systemic administration of the drug should be started 24 to 48 hours after the intraperitoneal administration of sulphanilamide and 3 to 4 days after sulphathiazole.

In our series the sulphonamides were considered to be unnecessary in the ordinary case of uncomplicated acute appendicitis. In the late suppurative stage they were sometimes used, and in the cases complicated by abscess or diffuse peritonitis their use was extensive. Sulphanilamide powder was employed. The powder is put up in double packets, each containing 5 g. and already sterilized, so that the surgeon has merely to lift out the inner packet after the nurse has torn off the top of the outer envelope. The dose varied between 5 and 10 g., depending upon the severity of the illness and the age of the patient. About two-thirds of the amount used was placed inside the abdomen and the remaining third in the tissues of the wound. After the pus had been swabbed from the abdomen the powder was simply "dumped" into the peritoneum, no great effort being made to disseminate it. Care was taken, however, to rub it evenly into all the corners of the wound. Particular care was taken to smear it abundantly round the track of the rubber drain, and it also seemed advisable to close the tissues snugly round the tube to minimize the escape of pus into the abdominal wall for at least the first few critical post-operative days until the raw tissues had acquired some immunity to infection. We also found it useful to spray the powder on to the stitched surface of the wound in order to protect it from escaping pus. In the very ill cases parenteral sulphonamide was started about 40 hours later, soluble sulphapyridine being given intravenously or sulphathiazole orally. The dosage was 1 g. four-hourly.

There was one important point in after-treatment which bitter experience taught us. In our earlier cases it was found that local application of the drug appeared in many cases to only temporarily subdue the infection which sometimes flared up into activity after four to six days. We thus learned to leave the drain in position longer than usual, and now allow it to be only very slowly shortened, so that it is not completely removed until the fifth or sixth day. We have already noted that one of our deaths was due to a residual pelvic abscess which flared up into activity a week after the primary operation. In this case the drain had been completely removed on the third day. Such a case is, of course, also an argument for the post-operative use of parenteral sulphonamide in all such conditions.

(f) Drainage of the Peritoneum

When a young surgeon removes a suppurating appendix and finds the peritoneum containing an abundant quantity of turbid almost frankly purulent fluid, his first inclination, on general surgical principles, is to drain the abdomen. To do this in such a case would be to disregard the excellent protective and reparative properties of the peritoneum. A very instructive experiment can be carried out by injecting a suspension of staphylococci into the peritoneum of a rabbit. Periodic examination of the peritoneal contents shows that there is an immediate phagocytic response, and within a few hours most of the organisms have been ingested by emigrating polymorphonuclear cells, the latter being afterwards phagocytosed by macrophages derived mainly from the serous lining. This suggests that where a peritoneal infection is not too overwhelming, and the focus of infection has been removed, the peritoneum may be allowed to look after itself. If we may be permitted to quote from Hilton's (1930) famous book, "Nature has a constant tendency to repair the injuries to which her structures have been subjected, whether these injuries be the result of fatigue or exhaustion, of inflammation or accident. Also this reparative power becomes at once most conspicuous when the disturbing cause has been removed."

Buchbinder *et al.* (1931) showed experimentally the fallacy of peritoneal drainage. They produced peritonitis in dogs by opening a loop of gut and leaving it for 24 hours. They then reopened the abdomen and closed the bowel. In the cases in which the abdomen was then drained the mortality was 100%. When closure was effected without drainage the mortality fell to 57.5%. Haggard and Kirtley (1940) quote Giertz, who found that, in cases of appendiceal peritonitis operated upon in the first 48 hours of illness, he was able to reduce the mortality from 22.2 to 3.5% by primary closure of the peritoneum.

In our series of cases, wherever possible, we refrained from draining the abdomen. We have followed the general principle that drainage is unnecessary when the appendix is unruptured, unless the peritonitis is obviously of advanced degree. The examination of peritoneal smears demonstrated the truth of this. In the early unperforated case the turbid fluid shows many polymorphonuclear leucocytes, some of which contain engulfed bacteria; only very occasionally are free bacteria found. In such a case it is obviously best to leave the peritoneum to combat the infection. As the condition progresses, however, the polymorphs become more degenerate and poorly stained, and the free bacteria more abundant. In frankly spreading peritonitis bacteria are abundant, most of the polymorphs are degenerating, and a piece of excised omentum shows stagnant and dilated blood vessels, many of which contain hyaline thrombi, and most of the lymphatic pathways are obviously blocked by fibrin thrombi. In such a one-sided struggle it is obviously safer to drain—not only to remove the products of bacterial activity but also to avoid abscess formation. In our past experience the main danger of peritoneal drainage has been the tendency to infection of the abdominal wall setting up a cellulitis. In the present series this danger appears to have been reduced to negligible proportions by the local use of sulphanilamide.

Conclusion

It is very difficult for any surgeon to evaluate properly the factors responsible for a decreasing morbidity and fatality rate in a series of cases such as this, particularly when this is a natural sequel to an increasing experience. In our series, however, the most important factors appear to have been the prompt use of intravenous therapy to restore fluid balance, and the intraperitoneal use of sulphanilamide powder.

Summary

A consecutive series of 480 cases of acute appendicitis with a mortality of under 0.5% is described. The main reasons for this low mortality are discussed.

My thanks are due to Mr. G. H. Stevenson and to Mr. W. A. Sewell, in whose wards I treated the early cases of this series; and particularly to my registrar, Mr. G. Russell Thomson, for his help and co-operation, without which the favourable results would have been impossible.

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HEAVY NUPERCAINE SPINAL ANALGESIA IN OPERATIVE OBSTETRICS

WITH REPORT ON 394 CASES

BY

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The safety of spinal analgesia in general surgery is recognized by most authorities nowadays. Its use in obstetrics, however, is still looked upon as a "risky" and even dangerous practice by the majority of obstetricians, in view of the occasional alarming drop in blood pressure, with its attendant dangers. In recent years a good deal of literature concerned with spinal analgesia in Caesarean section has appeared, among which may be mentioned reports by Brindeau (1935), Lloyd-Williams (1937), Murad and Parhad (1937), Cosgrove, Hall, and Gleeson (1937), Duca (1938), Pérez and Guglielmo (1939), Sebrechts (1940), and Weintraub and Merriam (1943).

The first recorded series of cases performed under heavy percaine (or nupercaine) spinal analgesia was that of Thomas (1942, 1944), who reported two series totalling 203 Caesarean sections, of which 200 were carried out under heavy percaine, without a maternal death due to that drug or a maternal death due to any cause whatever during its use.

In the past two years analgesia by the spinal route, using heavy nupercaine, has been the method of choice in the obstetrical department of this hospital for patients requiring Caesarean section and operative vaginal delivery. In this period spinal analgesia was given successfully on 394 occasions to 393 patients, 137 of whom had Caesarean section and 256 operative vaginal delivery. This paper is an analysis of the results in these cases, and an attempt to estimate the safety of heavy nupercaine in operative obstetric practice.

Solution Used.—Heavy nupercaine (Ciba Ltd., 1944) is the hyperbaric solution, 1 in 200, with 6% glucose, and is made up in sterile 3-c.cm. ampoules. It is a derivative of quinoline—the hydrochloride of α-butyloxycinchoninic acid diethylethylenediamide.

Premedication

In Caesarean Section.—(i) Cases not in labour, or in early labour, in which sedatives have not been given. Omnopon 1/3 gr. and scopolamine 1/300 gr. were administered about 45 minutes before operation. Atropine 1/100 gr. was given in all cases, in the event of the spinal analgesic not producing the desirable effect and a general anaesthetic becoming necessary. Ephedrine 1 gr. was given to all patients at the same time, to combat a drop in blood pressure. (ii) Cases of trial labour under twilight sleep, or cases in which other sedatives have been used. Atropine 1/100 gr., with ephedrine 1 gr., was given as a routine as in (i). Other supporting sedatives were not found necessary.

Cases requiring Operative Vaginal Delivery.—Supporting sedatives were rarely needed, as twilight sleep or other methods of sedation were prescribed in the majority of cases. Ephedrine 1 gr. was given to all patients half an hour before operation. We have often employed paraldehyde by the rectal route, in cases of severe pre-eclamptic toxaemia ("eclampsism") and cases of essential hypertension, in labour. In these no other supporting sedative was used when operative vaginal delivery was considered necessary. In one case of intra-partum eclampsia 6 dr. of paraldehyde in 4 oz. of olive oil was given as a routine. Delay in the second stage of labour occurred, and forceps extraction was indicated. Ether or chloroform anaesthesia was contraindicated owing to the presence of bronchitis after a recent attack of influenza. The paraldehyde acted as premedication to both the spinal puncture and the forceps extraction under spinal analgesia.

Technique of Administration of the Spinal Analgesic

In Cases requiring Caesarean Section.—The technique outlined by Thomas is clear enough to need little elaboration. The dosage we used was 1.2 to 1.5 c.cm., barbotage being part of the method.

In Patients requiring Operative Vaginal Delivery.—An important preliminary procedure in dealing with these cases was the reassurance of the patient immediately before the operation, as occasionally the mere movement of the woman during traction on the foetus, such as with forceps, caused her marked anxiety, although no real pain was experienced during the entire operation. The technique of administration was similar to that employed in Caesarean section, with a few variations. The Trendelenburg and lithotomy positions used after injection of the analgesic solution were found unnecessary here. The dosage employed was 0.5 to 0.8 c.cm., with barbotage. Analgesia reaching to just below the level of the umbilicus, including the pelvic floor and perineum, was obtained. In several cases the "sitting" posture was adopted, especially with extremely obese patients, in whom the spinal column was difficult to define, and with patients in whom spinal deformities existed. The subject is turned on to her back immediately after the introduction of the analgesic, as described above.

Analysis of the Cases

394 spinal analgesias were administered to 393 patients, 137 of whom had Caesarean section and 256 operative vaginal delivery. (One patient had two successful analgesias.) Patients requiring supplementary inhalational or intravenous anaesthesia were not included in this series.

Indications for Caesarean Section.—Table I summarizes the indications, the majority of which were provided by contracted pelvis, previous section, and disproportion. Included in this series were two patients with disproportion in whom unsuccessful attempts at forceps extraction had been made before admission to hospital. In 7 cases sterilization by the Madlener method was performed, and in one a large ventral hernia was repaired.

TABLE I.—*Indications for Caesarean Section*

Indication	Primigravidae	Multiparae	Total
Contracted pelvis	27	31*	58
Disproportion (including persistent occipito-posterior and transverse lies)	21	10	31
Placenta praevia	4	5	9
Foetal distress	8	—	8
Pre-eclamptic toxaemia	7	—	7
Bad obstetric history	—	5	5
Breech presentation (elderly primigravidae)	3	—	3
Essential hypertension (elderly primigravidae)	3	—	3
Accidental haemorrhage	2	—	2
Prolapse of the umbilical cord	2	—	2
Uterine inertia (elderly primigravidae) ..	2	—	2
Pelvic fibroid	2	—	2
Pelvic ovarian cyst	1	—	1
Ruptured uterus	—	1*	1
Chronic nephritis	1	—	1
Rigid cervix	1	—	1
Ruptured ovarian cyst	1	—	1
Total	85	52	137

* Previous Caesarean section.

Types of Operation.—Of the 137 operations performed 103 were lower uterine segment Caesarean sections (75.18%) and 34 were classic Caesarean sections (24.81%).

Indications for Operative Vaginal Delivery.—These are summarized in Table II. Delay in the second stage of labour was the main indication in 154 cases. There were 14 cases of "failed forceps"; these patients had had general anaesthetics before admission, and required operative delivery after treatment for shock. Destructive operations, such as craniotomy and perforation of the foetal head, were performed in 6 cases.

Methods of Delivery.—In 256 patients labour was terminated as follows: (i) *Low-forceps extraction* (136 cases): To one patient two spinal analgesias were administered—first for reposition of a prolapsed umbilical cord and the application of Willett's forceps, and five hours later for a low-forceps extraction. (ii) *Mid-forceps extraction* (108 cases). (iii) *High-forceps extraction* (8 cases): Three cases of hydrocephaly required perforation of the head before extraction. (iv) *Breech extraction* 6 cases. (v) *Craniotomy*, 4 cases. Of 262 infants delivered 167 required manual rotation of the foetal head, arrested in the transverse and posterior positions.

TABLE II.—*Indications for Operative Vaginal Delivery*

Indications	Booked Cases					Emergency Cases					Total
	Positions					Positions					
	Ant.	R.O.T.	L.O.T.	L.O.P.	R.O.P.	Ant.	R.O.T.	L.O.T.	L.O.P.	R.O.P.	
Delay in 2nd stage:											
Anterior position	45	—	—	—	—	—	—	—	—	—	45
Deep transverse arrest ..	—	20	23	—	—	—	5	9	—	—	57
Persistent occipito-posterior ..	—	—	—	1	15	—	—	—	1	15	32
Impending inertia	10					6					16
Brow presentation	—					3					3
Persistent mento-posterior ..	—					1					1
Total	114					40					154
Foetal distress	41					17					58
Maternal distress	6					4					10
Prolapse of umbilical cord ..	2					—					2
Breech presentation	4					2					6
Hydrocephaly	1					2					3
Meningocele	—					1					1
Prophylactic forceps:											
Pre-eclamptic toxaemia ..	7					—					7
Essential hypertension ..	9					—					9
Previous Caesarean section ..	4					—					4
Heart disease	6					—					6
Pulmonary tuberculosis ..	2					—					2
Grand total	196					66					262

Post-operative Complications

Headache.—In spite of the precautions taken over lumbar puncture, this complication was the most serious feature of spinal analgesia in this series. After Caesarean section there were 17 cases (12.4%) of headache—7 (5.1%) severe and requiring sedatives, and 10 (7.3%) slight and requiring little or no sedation. Of the patients undergoing operative vaginal delivery 39 (15.2%) complained of headache—9 (3.5%) severe and 30 (11.7%) slight. In the complete series of 393 patients, therefore, 56 cases of headache occurred (14.2%). During the same period heavy nupercaine analgesia was used in 306 gynaecological cases, the technique being the same, and an incidence of 6.65% headache was found. Spinal headache was therefore encountered slightly more than twice as often in parturient as in non-parturient women.

Chest Complications.—Basal collapse was encountered in only one case in the entire series—in a patient who had had a Caesarean section. Bronchitis occurred in 7 patients—one after Caesarean section and 6 after vaginal delivery. Sixteen of the latter group had had general anaesthetics before admission to hospital. Pneumonia was not encountered.

Late Results.—There were no complaints of headache, or other complications attributable to the analgesic, after discharge from hospital.

Maternal Mortality; Infant Mortality

(*a*) *After Caesarean Section.*—There were no deaths, immediate or remote, in the entire series of cases undergoing Caesarean section. (*b*) *After Operative Vaginal Delivery.*—Of 256 patients who were delivered by the vaginal route 2 died: the first, three days after forceps extraction, owing to aplastic anaemia following acute pyelitis treated with sulphonamides; the second, 16 days after delivery, owing to pulmonary embolism. The overall maternal mortality was therefore 0.50% in the 393 patients subjected to spinal analgesia, the deaths not being attributable to the analgesic.

Seven (5.1%) infants delivered by Caesarean section and 34 (13%) by operative vaginal route were lost. In no case was foetal death attributable to the analgesic.

Advantages of Heavy Nupercaine Anaesthesia

So far as Caesarean section is concerned nothing further can be added to the conclusions noted by Thomas in his paper "Caesarean Section under Spinal Analgesia"; these we confirmed.

In patients requiring operative vaginal delivery the advantages are:

To the Mother.—(i) Spinal analgesia is safe in patients with constitutional diseases which contraindicate general anaesthesia, such as chronic bronchitis, pulmonary tuberculosis, and chronic heart disease. (ii) It is safe in patients with types of liver and kidney impairment in which general anaesthesia may act adversely—e.g., pre-eclamptic toxaemia. (iii) It is safe in patients with essential hypertension. (iv) Uterine atony and undue uterine haemorrhage are rarely encountered in the third stage of labour. (v) Obstetric shock is rare. The spinal analgesic, acting as a regional nerve-block, cuts out reflex stimuli from the pelvis and perineum. This, associated with a lessened tendency to uterine haemorrhage, prevents the two chief factors which may produce obstetric shock. (vi) There is an absence of immediate post-operative discomfort and vomiting. The general condition of the patient, both during the operation and afterwards, is much better than after general anaesthesia. (vii) Pulmonary complications are rare.

To the Accoucheur.—(i) Spinal analgesics can be rapidly given, the technique being simple. (ii) Spinal analgesia makes it possible for the single-handed accoucheur to undertake manipulations or other treatment, in institutions suitably equipped. In the absence of a skilled anaesthetist the spinal analgesic may be given and the delivery performed by the accoucheur himself. This practice was carried out in every case in the series of 256 operative vaginal deliveries. (iii) Maximal relaxation of the pelvic musculature is obtained by the spinal analgesic, rendering intrapelvic manipulations, such as manual rotation of the foetal head arrested in the posterior or transverse positions, easier than under general anaesthesia. (iv) Additional anaesthesia is not required for the repair of an episiotomy or laceration.

To the Infant.—The analgesic has no detrimental effect whatever on the infant.

It is our opinion that spinal analgesia, using heavy nupercaine, is safe and reliable in operative obstetrics in selected cases of advanced pregnancy.

Contraindications to Spinal Analgesia

(i) Any disease of the central nervous system or of the vertebrae, or lumbro-sacral infection interfering with aseptic technique. (ii) In the presence of abnormal presentations, such as transverse lies, requiring internal or external version. (iii) A blood pressure below 100 mm. (iv) In acute shock. After the treatment for shock, spinal analgesia may be employed providing the blood pressure is over 100 mm. Hg. Spinal analgesia was used with striking success in 36 cases of acute shock, after routine shock treatment. (v) In acute heart failure from any cause. (vi) In the presence of "constriction ring dystocia." General anaesthesia was found to be essential in these cases to overcome uterine spasm.

Summary

Two series totalling 394 obstetrical cases, of which 137 were Caesarean sections and 257 operative vaginal deliveries under spinal analgesia, are presented. No maternal deaths attributable to the analgesic occurred.

Heavy nupercaine, 1 in 200, in 6% glucose, was employed in all cases.

The advantages, contraindications, and complications of spinal analgesia in operative obstetrics are outlined.

My thanks are due to Mr. George Brown, medical superintendent of this hospital, for permission to publish the results of these cases; and to the assistant obstetrical and medical officers, who administered several of the spinal analgesics for Caesarean section and who performed a number of the operations. I am particularly indebted to the midwifery staff for the excellent supervision and nursing care.

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J. H. Lamb (*Arch. Derm. Syph.*, 1945, **52**, 93) records two cases of vesicular eruption due to penicillin in men aged 23 and 26. In neither case was the eruption serious, except that discontinuance of the drug became necessary because of extreme pruritus.

BLADDER-NECK OBSTRUCTION DUE TO NON-MALIGNANT DISEASE OF THE PROSTATE

BY

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There is no doubt that many patients suffering from prostatic obstruction come for treatment late in the progress of the disease. They delay until the kidneys are permanently damaged and secondary cardiovascular changes have occurred. Many lull themselves into complacency by believing that they suffer from "the old man's complaint," for which no treatment is necessary. Doctors are partly responsible for the delay. The diagnosis may be missed, or the seriousness of the condition be not realized. I constantly see cases with the history of acute retention relieved by catheterization. Surgical advice was not sought until further retention developed, and catheterization on this occasion failed. Renal damage occurred between the retentions, and catheterization merely postponed the evil day, so that in the end the patient faced the operation in a poor state of health.

Repeated catheterization in these cases of retention due to bladder-neck obstruction should, except in special cases, have no place in modern treatment. When the expectation of life, from other causes, is short, a trial, however, is justifiable. In a case of acute retention due to prostatic obstruction the wisest course is not to pass a catheter but to give a small dose of morphine and place the patient in the hands of the surgeon. If a urethral catheter has then to be passed it can be done with the most careful asepsis under the best conditions. Infection carried in by the passage of a catheter translates the patient at once to a less favourable class for treatment.

Many patients, and doctors themselves, view the possibility of suprapubic prostatectomy with horror, and delay treatment as a result. Many of its unpleasant features have been removed by the advent of the perurethral operation, but some doctors hesitate to advise that method because the view is current that the obstructing portion of tissue alone is removed. They feel it is only a matter of time before the remaining glandular tissue hypertrophies and further obstructive symptoms develop.

It would not appear to be generally known that perurethral prostatectomy when properly performed results in as complete a removal as suprapubic enucleation, and the prospect of recurrence is remote. "Resection" of prostatic tissue to leave a channel through which urine may pass should be the aim only in malignant cases. I believe that prostatectomy should be performed as soon as the diagnosis of prostatic obstruction is established unless coexisting diseases make the expectation of life short.

Symptoms and Physical Signs

When prostatic obstruction causes retention of urine the diagnosis is easy. When it causes sufficient trouble with micturition to bring the patient to the doctor the diagnosis is generally easy. There are cases, however, in which the urinary phenomena are so slight and their onset so gradual that the patients are unaware of anything wrong with the working of the bladder. These patients seek advice because of general symptoms such as dyspepsia, lack of power of concentration, lassitude, cardiovascular disease, abdominal discomfort, backache, haematuria, etc., and the condition of the bladder-neck obstruction is discovered on routine examination. Relatively young patients, with prostatic bars of fibrous and congenital origin particularly, come into this class.

These cases of silent obstruction can very easily be missed. Abdominal examination may reveal a distended bladder by palpation or percussion, but, on the other hand, the bladder dome may be intraperitoneal and intestine may lie in front of it. The diagnosis in several such cases has been suspected by their medical attendants on observing displacement upwards of the pelvic colon in radiographs taken for suspected gastric disorders.

I should like to emphasize the following method for the detection of such cases, and am of the opinion that they will not be missed if the physician or surgeon, in making his routine rectal examination, examines the patient in the three positions described below. The patient should pass urine before the examination.

First Position : Left Lateral.—The rectum is examined. Careful examination of the prostate is then made. Its size and consistency are noted, any irregularities on its surface discovered by light palpation or, if in the substance of the gland, by deep palpation, and any adhesion to or tethering of the rectal mucosa observed. One examines to discover if the median groove and lateral fornices are present, and, if so, their size. One observes if the upper notch can be palpated, and determines the size of the apices of the lobes.

Second Position : Knee-Chest.—The lumbar curve is exaggerated. The seminal vesicles are palpated and any perivesicular infiltration noted, whether neoplastic or fibrotic.

Third Position : Supine.—The legs are flexed and abducted. A bimanual examination through the rectum is then made. The position of the upper limit of the bladder may be detected by "ballottement," the impulse being transmitted to the rectal finger on the prostate. It is possible by this method to assess fairly accurately the amount of residual urine and the degree of hypertrophy of the bladder musculature.

Frequency by day or night, or both, may be present, and there may be "duplication" of micturition, particularly first thing in the morning. Intermission of the stream, a terminal dribble with a feeling of incomplete evacuation, and urgency are often symptoms. Pain at the beginning of or during the act of micturition may be felt by the patient at the end of the penis or "deep in the bladder-neck," and occasionally along the urethra. If terminal pain is present one should expect some coexisting lesion such as infection, new growth, or stone. Haematuria, initial or terminal, with the passage of clots, is not in my experience a very common symptom. If present one should assume that it is not primarily prostatic unless proved so. These cases require full investigation. The presence of pus in the urine, whether "sterile" or not, should always arouse suspicion. Sterile pus may be present in the urine in a case of uncomplicated prostatic obstruction. This may be due to trauma to the mucosa from overstretching, or from compression as a result of gross hypertrophy of the bladder musculature. It may, however, indicate, and often does, associated lesions such as a stone, growth, tuberculosis, etc. An infected urine in a patient who has never been catheterized should also make one suspicious.

Incontinence may be present, whether due to urgency or to lack of control. General symptoms noted are diminished powers of concentration, failure of memory for recent events, sense of fatigue, diurnal somnolence, loss of appetite, dyspepsia, constipation, dry and muddy skin.

Classification

For diagnostic purposes cases may be divided into three groups.

Group I.—Cases with prostatic symptoms, residual urine present, no neurological lesion, *x*-ray-negative. Hypertrophy of the bladder musculature usually develops as a result of prostatic obstruction. In this way the obstruction is at first overcome. The capacity of the bladder decreases. As the obstruction increases decompensation develops and residual urine is usually present.

Group II.—Cases with prostatic symptoms, no residual urine, no neurological lesion, *x*-ray-negative. These are cases in which compensation has been maintained and gross hypertrophy of the bladder musculature develops. Thus, although there may be a severe degree of bladder-neck obstruction, no residual urine is present. Aseptic pyuria quite often occurs in such cases as a result of trauma to the mucosa, and renal damage may be considerable. In these cases cystometric pressure readings reveal a hypertonic myogenic bladder. Cystograms show a contracted bladder with a crenellated outline. Intravenous urograms may demonstrate dilatation of the upper urinary tract, and kidney function tests show evidence of renal damage. Cystoscopic examination reveals trabeculation of the bladder musculature and direct-vision urethroscopy evidence of a bladder-neck obstruction.

Group III.—Atypical cases with symptoms and signs suggesting coexisting lesions of the urinary tract or central nervous system—e.g., recurrent urinary tract infection, aseptic pyuria, or haematuria. These cases require a very full urinary investigation, including, if necessary, catheterization of ureters for the purpose of obtaining specimens of urine from each kidney, and ascending anatomical pyelograms. Cystometric readings will help one to determine the degree of trouble due to prostatic obstruction when a coexisting tabetic lesion exists.

Clinical Method of Determining Size of Prostate Gland without Cysto-urethroscopy

The hazards of too frequent instrumentation in prostate cases must not be overlooked. The desire to carry out an inflexible routine of diagnostic study by the cysto-urethroscope in all cases before operation is contemplated may be scientifically correct, but will result in making many cases into unfavourable operative risks. It should therefore be avoided if possible. The ideal time for the cysto-urethroscopic examination is immediately before the perurethral prostatectomy, and, in those cases judged suitable for suprapubic prostatectomy this examination should not be performed at all unless they come under the heading of complicated cases (Group III). The cysto-urethroscopic examination, with catheterization of the ureters if necessary, should then be made as a set procedure, but could if need arose be followed immediately by a suprapubic drainage. It is my invariable practice, if a cysto-urethroscopic examination has been made and an obstructing prostate is present, to insert a Foley's catheter and not remove it until operation has relieved the obstruction.

As the type of operation to be performed is often determined by the size of the gland, it is important to be able to assess the size without cysto-urethroscopy. The bladder must be empty, so that residual urine does not interfere with the examination, which is best made at the time the residual urine is determined. The patient is examined in the supine position with the legs abducted and flexed. The right index finger is placed in the rectum on the prostate gland and the fingers of the left hand palpate the lower abdomen. On relaxation of the abdominal wall the fingers sink into the pelvis and the prostate gland is thus examined bimanually. The degree of intravesical enlargement can be fairly accurately determined in the majority of cases if the patient is not too stout. The size of the gland is recorded—intravesical 0–4 plus, rectal 0–4 plus.

The Role of Radiography

A straight radiograph of the urinary tract should be taken in all cases. Prostatic, vesical, and renal calculi may be silent. Secondary malignant deposits in the pelvic bones and lumbar vertebrae may be seen.

Intravenous urograms should be taken in cases of Groups II and III, and at one of my clinics this is done as a routine in all cases. One can determine from the cystograms whether a crenellated bladder is present indicative of trabeculation of the bladder musculature, or a gross filling defect indicating a neoplasm. Diverticula may also be seen, and at times the degree of intravesical enlargement of the prostate observed. If the last radiograph is taken after the patient has passed urine the amount of residual urine can be assessed.

Intravenous pyelograms may also give one an indication of the function of each kidney, and any dilatation of the upper urinary tract will be observed. The presence of any filling defects of the pelvis or calices of either kidney may suggest a neoplasm. If there is failure in procuring perfect anatomical intravenous pyelograms in cases of Group III, then ascending pyelograms should be obtained.

Classification of Renal Function

The renal function may be *immediate*, taken on admission; *stabilized*, after vesical drainage for a period up to six weeks; *final*, after many months of suprapubic drainage. The kidney function in this series of cases has been determined by the blood-urea and urea-concentration tests. I have found these of great value, and as a result of observation of cases and their progress I have come to divide renal function into four classes. This classification has helped me to decide the type of operation and the most suitable time for its performance. The *blood urea* is taken before the urea-concentration test.

Urea-concentration Test.—In the first instance no fluids are allowed for 12 hours before starting the test at 5 a.m. If, however, this does not show a Class I kidney function it is repeated after 36 to 48 hours, fluids being taken freely until five hours before the test. Recent catheterization interferes with the urea-concentration test, and 12 hours should elapse before it is taken. 15 g. of urea in 100 c.cm. of water is given at the appointed time. The patient empties his bladder (if a catheter is not *in situ*), and the urine passed (or drained) at hourly intervals for the first three hours is collected and accurately measured in cubic centimetres.

Class I

Blood urea 45 (or under)	1.5 g. (or more) urea excreted in any 1 hour.
No fluids for 12 hours	Percentage of urea increases with each hour. 3.5 g. (or more) urea excreted in 3 hours.

Class II

Blood urea 45 (or under)	1.5 g. urea in any 1 hour.
No fluids for 5 hours	3.5 g. (or more) urea excreted in 3 hours.

Class III

Blood urea 45 (or under)	Urea-concentration test does not satisfy above particulars.

Class IV

Blood urea over 45

Choice of Method of Treatment

Until 1939 I treated practically all my cases by suprapubic prostatectomy. A few were treated by "resection" with McCarthy's resectoscope or Thompson's punch, and some by the perineal approach. The operation of choice was that of Harris, performed either in one or in two stages. In other cases a modified Freyer's operation was used, with destruction of any potential prostatic diaphragm. From 1939 onwards I employed Thompson's punch with increasing frequency, so that in this whole series 82.6% were operated upon by the perurethral route.

It is in my opinion a mistake to use one method to the exclusion of others. Each individual case should be judged on its own merits. Surgeons will vary in their views on choice of operation, depending to a great extent on their relative skill and experience of results with each, and also on whether they have the time, patience, inclination, and nursing staff to persevere with the difficult technique necessary for the perurethral method.

From the surgeon's point of view the perurethral operation is more arduous. It involves the use of a highly trained team, an electrical apparatus in perfect condition, and the performance of delicate manipulations at a distance over a long period in a relatively cramped position. There is no doubt that if a surgeon attempts perurethral prostatectomy without a full training in perurethral operative work and without the above advantages the results can reach only an indifferent standard and the method will fall into disrepute. From the patient's point of view the advantages are immense—the absence of an external wound and of suprapubic drainage, the general comfort, and a rapid convalescence.

There is no doubt in my mind that most cases are best treated by the perurethral route. The lay public have come to this conclusion also, and one has constantly to be on guard lest, against one's better judgment, the patient persuade one to perform a perurethral operation when the suprapubic method offers the best prospects.

There are many factors to be taken into account in the choice of operation. Some of them are as follows:

1. Size of Gland

Removal of the large gland by Thompson's punch is tedious, and if in order to avoid a further operation the surgeon persists longer than one hour, he may shock the patient considerably. The amount of tissue individual surgeons can remove at one sitting with safety varies very much. The maximum I have removed successfully with the present instrument at one sitting is 116 g., but in the hands of some surgeons this amount would appear to be by no means unusual. I feel, however, that multiple sittings are to be avoided if possible, and I prefer to remove these large glands of 80 g. or more by the suprapubic route provided there are no contraindications. The average prostate weighs 30 to 40 g., and thus the majority of cases are suitable for perurethral removal. The size of the gland can be determined before the operation by the method described, and it is thus possible from experience to decide whether the gland can be removed with Thompson's punch in one sitting with ease or with difficulty, or whether it is better removed by open operation.

2. Relation of Kidney Function to Type of Operation

Suprapubic Operation.—From the point of view of renal function it is safe to perform a one-stage prostatectomy on cases with a Class I kidney function. Practically all these cases have a small residual urine, but if it is over 2 to 3 oz. it is my custom to insert a catheter for a week before operation. The operation I perform is that of Harris. Cases in a lower class have urethral drainage in an attempt to improve their class, but if after seven to ten days Class I, or in certain cases Class II, function is not reached, a high suprapubic drainage and Steinach's operation are performed.

The renal function is reviewed again in three to four weeks' time. Many cases will by then have improved their class to I or II, and operation can be carried out. An intravenous drip is begun at the operation in the latter cases. Cases in Class III are a hazard for suprapubic operation, and difficulties are to be expected if any post-operative complications develop. If the patient is a good risk from other points of view the suprapubic method is justifiable, otherwise the gland is better removed by the perurethral operation in one or more sittings, depending on the size of the gland. An intravenous drip is necessary. Cases in Class IV are better operated upon by the perurethral route or discharged with a permanent suprapubic drainage until the final renal function is obtained after several months' drainage. The majority of these cases are suitable for operation by either route at the end of this time.

Perurethral Operation.—Cases with immediate Class I, II, or III kidney function are suitable for operation from the point of view of renal function. In cases of Class IV the bladder is drained by Foley's catheter and the kidney function allowed to improve as a result of the relief of back-pressure and the administration of copious fluids by mouth, and intravenously if necessary. Kidney function tests are repeated at weekly intervals if required, and one finds that the majority of cases rapidly improve their class. Thus a case may be admitted with a blood urea of 250, and after drainage for a few weeks the blood urea may have fallen to normal. Operation is performed as soon as Class II or III is reached. There are some cases, however, which fail to improve, and stay in Class IV after four to six weeks' drainage. They have reached their "stabilized function," and it is unlikely that any major improvement will occur for many months. These cases are often a difficult problem, and treatment will depend on the height of the blood urea and the general condition of the patient. If the blood urea is very high I prefer a suprapubic drainage for four to six months, the tests then being repeated. If the blood urea is only moderately raised I take the risk of operation, an intravenous drip being used after the operation and continued for two or three days or longer until 100 oz. of urine are drained in the 24 hours. Some surgeons operate upon cases with acute retention shortly after admission even though they have a raised blood urea of 100 or under. It is realized that once the obstruction has been relieved and the obstructing tissue removed, the kidney function will improve. In this series of cases this procedure has not been adopted, as the advantages have not seemed great enough to outweigh the disadvantages. It may be noted here that only veins in the upper limbs are used for intravenous drips. Patients are ambulatory at an early period and sepsis in wounds of the lower limb is liable to occur, with dangerous sequelae.

3. Cardiovascular Disease

Cases with cardiac decompensation usually improve rapidly once the chronic uraemia is relieved by urethral drainage. Many cases which would appear hopeless at first prove quite good risks after a few weeks. If fibrillation is present they are digitalized.

The cases which cause anxiety are those with gross hyperpiesia and those with a history of coronary thrombosis. These are preferably operated upon by the perurethral route. It is essential that no shock be permitted to occur during the operation and that the loss of blood be minimal. Once the blood pressure has been allowed to fall it may be difficult to get it back to normal limits, and, although the renal function may be excellent, secondary renal failure develops as a result of failure of the circulation. It is therefore my routine in these cases to have an intravenous drip started by my assistant immediately before or after the spinal anaesthetic has been given. Saline is used at first and plasma later if necessary, and the rate of drip is varied according to the blood pressure. The usual vasoconstrictor drugs are administered even though the patient has hyperpiesia. The operation time is made as short as possible, and several sittings may be necessary to remove a large gland.

The beneficial effect of prostatectomy upon the cardiovascular system is often most striking. Frequently patients previously suffering from angina of effort find that they are able to lead more active lives without this symptom occurring. In cases of hyperpiesia the blood pressure often falls, with resulting increase in the patient's comfort.

4. Coexisting Lesions in the Urinary Tract

(*a*) *Congenitally Narrow Urethra and Urethral Strictures.*—An obstructing prostate complicated by the above conditions should be removed by the suprapubic method. Perurethral surgery is apt to result in the stricture becoming more troublesome afterwards, and this will certainly be the case if the stricture is overstretched. This method should therefore be avoided if at all possible in these cases. If the suprapubic operation is very definitely contraindicated the punch is introduced through a small incision into the bulb of the urethra behind the stricture and a perineal perurethral prostatectomy carried out. In cases with meatal stenosis a plastic operation is performed first, and thus this condition, if existing alone, is no bar to the perurethral operation.

(*b*) *Sepsis.*—If no primary lesion is present in the upper urinary tract, infection usually responds rapidly to sulphonamides, alkalis, and urethral drainage. The case can then be operated upon by the perurethral route in the ordinary way. If for any reason a suprapubic operation is chosen it is performed in two stages.

(*c*) *Vesical Calculi and Non-malignant Papillomata.*—Unless of large size these are not of themselves important factors in determining the approach. If the perurethral operation is judged preferable from other criteria, the calculi are removed by crushing with a cystoscopic lithotrite, or the papillomata either destroyed by coagulation or excised with the punch or McCarthy's electrotome. If time permits the prostate is removed at the same sitting, otherwise a catheter is inserted and the gland removed a few days later. If papillomata have been present the irrigation fluid used is 1/5000 silver nitrate. I have had no cases of implantation growths in the prostatic cavity following this procedure. If the calculi or papillomata are of large size they are treated by suprapubic operation, and the prostate is removed at a later date by suprapubic or perurethral route, depending on the case.

(*d*) *Carcinoma of Bladder.*—The carcinoma is removed first and the prostate at a later date by the suprapubic route. The bladder capacity is small after the partial cystectomy, and operation by the perurethral route undesirable.

(*e*) *Vesical Diverticula.*—These are extirpated in the first instance, and if a prostatic bar is present this is destroyed at the same time by Irwin's clamp. Otherwise a prostatectomy is performed at a later date.

(*f*) *Prostatic Calculi.*—If these are of small size the gland is removed by the perurethral route, but if of large size by the suprapubic.

(*g*) *Lesions of the Upper Urinary Tract.*—Sepsis or urgent conditions in the upper urinary tract often necessitate a preliminary suprapubic drainage followed by treatment of the renal or ureteric lesion. The prostate is removed later, the type of operation being dependent on the factors previously mentioned.

5. Other Factors

There is no doubt that patients who are stout or suffer from bad chests are better operated upon by the perurethral route even though the gland is of large size. Gross varicose veins in the lower limb or a history of spontaneous thromboses are factors which may weight the scales in favour of perurethral prostatectomy. The incidence of thrombosis is very much less after this procedure.

Tables showing the results of treatment, the causes of death after prostatectomy, and reasons for not operating are given on the next page.

Commentary

All deaths are recorded, whether due directly or indirectly to the operation or from coexisting lesions in any other systems having no relation to the genito-urinary tract. All prostatectomies performed at my clinics are included in these results. In later years particularly, cases have been received from other clinics for perurethral prostatectomy as they were considered to be in too poor condition for open operation. The percentage of bad-risk cases is therefore higher than usual.

Statistics are apt to be misleading. One may, for example, deduce that Harris's one-stage prostatectomy and two-stage prostatectomy are the safest operations in view of the fact that no deaths occurred. In actual fact, only good-risk cases were operated upon by these methods, the gland being of large size.

The number of cases given only palliative treatment has been recorded. It includes those admitted to a voluntary hospital and also a municipal hospital, often suffering from advanced stages of various diseases.

In this series no case was rejected in which operation held out the slightest prospect of success. The cases operated upon include those with other diseases of the genito-urinary tract, such as carcinoma of the bladder, kidney, etc., and also diseases of other systems—e.g., carcinoma of the rectum.

Summary

The object of this paper is to show the good results of radical treatment for prostatic obstruction and to urge that these cases be

Table I.—*Results of Treatment of 875 Patients admitted with Prostatic Symptoms*

	No. of Patients	Percentage of Total	Admitted with Acute Retention	Mortality Rate
Perurethral prostatectomy ..	621	70·97%	228 (35·11%)	3·7% (23)
Suprapubic prostatectomy ..	131	14·97%	67 (51·15%)	2·29% (3)
Modified Freyer's (2-stage)	49		27	—
Harris's (*a*) 1-stage ..	21		5	—
(*b*) 2-stage ..	61		35	3
Permanent suprapubic cystostomy	94	10·74%	68 (72·34%)	11·7% (11)
No operation	29	3·32%	Transferred to a chronic ward	

Mortality from all causes following prostatectomy is 3·4% in a consecutive series of 752 cases. Mortality of the last 439 perurethral prostatectomies in this series = 2·51%. Of all prostatectomies 82·6% were performed perurethrally, 17·4% by various suprapubic methods. The oldest patient subjected to perurethral operation was aged 90.

Table II

Reasons for Leaving Permanent Suprapubic Cystostomies	No. of Cases	Reasons for Not Operating at All	No. of Cases*
Bad renal function (persistent high blood urea)	31	Mentally violent	8
Cardiac disease	17	Cardiac disease	6
Poor general condition	12	Poor general condition ..	5
Intercurrent death	11	Intercurrent death	5
Refused further operation ..	7	Uraemia	2
Other severe disease or senility..	6	Other severe disease or senility	2
No records	10	Refused operation	1
Totals	94		29

*All these were cases from the municipal hospital.

Table III.—*Cause of Death after Prostatectomy*

Cardiac failure, coronary thrombosis, and pulmonary embolism	11
Uraemia	4
Clot retention	2
Cerebral thrombosis	1
Fall in blood pressure after operation	2
Malignant endocarditis	1
Brain abscess following middle-ear infection	1
No records available	4

sent early to the surgeon. A clinical method of diagnosis, to prevent cases being missed, is described in detail. The indication for various types of operation is discussed. The perurethral operation is considered the method of choice. The paper is based upon a series of 875 consecutive cases, of which 752 were submitted to radical operation, with a mortality of 3.4%, 82.6% being treated by the perurethral method.

I wish to express my thanks to the sisters, nurses, and house-surgeons who have worked with me and without whose care and attention these results could not have been obtained. I also wish to thank my clinical and private assistant, Mr. Hadda, for the help he has given me and for compiling the statistics.

PARADOXICAL EMBOLISM

WITH REPORT OF A CASE DUE TO A VENTRICULAR SEPTUM DEFECT

BY

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Various mechanisms have been advanced to explain how an embolus may avoid the lungs and pass from the systemic veins or right heart to the systemic arteries. The earliest explanation of the apparent contradiction to the normal path of emboli was that small ones could occasionally traverse the lung capillaries. This seems very unlikely. Experimental work suggests that even air cannot pass through the pulmonary circulation in harmful quantities. A patent foramen ovale has been present in fatal cases of paradoxical air embolism (Thomassen, 1938) and may have been present in non-fatal cases.

Since Cohnheim (1877) first traced the path of an embolus through an opening in the interauricular septum many such cases have been reported. An anatomically open interauricular septum may be functionally closed because the higher pressure in the left auricle ensures that it is closed by a valve on the left auricular side. Beattie (1925) suggested that this relation might be repressed by the lodging of a pulmonary embolus in the pulmonary artery which raises the pressure in the right auricle and at the same time lowers it in the left auricle because of diminished return from the lungs. A subsequent embolus arriving in the right auricle would be swept through to the left auricle and thence to the aorta. Thompson and Evans (1930) believed that at least one-third of the pulmonary arterial circulation had to be depleted before the right auricular pressure became greater than the left auricular pressure. That this mechanism is a possible one is suggested by the fact that in Wittig's (1927) series 50% of cases of paradoxical emboli were associated with antecedent pulmonary embolism. Some other explanation is necessary for those cases in which pulmonary embolism is absent or minimal. The simplest is that it is entirely fortuitous; a widely patent foramen ovale allows the embolus to pass without the help of pressure changes. Taylor (1934) suggested that shock from passage of a small embolus to the lung may bring about pressure changes which facilitate passage of a subsequent embolus through a patent foramen ovale. There is no experimental confirmation of this. Where the foramen is guarded by a valve Porter (1941) suggested that the embolus coils up over the tricuspid valve and obstructs it momentarily, so that the pressure rises in the right auricle and opens the foramen, allowing the embolus to pass through.

Paradoxical embolism may occur through a patent ventricular septum. If in addition the aorta arises from the right ventricle an easy route is provided for an embolus from a systemic vein to reach the aorta. Two such cases were described by Abbott and Beattie (1923) in which paradoxical embolism of the brain had arisen from septic foci in the arm and abdomen respectively. Only six examples of paradoxical embolism for which a ventricular septum defect was responsible have been reported. Louis (1826), in an article on communications between the right and left sides of the heart, described the case of a man aged 25 years in whom two areas of cerebral softening were found. The ventricular septum was defective at the base. No other cardiac anomaly was present. His description seems to indicate that the patient also had extensive pulmonary tuberculosis, and there is no clear evidence that the brain lesions were not tuberculomata. He did not draw any conclusions from these findings, but embolism was unknown in his day, being elucidated by Virchow only in 1845. Ballet (1880) collected a series of seven cases of congenital heart disease with cerebral abscess. In two of them a ventricular septum defect was the only anomaly. One was Louis's case and the other his own. This was a male of 15 years who died of a frontal abscess. The heart showed a ventricular septum defect with a malposed septum and an aplastic right ventricle. He assumed but did not explain the connexion between the septum defect and the cerebral abscess. Although the state of the peripheral veins is not given, the nasal fossae and cranial bones were normal, and paradoxical embolism seems to have been the probable cause. Stone (1881) reported the case of a female aged 19 years with a large ventricular septum defect and acute endocarditis of the stenosed conus of the right ventricle. She died of purulent meningitis and a cerebral abscess. No comment on the origin of the abscess was made. Hanna (1941), reviewing the 35 cases of paradoxical embolism reported up to 1941, found three (those of Louis, Ballet, and Stone) in which a ventricular septum defect was responsible, and added three of his own. In all six cases embolism was cerebral, and in none was the source of the embolus found.

In the case here reported the embolus consisted of vegetations from the pulmonary valve. It is suggested that they were large enough to lie over the opening in the septum and, when they broke off, to pass through it into the left ventricle. Pulmonary emboli were absent.

Case Report

A boy aged 11 had been blue and dyspnoeic on exertion since birth, and at the age of 6 was found to have congenital heart disease. At the age of 10 he had tonsillitis and cervical adenitis. A moderate amount of haematuria at the time was attributed to the nine days' sulphonamide treatment before admission to hospital, for no evidence of bacterial endocarditis was found. There was a very loud apical systolic bruit, and a basal to-and-fro bruit at the pulmonary area. He was readmitted at the age of 11 with pyrexia, sore throat, and pain in the right leg attributed to acute rheumatism. His temperature was 103° F. It was found that the pain was due to arterial occlusion, and as similar signs were appearing in the left leg a diagnosis of embolism of both common iliac arteries from bacterial endocarditis was made. Haematuria was present, but urinary output was good. *Streptococcus viridans* grew on blood culture. He died four days later. At the necropsy a large embolus straddled the aortic bifurcation and completely occluded the right and a portion of the left common iliac artery. Recent infarcts were present in the left kidney and spleen. The mitral and aortic valves were normal. A large defect was present in the ventricular septum, but the auricular septum was normal. The cusps of the pulmonary valve could not be identified, and were replaced by a mass of friable vegetations. No infarcts were found in the lung.

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ACTINOMYCOSIS SUCCESSFULLY TREATED WITH PENICILLIN

REPORT OF TWO CASES

BY

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AND

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Actinomycosis is not a common condition, and opportunities for observing the effects of its treatment with penicillin are consequently infrequent. Roberts *et al.* (1945) record two cases of thoracic actinomycosis. One of these patients died from *Ps. pyocyanea* pyaemia after a week's treatment with penicillin; the other relapsed after one course of treatment (1,800,000 units administered systemically in 15 days), but recovered after a further course of treatment (200,000 units daily for 28 days). Hendrickson and Lehman (1945) record two cases of cervico-facial actinomycosis successfully treated with penicillin. In one case 2,000,000 units of the drug were administered in 16 days; in the other 1,500,000 units in 15 days. In a case treated by Macnab (1945) (daily intramuscular injections of 100,000 units for 10 days) penicillin had no apparent effect on the course of the disease.

We record below two cases of cervico-facial actinomycosis in which treatment with penicillin resulted in clinical cure. In one of these (Case 2) the history and physical signs pointed to the development of the lesion in the tonsillar lymph gland. There was no apparent actinomycotic lesion of the mouth or throat, but presumably lymphatic infection occurred through the tonsillar region. The occurrence of actinomycosis in lymph glands has been denied by some observers, and recently by Macnab (1945), but has been accepted by Cope (1938), who depicts actinomycotic lesions in photomicrographs of lymph glands.

Case Histories

Case 1.—A linotype operator aged 35 was admitted to hospital on May 15, 1945, with a large, brawny, smooth, painless, semi-fluctuant swelling situated over the inferior ramus of the left mandible. The swelling was ill defined, and extended upwards over the anterior border of the masseter muscle and downwards for a short distance into the submaxillary triangle. One enlarged lymph gland was felt at the anterior border of the sternomastoid. There was marked caries of the teeth. The lesion had apparently started 14 days before admission as a "gumboil" over the left lower jaw. Three teeth had been extracted on May 12. The lesion was incised and pus evacuated on the day of admission.

Case 2.—A railway porter aged 15 attended as an out-patient on May 31, 1945, with an enlarged right tonsillar gland, showing periadenitis and tenderness. He gave a history of a swelling in the right side of his neck a year before, which had soon disappeared. Nine weeks before admission he developed a sore throat, and the swelling in the neck reappeared and showed no tendency to diminish in size. Both tonsils were grossly enlarged and almost touching; the teeth were healthy, although some had been extracted a year and a half previously. He was referred to Dr. Seex, who removed his tonsils by dissection on June 4. He was readmitted to hospital on June 14 with a brawny swelling of the neck, the inflammation now being definitely extracapsular. This was treated with ichthyol-and-glycerin foments, and was incised on June 22. Thick greenish pus was evacuated, and a rubber dam drain was left in the large abscess cavity.

Bacteriology.—The pus from both cases contained streptothrix filaments. These organisms failed to grow under aerobic conditions in primary cultures and in subcultures. In glucose-agar shake-cultures there was no growth in the upper centimetre of the medium, and growth was maximal in a zone situated one centimetre below the surface of the medium. Growth occurred under anaerobic conditions but less readily than under micro-aerophilic conditions. Microscopical examination of the pus from Case 1 showed scanty Gram-positive cocci as well as streptothrix filaments, but the cocci failed to grow in aerobic and anaerobic cultures, and were presumably non-viable. Only streptothrix filaments were noted in the pus from Case 2.

Dosage of Penicillin and Method of Administration.—In both cases penicillin was administered systemically by intramuscular injection. During the first half of the course of treatment the dosage was 33,000 units every three hours; thereafter the dosage was reduced to 25,000 units every three hours. There was a gradual diminution in the size of the lesion, and treatment was continued until the discharge had ceased and the lesions had markedly diminished in size. Case 1 received in all 5,800,000 units of penicillin, and Case 2 5,200,000 units.

The patients were re-examined a month after discharge from hospital. In both there was slight thickening of the tissues at the site of the lesion but no evidence of an active inflammatory process.

Discussion

Different strains of *Actinomyces bovis* vary in their susceptibility to penicillin. Of five strains examined by Garrod (1944) and compared with the Oxford H strain of *Staphylococcus aureus*, two strains showed approximately the same degree of sensitivity as the standard staphylococcus; a third strain was eight times as resistant; a fourth strain four times as resistant; and a fifth strain grew sparsely and atypically in 16 times the concentration of penicillin tolerated by the staphylococcus. The patient from whom this fifth strain was isolated was not treated with penicillin.

Fibrous-tissue formation is an outstanding characteristic of the pathology of actinomycosis—its amount and maturity varying with such factors as the age and site of the lesion, the resistance of the patient's tissues, and the virulence of the infecting organism. The amount of fibrous and granulation tissue, and its age, affect the vascularity of the lesion and the flow of blood through it, and consequently the permeation of the lesion by penicillin in the blood and the concentration of the drug attained in different parts of the lesion. Further, actinomyces may show a considerable degree of latency, and relapse may occur a long time after apparent cure (Cope, 1938).

Local treatment could not be applied in the two cases here described, and the relatively high dosage of penicillin administered systemically and the duration of the treatment were based on the response to treatment and on the above considerations, which seem to indicate the need for high dosage and a prolonged course to ensure success in the treatment of this disease with penicillin.

The results obtained strikingly demonstrated the curative effect of penicillin, but more prolonged observation of the patients will be required to ensure that no viable actinomyces capable of proliferation remain embedded in the tissues.

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The first two of the lecture-demonstrations arranged by the British Medical Students' Association for its members in the London Region have now taken place. Mr. Claud Mullins opened the series with a talk on "Medicine and the Magistrates' Courts," and many students have since visited his court to see a demonstration of some of the points he made. Prof. E. Hindle gave an address on "The Prosectorium of the Zoo," and later conducted a party round the Zoological Gardens and the post-mortem department to demonstrate the investigations made into the physiology, anatomy, and pathology encountered among the animals. Details of future talks and visits (open to members of the Association only) may be obtained from the B.M.S.A. secretary at B.M.A. House, Tavistock Square, W.C.1.

Medical Memoranda

Torsion of Omentum

The following case is felt to be worth recording because of the rarity of the condition.

HISTORY OF CASE

The patient, a man aged 23, was admitted on April 7, 1943, as a case of acute abdomen. Four days previously he felt acute pain in the upper part of the abdomen, which became more severe round the umbilicus, later localizing itself in the right iliac fossa; there was no vomiting and the bowels had moved well before the onset of pain. Three months earlier he had had similar pain starting round the umbilicus, accompanied by severe vomiting, and was treated in a general hospital. The attack lasted over 10 days. He does not remember whether the pain was localized in the right iliac fossa, and if so, whether there was any tenderness or rigidity.

On admission the patient looked very ill; he was emaciated and exhausted, with cheeks drawn in. In spite of his condition he walked up to the hospital M.I. room, and from there to my consulting-room. Temperature 99.6°, pulse 84, and respirations 19; general condition poor. The scaphoid was more or less fixed, with very limited movements on respiration; a lump could be seen in the right iliac fossa; superficial reflexes were dull in the upper part, absent in the lower. A definite mass was felt in the abdomen in the region of the caecum; the abdominal wall was rigid, hyperaesthetic, and tender, with no fluctuation—suggestive of local peritonitis. Rectal examination revealed a hard tender mass. The tongue was dry and furred; lungs and heart—nothing abnormal. The provisional diagnosis was acute appendicitis. Blood examination showed: R.B.C., 3,750,000; W.B.C., 9,800 (polymorphs 77%). Urine examination revealed nothing abnormal.

Treatment.—After premedication with morphine and atropine, spinal percaine analgesia was given. As the patient lay flat on the table a definite lump (mound) could be seen on the right side in an otherwise scaphoid abdomen. The abdomen was opened by McBurney's incision in the right iliac fossa; the peritoneum was incised very cautiously, as free pus was expected, but there was none. Instead of pus a large mass of dark cherry-red colour was seen, with a finger-like process closely adherent to it, giving the appearance of a "gangrenous appendix with a mass." When the finger was put in, the whole mass could be moved about freely, and thus was brought out; it was the terminal portion of the omentum, which had twisted on itself, its size being that of a tennis ball. Luckily it was not adherent to any of the viscera. Between clamps the mass was removed and the proximal end was firmly ligatured. The caecum was then examined and found to be normal and healthy; so was the appendix, which was in the retrocaecal position. The appendix was, however, removed as a safeguard against any future attacks. After thoroughly mopping the abdomen the cavity was closed. Recovery was uninterrupted and convalescence very rapid. On April 16 (ninth day) the stitches were removed and the wound had healed by first intention.

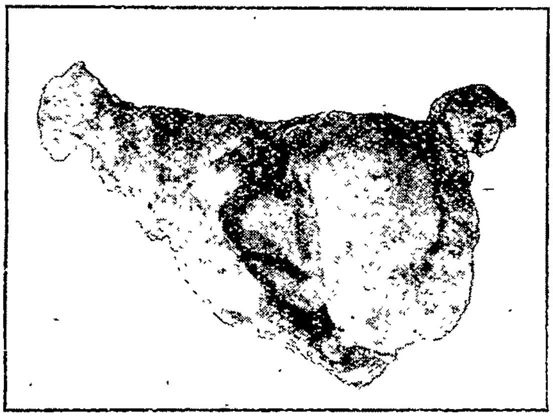

Photo of specimen, showing the twist, the finger-like process, and the mass of omentum. (A piece was removed from the middle for histological examination.)

The specimen was sent to the pathological laboratory, where it was examined by the Consultant Surgeon and the Assistant Director of Pathology, Paiforce, macroscopically and microscopically. The diagnosis was confirmed as torsion of the omentum.

COMMENT

The condition has not been, and cannot be, diagnosed before laparotomy. Nearly always the pre-operative diagnosis is acute appendicitis. The caecum and appendix, though in the vicinity, are not affected at all. Treatment is simple.

None of the surgeons to whom I talked about this case could recollect having ever come across a similar condition in their own extensive experience, though most had seen bottled specimens in the museum. I can therefore at least claim to have a first-hand knowledge of the condition, as seen in the natural state.

What the actual cause is cannot be definitely stated. It may be some sort of exertion—the patient gave a vague history of having done some P.T. on the morning of the attack—or thrombosis of the vessels (in this case the vessels were thrombosed). But whether the thrombosis preceded the twist or followed it is not known. As I am out in the desert and have no access to any literature, I am afraid it is not possible for me to say anything more on this interesting subject.

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Major, I.M.S.

Treatment and End-results of Acute Appendicitis

Opinion is almost unanimous that for acute appendicitis while the disease is still limited to the appendix the treatment of choice is appendicectomy without drainage of the abdomen. When peritonitis is established surgeons have been sharply divided in opinion since Ochsner (1906) and Sherren (1905, 1925) advocated conservative measures in late cases. The availability of blood plasma and the sulphonamide drugs has done so much to improve the end-results of operation that it is difficult, with the sole exception of certain localized abscesses, to justify conservative treatment. Since it is among cases of general peritonitis that the mortality occurs, detailed considerations will be limited to that group.

Sulphonamide Therapy.—The sulphonamides are unnecessary except in cases of general peritonitis. While plasma transfusion is in progress, a pre-operative injection of 2 g. of soluseptasine is given intramuscularly. At operation 15 g. of sulphanilamide powder is inserted intraperitoneally, followed by 1 g. intramuscularly at four-hourly intervals and a further 1 g. by mouth if necessary. I prefer sulphanilamide powder intraperitoneally because of its rapid absorption. Most help appears to be required in the first two days after operation; the peritoneum then seems to be able to look after itself. The general condition of the patient and the passage of flatus appear to be safer guides in gauging the dosage and duration of the course than the temperature chart. There have been no toxic manifestations, and operation on two cases a year later leaves one with the impression that adhesion formation may be diminished after its use.

Drainage.—Extensive drainage has great advantages in severe cases. A split rubber tube (split to pubis) from the pelvic floor is essential in almost all cases. In addition, a strip of corrugated rubber is brought out through the wound from the appendicular bed; and in a desperate case a tube in the subhepatic pouch has the advantage of draining the abdomen before the patient has recovered sufficiently to assume the Fowler position. It may be of value in avoiding a subphrenic abscess.

After-treatment.—The most important and most neglected after-treatment in all cases is the passage of a flatus tube every three hours. Should a severe ileus develop, aspiration of the stomach, eight-hourly morphine injections, and plasma transfusion give results far superior to those of any form of "stimulation" therapy and render doubtful procedures like ileostomy unnecessary. Convalescence is often slow and anxious: many cases required five weeks in bed.

End-results.—In a series of 200 consecutive personal cases of acute appendicitis there was one death. That was due to peritonitis. No cases have been rejected on account of severity of disease or delay in diagnosis. The results are summarized in Tables I and II.

TABLE I

Total cases of acute appendicitis	200
Acute appendicitis without peritonitis	164
Localized abscess (7 drained—2 pelvic in site)	15
General peritonitis (one death)	21

TABLE II.—*Duration of Disease in Peritonitis*

Duration	Cases
1–12 hours	1
13–24 „	0
25–48 „	2
49–72 „	10
4–5 days	4 (1 death; boy aged 16)
5–6 „	2
7–8 „	2

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Reviews

FEMALE UROLOGY

Gynecological and Obstetrical Urology. By Houston S. Everett, M.D. (Pp. 517; illustrated. $6.00 or 33s.) Baltimore: The Williams and Wilkins Company; London: Baillière, Tindall and Cox. 1944.

This is a "different" book: different because it comes from a medical school that is itself in some ways "different."

Gynaecology in Johns Hopkins Hospital is a subdivision of surgery; it has never united with obstetrics to form a specialty of its own. One consequence of this has been that workers in the department of gynaecology undertake investigations and treatments that would usually be regarded as outside the scope of the specialty. This trend is seen in the development of the now famous Female Urological Clinic. Howard Kelly, founder of the Gynaecological Department, made female urology a special interest. His work received world-wide recognition. With Burnam he wrote a treatise on this subject which is still one of the great books of reference. Kelly's assistant, G. L. Hunner, later assumed control of the urological clinic, and over a long period of years maintained and added to its renown. Recently the control has again changed hands; and the present director, H. S. Everett—for many years Hunner's assistant—has now undertaken the considerable task of writing a new comprehensive textbook on female urology which includes a full description of the methods that have come to be particularly associated with his hospital. Because he has been trained in gynaecology, and now works in association with other gynaecologists, he approaches urological problems from an unusual (but natural) standpoint.

The writing is clear in style (if at times a trifle verbose), the illustrations are numerous and of excellent quality; printing errors and wrong positioning of illustrations (so common in first editions) are almost absent. The bibliography is extensive, though comparatively sparse in regard to European literature. The curious reader naturally turns to those chapters dealing with the special methods developed by Kelly and Hunner, and he is fully rewarded. An excellent description is given of the Kelly direct (air) method of cystoscopy and ureteral catheterization. The ureteral "stricture" of Hunner, and its special treatment with wax-moulded bougies, are fully described. The pathology and treatment of interstitial cystitis (the "elusive" ulcer of Hunner) are convincingly presented.

This book merits high praise. Where the teaching is orthodox the descriptions given are excellent; where unorthodox, the disputed opinions are presented with a care and restraint that claim from the reader serious thought and consideration. The publication will make a strong appeal to both urologists and gynaecologists. It bridges the gap that exists between the two specialties.

X-RAY EXAMINATION OF THE UPPER ALIMENTARY TRACT

X-ray Examination of the Stomach. A Description of the Roentgenologic Anatomy, Physiology, and Pathology of the Oesophagus, Stomach, and Duodenum. By Frederic E. Templeton, M.D. (Pp. 516; illustrated. £3.) Illinois: University of Chicago Press; London: Cambridge University Press.

X-ray Examination of the Stomach, by Frederic E. Templeton, has a wider range than its main title indicates, for it includes the pharynx, oesophagus, duodenum, and diaphragm. It is a book of some 500 pages and nearly 300 illustrations. The reviewer would like to make it clear that, whatever criticisms follow, this is a book of first importance and it contains a wealth of information on the subject.

After describing his own apparatus—a fairly standard American tilting-table set—the author gives the details of his technique of investigation. This is an excellent survey of a modern technique, but a note of unreality is introduced by the suggestion that excess of resting juice in the stomach should be removed, as a routine measure, by aspiration and lavage. Does Dr. Templeton really achieve this in his own practice? If so, the American patient must be more long-suffering than the British. The chapter on the anatomy and physiology of the oesophagus is exceptionally good and gives a full account of the mechanism of swallowing. It includes a description of the author's method of demonstrating the pharynx filled with barium. The difficult and still unclarified subject of gastritis is discussed in great detail, and here the author shows a commendable reserve in his conclusions. In dealing with peptic ulcer the appearances of the ulcer crater are considered with profusion of detail, which makes certain omissions the more astonishing. Pyloric obstruction is not described, nor is organic hour-glass contracture. Arterio-mesenteric duodenal ileus finds no place in the index, or in the text. This patchiness is evident later on in the book, when the chapter on the stomach after operation proves to be full and informative, while that on the diaphragm is very meagre. Indeed, the description of Petit's eventration would, if given by a D.M.R. candidate, seriously endanger his pass mark.

In a book that contains much that is good it is a pity that one should, in the search for the good, have to wade through such an irritating *non sequitur* as the following (p. 285): "There can be no doubt that the crater is the most important single factor in the diagnosis, for the ulcer is the crater. It can, therefore, be considered the primary anatomic change." Again, in discussing a superficial peptic ulcer the author says, of "faint persistent rounded collections of barium," seen on compression of the bulb, that "the rapid disappearance under medical ulcer management left grave doubt as to whether an ulcer actually existed. That an ulcer did exist is suggested by the quick response of the clinical symptoms to the treatment." Throughout the book a praiseworthy accumulation of accurately noted facts is interlarded with ambiguous redundancies like the above; but if the reader is prepared to work hard and ignore the irrelevances he will be well rewarded, for there is much meat in the volume. One last word: the illustrations are well chosen and beautifully produced.

LEGAL MEDICINE

Medical Jurisprudence and Toxicology. By John Glaister, D.Sc., M.D., F.R.S.Ed. Eighth edition. (Pp. 691; 222 illustrations, 89 in colour. 30s.) Edinburgh: E. and S. Livingstone. 1945.

This eighth edition of Glaister should have appeared even earlier, but unfortunately much of the work was destroyed by fire and had to be repeated. Since the seventh edition was published in 1942 many changes in the book have been made. A good deal of new matter has been added, particularly concerning the procedure of courts of England and Scotland, the law of cremation, asphyxia, the identification of firearms and projectiles, head injury and insensibility. The section on the presumption of survivorship has been taken as far as the Court of Appeal's decision in the Grosvenor case; but the exhaustive judgments of the House of Lords, which reversed the decision by a majority, were delivered after the book was in print. Prof. Glaister adds another interesting case concerning two brothers who were found dead together, one having gassed himself suicidally, and the other having died by accident through the escape of the gas.

The section on divorce for insanity has been brought up to date by consideration of the Safford case, with its decision that absence on licence from a mental hospital does not interrupt the patient's detention. New also in this edition are remarks on the proposed social insurance system, the condition known as "immersion foot" (which has somehow escaped the compiler of the index); the effect of crush injury on the function of the kidneys; the Rh factor in the blood which underlies erythroblastosis foetalis; agglutinogens in saliva; and the management of the property of persons of unsound mind. Some of the new poisons developed during the war, and the sulphonamides, have found their way into the toxicological section. The section on alcohol has been amplified by a table showing the relation between the consumption of whisky, wine, and beer and the alcohol content of the blood; also a description of the method of Kozelka and Hine for estimating blood alcohol.

The eighth edition contains 90 more illustrations than the last. Of the total, 120 pictures are new and 89 are in natural colour—an important new departure and by no means an easy task in these days. From one or two hints in the preface it is clear that the appearance of this new edition at all represents a triumph over a series of extremely difficult circumstances. That its excellence should surpass that of the previous edition is an achievement of the apparently impossible. Prof. Glaister, with one or two other noted contemporaries, deserves much credit for having produced, in a country conspicuous for its neglect of medical jurisprudence, a standard textbook that will rank with any in the world.

Notes on Books

Dr. RICHARD EAGER, consulting psychiatrist to the Royal Devon and Exeter Hospital and late medical superintendent of the Devon Mental Hospital at Exminster, has written a small historical work *The Treatment of Mental Disorders (Ancient and Modern)* to commemorate the centenary of the building of the Devon County Lunatic Asylum in 1845. It is published at Exeter by W. V. Cole and Sons and distributed in London by H. K. Lewis and Co., price 7s. 6d. Friends of the institution with which Dr. Eager was so long identified will be glad to have a copy of this book, and it should find many other readers.

The third edition of W. E. BRAY's *Synopsis of Clinical Laboratory Methods* (Henry Kimpton; 25s.), in spite of additions necessitated by the advances of the past six years, remains of pocket size, owing to the use of small type and the terse presentation conforming to the first word of its title. The author is professor of clinical pathology in the University of Virginia, and the text follows standard American practice: some doubtless useful tests are described with which we are not familiar, and on the other hand there is no mention of tellurite media for cultivating diphtheria bacilli. All branches of clinical pathology are dealt with, and the instructions given, though brief, should enable the user to set about examinations with which he is unfamiliar.

The second edition of *Handbook of Diagnosis and Treatment of Venereal Diseases*, by Dr. A. E. W. MCLACHLAN (E. and S. Livingstone; 15s.), contains 6 pages more than the first; the main addition is a more up-to-date account of the treatment of early syphilis, including the "20-day" and "7-week" methods and the use of penicillin. In addition, neo-halarsine is mentioned, and the sections on the causes of false positive serum reactions and on jaundice have been brought up to date. Many of the errors occurring in the first edition have been corrected, but "symtomatic" (p. 81) remains, and instances of plural nouns with singular verbs, and vice versa, still occur. The purist reader will carp at "the serology is positive" and "serological changes in the C.S.F.," while nowadays few syphilologists put much faith in the "provocative" W.R. or the Kahn verification test. The fact that a second edition has been produced so soon after the first is evidence that this excellent little book is being read widely.

Thirty-seven years ago the first edition appeared of a book, *Hey Groves' Synopsis of Surgery*, which has proved its value to the surgical student through its eleven subsequent editions. Now Hey Groves is dead, and the editorship of his *Synopsis of Surgery* passes to C. P. G. Wakeley, though the revision of the twelfth edition had been almost completed by the original author. Fittingly his portrait appears as a frontispiece to this edition. The general character of this book is so well known as to need no description; to bring the material up to date paragraphs have been added concerning the use of penicillin and the sulphonamides, and some notes on radium therapy. Despite these commendable additions to keep the book abreast of new developments we cannot help feeling that a book first written so long ago, and so excellent for its purpose at that time, now needs more than an occasional patching up as new editions are prepared. The synopsis really requires, to use a much-abused word, complete rehabilitation. It is published at 25s. by John Wright and Sons, of Bristol.

The National Association for the Prevention of Tuberculosis (Tavistock House North, Tavistock Square, W.C.1) has published at 5s., under the title *Pathways in Aftercare*, a report of the discussion on after-care and re-ablement for tuberculous patients, held in London last July. The conference was attended by many industrial managers, representatives of local authorities, specialist doctors, and welfare workers. The booklet gives a verbatim account of the speeches just as they were delivered, and it is hoped that their appearance in print will promote a free circulation of ideas on one of the gravest health problems of to-day.

The *Irish Medical Directory and Hospital Year Book, 1945*, is published in Dublin by the Parkside Press Ltd. (10s. 6d.). This, the eighth edition, has been produced in royal octavo size, a change which makes it easier to handle and more convenient for bookshelves. The need to reset the type from end to end has given an opportunity to carry out extensive revisions. The volume opens with a few pages of general information. Then follow eight special articles, each by an authority on his or her subject; these, with one exception, are clinical. Next comes the Medical Directory for Eire, well set out alphabetically in double columns, with other classified particulars useful to medical practitioners and officials. The Hospital Year Book and Index to Hospitals completes the volume, which runs to 300 pages of text and advertisements. Altogether a very handy work of reference.

We have received from the American Library of the U.S. Office of War Information (1, Grosvenor Square, London, W.) a reprint of the symposium on fractures and dislocations originally published in the *Surgical Clinics of North America* for February, 1945 (W. B. Saunders Company, Philadelphia and London). This symposium, to which fourteen surgeons contributed, was held at Chicago under the direction of Dr. Fremont A. Chandler.

Preparations and Appliances

HEATED CARRIER FOR TRANSPORTING PREMATURE BABIES

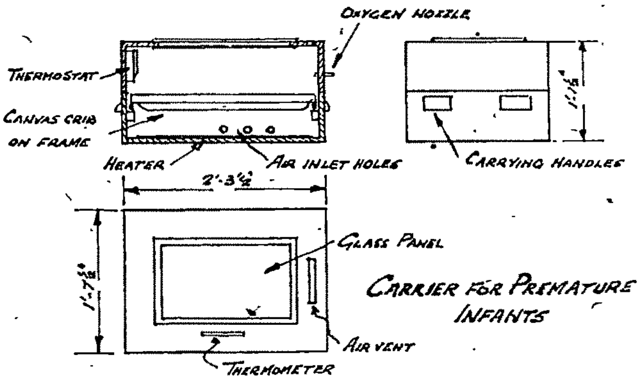
Dr. J. N. O'REILLY, M.R.C.P., writes from St. Helier County Hospital, Wrythe Lane, Carshalton, Surrey:

The difficulty of maintaining the body heat in a newborn premature baby is well known, and many devices have been developed to cope with the problem in hospital. Chilling is one of the principal causes of death of premature babies born on the district and subsequently transported to hospital for treatment. Various forms of heated carriers have been devised, principally in America, but most of them suffer from being over-elaborate and containing materials unobtainable in wartime.

A description is given here of a heated carrying-box designed and made by the hospital engineer, Mr. L. Selleck. The box is kept in a warm room in the maternity department, and when a request for the admission of a premature baby is received the interior is heated by means of hot-water bottles. The box is then placed in the ambulance and the heat is maintained by plugging into the ambulance batteries. On arrival at the patient's house the box is carried into the house and the baby is placed inside. In this way the infant is transported in a draught-free heated atmosphere of uniform temperature and with the minimum of handling.

Since the use of this box the condition of the babies on arrival in hospital has been much better than previously.

The carrier is a box made in halves and hinged together, the top half being fitted with an observation window. A changeable canvas crib is mounted on a frame supported on springs at the top of the lower portion of the carrier. Ventilation is provided by means of a number of holes in the sides under the crib, and by a slot in the cover. The air is warmed by means of an electric resistance heater and automatically maintained at a temperature of approximately 80° F. by the inclusion of a thermostat, the increased temperature of the air causing a continual air charge by convection. In addition to the thermostat a thermometer is embedded in the cover beside the observation window, with the bulb inside to give a visual indication of the temperature. Oxygen can be administered through a nozzle inserted at the end of the carrier, the inner end of the nozzle being splayed to give adequate distribution. The electric heater is of ample surface and so designed that the temperature of the element does not exceed 100° F. when operating on the 6–12-volt circuit provided by the ambulance battery.



The carrier is being further developed to design an incubator for premature infants. In this instance autocontrolled humidity will be available in addition, and facilities incorporated for easy manipulation. The heater will then also be designed for mains voltage.

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WILL THERE BE AN INFLUENZA EPIDEMIC?

The possible intensity of the usual winter rises in the incidence of infectious diseases attracts attention in the autumn. This year interest is naturally focused on influenza, and there seems to be a general fear that the expected seasonal rise may be of epidemic proportions. Knowledge of the periodicity of influenza is imperfect; it is, of necessity, based on mortality, as the incidence of the disease is not recorded. It is known that the mortality varies much in different outbreaks, and the apparent irregularity in the spacing of large epidemics may be due in some measure to the use of deaths as the criterion of the size of the outbreak; it is possible that in some years influenza may be very prevalent but the case fatality very low. During the inter-war period a heavy mortality from influenza occurred at intervals of two to four years, and on this criterion the years when the disease reached epidemic proportions were 1922, 1924, 1927, 1929, 1933, and 1937. The deaths recorded in England and Wales in these years varied from 17,122 in 1937 to 29,084 in 1929, while in the intervening non-epidemic years the annual deaths ranged from 5,019 to 13,211.

The unusually long interval since the appearance of a large epidemic does increase the probability that an outbreak of more than average severity is due. The knowledge acquired in the pandemic of 1918, which caused 112,229 deaths in 1918 and 44,801 deaths in 1919, adds still further to the necessity for taking precautions against a major outbreak. Among the various contributory factors held responsible for the large mortality in the winter of 1918, the unusual time of the original outbreak and the great amount of overcrowding, combined with the fuel shortage, were generally agreed to be of prime importance. The first of these factors must remain an unknown quantity until an outbreak occurs, but the other two, if they do exert pressure on the course of epidemics, are now potential dangers. Overcrowding is certainly much worse than it was at the end of the war of 1914–18, and although it is not easy to assess the relative position of the fuel shortage in the two wars it is certain that the present outlook—and the immediate future—is a bit bleak. One must, too, take into account the belief held by some that the long period of minimum rations has already impaired the nation's power of resistance to infection.

If the trend of influenza could be predicted with any accuracy from these factors alone, then the outlook would be unpromising. But influenza does not run true to form —or, rather, we do not yet know just what the form is. Despite the spate of papers turned out by the press after the last pandemic, and the vast amount of work done before and since, our knowledge of the mechanics of the disease is more vague than exact. The shape of the epidemic curve in one area is very similar year by year, although the start of the outbreak may differ in time by some weeks. A comparison of big outbreaks shows that the disease runs a similar course in various parts of the world. The size of the seasonal rise is determined to a large extent by the time of commencement. In England and Wales, as a whole, the seasonal rise begins early in the year, and the outbreak exhausts itself by the end of the first quarter. In a large city it seems that if the foci of infection can develop early the disease will spread right through the community, but if the outbreak is delayed then the disease is generally not so widespread and may die out before some areas have been invaded. Twice during the war the probable course of an influenza epidemic has confounded the prophets. In the early period it was thought that the ideal setting for influenza to assume epidemic if not pandemic proportions was provided by the conditions of work over long hours, often in the black-out, with little or no ventilation, and by the conditions of life due to air-raids, nights spent by people crowded in a deep shelter or exposed to cold and damp in an Anderson or surface shelter. It was also feared that food rationing, particularly the scarcity of protective foodstuffs, might raise the incidence of nasopharyngeal infections by lowering resistance. But no large outbreak occurred; in fact the usual seasonal rise was below the average. The numbers of deaths in the great towns were 5,510, 2,993, and 1,544 during 1940–2, compared with 8,341 deaths in the last epidemic year of 1937. The next occasion for misgiving was in the autumn of 1943, when influenza began to rise sharply some two months before the usual date. During the 49th and 50th weeks there were 2,263 deaths in the 126 great towns, compared with 50 to 72 deaths in these weeks during the preceding four years. From this date the outbreak subsided quickly and had practically died out by the time the usual maxima occurred. Although the number of deaths in the great towns was slightly larger than the number in the preceding wartime outbreaks the epidemic was notable only for its freakish appearance in time.

To predict an influenza outbreak, especially its severity, is not possible. An attack of some notifiable diseases confers immunity, and there is some kind of equilibrium of susceptible persons in the population; the more the equilibrium is disturbed by increasing the number of susceptibles the greater the epidemic that follows. This indication of the possible size of an outbreak is denied us in the case of influenza. In the first place the numbers attacked are unknown, and, secondly, it is doubtful whether an attack of influenza has any effect on the chance of contracting the disease during a subsequent outbreak. The evidence whether an attack of influenza confers any lasting immunity is conflicting; instances have been quoted in which those attacked in one epidemic escaped very lightly in a later outbreak compared with those who were unattacked in the first. Other experiences have shown the reverse—i.e., those attacked in the first outbreak suffered more severely in the subsequent epidemic. From the periodicity of influenza and the general environmental conditions now prevailing the odds would appear to be weighted in favour of an outbreak of epidemic proportions in the spring. It is not likely that the level of 1918–19 will be reached, since the last two great pandemics of 1889–90 and 1918–19 had a summer epidemic; we therefore have no reason to suppose that a pandemic will first appear in the winter.

HOSPITAL NURSES: A NEW DEAL

The seriousness of the nursing shortage has led the Government to inaugurate a campaign to attract nurses and domestic workers to hospitals. The number of women needed for the present nursing services of the country—not hospitals alone—is about 240,000, and the Ministry of Health has stated that on the basis of notified vacancies there is a shortage of something like 34,000 nurses, mostly in hospitals; there are also immediate vacancies for 12,000 domestic workers in hospital, mainly women. Many wards and even some institutions have had to be closed because staff was not available. This does not mean that there is a fall in the rate of recruiting for nursing, or that present numbers are not being maintained; it means that the demands for nursing service in many fields, including school and industrial nursing, are continually growing, and are likely to grow still more with the coming of the National Health Service, bringing about, as it must, a reshaping, and to some extent an expansion, of hospital resources.

The question of domestic workers in hospitals is closely bound up with the nursing question, for there can be no doubt that one reason for the shortage of nurses is that they are required to spend so much time in domestic work, to the disadvantage of the training they had hoped to receive and their prospects of professional promotion. This is probably one of the reasons—no doubt there are others—why so many candidates for the nursing profession fail to stay the qualifying course. Other reasons are the relatively low pay and the restrictive conditions under which nurses have had to work. They have been subject to a discipline which does not apply to other professional women.

The Government has frankly recognized the position. A publication entitled *Staffing the Hospitals: An Urgent National Need*[1] has been issued by the Minister of Health, the Secretary of State for Scotland, and the Minister of Labour. The proposals which it announces for a new standard of nurses' pay and conditions of service put into effect recommendations of the Athlone and Alness Committees; they are also an endorsement of a number of suggestions put forward in a recent memorandum by the Socialist Medical Association. It is, of course, admitted that whatever is done now to improve the nurse's lot will make little difference to the immediate situation: it will not produce nurses by magic to deal with a serious epidemic should such a calamity arise this winter. Emergency arrangements are being made in view of such a possibility. The military authorities have agreed to release 2,000 suitable members of the Women's Auxiliary Services who will volunteer for training as nurses; these will be released under the demobilization Class B, as will also 1,000 women with experience of institutional cookery who will accept employment as hospital cooks. It may be hoped that with the demobilization of large numbers of women from the Services in Class A many of these also will be attracted to a nursing career. There has not been, and apparently is not to be, any "direction" to nursing. The "directed" person is liable to be an unsatisfactory occupant in any sphere, and especially so in nursing.

Two general codes have been worked out by the Government and representatives of all the organizations and interests concerned: one of them for the conditions of service of hospital nurses and midwives, and the other for those of hospital domestic staff. They are offered as the reasonable minimum to be aimed at in all hospitals. Of the improvements proposed some are already in effect in progressive hospitals; some can be brought into operation at once; but others, such as the requirement that nurses shall be free from all domestic work in hospital, obviously depend upon the sufficient recruitment of domestic staff; and others again, such as the accommodation in nurses' homes, must await building labour and release of materials. But it is laid down that it should be the aim of every hospital authority to institute immediately, or as soon as may be, such of these conditions as are attainable in present circumstances and are not already in force.

The first section of the nursing code relates to training. It states that nurses undergoing training should be regarded primarily as students. Training schools should have a preliminary training school—perhaps for more than one hospital—in which the student or pupil assistant nurses would have preliminary instruction before entering the hospital ward. Salaries should be in accordance with the agreed recommendations of the Nurses and Midwives Salaries Committees. The Nurses Salaries Committee for England and Wales has recommended the following scales: Ward sisters, £160–£260; staff nurses, £120–£180; assistant nurses, £90–£160, in all cases excluding the value of board, lodging, and other emoluments, which in the case of ward sisters is computed at £120, and in the case of the other grades at £100. These figures are from £40 to £60 above the existing minimum. Salaries for nurses in sanatoria and other institutions for the tuberculous will be £10 above these scales throughout, and special service allowances will be payable for continuous work in such places. In Scotland the salaries appear to be the same, except for assistant nurses, which begin at £80. Other provisions in the code are adequate pensions on retirement (schemes for interchangeability of pension rights are under consideration); a working time consisting of a 96-hour fortnight, whether on day or night duty; hours of duty for nurses and midwives to include the time they spend in lectures and tutorial classes; a minimum of one complete off-day a week, periodical week-end leave of absence, and four weeks' leave a year, with pay, apart from sick leave. All hospitals should have a definite scheme of health supervision for nurses for which a senior physician is responsible. Nurses should have a medical examination on admission, and periodical examinations; they should have careful instruction at an early stage in training about the facts of infection; regular consultation hours should be fixed for nurses, who should be able to approach the physician for a private interview if they so desire, and there should be suitable and adequate sick-bay accommodation. Certain standards are laid down concerning meals and nurses' homes. A relaxation of tiresome and unnecessary restrictions is urged upon hospitals. Recreation and social activities should be encouraged. At mealtimes nurses should be regarded as being off duty. There will be an end of the boarding school-*cum*-nunnery idea which has clung about nursing for too long. A qualified and experienced warden—not necessarily a nurse—should be in charge of the nurses' home. In every hospital there will be a nurses representative council, with a balanced representation of the different grades, and a staff committee for domestic workers. A National Joint Council for employers and employees in the hospital service has been established.

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[1] H.M. Stationery Office. (3d.)

Meanwhile to meet the immediate situation a national reserve of nurses is to be formed. Nurses giving up regular work on marriage or for other reasons will be asked to enrol so as to be available for recall in emergency. There will be no barrier to the employment of married nurses, and it is proposed to offer work to part-time nurses so long as the present shortage exists. Male nurses—men who have had nursing experience in the Forces—are to be encouraged, and a grade of ward orderlies is desired in the large hospitals.

The new Government publication, in its note of urgency, conveys a very different impression from the original White Paper on a National Health Service, which dismissed nursing in a sentence or two as one of the "ancillary services" which ought to go with medical care. The three Ministers declare that the situation is extremely serious and is likely soon to become critical unless thousands of new recruits can be obtained quickly.

> "If they are not obtained, large numbers of people urgently requiring treatment will be unable to gain admission to hospital and many patients in hospital will not receive the attention they need. The Government therefore appeal to all men and women who either have experience in this work or who feel that they might do well in it—and particularly to young people who are at this moment thinking about their choice of a career—to come and play their part in this great field of service. . . . The adequate staffing of the hospitals is an urgent national need. It is vital to the successful operation of the new National Health Service. It must be met."

The nation is now paying for its acquiescence for too long in the idea that because nursing exacts from those who enter it a particular devotion they may therefore be underpaid and overworked and subjected to harsher restrictions than pertain to other callings. It is to be fervently hoped that the new realization has not come too late.

PENICILLIN IN BACTERIAL ENDOCARDITIS

The treatment of subacute bacterial endocarditis with penicillin was begun in this country early in the present year, and in a letter to the *Journal*[1] the secretary of the Penicillin Clinical Trials Committee recently reported its early results. These pointed clearly to the need for prolonged treatment: a standard total dose of 5,000,000 units had been given at the rate of 1,000,000, 500,000, and 250,000 units per day, and the percentages of patients who had died or relapsed were 95, 66, and 33 respectively. The policy announced for the future was continuous treatment for 28 days, the daily dose required being the subject of further study. Even more prolonged treatment is advocated by A. L. Bloomfield, C. D. Armstrong, and W. M. M. Kirby,[2] whose policy has been to continue without interruption for six or preferably eight weeks. The initial dose was 200,000 or 300,000 units daily by intravenous drip; later a smaller dose—120,000 to 200,000 units daily—was given by three-hourly intramuscular injections. No heparin was administered. In the treatment of each patient about 10,000,000 units were therefore used. Eleven cases so treated are fully described. All experienced a rapid subjective improvement, and the blood culture became negative, usually as early as the second day of treatment; with the exception of a single patient who died of acute heart failure on the fourth day, every patient had numerous blood cultures both during and after treatment, and none was positive after the fifth day. The temperature fell rapidly in most cases, although in one with a streptococcus abnormally resistant to penicillin *in vitro* the fall was delayed for three weeks, and in others minor degrees of fever, continuous or occasional, were common. Changes in the urine were followed by repeated Addis counts: the degree of microscopic haematuria diminished very slowly, and it had usually not ceased at the end of treatment or even at the last follow-up. There has been no recurrence of infection in any of the 10 patients who completed the course of treatment: 7 are well and at work, while 3 developed heart failure, 1 having already died of this. It is of some interest that these three patients had marked electrocardiographic changes on admission. This series, although short, probably represents fairly what penicillin will do in this disease. The cases were to some extent selected. Results will be worse if treatment is begun at a very late stage or after heart failure has developed; they also depend on the sensitivity of the infecting organism: two other patients are mentioned, one infected with a highly penicillin-resistant streptococcus and one with "influenza bacilli" (presumably *H. para-influenzae*), the course of whose illness was entirely unaffected by penicillin. In the absence of such unfavourable features the infection can evidently be overcome, but in order to achieve this result a prolonged continuous course is necessary, and the minimum of six weeks advocated here is no light undertaking. To embark on such a course without the assurance that it can be carried through to the end—and this means, among other things, first-rate nursing and gaining the patient's co-operation—may be to do ultimately more harm than good.

What neither penicillin nor anything else can do is to repair gross valvular damage. A certain proportion of these patients will always die of heart failure in spite of the valvular infection having been overcome; it is indeed even likely that the shrinkage and fibrosis of vegetations, particularly on the aortic cusps, will render the valve even more grossly incompetent than it was before. Necropsies on two such patients are fully described by P. Rosenblatt and J. Loewe[3]; they had been "cured" of subacute bacterial endocarditis by combined treatment with penicillin and heparin, but died from progressive cardiac failure four and five months later. The aortic valves in each case were so grossly deformed that nothing approaching closure was possible. Histological study confirmed that the infection had been eradicated. One of the cases treated by Dolphin and Cruickshank[4] also came to necropsy because of death from heart failure after successful treatment with penicillin of an acute bacterial endocarditis.

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[1] July 28, 1945, p. 132.

[2] *J. clin. Invest.*, 1945, **24**, 251.

[3] *Arch. intern. Med.*, 1945, **76**, 1.

[4] *British Medical Journal*, 1945, **1**, 897.

THE CASE FOR NURSERIES

The National Society of Children's Nurseries (117, Piccadilly, W.) has published in leaflet form a memorandum prepared for the Royal Commission on Population. This sums up nearly forty years of experience and applies it to current problems. The Society states at the outset that it stands for family life, and takes the view that nurseries are an extension of the home and not a substitute for it. Then follows a long list of those who already use or will need nurseries. This includes mothers who go out to work: those who work to supplement the family income; widows; mothers whose husbands are disabled; and the professional woman who wants to start a family without sacrificing her career. The case of the professional woman is of special interest, for they will demand high standards in nurseries, and with the shortage of domestic help this is probably the very solution for a career and a family together. Already some institutions have started a day nursery where the children of the medical staff and the visiting domestic staff are looked after during working hours. Another group is that of mothers who have no help in the house; the mother in chronic ill-health; the mother with a new baby and in need of care for her toddler; and the mother faced with an emergency. In general the memorandum stresses the importance of leisure time to mothers, for their mental refreshment, and also the value of making it possible for man and wife to go out together. For the children it is claimed that the effect of nurseries is good, because they develop under expert care and medical supervision. Mothercraft training is also available through the nurseries, not only for the staff in training, who are the mothers of to-morrow, but also for the mothers who leave their children and are inspired to apply in their own homes what they learn in the nursery. The memorandum goes on to face the common criticisms. As regards infection it states: "The health record of the nurseries has in general been good." A letter, printed in the appendix, from the medical officer of health for Salford is a strong answer to those who claim that nurseries foster infection or a sense of parental irresponsibility. On both charges he claims "quite emphatically that these dangers are entirely theoretical." "Nurseries are required," comments the memorandum, "not in order to take away from parents the responsibilities which should be theirs but to put them in a position to carry out those responsibilities." Other means of easing the strain of family life are enumerated, and they are found wanting in some essential respect. Lastly the cost—"nurseries cannot be cheap"—but it is claimed that no expenditure could constitute a better investment or one which would pay richer dividends. The National Society of Children's Nurseries puts up a strong case, devoid of emotional argument and worthy of close study. It claims that the continuation of a nursery service is one of the essential means for improving the quantity and quality of the future generation.

MEDICAL BENEVOLENCE

Sir Arnold Lawson, who has taken the place of the late Sir Thomas Barlow as President of the Royal Medical Benevolent Fund, has written a short review of the position of the Fund at the end of the war. During the last seventeen years—apparently the year 1927 is taken as the starting-point, because it was then that Sir Thomas Barlow made his first Christmas gifts appeal—the book value of the investments of the Fund has risen from £109,428 to £307,248, the subscription income from £7,645 to £19,292, including in the latter figure the income tax recovered under deeds of covenant, and the charitable distribution from £11,916 to £25,284. The criticism has often been levelled at the Fund that it helps too many beneficiaries by means of very small sums and that it would be better if it helped a smaller number more adequately. Sir Arnold Lawson says that it is planned to give every case a minimum allowance of 30s. a week after the rent has been paid. In the case of old age pensioners any action which the Fund can take is often complicated by the means test applied to non-contributory persons, who cannot draw their old age pension if their total income amounts to more than £91 5s. per annum—a wholly inadequate sum in these days but one which the Fund can do nothing to improve unless it disregards the old age pension, which would be an expensive procedure. The question of Homes for old people who cannot look after themselves has been engaging the attention of the committee for a long time, and it is hoped to report substantial progress next year. It is a large undertaking, entailing the expenditure of a considerable capital sum, but the new President feels that the experiment will succeed and that a gap which has long been obvious will be filled. A tribute is paid to the honorary local secretaries, who number 215. Regret was expressed at the resignation, owing to ill-health, of Dr. C. O. Hawthorne, who for many years presided over the Case Committee, which is the medium for all the charitable distributions. Donations for the Christmas Gifts Fund should be sent to the Secretary, R.M.B.F., 1, Balliol House, Manor Fields, Putney, S.W.15.

NEW QUARTERLY JOURNALS

Next year the B.M.A. is to publish three new special quarterly journals: the *British Journal of Pharmacology and Chemotherapy*, the *British Journal of Social Medicine*, and *Thorax*.

The first is to be published in co-operation with the British Pharmacological Society, and the third with the Association for the Study of Diseases of the Chest. The proposal for publishing the second journal came from Brig. F. A. E. Crew, Prof. Lancelot Hogben, and Sir John Orr. Discussions for launching these new periodicals have been going on for the past two years, but it is only now that licence for publication has been obtained. Papers for the first journal should be sent to Dr. H. R. Ing, Department of Pharmacology, Oxford; for the second, to Brig. F. A. E. Crew, F.R.S., the Usher Institute, Warrender Park Road, Edinburgh, 9; and for the third, to Mr. N. R. Barrett, F.R.C.S., 2, Dorset Street, London, W.1.

Dr. Cecil Wall will deliver the Fitzpatrick Lectures before the Royal College of Physicians of London on Tuesday, Dec. 11, and Thursday, Dec. 13, at 5 p.m. at the College, Pall Mall East. Subject: "The History of the English Medical Profession—(1) the Eighteenth Century, (2) the Nineteenth Century."

The Council of the British Medical Association has decided to extend the facilities for borrowing books from the Library to members serving with Occupation Forces, and other official organizations, in the Continent of Europe. This is an experiment, and its continuance will depend upon the various factors applicable to conditions prevailing on the Continent in so far as loss and damage to books are concerned. The ordinary rules as to the borrowing of books will apply, with an extension for time taken in transit. No deposit will be required. Applications for books should be made to the Librarian at B.M.A. House, Tavistock Square, London, W.C.1.

The Central Medical War Committee has been informed of a further acceleration of the rate of release of R.A.F. medical officers. In addition to age-service groups 21 and 22, Groups 23, 24, and 25 will be released during December, 1945.

THE PROBLEM OF RICKETS

The British Paediatric Association in a six-page printed memorandum on rickets, which has been issued by the Ministry of Health and the Department of Health for Scotland to medical officers of health for the information of their medical staff, health visitors, midwives, and district nurses, finds that rickets as a general cause of ill-health among babies in England is now nothing like what it was of old; in fact it is no longer a common disease in this country. At the same time rickets is preventable, and therefore there is no reason why it should occur at all. It is the duty of all who are concerned with children to see that it disappears completely.

The memorandum is arranged under three main headings: aetiology, diagnosis, prophylaxis and treatment. In view of the fact that in the British Isles, owing to a relative lack of sunshine, rickets—a metabolic disorder—must be regarded as primarily a nutritional problem, the memorandum stresses that if a deficiency of vitamin D is avoided the condition will not occur. It has been established by scientific evidence that vitamin D supplied in adequate amounts will prevent rickets. If the disease is actually present it can be cured by supplying vitamin D, thus overcoming the deficiency which has caused it

Diagnostic Difficulties

The diagnosis of rickets presents problems which are discussed at some length. The gross findings so commonly met with in bygone times are rare to-day, and whereas the diagnosis was formerly easy because of the florid form in which the disease presented itself, the clinical diagnosis is apt to be extremely difficult now, owing to the mild signs present in the stage at which it is desirable to detect the disorder and prevent its further development. Where only minor degrees of bony change exist, clinical diagnosis of rickets may be impossible. Can radiology solve the problem, and if so to what extent? "Certainly radiology is of great help and has become increasingly important in the recognition of the milder types of the disease now encountered, but it must not be used to the exclusion of clinical examination. . . . For diagnostic purposes a careful history and clinical examination, together with *x*-ray investigation, while not yet yielding perfect results, will give the most useful information that can generally be obtained at the present time; but this should be supplemented in doubtful cases, whenever possible, by an estimation of the blood phosphatase, for the limitations of both clinical and *x*-ray examinations must not be lost sight of."

Prophylaxis and Treatment

While the diagnosis of rickets is clearly not easy, its prevention and treatment give rise to no particular difficulties, and are in fact simple. To guard against dietary deficiencies, and because breast-feeding is no certain preventive of rickets, the memorandum recommends that babies, however fed, should receive a supplement of vitamin D. Pointing out that, broadly speaking, a daily intake of 500 to 800 international units of vitamin D should prevent rickets throughout infancy, it mentions that cod-liver oil *B.P.* contains 330 i.u. per drachm, while the Ministry of Food's cod-liver-oil compound contains 750 per drachm. "A cod-liver-oil and malt mixture should not be employed as a prophylactic measure against rickets. Its actual content of cod-liver oil, and therefore of vitamin D, is usually small, and it only engenders a sense of false security. For the same reason it should be remembered that cod-liver-oil emulsions contain only 30 to 50% of actual cod-liver oil."

Rickets can occur in a baby before its birth, when the diet of the mother is of vital importance for the child, but the disease is more frequently found in the early years of life, when growth is more rapid. The fact that rickets can be completely avoided by the proper use of simple preventive measures goes far to offset the difficulties associated with diagnosis. In treating active rickets ultra-violet irradiation could be combined, when practicable, with oral administration of vitamin D, the latter in larger doses than when employed for prophylaxis. The carbon-arc lamp is at present by far the most satisfactory source of ultra-violet light for treatment of rickets. Infants who have started to walk should be kept off their feet during the first three or four weeks of treatment.

The memorandum recalls that a special inquiry, carried out by the British Paediatric Association by arrangement with the Ministry and the Department during the war, yielded no evidence that wartime conditions had given rise to an increase of rickets.

THE DISCOVERY OF X RAYS

RÖNTGEN AND PURE SCIENCE

The commemoration of the fiftieth anniversary of Röntgen's discovery of *x* rays[1] was continued in a joint meeting of all participating societies which was addressed by Sir Lawrence Bragg, with Sir Henry Dale, P.R.S., presiding. Sir Lawrence Bragg spoke of Röntgen's discovery in relation to pure science. He quoted from a speech by Sir J. J. Thomson in 1916 at the foundation of the Department of Scientific and Industrial Research, in which he had pointed out that *x* rays were not discovered as the result of research in applied science but of research in pure science, made with the object of discovering the nature of electricity. The experiments which led to the discovery seemed as remote from humanistic interest as could be imagined. Research on the lines of applied science would doubtless have led to an improvement and development of older methods, but research in pure science led to an entirely new and much more powerful method. To use J. J. Thomson's words, applied science led to reform, pure science to revolution. Röntgen's discovery of "rays which I will call *x* rays for short"—to quote Röntgen's original paper—was no chance hitting on something which might have been rather different; the only possible condition in which *x* rays could have been produced was the condition of a discharge tube where the electrons had a long run, a high potential of 50,000 volts or so, and something for the electrons to hit at the end so that they produced the ray. Sir Lawrence Bragg said that he had no idea until he came to read Röntgen's original paper how far he went and how ingenious he was in that contribution. One of the first consequences of Röntgen's discovery was the stimulus it gave to researchers at Cambridge—Rutherford and others—on the ionization of gases which led to the new physics and the work on the structure of the nucleus and all that had resulted therefrom. It was difficult to think of another single discovery which had led to such vast results.

Other commemorations in London during the second week of November took place under the auspices of the Royal Society, the Royal College of Surgeons of England, the Section of Radiology of the Royal Society of Medicine, and the Institution of Electrical Engineers. Most of the addresses delivered were in reminiscent vein.

JUBILEE LECTURE IN EDINBURGH

The discovery and early history of investigation of *x* rays was the subject of the first of four Keith lectures delivered in the University of Edinburgh on Nov. 12 by Prof. Norman Feather. The course was arranged by the Royal Scottish Society of Arts to mark the jubilee of the discovery of *x* rays. The other lecturers are Dr. Robert M'Whirter, Edinburgh, and Prof. G. D. Preston, Dundee.

Prof. Feather, after discussing the investigation of the phenomena involved in the passage of electricity through rarefied gases from the time of Faraday onwards, said that in 1895 Röntgen discovered a new and quite distinct effect outside a cathode-ray tube: an invisible radiation proceeding in straight lines from the points of impact of the cathode rays on the wall of the tube, capable of affecting a photographic plate or a fluorescent screen and of throwing partial shadows of solid objects placed in its path. Röntgen discovered this phenomenon as it were accidentally, but he was fully aware of the importance of his discovery. From the point of view of pure physics the outstanding contributions at that stage came from Cambridge. J. J. Thomson and M'Clelland discovered the ionizing power of the rays, and Thomson and Rutherford, as the result of a brilliant series of experiments, within a few months formulated the basic ideas which were still used in all discussions of gaseous conduction. Then Thomson, more fully than, but perhaps not quite so early as, certain Continental physicists, established the nature of the cathode rays (1897), and Stokes put forward a theory, which was recognized as essentially correct to-day, of the mode of production of *x* rays by the impact of the cathode rays on matter.

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[1] See *British Medical Journal*, Nov. 17 1945, p. 699.

SPECIAL FIELDS OF NURSING

Nurses are required to give a year of special service to the State after qualification, and it has been decided that the fields of service for State-registered nurses qualifying through the October, 1945, examinations in Great Britain will be as follows: (*a*) Nursing of tuberculosis, mental illnesses, and chronic sick. (*b*) Training as a midwife, which at present carries an obligation to practise midwifery for a year after passing Part II of the C.M.B. examination. (*c*) Training with District Nursing Associations. (*d*) Employment in certain E.M.S. hospitals. (*e*) Nursing in a cancer hospital. (*f*) Nursing or training in a hospital specially devoted to ophthalmic or E.N.T. patients. (*g*) Nursing in infectious diseases hospital. (*h*) Nursing in a hospital affiliated to a complete training school. (*i*) Training for Part I of the C.M.B. examination, which may be preceded or followed by six months' service in any other special field.

NURSING OF TUBERCULOUS PATIENTS

In a circular letter to hospital authorities, dated Oct. 12, the Minister of Health calls attention to the continued shortage of nurses for patients with tuberculosis, resulting in the closure of many beds which could otherwise be made available for such patients. The Minister of Health and the Minister of Labour and National Service are seriously concerned at the present position, and various measures have been taken in an effort to alleviate this. But although such action has undoubtedly helped sanatoria it has not been possible to keep pace with the growing demands. The introduction of mass radiography, for instance, by facilitating the discovery of cases at a stage when they are likely to respond well to treatment, has increased for the time being the number of patients in need of immediate treatment. The estimated shortage of nurses of all grades for tuberculosis beds on May 1, 1945, was 1,909, being a deficiency of 24.2% on establishment.

The Ministers are well aware of the widespread shortage of nurses in all types of hospitals and in the health services generally, and every effort will continue to be made to help employing authorities in this matter. The shortage in the tuberculosis services is, however, especially acute. The number of patients awaiting admission to hospital for treatment for tuberculosis on June 30, 1945, was 4,972, compared with 4,628 on March 31, and the waiting patients include ex-Service men and women and repatriated prisoners of war. In these circumstances the Ministers have decided to appeal to the authorities of all hospitals other than tuberculosis institutions, notwithstanding their own difficulties, to review the nursing staffing of these hospitals and to consider whether in view of the acute difficulties at tuberculosis institutions it is not possible for them to release some of their trained (or assistant) nurses for service in such institutions. Hospital authorities would need the willing co-operation of the nurses whom it was proposed to release for tuberculosis work, but the Ministers are hopeful that if the full facts and the urgency of the need are explained to the nurses they will co-operate.

Regional conferences and discussions have been held to encourage arrangements under which student nurses taking their general training spend part of their time in tuberculosis work. The Minister of Health understands that, following these conferences and discussions, a number of authorities have made, or now contemplate, arrangements (subject to the approval of the General Nursing Council) whereby student nurses taking general or fever training could with advantage be seconded to sanatoria for part of their training. He is anxious that such arrangements should be made more general.

MEDICAL DEFENCE IN SCOTLAND

At the annual meeting of the Medical and Dental Defence Union of Scotland held in Glasgow on Oct 19 it was reported that during the year membership had increased by 345, the number of members now being 5,463, of whom 1,883 are on active service. In connexion with the work of the year it was mentioned that cases have come to the notice of the Union in which errors have been made in administering dangerous drugs. Members are advised to verify the contents of bottles immediately before using them, even though it may also be the duty of some other person to do this. Another piece of advice concerns the desirability of keeping a careful record of consultations, treatment, and appointments, including telephone calls, and all information on the progress of cases. Such records, being contemporary evidence of what transpired at the time, are very valuable in the event of disputes arising at a later date. The council has prepared a model form of assistantship agreement which can be had on application. The working arrangement with the Medical Defence Union and the London and Counties Medical Protection Society has been advanced. An excellent financial report was presented, showing that the Union had been able to strengthen its position notwithstanding the loss of revenue due to waiving subscriptions from members in the Forces.

Reports of Societies

BRITISH ORTHOPAEDIC ASSOCIATION

The annual meeting of the British Orthopaedic Association was held at the Royal College of Surgeons of England on Oct. 26 and 27.

Accident Prevention

Mr. St. J. D. **Buxton**, in his presidential address, reviewed methods of preventing accidents. Fatal accidents in industry had fallen in number, but there had been in recent years a steady increase in all reported accidents. Injuries of the foot and hands were of particular frequency. It had been estimated that the financial cost and production loss from industrial accidents amounted in this country to £70 million a year. Propaganda was needed for the further education of the workman and others. Members of the Association should aid in preventive work by inquiry as to the exact causation of accidents and in other ways should effect closer co-operation with those concerned with industrial medicine.

Prof. T. P. **McMurray**, in the course of a fascinating account of the historical background of Hugh Owen Thomas, went on to describe the classical splint which Thomas, and his disciples, called the "bed knee splint." The efficiency of this appliance, which Thomas evolved in his own workshop, was emphasized. Almost all the improvements and alterations since made had been tried out by Thomas and discarded. The details of the splint's construction, measurement, and application were described. Simplicity in design meant that there was little to go out of order. There should be no cause for anxiety given care in nursing and surgical faith and knowledge.

Congenital Dislocation of the Hip

Prof. J. **Leveuf**, of Paris, described investigations, based upon arthrography and operation, which showed that there was a complete difference between congenital subluxation and congenital dislocation of the hip. He differed from the commonly accepted view that subluxation was a preliminary stage leading to dislocation. In arthrograms of dislocation the limbus produced by the upper portion of the cotyloid ligament or cartilage was visualized as a downward projection causing the usual hour-glass contraction; in subluxation this shadow was never found, for the limbus was pushed upwards and compressed against the ilium. In dislocation the head of the femur was small and the ligamentum teres persisted; in subluxation the femoral head was large and the ligamentum teres absent, and there was no other interposition of soft tissue. Anteversion of the femoral neck was an early finding in subluxation; it was a late or secondary deformation in dislocation.

In treatment, Prof. Leveuf stressed the need to get a hip in which the femoral head and the acetabulum conformed. Closed reduction was only suitable under the age of 2. Afterwards he favoured operation, and in those cases requiring reconstructive work to restore the bony conformation he favoured a transtrochanteric intra-articular approach, in which osteotomy of the femoral neck was carried out, if necessary, and the acetabulum deepened by turning down its roof and the insertion of a graft above it.

Mr. J. S. **Batchelor** reviewed the problem from the point of view that congenital dislocation of the hip was an external rotation–adduction deformity with three stages of severity. Treatment consisted in correction of soft-tissue contracture by gradual abduction, followed by manipulative reduction and reversal of the deformity with encouragement of normal development by function. For this purpose he used knee plasters joined together by a cross-bar, the hips being held in abduction and internal rotation but otherwise free to move in flexion and extension. For cases showing redislocation, anteversion, and valgus of the femoral neck, osteotomy to reduce these deformities was carried out after replacement of the head in the acetabulum.

In the discussion which followed, Mr. H. A. T. **Fairbank** remarked that Prof. Leveuf appeared to do open operations more often than was thought necessary in this country, yet his results were excellent. His own view had been that hitherto the problems of anteversion and valgus had been overstressed: evidently he was wrong. Anterior transposition or anterior dislocation he thought should be left alone.

Prof. Harry Platt, speaking from more than 30 years' experience of nearly 500 cases, strongly supported Prof. Leveuf's view that subluxation and dislocation were two distinct morphological entities and that future contributors to the subject should classify cases accordingly. He also believed that the femoral heads were naturally placed posteriorly in many cases and anteriorly in some. He denied that the former could be forced into the latter position, and he also believed that the position of marked internal rotation for fixation was dangerous. Mr. G. R. Girdlestone expressed anxiety over the risks of avascular changes in the femoral head after extensive intra-articular operations.

Sir Reginald Watson-Jones, reinforcing Prof. Platt's views, thought that there were a multiplicity of morphological types. He distinguished three main types from the point of view of treatment. The first were those hips which were reduced in full abduction, and after a year remained reduced. The second group, after a year of abduction, tended soon to subluxate on being allowed to kick about in bed. In the third group, despite full abduction the heads were never fully reduced to the bottom of the acetabulum. The second and third groups required operative treatment, and the last one should be recognized early and operated on promptly. He believed that there was less risk of osteo-arthritis in cases with incongruity of capital and acetabular form than there was in those with avascular changes in the femoral head. For this reason he felt that a long period was needed to permit of judgment of Prof. Leveuf's results.

In reply Prof. Leveuf said that true dislocation was more difficult to reduce by non-operative methods; the ease of "reduction" in subluxation was deceptive, and the results by this method likely to be disappointing. If a state of subluxation continued, osteo-arthritis would be certain to occur. He stressed the value of the arthrogram, not only for diagnosis but also as the most satisfactory test for reduction. He was convinced of the value of his complete operation. In 202 cases in which he had done open operations of all kinds he had had only one case of necrosis of the femoral head. The secret he felt was that there was no interference with the circulation which entered the femoral head from the soft tissues below the femoral neck.

Orthopaedics in Medical Education and in Regional Hospital Services

Starting from the definition by Robert Jones that orthopaedics is "the treatment by manipulation, operation, re-education, and rehabilitation, of the injuries and diseases of the locomotor system," Prof. Harry Platt (Manchester) reviewed the evolution of specialism in surgery, or differentiation, as a changing pattern. There were two fundamental requirements: each surgical specialty must continue to advance the general craftsmanship of surgery, and—of even greater significance—it must contribute to general ideas. Richness of technological advances would not compensate for poverty of ideas or vision. The recruitment of men and women trained in scientific and historical methods and with standards of high scholarship was needed for the preservation of vitality in the differentiated fields. Prof. Platt regarded abdominal surgery as the "romantic" movement in surgery with its growth during the twentieth century; orthopaedics, embracing a large part of the general surgery practised by the nineteenth-century surgeon, as being rooted in the classical period. The automatic right of the abdominal surgeon to assume leadership in the affairs of surgery could no longer be admitted. A plea was made for more satisfactory integration of undergraduate teaching in orthopaedics; not to instil the details of complicated techniques, but to introduce and to explain to the student the clinical phenomena of the disorders of locomotion, the biological and social background of crippling disease, and the ancient therapeutic methods of rest, fixation, and purposive movement. Orthopaedic teaching must permeate the undergraduate course. In postgraduate education three types of instruction were considered: the training of the orthopaedic surgeon of the future; postgraduate instruction of the short intensive type; and training for higher degrees or diplomas in orthopaedics, the desirability of which was doubted.

In the Regional Hospital Service of the future the orthopaedic services were envisaged as of two types. In an area with a population of 150,000 one orthopaedic-accident surgeon would be associated with two general surgeons in the key hospital, his time being devoted predominantly to the problems of trauma. Such an area unit would not supply enough examples of the rarer orthopaedic problems to enable the peripheral orthopaedic surgeon to become expert in their handling. Certain types of work—for example, the long-term care of the crippled child and of surgical tuberculosis—were already in effect regionalized by State action. Some of the more specialized orthopaedic problems must flow on the one hand to university centres and on the other to county orthopaedic hospitals. The link between central and peripheral orthopaedic departments must be preserved through the association of the staffs of one with the other.

Other Communications

Island Epidemic of Poliomyelitis.—Prof. H. J. Seddon (Oxford), in describing an epidemic in Mauritius, found that the evidence on this occasion strongly suggested the transmission of the disease through personal contact. He gave a picturesque account of the conditions of this colony with its mixed population, and of its difficult social and economic state. Later he outlined a scheme for the advancement of orthopaedics in the Colonies, where great opportunities existed for young orthopaedic surgeons keen to tackle a pioneer problem of great importance to the welfare of vast areas. The appointment of such men should be part of a scheme that related them to orthopaedic establishments at home, and through which, after three years or so, their future security would be assured.

New Principle in Splint Construction.—Mr. Norman Capener (Exeter) demonstrated two splints based upon existing types used for the substitution, or support, of deficient muscle activity, as in the familiar toe-raising spring for paralytic equinus. Such appliances usually had springs attached to a rigid framework, whereas the present appliances were themselves constructed into "lively" springs. The appliance for drop-foot in which the upright element (either single or double) was suitably tempered and coiled at the level of the ankle-joint had the advantage of permitting a certain degree of lateral mobility in the foot. The second splint, used in ulnar intrinsic paralysis, was based in its clinical application upon an original design produced by Mr. A. M. Hendry and his co-workers at Derwen, Oswestry, and also possessed great advantages of "liveliness" over previous ulnar splints, which only rigidly maintained flexion of the knuckle-joints.

Arthrography of the Knee-joint.—Squad. Ldr. E. Somerville demonstrated an improved technique for the diagnosis of lesions of the knee-joint by air arthrography. A series of 331 knees had been investigated and a very high degree of accuracy in diagnosis achieved. Success depended upon precision in attention to the following details: examination of the joint under anaesthesia followed by injection of filtered air until it was full; the intra-articular pressure was then temporarily increased by bandaging over the suprapatellar pouch; positioning of the joint over a curved cassette; the use of a sinus cone; and accurate direction of radiation in seven tangential planes. Beautifully clear radiographs were shown.

The Fractured Femur.—Three different methods of treating simple extra-articular fractures were discussed.

Mr. R. G. Pulvertaft (Grimsby) dealt with fractures of the trochanteric region, for which he preferred the Hamilton Russel method of balanced traction without splintage. The advantages claimed were efficient traction with the joints in optimum position, complete comfort, muscular relaxation and well-being; the maintenance of muscular condition and knee-joint movement; and reduction of chest and decubitus complications owing to freedom to sit up and change position. Careful supervision was essential. There were none of the disadvantages of any other method of treatment and it had given a high proportion of favourable results.

Major John Charnley, discussing the treatment of fractures of the shaft by fixed skeletal traction, stressed the importance of controlling lateral angulation and of maintaining immobilization of the fracture, and therefore of the knee-joint, for fully eight weeks. Special apparatus, which he had devised, was used in conjunction with the Thomas bed knee splint; it was designed to give precision, and to be relatively foolproof after accurate adjustment by the surgeon. The essentials were traction upon a pin through the upper end of the tibia, pulling along a line posterior to the femoral axis, with the femur supported across a specially shaped padded metal fulcrum. Lateral control was achieved by pads screwed on to adjustable fitments to the lateral bars. Early movement of the knee was not only inadvisable, it was unnecessary.

Mr. G. R. Fisk proceeded by a completely opposite course, establishing early movement by the use of skeletal traction in a flexing splint made from a Thomas splint sawn off at the knee level and joined by an articulation of the Pearson type.

Mr. V. H. Ellis in a study of 420 recent femoral shaft fractures supported the advocates of early knee movement. The causes of limited flexion were intra-articular adhesions, fixation of the quadriceps, scarring in the region of the fascia lata, especially in high compound fractures, and transfixion of the muscle by spicules of bone.

Actinomycotic Infection of Gun-shot Wounds.—Mr. C. H. Cullen (Winwick) reported upon five cases, in four of which the organism was of an unusual aerobic type. All the cases were very chronic and resistant to treatment. Adequate surgical measures combined with penicillin seemed to be of most use. It was interesting that the latter treatment was beneficial in cases in which concomitant organisms were insensitive to penicillin.

Pollicization of the Index Finger.—Mr. E. W. BINTCLIFFE demonstrated two patients successfully treated by him, in conjunction with Major Kilikian, U.S.A.M.C. In such cases after amputation of the thumb the web space between the index and middle fingers was deepened by dissection. The second metacarpal was divided, allowing the index to be abducted and attached by wire suture either to the remains of the first metacarpal or to the trapezium. The defect created between the new thumb and the middle finger was filled by a skin graft. It was desirable to carry out abduction by traction with a wire transfixing the index. The two patients shown had very good function in the "thumbs" thus produced.

Clinical Photography.—Mr. P. G. HENNELL (of the Metal Box Co. Ltd.) impressed everyone with the need to take seriously this important aid to scientific recording and medical education, and to use adequately the apparatus which recent technical advances had placed at our disposal. He believed that in five years black-and-white photography would largely have been superseded by colour in the production of scientific records. The apparatus which he had used in clinical photography was demonstrated as well as a wide selection of colour photographs of surgical procedures.

PEPTIC ULCER

At a meeting of the Paddington Division of the B.M.A. held at St. Mary's Hospital recently Prof. G. W. Pickering and Prof. C. A. Pannett opened a discussion on peptic ulcers.

Prof. PICKERING regretted that his house-physicians and senior students showed little interest in this condition. As the incidence of peptic ulcer in the general population, he said, was roughly 10% it deserved closer attention. While the cause of the development of peptic ulcers was unknown, various factors which contributed to that development and to recurrence were known. The gastric juice itself, with its hydrochloric acid content, was an essential though not the sole factor. A second factor was the state of the gastric mucosa; and a third, a psychological one, the influence of the mind. Pain was due to the action of hydrochloric acid on the nerve endings at the base of the ulcer. The routine medical treatment for peptic ulcer was: (1) bed; (2) diet which controlled acid—i.e., meals taken at one- to two-hourly intervals, as digestion temporarily reduces acidity; and (3) alkalis, experiments with which had shown that, contrary to common opinion, magnesium trisilicate had a very poor neutralizing effect; in Prof. Pickering's view the most effective agent was the common pharmacopoeial pulv. alk.; (4) removal of anxiety. In spite of treatment ulcers did recur, and recurrences were more frequent in hospital patients than in those in more fortunate circumstances. Factors which contributed were lack of co-operation between the doctor and the patient; difficulty in keeping to the prescribed diet, possibly because of expense; anxiety caused by social conditions; inattention to teeth; and smoking.

Referring to the treatment of complications Prof. Pickering said that haematemesis should be controlled by transfusion and then early feeding; surgery had no place in the treatment of this condition. In cases of perforation, however, surgery was necessary at the earliest possible moment. In pyloric obstruction surgery was also necessary, but where for some reason surgery was not indicated he had seen good results from the aspiration of the stomach night and morning. Prof. Pickering stated that the results of medical treatment of peptic ulcers were, on the whole, disappointing. Patients had to live careful lives to maintain health, and recurrences not infrequently occurred.

Prof. PANNETT said that, although the aetiology of peptic ulcers was unknown, surgery had to work on some hypothesis. There were three theories: (1) Infective: gastric ulceration behaved like a localized infection in that it waxed and waned and had a seasonal incidence, also it was possible that the fibrous tissue which formed round the ulcer was toxic in origin; the infective theory was difficult to prove, as animals did not develop peptic ulcers. (2) Digestive: sites favourable to peptic ulcers were along the lesser curvature of the stomach and in the first part of the duodenum—namely, those parts of the gastro-intestinal tract regularly bathed with acid. (3) Neurogenic: Cushing performed experiments which demonstrated the effect of nervous impulses on the development of peptic ulcers; this was probably due to some "vagus" action. The basis for surgery would therefore seem to be the reduction of the amount of gastric juice produced. The surgeon must remove the pyloric part of the stomach and a large surrounding area, thus allowing a free neutralization of the stomach contents. It had also been found essential to remove the ulcer at the same time.

When considering the results of surgery in cases of peptic ulcers one must remember that the surgeons were operating on those cases which had not responded to medical treatment. He claimed that 87% of cases were cured, and by cured he meant that the patients no longer had to take care of their diet, they could eat anything, and, in short, "did not know they had a stomach." The mortality rate was low—somewhere in the region of 1%.

In the general discussion the chairman, Dr. G. DE SWIET, asked what reliance could be placed on radiology in diagnosis. Dr. JACOB said he found it very difficult to assess when ulcers were cured, especially in the case of duodenal ulcers, when radiology had often let him down. He commented on the fact that closure for perforation seemed to reduce symptoms for a considerable time. Dr. STOWELL had seen the dramatic effect on duodenal haemorrhage of adrenaline by mouth in doses of 1 c.cm. in 10 c.cm. of water. Dr. LONG, speaking from his experience in industrial medicine, stressed the importance of the psychological factor in the production and recurrence of peptic ulcers, and urged that physicians should give more attention to the social background and future of gastric patients. He found ascorbic acid in doses as small as 25 mg. to be beneficial.

Replying to questions Prof. PICKERING said that he considered radiology useful but not infallible. The same applied to gastroscopy. The clinical history was at least as important as radiology. Prof. PANNETT confirmed Dr. Long's observation on the value of ascorbic acid. He wondered whether the common belief that there was a reduction of symptoms following perforation might be explained by the theory that there had been an acute exacerbation of the infective agent which gave immunity for a considerable period. He had noticed that bleeding from gastric ulcers was much more serious in patients over the age of 45. Medical treatment for haematemesis might be worth trying in the younger age groups, but, in his opinion, surgery should be resorted to as soon as possible in older patients.

Major J. MINTON, in a lecture on eye diseases in the East, given at the Royal Institute of Public Health and Hygiene, said that every year, in the spring and late autumn, epidemics of conjunctivitis attacked thousands of infants and children in Iraq, India, and Ceylon. (The Middle East—Egypt, Palestine, and Iraq—has been well known from time immemorial for its high incidence of eye infections, and blindness often resulting therefrom.) The hospitals were crowded with natives who brought their children to the cities. The conjunctivitis was highly virulent and often extended to the cornea, causing severe corneal ulcers which might perforate and lead to blindness of the infected eye. The best treatment for all types of muco-purulent conjunctivitis was local and general treatment with sulphonamides. Penicillin had been used recently with great success: it would save many eyes which, up to a short time ago, would certainly be destroyed by virulent infections. Unfortunately, in the East these modern methods were used but rarely. The native population of the Middle East was also highly infected with trachoma. The disease started in childhood, was very infective to adults, and needed energetic treatment. Within recent years general and local treatment with sulphonamides had proved most successful. Efficient treatment would diminish the incidence of trachoma in the East and the appalling blindness resulting from it. In India and Ceylon the poor often suffered from vitamin A deficiency; in Karachi and Ceylon Major Minton saw many children suffering from this disease which also affected the eyes. In the early stages children and adults complained of difficulty in seeing in the dark. The conjunctiva showed small yellowish areas. The cornea lost its lustre, corneal ulcers appeared, and generally the whole cornea might necrose. The eye might develop a generalized infection, going on to blindness. Intensive treatment with high doses of vitamin A would save the child's eyes if this was started in the early stages of the disease.

At the annual general meeting of the Association of Industrial Medical Officers the office bearers for 1945–6 were elected, as follows: Chairman, Dr. W. Blood; Hon. Secretary, Dr. P. Pringle; Hon. Treasurer, Dr. Patricia Shaw; Executive Committee, Drs. J. A. Amor, J. G. Billington, J. C. Bridge, T. A. Lloyd-Davies, C. L. Potts, and R. S. F. Schilling.

Correspondence

Medical Books for Holland

SIR,—Would you be good enough to allow us space to make an appeal for our Dutch colleagues. There is almost no limit to the kind of help which the Dutch need, but there is one special form of assistance which the medical profession may be able to afford. We are, both of us, members of the Help Holland Council, and are thereby kept in very close touch with that country. Information has reached us that there is need at the moment for small modern medical libraries which can be consulted by the medical students in the training hospitals in Holland. If the depleted ranks of the medical profession of Holland are to be filled, up-to-date medical literature for the students is of vital importance. We suggest that a doctor should look through his shelves to see if he can spare any up-to-date medical, surgical, or scientific books.

Gifts will be greatly appreciated, and should be sent to Help Holland Council, Norman House, 105/109, Strand, W.C.2. —We are, etc.,

Moran.
Alfred Webb-Johnson.

The Teaching of Human Anatomy

SIR,—We have become accustomed of late to hear of plans for reducing the time and the content of the curriculum in human anatomy. It may happen that, with all the younger sciences demanding his attention, the medical student will be forced to effect some economy in the time spent in obtaining first-hand knowledge of the structure of the human body, but it is dangerous to assume that this knowledge is becoming less necessary to those who are to engage in the active practice of their profession.

Probably all will agree that, if any pruning is to be done to the curriculum in human anatomy, it is essential that it should be undertaken by men who are themselves medical graduates and who have specialized in the study and in the teaching of the structure of the human body. Only thus can it be ensured that our future physicians and surgeons will obtain the knowledge necessary for dealing with the everyday problems of their professional work. We cannot contemplate without very real misgivings a state of affairs in which the teaching and examining of medical students in the subject of human anatomy are handed over to anyone not medically qualified or possessing that first-hand knowledge of the structure of man can be attained only by the long apprenticeship hitherto considered as an essential qualification for the tenure of a chair of human anatomy.—We are, etc.,

J. C. Brash
E. R. A. Cooper
D. V. Davies
J. Davies
W. L. H. Duckworth
D. A. W. Edwards
J. D. Green
H. L. H. Green
R. B. Green
W. C. O. Hill
G. W. Harris
H. A. Harris
R. G. Inkster
E. B. Jamieson
J. Kay Jamieson
J. Tudor Jones
F. Wood Jones
Arthur Keith
R. D. Lockhart
A. Low
M. A. MacConaill
J. W. Millen
W. R. M. Morton
E. L. Patterson
G. F. Romanes
J. H. Scott
D. Stewart
R. Walmsley
T. Walmsley
W. H. Wood

Debility following Blood Donations

SIR,—During the last six years thousands of lives have been saved by blood transfusion, as articles published in your pages bear witness. The importance of blood transfusion itself as a therapeutic measure, and of specialized products prepared from human blood that are essential for plastic and cerebral surgery, will continue to grow in peacetime. There is at present no adequate substitute for human blood and its products.

I have reason to believe from a small inquiry made during the summer that many donors are most anxious to continue to help their fellows by making a regular blood donation to the national blood transfusion service. I hope that all medical practitioners will realize how essential it is to the health of the community that this service should continue, and will encourage their patients to support it.

At the moment a few donors are bringing letters from their doctors stating that they are suffering from "debility following blood donations." Our prolonged follow-up of numbers of regular donors in the N.W. London area makes me sceptical of this diagnosis of the cause of debility. Haemoglobin estimations made on donors who have given their blood at least three and sometimes as often as ten times in the preceding five years showed that in extremely few instances was the haemoglobin level below 80% Haldane, which has been generally accepted as a safe level above which bleeding might be carried out. In the few instances in which a lower figure was found a course of iron therapy given by the donor's own practitioner immediately returned the figure to normal. Even in those with a level below 80% no general symptoms were noticed by the patients and they were always anxious to continue to give blood. Any donor found on routine examination to have a haemoglobin level below 80% Haldane is now given iron free of charge.

Evidence available on large series of donors elsewhere supports the point of view that blood donations made not more frequently than three or four times a year are without effect on the general health.—I am, etc.,

Oxford. Janet Vaughan.

Morphine as a Prophylactic against Ileus

SIR,—We wish to thank Prof. J. H. Burn for his letter (Nov. 3, p. 622) upon this subject. We believe that the mechanism of neurogenic ileus is an alteration in the gradients of the bowel, and that in "paralytic ileus" there is a general or local flattening of these gradients (see Arris and Gale Lecture, 1945, for details) with general or local distension of the gut. The essential features in the prophylaxis and treatment of the condition are, first, removal of the cause producing altered intestinal gradients, and, secondly, the prevention and relief of distension, which may rapidly become enormous and lead by stasis to severe fluid loss into the lumen and wall of the bowel and to intramural thrombosis and gangrene besides pressure effects on the cardiovascular and respiratory systems.

The value of morphine in the treatment of the condition is still a matter of dispute, but numerous observations are now available showing its action on the human intestinal tract when used in normal therapeutic doses. Plant and Miller (*J. Pharmacol.*, 1926, **27**, 316) demonstrated that morphine acts directly on the smooth muscle of the small intestine and increases tone waves both in size and in frequency. They were able to show on dogs that the increase in tone started in a few minutes and lasted from 5 to 8 hours and sometimes even for 12 hours. This prolonged general increase of tone is associated with a slight increase in the amplitude of segmentation and peristaltic movements, though peristalsis was decreased in rate after the first two hours. The giving of atropine had no effect upon the action of morphine on the gut. Wangensteen (*Proc. Soc. exp. Biol.*, N.Y., 1931, **28**, 434) confirmed these findings in experimental intestinal obstruction, and Dragstedt (ibid., 1931, **28**, 1056) found the same results obtained in peritonitis. Plant and Miller (*J. Pharmacol.*, 1927, **32**, 437) also found a similar effect upon the colon, and showed (ibid., 1926, **28**, 241) that these effects upon the gut continued after every injection of morphine for at least ten weeks; and lastly they showed (ibid., 1927, **32**, 413) that morphine delays the emptying of the stomach by a decrease in both the tone and the frequency and amplitude of its peristaltic waves. Finally, Gruber and Robinson (ibid., 1929, **37**, 101) demonstrated that all these effects take place whatever happens to be the initial tone of the bowel.

These and many similar observations make it clear that morphine produces a long-lasting increase of intestinal tone unassociated with spasm in both the small and the large intestine. True peristalsis is increased for short periods and gastric emptying is definitely delayed. In fact, in addition to its narcotic properties, it possesses all the attributes desirable in a drug for the prophylaxis and treatment of "paralytic ileus," with the exception of a specific action righting altered gradients. The delay in gastric emptying prevents the rapid passage of swallowed gas and stomach contents from adding to the distension, while the increase in tone produced by its action directly on the smooth muscle of the gut aids the prevention of distension and helps the passage of gas and fluids through an area of flattened gradients, and the limited peristalsis engendered is not sufficient to build up local distension greatly in the area of ileus, but it does help to empty the bowel below it. It was for these reasons that we have used morphine in all our cases, and particularly after operations upon the intestine, and the statistics presented do show "that the paralytic ileus rate was lowered after morphine therapy started" and that "the statistical analysis can only be claimed to show that the decrease was greater than could easily be ascribed to chance, and that it was not due to inherent differences in the two series as regards age, parity, and type of operation or indication." We are aware that these statistics are only suggestive, but we would point out that the cases were not handled differently in the two periods in other respects, as Prof. Burn infers, except, of course, for such things as alteration in bread during the war, which has not apparently affected the incidence of ileus in other cases.

Finally, we should like Prof. Burn to comment further on the value of the parasympathomimetic drugs. We have used them in both man and experimental animals, and our observations suggest that they give rise to marked intestinal contractions, which last about 45 minutes; but we have not observed any true peristalsis produced by them or lasting increase of tone. They often give rise to nausea and colic, as well as having definite dangers for the debilitated patient by lowering the blood pressure. It may be that repeated small doses are of value, but their effect does not appear to us to be as satisfactory as morphine, even in cases well enough to tolerate it, and the reaction after its use, especially if it has failed to relieve distension, is often severe, and we have completely given up using it.—I am, etc.,

City General Hospital, Sheffield. JUDSON T. CHESTERMAN.

Penicillin and Rubber Tubing

SIR,—Tubing supplied as of "natural rubber" may be as destructive of penicillin as some synthetic rubbers have been found to be. We have recently tested four samples of tubing from different manufacturers, all stated by the makers to be "natural" rubber. The following method was used.

A weak solution of penicillin was enclosed in a sterile length of each of the tubings for 24 hours at 16° C., and as a control some of the same solution was kept in a glass tube for the same time at the same temperature. Potency assays were then made by the plate method described in the M.R.C. War Memorandum No. 12. The following results were obtained:

Penicillin	*Zone of Inhibition of Staphylococcus*
In glass	10 mm.
" tubing No. 1	9 mm.
" tubing No. 3	6.5 mm.
" tubing No. 4	6 mm.
" tubing No. 5	5 mm.

The conclusion is that this or a similar test should be employed before deciding that any tubing is suitable for use in penicillin administration apparatus, whether this tubing be supplied as a "natural" or as a "synthetic" rubber.—I am, etc.,

E.M.S. Hospital, Bridge of Earn. M. E. MORGAN THOMAS.

Pernicious Anaemia and Cancer

SIR,—I must add strong support to the recommendations of Dr. J. F. Wilkinson (Nov. 10, p. 664) concerning the establishment of haematological clinics for the diagnosis and treatment of persons suffering from pernicious anaemia. Patients who have been injected with many gallons of liver extract over a period of years (often at considerable personal expense) following a doubtful diagnosis of pernicious anaemia are becoming all too common; I have encountered three within the last few weeks. It should be remembered that a high colour index is as frequently a sign of inaccurate haematology as it is indicative of a macrocytic anaemia; furthermore, pernicious anaemia cannot be diagnosed by examination of a blood film, as so many people seem to believe. Additional investigations such as sternal puncture, fractional test meals, reticulocyte and platelet counts, and spectroscopical examinations are easily carried out and should be routine.

It is obvious that unless cases of pernicious anaemia are properly investigated at the outset any conclusions as to the incidence of malignant or endocrine disease are of little value; in fact, one of the three doubtful cases of pernicious anaemia which I mentioned earlier now has a gastric carcinoma. Dr. Wilkinson's cases have been fully investigated before diagnosis, and should therefore provide a very accurate basis for discussion.

The low incidence of malignancy and relatively increased frequency of diabetes mellitus are in agreement with my personal experience, but I look upon the hypothyroid symptoms often met with as part and parcel of the obesity caused by desiccated stomach preparations; the B.M.R. prior to treatment is often very slightly raised.—I am, etc.,

WILLIAM K. TAYLOR,
Broadgreen Hospital, Liverpool. Pathologist.

Significance of the E.S.R.

SIR,—While agreeing with the conclusion of Drs. D. G. McIntosh and D. M. Keay (Oct. 27, p. 584) on the significance of the E.S.R. "that no other test having an error of such magnitude would be tolerated in practice," we would stress the difference between the high degree of possible technical accuracy and the unreliability as a clinical test due to inability to interpret the figures so produced. Medicine is like a seaman with an accurate sextant which he can manipulate mechanically but from which he cannot derive his bearings.

Let us get back to fundamentals. The E.S.R. is a measurement of the rate at which the erythrocytes separate down in a column of blood in which clotting is prevented by an anticoagulant. The rate of fall varies from individual to individual according to the power of the plasma to cause aggregation of the erythrocytes into clumps, which, compared to the single cell, have a greater mass relative to surface area—the larger the clumps the faster the fall. Thus the E.S.R. measures ultimately the aggregating power of the plasma; and, with a technique based on hydrodynamic principles, as a measure of this power the accuracy of the test is high. This aggregating power varies with changes in each of several components of the plasma (protein, lipoid, urea, etc.).

The clinical use of the E.S.R. is based on the assumption that in organic changes in the body there occur changes in the complex of factors which can affect the E.S.R., and that the change parallels the increase and decrease in the intensity of the pathological process. The individual factors may alter in ways which have an opposing effect; each factor may be affected to a different degree in one disease process; any factor may be affected to different extents by different diseases of equal clinical severity. Until there is a means to separate the behaviour of the parts from that of the total complex the interpretation of the E.S.R. must remain uncertain, and with it the present doubtful reputation of the test.

Returning to technique. If this be standardized for anticoagulant, tube length and diameter, temperature, and packed cell volume, and if we take only that portion of the fall/time curve where the velocity is a maximum, we have an *absolute* value which can be subjected to hydrodynamic investigation (Whittington[1]) and which is directly comparable with a similarly produced value in any other laboratory. Every departure from this high standard towards "simplification for clinical use" is a retrograde step which introduces further variable quantities to be considered in the final clinical evaluation. That the position is not wholly chaotic may be due to the fact that some of these simplifications involve variables which are not independent. Fraser and Rennie[2] have produced evidence which supports such an inference as regards the packed cell volume.

However, in the viscosity we have a simpler physical property of the plasma, and this is almost entirely dependent on a single member of the above complex—the proteins. Miller and Whittington[3] have shown the close correlation between the plasma viscosity and the clinical condition in pulmonary tuberculosis—a correlation which further tests have merely emphasized. Changes in the viscosity mirror the changes in the pathological processes very much more closely than the E.S.R. estimated by even the best technical method.

Whittington[1] has already indicated the complex "periodic" relationship existing between the E.S.R. and the plasma viscosity. Our new results have confirmed this and allowed us to construct two-dimensional charts in which an individual case can be plotted by the simultaneous estimation of the E.S.R. (sextant) and plasma viscosity (chronometer). (We may say that these charts eliminate the problem of the normal with an apparently pathologically high E.S.R., and its opposite—the case with obvious disease and an E.S.R. within the limits ascribed to the normal controls.)

Our results for 650 combined E.S.R. and viscosity measurements show that any simple yet reliable correlation of the E.S.R. with the pathological changes is out of the question. While it is evident from our tests that the E.S.R. (under controlled conditions) measures a definite physical property of the plasma, the variations of this property are so complex that their true interpretation is beyond the scope of present biophysical and biochemical knowledge. Details of these results and of our technique are at present in the press.[4] We hope shortly to publish an abridged version in this country.—We are, etc.,

JOHN HOUSTON.
JOHN HARKNESS.
R. B. WHITTINGTON.

REFERENCES

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[2] Fraser, T. N., and Rennie, J. B. (1941). *Brit. J. exp. Path.*, **22**, 81.
[3] Miller, A. K., and Whittington, R. B. (1942). *Lancet*, **2**, 510.
[4] Houston, J., Harkness, J., and Whittington, R. B. *Acta tuberc. scand.* In press.

SIR,—In their letter (Oct. 27, p. 584) D. G. McIntosh and D. M. Keay express opinions about the E.S.R. which will meet with wide agreement. I think, however, that they are too condemnatory. All phthisiologists will be able to recall cases where serial skiagrams remain unchanged with an apparently minimal lesion, negative sputum, and good general condition, and where there is considerable doubt as to activity. In such cases I think that an E.S.R. reading below 10 mm. in 1 hour (original Westergren) is a useful aid to a decision in favour of inactivity. In an institution of this size (450 beds) the number of such cases is not negligible. Serial E.S.R. is also of value if it is either increasing or decreasing in rate, but I entirely agree that the single E.S.R., whether read at 1 hour or 2 hours, is far too inaccurate to be of value.—I am, etc.,

V. COTTON-CORNWALL,
Deputy Medical Superintendent.
Fazakerley Sanatorium, Liverpool.

SIR,—I was much interested in the letter of Drs. D. G. McIntosh and D. M. Keay on the subject of the sedimentation rate, and can agree with them that it is not easy to give definite figures for normal rates.

To take their points serially. The method employed should certainly be stated, though this is of less importance if the rates are not rapid. The column length is the important point, and most methods give similar results for normal cases, as it is the earlier onset of slowing that gives lower rates in the short-tube methods, and this does not occur in the first hour when the rates are slow. When they are rapid, however, it may make a considerable difference.

With regard to the use of citrate or oxalate, it seems of little importance which is used so long as the fact is stated. "Westergren" means "citrate," so no further mention of the anticoagulant used is needed. While citrate certainly does slow the rate slightly, this is of no importance in an empirical test if it is constantly used. Personally, I prefer it, as it is more convenient to use. I may say that I have never known the rate to be slower with oxalate; on the contrary the rate is very constantly more rapid with it. I imagine that it is the slight dilution with citrate solution that causes this.

With regard to the substantial variations in rate stated to have been obtained in normal persons, I should say that there should be the utmost reserve in accepting persons with a rapid rate as normal, and a careful following up should be made before accepting them as such. After all, a physical examination is not infallible (worse luck), and a skiagram is only a shadow.

Concerning the rates in active tuberculosis, it has been observed (Day, *Lancet*, 1943, 2, 99) that a single-hour reading may be normal in convalescent cases, though the second-hour reading may be abnormal, and it was to secure detection of such cases that the sedimentin index was used. On the other hand, I myself have observed normal readings in the first and second hour in one or two cases where tubercle bacilli were actually present in the sputum. One can only imagine that in such cases there was a substantially walled-off cavity communicating with a bronchus. So far as the tubercle bacilli found on gastric lavage are concerned, I would recommend a perusal of a recent article (I am sorry to say I cannot recollect where it appeared) in which a number of acid-fast bacilli found in resting juices were found not to be lethal to guinea-pigs.

No one would venture to claim that any one test in medicine is infallible. We do know, however, that at least a substantial proportion of persons with rapid rates are sick, and the fact is too useful to be ignored. The number of tests I have carried out must now be nearly half-way to six figures, and I (in common with many of my colleagues) have always found it most valuable. With regard to Hilliard's dictum that he had "abandoned the use of the blood sedimentation test long ago," it is unlucky that the phraseology is identical with that of the eminent surgeon at the beginning of the century, with "aseptic surgery" substituted for "the blood sedimentation test."—I am, etc.,

J. W. SHACKLE.
Hayward's Heath.

"The Humane A.P. Refill"

SIR,—I am afraid that I cannot agree with Dr. Alastair Allan's quotation (Nov. 3, p. 607) that "humanity and common sense call for anaesthetization of the needle tract" in giving refills for cases of artificial pneumothorax. I myself held this view until I gave up the use of local anaesthetic, since when I have found that patients invariably prefer their refills without preliminary anaesthetization.

The following technique is found to be most satisfactory. "Local" is used during the induction and until there is an adequate pleural space. This, in the absence of severely restricting adhesions, is generally confirmed by *x*-ray examination during the third week. After that a Morland needle is used. This, with an outside diameter of only 0.9 mm. and a spear-headed point, causes less pain than the raising of an intradermal wheal. The skin and pleura are penetrated with one quick movement, as, naturally, the amount of pain inflicted depends upon the speed of insertion.

I have been most interested in this problem, having several doctors as patients, and, although the idea may sound barbaric, in practice it is remarkably simple and humane. One patient states that, providing the operator is experienced and the needle sharp, it is "absolutely painless," the whole procedure is shorter, and there is no aching around the needle puncture afterwards. The danger of air embolism can also be avoided by leaving the manometer on while giving the refill. This prevents the air being injected under undue pressure, and the swing of the manometer can be observed the whole while, thus making certain that the needle stays in the free pleural space. I do not believe that the danger of pleural shock in an established A.P. is greater when local analgesia is disregarded. However, this is contrary to common teaching, and I shall be grateful to have the views of your readers upon this subject.—I am, etc.,

C. F. HAWKINS,
Medical Superintendent.
Preston Hall, Maidstone.

The Child with Frequent Colds

SIR,—I agree with Dr. G. C. Milner (Nov. 10, p. 667) that the familial incidence of catarrh of the upper respiratory tract is of great interest to general practitioners, but in addition to the environmental chance of infection by atmospheric spread and by a lowered resistance of individuals consuming a similar poor diet, one must also consider the factor of heredity. The inheritance of a narrow nasal passage favouring complete occlusion if engorged must predispose to chronic sinusitis, and it is known that some families are prone to otitis media, presumably due to a particular anatomical pattern of their Eustachian tubes and middle ears.

Age plus duration of infection with the chances of further spread of inflammation and general tissue sensitization to a septic focus explain the varying manifestations of the catarrhal process in members of the same family. For instance, a mother with long-standing tonsillar sepsis and infective arthritis has a young child with antral infection, a poor appetite, and occasional attacks of vomiting, an adolescent child with chronic suppurative otitis media and a chronic laryngitis, while the father and a third child, who "takes after him," escape merely with frequent "colds" because both have a wider formation of the nose.

It should be profitable to conduct a large-scale clinical and bacteriological investigation into these varying manifestations in the small communities of the family.—I am, etc.,

Ilford. R. N. C. SMITH.

SIR,—Like Drs. Mallinson and Milner, I should like to express my appreciation of the careful and painstaking work of Drs. Irwin and Frankel, and my astonishment at the conclusion which they have drawn from utterly inadequate evidence. There are many other possible causes which need to be investigated; they have made a bare mention of a "normal diet" (does "normal" mean "satisfactory" or "usual"?); there is not a word about clothing, not a word about coddling, and not a word about the nervous child. In short:

> "There are more things in heaven and earth, Horatio, than are dreamt of in your hospitals."

The conclusion which I would draw, Sir, is the inadequacy both of materialistic philosophy and of the hospital outlook, and I would plead for the association in these investigations of some members of the profession who can look at these children as individual human beings and not merely as "cases."—I am, etc.,

Wandsworth. F. GRAY.

Surgical Catgut

SIR,—The statement of Mr. John Hosford (Nov. 10, p. 668) that he "has yet to use a British make of catgut which can be relied upon to be consistent in size and strength" is not supported by records of tests made in these laboratories on British-made surgical catgut. It must be admitted that before 1944 the gauging of one manufacturer was often markedly different from that of another. This lack of uniformity, however, is being eliminated by the introduction of new standards for size and strength (*B.P.C.* Additions and Amendments to Part I, 1944, pp. 7–10). Since 1939 there has been improvement in the strength and in the accuracy of gauging of the products of many of the leading British manufacturers. The uniformity attained by them to-day is at least as good as that attained by the American producers. Surgical catgut, however, being a biological product, is not stable for long periods. Under cool conditions of storage it may lose little strength over a period of five years, but samples of the same batch stored at higher temperatures may show considerable deterioration in strength by the end of three years from the date of manufacture.

It must be remembered that the strength and size of surgical catgut are determined in large part during the manufacture of the raw (unsterilized) catgut. British manufacturers of this material export considerable quantities to the U.S.A., where it is processed, packed, and some of it re-imported (before the war) to this country as sterilized catgut. If the British raw product did not satisfy the American manufacturers for its strength and evenness of gauge it is unlikely that they would have continued to purchase it for years before the war and also during the war years.

It would be most unfortunate if the good work done by British manufacturers during the war to keep up supplies of good-quality surgical catgut were to pass unrecognized. The new *B.P.C.* standards introduced only last year may not be the most perfect, but they set out a minimum standard and have been accepted by the manufacturers. It is rare to find material manufactured in 1945 and bought in the open market which on testing fails to comply with these standards.—I am, etc.,

Bernhard Baron Research Laboratories,
Royal College of Surgeons, W.C.2. JOHN BEATTIE.

SIR,—Mr. John Hosford's complaint about the surgical catgut is timely, but it would have had more weight had he been more sure of his facts. Many surgeons have been distressed by the variability of catgut thicknesses, and by the uncertain tensile strength of the specimens which they have had perforce to use in the last few years. The regauging of catgut by the subcommittee of the British Pharmaceutical Codex Revision Committee has made matters much worse, and I have been at some pains to inquire into the circumstances.

It appears that the E.M.S. distribution of surgeons up and down the country brought these men into contact with brands of catgut to which they were unaccustomed. News of their difficulties reached the Ministry of Health, and at the request of their Principal Medical Officer the subcommittee on ligatures and sutures submitted agreed standards for surgical catgut. I am informed that this subcommittee contained no practising surgeon, and that the conclusions reached were opposed to the opinions of the representatives of that catgut manufacturing firm which might well be presumed to know more about the subject than anybody else. The Ministry of Health must be held responsible for the omission of surgical representatives, but it was surely the business of the Royal College of Surgeons to know what was going on and to make its own opinions felt. The surgeon is the consumer of catgut, and had one such had a voice in the proceedings of this committee we should not now be in our present ridiculous position.

In effect the sizes of catgut which were most commonly used —No. 0, No. 1, and No. 2—are now lumped together with No. 2/0 and No. 3, and the whole five sizes are redistributed among three new gradings—No. 2/0, No. 0, and No. 1.

I disagree strongly with Mr. Hosford's opinion that only American catgut was satisfactory before the war. I have used the same brand of English catgut for 12 years and, except for a brief period during the war when the makers' peculiarly thorough methods were impeded by shipping difficulties, I have never had anything but complete satisfaction and reliability until this ridiculous imposition by the subcommittee on ligatures and sutures.—I am, etc.,

Birmingham. FAUSET WELSH.

SIR,—I read with astonishment and regret the misleading and inaccurate letter from Mr. John Hosford (Nov. 10, p. 668). Imported brands of surgical catgut may have enjoyed some popularity before the war, but it is entirely incorrect to assert that this commodity needed or needs to be largely imported. Since 1944 British manufacturers have produced their catgut in sizes conforming with the standards adopted by the *B.P.C.*, which agree with, and allow no greater variation than, the standard American gauges. The uniformity so achieved has proved acceptable to all concerned.

The British suture industry has not only a magnificent war record for high quality and for meeting exceptional demands in circumstances of the greatest difficulty, but is now in a better position than ever before to supply all demands as to type, gauge, strength, etc., that may be made upon it by surgeons in Britain or any other part of the world.—I am, etc.,

ELDRED J. HOLDER,
Chairman,
London, E.C.2. The Sterilized Catgut Manufacturers' Association

Glandular Fever with Neutropenia

SIR,—Having read the description by Lieut.-Col. Gerald Slot and Major F. D. Hart of the appearance of neutropenia in a case of glandular fever (Oct. 13, p. 495) I was surprised to find that in the final paragraph the diagnosis was changed suddenly to infectious mononucleosis. I feel that the use of the term "infectious mononucleosis" in this connexion is undesirable and may lead to confusion; they have not proved that the condition was, in fact, infectious mononucleosis.

Careful examination of the evidence presented by them shows there is much at variance between it and that presented by the majority of other writers when discussing infectious mononucleosis. It is true that Logan[1] stated that sulphonamide administration may suppress antibody formation in glandular fever. The patient in this case was given 30 g. of sulphathiazole —the quantity stated by Price[2] to be that required to produce agranulocytic changes in a susceptible patient. Fitch[3] observes that no less than 33% of patients may show allergic phenomena, although not necessarily to a severe degree, when sulphathiazole is administered. The question, therefore, whether the neutropenia was due to an early agranulocytosis or whether the possibility of an allergic lymphocytosis had been excluded has not been fully dealt with. Stitt, to whom they refer, gives the normal lymphocytic range as 10 to 30%; in this case the levels varied from 42.5 to 78%.

Himsworth[4] raised the point that the factor of mononucleosis *per se* depends on the pathologist's division of mononuclear cells into monocytes and lymphocytes. In order to evaluate more accurately the likelihood of obtaining a positive heterophil agglutination result the number of monocytes per c.mm. is required. He quotes as examples a value of 2,150 monocytes per c.mm. in a case with a positive result, and a value of 520 monocytes per c.mm. in a case with a negative result. Slot and Hart's case had a level varying from 159 to 528 and is thus of a low order. Again, Stitt gives the normal monocyte range as 3 to 8%. In this case the level was almost always not above normal range—3 to 10%. Bernstein[5] believes that in infectious mononucleosis the level of monocytes is at least 60% of the total white count, and that this level tends to be higher in the sporadic as opposed to the epidemic case. When describing an outbreak of infectious mononucleosis in East Africa in the *Journal of Tropical Medicine and Hygiene*[6] a monocyte level of 48 to 80% is given. Further, when describing an outbreak of this condition among a group of young Service patients in an E.M.S. hospital (the group to which Slot and Hart's case belongs) Stevenson and Brown state that 110 out of a total of 123 patients had a high mononucleosis.[7] Halcrow, Owen, and Rodger,[8] discussing eosinophilia in infectious mononucleosis, consider that the level is low at first, rising later. In the patient discussed only one reading was above the normal level of 4%.

With regard to the heterophil agglutination test itself, the authors do not state whether the titre of 1/128 obtained on one occasion was in terms of final dilution or not. Smeall[9] regards a titre of 1/128 as suggestive only. Davidsohn,[10] describing his technique, regards a titre of 1/124 as presumptive evidence only. According to the technique used by Slot and Hart their result should not be worthy of very serious consideration. Even allowing their reading of 1/128 not to be in terms of final dilution, the comparative result would then be 1/320 only.

Again, it is regrettable that no mention is made of the type of non-granular cells seen, whether classified according to Downey[11] or Israëls.[12] In discussing the differential diagnosis of the condition mention should be made of "epidemic cervical adenitis" described by Pruen[13] and Kirkland.[14]

In conclusion, it is regretted that the above criteria were not considered more fully. Infectious mononucleosis is one condition found in the group of glandular fevers, and which has certain definite characteristics; the two terms are by no means synonymous and should not be used in that manner.—I am, etc.,

Haslar. T. S. EIMERL.

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Breast-feeding to Time-table

SIR,—I have read with interest Dr. J. M. Morgan's letter on infant feeding and duodenal ulcer (Oct. 27, p. 585). We are all aware of the psychogenic factor in this complaint, and no baby who has screamed for half an hour before it receives its dinner at some appointed time can be in a psychological state to digest it when it arrives.

Slavery to time-tables is in my opinion inimical to the whole process of breast-feeding, which largely depends on the mother's placidity of mind. This cannot be maintained unless she is presiding over a contented smoothly running household. How can that be the case if everybody's arrangements have to be turned upside down for the sake of rigid adherence to the infant's schedule ? The baby is an integral part of family life, and his time-table should be planned to fit in with the rest of the family. I shall give two examples. A young husband is due home for his supper at 6.30, but baby must be fed at six. The wife hurries to feed the child and prepare the father's food within half an hour. The result is that he comes home to a scrappy meal, a howling, half-satisfied baby, and an irritable wife. Small wonder that he murmurs, "Oh, Doctor, never again." Yet all this could be avoided if the infant's feed were put forward half an hour or even an hour. Again, the older children want Mummy to take them to the pictures in the afternoon, but no, she can't manage it; baby's feed is due at 2.0 o'clock prompt. They begin to feel that since he arrived Mummy is no longer a companion to them, and the seeds of jealousy are sown.

It is up to us as practitioners to help the nursing mother to arrange her life so that lactation causes the minimum of inconvenience to everyone, including herself. The baby will benefit, for babies are susceptible to atmosphere, and a contented house contains a contented baby. In conclusion, we all realize that the nursing mother requires extra rest and that present conditions of domestic help seldom allow this. Nevertheless, if she can be taught to lie down on her bed and relax completely during the feeds this will afford her a valuable amount of rest which does not interfere with her other activities.—I am, etc.,

Rotherham. ANNE M. TOMS.

Incidence of Breast Abscess

SIR,—Some very startling and challenging figures were given by Dr. A. A. Fulton in the *Journal* of May 19 (p. 693) when he states that 16% of the patients delivered in hospital in a small Scottish town eventually developed a "suppurative mastitis"—i.e., the breast was "spontaneously evacuated or was incised." The figure of 3.5% for district cases of the same type was quoted for contrast. This covered the period of the puerperium and for several weeks later. Dr. Fulton claimed that a true figure could be discovered only by following up the cases for several weeks at the child welfare clinics. His actual hospital figures were as follows:

Total confinements in hospital	748
Number of cases of suppurative mastitis	121 (16·8%)
Number of ditto in 2 weeks after delivery	12 (1·6%)

In another article (*Journal*, Oct. 13, p. 488) he gives the even more startling figure of 25% occurrence of breast abscesses in a series of 250 mothers, and says: "It is to be noted that, with few exceptions, these patients were delivered in hospital."

Redhill County Hospital, Surrey, draws maternity cases from the East Surrey area, including Sanderstead, Purley, and Coulsdon Valley. The general health of the patients is good and the standard of cleanliness is high. As Dr. Fulton reports that the greater number of his cases occurred after discharge from hospital I have made extensive inquiries at the various county clinics (post-natal and child welfare), at voluntary and small local hospitals, and from general practitioners whose patients were delivered in hospital during the period Feb., 1944, to Feb., 1945. About half replied but only three breast abscesses were reported, nor were any patients admitted into this hospital with breast abscesses. The following table sets out the incidence of breast abscesses for some years:

Year	Deliveries in Hospital	Breast Abscesses in Hospital	Occurring After Discharge
1941	780	2 (0·3%)	
1942	960	3 (0·3%)	
1943 to Nov.	760	2 (0·3%)	
1943, Nov. and Dec.	110	6 (5·5%)	
Feb., 1943, to Feb., 1944 ..	890	0	3 (0·3%)
			6 (0·7%)

I regret that Dr. Fulton does not give details of the routine treatment of breasts in hospitals under his care. The following routine is followed at Redhill:

(1) *Ante-natal.*—General cleanliness. The use of spirit, nail-brush, and creams (except in the case of crust formation) is discouraged. (2) *Puerperium.*—Engorgement of the breasts occurs in about 5% of cases, and when this happens 0.5 mg. (only) of stilboestrol is given by mouth. Within a few hours the breast is found to be functioning normally. No massage, hand expression, or hand manipulation is used. In a few cases a second dose of stilboestrol may be required. The nipple is protected by a dressing of ung. "antipeol." Tinct. benzoin. and triple dye, by trapping the infection, are regarded as a real danger and are not used on the wards. Flushed breast is treated with sulphadiazine in sufficient dosage with hot fomentations or antiphlogistine.

In the last two months of 1943 this routine was changed, and in these months an engorged breast was hand-expressed or "milked," also using a breast pump. A period of great worry ensued; there were many cases of non-suppurative mastitis, and six cases of suppurative mastitis occurred in six weeks. I am certain that great damage can be done to the delicate tissue of the breast by massage, even when very gentle, and these traumatic areas flooded with milk form a perfect culture medium for an infection. The mother returns to her home, where she has not time to give meticulous hospital cleanliness to this danger area and so a breast abscess develops. When the practice of the "art of milking or hand expression" was stopped at the beginning of 1944 the abscesses ceased to occur and there were no cases for the year Feb., 1944, to Feb., 1945.

This hand manipulation or milking of the breast is practised in many hospitals. The abolition of the practice might change the frequency of breast abscesses from 25% to a much lower figure.

I have to thank Miss Robinson and her staff of midwives for their co-operation in adhering strictly to the treatment laid down.—I am, etc.,

Redhill, Surrey. PHILLIS DINGLE.

Ergometrine for Migraine

SIR,—In the annotation on ergotamine for migraine (Nov. 10, p. 654) there is no mention of the use of ergometrine in this condition. That this newer alkaloid of ergot also has a beneficial effect in attacks of migraine is scarcely appreciated in this country, and certainly one of our well-known drug houses makes no mention of this therapeutic use in the literature supplied with its product. However, several papers have been published on this subject to which reference is made in *The Pharmacological Basis of Therapeutics* (Goodman and Gilman, 1940). Figures are quoted showing that, whereas 90% of all patients or all attacks are relieved by ergotamine, 37% are relieved by ergometrine, and a further 40% are afforded partial relief.

As ergometrine in the human subject is free from the serious toxic effects that occur from time to time with ergotamine, and as the former drug is effective by mouth in a dose of 0.5 mg. as compared with the need for giving ergotamine by injection, it would seem that ergometrine deserves more attention as a useful and safe therapeutic measure than it has had in the past. In fact, it would really be a wise procedure to give it as routine treatment, reserving the more toxic ergotamine for those cases which do not respond. Further, many people would consider 90% success with ergotamine too high a figure, while from personal experience I would have thought that the ergometrine figures, if anything, erred on the conservative side.—I am, etc.,

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H. C. STEWART.

Galvanic Stimulation of Denervated Muscle

SIR,—The literature dealing with the place of galvanism in the treatment of muscles denervated as a result of injury to a peripheral nerve shows that such opinions as have been expressed are in the main favourable; as examples, chosen at random, we cite the memorandum published by the Medical Research Council[1] after the last war, and the writings of Pollock and Davies[2] and of Kovacs.[3] What impressed us was the paucity of direct evidence, and it was for this reason that our investigation was undertaken. We hoped to get a clear answer; if it was unfavourable then it was foolish to spend time and money administering a tedious and rather uncomfortable form of treatment; on the other hand, if electrotherapy proved to be of value then it was obviously our duty to give it to as many patients as possible. We agree with Dr. Abercrombie (Nov. 3, p. 622) that "good results may be obtained in the absence of galvanic stimulation," but if galvanism is of value then its effect will be to give excellent results in cases that would otherwise have been only good, and good results in those that would have been mediocre. No one can deny that the results of treatment of peripheral nerve injuries are still too often disappointing.

We share Dr. Abercrombie's regret in our failure to show by direct observation that galvanic stimulation of denervated muscle is of value in promoting recovery from a peripheral nerve lesion. On account of the many variables it was hard enough to find a sufficient number of comparable cases, out of a series of 1,500, for our more limited objective—namely, the demonstration that galvanism does or does not limit muscle atrophy. A full account of the work will be published shortly, and we feel sure that when Dr. Abercrombie has read it he will appreciate some of the difficulties. If functional recovery has also to be taken into account the variables—such as the level of the lesion, the extent of the gap closed by suture, and the time elapsing between injury and operation—become even more numerous; so much so that with the material at our disposal we have as yet found it impossible to demonstrate statistically that recovery was better in the treated cases, though it certainly seemed to be. Thus we fell back on the correlation of experimental and clinical evidence to which Dr. Abercrombie takes exception. Our arguments may have been badly presented, so perhaps it is permissible to restate them briefly, again making reference to a few recent papers which have a direct bearing on the question that we are seeking to answer.

1. Denervated muscle atrophies; the process is a deleterious one, increasingly inimical to good recovery.[4-7]

2. In animals galvanic stimulation retards atrophy and maintains the muscle in a condition closely resembling the normal.[5, 6] The power of a muscle is roughly proportional to its weight; hence, provided that the structure of the muscle is normal or near normal, the greater its weight the better the ultimate function when re-innervation occurs. It is, of course, true, as Dr. Abercrombie says, that one of "the requisites for success in nerve suture is good apposition of the axons."

3. Functional recovery, under the simplified conditions of animal experiment, is better, especially in the early stages, when the muscle is prevented from atrophying[6] (Dr. Abercrombie is incorrect in attributing this work to one of us). Treatment did not produce significant alteration in the actual time of onset of recovery.

4. Since in animals prevention of atrophy is beneficial it is not unreasonable to suppose that it is of value clinically. The question is, Can one arrest atrophy by treatment less rigorous than that usually employed experimentally—treatment to which the average patient can reasonably be expected to submit?

5. The answer is yes.[8, 9]

6. Therefore galvanism, or its equivalent, will have a favourable influence on recovery after a peripheral nerve lesion, provided that the nerve itself has been properly treated.

Dr. Abercrombie suggests that the activity induced by repeated galvanic stimulation may retard regeneration of the nerve, because of the katabolic changes in the stimulated muscle. Has he any evidence to support this alarming statement? If he has, then we shall have to go very carefully, for it may well be that activity in neighbouring normal muscle is equally harmful. In a patient recovering from a partial lesion ought we, perhaps, to prevent activity in the parts of a muscle that are innervated lest that activity should delay re-innervation of the remainder? In the flexor profundus digitorum, which is innervated by the median and ulnar nerves, might activity of the half of the muscle supplied by the intact nerve hinder recovery in the other paralysed half? Experimental evidence does not support this suggestion.[6] Dr. Abercrombie has observed "that the interruption of galvanic treatment has occasionally been followed by an obvious improvement in the rate of recovery"; this is most important, since it may well throw light on an aspect of regeneration of nerves that has not, so far as we know, received consideration. May we suggest that Dr. Abercrombie should publish his evidence, and in the meantime allow us to see the case records on which his observations are based.—We are, etc.,

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logical characteristics indicated that it was at least subacute in type. Two weeks later a general enlargement of lymph glands was noted, both liver and spleen were palpable, and a diffuse purpuric eruption appeared. The white cell count rose to 147,000 per c.mm. and the blood lead to 485 microgrammes per 100 c.cm., and death occurred on March 25, 1940.

At necropsy the findings were typical of an advanced leukaemic process with marrow hyperplasia, glandular, splenic, and hepatic enlargement, and histological evidence of leukaemic infiltration of the viscera. This change was most pronounced in the myocardium, liver, and kidneys. In the last, almost the entire renal substance had been destroyed.

Discussion

Although the patient had been exposed to an undue amount of lead for many years, the reason for the development of lead-poisoning was at first uncertain. The onset had been acute after a period of less rather than greater exposure, and after 10 weeks' freedom from further absorption symptoms were very much more severe. During his stay in hospital, on a diet conducive rather to storage than to mobilization of lead, the concentration of lead in the blood rose to 485 microgrammes per 100 c.cm., and death occurred with generalized flaccid paralysis. In this case exposure might have been much in excess of the patient's suspicions, but the progressive rise in blood values appeared to indicate an undue addition to the circulation at a time when storage might have been expected. Some rarefying bone disease was a possible cause, and when the leukaemia developed it seemed probable that the hyperplastic marrow might be responsible for the liberation of lead stored in the trabeculae. The occurrence of trabecular absorption was confirmed at necropsy.

While it is true that the blood changes followed rather than preceded the appearance of poisoning, it is highly probable that marrow changes occurred some time before the blood picture altered. Acute and subacute leukaemia usually show marked marrow hyperplasia with a normal or even subnormal white cell count. Abnormal cells may fail to appear in the circulation for some weeks, and a rise in the count is usually a terminal phase. It is therefore possible that marrow hyperplasia, preceding a blood change, precipitated lead-poisoning by causing trabecular absorption in an individual who had been storing relatively large amounts of the metal in the skeleton over a period of 12 years.

Post-mortem examination of the skeleton for lead by the method of Tompsett (1939) showed abnormally high values for the femur. In Table II these results are compared with values obtained from normal persons by Tompsett and Anderson (1935) and Tompsett (1936).

TABLE II.—*Lead Content in mg. per kg. Fresh Tissue*

	Present Case	Tompsett and Anderson (1935)		Tompsett (1936)	
		Mean	Maximum	Mean	Maximum
Brain ..	0·52	0·50	0·72	—	—
Liver	1·29	1·73	4·63	—	—
Kidney ..	0·66	1·35	3·55	—	—
Vertebra ..	16·40	7·10	14·70	8·40	12·6
Rib	18·40	8·55	12·90	9·75	17·5
Femur ..	293·00	—	—	48·00	108·0

The values for the soft tissues are normal, and the amounts of lead in the ribs and vertebrae are only slightly if at all increased. It is possible that those low values resulted from previous mobilization of lead owing to trabecular absorption. In the final stage of the illness impaired renal function may have contributed to the high blood levels.

When this patient was under observation the possibility of lead-poisoning due to mobilization of the metal in this manner had not been considered. The chance of investigating another such patient was so remote that some other approach to the problem had to be sought. Accordingly an investigation of blood-lead levels was undertaken in individuals exposed to a domestic lead hazard and suffering from rarefying processes affecting the skeleton (Brown, 1946). This investigation has revealed that, even without undue exposure to lead, osteolytic processes may result in high blood-lead concentration. It is to be expected, therefore, that where exposure has been excessive rarefying lesions in bone may result in lead-poisoning.

Summary

The case has been described of a compositor in whom lead-poisoning was caused by mobilization of lead from the bones by leukaemic marrow hyperplasia.

Lead-poisoning in a lead-worker may not indicate immediate exogenous lead intoxication.

Marrow hyperplasia in a lead-worker may precipitate lead-poisoning.

Anaemia in a lead-worker may be the cause, and not the result, of lead-poisoning.

We are indebted to Dr. David Smith for permission to study the patient in his care, and to Dr. A. B. Anderson for helpful criticism and advice.

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A CASE OF CHRONIC UNDERMINING ULCERATION TREATED WITH PENICILLIN

BY

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Assistant Surgeon, E.M.S.; Chief Assistant to a Surgical Unit, St. Bartholomew's Hospital

While the American literature contains many descriptions of this type of ulceration, no papers on the subject could be found in the English medical press. Though rare, the condition deserves wider recognition.

Case History

A soldier in the Pioneer Corps, aged 32, while serving in North Africa was given an injection of T.A.B. in the left upper arm on Oct. 23, 1943. Four days later his arm rapidly became very painful, red, and swollen, and his temperature rose to 103°. A diagnosis of cellulitis was made, and he was treated with chemotherapy and fomentations. On Nov. 7 his arm was incised and much pus evacuated, relieving his pain. An aerobic haemolytic streptococcus was grown from the pus. The incision continued to discharge freely, but the infection spread subcutaneously, producing a large pocket of pus, which was opened more widely on Dec. 10, and again on Jan. 19 and Feb. 29, 1944. During this time the arm became more painful, especially around the edges of the inflammatory process, which gradually but inexorably spread down to the elbow.

By April 3, when he had been evacuated to England, there was a large ulcer 8 in. by 3 in., extending from the deltoid region to the back of the elbow. There was moderate pain in the region of the ulcer and the whole area was extremely tender. The temperature varied, rising to 100°, and the pulse rate was slightly raised. The base of the ulcer consisted of pale unhealthy granulations, and most of the edge was undermined, with up to an inch of overhang. In a few places the edge was adherent to the floor of the ulcer and its appearance suggested that epithelization was beginning. The undermined edge was bluish, shading outwards into a slightly raised red area, outside which was normal skin. There was no zone of cutaneous gangrene. In the floor of the ulcer were two sinuses about 1½ in. deep. The humerus showed mild periostitis. There was no lymphadenitis.

In the differential diagnosis, syphilitic, tuberculous, diphtheritic, and amoebic ulceration were considered, but no evidence of any of these diseases could be found.

On April 28, at Friern Hospital, the edges of the ulcer were excised with a knife, and the sinuses opened up to give a flat surface. A gauze dressing was applied and the limb immobilized in a plaster spica. The plaster was left on for a month, during which time there was little pain from the ulcer and the patient's general condition improved, but when the plaster was removed the ulcer had extended downwards to just beyond the point of the elbow, though lateral spread had stopped. A biopsy of the active edge showed non-specific inflammatory changes extending outwards beneath the intact epidermis. Numerous Gram-positive diplococci and occasional Gram-positive bacilli were seen in the floor of the ulcer.

Next, a great variety of antiseptic and bacteriostatic dressings were tried, including sulphanilamide powder and proflavine powder as well as more old-fashioned remedies, but none produced any significant improvement. Zinc peroxide could not be obtained.

On June 6 a swab from the edge of the ulcer gave a profuse growth of an aerobic haemolytic streptococcus, with moderate numbers of *Staphylococcus aureus* and *Pseudomonas pyocyanea*. The first two organisms were sensitive to penicillin *in vitro*, and on

Anaesthetic Risks

SIR,—Let me admit at once that I know of no proof in the scientific acceptance of the term that there is a "greater or lesser degree" of damage to the brain cells when their oxygen requirements are fully met. But man does not live by bread alone. We do many things successfully for which as yet there is no scientific proof. Assuming that we may class chloroform, ether, and alcohol together as narcotics—and they are usually so classed—then there are a number of facts which suggest that it is unlikely that a patient can be deeply anaesthetized without some trace of the action of the anaesthetic being left on his brain cells. T. S. Clouston says: "The injurious effects on the brain structure and functions of a steady habit of taking too much alcohol extending over years is admitted by every physician and can be proved microscopically by any good modern pathologist." William MacDougall found, in a series of experiments demanding his attention and the use of his muscles in co-ordination therewith, that after 1 oz. of whisky he made 11% more errors and after 3 oz. 54% more errors than when they were conducted without. Ralph M. Waters, one of America's leading anaesthetists and advocate of cyclopropane, says: "I have come gradually to realize two facts: the first that relief from pain is purchased always at a price, and the second that the price in both morbidity and mortality does not greatly differ whatever the agent or agents used." All this is in accordance with one's experience in life and was put long ago in the phrase: "Whatsoever a man sows that shall he also reap."

If, then, it can be proved by any good pathologist that repeated doses of alcohol have injurious effects on the function and structure of the brain, when do they begin? Can we suppose that the brain takes no notice of the first hundred thousand and then suddenly starts to register? It would be more reasonable to suppose that each dose, even the first—and anaesthesia to the point of muscular relaxation is a good first dose—leaves its mark. We are in the habit of regarding functional disturbance as due to a reversible organic change; it may be that this explanation is merely a euphemistic expression for the lack of sufficiently delicate instruments to record slight changes, or of powers of observation. Think of the thousands of times skilled professors of bacteriology looked at mouldy cultures without spotting the effect of moulds on bacterial growth. It is probable that all anaesthetics, even local or spinal, have some deleterious effects; but in the hierarchy of nerve cells those of the brain are the highest: why damage them when there are alternative methods?

One more point. Dr. A. C. Douglas (Oct. 27, p. 583) uses the words "when the oxygen requirements are fully met." How do we know that they are? Anaesthesia is generally supposed to be due to a process of suboxidation. The haemoglobin may be 100% oxyhaemoglobin, but such evidence as is available suggests that the anaesthetic, like Horatius, holds the bridge between the outside of the cell and the inside. This action is indeed the *sine qua non* of anaesthesia.—I am, etc.,

E. FALKNER HILL.

Epidemic Diarrhoea and Vomiting

SIR,—May I add a few words to the most interesting article by Drs. Brown, Crawford, and Stent (Oct. 20, p. 524). I was struck by an identical outbreak of epidemic diarrhoea and vomiting in Mansfield between May and August, 1945. I had the opportunity of treating several scores of cases, which did not differ in their clinical picture from those described by the three authors.

What puzzled me most was the fact that all those cases concerned panel and other working-class patients only. I failed to notice any similar case in any of my well-to-do family patients. My first impression was that the disease could have been related to the excessive consumption of ice-cream or fish-and-chips. Further interrogation of successive patients did not reveal any proof for this assumption, however. The duration of the cases observed by me varied between a few days and a couple of weeks, and here again I think it was the general standard of life as well as personal cleanliness of the family which was the determining factor.

As for treatment, I would like to stress that I refrained from ordering any laxatives or sulphaguanidine. I found that a 24-hours fast (except ample intake of soda-water, barley-water, or cocoa made with water and saccharine together with mist. kaolin. ℥ss t.d.s.) followed by a two-days diet of milk, milk puddings, and dry toast, gave very satisfactory results.—I am, etc.,

Mansfield, Notts. D. LAUTERBACH.

Acroparaesthesia

SIR,—In an article on acroparaesthesia Dr. F. M. R. Walshe says (Nov. 3, p. 596), with reference to its causation, that "the fact provides a clue that no one is interested to follow to its logical conclusion—namely, that it suggests a mechanical origin of the syndrome." Ten years ago in *The Osteopathic Lesion* (Heinemann), on pages 81, 84, and 85, I and W. Hargrave-Wilson drew attention to the fact that this condition was probably of mechanical origin and differentiated it from Raynaud's disease. The most likely mechanical lesion is that of acute or chronic joint strain (osteopathic lesion) of one or more of the joints of the upper dorsal or lower cervical vertebrae. The joint lesion causes the soft tissues in the area to be congested and held in tension. The symptoms are probably caused by pressure or the initiation of a somatico-arterial reflex.

Dr. Walshe further states that "when the desperate patient has sought relief from practitioners not on the *Medical Register* 'manipulation of the spine' has still further added to her torments," and that complete rest is essential in treatment. My experience with manipulation for over twenty years is quite the contrary. There are, unfortunately, without doubt many individuals practising manipulation who have no qualifications for the title of osteopath, and in whose hands results such as Dr. Walshe mentions are to be expected.

While highly satisfactory results are obtained by osteopathic manipulation without complete rest, it is important to impress on the patient that the cause is mechanical, and that repeated strain to the neck and upper dorsal must be avoided. The common causes of strain, apart from direct trauma, are lifting and carrying, prolonged writing, sewing, knitting, car driving, etc. The reason for the increase in incidence in recent years is obvious. Complete rest will naturally relieve the symptoms, but if the condition is mechanical, as Dr. Walshe agrees it probably is, the symptoms will sooner or later return unless the underlying mechanical abnormality is corrected.—I am, etc.,

London, W.1. GEORGE MACDONALD.

Potassium Thiocyanate in Hypertension

SIR,—The reference by Dr. T. Izod Bennett (Nov. 10, p. 661) to potassium thiocyanate as being of benefit in hypertension is of interest, and he may like to know that as a result of examining a large number of lead workers, in whom hypertension is so often found, my experience is that this salt, which is common in normal saliva, diminishes and tends to disappear from the saliva of those men who give evidence of lead poisoning.—I am, etc.,

Swansea. G. ARBOUR STEPHENS.

Phytic Acid and Calcium Deficiency

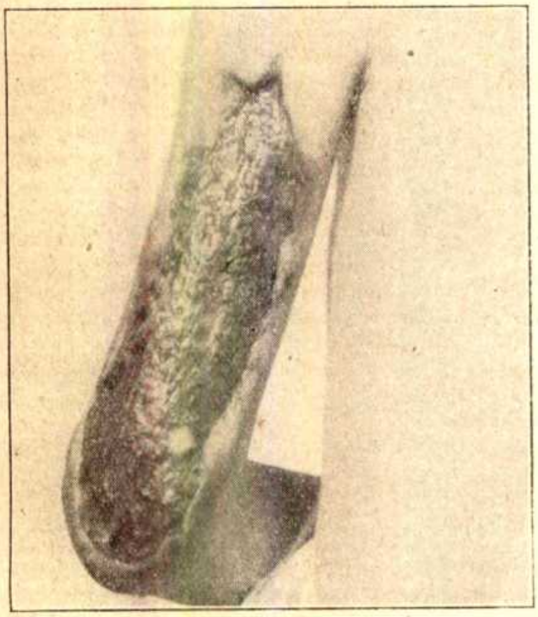
SIR,—I should like to rectify the impression given by your annotation. The facts are as follows: If a subject is given first white bread and afterwards brown bread the calcium balance becomes negative in the latter. This has nothing to do with phytic acid at all, as we have shown (Harris and Vernon, *J. Physiol.*, 1943, **102,** *Proc.*, Oct. 2). If a subject is in the habit of eating the brown fortified loaf, and he is afterwards given brown bread of the same extraction but without the added calcium, there is no negative calcium balance. Here are the actual figures which we have obtained from a subject after eating brown bread to which calcium was not added. Calcium intake 0.737 g., calcium output in urine 0.172, in faeces 0.565 g.; in urine and faeces 0.737. Output 100% of the intake.

It is clear that if phytic acid were the cause of the negative calcium balance, and the added calcium were to prevent this negative balance, the eating of brown bread without the added calcium should have produced a negative balance, which it did not. This in itself shows conclusively that the whole phytic acid theory is only a figment of the imagination. You say in

June 12 local penicillin treatment was begun, using a solution containing 100 units per c.cm. Rubber tubes were introduced into the sinuses and along the most undermined and painful parts of the edge, and penicillin injected through the tubes to keep the dressing wet.

After 24 hours of penicillin treatment a swab grew only a few streptococci, and after 48 hours all penicillin-sensitive organisms had disappeared. After five days the appearance of the ulcer had enormously improved; there was no pain, little tenderness, and epithelization had begun. Infection with *Ps. pyocyanea* persisted, but seemed to be diminished by 1% acetic acid dressings.

Epithelization progressed rapidly from the edges and from two islands of epithelium which appeared in the floor of the ulcer. In addition the size of the ulcer diminished considerably, owing to contraction of its fibrous base. The sinuses did not heal until early September, and at that time epithelization stopped. The remaining skin defect, about 3½ in. by 2½ in., was covered by a Thiersch graft, which was 80% successful. Healing was complete by Nov. 7, and on Jan. 15, 1945, the patient was discharged, with a stable scar and a good range of elbow movement. The only residual disability was some weakness of the triceps.



Chronic undermining ulcer of arm.

Discussion

Spreading, undermining, burrowing infections of this kind have been described at length by Meleney and his colleagues (1935, 1937, 1939) and by other American surgeons (Pennoyer, 1937; Rhoads, 1937). Dermatologists have described in the American and French press an apparently identical condition, under the name of phagedaenic ulcer or phagedaena geometrica. Greenbaum (1941) gives a full review of the dermatological papers on this subject.

Meleney has found constantly associated with these lesions a haemolytic streptococcus which is a facultative aerobe, but which, when obtained from the undermined edge of the ulcer or from the depths of the sinuses, grows best under anaerobic conditions, and grows in pure culture. Meleney therefore classifies it as a micro-aerophilic organism, and believes that it is an aerobic streptococcus which becomes adapted to thrive in anaerobic or micro-aerobic conditions, as in the depths of sinuses or under overhanging skin edges. *Staphylococcus aureus* was also found in most of the recorded cases.

The process may start as an infection of a surgical incision or of a traumatic wound, or as a lymphadenitis, and at first resembles an ordinary cellulitis or adenitis; but suppuration, instead of becoming localized, progresses. On the trunk and limbs the process spreads mainly beneath the skin, producing the typical ulcer with undermined edges; while in the axilla, perineum, or groin the infection also burrows deeply, producing extensive sinuses. Daughter ulcers may appear, with undermined skin bridges separating them from the main ulcer. The infection slowly progresses over months or even years, and amyloid disease may develop, or death may follow the erosion of deep vessels.

To be distinguished from this type of ulceration is the well-recognized condition chronic progressive post-operative cutaneous gangrene, which has been described, under a variety of equally clumsy names, by numerous authors, including Brewer and Meleney (1926), Nightingale and Bowden (1934–5), Stewart-Wallace (1934–5), and Willard (1936). After operations for infective processes in the chest or abdomen a chronic spreading infection may develop in the region of the wound, commonly starting round a tension suture, and spreading in two to six weeks to produce a large ulcer 6 in. or more in diameter. The advancing edge shows a peripheral red or purple zone and a raised irregular margin, inside which is a wide or narrow zone of gangrenous skin. The muscles are unaffected. A non-haemolytic streptococcus is found in pure culture in the advancing edge, and this organism grows best under anaerobic conditions, though aerobic growth also occurs. *Staphylococcus aureus* is found in the gangrenous zone, and the process is regarded as a symbiotic infection.

The case described, although the organism always grew readily under aerobic conditions, appears to belong to Meleney's group of chronic undermining ulcers.

Treatment

Meleney has obtained good results by treating these chronic undermining ulcers with a suspension of zinc peroxide in water. This liberates oxygen in an active form over a period of several hours. It was found that, unfortunately, only one of the commercial manufacturers of zinc peroxide (the Du Pont Company) could provide a material which gave consistently satisfactory results (Meleney and Johnson, 1937). The suspension was used as a wet dressing and introduced into the depths of the lesion by rubber catheters. Incisions and trimming of edges were often necessary to permit the peroxide to reach the area of active spread.

The only successful recorded treatment of progressive post-operative cutaneous gangrene is wide excision of the advancing edge with knife or cautery. This has been successful whether or not zinc peroxide was subsequently used.

In the case described above the response to penicillin was much more rapid than could have been expected from the use of zinc peroxide, and suggests that local penicillin may become the treatment of choice for this rare condition.

Summary

A case of chronic undermining ulceration is described. The condition responded dramatically to local penicillin treatment. The aetiology of the condition is discussed, and it is distinguished from chronic progressive post-operative cutaneous gangrene.

I would like to thank Mr. Reginald Vick for permission to publish this case.

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Wartime nurses with good nursing experience who satisfy certain conditions will, if they decide to make nursing their peacetime career, be allowed six months' remission in their training for State Registration. This concession, agreed to in principle by the General Nursing Councils for England and Wales and for Scotland, will apply to all those who have had suitable nursing experience in the Forces, or as nursing auxiliary members of the Civil Nursing Reserve, British Red Cross Society, the St. John Ambulance Brigade, or the St. Andrew's Ambulance Association. Formal rules to give effect to the scheme are being prepared by the two General Nursing Councils for submission to Mr. Aneurin Bevan, Minister of Health, and Mr. Joseph Westwood, Secretary of State for Scotland. But meanwhile the two Ministers, in view of the urgency of attracting recruits to nursing, have written to the authorities concerned asking them to bring the scheme to the notice of all who may qualify for the concession.

your annotation that the phytic acid is lost by baking. If this is so, why then was the calcium added to brown bread? and why has Widdowson, the co-worker of McCance, stated recently in the *British Medical Bulletin* that the reason why rickets is prevalent in Dublin is because of the whole-meal bread?—I am, etc.,

I. HARRIS.

The Discovery of X Rays

SIR,—In your editorial on the discovery of *x* rays (Nov. 3, p. 608) you state: "The *Lancet* (Jan. 11, 1896) was the first medical journal in this country to comment on Röntgen's discovery, and in its leading article the wit of Mr. Samuel Weller was invoked to pour a cold douche upon the supposed possibilities.... Meanwhile the *British Medical Journal* (Jan. 18, 1896) came out with a carefully considered and laudatory article by Prof. Schuster, of Manchester, and assessed the new discovery at its proper medical valuation. From that date onwards all journals contained numerous articles on *x* rays and their applications."

May we point out that your first statement is incorrect. In the *Medical Press and Circular* of Jan. 8, 1896, under the heading "Electrical Photography in Surgery," there is the following note:

> "The news of a remarkable discovery in photography is reported from Vienna. Briefly it consists in the discovery of a new conductor of light. Professor Röntgen, the well-known professor of the Würzburg University, has succeeded in photographing metal weights shut up in a wooden box, without showing anything of the casing on his negative. He is also said to have photographed the bones of the hand, all the soft parts being invisible. He photographs by means of light of an exhausted Crooke's pipe, through which an inductive current is passed. The discovery appears to be so far that the rays in question penetrate wood and flesh, but not bone or metal. It is surmised that photographs of the kind mentioned may have a valuable practical application in the discovery and location both of fractures and of bullets. If this discovery be sustained it will certainly take a first place among the many marvels of this scientific age. Those of our readers who are versed in electrical research may have already heard of Professor Röntgen's interesting researches."

Priority, therefore, not merely in comment but in correct appraisal, belongs to the *Medical Press and Circular*, and may we add that the then editor, Dr. David Walsh, gathered together a group of enthusiasts who met in the offices of this journal in King William Street, Strand, at which meeting the Röntgen Society was founded with Prof. Silvanus Thompson as president, and the editor as honorary secretary. Furthermore, the editor's book on the subject, *The Röntgen Ray in Medical Work*, published by Baillière, Tindall and Cox, was, we believe, the first book in the world on this subject.

In the interests of historical accuracy we hope you will find room for this correction.—We are, etc.,

CECIL P. G. WAKELEY.
London, W.C.2. G. E. BREEN.

The annual report of the Medical Officer of Health for Liverpool (Dr. W. M. Frazer) tells the same story as that of the other large towns, indicating a very satisfactory position from the point of view of vital and epidemiological statistics in the sixth year of the war. The infant mortality of 57 to 1,000 births is much the lowest recorded in the city, comparing with a rate of 81 in 1943. The rate has fallen to little more than a quarter of the level at which it stood at the beginning of the present century. The number of deaths from infective diseases, not including diarrhoea and influenza, was 0.3 to the thousand of population. This low rate is attributed to two factors—first, the great reduction in the number of cases of diphtheria, the result of the extensive campaign for diphtheria inoculation carried out during the last two years; and, secondly, the almost complete absence of typhoid fever, which was responsible for only one death in 1944. The figures for pulmonary and non-pulmonary tuberculosis indicate a return towards the lower rates obtaining before the war. (The death rates for pulmonary tuberculosis during the years 1936–9 ranged from 0.81 to 0.85 to the thousand, and in 1944 the figure was 0.9.) During the war an increase of early syphilis in both sexes, but most strikingly in the female population, has been noted. In males the number of cases in 1944 was 417 and in females 278, comparing with 187 and 25 respectively in 1939. An intensive effort has been made in Liverpool to encourage cow-keepers to supply cleaner milk.

Obituary

T. SAXTY GOOD, O.B.E., M.R.C.S.

By the death of Thomas Saxty Good the profession has lost one of the pioneers of modern psychiatry, and Oxford medicine in particular a beloved and honoured colleague. Not least will he be mourned by his many patients, to whom he gave so much comfort and skilful guidance.

Good belonged to a medical family; his father, J. Saxty Good, who died at an early age, was a dentist, and Thomas was the ninth member of his house to be educated at St. George's Hospital. He qualified at the early age of 22, and after holding various house appointments joined the Littlemore Asylum as medical officer. This proved to be his home for the next forty years, as after eleven he succeeded Dr. Sankey as medical superintendent. During the 1914–18 war the asylum, afterwards known as the Ashhurst Mental Hospital, was converted into a hospital for shell-shock cases, etc., under his command. Besides this important work Lieut.-Col. Good, as he then was, acted as consulting psychiatrist to the 3rd Southern General Hospital, was chairman of the recruiting board, and, while looking after the welfare of their patients, did all he could to protect the interests of his absent colleagues. In recognition of his work he was awarded the O.B.E. (Military) in 1919. Early in 1918 he started a clinic for nervous disorders at the Radcliffe Infirmary—one of the pioneer out-patient clinics of its kind. A few years later the University of Oxford gave him an honorary degree and appointed him university lecturer in psychiatry and nervous disorders. In 1931 Good was president of the Royal Medico-Psychological Association. When the B.M.A. met at Oxford in 1936 he was president of the Section of Neurology and Psychological Medicine, and he was a member of the B.M.A. Committee on Mental Health in 1938–40. In the City of Oxford he co-ordinated the work connected with the care of mental defectives, and was active in instituting with the Education Committee a clinic for child guidance, and afterwards for many years served as a member of the Child Guidance Council and committee of the Institute for Scientific Treatment of Delinquency.

Good was very humane in the treatment of his patients, allowing them out on parole and keeping the wards unlocked; and despite the initial misgivings of others he was certainly justified by results. Though he was a man of many interests, a welcome and entertaining companion, a good sportsman with both gun and rod, and a really talented artist in wood carving, Good never completely retired. During the last war especially his experience and knowledge made him a valued member of medical boards, and he gave his services to the hospital as an assistant where he had formerly been in charge. The loss of his companionship, humour, and unstinted help will be felt by all his contemporaries. E. M.

DOUGLAS ARTHUR CROW, M.B., Ch.B.

Mr. Douglas Crow, ear-nose-and-throat surgeon to the Royal Sussex County Hospital, Brighton, whose untimely death on Nov. 3 has distressed his colleagues, friends, and patients, was a striking figure and a brilliant and unusual personality—surgeon, artist, craftsman, philosopher, and archaeologist. His most notable quality was his intransigent integrity, which sometimes led his mind into queer bypaths and made some people find him "difficult"; but his every action was illuminated by an uncompromising honesty of purpose. As a craftsman "Tim" Crow was supreme, whether as surgeon and bronchoscopist or in the various arts which he practised. His surgical technique was confident, gentle, swift but unhurried; his opinion was founded on wide experience and reading, and as a consultant he was always reliable and helpful, if opinionated; he had never taken any higher surgical qualifications, and saw no particular reason why he should, for his training had been thorough and prolonged. He illustrated his own articles and books, being particularly fond of coloured chalk drawings, and he made and carved his own dining-room furniture as well as other admirable examples of cabinet-making. When he published, in 1942, a rather depressing novel, *Unwitting Crowd*—though it had some passages of rare beauty—he did it in his own way: he printed it himself, drew and made the blocks for the illustrations, bound it himself in leather, and presented it to a few chosen

Medical Memoranda

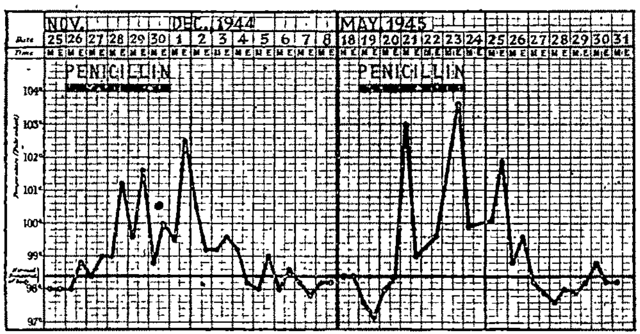
Reaction to Penicillin

Toxic reactions in man reported so far from the use of penicillin have been few and insignificant compared with its high therapeutic activity. In a survey of penicillin therapy, just published in the U.S.A. by John A. Kolmer, the toxic reactions consisted chiefly of fever, headache, skin eruptions, tingling in the testes, thrombophlebitis, and pain at the site of injection. Some Herxheimer reactions have occurred in the treatment of syphilis. The incidence of many of these reactions has dropped considerably, however, owing to better methods of purification; furthermore all penicillin issued is pyrogen-free. There appears to be no appreciable difference between the calcium and sodium salts. Fever, it has been suggested, may be due to bacterial toxins following the antibacterial effects of penicillin. Acute polyarthritis has apparently not yet been described, and the following case, in which it occurred after intramuscular penicillin administration for an infected compound fracture of the leg, may be of interest.

CASE HISTORY

Mr. A., aged 45, an electrician, was admitted to hospital on Nov. 5, 1944, with a compound comminuted fracture of the tibia at the junction of upper and middle thirds, and of the fibula just below the neck. The wound was excised under general anaesthesia and the leg encased in plaster-of-Paris. The patient remained afebrile, but the wound became infected and he complained of throbbing pain at the site of fracture. A culture from the wound showed *Staph. aureus* and haemolytic streptococci, both penicillin-sensitive. An intramuscular penicillin drip was started on Nov. 26—100,000 units daily for five days. The temperature rose sharply to 102.4° and the patient complained of malaise and generalized joint pains. Penicillin was discontinued on the 29th, and two days later the temperature fell to 99°, returning to normal after three days. The joint symptoms disappeared.

The patient was eventually discharged on April 7, 1945, with the limb encased in plaster-of-Paris. He was readmitted a month later with a secondarily infected plaster dermatitis, the culture showing penicillin-sensitive *Staph. aureus*. He was afebrile. Penicillin was administered by intramuscular injection, 20,000 units three-hourly. His temperature rose to 103° and joint pains started 24 hours later.



The joints affected were the right temporal, the neck, both shoulders, right elbow, left wrist, and left knee. These joints showed no swelling or fluid, but were painful on movement. He gave a history of having had rheumatic fever at the age of 11 and lumbago a few years ago. On examination his throat was clean and culture negative, and no abnormal physical signs were found in his cardiovascular system. Blood examination showed a slight polymorphonuclear leucocytosis, and his sedimentation rate was 40 mm. in one hour. Sodium salicylate 15 gr. was given two-hourly, but was discontinued after 48 hours as there was no improvement. The penicillin was stopped after three days, when his temperature fell to 99°, returning to normal after two days. The joint pains subsided several days later, his skin condition improved, and he was eventually discharged.

This case is published by permission of the Medical Superintendent and Mr. F. D. W. Collier, F.R.A.C.S.

Paddington L.C.C. Hospital. H. JASLOWITZ, M.R.C.S., L.R.C.P.

S. Cundel, M. C. Wheelock, and G. J. Grimaldi (*U.S. nav. med. Bull.*, 1945, **45**, 97) state that mumps and mumps orchitis are still urgent naval and military problems. Atrophy of the testes was found in 55% of the cases of orchitis. Epididymitis is frequently associated with the orchitis of mumps. Pooled plasma (160 c.cm.) given intravenously to mumps patients as a prophylactic does not lower the incidence of orchitis.

Reviews

PHYSICAL ASPECTS OF RADIUM THERAPY

Radium Therapy. Its Physical Aspects. By C. W. Wilson, M.Sc., Ph.D., F.Inst.P. (Pp. 224; illustrated. 18s.) London: Chapman and Hall. 1945.

The author has written a book about the place of physics in radium treatment. Though not quite clear of the empiricism with which it started, this treatment is gradually shaking itself free and taking on a quantitative garb; but this can be so only from the physical aspect. No one looking at the problem of how to treat malignant disease is likely to be deceived very long by the idea that since physics is an exact science its application to radium treatment will also render this an exact process; the body remains an inscrutable variable. None the less it is a good plan to be as exact as possible in those parts of the subject that allow it. This is not a book about the actual treatment of cancer, as the title may suggest to some readers, but about the particular kind of physics that can render service when the particular kind of radium treatment has been decided on medical grounds. The subject is a comparatively young one, yet there are now established modes of treatment (superficial, interstitial, intracavitary, and so on) which can reasonably be duplicated by centres all over the world. In each case the author has the relevant physics of the method to put before the reader; the book is well written, and illustrated with good line drawings and excellent photographs.

VASCULAR SCLEROSIS

Vascular Sclerosis. With Special Reference to Arteriosclerosis, Pathology, Pathogenesis, Etiology, Diagnosis, Prognosis, Treatment. By Eli Moschowitz, M.D. Oxford Medical Publications. (Pp. 178; illustrated. 20s.) New York Branch of the Oxford University Press.

This book by Dr. Eli Moschowitz is a useful monograph on a somewhat complicated subject which the author has endeavoured to approach from the standpoints of a clinician and of a pathologist. His aim throughout has been to take a wide view, so it will be found that he brings in sclerosis of all the vascular system—not only the arteries but also the veins and capillaries and even the lining of the chambers of the heart. Naturally, it is not possible to give in a book of this size a very exhaustive treatise on all the available information on such a wide subject, but it is valuable to have ideas put forward clearly which are based on changes found in the vascular system as a whole. In these attempts the author has met with a considerable degree of success. He believes that the structural changes in the vessels, which are irreversible and progressive, consist of hyperplasia as a primary reaction, followed by deposits of lipoids, hyalin, and calcium, which all lead to enlargement, deformity, and loss of elasticity. He concludes that arteriosclerosis is largely the result of the interaction of two factors, both of which may vary; one is intravascular pressure and the other is time. The factor of intravascular pressure leads him into a fairly full discussion on hypertension and its relation to arteriosclerosis; not only to primary or essential hypertension, but to any increase of pressure above the normal, such as may occur in the pulmonary circulation; and from that he discusses the causes of essential hypertension itself. Among these he puts psychological conditions first; second he puts Graves's syndrome, perhaps attributing more to it than is usually done in this country.

There are short chapters on sclerosis of the veins and the capillaries, on experimental arteriosclerosis, and on the relation of arterial disease to diabetes. Finally there is a chapter on therapy. Dr. Moschowitz is sceptical about the permanent benefit of even the most extensive degree of sympathectomy, though he admits that the operation is still in the experimental stage and that a great deal of further information on after-effects is required. There are good illustrations, particularly the photomicrographs, and the book can be recommended to anyone who is looking for a sensible discussion on a complex subject, approached from a wide point of view.

friends. At one time archaeology was, after surgery, his chief pursuit, and he walked fast and hatless along the green roads of the Downs, dug with Dr. Curwen in prehistoric hill-forts, and filled his house with pieces of ancient pottery. He was an early and keenly interested visitor to Soviet Russia, though his first enthusiasm waned. He had considerable knowledge and appreciation of Chinese art, and his presidential address to the Brighton and Sussex Medico-Chirurgical Society in 1938, entitled "A Blind Man with a Lantern" (afterwards printed in pamphlet form), was a study of the Chinese philosophy of life, which appealed to his own fastidious outlook. He had served in the war of 1914–18 as a captain, R.A.M.C., though he never spoke of it, and in 1938 he circulated a pamphlet entitled "The Pacifist Faith of a Surgeon," for he had learned to hate all war, and 1939 depressed him deeply.

Douglas Crow, born in 1889 at Loughborough, was educated at Fort William and Edinburgh University, where he had a distinguished career, winning several prizes and qualifying in 1911. He became house-surgeon at Doncaster Royal Infirmary and at the Sussex Throat and Ear Hospital, Brighton, and went into general practice at Brighton, though keeping up a connexion with the Throat and Ear Hospital. The late Mr. Arthur Hutchison of Brighton encouraged him to specialize in otolaryngology, and after having served as registrar to the Central London Throat, Nose, and Ear Hospital and having been one of the first Englishmen to attend Chevalier Jackson's course in bronchoscopy at Philadelphia, he was appointed honorary surgeon to the Sussex Throat and Ear Hospital in 1920 and to the Royal Sussex County Hospital in 1925. In 1927 he published a book on *The Ear, Nose and Throat in General Practice*, a particularly stimulating and well-illustrated production, not a formal textbook but a vigorous expression of personal opinions, with emphasis on principles. In 1930 he opened a discussion on bronchoscopy and oesophagoscopy in the Section of Laryngology of the Royal Society of Medicine, characteristically beginning with an account of his one (and only) failure; he frequently reported cases of interest at meetings of the Sections of Laryngology and of Otology and in the medical journals, including this *Journal*. He had a large consulting practice extending all over Sussex, held appointments as consulting surgeon to Haywards Heath Hospital, the Royal Alexandra Hospital for Sick Children, Brighton, and the Brighton Infirmary, and will be greatly missed.

Dr. Frederic Ryott Percival Taylor, for many years medical superintendent of the East Sussex County Mental Hospital, Hellingley, died at Eastbourne on Oct. 5. He was born in Berkshire, near Newbury, on March 2, 1865, and from the local grammar school went with an entrance scholarship to Westminster Hospital, where, after qualifying M.R.C.S., L.R.C.P. in 1889, he was house-surgeon. He graduated M.B., B.S. in 1891, and took his M.D. after serving as resident medical officer at Queen Charlotte's Hospital. Dr. Taylor's long experience of mental defect and disorder began as assistant medical officer at the Earlswood Asylum, and at the L.C.C. Mental Hospital, Claybury. He was then medical superintendent of the Darenth Home for Mental Defectives, and in 1902 became resident physician and medical superintendent at Hellingley Mental Hospital. In 1922 he was appointed physician for nervous disorders at the Princess Alice Memorial Hospital, Eastbourne, and neurologist to the Ministry of Pensions for the Brighton area. He joined the B.M.A. in 1891, and held office as vice-president of the Section of Neurology and Psychological Medicine at the Eastbourne Annual Meeting in 1931. The funeral service was held at Hellingley Hospital Chapel on Oct. 11.

The sudden death from cerebral haemorrhage at the early age of 47 of Dr. R. P. S. **Lewer**, of Knayton, Thirsk, on Oct. 20, cast a gloom over the area. He was a native of Dorset, and son of the late Dr. Edward Stewart, of Burnley-in-Wharfdale. He was a grandson of General Robert Lewer, Director of Medical Services at Gibraltar, and great-great-grandson of the Rt. Hon. Charles Kendal Bushe, Lord Chief Justice of Ireland and Master of the Queen's Bench. Educated at King's School, Canterbury, Dr. Lewer served in the war of 1914–18, later qualifying in Dublin L.R.C.P.&S.I., L.M. He practised for the past six years at Knayton in Yorkshire, where he settled down very happily to country work. A man of upright, serious, and kindly character, he will be greatly missed. The sympathy of the profession goes out to the widow and two little children he leaves behind.—W. McK.

Universities and Colleges

ROYAL COLLEGE OF SURGEONS OF ENGLAND

Buckston Browne Dinner

The Buckston Browne Annual Dinner of Fellows and Members was held at the College on the evening of Nov. 15, when a large company was received by the President, Sir Alfred Webb-Johnson, and the Vice-Presidents, Mr. C. Max Page and Mr. W. H. Ogilvie. The principal guest was Viscount Addison, Secretary of State for the Dominions. After the health of the King as Visitor of the College had been honoured, the President began on a note of sorrow for the death of Sir George Buckston Browne in his 95th year on Jan. 19. This was the first of the dinners he endowed at which they had not had the pleasure of seeing and hearing him. Besides being a great and loyal friend of the College, Buckston Browne was one of its three most munificent donors, ranking with Sir Erasmus Wilson and Sir William H. Collins; his memory would always be honoured by Members and Fellows. The President greeted Lord Addison not only as a Minister of the Crown but as one of themselves present in his own right as a Fellow. This was a family party and also a house-warming, and he welcomed home those who had returned to civilian life, saying that the College was intensely proud of them. He quoted words spoken to him by Field-Marshal Montgomery in tribute to the medical and nursing services for their invaluable work in maintaining the morale of the Army. What of the College to which they had come back? It had suffered terribly by bombardment, but the foresight of his predecessor, Sir Hugh Lett, had saved much. Turning to Lord Addison, the President became for the moment an outspoken mentor of the Government on the essentials of a sound national health service, in which there must be the highest quality of professional work, freedom with reasonable discipline, and willing partnership. Lord Addison, after a tribute to the Medical Research Council, a body financed by the Government in which he had had a hand at the start, said that the beginning of a comprehensive health service would be an immense task, and to build it up would take years. Those members of the Government concerned in the matter knew the vital importance of giving incentive to efficiency and of gaining the good will of those who worked the service. Mr. Julian Taylor was called upon to say a few words about his experiences as a prisoner of war in the Far East, and paid a moving tribute to the medical men who worked with him in captivity.

Council Meeting

At a meeting of the Council of the College, held on Nov. 8, Diplomas of Membership were granted, jointly with the Royal College of Physicians of London, to R. H. B. Mills, J. D. Huntley, R. D. Price, and C. T. Ross, and to the 184 successful candidates whose names were printed in the report of the meeting of the Royal College of Physicians of London in the *Journal* of Nov. 3 (p. 630). Diplomas in Medical Radiodiagnosis were granted, jointly with the Royal College of Physicians of London, to G. A. D. Gordon, P. P. Hauch, W. J. Latham, C. F. Parry, and D. G. Wollin.

Mr. P. H. Mitchiner was re-elected a member of the Court of Examiners. Sir Frank Colyer was elected Charles Tomes Lecturer, and he will give two lectures on a dental subject in July, 1946. Dr. H. A. Sissons (Melbourne) was appointed a Leverhulme Research Scholar to work in the pathological department of the College.

The following hospitals were recognized for the resident surgical post required of candidates for the Final Fellowship Examination: Dudley Road Hospital, Birmingham, resident surgical officer and house-surgeon; Burton-on-Trent General Infirmary, resident surgical officer; Halifax General Infirmary, resident surgical officer and house-surgeon; Burnley Municipal Hospital, resident surgical officer.

UNIVERSITY OF OXFORD

Theodore Williams Scholarship in Pathology

There will be an examination for the Theodore Williams Scholarship in Pathology in the Sir William Dunn School of Pathology on Monday, Dec. 3, at 2 p.m. It will consist of a written paper and a viva voce examination. The viva voce examination for short-list candidates will be held on Friday, Dec. 7, at 2 p.m. The scholarship is open to any member of the University of Oxford, whether man or woman, who on June 30, 1945, had not exceeded twenty-six years of age and had attended a course in general pathology and bacteriology in the Sir William Dunn School of Pathology either in the academic year 1944–5 or in the academic year 1943–4. Those intending to present themselves for this examination should inform the Professor of Pathology before Wednesday, Nov. 28.

PSYCHOLOGY OF THE PROSTITUTE

The Psycho-Pathology of Prostitution. By Edward Glover, M.D. (Pp. 16. 1s.) London: Institute for the Scientific Treatment of Delinquency, 17, Manchester Street, W.1. 1945.

The International Bureau for the Suppression of Traffic in Women and Children convened in 1943 an international meeting to discuss the abolition of tolerated prostitution. On that occasion Dr. Edward Glover, one of the foremost exponents in this country of Freudian psychology, delivered this lecture, which has been reprinted by the Institute for the Scientific Treatment of Delinquency as a pamphlet. He describes shortly the infantile origins of sexual libido in the mouth, anal region, and genital organs, and shows how sexual perversions are a fixation in adult life of the libido at these infantile levels. Perverse practices play a large part in the activities of prostitutes, and this fact raises for him the question whether prostitution is not actually a regressive manifestation indicating a backward and retarded state of sexual development and possibly also a retarded general mental development. Further, Freud has taught that a normal part of a child's education is to separate the sexual or erotic aspects of infantile love from its idealistic or non-erotic aspects. When adult sexuality appears this cleavage must be overcome, or the adult will not be able to direct his sexual urges and his mental love feelings towards one and the same object. If the cleavage persists, he may feel an idealized love for one person but be able to enjoy sexual relations only with another person of inferior attributes. Many men of high intellectual and ethical development are sexually potent only with prostitutes, and for them the prostitute satisfies a psychopathological demand. Emphatically, Dr. Glover states, the problem of prostitution is two-sided, and not only the prostitute but also her clients must be psychologically examined if the problem is to be properly understood. He traces in a most interesting way the connexion between the familiar regressive patterns of psychopathology and the sexual and social behaviour of the prostitute, and shows how the environmental factors of a loveless home life, sexual irregularity in the girl's parents, and economic insecurity contribute to the situation.

Convinced that prostitution expresses a sexual and social backwardness in both parties, he objects to tolerated prostitution because it tolerates the problem as well as the prostitute—gives social sanction to a pathological condition. He adds a pertinent criticism of the present legal procedure for dealing with prostitutes, and a caution on the limitations of the psychological expert witness. This, in short, is a sound and helpful pamphlet.

TUBERCULOSIS IN THE U.S.A.

Tuberculosis in the United States. Graphic Presentation. Vol. 2. Federal Security Agency, U.S. Public Health Service, and Medical Research Committee, National Tuberculosis Association, Washington, 14.

The lack of knowledge of the population exposed to risk in age groups in wartime makes a detailed examination of death rates an impracticable proposition. The difficulty has been partly overcome in this volume by the use of proportional mortality. Deaths from all forms of tuberculosis expressed as a percentage of deaths from all causes have been tabulated in twelve age groups for each State and geographic division by sex and race. The periods covered are the triennia 1939–41, 1929–31, and 1919–21. A comparison of the trends for each area has been made in two diagrams, one showing the distribution by sex and race in age groups for 1939–41 and the other the distribution by age in the three triennia. The proportional mortality during the twenty years has declined by more than a half for the white population, from 8.2 to 3.6, but the decline has been slower for the non-whites, from 15.3 to 9.3. Tuberculosis was responsible for a greater percentage of the total deaths among the young non-whites than among the white population; for the age groups 5–9, 10–14, and 15–19 the percentages for the former were, for both sexes, 10.5, 18.6, and 32.5, compared with 2.8, 3.9, and 10.2 for the latter. This racial difference affects the attempt to standardize for age and leads to a slight increase in the rate for the white population and a large decrease in the rate for the non-white population; the crude rates were respectively 3.6 and 9.3, and the standardized rates were 3.8 and 5.9.

Notes on Books

There is little to criticize and much to admire in the fourth edition of Prof. WILLIAM BOYD's *Pathology of Internal Diseases* (Henry Kimpton; 50s.). Few medical books are so readable or more skilfully illustrated. Whilst recent discoveries in pathology are well reviewed and recorded, the author points out, in no uncertain way, the larger gaps in pathological knowledge, especially when no adequate structural changes have yet been found to account for grave and common disorders of function. We are, for example, reminded, with regard to the myocardial lesions of acute rheumatism, that "the changes in the muscle fibres are peculiarly disappointing and fail to explain the cardiac failure of the acute stage," and "it is evident that the technique of the pathologist is inadequate for estimating the functional capacity of the myocardium." The references in this, as in previous editions, are well chosen, and the volume remains convenient in size, weight, and make-up.

People who Live in Glass Houses is a ninepenny booklet of some 80 pages which looks at venereal diseases from both the medical and the lay points of view: it tells the man in the street just those things about the subject of which he is usually quite ignorant; it tells him enough without trying to tell him too much. For the most part the approach is straightforward and the language simple, though occasionally Mr. HAROLD THOMAS lapses into terms which are rather too technical. The whole subject is set out clearly and dealt with in human fashion; there are a few minor errors which detract little from the value of the book. The one thing that appears to be open to criticism is the title; surely something more arresting and descriptive could have been found; numerous ones suggest themselves—"The Danger in our Midst" or "The Hidden Scourge," for example. What really matters is how this excellent little publication is to be "got over" to the public; in our view a copy—or several—should be placed in every public library and reading-room throughout the country. We commend this suggestion to the Central Council for Health Education, which issues the booklet from Tavistock House North, Tavistock Square, W.C.1.

The issue of Memorandum 266/T by the Ministry of Health was generally welcomed as a great step forward in the provision of facilities for early diagnosis and the official recognition of the relation between the tuberculous patient's financial anxiety and his willingness to accept treatment. There was, however, widespread disappointment at the exclusion of the non-pulmonary cases and the so-called "chronic" cases. The Joint Tuberculosis Council set up a committee to consider the memorandum, and its interim report has now been published as a pamphlet. Copies may be had from the hon. secretary of the J.T.C., Dr. N. J. England, 1, Becket Street, Oxford.

The *League of Red Cross Societies' Bulletin* for July–September, 1945, contains extracts from the report of the Secretary-General of the League to members of the executive committee on work done during the first six months of the year. The end of hostilities, far from diminishing the tasks and responsibilities of the Red Cross, has increased them. The *Bulletin* is published every three months in English, French, German, and Spanish from the headquarters of the League, 8, rue Munier-Romilly, Geneva; annual subscription 2s. 6d., or 50 cents.

Preparations and Appliances

A SIMPLE APPARATUS FOR PENICILLIN ADMINISTRATION

Dr. A. J. P. GRAHAM, resident surgical officer, Royal Surrey County Hospital, Guildford, writes:

Several types of penicillin administration apparatus have already been described in medical journals, each making legitimate claim to some improvement or advance over those already in use. Experience of some of the present difficulties and disadvantages associated with intermittent administration of penicillin has led me to review the methods employed and reconsider their value. The introduction of another new method would have to be based on convincing evidence of its superiority to those already employed. It would have to overcome at least some of their disadvantages and be founded on clinical trial and proof. Moreover, it would require to be simple in construction and easy to use, because with the increasing availability of the drug in its present form complicated methods of administration would merely increase the work of the nursing staff. Until penicillin is administered less frequently in an oil base, or by mouth, the intermittent systemic injection therapy has to be relied on for most purposes.

Probably owing to impurities in the drug, intramuscular injection is painful, and after receiving repeated three-hourly injections the patients frequently come to dread them. Some

UNIVERSITY OF LONDON

The following candidates have been approved at the examination indicated:

THIRD M.B., B.S.—[1,5] K. E. Cooper, [1,4] J. Luder, [1,2,3,5] J. Swale, [1,3] R. W. E. Watts, Mary C. V. Alabaster, K. D. Allanby, P. S. Allenby, Sheila W. Anderson A. R. Anscombe, G. J. E. Ansell, R. N. Austin, G. M. Bailey, Agnes W. Baker, P. B. Banaji, D. N. Baron, H. F. McG. Bassett, Joan R. K. Bastable, R. A. Boland, G. E. Bond, Lesley M. McL. Bowen, A. F. Bromwich, D. E. M. Brown, A. J. Buller, Joyce B. Burke, D. E. St. J. Burrowes, M. F. Butler, M. Caine, K. A. A. Campbell, K. H. Chin, C. J. M. Clark, K. S. Clarkson, Sylvia D. Corben, A. V. Craig, A. R. Darlow, Elizabeth E. Davies, J. S. Davis, S. Davis, J. W Dickson, Aileen P. M. Dring, Kathleen A. D. Drury, E. M. C. Dunlop, Viola M. Frymann, Joan R. Gomez, G. E. Griffiths, G. R. S. Grogono, V. L. Guillem, Ruth A. Haes, Kathleen M. Harding, W. J. Ll. Harries, M. A. Harris, W. C. Harris, L. M. Harrison, W. E. Hassan, Audrey Hazelden, Josephine M. R. Heber, Joan F. Heffernan, A. R. Helm, J. Henneman, M. D. Hillel, B. H. Hogben, J. E. Holgate, E.-R. A. C. Hollingbery, Margaret E. Holness, Pamela M. Horne, Betty E. Howarth, J. D. Huntley, A. F. Huston, Patricia L. Hutchinson, M. S. R. Hutt, Ruth C. J. James, R. M. Jenner, R. G. G. Jones, T. J. Jones, H. E. M. Kay, M. B. King, S. Lall, Jean V. Lang, V. B. Levison, J. W. Lewis, Jeanne C. Lister, Helen M. Littler, Joan V. MacDonald, J. D. Martin, R. W. P. Mellish, P. C. Meyer, Jean Mitchell, P. R. Montgomery, P. L. F. Mortimer, C. R. Neve, P. F. New, K. A. Newton, Patricia C. O'Brien, D. O'Keeffe, L. H. Pimm, Joan M. Price, J. M. Pugh, N. C. Rees, D. B. Richards, P. A. Ring, C. G. Roberts, K. B. Roberts, K. W. Robinson, F. F. D. Rosenthal, C. F. Rycroft, C. Sanger, G. E. Schofield, F. J. Sharrod, J. F. Shaw, S. R. Shaw, Elsie M. Sibthorpe, P. H. S. Silver, R. B. Sloane, C. J. W. Soutar, C. J. Stevenson, L. Stirling, B. Strickland, D. W. Stuart, P. D. Sutton, J. M. Talbot, C. G. Teverson, D. L. C. Thomas, Phyllida M. M. Thornton, D. E. Truscott, Kathleen L. Turner, P. P. Turner, R. S. Walker, P. T. J. C. P. Warner, A. D. Weatherhead, R. G. Welch, O. G. Williams, F. R. M. Young, R. Youngman.

[1] With honours. [2] Distinguished in pathology. [3] Distinguished in hygiene and forensic medicine. [4] Distinguished in medicine. [5] Distinguished in applied pharmacology and therapeutics.

UNIVERSITY OF DUBLIN

The Board of Trinity College, on the nomination of the University Council, has appointed Prof. R. A. Q. O'Meara, M.D., Sc.D., F.R.C.P.I., to the chair of pathology in succession to Prof. J. T. Wigham, M.D., F.R.C.P.I., who has resigned. Dr. O'Meara was elected a Fellow of Trinity College in 1941, and in the following year was appointed to the chair of experimental medicine.

The Services

Capt. R. H. S. Lee, R.A.M.C., has been appointed M.B.E. (Military Division) in recognition of gallant and distinguished services in the field.

The following appointments and awards have been announced in recognition of gallant and distinguished services in Burma:

C.B.E. (*Military Division*).—Brig. (Local) J. Bruce, Brig. (Acting) I. G. W. Hill, T.D., and Brig. (Temp.) D. F. Panton, R.A.M.C. Col. (Temp.) W. A. Burki, M.B.E., I.M.S.

O.B.E. (*Military Division*).—Lieut.-Cols. (Temp.) H. Gass, G. G. Mer, J. H. Moffett, T. A. Pace, and A. V. Stevens, *M.C.*, R.A.M.C.

M.B.E. (*Military Division*).—Lieut.-Col. (Acting) W. H. Wolstenholme, Major (Temp.) A. Milne, and Capt. P. J. R. Davis, R.A.M.C. Lieut.-Col. (Temp.) S. M. Paw, Army in Burma Reserve of Officers.

Bar to the D.S.O.—Major (Temp.) B. G. A. Lilwall, D.S.O., R.A.M.C.

M.C.—Capt. A. M. Ogilvie, R.A.M.C. (killed in action).

The following have been mentioned in dispatches in recognition of gallant and distinguished services in North-West Europe: Brig. (Temp.) Q. V. B. Wallace, C.B.E., M.C., late R.A.M.C., Brig. (Temp.) A. E. Porritt, C.B.E., Brig. (Acting) G. K. Fulton, M.B.E.; Cols. (Temp.) K. Fletcher-Barrett, O.B.E., R. Rutherford, T.D., and I. A. M. Paton, O.B.E.; Lieut.-Col. G. B. Mitchell-Heggs, O.B.E.; Lieut.-Cols. (Temp.) J. C. Caird, S. J. Chesser, M.B.E., P. J. H. Clarke, T. H. Crozier, E. A. Jack, O.B.E., R. B. Myles, O.B.E., R. W. Power, T.D., and K. G. W. Saunders; Lieut.-Col. (Acting) R. G. Evans, M.B.E.; Major J. S. Kelleher; Majors (Temp.) P. M. Acheson, A. K. Borland, M.B.E., D. S. Buchanan, G. P. Charles, A. E. Cooper, M.C., A. B. Donald, G. B. Forbes, W. Hobson, J. S. Lancaster, M.C., J. L. Linacre, B. T. Mann, E. H. Moore, J. F. D. Murphy, W. A. B. Nicholson, R. F. G. Ormrod, T. G. Risley, T. D. Ross, W. C. Ross, J. E. Semple, K. D. Stewart, M.B.E., G. F. Valentine, A. W. J. Kirton-Vaughan, L. B. Wevill, A. Young, and J. M. Zabokrzycki; Majors (Acting) D. J. A. Alban-Jones, T. Black, and N. A. Mossendew; Capts. G. L. McC. Blair, J. Booth, E. M. Callander, S. H. Chazen, R. B. Coles, E. G. A. Crawshaw, J. B. Farquhar, R. W. L. Hall, E. B. Harrison, F. J. Hebbert, B. C. H. Luker, B. W. MacDonald, J. S. MacRae, J. S. O'Dwyer, J. Y. W. Russell, K. E. Rymer, J. Slater, R. S. Sunderland, and H. B. Young; Lieuts. W. Brownsey, P. A. Hann, P. F. Holley, D. G. Jones, J. G. Searle, and J. K. Tizard, R.A.M.C. Lieut.-Cols. H. A. Ansley, G. A. Copping, F. G. Kergin, and F. W. Schroeder; Majors C. W. Dales, F. J. McLean, J. H. Shaw, and J. E. Williams; Capts. R. E. Bell, A. E. Conley, N. C. Delarue, A. C. Derby, C. M. Leighton, A. H. MacLennan, R. E. G. Place, and J. C. G. Young, R.C.A.M.C.

Repatriated.—Fl. Lieut. F. A. Forbes, R.A.F.V.R.; Capt. J. F. McGarity, I.M.S.

Medical Notes in Parliament

Conditions in Mental Hospitals

Mr. JOHN LEWIS opened on Nov. 6 a discussion on mental hospitals. He said that this year approximately 127,000 persons suffering from mental disorders were in our hospitals and homes. The majority were treated in wholly or partly rate-aided institutions. The staffs of these institutions worked under most difficult conditions due to lack of accommodation and understaffing. It was only possible for them to skim the surface of treatment because their time was taken up in ordinary routine. The big figure he had given for people in these institutions represented only a fraction of those in need of mental treatment and attention. Psychoneuroses occurred in 2% of the population. General practitioners said that 30 to 50% of their practice was concerned with people suffering from functional nervous disorders. In general hospitals 17% of those referred to general medical out-patient departments suffered from psychological illness without serious organic component.

What inducement was there for patients to enter mental hospitals to-day voluntarily to receive treatment? The remoteness of the places, with high walls, bleak premises, and locked doors, made clear to those able to think that those entering might never return. This was despite the fact that 40% of patients who entered mental institutions returned to their family cured, and 20% returned home much improved. These figures were more encouraging because people very often came to mental hospitals in a late stage of mental illness and often in the last stages of senile dementia. In mental hospitals 70% of the inmates suffered from chronic or senile dementia and could not benefit from any form of treatment other than care and attention, which were lavished on them by a devoted staff. To amend the system public opinion must be educated.

There were approximately 1,000 to 3,000 patients in the average mental hospitals. Fever hospitals had 144 sq. ft. per bed, general hospitals 120 sq. ft., but mental hospitals only 50 sq. ft. In some parts of these hospitals beds were so close together that it was impossible to stand between them. The most terrible indictment of the system was the mortality from tuberculosis in 1942 in mental institutions, which was fifteen times as high as in the normal population. These high figures had been reduced where the overcrowding had been reduced and where the diet had been improved. There was no reason why the incidence of tuberculosis in mental institutions should be higher than among the normal population. Most of the hospitals were very old and out of date; patients were not classified according to their type of mental disease but, as a rule, by their degree of physical infirmity, by the degree of noise, and by habits—whether clean, dirty, destructive, or violent. Epileptics and potential suicides were scattered throughout the whole hospital.

In many hospitals true convalescent wards did not exist. Patients who were presumed to be convalescent were usually sent into the admission ward, but often into the chronic wards if the permanent residents were clean and quiet. This atmosphere was not encouraging for the patient trying to adjust himself to normal circumstances. Hospital wards were largely utilized for the chronically infirm and not for patients who came for treatment. They might include people who had been bed-ridden for 50 years. These were not the proper conditions in mental institutions for people who were actually ill and needed treatment.

The patients in most institutions were fed from centralized kitchens and the food often arrived cold. The low standard of diet had its origin in the fact that years ago it was believed that low feeding would keep a patient quiet. That system still operated to-day in some places. So far as the medical staff was concerned the average was 1 doctor to from 300 to 700 patients. That was insufficient to allow doctors time for research in psychiatry. Patients who could afford to pay had more cheerful surroundings and better furniture but no better treatment because it was not available. Much more money must be provided for improved treatment, nursing, surroundings, and research. Two categories of mental hospitals should be built: those to deal with the 70% of chronic cases which would not improve; and those for the treatment of acute cases, in which the most modern scientific methods would be employed. It would not be necessary to discard the present institutions. Inmates who could not benefit from treatment should be left to end their days there. New hospitals must be built near to universities or medical schools. A medical superintendent should be a teaching member of the university. Where there was no chair of psychiatry one should be established; there

D-Day casualties were reduced to tears after two or three days' penicillin treatment, while administering it to young children is often not a pleasant procedure for the nurse. Use of the gluteal region, besides being anatomically unsound, may after repeated administration become so painful that patients cannot lie comfortably. Intermittent injection directly into the patient disturbs his sleep at night, both by the pain and by the ritual. This is most undesirable in those who are seriously ill, and should be avoided. It can be materially reduced by a continuous intramuscular drip, which, however, requires constant care and attention. Drip apparatus is usually an encumbrance to patients, is more complicated and liable to lead to waterlogging of the tissues, and is responsible for some loss of potency of the penicillin owing to the length of rubber employed and the failure to keep the drug at its most stable temperature. It has, however, the advantage of administration into the thigh muscles and is very useful for infants and children and domiciliary treatment.

Cowan[1] has published figures showing the destruction of penicillin by rubber tubing. In continuous intramuscular infusion as much as 25 to 50% of penicillin may be rendered inactive by the rubber, so it would appear obvious that the shortest possible length of rubber tubing of any kind should be employed. Stammers[2] and Morgan Thomas[3] recently emphasized this point and advocated an administration apparatus incorporating shorter lengths of rubber than those used in the types described by Ronald Edwards[4] and Last.[5] The tubing supplied with the Riley thoracic aspirating device used by Edwards with his bottle and syringe apparatus has a thick wall allowing repeated puncturing without leaking. Edwards uses it in twelve-inch lengths holding approximately 3 c.cm. Using penicillin solutions made up to 20,000 units per c.cm. it is seen that after the first dose has been injected the next dose is in contact with rubber for three hours before reaching the patient, and each subsequent dose lies in the rubber tubing for six hours before entering the tissues. In this time the potency may diminish by 50% if the rubber is of the synthetic variety. From clinical results obtained with the use of this instrument it would appear that the actual loss of potency under ordinary conditions is less than estimated, or alternatively that the recovery from infection was not so largely due to the penicillin. The logical deductions from calculated data, however, strongly advocate the use of as short a length of rubber tubing as possible and a continuation of the method of storing penicillin solutions in the cold.

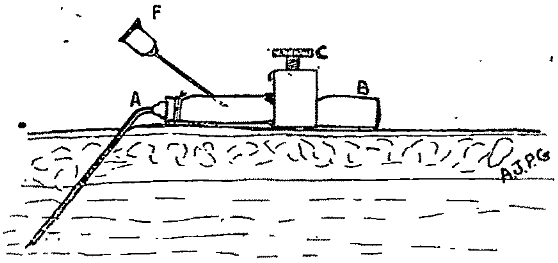


FIG. 1.

Of the types of apparatus already described, only that of Milles[6] meets the last two requirements, but it has the disadvantage of being rather too complicated from the nursing administration point of view and too liable to contamination if not carefully used. As these factors are of sufficient importance to warrant the introduction of yet another instrument to be added to our surgical armamentarium, it was decided to attempt to produce one that would fulfil as many of the ideal requirements as possible. The ultimate design that this took reached its present form as the result not of backroom planning but of clinical trial and error. It does not claim to be perfect, but as a means of administering penicillin intermittently during the interim period until the drug is produced in some other form, free from painful properties, or until solution in oil does away with the need for frequent administration, it is of great value. To some its use may transgress the borders of general surgical principles, but the relief from pain, the apparent therapeutic success that has attended it, and the almost entire absence of complications that has ensued, lead one to believe that its use is justified.

The apparatus employed is extremely simple, but certain of the features are essential to its success. It can be made in any ward.

Requirements.—A needle (A) about two inches long with a fairly wide bore. A narrow-bore needle prevents free injection into the tissues and conduces to leaking. The needle is bent about 45° just beyond its base, so that the point will penetrate well into the muscle when the rubber is strapped to the thigh. Two inches of rubber tubing (B) with a wall having a thickness of at least 2 mm. The type of tubing supplied with the E.M.S. blood transfusion set is not thick-walled enough for the purpose, as it allows of subsequent leaking after repeated punctures. One end of the tubing is fitted over the needle mounting and tied on tightly with silkworm gut. A screw clip (C) of any type is fixed on so as to allow half an inch of tubing between it and the needle. This must be screwed on firmly to occlude the lumen. The volume of the lumen between clip and needle varies with the internal diameter of the rubber, but with one of 4 mm. it is about 0.157 c.cm.—i.e., less than one-sixth of the volume of a dose of 20,000 units in 1 c.cm. This is the whole apparatus.

Application.—After being sterilized it is applied to a suitable area on the anterior or lateral aspect of the thigh and fixed on with two strips of adhesive plaster (D) as shown in Fig. 2. No advantage is gained by inserting the point of the needle through sterile gauze, but a small piece may be placed under the rubber and clip if this adds to the comfort of the patient. A rather broader strip of strapping (E), with a small piece of sterile gauze covering the middle third on the adhesive surface, is then fixed transversely across the apparatus.

Use.—One end of the broad strapping is turned back, uncovering the apparatus. The required dose of penicillin is taken up into a syringe in the ordinary way and, using a fine hypodermic needle (F), is injected obliquely and slowly into the lumen of the rubber tubing between the clip and the intramuscular needle. The rubber is, of course, swabbed with aether meth. first, as the skin would be. After the hypodermic needle is withdrawn the broad strapping is replaced. For the first dose 0.2 c.cm. of penicillin is added to fill the free space of the lumen. A small cradle over the leg facilitates injection at night with less disturbance to the patient.

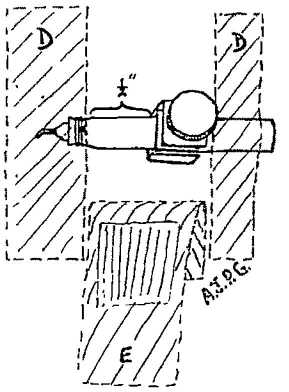


FIG. 2.

Advantages of this Method.—The apparatus is easily made and simple to use. It makes penicillin administration less painful and less disturbing to the patient. The first injection is quite as painful as with other methods, but each subsequent dose is very much less so and is often quite painless. Owing to the small amount of penicillin in contact with rubber and the ability to give it in the cold, the loss of potency is much less and is calculated to be about 4% instead of 25 to 50% as with some intramuscular infusion methods. Waterlogging of the tissues and needle-block do not occur. Its simplicity in use has all the advantages of hypodermic administration for the nursing staff, without any of the disadvantages for the patient.

Disadvantages.—Some patients find it an encumbrance to have even such a small gadget strapped to them. Leakage may occur if the tubing is too thin, or the needle too narrow, or the injection made too quickly. Repeated puncturing at the one site may be eliminated by turning the rubber 90° in relation to the needle or by attaching it by the other end of the tubing. After two days the site of injection may again become painful, necessitating removal and reinsertion at a fresh site. One small *B. coli* abscess has occurred at the site of injection.

My thanks are due to the sisters and nurses of this hospital for their co-operation and helpful suggestions.

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[2] Stammers, F. A. R. (1945). *British Medical Journal*, **2**, 400.
[3] Morgan Thomas, M. E. (1945). Ibid., **2**, 508.
[4] Edwards, F. R. (1945). Ibid., **2**, 86.
[5] Last, C. E. (1945). Ibid., **1**, 122.
[6] Milles, H. L. (1945). Ibid., **1**, 118.

should be teaching hospitals in the vicinity with adequate out-patient facilities and a psychiatrist provided by the mental hospital. There must be two classes of nurses, one of which would look after chronic patients. Criticizing the present method of certification whereby the general practitioner called in the relieving officer and the patient might be brought before a magistrate without the advice of an outside doctor, Mr. Lewis said that in his own constituency it was the practice of the magistrate to bring with him an outside doctor for certification.

LACK OF ACCOMMODATION FOR NEUROSES

Dr. STEPHEN TAYLOR agreed in general with Mr. Lewis, but said he had over-painted the picture. Many mental patients got tuberculosis because it was extremely difficult to feed those who were suffering from depression. The incidence of this disease in mental hospitals could not be blamed on the staff or the facilities. The overcrowding had been due in part to the existence of the E.M.S., but was a serious factor in mental treatment at the moment. The temporary treatment section of the Mental Treatment Act did not work badly and enabled enormous numbers to be treated in mental hospitals without certification. There was a great shortage of out-patient or advisory clinics, and in-patient facilities for the neurotically ill scarcely existed. With the exception of the Maudsley Hospital serving South London there were mostly no beds for neurotic patients. General hospitals should have admission blocks for all types of psychiatric patients where people could be treated and put into their appropriate classes. The old-fashioned mental hospital was an anachronism. If the country was to have mental hospitals they should be small units, perhaps the size of the Bethlem Royal Hospital, with 250 beds where a medical staff could properly look after the cases. More could be done by boarding out the chronically insane for whom further treatment was not possible.

The country was short of adequately trained general practitioners who could make a psychiatric diagnosis. As psychiatrists came from the Forces this could be made good, but it would be 20 years before every general practitioner could make a good psychiatric diagnosis unless refresher training for general practitioners was started quickly. The country was short of research centres. The Tavistock Clinic should be developed. The national psychiatric service could only be dealt with as part of the main National Health Service and needed to be tackled on the same lines as other specialized services with out-patient facilities and specialists to visit the home. Voluntary registered mental hospitals such as Bethlem and the Retreat at York should be brought into a National Health Service, but he did not know how this should be done. Of the private mental hospitals run for private profit some were all right but some were far from right. Broadmoor, which was not a Ministry of Health concern, was an anachronism, a bad place for the patient, and a terrible strain on the staff. Its patients should be put under the ordinary service. The staff of the mental hospital service were isolated spiritually and physically. The remedy was to move them about between the general hospitals, the epileptic hospitals, the mental defective colonies, and even the prison medical service.

Replying for the Ministry of Health, Mr. KEY said he would be the last to assert that everything was well with the mental hospital services. He had nothing to say in favour of the Poor Law atmosphere, which existed around a number of these institutions, but the problem was not best dealt with by exaggerating the conditions. What had been said in the debate would be carefully considered in connexion with the organization of the health service to which Mr. Bevan was giving attention. Mr. Key pointed out that the number of people under care had fallen between Jan. 1, 1939, and Jan. 1, 1945, from 133,000 to 127,000. The general improvement in the social standards of the people resulting from continuity of employment had led to a decrease in mental illness. One of the ways of tackling the problem was to maintain the general standard of life. The overcrowding in institutions resulting from the transfer of beds to the E.M.S. was beginning to remedy itself. Between Jan. 1 and Oct. 1 this year 2,273 beds had been restored to the mental hospital service.

The number of people now training for the nursing profession was greater than it had ever been, and the shortage of nurses was due to the increase in such services as day nurseries and radiography. He thought it was wrong to say there was no reason why there should be no more than a normal rate of tuberculosis among people in mental hospitals. These people were spending too much of their time in institutions and so they had a predisposition towards this disease. But since 1941–2 there had been a decrease not only in the incidence of tuberculosis but in its death rate among those in the institutions. Of the 101 public mental hospitals in this country 60 had provided separate admission units and separate convalescent units. With the return of peace and more staff, conditions would greatly improve. He could not agree that diet in these institutions had been brought down to the public assistance level. The steady reduction of the death rate was partly due to the attention given to the diet. Of patients who had been admitted or were being admitted now nearly 50% were voluntary patients. That number would not go to the hospitals if the black picture that had been painted was really indicative of the conditions.

Medical Man-power: British and Alien

Major SYMONDS asked on Nov. 8 how many doctors of British nationality were engaged in civilian practice in England and Wales and the average number of patients per doctor. Mr. BEVAN replied that the last analysis made by the Central Medical War Committee in February related to all doctors on the permanent *Medical Register* without distinction according to nationality. It showed that the number of doctors in civilian practice of all kinds in England and Wales was 27,177, or in general practice only 14,337, representing a ratio to civilian population of one to 1,393 and one to 2,640 respectively. The number of temporarily registered alien doctors in employment, including a few in Scotland, was 798. Nearly half of these were of German or Austrian nationality. The next largest groups were Czechs and Poles. He was unable to give the average age, but 525 out of the total were over 40. He had no information on how many temporarily registered alien doctors had returned to their own countries nor on how many were likely to do so in the near future.

Major SYMONDS also asked whether the Minister, in view of the shortage of doctors, was taking steps to ensure that the Temporary Registration Order of 1941, by which refugee doctors were permitted to obtain posts in hospitals or to work as assistants to medical practitioners, was extended beyond Feb., 1946. Mr. BEVAN pointed out that the Emergency Laws (Transitional Provisions) Bill included provisions for the continuance of the Order beyond the date mentioned.

It was stated by Mr. EDE that among the doctors in South Wales at present were six Austrians (two of them women), three Germans, and one Czechoslovak. The three Germans and the two Austrian women were on the register of persons who were only permitted to take certain limited forms of medical work. Seven of these doctors had applied for naturalization, but their applications had all been suspended in accordance with the general policy that had been in operation since 1940.

Call-up of Doctors

On Nov. 15 Col. STODDART-SCOTT asked the Minister of Health why, in view of the fact that there were 2.57 doctors per 1,000 in the Army and 2.27 doctors per 1,000 in the R.A.F., and only 0.74 per 1,000 in the civil population, over 370 doctors had been called up into the Army and R.A.F. since VE-Day; and why they were still being called up in considerable numbers. Mr. BEVAN answered that continued recruitment of doctors to the Forces was necessary in accordance with the general principles set out in the White Paper on the Reallocation of Man-power issued in Sept., 1944, in order to increase the releases of medical officers under Class A of the demobilization scheme and to compensate for releases under Class B. The great majority of those called up were young men recently qualified who had held hospital appointments for six or twelve months.

Short-service Commissions and Release

Mr. LAWSON informed Mr. Lipson on Nov. 13 that a doctor appointed to a short-service commission before the war was liable to retention during the present emergency under Article 213 of the Royal Warrant for Pay, etc., of the Army, and was retained subject to the conditions which Mr. Lawson had previously set out. A doctor appointed during the war was eligible on completion of his period of five years' short-service commission for immediate release if his age-and-service group had already been released, or alternatively for release with his age-and-service group when it was reached, provided he had not been appointed to a permanent commission and had not applied to defer his release or to serve on for a minimum period of two years' post-war service with gratuity.

Foot-and-mouth Disease from Butcher's Meat.—Major TURTON on Oct. 15 asked the Minister of Agriculture what action he proposed in view of the warning given by the chief veterinary officer on May 4, 1945, of the danger of outbreaks of foot-and-mouth disease occurring on the premises of butchers distributing South American meat. Mr. TOM WILLIAMS said the only practicable way in which the danger could be reduced was by observing and enforcing the existing regulations. Every effort to secure stricter enforcement was being made, and with some apparent success. There had been only two outbreaks of foot-and-mouth disease so far this year on butchers' premises, and three others that might in some way be associated with butchers.

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BUYING AND SELLING PRACTICES

Mr. Willink, as Minister of Health in the late Coalition Government, announced that in its plans for a new health service the Government did not intend to interfere with the custom of buying and selling practices, and this policy was presumably supported by the Labour members of the Coalition Cabinet. Men now being demobilized are entering general practice on this basis. It has been said that the present Minister of Health, Mr. Aneurin Bevan, will make a further statement on this subject, and it is not improbable that if he does the Coalition policy may be reversed. If it were, it is of course presumed that a statement would at the same time be made on the question of compensation for the loss of capital value. Although in this world of shifting values it is perhaps unwise to take anything for granted, it would seem to be a simple matter of equity for compensation to be paid if sale and purchase of practices were to come to an end. The medical profession could tolerate no other course.

If the question of buying and selling practices was just one of finance, then, although there might be differences of opinion about it, they should not become so acute as to split the profession or to erect an insuperable barrier between the profession and the Minister. This custom is not *necessarily* bound up with the essential freedom of the doctor to practise according to his professional conscience and knowledge. In fact, men in some Dominions can enter a practice without having to buy it, and it should be remembered that at the moment there is nothing to prevent a man in this country from starting a practice of his own without having to find the capital to do so; although, of course, he has to have enough money on which to live until his practice is established. When by dint of hard work and professional competence a practitioner has secured the confidence and good will of the local community in which he lives, he has, towards the end of his working life, a natural wish to be compensated for his efforts when he hands on the goodwill and reputation of the practice to his successor; and his proper pride in his work, coupled with a responsibility towards the patients who constitute his practice, prompts him to choose as his successor the kind of man who will best fit in with the life of the district. The essence of the matter is the freedom to practise, and the freedom to choose as a partner and successor in this venture a man who is trusted both professionally and on the grounds that he is the kind of person who will be in sympathy with the kind of patient whom the practice attracts. If these essential freedoms could be left unchanged by the abolition of the right to buy and sell practices there would be no interference with professional principle, whatever views anyone might hold on political and social grounds about the right of a man to possess his own property—in the case of a general practice, represented principally by goodwill.

But if the Government were to decide to abolish this right, would it do so with the intention of leaving unchanged what we regard as fundamental principles? In the conditions prevailing in Great Britain, is the custom of buying and selling in fact bound up with professional freedom, and would this be endangered if the custom were brought to an end? In examining this question we should not ignore the difficulties facing a young man who wants to enter general practice in the accepted way. In these days the difficulties are considerable. The man who starts off with money of his own has an advantage over the man who has not, and a man may be a good doctor but yet be unwise in taking financial decisions. At least to-day he is in a better position than his forebears, because the B.M.A. can give him competent advice on the matter, and see that he can borrow money at low rates of interest. But even then the young man with a family is faced, in these days of heavy taxation, with a debt to repay, and he would naturally be glad to avoid that if he can. So simply from the financial point of view the young doctor would welcome a way out of that method of entering practice. But the first question he should ask himself is whether, given this opportunity, he would simply be exchanging one burden, which is measurable, for another which is possibly immeasurable; whether, in an insecure world, he is trying to buy imagined security at too great a price; whether an easier time in his younger days would not be offset heavily by disappointment and disillusionment when the peak of middle age is passed.

Supposing the Government does decide to abolish the custom of buying and selling practices and, through compensation, becomes the purchaser, and therefore owner, of those practices, what becomes of the men who are thus compelled to sell their "work-right"? Who will decide thereafter who should continue these practices so dissolved? It is unlikely to be the men who have sold them, because according to ordinary usage a man who sells something no longer has a right in it. And if the professional right to practise in such-and-such a place in such-and-such a way is surrendered to the Government the Government will use what is surrendered in any way it sees fit; and in the case of the present Government we should at least not be misinformed on what ways it considers to be fit. It might use the property so disposed of to control the entry into practice and to distribute doctors according to its own ideas. In other words, any decision of the Government on the custom of buying and selling practices cannot be isolated from the context of the Bill for a National Health Service which in the months to come will be presented to Parliament. We cannot look upon it, for example, purely as a financial measure, but must first and foremost look upon it as closely bound up with the way in which practice is conducted and with the principles governing such practice. The public whom the medical profession serves may well ask themselves whether, in using the taxpayer's money to

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[1] *Supplement* to the *British Medical Journal*, June 9, 1945, p. 193.

Leprosy in British Empire.—Mr. GEORGE HALL said that although accurate figures were not available it was estimated that out of 2,000,000 lepers in the British Empire 700,000 lived within the Colonial Empire and the greater part of these in Nigeria. In that colony a big antileprosy campaign was being undertaken. Application by the Nigerian Government for a further £170,000 for the Colonial development and welfare work was under consideration. The Government hoped to provide more money in the future.

Analgesia by Midwives.—Mr. BUTCHER inquired on Oct. 25 what amendments had recently been made by the Central Midwives Board to their rules concerning the presence of a second person at the time of administration of analgesia for the relief of pain during childbirth. Mr. BEVAN said the rules were, with his assent, being altered to permit the second person to be anyone acceptable to the patient and considered suitable by the midwife. The requirement that the second person must have a specified qualification or experience was being withdrawn.

Totally Blind War Casualties.—Some 350 Service men and women were totally blinded during the war and are in receipt of 100% disability pensions.

Notes in Brief

Medical information disclosed by a Ministry Medical Board is not refused to a member of the medical profession if needed for treatment purposes. Where there is an appeal to the Pensions Appeal Tribunals an appellant is supplied with a statement of the relevant facts of his case, including his medical history as known to the Ministry of Pensions.

High-extraction and wholemeal flour are available to all bakers at the same price as National flour.

EPIDEMIOLOGICAL NOTES

Discussion of Table

In *England and Wales* measles and scarlet fever were more prevalent, the rises over last week's totals being 74 for measles and 65 for scarlet fever. There were 89 fewer cases of acute pneumonia, and 36 fewer of dysentery.

The largest local rise of scarlet fever was in Staffordshire, where the total went up by 37. The chief feature of the returns for measles was a rise of 37 in Carmarthenshire (Llanelly R.D. reported 22 cases). Yorks West Riding reported 33 more cases of whooping-cough than last week, and London 26. Diphtheria notifications in Lancashire went up by 25, the disease having increased 100% in this county since the beginning of August, compared with 62% for the whole country.

The only fresh outbreak of dysentery of any size was in Sussex, Chichester M.B. 12. The other large returns were Lancashire 49, London 40, Warwickshire 27, Glamorganshire 10.

In *Scotland* notifications of dysentery and acute pneumonia went up by 23 and 27 respectively, but decreases were reported as follows: scarlet fever 36, measles 19, whooping-cough 13. Edinburgh reported 10 more cases of dysentery than last week, and Glasgow 17.

In *Eire* the incidence of diphtheria went up by 33, and measles by 59. The rise in diphtheria was general throughout the country, but the increase in measles was due to Dublin C.B., where the notifications rose from 42 to 90.

Annual Report for Northern Ireland, 1943

The birth rate was 24.2 per 1,000 during the year, and was the largest rate recorded since 1920. Infant mortality was 78 per 1,000 births, and, with the exception of 1940, when the rate was 86, was slightly higher than any since 1936. Maternal mortality was 3.17 per 1,000 births, and, with the exception of 1942, when the mortality was 2.96, was the lowest on record. The general death rate was 13.4 per 1,000, this being 0.1 above the record low rate of 1942. The death rate for all forms of tuberculosis was 91 per 100,000, compared with 104 and 97 in the two preceding years.

Quarterly Returns for England and Wales

The birth rate during the second quarter of the year 1945 was 16.6 per 1,000, compared with 18.9 for the June quarter of 1944, and 15.9 for the average of the five second quarters preceding 1944. Infant mortality was 41 per 1,000 live births, this rate being 11 below the average of the ten preceding June quarters. The general death rate was 10.5 per 1,000, compared with 10.9 for the second quarter of 1944; there were 4,982 fewer deaths than the average of the second quarters for 1939–43.

Week Ending November 10

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,621, whooping-cough 1,118, diphtheria 573, measles 445, acute pneumonia 463, acute poliomyelitis 33, cerebrospinal fever 37, dysentery 212, paratyphoid 5, typhoid 2. Three cases of typhus fever were notified: London, Hampstead 1, and Kent, Royal Tunbridge Wells M.B. 1, and Tonbridge R.D. 1.

No. 44

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended Nov. 3.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1945					1944 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever	35	2	20	2	—	42	3	24	4	—
Deaths		1	1				1	—		
Diphtheria	585	32	188	93	23	633	12	169	120	30
Deaths	4	—	3	—	—	8	—	1	—	—
Dysentery	211	40	89	1	—	256	38	90	1	—
Deaths				—	—				—	—
Encephalitis lethargica, acute	—	—	1	—	—	—	—	—	—	—
Deaths		—					—			
Erysipelas			51	6	2			55	14	5
Deaths		—					—			
Infective enteritis or diarrhoea under 2 years				50					39	
Deaths	52	7	21	13	4	45	3	7	17	5
Measles*	496	32	52	105	4	4,827	80	307	27	145
Deaths	1	—	—	—	—	4	1	2	—	—
Ophthalmia neonatorum	61	5	10	—	—	74	5	14	1	1
Deaths										
Paratyphoid fever	6	1	1.(B)	—	—	3	1	1 (B)	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenzal†	458	28	5	3	1	520	25	10	3	4
Deaths (from influenza)	13	2	—	2	—	18	3	2	—	2
Pneumonia, primary			189	13				179	20	
Deaths		29		8	6		31		10	8
Polio-encephalitis, acute	1	—				—	—			
Deaths		—					—			
Poliomyelitis, acute	24	1	—	2	1	14	—	4	1	—
Deaths		—					—			
Puerperal fever		4	6		—		4	21		—
Deaths										
Puerperal pyrexia‡	146	6	9	3	1	155	7	13	1	—
Deaths		—					—			
Relapsing fever	—	—			—	—	—			—
Deaths										
Scarlet fever	1,819	149	317	25	49	2,149	56	359	42	63
Deaths	1	—	—	—	—	3	—	2	—	—
Smallpox	1	1	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Typhoid fever	9	—	1	3	2	5	1	3	4	—
Deaths	—	—	—	—	—	—	—	—	—	—
Typhus fever	—	—	—	—	—	—	—	—	1	—
Deaths				—	—				—	—
Whooping-cough*	1,041	82	62	28	5	1,135	49	82	13	11
Deaths	5	3	—	—	1	7	—	2	—	—
Deaths (0–1 year)	334	36	61	30	23	332	30	53	42	14
Infant mortality rate (per 1,000 live births)										
Deaths (excluding stillbirths)	4,209	593	595	177	102	4,352	584	596	207	106
Annual death rate (per 1,000 persons living)			13·5	11·4	§			13·7	13·4	§
Live births	6,641	862	800	385	276	6,653	545	896	320	274
Annual rate per 1,000 persons living			16·0	24·8	§			18·2	20·8	§
Stillbirths	185	22	29			228	19	39		
Rate per 1,000 total births (including stillborn)								42		

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

‡ Includes puerperal fever for England and Wales and Eire.

§ Owing to movements of population, birth and death rates for Northern Ireland are still not available.

buy what medical workers have thus built up, a Government would not be at the same time depriving the public of the right to choose its own doctor in its own way, and at a cost which ultimately may be far greater for the community as a whole than it is at present.

These are but some aspects of a question which is far less simple than it appears at a first and summary inspection. It is not a question which can be answered easily one way or the other; but it is one which should be considered calmly and realistically. Any decision of the Government will be a first step in a certain direction, and in making up their minds about the matter medical men should be clear what this direction is and whether they want to follow it.

CAMPAIGN AGAINST RHEUMATISM

The publication by the Department of Health for Scotland of the report of its Medical Advisory Committee on the chronic rheumatic diseases is an important event in the solution of this great social problem. As long ago as 1927 the Ministry of Health indicated that rheumatic disease accounted for nearly one-sixth of the industrial invalidity in England. Rheumatism will bulk largely in Social Insurance, since a big section of the population, the dependants, and especially the housewives, mainly untouched by the National Health Insurance Acts, will come within the scheme now being drafted by the Government. The incidence of chronic articular rheumatism in female domestic workers is disproportionately high.

The Scottish report gives an account of the incidence, some of the aetiological factors, and existing facilities for treatment. A subcommittee under the chairmanship of Sir John Fraser was appointed to "consider what action can be devised for the treatment of chronic rheumatism among the general population," and it is in the findings of this subcommittee that the chief interest of the report lies; a fairly full abstract appeared in the *Journal* of Oct. 6. The scheme is to be based on the medical schools and teaching hospitals, in which small units of 20 to 40 beds would provide opportunities for research into pathology and diagnosis and would test the efficacy of methods of treatment under controlled conditions. To these would be linked large hospital units, situated at a convenient distance, for the long-term treatment of suitable cases. To ensure continuity, both would be directed by the same staff of physicians and surgeons experienced in these diseases, but the report wisely stresses that the subject should not be divorced from general medicine by the creation of a narrow specialty. Close co-operation between physicians and orthopaedic surgeons will be of the highest importance in any scheme, on lines now being discussed by a joint committee of the British Orthopaedic Association and the Empire Rheumatism Council. The units will provide for training medical students—an important provision when it is remembered how much of the practising doctor's time is spent in the management of rheumatic diseases. Postgraduate classes will also make the general practitioner familiar with modern advances in diagnosis and treatment.

While the scheme of hospital units thus foreshadowed will do much for the treatment of such serious conditions as rheumatoid arthritis, it must not be forgotten that many patients, especially housewives, cannot leave their homes for a long period of treatment in hospital. There are also many cases of minor rheumatic disorders, particularly muscular rheumatism, for which hospital treatment is unnecessary. If industrial invalidity from rheumatism is to be reduced the family doctor must be supported in his efforts by the provision of facilities for laboratory investigation and physiotherapy, and, not least, for consultation with physicians experienced in the disease. It is in the neglect or superficial treatment of cases which appear trivial at first that the seeds of permanent crippling are sown, and at this stage the family doctor has the opportunity and the responsibility of providing prompt and effective treatment. To help him the Scottish report suggests "peripheral clinics" starting on modest lines and linked with the central hospital and with orthopaedic services. But perhaps such clinics should be provided first and quickly in order to deal on the largest possible scale with rheumatism in its early stages: this could be done at small expense in the smaller hospitals and district or cottage hospitals. Periodical visits of consultants and the provision of means for simple physiotherapy would be of much value. Cases in need of more elaborate treatment could be transferred to more fully equipped centres. If hospital accommodation for "long-term" treatment is not to be overloaded patients who have made enough progress might be transferred to a convalescent station where they could reside in hostels linked with a physiotherapy unit; rehabilitation, occupational therapy, and recreation should be available under medical observation. Such stations would also be of value for giving rest and recreation to the overworked. "Preventive rehabilitation" would save many a worker from the accident and the injury that finally compel him to give up his work temporarily.

The Scottish report stresses a point in physiotherapy too often overlooked—the need as early as possible to replace passive treatment by active exercise, such as is provided by occupational therapy and rehabilitation. Routine—and sometimes perfunctory—treatment prolonged at a physiotherapy centre may induce a hypochondriasis. However skilled the physiotherapist, the effect of treatment must be assessed periodically by the physician or surgeon in charge of the case. Physiotherapy should be based on a clear conception of the pathology of the condition to be treated, and the masseur cannot be expected to appreciate this. Students should be instructed in the technique of physical methods of treatment, for harm may result if they are applied mechanically. Sir Robert Jones once said, "Never massage the knee-joints"—a dogmatic utterance perhaps, but with much wisdom in it. Ill-advised massage has turned many an early villous synovitis into a chronically creaking knee.

The Scottish report should be studied in conjunction with a report by Dr. W. S. C. Copeman[1] on the treatment of rheumatism in Sweden, where this has been a national concern for many years and where much experience of hospital treatment has been gained.

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[1] *Ann. rheum. Dis.*, 1945, 5, 17.

Medical News

Dr. W. E. Chiesman has been appointed Treasury medical adviser on the retirement of Sir Henry Bashford on Dec. 6.

A conference of the Hospital Contributory Schemes Administrators Association will be held at the Royal College of Nursing, Henrietta Place, Cavendish Square, W., to-day (Saturday, Nov. 24,) at 2 o'clock. Mr. H. E. Griffiths, chairman of the executive committee of the British Council for Rehabilitation, and honorary consulting surgeon to the Ministry of Supply, will give an address and show the film, "Rehabilitation in a Royal Ordnance Factory."

The National Association for the Prevention of Tuberculosis has arranged a discussion on "Can the tuberculous be trained in industrial design, arts and crafts?" to be held in the Hastings Hall of B.M.A. House, Tavistock Square, W.C., on Thursday, Nov. 29, at 2.30 p.m., with the Duchess of Portland in the chair. The speakers include Sir William Crawford, Mr. Philip James, director of the Council of Arts, Mr. H. W. Yoxall, and Dr. W. C. Fowler. Admission by ticket only, from the N.A.P.T., Tavistock House North, Tavistock Square, London, W.C.1.

The British Institute of Philosophy (University Hall, 14, Gordon Square, W.C.1) has issued a programme of lectures to be given during the Michaelmas and Lent terms. The course includes a lecture on Nov. 29 by Prof. H. Dingle on "Main Problems of Natural Philosophy"; and the Manson Lecture on Dec. 14 by Dr. W. Russell Brain on "The Neurological Approach to the Problem of Perception." All the lectures may be attended by members of the general public free of charge, on application to the Director of Studies at the address given above.

A Conference on "Homes and Hostels of the Future" arranged by the National Council for the Unmarried Mother and her Child will be held in the Queen Mary Hall, Y.W.C.A. Central Club, Great Russell Street, W.C.1, on Thursday, Nov. 29, at 10 a.m. The speakers include Dr. Dorothy Taylor, Dr. John Fenton, Dr. Letitia Fairfield, and Lieut.-Col. Albertine Winner. Tickets (2s. 6d.) may be had from the general secretary, N.C.U.M.C., 117, Piccadilly, W.1.

Sir Henry Dale, M.D., P.R.S., will deliver a series of three lectures on "Recent Developments in Chemical Therapeutics" before the Royal Institution (21, Albemarle Street, W.) on Tuesdays, Dec. 4, 11, and 18, at 5.15 p.m. In the first lecture he will discuss "The Beginning: Dyes, Arsenicals, Antimonials, etc."; in the second "Sulphanilamide and its Derivatives"; and in the third "Penicillin and Other Antibiotics."

There will be a clinical meeting of the Medical Society of the L.C.C. Service at Lambeth Hospital, Brook Drive, S.E., on Thursday, Dec 6, at 3 p.m., when members of the staffs of Lambeth and St. Giles' Hospitals will demonstrate cases.

The Chelsea Clinical Society has arranged a reopening dinner meeting, to be held under the presidency of Dr. Desmond McManus, at 6.30 for 7 p.m. on Tuesday, Dec. 11, at the South Kensington Hotel, Queen's Gate Terrace. All members who would wish to attend are asked to signify their intention to the secretary—Mr. A. Rugg-Gunn, 18, Harley Street, W.—and are asked to restrict their guests to those who may be regarded as potential members.

The following promotions have been made in the London County Council's mental health services: Dr. A. B. Stokes to be medical superintendent of the Maudsley Hospital, Denmark Hill, S.E.; Dr. A. C. Dalzell to be medical superintendent of Friern Hospital, New Southgate, N.; Dr. J. F. MacMahon to be medical superintendent of The Manor, Epsom.

There are many nursing orderlies who on release from the Royal Air Force are desirous of continuing their association with the medical and dental professions. Many could be suitably employed as secretaries, receptionists, and secretary-attendants to private consultants, medical practitioners, and dental surgeons. A register of such personnel is held by the Commandant, Medical Training Depot and Establishment, Royal Air Force Station, Halton, to whom applications may be made.

A Save the Children Fund relief unit has been assembled in London ready for departure for Malaya; its medical officer is Dr. R. W. Ross, who has seen service in tropical waters with the Navy.

Lieut.-Col. F. L. McLaughlin, M.D., has been appointed neuropsychiatrist to the British Ministry of Pensions and to St. Vincent's Hospital, Dublin.

American ambulances used in this country through the war years are being distributed to hospitals. On Nov. 12 the first of them was received by the General Infirmary at Leeds. Another ambulance was sent to Bradford, and a third to York.

Letters, Notes, and Answers

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: *Aitiology Westcent, London.* ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated.

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B.M.A. SCOTTISH OFFICE: 7, Drumsheugh Gardens, Edinburgh.

ANY QUESTIONS?

Rorschach Test

Q.—*Could you tell me briefly what the Rorschach test is and what objective information it is likely to yield? Could it, for example, establish a suspected diagnosis of psychoneurosis? I know that the method can be used only by somebody trained in it, but would also like to know whether it is widely used by British psychiatrists.*

A.—The Rorschach test consists of a series of symmetrical patterns such as are made by folding paper over a large irregular ink-blot. The Rorschach patterns were originally made in this way, and subsequently photographed and printed. The patterns are shown to the subject, and he is asked to "see" in them any figures he can imagine. Intellectual capacity is shown by the ability to organize the whole, or large parts, of the ink-blot into a single figure which has at the same time a convincing quality. Schizophrenia may be indicated by the appearance of bizarre and unlikely figures. Hypochondriasis may show itself in the recurrence of anatomical images, etc. In the hands of the skilled interpreter the test can give reliable and valuable information on normal and abnormal traits; it would certainly be possible to make a reasonably sure diagnosis of psychoneurosis on the basis of the test alone. Despite the high repute the test enjoys, it is used by only very few British psychiatrists; it takes a long time to administer and interpret, and both training and experience are required of the interpreter.

Incidence of Types of Dysentery

Q.—*What has been the relative incidence of the different types of dysentery in the British Isles during the last few years?*

A.—The notifications published by the Registrar-General are not tabulated by the type of dysentery. An approximation of the various types can be obtained from the returns of the E.P.H.L.S. The following distribution was obtained from these returns:

Type	Per 1,000 Total Cases
Sonne	892
Flexner	75
Newcastle	28
Amoebic	3
Schmitz	0.4
Shiga	2

Caution must be used in drawing any inferences from these values. The returns of the E.P.H.L.S. cannot be taken as representative, since they do not cover the whole country; some areas are almost completely covered and some are not included. Also the returns include cases from the Services. These military cases probably have a different distribution of types from that in the general population.

Inheritance of Retinitis Pigmentosa

Q.—*A man suffering from retinitis pigmentosa has hitherto refrained from having a child because of the fear that it too might suffer from this horrible disease. He and his wife want to know what risk is involved. If it is too great they will adopt a baby. One of the patient's sisters is similarly affected, but apart from this his father and mother, and, so far as he knows, all other relatives, are normal.*

A.—Retinitis pigmentosa may be due to any one of several genes (some of them partially sex-linked, though that is not of practical importance in the present connexion). Dominant inheritance is ruled out by the history given, and in any event is exceedingly rare. Sex-linked transmission is also rare, and is ruled out by the sex of the affected sib. The great bulk of instances of retinitis pigmentosa are due to a recessive gene. The affected sib and the normality of all other relatives leave no reasonable doubt that this is the mode of transmission in the present instance. The patient must pass on the gene for the condition; but only if his wife happens to be a carrier can a child receive the requisite double dose and so be

MEDICAL WAR RELIEF

On another page readers will find an appeal from the chairman and honorary treasurer of the Medical War Relief Fund—the second only that the Fund has made—for the generous support of all doctors in the work which the Fund has set itself to do, but which, with problems of demobilization and resettlement, will in the coming year be far beyond its resources. There is little to add to that appeal except a hint that this is not the occasion for the half-guinea or guinea donation with which one is apt to respond to calls upon the purse but for a sum which represents a real sacrifice, even as those who need help have sacrificed in the war. The appeal is for £100,000 and is being made to doctors only. This is not too high a target for any large profession which is zealous for the welfare of its members, still less so in the case of the medical profession, which has always been anxious to help its own. This figure, however, can be reached only if donations are sent in the manner and spirit of the 73 individual subscriptions which, within a fortnight of opening the appeal, brought in a total of £1,672. They should be sent as soon as possible to the honorary treasurer of the Medical War Relief Fund, at B.M.A. House, Tavistock Square, London, W.C.1.

THYROID AND SEX FUNCTION

Thyroid extract is often used clinically in treating sex disorders in women, though the rationale of this is not clear. We know little more than that the thyroid gland has some connexion with sex, since disturbances in sex function accompany thyroid disease. On the experimental side Engle[1] has recently established that thyroid deficiency in monkeys results in amenorrhoea, and that a course of thyroid treatment given for 10 days (20–60 mg. of thyroid substance daily) brings on menstrual bleeding 1–19 days after the last administration, followed by one or two further bleedings at normal cyclic intervals, even though there had been as many as 200 days of amenorrhoea preceding the treatment. True menstrual bleeding is not the only form of bleeding inhibited in the hypothyroid monkeys. They do not bleed after spaying as normal monkeys do, and after they are spayed the usual method of producing oestrogen-withdrawal bleeding (40 μg. of oestradiol benzoate daily for 10 days) is ineffective; but when thyroid is given as well the usual reaction follows. These experiments clearly demonstrate that thyroid has some role in the menstrual cycle, but give little indication of its mode of action.

Chu[2] has made a close study of the relation between thyroid and gonads: he has shown that thyroidectomy in the rabbit is followed by an increase in the number of follicles in the ovary and a decrease in the luteinizing potency of the pituitary gland. It is assumed that the thyroid stimulates the secretion of follicle-stimulating gonadotrophin and depresses the secretion of luteinizer. In Chu's experiments the reduction in luteinizing power was so great that mating did not produce ovulation in thyroidectomized rabbits, though the ovaries were extra-sensitive to injections of chorionic gonadotrophin. The normal ovulation response to mating could be restored by administering thyroid. The stimulation of the follicles after thyroidectomy should produce an increase in secretion of oestrogen. This extra oestrogen may explain the fact that Chu[3] was later able to show that thyroidectomy during pregnancy in the rabbit led to the resorption of embryos or the premature birth of dead foetuses. Pregnancy induced in thyroidectomized rabbits by mating and injection of chorionic gonadotrophin is usually longer than normal and also results in stillborn litters. The interpretation of this result is, however, complicated by superfecundation, since the extra follicles in the thyroidectomized rabbits respond to the ovulating injection of chorionic gonadotrophin, and at mid-term as many as 22 embryos may be present. Chu was successful in some cases in maintaining normal pregnancy in thyroidectomized rabbits treated with thyroid; ovulation was produced by mating in these animals.

If the activated follicles do produce excess oestrogen, however, it is difficult to see why they persist, since it is generally accepted that excess oestrogen inhibits the production or secretion of follicle-stimulating gonadotrophin. Investigating this point, Chu and Lee[4] find that the ovarian inhibition caused by large doses of oestrogen in intact rabbits does not occur in thyroidectomized rabbits. The follicular hypertrophy produced by thyroidectomy may be inhibited by thyroid treatment, and if the doses of thyroid are large the ovary may even become atrophic. Subthreshold doses of oestrogen insufficient to inhibit ovarian activity in intact rabbits were effective when given with thyroid, and administration of thyroid increased the ovulating activity of the rabbit hypophysis. These and other results lead the authors to conclude that thyroid secretions inhibit the secretion of follicle-stimulating gonadotrophin and stimulate the secretion of luteinizing hormone. It also appears that the effects of oestrogen on the follicle-stimulating activity of the pituitary are not direct and are either mediated by the thyroid or potentiated by thyroid secretion.

If these findings are confirmed there is little doubt that more account must be taken of the part played by the thyroid gland in the regulation of sex function. But at the moment the picture is by no means clear.

SOME CAUSES OF SYNCOPE

Fainting or syncope is a common enough occurrence, but it has many possible causes. A study of these is the basis of a recent article by Engel, Ferris, and Romano.[5] Some causes are rare, but their possibility must be borne in mind. The ultimate reason for the loss of consciousness is cerebral anaemia. The two contributory causes of this are fall in blood pressure and diminished output of blood from the heart. Failure of return of blood to the heart, due to pooling, loss of vasomotor tone, fall in rate, contributes to these defects. In the majority of cases the diagnosis can be made with a fair degree of certainty by clinical means alone if the patient is seen at the time; a careful history of the circumstances of the attack and of any premonitory symptoms may even provide a diagnosis in retrospect. The commonest group is that in which fainting results from a fall in blood pressure, which the authors call the vaso-depressor type. This includes what is more commonly known as the vaso-vagal faint. The relative importance of the vagal factor varies. In very sudden faints it may predominate, as Lewis pointed out long ago. In others the onset is more gradual and the vasomotor side is dominant; such cases may be purely psychological in origin. Sometimes a depressor reflex from the carotid sinus is over-active. This carotid sinus syndrome has attracted much attention, but in all probability it is rare, although a sensitive carotid sinus is not uncommon in the elderly. An interesting, though rare, type is true orthostatic hypotension; here there seems to be no control over the distribution of the blood in relation to posture. Possibly some lesion of the central nervous system lies behind it, or of the sympathetic. It can be caused artificially by very extensive affected. The chance of her being a carrier is remote—hundreds to one against—so the chance of a baby's being affected is very small indeed.

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[1] *Yale J. biol. Med.*, 1944, **17**, 59.

[2] *Endocrinology*, 1944, **34**, 90.

[3] *J. Endocrinol.*, 1945, **4**, 109.

[4] *J. Endocrinol.*, 1945, **4**, 115.

[5] *Cincinn. J. Med.*, 1945, **26**, 93.

The case would be entirely altered if the husband and wife were blood relatives. If, for example, they were first cousins she would stand a one-in-four chance of being a carrier, with a one-in-eight probability that any child would be affected.

One possibility should be mentioned, though only to be discussed. Could the affected persons in the present generation owe their abnormality to a dominant mutation and so pass it on to half their offspring? Even apart from the fact that there are two of them, the odds are many thousands to one against.

An important point of principle remains. Any child will receive the recessive gene from the father and so must inevitably be a carrier. Is it right to perpetuate the gene, with the chance that in some future generation it may meet its like and a sibship with retinitis pigmentosa appear once again? In my view this is not a sufficient reason for refraining from parenthood. If all of us but knew what undesirable recessives we carried, and adopted so conscientious an attitude towards posterity, the birth rate would indeed show a catastrophic decline.

This couple can therefore be told (unless they are cousins) that the risk is very small—only one in some hundreds. They should take that risk and have their own child.

The Law and Sterilization

Q.—*A woman aged 35 has had nine children, whose ages range from 15 years to 8 months. She is anxious to have no more pregnancies, but various methods of birth control have been unsuccessful. She is in hospital now for a colpoperineorrhaphy for a moderate degree of prolapse and complains also of backache, pains in the groins, and some epimenorrhagia. She and her husband are constantly asking for a sterilizing operation to be performed. Is this ethically right or justifiable? What are the chief considerations to be borne in mind when patients insistently request sterilization?*

A.—Ethically, the doctor's first duty is to do his best to preserve the patient's life and health. If legal considerations are laid aside, he is justified in sterilizing if he is satisfied that it is the best course in the patient's interest, though doubtless he will feel he owes a duty to obtain the husband's consent if possible. There is no reason to suppose that this ethical principle conflicts in any way with the law of the land.

A citizen of this country may do anything that is not forbidden by law. No statute, nor any reported decision of a judge, forbids a doctor to sterilize a woman with her consent. The only remaining possibility is that to do so offends against some hitherto unformulated principle of common law, and is therefore either an offence against the State or a wrong against some individual. If a doctor were prosecuted for sterilizing with the woman's consent—and the police would hesitate a long time before such an innovation—a court would have power to declare the common law infringed, but might well take the view that, as Parliament had already had plenty of opportunity to declare the law of offences against the person, the courts should presume that the existing statutes fully stated that law and that judges should not now create new offences in it.

If sterilization with consent is not a criminal offence, the only person who could conceivably be wronged by it is the husband. If he consented he would have no right of action. Even if he did not, it is highly doubtful whether a court would hold that he had a right to damages. If the medical reasons were sound the court would be most unlikely to say he had the right to refuse consent against the interests of his wife's health. (See also a question and answer headed "Voluntary Sterilization and the Law" in the *Journal* of Nov. 27, 1943, p. 701.)

Calcium *o*-Iodoxybenzoate in Rheumatism

Q.—*Can you give me information about the use of calcium o-iodoxybenzoate in spondylitis and rheumatism of the hip-joints? Has experience shown it to have beneficial results in these conditions, and is there any chance of constitutional upsets apart from gastric disturbances?*

A.—Without fuller details of the case it is hardly possible to reply to this question. What is the age of the patient? Is the condition in an active stage or is it chronic? Is any cause known? From the association of spondylitis with arthritis of the hip, and assuming that the patient is young, it seems likely to be a case of ankylosing spondylitis, in which disease the hip-joints are affected very soon after the spine in most cases. If, on the other hand, the patient is over middle age the condition is probably osteo-arthritis affecting both spine and hip-joints—a disease differing entirely in pathology, aetiology, prognosis, and treatment. In the absence of fuller information it can only be said that in the writer's experience calcium *o*-iodoxybenzoate is useless in ankylosing spondylitis; in other conditions it often relieves pain; and where there is associated fibrositis, as is often the case, some amelioration of symptoms is frequently experienced. The writer has not met with any constitutional disturbance accompanying its use beyond occasional gastric upset.

Discharge Swabs in Diphtheria

Q.—*I understand a few fever hospitals have dispensed with discharge swabs for diphtheria cases. Is there sufficient evidence to show whether this procedure will raise the incidence of diphtheria locally? What is the modern teaching on this question?*

A.—Standards of bacteriological clearance after diphtheria have varied quite widely without affecting return-case rates. Fever hospital administrators tend to resist repeated and meticulous swabbing of convalescent cases, partly for this reason but also because it defeats its own end by prolonging hospitalization and thereby increasing the risk of reinfection, particularly under open-ward conditions. This question of avoiding ward cross-infections should never be dissociated from the problem of the convalescent diphtheria carrier. Given adequate protection of the child from this point of view, and assuming the presence of healthy mucous membranes, a commonly accepted standard of bacteriological clearance is two swabs taken at an interval of a few days. Because it gives a more clear-cut picture, tellurite medium is for this purpose usually preferred to Loeffler's.

Penicillin in Meningitis

Q.—*What is the consensus as to the merits of intrathecal penicillin in meningitis (i.e., pneumococcal)? Hoyne of Chicago and Abel and Firor of Johns Hopkins say that intrathecal treatment is unphysiological. Is this true? Rosenberg and Sylvester ("Science," Aug. 11, 1944, p. 132) state that intravenous or intramuscular injection of 20,000 to 40,000 units of penicillin yields a cerebrospinal fluid concentration of 0.03 to 0.05 unit per c.cm. in 60 to 140 minutes, and that this is an adequate concentration to control meningitis. Is this true? Is the pleocytosis caused by intrathecal penicillin important?*

A.—There is abundant evidence that in order to maintain an adequate concentration of penicillin in the cerebrospinal fluid intrathecal injection is necessary. The amount passing into it after intramuscular or intravenous injection is too small, although there is some evidence that when the meninges are inflamed this increases somewhat. A concentration of 0.03 to 0.05 unit per c.cm. is only just enough to inhibit the growth of a sensitive organism; after intrathecal injection ten times this amount may still be present after 24 hours. The questioner is referred to the paper by Cairns and others (*Lancet*, 1944, **1**, 655) for a full account of the rationale, technique, and results of intrathecal penicillin treatment for pneumococcal meningitis.

The meningeal irritation caused by impure penicillin is naturally undesirable, although it is certainly not a contraindication to the treatment if no better penicillin is available. Penicillin of good quality (i.e., of over 500 units per mg.) has not this disadvantage. M. E. Florey and N. G. Heatley (*Lancet*, 1945, **1**, 748) have even suggested that if highly purified penicillin is available a sufficient dose could be given intrathecally to exert a systemic effect for 12 hours, as well as a local one. Patients requiring both forms of treatment could then be left undisturbed at night instead of continuing to receive three-hourly intramuscular injections.

Exertion Urticaria

Q.—*A healthy athletic man of 42 years has suffered since childhood from undue sensitiveness to salt. After bathing in the sea he becomes covered in small blisters. The same happens when he perspires freely. He eats a normal amount of salt. Is this a common condition? I have advised smearing the skin with an oil preparation.*

A.—Is there any evidence that this patient is sensitive to salt? The condition described here is almost certainly an exposure and exertion urticaria—a rare condition which usually starts about puberty and may persist a variable number of years or for life. It is clearly the result of an idiosyncrasy to some metabolic activities consequent upon exposure and exertion, with alteration in capillary permeability (upon which a good deal of work has been done by physiologists); treatment is not effective. I do not think the application of oil will alter the position.

Allergic Disease in a Family

Q.—*Please advise on the modern approach to treatment of a family of three generations severely affected by "allergic" conditions—e.g., asthma, hay-fever, eczema, and vasomotor rhinitis. Is there a general approach, apart from specific desensitization?*

A.—Investigations such as those of R. S. B. Pearson (*Quart. J. Med.*, 1937, **30**, 165) indicate that protein sensitivity is not infrequently found in subjects with no history of asthma or allergy, and suggest that something else is necessary for the appearance of symptoms. The common observation that allergic manifestations may disappear when a patient is admitted to hospital, even though contact with the allergen is maintained, emphasizes the importance of inhibitory factors in preventing the appearance of these disorders. Many psychologists have suggested that allergic affections are often a familial neurosis, provoked by the example or the anxiety of the sympathectomy. Complete cardiac standstill provides another cause. This may be reflex and provoked by stimulation of the carotid sinus. The standstill may affect only the ventricles, the auricles continuing to beat. These cases provide the Stokes-Adams syndrome. Many are due to failure in auriculo-ventricular conduction; but records, rarely obtainable, have shown that in others ventricular fibrillation or ventricular tachycardia is present.[6] In a unique case described by Bruce Pearson[7] there were prolonged complete cardiac standstill and profound bradycardia quite unaffected by atropine or anything else. Possibly, in this instance, the sinus was in a state of diminished excitability.

Occasionally fainting results from over-ventilation of the lungs. These patients are closely linked with those in whom hysterical fainting occurs. There is no change in the pulse rate, in colour, or in blood pressure; nor does the encephalogram show the change to high-voltage deflections which are constantly recorded in true syncope, thus differentiating hysterical "fainting" from any real circulatory disturbance. In old people syncope may be prolonged and recovery slow, perhaps because of cerebral arteriosclerosis. The only valvular lesion with which syncope is at all common is aortic stenosis, and that the type occurring in the elderly—fibro-calcareous stenosis.

The authors stress the following points in the history: frequency of faints, posture, nature of provocative stimulus, duration, focal neurological symptoms, rate of recovery, biting of tongue, or incontinence of sphincters; changes in colour, convulsive movements, sweating, changes in pulse and blood-pressure; and physical examination of the heart. Information on these points will usually provide a diagnosis. This is important, for fainting is always an alarming event for laymen and tends to arouse serious doubts as to the state of the heart. It will be seen that most cases are not serious in nature, but that a small minority are.

INTELLIGENCE AND EPILEPSY

The development of epilepsy in a previously healthy and intelligent child raises many grave problems for both parents and doctors. Among them is the question of education. Is it worth while for the child to embark upon a public school or university career, and is some measure of intellectual deterioration and impairment of memory to be anticipated or not? From a follow-up study made by Himler and Raphael[8] of 93 epileptic undergraduates at the University of Michigan it seems clear that the presence of seizures in individuals within the higher intelligence group need not necessarily constitute a barrier to academic training. Nor should it debar successful personal, social, and vocational adjustment after leaving college. Of the 93 students, 63 (70%) secured fair or satisfactory academic grades, while only 22 (24%) were classed as unsatisfactory. The proportion of these students who graduated, or whose continuance at college gave promise, was from 65 to 70%. Graduates included three with medical degrees, six with law degrees, and eight with masters' degrees. The authors also found that the seizures in college students generally ran a relatively benign course and responded favourably to treatment.

Yet another favourable conclusion can be drawn from a study of 186 normal and epileptic twins by Lennox and Collins.[9] Their data showed that with a good mental inheritance an epileptic patient is able to maintain a normal level of intelligence so long as there is no underlying gross lesion of the brain—for example, injury or encephalitis. In other words, contrary to common medical belief, a normally intelligent person who develops idiopathic epilepsy is much less likely to deteriorate mentally than one who develops symptomatic epilepsy.

ACTION OF CAFFEINE IN FATIGUE

Most of us assume that the action of caffeine in relieving fatigue is an action on the brain, for it is known to increase the speed at which work requiring mental concentration can be done. Recently, however, A. C. Ivy and his colleagues[1] showed that in man caffeine increases the capacity for muscular work in subjects unfatigued, and also the rate at which the muscles recover from fatigue. These observations suggested that caffeine might have a peripheral action on skeletal muscle as well as a central action; this would add but one more to the many pharmacological actions of caffeine, which affects not only the brain but also the heart, the kidneys, and the bronchioles. Huidobro and Amenbar,[2] working in Santiago, have shown that caffeine has such an action. If in the anaesthetized cat the nerve to the quadriceps is stimulated—for example, 14 times in 10 seconds—the muscle gives a succession of regular contractions; when an injection of 10 mg. caffeine is made into the femoral artery the contraction increases by 25%. Huidobro and Amenbar also found that caffeine intensified the action of prostigmin on muscle, and antagonized the action of curare, though the antagonism was brief. The relation between caffeine on the one hand and prostigmin and curare on the other indicated that caffeine might modify the action of acetylcholine on skeletal muscle.

It is now generally recognized that the motor nerve transmits its impulse to the muscle chemically by the release of acetylcholine. Experiment showed the indication to be correct, for caffeine increased the contraction produced in skeletal muscle by the intra-arterial injection of acetylcholine. Huidobro and Amenbar proceeded to examine the action of caffeine on the sympathetic ganglion, for here also the transmission of an impulse from the preganglionic to the postganglionic fibre is due to the liberation of acetylcholine. They determined the size of the response of the cat's nictitating membrane to a succession of injections of acetylcholine into the artery leading to the superior cervical ganglion, and showed that the interposition of an injection of caffeine increased the size of the response. These workers have therefore reached two interesting conclusions. They have shown that caffeine has a direct peripheral action on muscle by which the size of the muscle response to a given stimulus is increased. It is not clear that this effect is greater in fatigued muscle than in unfatigued muscle, but it is definite in both. Probably a liberal allowance of coffee or tea will benefit those suffering from myasthenia gravis. Certainly a cup of coffee is the right preliminary when we wish to try our strength at a fair. The second conclusion is that caffeine augments the action of acetylcholine not only in skeletal muscle but also in sympathetic ganglia; this should lead to a general investigation which may reveal that the same augmentation occurs in all organs where acetylcholine exerts an action. This would illuminate both the action of caffeine and the functions of acetylcholine, which is being seen to play an ever-increasing part in body processes.

Lieut.-Col. Gordon King, R.A.M.C., sends the gratifying news that the B.M.A. library in Hong Kong was found to be almost intact, and it has been temporarily stored in the University Library. The library is the only part of the university which escaped destruction and looting.

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[6] Parkinson, J., Papp, and C., Evans, W., *Brit. Heart J.*, 1941, **3**, 171.
[7] *Brit. Heart J.*, 1945, 7, 85.
[8] *Amer. J. Psychiat.*, 1945, **101**, 760.
[9] Ibid., p. 764.

[1] *Amer. J. Physiol.*, 1942, **136**, 79.
[2] *J. Pharmacol.* 1945, **84**, 82.

parents. Nevertheless, it is a great deal easier to theorize about allergy than to cure it, and, while there can be no doubt that inhibitory forces exist within the organism which can check the appearance of allergy in an individual who has inherited the tendency, there is no evidence that we can direct these forces in such a way, for example, as to prevent the appearance of infantile eczema in the offspring of allergic parents. It may therefore be most practical in the long run to concentrate on the factor of protein sensitization and try to render the home environment free from the common allergens—dusts and moulds.

Unsightly Bursa

Q.—*Is there any curative treatment for the pads of fat or bursae which appear round the external malleoli of middle-aged women? They are not painful but very unsightly.*

A.—Treatment for this condition can be only by deep massage and elastic bandaging. There is no other satisfactory palliative measure. Curative treatment by plastic operations seems desirable only where the cosmetic result is of particular importance.

Carbachol for Migraine

Q.—*Has carbachol any effect on migraine? If so, what doses should be used?*

A.—Carbachol has been stated to have an effect in migraine by A. K. James in an article in this *Journal* (May 12, 1945, p. 663). He found that a patient to whom he was giving tablets of carbachol orally for a dilated colon suffered much less from attacks of migraine during the course of the treatment. He therefore tried the method in other patients, and has published results in 12. . He recommends tablets each containing 0.002 g. (which is 2 mg. or 1/30 grain); two of these tablets are taken at once, and this dose is repeated two or three times a day. The daily dose was mostly 6 mg., but one patient was given 12 mg.

Colloidal Gold (Lange) Reaction

Q.—*Can you explain why it is that in an early case of G.P.I. the cerebrospinal fluid, which is W.R.-positive and gives a marked paretic reaction with Lange's gold test, will, after being kept frozen for three weeks, give a characteristic luetic curve? I have seen this twice recently. Is it common?*

A.—The colloidal gold (Lange) reaction is dependent on the presence of globulins in the cerebrospinal fluid; freezing the fluid in the refrigerator tends to "denature" the globulins and render them less soluble when the fluid is thawed. In the case of a fluid which has been frozen and then thawed this might explain the change in the gold curve. The difficulty could probably be overcome by drying the cerebrospinal fluid in the same way as serum is dried; this process apparently does not denature the globulins.

Miller-Abbott Tube

Q.—*How is the Miller-Abbott tube used and what are the indications for employing it?*

A.—The Miller-Abbott tube is a double-channelled narrow-bore rubber tube which is used for the relief of obstruction of the small bowel. In some cases it also helps to locate the site of obstruction. One channel is larger than the other and is used for sucking out the contents of the stomach and intestine; the smaller channel is used for the purpose of injecting air into a rubber balloon which surrounds the distal end.

The tube should be used only for those cases of obstruction in which one can fairly exclude strangulation of the bowel, for emptying the bowel above the strangled coil will in nowise prevent supervention of gangrene. Its chief use is in cases of obstruction due to kinks and adhesions in which distension actually increases the obstruction, in cases of paralytic ileus, and perhaps in some cases of incomplete obturation—e.g., obstruction by a gall-stone.

The tube can be introduced through the mouth or nose—preferably through the nostril, which has the clearest passage. If necessary the nostril and pharynx may be sprayed with a solution of cocaine to lessen irritation. The tube is moistened and pushed gently through the nostril till it reaches the nasopharynx; the patient is then given a little water to swallow while the tube is pushed on towards the gullet. Thereafter it is carried down to the stomach by the patient's own swallowing efforts. The fact that the tube has reached the stomach may be told either by the length of tube which has been swallowed, by the nature and quantity of fluid which may be aspirated, or by inflating the little balloon and gently drawing the tube back till the balloon is stopped by the cardia. After relieving the distended stomach by aspiration of the contents the patient is told to lie on the right side with a view to encouraging the tube to pass on to the duodenum. This should take place within ten or fifteen minutes. The fact that the tube is within the duodenum can sometimes be ascertained by noting the nature and reaction of the aspirated contents; otherwise by inflating the balloon with about 30 c.cm. of air and noting the rather irregular resistance met with during inflation. When once within the small bowel, the tube with its inflated end is gradually forced along the lumen. From time to time the contents of the bowel are aspirated through the larger channel so that the bowel is emptied of air and fluid as the tube advances. Its rate of advance varies from one to two feet an hour. Ultimately the end of the tube will reach down to the site of obstruction, and the relief of distension may actually cure the condition. In cases of organic stricture the tube will stop on the proximal side of the obstruction, and either may be seen by *x*-ray screening, or a little barium emulsion may be injected through the tube and may serve to demonstrate the obstruction.

The caution must be repeated that the use of the Miller-Abbott tube will not prevent gangrene in a strangled coil of gut; in such cases it may relieve the distension of the bowel above the obstruction and so make the necessary operation more safe.

LETTERS, NOTES, ETC.

Venereology

Mr. L. E. Eyres, M.A., writes from Ampleforth College, York: May a schoolmaster, with some knowledge of Latin and Greek, but none of medicine, intervene in your interesting debate on venereology, and offer the following reflections? The difficulty is enhanced by the fact that "V.D." is a violent euphemism. In itself "venereal" merely means "pertaining to the goddess of Love," and the emotion which a man feels towards the harlot who gives him gonorrhoea is certainly not *love,* or anything like it. In a world where spades were spades V.D. would mean, at worst, nymphomania, or its masculine counterpart. And when V.D. is shortened to "venereal" it becomes doubly euphemistic. The nuisance about euphemisms is that once they become established they deny us the use of the word or phrase in its proper sense. If I say "my mother went home yesterday" there are some tiresome people who will take me to mean that she died yesterday. Nor can I say that I have found a comfortable asylum for Aunt Susan without implying that she is insane. With a small *v* "venus" means beauty, charm, etc. Yet if I call Miss Smith a venereal young woman she will not take it as the compliment that it is, though she will not mind my calling her fiancé a *martial* young man. The expression "V.D." is now firmly established, and, though it is a slander on Aphrodite, pedants must acquiesce in it. But to introduce a *twofold* euphemism and call it simply "venereal" would be regrettable, I think, in a scientific treatise. Aedoeology would be strictly accurate: it is a pity that it is such a hideous word. But is it really any worse than, say, gynaecology or aitiology?

War-blinded Men

From St. Dunstan's (9-11, Park Crescent, W.1) there comes an illustrated pamphlet with an article by Sir Ian Fraser, chairman of the Executive Council, describing the work which that institution, a product of the earlier war, has done during the war just ended. Work for the blinded was first thought of as limited to home handicrafts, but Sir Ian Fraser says that experience has shown that, given proper training, blinded men can operate machines in ordinary factories. St. Dunstan's has placed 120 men of the last war and 45 men of the recent war in munition and aircraft factories all over the country. Fifty St. Dunstaners of the recent war have been trained or are training as masseurs, and 47 as telephone operators, while others are following their older comrades as smallholders, poultry farmers, shopkeepers, and the like. One man has been placed as a labour manager, another as a research engineer, and a third has successfully passed his law examinations. St. Dunstan's has established homes in India and in South Africa, and it is expected that the former will prove to be a pioneer institution in the care of the blind in India. Altogether over 900 blinded Service men and women, victims of the second world war, have passed through St. Dunstan's.

A Missing Doctor

Surg. Lieut.-Cmdr. A. S. Playfair (Manor House, Bagdale, Whitby, Yorks) writes: I have been asked by the very anxious relatives of the Dutch Dr. J. W. Brinkman if I could help in any way to trace him. He was last heard of as a prisoner in Sandbostel Camp in Germany in April, 1945. Apparently he fell ill with typhus fever just before the liberation, and was afterwards under the care of British Service doctors. In June his name could not be found in the list of those who had died in the camp epidemic. Other arduous attempts to trace him have failed. I should be most grateful if you could publish this, with its request for any doctor who might have some information, however slight, to write to me as soon as possible.

Correction

Dr. D. G. McIntosh, referring to the letter on the erythrocyte sedimentation rate (Oct. 27, p. 584), says that owing to an oversight he omitted to add corrections to the list of references cited. The corrected references should read:

Abeles, H., and Pinner, M. (1944). *Amer. Rev Tuberc.*, **49**, 490.
Clive, F. T. (1943). *Tubercle*, **24**, No. 4, 63.
Edwards, P. W., Penman, A. C , and Blair, L. G. (1945). *Lancet*, **1**, 429
Stiehm, R. H (1939). *Amer. J. med. Sci.*, **197**, 517.

TROPICAL MEDICINE IN WAR AND PEACE

BY

C. M. WENYON, M.D., F.R.S.

In his presidential address to the Royal Society of Tropical Medicine and Hygiene on the subject of tropical medicine in war and peace Dr. Wenyon pointed out that the need for sending large numbers of men to tropical and subtropical countries during the war had been a great stimulus to research into methods of treatment and prevention of diseases prevalent in these areas. Much had been done under the general heading of hygiene and sanitation, which includes feeding, housing, and clothing, and one sometimes wondered whether the low incidence of some of the food- and water-borne diseases might not have been due to these measures rather than to some of the protective inoculations to which the troops had been subjected.

Position at End of Last War

In considering the war which has just ended he was led to wonder what lasting progress in tropical medicine had been made in the previous war. It seemed to him that much of the information acquired then was of a negative rather than a positive nature. Thus, it was realized that quinine was not such a good drug as we had supposed. As a prophylactic even in maximal doses it failed to prevent malaria entirely, though he was convinced that attacks of malaria were less frequent and less severe under its use. It was also found that quinine was more active against *Plasmodium falciparum* than against *P. vivax*, so that when mixed infections were treated it often happened that infection diagnosed as caused by the former subsequently relapsed as a *P. vivax* infection. This was due to the tendency of *P. falciparum* to keep *P. vivax* in abeyance. When *P. falciparum* was eliminated by quinine, *P. vivax*, less susceptible to the drug, asserted itself later on. During the last war it was also found that emetine was not such a good drug as we thought. Though active in acute amoebic dysentery and hepatitis, it too often failed to eradicate the dysentery amoebae in chronic cases. Emetine bismuth iodide was introduced and found to be a better means of administering emetine in many of these cases. In the early days of the last war it was thought that practically all cases of dysentery were of amoebic origin—a conclusion which resulted in wholesale injection of emetine. It was only later that it was discovered that the bulk of the cases were bacillary in nature. For this type of dysentery treatment was by salines and serum, but Dr. Wenyon thought that the latter did little if anything to control the disease. It was during the last war that it was first realized how widespread was amoebic infection amongst apparently healthy people—so much so that any idea which may at first have been entertained of isolating and curing all carriers had to be abandoned. The criterion for treatment or invaliding became a clinical one.

One of the main advances in tropical medicine in the last war was the demonstration by Leiper in Egypt that the two parasites *Schistosoma haematobium* and *S. mansoni* had exactly the same life history as that described by the Japanese for *S. japonicum*. Applying the technique which had been shown to him by Japanese helminthologists in Japan, Leiper quickly solved the bilharzia problem in Egypt, and thus showed that infection, there as in Japan, was acquired by wading or bathing in fresh water where infected snails were living. Another disease of importance in the last war was Weil's disease, our main knowledge of which again was due to earlier Japanese work. It was in the last war that Weil and Felix first isolated *Bacillus proteus* from the urine and blood of typhus patients and showed that the serum of such patients contained specific agglutinins against this organism. The reaction—the Weil-Felix reaction—had been extensively employed as a diagnostic procedure not only for louse-borne typhus but also for the typhus fevers of the Tropics. It was during this period that the louse was finally proved to be the vector of European typhus.

When the Second World War broke out it seemed that tropical medicine was very much in the same position as at the end of the last war, except in two important respects. First, the Germans had introduced atebrin (mepacrine hydrochloride) for the treatment of malaria; and, secondly, Americans had discovered a satisfactory method of vaccination against yellow fever. It seemed reasonable to conclude that the immunity of our troops to yellow fever in West Africa and elsewhere was largely due to the wide use of this system of vaccination. The serious outbreak of yellow fever in the Nuba Mountains in the Sudan in 1940 is an illustration of what can happen when the disease breaks out in a non-immune population.

Recent Advances in Malaria Treatment

With regard to advances in tropical medicine in the present war malaria occupied first place. The loss of the quinine-producing countries to the Japanese created a very serious situation, particularly as there was some reluctance to accept mepacrine as a satisfactory substitute. In spite of the fact that many reports indicated that it was effective alike for treatment and prophylaxis it was thought that the evidence that it could be taken for long periods without endangering the liver was inconclusive, particularly as in certain trials the drug appeared to be toxic. Fortunately for the progress of the war, Brigadier Fairley took the matter up very seriously in Australia, and at the experimental malaria centre which was established at Cairns he carried out exhaustive experiments on volunteers who were infected by means of mosquitoes imported by air from New Guinea. Mepacrine, quinine, and other drugs were administered under strict control, while regular blood examinations and analyses were carried out. Frequently the presence or absence of infections was determined by the inoculation of 250 c.cm. of blood into fresh volunteers. Often the men under prophylactic mepacrine were subjected to the most strenuous exercises and exposures with a view to imitating the severest active service conditions. The general outcome of this work, carried out with scientific thoroughness, was the clear demonstration that one pill of mepacrine (0.1 gramme) a day was sufficient to prevent men on active service in the most highly mosquito infested regions going down with malaria. It was also shown that one pill a day could be taken indefinitely with no more ill effect than a yellow coloration of the skin.

This dose of mepacrine was sufficient to eradicate entirely the malignant tertian parasite, but only kept in abeyance that of benign tertian malaria. In this respect mepacrine behaved like quinine. Attacks of benign tertian malaria occurred regularly after the cessation of prophylactic mepacrine when the malarial area had been left. Similar good results had followed the use of mepacrine in Burma and West Africa—a fact which appeared to indicate that the Pacific strains of the malaria parasites are no more susceptible to the drug than those of other localities. Brigadier Fairley's results convinced the most sceptical of military commanders, so that it was decided to enforce the one-pill-a-day regimen under strict military discipline—a decision which altered the whole course of the war in the South-West Pacific, Burma, and elsewhere.

Various attempts had been made to trace the immediate development of malaria sporozoites after they had been injected by mosquitoes. The most successful work was that of the American investigators Huff and Coulson working with the chicken parasite, *Plasmodium gallinaceum*. They had shown that, injected into the skin of fowls, the sporozoite did not enter the red blood corpuscle but penetrated mononuclear tissue cells, where in 42 hours it had become a schizont, which broke up into 100 to 200 merozoites. These merozoites entered other similar cells and the process was repeated. As these exoerythrocytic forms reproduced, some of the merozoites eventually entered red blood corpuscles and started the erythrocytic cycle. Now workers at Cairns had shown that after sporozoites had been injected into a volunteer his blood was infective to other volunteers for a few minutes, proving that sporozoites circulated in the blood for this short period only. The blood then became non-infective and remained so for seven to ten days, when it again became infective. This negative phase occurred whether prophylactic mepacrine was being taken or not; but if it was being taken the following positive phase which also supervened lasted only two or three days in the case of *P. falciparum* infections, but persisted in the case of *P. vivax* infections. This seemed to indicate that the sporozoite of human malaria parasites, like those of the chicken parasite, reproduced first of all in tissue cells and only later invaded the erythrocytes. It also showed that mepacrine had no action on these tissue forms. It was lethal only to the stages in the

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THE RENAISSANCE AND ITS INFLUENCE ON ENGLISH MEDICINE, SURGERY, AND PUBLIC HEALTH*

BY

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Thomas Vicary, Serjeant-Surgeon to King Henry VIII, King Edward VI, Queen Mary, and Queen Elizabeth, Master of the Barbers' Company, four times Master of the Barber-Surgeons' Company, and Surgeon to St. Bartholomew's Hospital, flourished as England's leading surgeon from 1527 to 1562. His life was passed in stirring times. A new world had been discovered by Columbus. Vicary saw the convulsive change produced by the Reformation and the dissolution of the monasteries, the fires at Smithfield and Oxford smoking with the blood of the martyrs, and above all he experienced the influence of the Renaissance and the birth of freedom of thought, individual initiative and action which guided him in his work for British surgery.

It was in the times of Thomas Vicary, then, that a new spirit arose in national thought; and amid a despotic rule, much oppression, and injustice it is possible to trace advances in medicine and surgery, in public health, in social medicine, and in culture and education.

How the "New Learning" came to England

It was not until the value of Greek thought became manifest to the practical Englishman that the influence of the Renaissance became widespread. This heritage was brought to England from Italy by a band of Oxford men known as the *Humanists*. The teaching of Colet, Grocyn, and Linacre, together with the young Thomas More, made Oxford famous as a seat of learning. Bishop Fox in 1516 founded Corpus Christi College at Oxford in the interests of the new learning, and John Fisher promoted the spread of Hellenic thought at Cambridge. Once the new learning was established in the universities it influenced national thought and practice.[1]

England in Tudor Times

The period of the Middle Ages, it has been remarked, had a childlike simplicity of outlook: it experienced extremes of joy and misery; everything was either black or white. It reverenced authority—that of the Church in religion, of the aristocracy in politics, of Aristotle, Galen, Pliny, and Pythagoras in science; it was inconsequent and thoughtless, and loved glitter and display. The England of Thomas Vicary's time was the nation's adolescence.[2]

Under Henry VII trade and manufactures, especially the woollen industry, were encouraged. The wealth in the country increased, but it was in the hands of a new and powerful class—that of the traders. Queen Anne Boleyn's grandfather was a London merchant, and the most powerful Ministers employed by a Tudor king were Wolsey, the son of an Ipswich grazier, and Cromwell, the son of a Putney blacksmith. The old villeinage or serfdom had gone. In the demand for wool the landlords found it more profitable to convert their waste and tilled land into pasture land for sheep. In the words of Thomas More,[3] "they thrust husbandmen out of their own and made sheep consume, destroy and devour whole fields, houses and cities." This caused much discontent and unemployment, and partly explains the popular support which Henry VIII received in the dissolution of the monasteries, which owned most of the land. The abolition of the craft guilds left guildsmen unemployed.

Thus the country in Tudor times was infested with destitute persons. Many became vagabonds, thieves, and murderers. The Poor Law legislation of Henry VIII and Edward VI put the onus of relief on the charity of local districts. It was not until the celebrated Poor Law Act of 1601, which made the maintenance of the aged and invalid poor and the provision of work for the able-bodied a statutory burden on the parishes through the levying of rates, that the problems of unemployment and destitution began to be handled effectively.

The extent of the population in Tudor times can only be broadly conjectured. A rough census was taken at the time of the Armada (1588), and was found to be something under five millions. The population, according to Froude,[4] had probably approached this figure many generations before. It had been a stationary population, and did no more than keep pace with the waste from disease, epidemics, high juvenile mortality, and civil and foreign war. Wages and the prices of food were regulated, so far as regulation was possible, by Act of Parliament. Wages were high and food was cheap.

On the whole, except for the destitute and the very poor, the standard of nutrition was high. More people probably died of overeating than under-nourishment; for the multitude of clerks, apprentices, retainers, and labourers shared the good things of the tables of their masters.[5] The Spanish nobles who came into England with King Philip were astonished at the diet which they found among the poor. "These English," said one of them, "have their houses made of sticks and dirt, but they fare commonly so well as the King." "What comyn folke in all this world," says a State paper in 1515,[6] "may compare with the comyns of England in riches, freedom, liberty, welfare and all prosperity? What comyn folke is so mighty, so strong in the felde, as the comyns of England?"

The success as rulers of Henry VIII and Elizabeth lay in the fact that their strength rested in the support of the common people and the middle classes. To this end wages and food prices were controlled, pageants were provided for their amusement, and contentment prevailed. The Renaissance introduced a new style of architecture and there was much building of houses or extensions to existing mansions. These dwellings were surrounded by parks and pleasant flower and herb gardens. The princes built palaces, such as Richmond, Nonsuch, Greenwich, and Hatfield. Cardinal Wolsey's edifices at Hampton Court and Whitehall were both seized and completed by Henry VIII. The nobles, squires, and wealthy merchants followed the royal example, and new colleges were founded and built at Oxford and Cambridge. Dress, as we know from the portraits of Holbein, was ostentatious and costly among the courtiers and the well-to-do.

In various ways the amusement of all classes of society was catered for; there were masques, theatrical performances, archery, athletic sports, fairs, pageants, and shows, bull- and bear-baiting, badger-drawing, and cock-fighting: while public erythrocytes. As mepacrine entirely eradicated a *P. falciparum* infection it would seem that the tissue phase of this parasite was of short duration—perhaps two or three cycles only. The difficulty about these tissue forms of human malaria parasites was that they were at present purely hypothetical, as no one had yet observed them. Intensive researches were going on at the present time to discover such forms if they existed.

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* The Thomas Vicary Lecture, delivered at the Royal College of Surgeons on Nov. 1, 1945.

From the point of view of malaria prophylaxis the discovery of D.D.T. was of the utmost importance. Used in sprays in enclosed places it would destroy all mosquitoes that entered, and employed on water it would kill all mosquito larvae. Simmons, working in the U.S.A., had recently shown that the use of 20 mg. of D.D.T. per square foot of surface in a room would lead to the death of 60 to 90% of all wild mosquitoes which entered 20 weeks later. On water 1/10 lb. per acre would destroy all mosquito larvae. The discovery of dimethyl phthalate as an effective repellant was also of importance in malaria prophylaxis. It seemed that for the first time repellants had been discovered which actually did what was claimed for them.

Typhus and the Dysenteries

Another disease, Dr. Wenyon said, which threatened our troops in the South-West Pacific islands and Burma was scrub typhus. Here again, under the name tsutsugamushi disease, this rickettsial infection had been thoroughly investigated by the Japanese. The vector, being a mite, was very difficult to avoid, but it was found that dibutyl phthalate applied to the skin and to clothes and bedding not only repelled the mites but actually killed those coming into contact with it. A formalinized vaccine prepared from the lungs of nasally infected cotton-rats was in process of trial in Burma when hostilities ceased. Louse-borne typhus was a menace in North Africa, Iraq, Persia, and other places. A formalinized rickettsial vaccine prepared from egg-yolk cultures by the process of Cox and Craigie was employed, and it is reported to have given some protection. There was no doubt, however, that the use of D.D.T. as a dusting-powder and in solution for the impregnation of clothing had been the main reason for the low incidence of typhus fever and other louse-borne diseases. It had been shown that a soldier's shirt, once impregnated, would retain its insecticidal properties through many launderings —practically during the whole life of the shirt. Much attention during the war had been given to the possibilities of improving methods of diagnosis by agglutination and complement-fixation tests employing rickettsia as antigen, but for routine diagnosis the old Weil-Felix reaction had still to be relied upon.

Under the heading of dysenteries the most remarkable result was the demonstration by Marshall and his co-workers in the U.S.A. that sulphaguanidine was almost a specific remedy. His results were quickly confirmed in Egypt, and as soon as adequate supplies were forthcoming its use became general. It appeared that with the introduction of this drug bacillary dysentery ceased to be one of the major war problems. It seemed that sulphasuxidine, less readily absorbed from the intestine than sulphaguanidine, might be an even better drug for this purpose. At the outbreak of this war the method of treating amoebic dysentery was very much in the same position as it was in the last war. Emetine was being administered by subcutaneous injection or orally as emetine bismuth iodide, while this was supplemented by enemata of yatren or diodoquin by the mouth. In spite of this treatment many cases proved resistant, particularly those with a long-standing colitis. In cases of this kind Lieut.-Col. Henderson noted that improvement often followed the use of penicillin or one of the sulphonamides. This was due apparently to the eradication of secondary bacterial infections. He also noted that after this initial improvement the amoebic infection might be found to be susceptible to the routine anti-amoebic course of treatment. This observation disproved at once the view that cases resisted treatment because the amoebae had become emetine-fast. Actually there was no satisfactory evidence that emetine-fast strains of amoebae existed.

The Transmission of Kala-azar

During the war, but not perhaps as the result of a particular war effort, an important investigation which had occupied the attention of workers in India for many years was brought to a successful completion. This was the study of the method of transmission of kala-azar. The sandfly *Phlebotomus argentipes* was first suspected on epidemiological grounds. It was then shown that the leishmania developed into flagellates in the stomach of the sandfly and invaded the proboscis. Hamsters were infected by the bites of sandflies, and, finally, infected sandflies were allowed to feed on five volunteers in a district where kala-azar did not occur. All five became infected. The whole of this investigation, occupying over 20 years, was an excellent illustration of team-work in which many people played a part. In the field of leishmaniasis another interesting development was the demonstration by Russian observers in Middle Asia that in certain localities where oriental sore was very common gerbils and sousliks acted as reservoirs for the human virus. In the burrows occupied by these rodents in the desert sandflies lived and multiplied. The sandflies became infected from the rodents and handed on the infection to other rodents. In the burrows the climatic conditions were constant throughout the year, so that there was no seasonal incidence of the infection. At certain seasons, however, sandflies left the burrows and passed on the infection to human beings.

During the war outbreaks of schistosomiasis had occurred and attempts had been made to find better remedies than tartar emetic or fouadin, but, so far as Dr. Wenyon was aware, without result. Cases of filariasis had occurred in the South-West Pacific area, but there was still no remedy for this condition. The discovery of filariasis in the cotton-rat had led to this animal, as well as the dog, being used for experimental purposes. It might be that these animals would contribute to the discovery of a treatment, which was long overdue.

Future Teaching Facilities

These, said Dr. Wenyon in conclusion, are some of the more important advances in knowledge of tropical medicine which have been made during the war, and they show what can be done when there is a sufficient incentive. Now that the war is over one wonders whether research in tropical medicine will be carried on with the same enthusiasm and determination. In the U.S.A. interest in tropical medicine has increased steadily, so that there is hardly a tropical disease which is not under investigation in some form or another at the present time. There is no doubt that the U.S.A. will continue to add much to our knowledge of this subject during the years that are before us.

In this country the war has given rise to many difficulties, so that we are now in a much worse position than we were as regards facilities for teaching tropical medicine and caring for those returning to this country suffering from tropical diseases. Sir Patrick Manson, from painful personal experience in China, realized how essential it was to have in London a centre where tropical medicine could be taught to those who were going to practise in the Tropics. With the help of Joseph Chamberlain and the Seamen's Hospital Society, he founded in 1899 at the Royal Albert Dock the School of Tropical Medicine and the Hospital for Tropical Diseases. This centre functioned very successfully for a number of years till shortly after the last war a move was made to the building at Endsleigh Gardens. This offered few if any advantages over the old school at the Albert Dock, except that it was more accessible for students and teachers. Later still the London School of Hygiene and Tropical Medicine was founded as the result of a gift from the Rockefeller Foundation, and for the first time the School of Tropical Medicine which was incorporated was separated from the Hospital for Tropical Diseases. Before this there was established at Hamburg the Institut für Schiffs- und Tropenkrankheiten, on the pattern of the original centre at the Royal Albert Dock. It possessed a hospital for tropical diseases with an out-patient department, teaching laboratories, lecture theatres, and research laboratories. There is no doubt that it was planned on a more ambitious scale than the London School, but it was well organized, possessed a competent staff, and was very successful in every way.

It seemed to many who visited the Hamburg institute inexplicable that it was not found possible for London—the centre of the British Empire, with all its colonial possessions and dependencies in tropical lands—to have a Tropical Medical Centre at least as good as, if not better than, the one in Hamburg, which has now been razed to the ground. During the war our facilities for dealing with tropical diseases and teaching executions, whipping at the cart's tail, ducking a scold, and burning of witches and heretics provided more sadistic excitement. Such was "Merrie England" in the time of Thomas Vicary.

Education

The Tudor monarchs encouraged and practised scholarship. Linacre was Prince Arthur's tutor. The Oxford humanists, as we have seen, had established the new learning in the universities. Linacre founded medical lectures which bear his name at Oxford and Cambridge. Yet if it had not been for Sir Thomas Smith, "the flower in his time of the university of Cambridge," the universities might have perished at the Reformation.

Thomas Vicary knew Latin, but was probably not a classical scholar. However, he emphasized the value of a good general education for the surgeon. He was to be reasonably well versed in philosophy, grammar, and rhetoric, and a "lettered" man. Vicary's knowledge of and his affection for the works of Guido de Cauliaco are indicated by the request in his will "unto the hawle of my company one book called Guido." This was probably Guido's *Cyrurgia* of 1363. At the grammar schools the boys were taught to read, write, and speak Latin. At a few schools, like St. Paul's, Greek was taught and a little mathematics. The pupils were expected to know how to read and write before entrance—a fact which implies the existence of elementary schools, kept chiefly by the clergy. Tyndale's translation of the Bible into English undoubtedly stimulated the spread of elementary education. On the whole there was less illiteracy among the people of England in the sixteenth century than in the first half of the nineteenth. It may be assumed that the medical student of Tudor times received a reasonable general education, particularly if he went to the university before entering on his professional studies.

Social Medicine and Public Health

In reviewing the general state of England in Tudor times we have noted signs of progressive prosperity in trade and commerce, the abolition of serfdom, and in the main a well-nourished and athletic population. When we turn to the consideration of social medicine and public health the picture is much less favourable, but there are signs of gradual improvement.

It is in Henry VIII's reign that the beginnings of an enlightened public health policy in regard to water supplies can be noted, for in 1532 there was passed the important Act of Parliament (23 Henry VIII, C. 5) which appointed Commissioners of Sewers in all parts of the kingdom. Though much of the work of the Commissioners was riparian in character and directed towards preventing encroachments of the sea, flooding of low grounds, and maintenance of river banks, regulations were also made against trade effluents, deposits of rubbish in rivers, and pollution of rivers, streams, and wells. The larger towns were provided with a regular water-system with public standpipes, and water sometimes was laid on to the houses. London for a long time had been well supplied with water, but under the Tudors seven or eight more conduits were set up from which fresh water was hawked about the streets in barrels. These improvements in water supplies probably owed much to Sir Thomas More, who was appointed one of the Commissioners of Sewers along Thames bank between East Greenwich and Lambeth in 1514.[7]

Epidemic Diseases

There was much disease in England in Thomas Vicary's days. "Surfeits," scurvy, scabies, gout, and stone prevailed, and syphilis was a deadly scourge, as Dr. Johnston Abraham[8] has shown. Measles, smallpox, tuberculosis, typhus, and dysentery took a heavy toll, but the deadliest epidemics were bubonic plague and the "sweating sickness."

Plague

Plague had remained endemic in England since 1349, the terrible year of the Black Death, which destroyed two million people—half the existing population. At the beginning of the sixteenth century there was a general recrudescence of the disease. From 1511 to 1521 there is not a single year without some reference to the prevalence of plague in the letters of Erasmus and elsewhere.

The chief protective measure was flight from the infected locality, the King and the Court setting the example. Sir Thomas More, in a charge he made to the Mayor of Oxford in 1518, ordered inhabitants infected with the plague to keep in their houses and to "put out wisps and bear white rods." They were forbidden to have animals in their houses, and officers were required to keep the streets of the town cleansed and burn refuse. This procedure was later enforced by the London plague bills of mortality in 1532, parish registers of deaths (1539), and the plague orders of 1543, which were adopted in the Elizabethan regulations. The white wand became the insignia of the "searchers" of infected houses (which had to be marked and closed) and the bearers of the dead. Additional orders later made by the Corporation of London prescribed burning of infected clothing and bedding, cleansing of streets, closing infected houses for forty days, and many regulations about scavenging and sanitation.

The Sweating Sickness

The sweating sickness was one of those mysterious maladies, like influenza and *encephalitis lethargica* in our own time, which suddenly make their appearance, wreak havoc and destruction for a while, and then as suddenly disappear.[9] Five epidemic outbreaks of sweating sickness occurred in England in the sixteenth century. The disease was first noted in August, 1485. In 1502 it prevailed in the West Country, and Prince Arthur probably succumbed to it at Ludlow. In 1507 a milder outbreak occurred, but 1517 saw a third and much more severe epidemic, half the population in a town perishing in some instances. The fourth epidemic, in 1528, was one of great severity. In London that summer the mortality was very great. "One has a little pain," wrote Du Bellay,[10] the French Ambassador, "in the head and heart. Suddenly a sweat breaks out, and a physician is useless, for whether you wrap yourself up much or little in four hours, sometimes in two or three, you are despatched without languishing."

The fifth and final epidemic was in 1551, and was well described by Dr. John Caius in a treatise entitled *A Boke or Conseil against the Disease Commonly Called the Sweate or Sweating Sickness* (1552).* It did not cause much fatality among the poor, but chiefly affected the rich and those who were free livers. Caius noted that "they who had this sweat were either men of wealth, ease, or welfare, or of the poorer sort such as were idle persons, good ale drinkers, and tavern haunters." Dr. Creighton,[11] the epidemiologist, and Dr. Michael Foster[12] considered that the only disease of modern times which bears any resemblance to sweating sickness is *miliary* fever (*schweiss-friesel, suette miliare,* or "the Picardy sweat"), a malady repeatedly observed in France, Italy, and South Germany, but not in the United Kingdom. It was characterized by intense sweating and an eruption of vesicles, lasted longer than sweating sickness, occurred in limited epidemics, and was usually not fatal. The first epidemic was seen in 1718, and it continued to 1906, and even later. There were 175 epidemics in France alone.

Three Tudor Pioneers in Public Health

Sir Thomas More (1478–1535) is well known as Speaker of the House of Commons, Lord Chancellor, eminent humanist, saint, and martyr. In addition he was a great health reformer. We have to wait until the nineteenth century for a man of equal vision and breadth of view to appear in Edwin Chadwick.

More's friendship with Linacre probably first turned his attention to the problems of public health. His work as Commissioner of Sewers and in controlling plague has already been described. In his *Utopia,* printed at Louvain in 1516, he gave an account of "No-where"—the imaginary Commonwealth of the Renaissance idealists. The citizens of Utopia esteemed health as "the greatest of all pleasures." Inspired by his know-

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*I am indebted to Prof. W. G. Hoskins for a reference in Nichol's *History of Leicestershire* (p. 891), wherein is given an extract from the Loughborough parish register for 1551, as follows:—1551, June: "The Swat, called the New Acquaintance, alias Stoupe Knave and Know Thy Master, began 24th of this month." The register then mentions 12 persons who were buried in 12 days, and then goes forward to another page, where it is written at the top, "The Sweat or New Acquaintance," and mentions seven names all buried in three days, in all 19 in six [sic] days. After this it seems to cease.

tropical medicine have not improved. The Hospital for Tropical Diseases had to be evacuated for reasons of safety. The building was subsequently badly damaged and as a hospital was finally abandoned. It has been taken over by the Government, has been repaired, and is now occupied by a department of the Ministry of Pensions. The London School of Hygiene and Tropical Medicine has also been damaged, so that there is hardly enough space available for the primary work of the School, which is not tropical medicine but hygiene with special reference to this country. For purposes of teaching and research in hygiene more space is required, so there is a danger that tropical medicine will be cramped for room, if not crowded out.

A Great Opportunity

It does seem that there is at this moment a great opportunity for establishing in London a Tropical Medical Centre with a hospital, say, of 300 beds, for the care of sick people from the Tropics, laboratories and lecture theatres for the teaching of tropical medicine in close association with clinical teaching in the hospital, research laboratories in tropical medicine and allied subjects, and a well-advertised out-patients department where the many casual people from the Tropics who find themselves ill in London could receive advice and treatment. To carry out such a plan satisfactorily it would be necessary to build, which is a difficulty at the present time, though provision for the care of the ever-increasing numbers of persons returning to this country suffering from tropical diseases and requiring special treatment might be a sufficient excuse for breaking the rule. It seems that if building is not possible at the moment a suitable site might at least be secured before it is too late to obtain one and the site marked as the future Hospital for Tropical Diseases and School of Tropical Medicine. A great deal has been heard of colonial development and plans for the improvement in health and standard of living of the natives and others who reside in our tropical possessions. Large sums of money are spoken of as earmarked for these improvements. It seems that no single object would do more to bring about these results than the establishment—or rather re-establishment—in London of a Tropical Medical Centre. It would restore the position formerly held by this country in the field of tropical medicine, would be a monument to the many pioneers who devoted themselves to the study of tropical diseases, and would be a centre of tropical medical activity worthy of the British Empire.

MEDICAL WAR RELIEF FUND

AN APPEAL

Five years have passed since an appeal to the profession for subscriptions to the Medical War Relief Fund was published by the newly established Committee of the Fund, composed of the Presidents of the three Royal Colleges in England, the President of the Royal Medical Benevolent Fund, and the Honorary Officers and Chairman of the Charities Committee of the British Medical Association. The response was immediate and gratifying, and many subscribers have not waited to be asked again but have sent frequent contributions throughout the five years of the Fund's existence. The generosity of the profession has enabled the Fund to do grand work in helping British doctors to whom the war has brought acute financial difficulty and the widows and children of those who have lost their lives on the battlefields, on the high seas, and in the "blitz."

The time has come to appeal again. The Fund is now receiving more frequent applications for a larger measure of help than ever before, and probably the peak is still to come. Many medical officers released from the Services need very substantial assistance in re-establishing themselves in civil life. To help them effectively it is necessary to help them generously. The balance remaining in the Fund is only some £25,000, and it is expected that at least £100,000 will be required during the next year.

The Committee of the Fund is deeply grateful for the support received in the past. It appeals with confidence for continued and increased support now. To provide the relief sorely needed by those who have risked much and suffered much and by the dependants of those who will not return is a debt of honour which the profession must not and will not fail to discharge. But a lot of money will be needed to "finish the job." Every member of the profession is asked to contribute as generously as his or her means permit, and the committee appeals particularly to the generosity of those who have escaped the major financial hardships suffered by so many of their colleagues in the "blitzed" and evacuated towns and districts.

The fifth annual report of the Fund is published in the *Supplement* this week. The Honorary Secretary will gladly provide any further information desired. Cheques should be made payable to the Medical War Relief Fund and sent to the Honorary Treasurer of the Fund at B.M.A. House, Tavistock Square, W.C.1. A list of donations already received or promised in response to the new appeal is printed below.

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JOHN W. BONE, *Honorary Treasurer.*

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£210.—Royal College of Physicians, London (2nd donation).

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£15.—Dr. R. W. Cockshut, London; Dr. W. Cliff Hodges, Godalming.

£10 10s.—Prof. Seymour Barling, Birmingham (2nd donation); Miss Margaret Basden, London (2nd donation); Dr. Geoffrey Bourne, London; Dr. D. W. A. Bull, Stony Stratford (3rd donation); Sir Farquhar Buzzard, Oxford (2nd donation); Mr. V. Zachary Cope, London (4th donation); Dr. R. W. Craig, Edinburgh (2nd donation); Sir Allen Daley, London (2nd donation); Mr. H. N. Fletcher, Hove (3rd donation); Dr. A. E. Gow, London; Dr. Frank Gray, London; Dr. E. A. Gregg, London (2nd donation); Dr. A. H. Habgood, Stony Stratford (2nd donation); Dr. L. Leigh Hadley, Birmingham (2nd donation); Mr. S. L. Higgs, London; Sir Robert Hutchison, Streatley (2nd donation); Dr. Agnes V. Kelynack, Harpenden; Mr. C. E. Kindersley, Bath (2nd donation); Dr. J. F. Lambie, Glasgow (3rd donation); Mr. S. Gray MacDonald, London (2nd donation); Sir Ewen Maclean, Cardiff (2nd donation); Mr. W. H. McMulien, London (3rd donation); Dr. and Mrs. A. Macrae, London (4th donation); Mr. R. L. Newell, Manchester; Mr. L. E. C. Norbury, London (2nd donation); Dr. W. H. Pollard, Birmingham (3rd donation); Dr. H. W. Pooler, Ashover (2nd donation); Dr. A. M. Richards, Oxford (2nd donation); Dr. A. C. Roxburgh, London (2nd donation); Dr. S. Cochrane Shanks, London; Dr. S. Watson Smith, Bournemouth (3rd donation); Dr. W. D. Steel, Worcester; Mr. W. E. Tanner, London (2nd donation).

£10.—Mr. Victor Bonney, London (2nd donation); Dr. F. Chown, Penzance (2nd donation); Mr. C. B. Goulden, London; Dr. G. Graham, London (2nd donation); Dr. Arnold McMillan, New Romney (2nd donation); Mr. A. M. A. Moore, London (2nd donation); Dr. J. C. Muir, Box (2nd donation); Dr. Donald Paterson, London (2nd donation); Mr. G. A. Bagot Walters, Lincoln (5th donation); Dr. N. E. Waterfield, Little Bookham (2nd donation).

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ledge of the principles of Greek medicine, More[3] applied his learning to a description of desirable public health provision in Utopia. He envisaged a well-built city with gardens and open spaces, a public water supply, drainage, and cleansed streets, with public abattoirs outside. Public hospitals were provided for the treatment of rich and poor, and isolation hospitals for cases of infectious disease. Other amenities included communal meals; the safeguarding of maternity with municipal nurses for infant welfare; nursery schools (or crèches) for children under 5; free universal education for all children, with continuation, adolescent, and adult schools; religious instruction, industrial welfare, enlightened marriage laws, and eugenic mating and obedience to the laws of health, including fresh air and sunlight and active occupation without undue fatigue.

It is a comprehensive programme of social medicine which, written in the sixteenth century, expresses many of the aspirations of to-day. If Sir Thomas More had had a wise and discerning master, if that master had given him due authority and powers in administration, England would not have had to wait three hundred years for the initiation of national public health. Instead Henry VIII sent Sir Thomas More to the scaffold.

Sir Thomas Elyot (? 1490–1546), diplomatist and author, was also an enlightened social reformer. He was traditionally an M.D. of Oxford, although no evidence of this is extant.[13] He was English Ambassador to the Court of the Emperor Charles V, served on several foreign missions, and was knighted by Henry VIII, being the first medical man (according to Dr. S. D. Clippingdale) to be thus honoured. He wrote *The Castel of Health* (London, 1534), a Latin–English Dictionary (1538), and *The Boke named the Governor* (1531), a treatise on the education of statesmen. *The Castel of Health* is a medical treatise of prescriptions for various ailments, and Elyot gives an account of the disorders from which he himself suffered.

The third Tudor pioneer in public health was Dr. Andrew Boorde or Borde (? 1490–1549), traveller-physician—"Andreas Perforatus," as he humorously styles himself. It was at Montpellier that he wrote his *Fyrst Boke of the Introduction of Knowledge*, published ? 1547; the first printed *Handbook of Europe*; his *Dyetary*, published in ? 1542; his *Breuyary of Health*, published in 1547; and his lost *Boke of Berdes* (beards), condemning them. Boorde's *Dyetary* is an excellent manual of hygiene based on his medical experience and full of sound common sense. On nutrition he gives good advice:

> "Two meales a daye is suffycyent for a resting man; and a labourer may eate three tymes a daye; and he that doth eate ofter, lyveth a beestly lyfe. . . . Also sondry meates eaten at one meale is not laudable; nor it is not good to syt long at dyner and supper. An houre is suffycyent to syt at dinner; and not so longe at supper."

He also points out the unwise custom of beginning with heavy meats and only putting on better, light, and nutritive meats when the appetite is assuaged. The prodigious feasts of the time show that little heed was paid to his counsels. The instructions in the book for choosing a site and for the building and hygiene of a country house could hardly be bettered by the textbooks of to-day.

These three men—More, Elyot, and Boorde—were far ahead of their age. Under the rising sun of the Renaissance they grasped the fundamental principles of social medicine, nutrition, and education, and set forth their application in their writings. Much of the seed lay dormant for centuries. It is only in the public health and social reform of to-day that we begin to reap the harvest of their work.

The Hospitals

One of the most evil results of the dissolution of the monasteries was the abolition of the hospitals maintained by the monks for the care and treatment of the sick poor. Sir Thomas More in his *Supplication of Souls* exposed this short-sighted policy, but Henry VIII ignored the advice.[14] By 1539 the total number of suppressed religious establishments was 655 monasteries, 90 colleges, 2,374 chantries and free chapels, and 110 hospitals.

The Corporation of London foresaw the evil that would result, and in 1538 Sir Richard Gresham, the Lord Mayor, asked that the three remaining hospitals, St. Mary Spital, St. Bartholomew's, and St. Thomas's, and, also, the Abbey of Tower Hill, might be placed with their revenues at the disposal of the Mayor and aldermen, so that "all impotent persons not able to labour might be relieved."[15] Nothing was done until 1544, when Henry re-founded St. Bartholomew's Hospital, though he afterwards resumed possession of it. Henry's physicians said the only way of getting the King to listen to reason was to have him fall ill. This was exemplified on his death-bed in 1547, when he made the comprehensive agreement with the citizens which led to his posthumous, if unmerited, distinction as first founder of the five "Royal Hospitals"—St. Bartholomew's, St. Thomas's, Christ's Hospital, Bethlem Hospital, and Bridewell. It was through the efforts of the City Corporation that these hospitals were preserved.

Revival of Medicine

The first beginning of organization of the medical profession in England was undoubtedly due to the influence of Henry's physician, Thomas Linacre, a medical graduate of Padua and Oxford, who had seen the reputation and distinction to which the medical profession could attain in Italy under the star of the Renaissance, and in the interests of the public wished to separate physicians and surgeons from the horde of empirics and quacks. As is well known, he followed up the Act regulating the practice of medicine in London by founding the Royal College of Physicians of London in 1518. The letters patent state that to the establishment of this incorporation the King was moved by the example of similar institutions in Italy and elsewhere, by the solicitations of at least one of his own physicians, Thomas Linacre, and by the advice and recommendation of his chancellor, Cardinal Wolsey. The letters patent were confirmed by Statute 14, Henry VIII. The original founders of the College, John Chambre, Thomas Linacre, Ferdinandus de Victoria—all physicians to the King—Nicholas Halsewell, John Francis, and Robert Yaxley, with the addition of two other physicians, Richard Bartlot and Thomas Bentley, were named Elects, who should yearly appoint from among themselves a President. No person, except a graduate of Oxford and Cambridge, without dispensation, was to be permitted to practise physic throughout England unless he had been examined and approved by the President and three of the Elects.

> "It was expedient and necessary to provide that no person be suffered to exercise and practise physic, but only those persons that be profound, sad and discreet, groundedly learned and deeply studied in physic."

The apothecaries were then members of the Grocers' Company, by whom they were regulated. All apothecaries had their wares and medicaments examined by four representatives of the College of Physicians.

As indicative of the influence of the Renaissance in medicine it is to be noted that three at least of the founders possessed foreign medical degrees. John Chambre, a priest, was M.D. of Padua and Warden of Merton College, Oxford; Thomas Linacre, who took orders late in life, was M.D. of Padua; and Ferdinand de Victoria, who was also physician to Queen Katherine of Aragon, had probably a Spanish medical degree. Six of the eight Elects, if not all, were Doctors of Medicine of Oxford, so that this university had the major share in founding the College. Oxford in Tudor times had a prescribed medical course. The M.D. could not be got in less than fourteen years. The Statutes demanded the initial Arts course to the M.A. degree, then a faculty course of seven years.

Several papers have been written by Dr. Goldwin Smith[16] and others with the object of emphasizing the low standard of medical practice in these times. Dr. Edgar[17] and Dr. Pomeranz[18] have pointed out with apt quotations what a poor figure the physician cuts in the plays of Shakespeare and in those of other Tudor dramatists. But the doctor has always been the theme of satire on the stage, from the comedies of Plautus and Terence to *The Doctor's Dilemma*. It has also been remarked that the physicians of the Tudor Age made few contributions to the advancement of medical knowledge. Such a stricture is too severe, when the writings of John Caius on the Sweating Sickness and those of Sir John Elyot and Andrew Boorde are remembered. Queen Elizabeth termed Caius "the most learned physician of his age"—an epithet which posterity has confirmed. Caius was a physician, an anatomist, a great

donation); Sir Arnold Lawson, London (2nd donation); Dr. Jean M. Mackintosh, Birmingham (2nd donation); Dr. E. S. Orme, Wendover (2nd donation); Dr. L. S. Potter, London (2nd donation); Dr. J. A. Pridham, Weymouth; Dr. R. H. Thomson, West Lothian (3rd donation); Sir Henry Tidy, London (2nd donation); Dr. Agnes F. Turner, Dumfries (5th donation); Dr. G. P. Williams, Holyhead.

£5.—Mr. L. R. Broster, London (2nd donation); Dame Janet M. Campbell, Blockley (2nd donation); Dame Louise McIlroy, London (2nd donation); Dr. G. Stoddart, London (3rd donation).

£3 3s.—Miss Gladys H. Dodds, London; Sir Francis R. Fraser, London; Mr. H. E. Griffiths, London.

£2 2s.—Sir John Broadbent, Wendover (3rd donation).

£1 1s.—Dr. W. Arnott, Oxford (4th donation); Dr. S. F. Fouracre, Withernsea (2nd donation); Miss Gertrude Herzfeld, Edinburgh; Dr. Doris Odlum, Bournemouth (2nd donation).

Local Medical and Panel Committees

£200.—Nottingham (2nd donation).

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£105.—Leicestershire (3rd donation); Worcester County (2nd donation).

£100.—Bristol (2nd donation); Derbyshire (6th donation); Glasgow Burgh; Kesteven (2nd donation).

£60.—Cambridgeshire (2nd donation).

£50.—Northamptonshire.

£45.—Perth and Perthshire (2nd donation).

£42.—Huddersfield (2nd donation).

£30.—Walsall (3rd donation).

£25.—Aberdeen Burgh (2nd donation); Oxford City (5th donation); Rochdale (2nd donation).

£21.—Kilmarnock Burgh (3rd donation).

£10 10s.—Clydebank (2nd donation).

£5 5s.—Bournemouth; Caernarvonshire (2nd donation).

Total: **£4,149 6s.**

TUBERCULOSIS IN CHILDHOOD

"The Papworth experiment proves conclusively that it is unnecessary for childhood tuberculosis to occur even where the danger of massive infection is potentially present. It shows that this can be achieved without breaking up the family and, so far as the children have been followed, the results have a more lasting value than even the most optimistic of Papworth's supporters had dared to hope." This statement was made by Dr. ALAN MONCRIEFF in the course of delivering the third Varrier-Jones Memorial Lecture at the Hospital for Sick Children, Great Ormond Street, on Nov. 14. The chair was taken by Sir Wilson Jameson, Chief Medical Officer to the Ministry of Health.

The lecturer expressed grave concern as to the adequacy of existing methods of diagnosing, and combating, tuberculosis in childhood. Not only was it more difficult to detect the early signs of tuberculosis in children than in adults; the measures to be taken after diagnosis presented many problems. Notification, indeed, often made it difficult for suitable treatment to be arranged, because it was by no means always desirable for a child to be sent to a sanatorium; yet failure to notify prevented the other and valuable parts of the antituberculosis machine from coming into action. The results disclosed by Dr. Brieger's survey, *The Papworth Families,* proved beyond question Papworth's remarkable success in protecting children against the disease, and Dr. Moncrieff added that "much more could be done by local authorities to imitate the conditions achieved at Papworth."

A substantial proportion of the deaths from tuberculosis could be ascribed to infected milk. Compulsory pasteurization of all milk would "completely eliminate this menace," but meantime "bovine tuberculosis must still be faced as a serious cause of easily preventable mortality in childhood."

Special children's diagnostic clinics as suggested by the British Paediatric Association should be set up for the full examination of children who had been in contact with cases of adult pulmonary tuberculosis. He cited a case in which a sick child, admitted to hospital with no obvious signs of tuberculosis, was found to be suffering from the disease. When the parents were examined it was discovered that the father, who had never been ill, was a sufferer too. But for the accurate diagnosis in the case of the child she might well have remained, all unknowing, in contact with the tuberculous father, "and in such a case a fatal ending was more than likely."

Where home conditions could not be altered so as to protect children against infection, Dr. Moncrieff recommended the French Grancher system, under which children threatened by contact infection were boarded out in healthy families. He welcomed the news that a children's hospital was to be built at Papworth. In conclusion he advised: (1) increased recognition of the dangers of "droplet" infection from adults; (2) improved machinery for accurate diagnosis; (3) an effort to realize Papworth conditions in all tuberculous households; and (4) improved institutional facilities for child sufferers from the disease and a greater use of boarding-out facilities for healthy contacts. The fulfilment of such a programme would "go a long way to stamping out an essentially preventable disease."

COVENTRY SEES IT THROUGH

Besides the concentrated bombing attacks which it endured in 1940 and 1941, Coventry had a full share of the grimness of the home front during the war years. Among other factors menacing the city's health were the shelter life of a large number of its inhabitants, the strain of concentrated effort in the munition factories, large-scale immigration of industrial workers, and domestic overcrowding. Nevertheless the health report for 1944, which discloses certain local facts and figures relating to the five previous years, shows that the health of the city has been maintained at a satisfactory level. Since local raids stopped in the summer of 1941 the population has grown progressively, and in 1944 it stood at close upon a quarter of a million, which is several tens of thousands above the pre-war level. The death rate in 1944 was 9.7, as against 10.3 for the previous year and 11.6 for England and Wales as a whole, while the infant mortality, 48.4 to 1,000 births, was the lowest since 1937 and compares with 52 for the large towns and 46 for England and Wales. The comparative freedom from epidemic influenza during the war years is a matter of comment. It is estimated that 87% of the school-children and 49% of the pre-school children are immunized against diphtheria. One of the few shadows on the wartime health picture of Coventry is the increase in tuberculosis. During the last year 356 cases of pulmonary tuberculosis were notified, as compared with 231 in the last pre-war year. This higher incidence is attributed to the strain of war work and the limitations placed upon ventilation of homes and work-places by the black-out; the wartime dietary also cannot be exonerated. Venereal diseases make another blot on the record. The total number of new cases appearing at the treatment centres in 1944 was 1,322, a higher number than in any war year and comparing with 571 in 1938. The bombing has left a legacy of domestic overcrowding, damaged houses in occupation, and rat infestation of bombed sites which has taxed the sanitary resources of the city to the full.

CLINICAL PATHOLOGY IN CZECHOSLOVAKIA

A recent development in the organization of the medical services of the Czechoslovak Republic is the formation of the Czechoslovak Association of Clinical Pathologists. This step was closely linked with those steps taken by the Ministry of Health for the establishment of a penicillin service. Shortly after the liberation of Czechoslovakia the Ministry called upon Docent Dr. Vanicek, of the State Institute of Public Health at Prague, to organize this service.

It was decided to set up 22 stations for the distribution of penicillin, and on June 12 a meeting of the officers in charge of these stations was held at the State Institute under the chairmanship of Dr. Vanicek. At this meeting the need for some organization designed to bring pathology into close relation with clinical medicine became evident, and Dr. Vanicek and Dr. F. Pick, secretary of the European Association of Clinical Pathologists, who had recently arrived in Czechoslovakia from this country as a member of the first medical mission, were instructed to take steps for the formation of a society having this aim. At a second largely attended meeting held in Prague on July 10, with Dr. Vanicek in the chair, the whole question of the future organization of clinical laboratory work in Czechoslovakia was considered, and it was then decided to form a Czechoslovak Association of Clinical Pathologists and further that this should be a branch of the European Association. In Czech, as in all Continental languages, there is no term equivalent to the English "clinical pathologist"; the meeting decided to adopt the literal translation of "kliniky patholog."

The first general meeting of the new association was held at Prague on Oct. 18. Dr. S. C. Dyke, president of the European Association of Clinical Pathologists, was invited to be present, but owing to delay in transport he did not arrive until the day after the meeting. Over 100 medical men and women attended the meeting, at which there was a thorough and searching discussion of the future organization of clinical pathology in Czechoslovakia. In view of the fact that Dr. Dyke had arrived too late to attend the general meeting of the Association of Clinical Pathologists, a special meeting of medical men and women was called at the Prague Medical Institute under the chairmanship of Dr. K. Machácek, of the Ministry of classical scholar, an antiquarian, and a naturalist. Then there were Edward Wotton (1492–1555), M.D. of Padua and Oxford, the first English physician to publish a systematic treatise on natural history; and William Turner (d. 1568), M.A. Cambridge, and M.D. of Bologna or Ferrara and Dean of Wells, the first Englishman who studied plants scientifically. His *Herbal* marks him as the father of English botany. The Elects of the College of Physicians, Sir William Butts—who interceded with his royal patient, Henry VIII, both for Wolsey and for Cranmer—and others were regarded by their contemporaries as eminent physicians. In their busy professional lives they had little leisure for setting down the fruits of their experience, and what advances they made in the healing art went unrecorded.

The dividing line between physician and surgeon was not clearly drawn under the Tudors. By the Physicians Act of 1540 (32 Henry VIII) medicine was defined as comprehending surgery, and gave the physicians the right to practise surgery when and where they liked. Some of the surgeons practised physic, although this was forbidden by an Act of 1543 which stated: "No common surgeons may administer medicine outward . . . for although the most parte of the said craft of surgeons have small coonning, yet they woold take great soomes of money and doo little therefore; and by reason thereof they doo oftentymes impaire and hurt theyre patients, rather than do them goode."

Caius, as we know, lectured on anatomy, and the Barber-Surgeons enlisted the services of good physicians to teach their members both anatomy and surgery. One of these was Richard Caldwell, M.D.Oxon, F.R.C.P., who with Lord Lumley founded a surgery lecture, the Lumleian Lectures. The Barber-Surgeons' Company, to whom this was first offered, failed to take advantage of it, and the lectureship then went to the Royal College of Physicians.

Other physicians practised obstetrics as well as physic. George Owen (d. 1558), M.D.Oxon, physician to Henry VIII, Edward VI, and Mary, is said to have brought Edward VI into the world by performing Caesarean section on his mother. Owen was President of the College of Physicians in 1553 and 1554, and was the author of a treatise entitled "A Meet Diet for the New Ague set forth by Mr. Owen." (Fol. Lond. 1558.)

Under the influence of the Renaissance Thomas Linacre organized physicians into a fraternity, promoted their education on the lines of Greek thought, and established English medicine as a scholarly and learned profession. He received much help from his illustrious medical contemporaries and immediate successors. The value of this achievement must be measured by its after-fruits rather than by its immediate results in the advance of medical knowledge, though these were by no means inconsiderable.

Revival of Surgery

Many physicians, as we have noted, were still ecclesiastics. So at first had been many of the mediaeval surgeons, particularly among the Benedictines, until the practice of surgery by the clergy was forbidden by the Council of Tours in 1163. In 1279 a College of Surgeons under the patronage of St. Cosmas and St. Damianus, known as the Collège de Saint-Côme, was founded by Pitard, who had accompanied St. Louis to Palestine as his surgeon. It attracted many pupils, and the corporations of surgeons in London and Edinburgh were modelled upon it.

But mediaeval surgery was based largely upon tradition; surgical writings were reproductions of the classical or Arabian authors; and it was not until the Renaissance that surgeons dared to employ independent observation and reflection. Sir Hugh Lett[19] in a previous lecture has shown how the study of anatomy was revived and freed from stereotyped beliefs by Andreas Vesalius (1514–64) of Padua, how anatomy was studied and encouraged at Barber-Surgeons' Hall, and the contribution that Thomas Vicary made to this foundation of true surgery in his administration and teaching, and by his elementary textbook for apprentice-students entitled *A Profitable Treatise of the Anatomie of Man's Body*, which, unfortunately, was based upon the old treatises of Galen and others and did not include the new teaching of Vesalius. Vesalius's great work on anatomy was published at Basle in 1543, and as early as 1545 Thomas Gemini brought out a translation of Vesalius's *Epitome* entitled *Compendiosa totius Anatomie delineatio* with copperplate engravings copied from Van Calcar's woodcuts. It was dedicated to Henry VIII. In 1553 Gemini published an English translation of his Compendium made by Nicholas Udall, better known as the author of the first English comedy, *Ralph Roister Doister*. This manual was dedicated to Edward VI. The third edition, in 1559, was dedicated to Queen Elizabeth.

Thomas Vicary's work in uniting the Corporation of Surgeons with the Barber-Surgeons and in promoting the teaching of anatomy and surgery led immediately to progress in British surgery. First, as students were well taught by experienced surgeons, operative surgery became much more dexterous and resourceful. This led on to further advances. In lithotomy, improvements were made in the use of the staff and other instruments. A "radical" cure of hernia superseded the application of the actual cautery, operation for stricture of the urethra was improved, plastic operations were done, and ophthalmic surgery was taken to some extent out of the hands of quacks. Trephining was largely practised, even for persistent migraine. Philip William, Prince of Orange, is said to have been trephined seventeen times.

The Company of Barber-Surgeons undoubtedly raised the study and practice of surgery to a high level, organized professional teaching and standards, elevated the social status and general education of the surgeon, and opened a new era in observation and treatment of surgical maladies. Here the highest meed of praise is due to Thomas Vicary and his followers, Thomas Gale and William Clowes.

Conclusion

We have gone back together to the England of the sixteenth century and have tried to realize the times in which Thomas Vicary lived. We have seen his royal patients, bluff King Hal, the consumptive boy King Edward, the sallow-faced tragic Queen Mary, and the red-haired, beruffed, resplendent Queen Elizabeth, with "the body of a weak, feeble woman; but having the heart and stomach of a king—and of a King of England, too." We have met in Thomas Vicary's company the men he knew and who influenced him—the scholarly Linacre, the learned Erasmus, Dean Colet, Sir Thomas More, the saint and martyr, Sir John Elyot, and facetious Andrew Boorde; Sir Williams Butts and other Tudor physicians; and the surgeons, Thomas Gale and William Clowes—all, like Vicary, inspired by the Renaissance and labouring together to improve education, medicine, surgery, and public health so as to leave their country a better place than they found it.

At Vicary's side, in imagination, we have trudged through the ill-paved streets under the overhanging gables of the houses. We have witnessed the ravages wrought by the plague and the "sweating sickness." We have gone into the country, visited the pleasant manor houses, strolled in the flower-gardens, and seen something of the rural sports, the feasting, the jousting, and the maskers and morris-dancers. We have marked the changes brought about by the dissolution of the monasteries, the struggle to maintain the hospitals of London and the Colleges of Oxford and Cambridge, and noted the poverty and destitution which existed side by side with profusion and extravagance in high places. We have passed from mediaeval times into the Elizabethan Age. As Froude said: "Now it is all gone—like an unsubstantial pageant faded; and between us and the old English there lies a gulf of mystery which the prose of the historian will never adequately bridge."

Thomas Vicary lived, like us, in a state of transition, a time of unrest and of social upheaval, when old men dreamed dreams and young men saw visions. It was, as I have endeavoured to show, in medicine, surgery, and public health, not a time of building but of laying foundations well and truly on which a future edifice was to arise; not a time of harvest but a time in which the seeds of knowledge were sown. Linacre organized medicine and Vicary established surgery as learned professions. They thus opened the doors to the light of the Renaissance, brushed aside the cobwebs of the schoolmen, taught the value of independent thought, experiment, and observation, and rendered possible the epoch-making discovery of William Harvey, the investigations of John Hunter, and the triumphs of medical research which continue up to the present day. Equally, we have traced the beginnings of social medicine and public health in the enlightened writings of Sir Thomas More and his administration.

Health, at which Dr. Dyke, by invitation, spoke on "Clinical Pathology in England." Dr. Dyke spoke in English, with which the audience showed perfect familiarity, and the address was followed by a discussion.

The whole question of the future organization of the medical services of the Czechoslovak Republic is now engaging the lively attention of the medical community of that country, and there is the keenest anxiety to learn how medicine in all its branches has been developing in England during the years of separation of the two countries enforced by the war.

ROYAL MEDICAL FOUNDATION OF EPSOM COLLEGE

Annuity, Scholarships, and Grants

The Conjoint Committee of Epsom College will in February, 1946, award an annuity of £34 to a spinster daughter of a duly qualified medical man. Candidates must be not less than 65 years of age, and their annual income must not exceed £120 irrespective of help from the Royal Medical Benevolent Fund.

Educational grants will be also available in February from the Sherman Bigg Fund for children of either sex. These grants are not restricted to orphans or to members of any religious denomination, but candidates must be of public school age and in need of such help.

From the Eastes Trust grants are available for the relief of registered members of the medical profession of any age, their widows and orphans, and educational assistance for daughters or, failing them, sons of deceased male members, or full orphans, one or both of whose parents were members of the profession.

The Council of Epsom College will in March, 1946, award St. Anne's Scholarships to girls attending Church of England schools. Candidates must be fully nine years of age, and must be orphan daughters of medical men who have been in independent practice in England or Wales for not less than five years. The value of each scholarship depends on the means of the applicant and the locality and fees of the school chosen.

Forms of application for the vacant annuity, scholarships, and grants can be obtained from the Secretary, at the Secretary's Office, Epsom College, Surrey, and must be completed and returned by Jan. 18, 1946.

HELP FOR HOUSEHOLDERS IN CASE OF EPIDEMICS

The Minister of Health, in consultation with other Ministers, has considered the action which should be taken to assist households if infectious disease should assume serious epidemic proportions this winter. The Minister has primarily in mind the possibility of an influenza epidemic not requring admissions to hospital on a large scale, and the arrangements are framed accordingly. Steps have been taken to reinforce, so far as practicable, the defences against the introduction and spread of diseases from abroad, and the maintenance of the physical condition of the population so as to promote resistance to epidemic infections has been kept constantly in view by the Government; but the Minister thinks that local plans made in advance of a possible emergency will be a valuable additional insurance, which local authorities will wish to do their best to provide in conjunction with the Government Departments concerned. The main types of assistance which the Minister has in mind are in respect of doctors and nurses, help in the home, and provision of meals.

Doctors and Nurses

Arrangements have been made under which, in districts where the need is urgent, medical officers of the Services will give such help in civilian work as their duties permit. The War Office have also agreed to reinforce the civilian pharmaceutical services by the loan of a number of R.A.M.C. "other ranks" and V.A.D. members who are qualified pharmacists. Medical officers of health are being advised by the Minister's Chief Medical Officer on the methods of applying for help.

So far as nurses are concerned, the resources of the National Nursing Reserve, which is about to be set up, will be available. Authorities should also consider in what ways assistance can be given by the diversion or adaptation of existing services—e.g., health visitors and school nurses. The British Red Cross Society and St. John Ambulance Brigade will help in many areas, and in some it may be possible to enlist the services of former volunteer helpers at first-aid posts and rest centres to act as auxiliary nursing personnel.

Help in the Home

Welfare authorities have power to provide home helps under their general welfare powers, and domestic helps under Defence Regulation 68E, and plans should be made temporarily to develop these services as widely as the statutory authority permits. It may be possible to draw up reserve lists of those willing to serve in an emergency in these services. The W.V.S., the British Red Cross Society and St. John Ambulance Brigade, and other voluntary bodies will also be able to provide help in many areas. Generally the object would be that these services should operate without any delay on request from a doctor, a nurse, a health visitor, or a hospital; and that there should be some simple machinery for considering requests from other sources. The Ministry of Food and the Ministry of Education will be prepared, in an emergency, to facilitate arrangements on a payment basis for the provision of meals from British Restaurants and school canteens.

The Minister has consulted the headquarters of W.V.S., the British Red Cross Society, and the St. John Ambulance Brigade, and they have promised to help in the organization of these advance plans, and in the operation of them if this becomes necessary. An emergency of the kind contemplated would require the fullest exercise of local initiative and resource. It may be possible in some areas, where the Civil Defence services were closely knit, to reproduce wartime arrangements for mutual aid on a street basis, backed up by the local authority's resources as necessary.

A copy of the circular, which gives this information in detail and much general guidance for local authorities, has been sent by the Ministry to each medical officer of health.

MENTAL HOSPITALS IN WARTIME

The use, because of war conditions, of mental hospitals by the Emergency Medical Services of the Ministry of Health for the civilian sick may have helped to do away with some of the apprehension and suspicion with which they are regarded. This is one of the conclusions drawn by the Board of Control, in its 31st annual report,* from the fact that during the war years there has been a decrease in temporary and certified patients but an increase in the number of voluntary admissions to mental hospitals.

The steady increase in the number of voluntary patients has continued, and there are clear indications that the average period of stay in hospital has diminished. This change is due in part to the application of modern methods of treatment, but mainly, in the Board's view, to the fact that patients in recent years are being admitted to hospital at an earlier stage of the illness. The development of out-patient clinics has resulted in a wider appreciation of the work of the psychiatrist, psychologist, and social worker, both inside and outside mental hospitals. Many patients who hitherto feared to admit that they were ill are now ready to accept treatment.

Future developments recommended by the Board include more adequate facilities for diagnosis and treatment of both adults and children, with a wider range of contacts with schools, industry, the Courts, and the community generally. It hopes that such developments will be facilitated as a result of the inclusion of the mental-health service within the scope of the National Health Service.

Dealing with the considerable proportion of old people in mental hospitals, the report mentions the general belief that persons of 65 and over no longer find the comfortable place in the family circle which they enjoyed in the Victorian era. While this may be true there was actually a fall in the proportion of the admissions of old people in relation to the population in this age group at 1921 and 1931.

After-care for Ex-Service Cases

Further references are made to the scheme for providing after-care for members of the Forces discharged from special hospitals and centres on account of psychiatric disability. Arrangements were made early last year for the inclusion of merchant seamen. The total number of cases referred to the Board during 1944 was 2,651, but in addition many other ex-Service cases were brought to the notice of the Provisional National Council for Mental Health by Government Departments and voluntary organizations. Problems dealt with by the psychiatric social workers engaged in the scheme have been mainly those arising from the patients' mental condition, re-establishment in employment, family relationships, housing and furnishing difficulties, and financial worries. The year's experience of the working of the scheme indicates that it has afforded much-valued assistance to patients needing a specialized form of help which would not otherwise have been available.

At the end of 1944 the number of persons suffering from mental disorder notified as under care in England and Wales was 146,268 (males 62,518, females 83,750), a decrease during the year of 1,289 compared with a net increase of 39 in 1943. The average annual decrease for the five years up to 1944 was 2,182, compared with an average annual increase for the period 1934–8 of 1,691. Of the patients 87% were under care in mental hospitals provided by local authorities.

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* For reasons of paper economy, the report is not being printed or put on public sale at present.

For all this we honour the Oxford humanists and Thomas Vicary to-day. Each in our own way, whether our gifts be great or small, must follow the high aims the Tudor pioneers set before us to maintain health, to prevent and cure disease, and to improve the lot of man.

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PREVENTION OF HOMOLOGOUS SERUM JAUNDICE*

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Homologous serum jaundice, which has been reviewed several times recently (Memorandum of Ministry of Health, 1943; leading article, *B.M.J.*, 1944; leading article, *B.M.J.*, 1945), is being recognized with increasing frequency. It occurs 40 to 160 days after the introduction of foreign homologous serum into a recipient. This may be:

Accidental—during routine venepuncture with syringe and needle for blood samples for blood-sugar, B.S.R., etc., determinations or routine intravenous injections (arsphenamine, pentothal, etc.)—called "syringe jaundice." Traces of foreign blood are considered to have been left in the syringe and, through failure to clean and sterilize the syringe, this foreign serum gains access to the subject's circulation.

Deliberate—serum or plasma transfusion, prophylactic injections of measles and mumps convalescent serum or normal adult serum, and yellow-fever vaccination in which human serum is the suspension medium for the killed virus.

The prevention of homologous serum jaundice depends upon the circumstances of the introduction of the serum. In the "accidental" variety—syringe jaundice—adequate cleaning and sterilization of syringes and needles has been shown to reduce the incidence of post-arsphenamine jaundice practically to zero (Salaman *et al.*, 1944). The recommendations of the M.R.C. Syringe Sterilization Committee should be adopted: sterilization of all-glass syringes by dry heat (160° C.) for a minimum of one hour is the method of choice. If unsterile syringes only are available, although it has been recommended that the syringe and needle be withdrawn before the tourniquet is released (Shackle, 1945) to avoid sucking back of blood from the syringe into the vein when the tourniquet is released (Mendelssohn and Witts, 1945a), it is preferable by far that a needle only be used (Mendelssohn and Witts, 1945b; Darmady and Hardwick, 1945). When the introduction of serum is deliberate, prevention of homologous serum jaundice is much more difficult. The yellow-fever-vaccine problem was solved only by giving up the use of serum as a suspension medium. No satisfactory recommendation for the avoidance of homologous serum jaundice due to transfusion or to measles and mumps prophylactic sera has yet been made. MacCallum and Bauer (1944) have noted that it had been their practice to obtain supplies of normal human serum for use in the production of yellow-fever vaccine from a panel of donors whose state of health could easily be followed. The sera were always kept for a month before use in order to see whether any of the donors was incubating an infectious disease. Using such sera (apparently unpooled) no case of jaundice caused by the vaccine was reported. It was therefore our intention when collecting sera for measles prophylaxis to follow the donors for two to four months before issuing the sera for clinical use; but for transfusion purposes in the war emergency this was not possible.

MacCallum and Bauer's good results may have been due not to apparently healthy donors but to using unpooled sera. Whereas homologous serum jaundice often follows transfusion of serum or plasma alone or serum or plasma + blood, it appears to be uncommon after transfusion of whole blood alone, although cases have been reported (Beeson, 1943; Steiner, 1944). "It is, however, more difficult to be certain of the diagnosis in such cases. Batches of plasma and serum can be incriminated because multiple cases occur after their use; more or less homogeneous material has been given to many recipients. This does not obtain with whole-blood transfusion, which is a much more individual affair. Unless a single donor's blood on repeated occasions results in jaundice of the recipient, it is impossible categorically to aver that his blood carries a hepatotoxic agent; such a donor has not yet been reported" (*B.M.J.* leading article, 1944).

Investigation into Use of Single Sera

It was decided to investigate the results of introduction of single sera into a number of recipients and to compare the incidence of jaundice, if any, with that in a series of cases which had received only blood transfusion.

Collection of Sera.—Blood was drawn from 99 separate donors, under sterile conditions. 76 (Group I) of these donors had had no previous known attacks of jaundice; 15 (Group II) had had jaundice, apparently infective hepatitis, from some months to many years previously; 4 (Group III) had had homologous serum jaundice some months previously; and 4 (Group IV) were donors who had contributed four bottles of blood which had been the only material used for transfusion to a man with haematemesis who six weeks later developed jaundice. The blood of subjects in Groups I, II, and III (Table I) was allowed to clot at 37° C. and the clot to retract. The serum was pipetted off with a sterile Pasteur pipette and stored frozen until used a few days to a week later. The blood of the subjects of Group IV was collected in Nov., 1943, clotted at room temperature, and the serum Seitz-filtered and stored frozen until used for the tests 18 months later.

TABLE I.—*Follow-up of Donors and Recipients of Individual Sera*

Donors		Recipients				
				Complaints		
Group	No.	No. Tested	No. Followed	Jaundice	Nil	Miscellaneous
I (No previous history of jaundice)	76	462	444	0	433	Bilious attack 8 Skin rashes 3
II (Previous history of infective hepatitis)	15	91	82	0	79	Bilious attack 3
III (Previous history of homologous serum jaundice)	4	24	23	0	23	0
IV (Special cases)	4	25	24	0	24	0
Total ..	99	602	573	0	559	Bilious attack 11 Skin rashes 3

98 donors followed up 4 months:—94 no complaints; 3 bilious attacks; 1 skin rash; no jaundice.

Method of Administration.—On the day of use the serum was thawed out. A syringe and needle, sterilized by dry heat at 160° C. for two hours, was charged with the serum, and injections of 0.1 c.cm. of the serum were made intradermally with this syringe and needle into a series of four to nine, usually six, recipients.

Follow-up.—In the majority of cases the donors and recipients were followed up personally. At the end of 150 days each was asked by letter to answer whether he had had measles, scarlet

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* A report to the Medical Research Council from the S.W. London Blood Supply Depot.

R.A.F. PHYSICAL MEDICINE ESTABLISHMENT

At 1, Sussex Place, Regent's Park, London, in bright surroundings free from any hospital atmosphere, the R.A.F. has a physical medicine establishment providing facilities for early treatment of cases of injury to muscle and joint structures. The main objects of the work there are: (1) to prevent the late and crippling results which follow damage to muscles and joint structures and often lead to a varying degree of permanent disability; and (2) the treatment of chronic conditions of muscles and joints which have followed injury, operations, and disease changes not adequately treated in the early stages. The department, which started with one room and one half-time Service-trained masseuse in October, 1942, is now giving about 7,000 treatments a month, and has ten masseuses and a radiographer. The majority of the cases fall into seven groups: (1) Minor strains of muscles, ligaments, and other joint structures. (2) More serious strains of muscles and sprains of other joint structures, causing partial or total incapacity. (3) Atonic and wasted muscles after injuries of all kinds, including after-effects of dislocations and fractures and certain types of early periarticular arthritis. (4) Adhesions, many cases of which are treated by manipulation to free the adhesions, followed by graduated muscular contractions for muscular wasting. (5) Fibrositis. (6) Early periarticular arthritis. (7) Early osteo-arthritis.

On Nov. 9 Princess Alice and the Earl of Athlone made a tour of inspection of the establishment, being received on arrival by Air Cdre. J. Kyle, Sir Morton Smart, and Squad. Ldr. B. Kiernander, who is in charge at Sussex Place. They were shown some of the treatment that the patients undergo—including exercises, massage, galvanism, graduated muscular contractions. They also saw typical cases, among them that of a Dutch air gunner whose right elbow had been shattered. The visit concluded with two films, one of them—exhibited for the first time—demonstrating how muscles may be made to react by electrical stimulus.

Reports of Societies

PLACENTA PRAEVIA

Three contributions on placenta praevia, giving the tabulated experience of this condition at three maternity hospitals over a number of recent years, were submitted at a meeting of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine on Nov. 16. Prof. F. J. BROWNE presided.

Reduction of Foetal Mortality

Mr. C. H. G. MACAFEE (Royal Maternity Hospital, Belfast) based his remarks on 191 cases (including 24 private cases) from 1937 until Sept. 30 last. There were one maternal death (0.52%) and 42 stillbirths and neonatal deaths (22%). When the foetal mortality was corrected by the elimination of abnormalities, such as anencephalia, from the stillbirths and of gastro-enteritis from the neonatal deaths, it was only 18.8%. In an earlier series of 76 cases from 1932 to 1936 the maternal mortality was 2.6% and the foetal mortality 51.3%.

The two main objectives in dealing with placenta praevia were to reduce the foetal mortality without unfavourably affecting the maternal condition and to keep an open mind concerning treatment. One of the causes of foetal mortality in placenta praevia was prematurity. In the later years of the period under review the attitude adopted had been that placenta praevia was not an obstetric emergency which must necessarily receive active treatment on the first haemorrhage, and this attitude had much enhanced the infant's chances of survival by lessening the complication of prematurity. In this new series of cases approximately 40% of the stillbirths and neonatal deaths occurred in the first two years of the period. In 1944 there were only three such deaths, representing 16.6% of the cases, and in the first nine months of this year only one death (6.4%). The type or degree of placenta praevia had an important influence on treatment. Incidentally he pleaded for the removal from obstetric literature of the terms "lateral," "marginal," and "central," which were not consistently used by writers. The insertion of the cord in relation to the separated area of the placenta was important and accounted for a certain unavoidable foetal mortality. If the cord were inserted at the lower edge of the placenta where the separation occurred the child was unlikely to survive and often died from the initial haemorrhage.

Vaginal examination must be carefully considered. The decision as to when this examination should be carried out must be made by someone with experience, not by the junior resident medical officer. With a few exceptions a vaginal examination had been made in all cases in his series, but not until all preparations were ready for carrying out whatever treatment was most appropriate for the individual case. Therefore the examination had been postponed until the termination of expectant treatment. The cervix and vagina should, of course, be inspected by the speculum after the first haemorrhage. He submitted that vaginal examination was an essential part of treatment for the following reasons: (1) it was not possible to diagnose placenta praevia on the character of the haemorrhage; other causes of bleeding had been met with which would have been impossible to distinguish apart from vaginal examination; (2) the diagnosis of placent praevia should not be made unless the placenta had been felt in the lower uterine segment; and (3) it was only after making a vaginal examination that the type of placenta praevia and the best method of treatment could be decided. Mr. Macafee showed the following Table:

Methods of Treatment	No. of Cases	Stillbirths or Died	Per cent.
Artificial rupture of membranes ..	54	7	13·0
Artificial rupture of membranes and Willett's forceps	21	9	42·8
Version	23	18	78·3
Caesarean section	79	2	2·5
Breech	6	5	83·3
None	8	1	12·5

One maternal death followed a Caesarean section, and was due to a staphylococcal septicaemia—a maternal mortality rate for Caesarean section of 1.27%.

In the light of the excellent results recently published Mr. Macafee thought that as obstetricians they must revise their attitude towards the maternal and foetal mortality associated with placenta praevia. This mortality had been regarded as inevitable in the past; he believed it could be radically reduced, and that within ten years from now workers might be presenting results to the Section which would eclipse anything presented that night. He added that his own results were due to the collaboration of many individuals, including general practitioners, the hospital residents, the blood transfusion service, the anaesthetists, and, not least, the patients themselves. With more team work he felt that he could approach these cases with greater confidence.

Factors Making for Improved Results

Mr. LEONARD PHILLIPS (Queen Charlotte's) said that in 1933 at his hospital a system of allocation of cases was organized whereby any member of the staff could have in his care the particular type of case in which he was most interested, and it became his privilege to deal with cases of placenta praevia over a period of about five years. During that time 143 consecutive cases were treated. The maternal mortality rate in placenta praevia had been considerably reduced over the last ten or fifteen years. Formerly 10 or 15% mortality was quite common; 5% was now more usual, and there were series of cases which showed much lower mortality rates than that. The principal procedures had not changed much during twenty-five years and the conditions surrounding the cases were very much the same, yet the results had improved.

The first important factor responsible for improvement was that cases were sent into hospital in a better condition. Years ago any general practitioner felt himself able to deal with any case of placenta praevia, even under the most disadvantageous conditions, in the patient's home. Now the patients were sent into hospital, usually after the first warning haemorrhage. A second factor was the increased use and better technique of blood transfusion. Mr. Phillips placed this as the principal cause of the good results in his own cases. With a modern well equipped and staffed general hospital deaths from haemorrhage should be very rare, and if a patient arrived in good condition and died of haemorrhage from placenta praevia it should be taken as a personal reflection.

Another factor in improvement was the extended use of Caesarean section. He recalled a meeting at the Royal Society of Medicine twenty-five years ago when Dr. Herbert Spencer fever, diphtheria, jaundice, typhoid, or mumps in the past or recently, and also whether in the previous six months he had had bilious attacks, and if so when. The results of the follow-up are shown in Table I.

No jaundice occurred in any of the recipients or any of the donors during the period of follow-up. Eleven bilious attacks and 3 skin rashes were reported among the 573 recipients who answered the questionary, and 3 bilious attacks and 1 skin rash among 98 donors. Bilious attacks and skin rashes are very non-specific terms, and were included in the questionary only because they so often figure as complaints by people in the prodromal stages of hepatitis. It is probable that both the skin rashes and the bilious attacks were in this instance non-specific, because there was no appreciable difference in the incidence of such complaints in the recipients who might be considered exposed to the risk of homologous serum jaundice and the donors who were not, and because each of the 14 recipients who reported these symptoms had received different sera; thus, of the four to nine recipients of each serum, in no case did more than one complain of symptoms. It is notable also that the 105 recipients of serum from previously jaundiced cases, whether infective hepatitis or homologous serum jaundice, did not develop these non-specific symptoms more frequently than those who had received serum from donors who had not previously had jaundice.

Follow-up of Blood Transfusion Cases.—During the last five years subjects who have received whole blood or concentrated red cell suspension have been followed up carefully, at intervals of a few days to a few weeks up to two months or more by Dr. P. L. Mollison and ourselves. The object of this follow-up was to determine not the incidence of delayed post-transfusion jaundice but the survival of the blood transfused. Nevertheless it is probable that frank cases of jaundice would have been noted or learnt of during the periodical visits. In this way 213 cases were followed up. In Table II the cases and the period of follow-up are charted. In this series there was one frank case of jaundice; but this patient had all the stigmata of infective hepatitis. She was a girl of 16 who had been transfused for anaemia following appendicectomy. She developed jaundice within a day or two of her sister, nine weeks after leaving hospital and 13 weeks after transfusion. Three other siblings had had jaundice three weeks previously, and infective hepatitis had been rife at the school where one of the siblings attended. Another patient developed severe malaise and anorexia eight weeks after transfusion. She had been transfused with the blood of a man recently recovered from infective mononucleosis. She had no definite physical signs, but a blood count showed a slight lymphocytosis with the presence of a few primitive lymphoid cells. The Paul–Bunnell test was negative. This may have been a case of hepatitis without icterus.

Table II.—*Follow-up of Selected Cases Receiving Blood Transfusion*

Follow-up (days)	No. in Group	Jaundice or Hepatitis
60 to 69	96	0
70 „ 79	28	0
80 „ 89	7	0
90 „ 99	29	1*
100 „ 109	7	0
110 „ 119	11	0
120 „ 129	12	0
130 „ 139	14	0
140 „ 149	6	0
150 +	13	1†

* Diagnosed as infective hepatitis. † Diagnosed as ? hepatitis sine ictero. (See text.)

In addition to the previous follow-up, since 1942 we have been looking for cases of hepatitis following transfusion of whole blood alone. Only two suggestive cases have been found. One was the case quoted above—that of a man of 49 with haematemesis who was transfused on July 30 and Aug. 1, 1943, on each occasion with blood from two donors. On Oct. 14—45 days after the last transfusion—he developed prodromal symptoms of hepatitis; jaundice followed two days later. He knew of no contact with other cases of jaundice. The 4 donors (Group IV, Table I) who contributed the blood for his transfusions were interviewed. None of them had ever had jaundice or had recently been in contact with cases of jaundice. The other case was also that of a man with haematemesis, who in the course of two weeks received blood from 52 donors, all of whom could not be traced. He developed a mild jaundice eight weeks after the last transfusion.

Discussion

The follow-up of the cases transfused with blood alone was too short to pick up all potential cases of homologous serum jaundice. It confirms, however, the impression that this jaundice occurs only rarely after transfusion with whole blood. This is probably due to the fact that cases receiving transfusions of blood alone get homologous material from a few donors only, though it is now becoming more common for massive transfusions involving many donors to be given; this is exemplified in the above patient who had blood from 52 donors.

The present experiments with 99 individual sera suggest that these sera are as safe as individual bloods. The dose given—0.1 c.cm.—was small, but, with known icterogenic sera, doses of this order are no less icterogenic than doses of hundreds of c.cm. (MacCallum and Bauer, 1944; Bradley, Loutit, and Maunsell, 1944).

These results are in striking contrast with those of Janet Vaughan (personal communication, 1945) and others, which suggest that homologous serum jaundice following transfusion of pooled blood plasma or serum, with or without whole blood, occurs in about 10% of cases. The pooled plasma and serum used in these transfusions were prepared by mixing material from several hundreds of donors, Seitz-filtering the mixture, and, in the case of many of the icterogenic batches reported, drying *in vacuo*. It has been postulated that the icterogenic agent is a virus. If this be so, it could certainly pass the Seitz filter and presumably survive the drying process; it may even be stabilized thereby. If it be a virus, it is unlikely that it would be inactive in preserved whole blood. Therefore, if it be present in whole blood and yet blood transfusions rarely cause homologous serum jaundice, it can be present only in very occasional bloods. In such an instance the pooling of many plasmas and sera to make therapeutic or prophylactic sera is ill advised, as one icterogenic plasma or serum may contaminate the whole pool. It has even been suggested (Andrewes, 1944) that dilution of a virus may increase its virulence.

It can be recommended, therefore, that sera for prophylactic use should be individual sera. For transfusion therapy it is not practicable to obtain more than 200 to 300 c.cm. of plasma or serum from any one donor. This amount is inadequate as a therapeutic unit, and has the disadvantage in the case of single donors of having unwanted iso-agglutinins. Serum and plasma for transfusion purposes should in our opinion be obtained from two or three or at most ten donors, so selected that the iso-agglutinins are neutralized by the corresponding iso-agglutinogens present in plasma, by corresponding red cells, or perhaps by the purified "group-specific substances."

Summary

Each of 99 individual sera was injected into an average of 6 normal recipients. No case of homologous serum jaundice was detected within 150 days.

No case of frank homologous serum jaundice occurred in a selected series of 213 blood transfusions. Two possible cases of homologous serum jaundice, following blood transfusion alone, are recorded.

It is recommended that for therapeutic and prophylactic sera the serum used should be from a single individual or, at the most, from a few persons only.

We are grateful to Dr. P. L. Mollison for allowing us to use many of his follow-up records, and to physicians and surgeons of St. Helier Hospital, Carshalton, for notifying us of cases of homologous serum jaundice.

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declared that he had treated many cases of placenta praevia and had never found it necessary to do a Caesarean section. At the same meeting, however, Prof. Blair-Bell said that in nearly all the cases of placenta praevia that came to him he did carry out Caesarean section. To-day Mr. Phillips thought that it would be difficult to find any consultant of experience who could say that he had not done a Caesarean section. His own feeling was that all cases of complete placenta praevia ought to be so treated, as well as a number of others with conditions he described. Another reason for the extended use of Caesarean section nowadays was the different attitude towards the child. They still believed that the child should not be considered at the expense of the mother, but it was very difficult to say sometimes whether Caesarean section was at her expense or not. In these days of single children and spaced families, where very often a placenta praevia baby was one which came after ten years of married life, or where the mother herself demanded that Caesarean section should be done, the position was difficult, and they were all aware of the psychological damage that might be done to the mother as the result of a lost baby. Moreover, they were now very much better at dealing with premature babies.

Mr. Phillips then showed an analysis of his 143 cases. There had been two maternal deaths, both in the marginal type of case; there were no deaths in the lateral type or in the complete placenta praevia type. The stillbirth rate was about 50%.

Method of Treatment	Number of Cases	Maternal Deaths	Stillbirths
Artificial rupture of membranes and binder	54	0	21
Bringing leg down	15	0	14
Caesarean section	9	0	0
Caesarean section with plugging ..	6	0	1
Plugging with rupture of membranes and binder	59	2	39

Looking back on these cases he saw that he had made a number of mistakes. He no longer treated these cases as emergencies, he left them alone and waited until they bled, and if they bled heavily he then dealt with them along these lines. In another series of cases he thought he would do less plugging and more Caesarean sections.

Antepartum Haemorrhage in General

Miss **JOSEPHINE BARNES** (University College Hospital) dealt with the subject in relation to the general problem of antepartum haemorrhage. She said that there was a great deal of confusion over the classification of cases of antepartum haemorrhage and also the diagnosis and classification of placenta praevia. From 1927 to the end of 1944 there were 538 cases of antepartum haemorrhage admitted to the obstetric hospital at University College. Of this number 21 were delivered outside the hospital. The remaining 517 were classifiable as follows:

Placenta praevia	140
Accidental antepartum haemorrhage	73
Antepartum haemorrhage of uncertain origin	285
Antepartum haemorrhage from extraplacental lesion	19

A case was not accepted as being one of placenta praevia unless the placenta was either felt from below or was found in the lower uterine segment after section. Among these 517 cases the maternal deaths numbered 14 (2.7%) and the stillbirth or neonatal mortality (520 infants) was 192 (36.9%). Among the cases of placenta praevia alone the maternal mortality was 2.9% and the stillbirth or neonatal mortality rate 52.1%.

She went on to discuss the various methods of treatment. In cases of placenta praevia the methods of treatment adopted and the proportion of fatal results were analysed in the following Table:

Method of Treatment	No. of Cases	Maternal Deaths	Foetal Deaths
Caesarean section	38	1 (2·6%)	7 (18·4%)
Bringing down a leg	39	0	38 (97·4%)
Willett's forceps	36	2 (5·6%)	17 (47·2%)
Artificial rupture of membranes ..	11	0	4 (36·4%)

The maternal mortality occurred in what was known, according to the University College Hospital classification, as the second of the four degrees of placenta praevia. Like Mr. Macafee, she contended that classifications like "marginal," "lateral," and so forth should be set aside.

PLASTIC SURGERY

At a meeting of the Section of Surgery of the Royal Academy of Medicine in Ireland on Oct. 12 Mr. A. B. **CLERY** emphasized the necessity for an adequate case history in all conditions requiring plastic surgery. The cosmetic result was often as important as the functional result in the surgery of the face. All operations should be regarded as individual procedures and should not be stereotyped. He preferred general anaesthesia to local for large skin grafts or for operating on big scars, and used it exclusively in children; the intratracheal tube was necessary in oral surgery. With local analgesia premedication should be sufficient to ensure tranquillity in the patient; the local analgesic should be injected under the skin before making the injection along the line of incision. Deeper tissues could be infiltrated with a half-strength solution. Chemotherapeutic substances, such as penicillin and the sulphonamides, were only adjuncts to good surgery. Special precautions should be taken to avoid sepsis in operations in the oropharynx. Delicate instruments and very fine ligature material should always be used to avoid tissue trauma. There should be no tension on the immediate neighbourhood of the skin incision; and flaps should be well relaxed. When tension was unavoidable it should be widely dispersed. Deep relaxing sutures, tension bows, and pre-operative massage were valuable.

Types of Operation

The local advancement of flaps after resection was particularly useful in cases of hare-lip, birthmarks, moles, and the smaller scars. The lower lip was well reconstructed by rotation of the upper lip into the lower after a V section and wide undercutting. The main difficulty in utilizing the same operation for the upper lip was that the nose became compressed. To avoid this Mr. Clery advised the excision of segments of the skin of the cheek.

In cases of facial injury, because of the very good blood supply in this region, much débridement was not needed; sutures should be of fine nylon. If there was much tissue loss in the cheek region it might be advisable as a primary procedure to suture the mucosa to the skin in order to cut off sepsis; at a later stage plastic repair could be effected.

Keloid scars should be excised, and the area treated with a three-quarter erythema dose of *x* rays. In the repair of eyelids, neighbouring tissues might be advanced and utilized by undercutting and suturing; inlay skin grafts could be employed sometimes. For repair of the nose a modification of the old Indian forehead operation could be used, but if the forehead was scarred a tube graft from the abdomen might be transferred to the face via the wrist. The modern tendency was to use full-thickness skin grafts in rhinoplasty; these must be free of fat, of the exact size, accurately stitched, and kept under a pressure equal to 30 mm. of mercury for fourteen days. Unlike full-thickness grafts, split skin grafts could survive in the presence of sepsis and could be used on granulating areas—for instance, burns.

The annual general meeting of the Association of Anaesthetists of Great Britain and Ireland was held under the presidency of Dr. A. D. Marston at the Royal College of Surgeons of England on Oct. 31 and was attended by over 100 Fellows and Members. The business meeting took place in the afternoon and was followed after tea by three films demonstrating various anaesthetic techniques. A very successful dinner was held in the College in the evening, at which Sir Alfred Webb-Johnson, P.R.C.S., was the guest of honour. Next morning members attended operating sessions which had been arranged at the Middlesex, the Royal Cancer, St. Thomas's, and Westminster Hospitals.

G. Neubauer (*Arch. Dis. Childh.*, 1945, **20**, 81) examined 36 cases of cardiac complications among 602 cases of scarlet fever between August, 1943, and August, 1944, with the following results: 29 cases presented as myocarditis, 2 as partial auriculo-ventricular block, 4 cases as endocarditis, and 1 died of auricular fibrillation.

EAR DISEASE IN CHILDREN*

BY

D. RITCHIE PATERSON, F.R.C.S.Ed., D.L.O.

Ear disease with consequent deafness is so prevalent that it is a subject of great moment, whether considered from the standpoint of the medical affection or from that of economic loss to the community. Ear disease is no longer regarded with indifference, and the importance of conserving the hearing sense is generally recognized.

It is my belief that there are few more urgent problems than this in public health. In no other department of medicine is the effect of bad hygienic environment so evident. When good housing conditions give general sanitary science a fighting chance a reduction may be expected in upper respiratory and alimentary disease, of which middle-ear infection is such a serious complication. Meantime much of our treatment must be of a surgical nature, requiring not only knowledge of general surgical principles but an ever-present consciousness of the importance of the hearing sense. A prolonged period of emotional disturbance, and a life fraught with daily frustrations which only a most robust mentality can surmount, are the portion of a deafened individual. I feel that in many cases prompt attention to inflammation in the middle ear in its early stages would save the hearing, and in some few cases the life of the patient. We are constantly seeing patients with old-standing chronic suppuration in the middle ear who are irrevocably maimed by deafness. These cases are still too numerous among our school-children, and I would plead for more frequent resort to operative treatment in chronic ear suppuration in order to preserve the most important way into their minds—namely, the hearing sense. We have also seen those terrible catastrophes which follow intracranial complications of otitic origin.

Speech and hearing are indissolubly linked together. The "oo-eh" sound expressive of discomfort does not long remain alone, and within the first few weeks of life a number of different sounds expressive of comfort or discomfort can be noted. Babbling appearing within the first three months is characterized by perseveration—for example, "ba, ba, ba"—and the infant derives great satisfaction from this preliminary to speech. Possibly he senses, by feeling as well as by hearing, this new-found control over his vocal organs, for congenitally deaf children may babble just like those with normal hearing. During the second six months of life imitation becomes noticeable; but the child does not learn speech like a parrot, and the babble-word becomes speech when he subjectively connects some meaning with the word—for example, says "Mama."

About the beginning of the second year the one-word sentence appears. He offers the paper and says "Dada," or points to his mother's shoes and says "Mama."[1] About the middle of the second year he suddenly realizes the meaning and purpose of speech, and that everything has a name[1]; for example, he points to objects and says, "That! That!". As he learns inflexions he says, "That? That?"

Altogether this is a period of great mental development. I do not wish to go into this subject further than to emphasize that in the speech and language development of the normal child the essential processes are first hearing, then learning to imitate and to understand, the spoken word—accurate hearing of the whole of the words being an indispensable requirement. Just as the child in learning to read must scrutinize each letter carefully, so, to speak, he must hear every one of the complex tones which make up the pattern of speech. In the absence of hearing the understanding of words, speech, reading, or writing cannot develop naturally, and other ways in, through the eye and through touch, have to be found. Even acquired deafness, if severe and occurring before the fifth year, almost always destroys speech. Deafness occurring later produces a partial atrophy of speech, and even in adults the voice becomes monotonous and pronunciation imperfect. Auditory acuity and auditory memory are often found to be subnormal in children who show reading or writing disability.

Let us consider for a moment what bearing the anatomy of parts has upon disease of the middle-ear cleft.

Anatomy

By the ear, in a surgical sense, we mean not only the outer ear, or auricle and meatus, but also the middle-ear cleft, which extends from the Eustachian tube opening, behind the nose, by way of the Eustachian tube to the middle ear proper, thence by the aditus to the mastoid antrum and surrounding cells. It will be remembered that the temporal bone is developed from three parts: (1) the squamozygomatic, (2) the petromastoid, and (3) the tympanic ring.

The *petromastoid* is the portion which carries those parts essential to the auditory and vestibular mechanisms, and in addition it carries the bony parts of the Eustachian tube, the inner wall, and most of the roof and floor of the tympanic cavity, and also the mastoid antrum and its cells. It is important to realize that the roof of the tympanic cavity and mastoid antrum is also the base of the skull, and that in this situation a very thin plate of bone separates those parts from the meninges. The only portions of this, the middle-ear cleft, which are not formed from the petromastoid bone are a small part of the roof of the tympanic cavity, formed from the squamozygomatic bone, and the outer wall of the tympanic cavity, formed from the tympanic ring with its drum membrane. The drum membrane, therefore, is the only non-rigid wall of the middle-ear cleft, but it is of practical importance to remember that in the infant the tympanic membrane is relatively thicker than in the adult.

From these developmental facts it follows that there are two situations where different components meet—namely: (1) in the outer wall of the roof of the meatus—the squamopetrous suture; and (2) a vertical suture behind the tympanic ring—the squamomastoid suture. These sutures are important from a surgical point of view, since, until their closure one or two years after birth, cartilage remains in the neighbourhood, and, further, venous channels which persist throughout life traverse these routes.

The middle-ear cleft of the infant bears certain features which suggest its early predisposition to disease. First, it is lined by an outgrowth of the hypoblast of the upper air-passages, similar to the lining of the pharynx. It is this continuity of surface which is mainly responsible for the frequent development of middle-ear inflammation as a sequence of disease in the pharynx. Secondly, infection can pass from the pharynx, along the middle-ear cleft, more readily in infancy. The Eustachian tube in the child is much shorter than in the adult, and, further, the calibre of the tympanic end of the bony tube is as large as in the adult; hence in the child the whole canal is much shorter in relation to its width. The two portions—membranous and bony—are more nearly in the same straight line than in the adult; therefore the canal has no bend on it at the isthmus as in later life. Another point to notice is that the tube is almost horizontal in direction, so that while in the adult the pharyngeal orifice is on a lower level than the middle ear, in the child it is almost on the same plane as the latter structure.

It will thus be understood that extraneous material can find its way easily into the tympanic cavity of the child. On the other hand it is *highly probable* that the complicated mechanism formed by the chain of ossicles and folds of muco-periosteum over these little bones will prevent easy egress for extraneous materials, and, moreover, any blockage to the normal exit of the mucous secretion of the cavity will be followed by putrefactive changes in the retained secretion. This may be of little account in children fed at the mother's breast, but may be of considerable importance where heterogeneous materials are fed to the infant, and also where sterilization of that material is imperfect.

It should be noted that lymphoid tissue is found in abundance in relation to the tympanic exit (Eustachian tube), and, as in the case of lymphoid tissue in other parts of the body, this tissue predisposes to infection in the neighbourhood. It is universally recognized that infected adenoids are the most frequent cause of suppuration in the middle ear, especially in children.

Pathology and Aetiology

In infants infection of the middle ear is nearly always from the nasopharynx, either by direct extension or possibly by

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* An adaptation of an address read before a medical society.

Correspondence

Medical Future of the Colonies

Sir,—It is to be hoped that the leading article in the *Journal* of Nov. 17 on the medical future of the Colonies will arouse interest in the profession, and particularly among its younger members. I cannot pretend to be an authority on such matters, but for two years during the war I was consulting surgeon, East Africa Command, and in that capacity travelled widely in Kenya, Uganda, Somaliland, Abyssinia, Mauritius, and the Seychelles. I also visited Madagascar twice. These journeys gave me some idea of the immensity of the problems which face colonial medical services and of the difficulties which beset the medical officers belonging to them. Also, at the invitation of General Van Hoof, Director-General, Medical Services, I made a fortnight's tour of the Central Provinces of the Belgian Congo, and might have gone much further had not difficulties of air transport back to Kenya prevented this. I was much impressed by the efficiency of the medical services in that region—more efficient than our own because, so far as I could judge, much more money was available and also because the natives were under a far stricter medical discipline than is encouraged in British possessions.

The chief advantage gained by a doctor from colonial medical service is a unique opportunity of studying disease in all its forms; the chief satisfaction which he gains is that he can achieve so much by his own personal endeavours. The chief disadvantage is that he is cut off from association with other doctors, and completely separated from the great centres of learning which are found so close at hand in civilized countries. True, the bigger towns have their medical societies; in Nairobi, for example, there is a vigorous branch of the B.M.A.; but doctors in remote places are utterly without such contacts. If the best men are to be encouraged to make their careers in such a service frequent opportunities to refresh their knowledge must be provided. Opportunities to return to England for courses of instruction must be much more readily available than hitherto. It is not only in England that such postgraduate study need be sought; Johannesburg and Capetown already play their part in such training. And in Central Africa at Kampala in Uganda is Makerere College and its medical school (Mulago), which is devoted to the training of African medical students. The Colonial Medical Service have wise plans to develop this.

The needs, as it seems to me, are money and more staff, and it is to this latter point that I venture to draw attention. Splendid work is being done there and the opportunities for study are unique. No young doctor of first-class ability could fail to benefit from spending some time as a member of the staff of Mulago. But if he goes there, must he go for ever? Will his own or some other teaching hospital forget him because he has gone? Will such distant absence cause him to miss a vacancy on the staff at home? Now, if a really close liaison between Mulago and the teaching schools of this country can be established, so that to have held a post there for a period shall count strongly in a man's favour, then certain advantages will accrue. It should be possible not only to develop further the training of Africans as doctors but to establish, thus helped by an enlarged and varying staff, a readily accessible postgraduate centre for the medical services of Africa—both native and European.—I am, etc.,

London, W.1. R. Ogier Ward.

Sir,—The leading article on the medical future of the Colonies contains statements and makes assumptions which cannot be allowed to pass unchallenged.

Conditions vary so greatly in different parts of the Empire that generalization is hazardous. The article in question is obviously written from a West African view-point, and many of the defects, described as productive of that popular bugbear, "the feeling of frustration," are certainly not universal. And, to judge by your correspondence columns, this feeling of frustration is not unknown in the medical services of the Navy and Army.

As manifested by "grousing," the feeling of frustration is, moreover, by no means restricted to the medical services in the Colonies. But it is almost restricted to those who, lacking resources in themselves, are quickly disgruntled when deprived of the amusements—cinemas, public houses, and dances—to which they have been accustomed. The innumerable objects of interest by which they are surrounded in the Tropics have no appeal for them. Such persons are unsuitable for colonial service. Unfortunately, the notorious difficulty of getting rid of officials in a public service ensures their remaining in it, to poison the minds of younger officers. For, strange to relate, the very last thing these men desire is release from the service of which they have so much to complain. The removal of the difficulty in dispensing with the services of such undesirable officials is one of the most urgently needed reforms.

The familiar misstatement that what "can be done in war can likewise be done in peace" finds a place in the article. One had thought that this fallacy had long been exploded. The improved physique and mental alertness of the African, to which reference is made, was achieved by extremely generous rations (much of which was wasted) provided at the cost of severe shortage of food, amounting in at least one instance to famine, for the civil population. The response of the African to good food and living conditions is no new discovery; it was always to be observed in the K.A.R. and police. But the bald fact is that not enough food is produced in tropical Africa to provide adequate rations for all; to increase that production is the chief preoccupation of Governments.

The "raising of the standard of health of the indigenous populations," so greatly to be desired, involves much more than a "highly efficient medical service." The whole mode of life of many of these people will have to be changed "radically" but not "rapidly." Methods of cultivation, water supplies, communications, restoring the fertility of the soil, and many other questions are involved. Had those critical visitors to Africa enjoyed the advantage of observing what has, in fact, been accomplished in these directions during the past 25 years they would not, perhaps, have been so ready to find fault. Further, it may be remarked that before the war there were communities in Europe where the standard of life was little, if at all, in advance of that in tropical Africa, and must now be definitely below it.

It is true that the medical departments in many African colonies are understaffed, but figures showing the proportion of doctors to population are grossly misleading, unless accompanied by information on the number of such persons to whom European medical aid is acceptable. The appointment of additional specialist officers will avail nothing until the number of district medical officers has been greatly increased and there has been a general advance in civilization. For it is on the district M.O. that the rapid expansion of other departments has thrown such a great burden of extra work.

Changes of station are already frequent enough to cause dissatisfaction, especially among the married, and it is not easy to understand how more frequent upheavals would increase "the possibility of having one's wife and family with one." Lastly, in suggesting short-service commissions of five years "with a reasonable gratuity at the end," has the heavy expenditure by Government on the preliminary training of M.O.s in tropical medicine been remembered? Even Governments are entitled to expect an adequate return on their money.—I am, etc.,

Boscombe. J. B. Davey (formerly P.M.O., Tanganyika).

National Research into Tuberculosis

Sir,—In your second leader, "Triumph against Malaria" (Nov. 10, p. 653), tribute is paid to the fine example of British team work and organization which led to the discovery of a new antimalarial compound. The loss of quinine led to a search by British scientists for a new drug effective against malaria parasites, and it is now revealed that such a drug has been found.

In the same issue Sir Howard Florey (p. 635) states that much attention is being applied to the possibility of discovering an antibiotic which will be effective against tuberculosis. This letter is written in the hope that British medicine will do a little more—namely, establish a research unit with the sole respondirect droplet infection along the Eustachian tube. According to the experience of the majority of otologists blood infection is very rare, but it is by no means impossible; and it is more likely to occur in the young subject and in relation to those parts where cartilage is still present. *Primary* infection by micro-organisms from the external meatus is also uncommon, and would occur only through rupture of the drumhead from fracture accompanying injury to the skull or entry of a foreign body.

Since infection has its beginning in the nasopharynx, ear disease is commonest in those with poor anatomical types of pharynx; further, it is found that the micro-organisms responsible for the inflammatory exudate found in the middle ear are those types occurring in the pharynx—namely, *Streptococcus mucosus*, pneumococcus, other types of streptococcus, staphylococcus, tubercle bacillus, etc.

It has been seen that the presence of adenoid growth in the nasopharynx is of primary importance in disease of the middle ear. Even although adenoid tissue is not grossly infected, it may give rise to various pathological changes in the middle ear.

1. The Eustachian orifices may be blocked and the aeration of the middle ears prevented, so that the air in the tympanic cavities becomes absorbed and the tympanic membranes, lacking the equalizing-pressure effect of the column of air from the Eustachian tubes, are pushed inwards (producing the condition known as indrawn tympanic membranes). This in turn may give rise to the formation of adhesions, the improper functioning of the parts, and hardness of hearing.

2. Blockage of the normal exit, resulting in imperfect drainage of the mucus from the middle-ear cleft, may cause the tympanic cavity to be filled with more or less sticky fluid, and this may give rise to an even more pronounced deafness.

3. It should be noted that a similar condition to the last-mentioned would occur from the outpouring of an extra quantity of mucus, the result of a comparatively mild infection from the nasopharynx.

4. *Tuberculous Infection of the Middle Ear.*—This condition may arise by direct spread of the infection along the lymphatic arrangement in relation to the Eustachian tube or by droplet infection. It is just possible that it may also occur at the junction of cartilage and bone, in certain situations in the middle ear. The little yellow tubercles may be found studded over the muco-periosteum of the middle ear, and on breaking down may give rise to multiple perforations of the tympanic membranes. Remembering the points which I have brought forward concerning the anatomy of the Eustachian tube in the infant, it will be realized that use of tubercle-free milk marks an advance in the treatment of ear disease. When infection does occur the enlargement of the posterior chain of the lymphatic glands in the adenoid infection, or the anterior chain in the neck in tonsillar tuberculosis, usually directs attention to the pharynx, with the eradication of the primary focus before the middle ear is affected.

5. *Acute Suppurative Otitis Media.*—This is one of the commonest aural conditions that not only the otologist but the general practitioner is called upon to diagnose and treat. It arises in very many cases from an acute infection in the throat, and while it is usually seen during the course of the exanthemata (especially in measles and scarlet fever) it is hardly less common during influenza, acute coryza, and certain epidemics of gastro-enteritis. There is the invasion of the middle ear by virulent micro-organisms—e.g., *Str. mucosus* or *Str. pyogenes*—with destruction of the mucosa and the formation of pus. In the early stages petechial haemorrhages may be seen in the mucosa, and the exudate is sero-haemorrhagic but rapidly becomes purulent. In some influenzal cases, however, it is frankly haemorrhagic. The tympanic membrane, the only membranous wall to the cavity, ruptures early in the course of the disease if the virulence of the infection is great and if the drainage is interfered with by swelling of the mucosa. The mastoid antrum and cells may become infected and, an acute mastoiditis resulting, at any moment the disease may spread to neighbouring vital organs, with far-reaching consequences and disastrous results.

The course of suppurative otitis media is subject to much variation, and fortunately, like inflammation elsewhere, resolution may occur. It may run a fairly acute course for a few days and rapidly clear up, drainage taking place through the Eustachian tube. Again, rupture of the tympanic membrane may result in such good drainage of the middle ear that rapid recovery and healing of the tympanic membrane follow. On the other hand, the acute phase may pass into a chronic condition. The perforation does not heal up, and secretion from the chronically inflamed lining membrane escapes through it. Or the secretion may become inspissated, obstruct drainage, and thus lead to the condition flaring up as before. This is especially true of *Str. mucosus* otitis media—possibly the most insidious of all infections of the middle ear.

In *chronic inflammatory conditions of the middle ear*, especially in children, there is a tendency to the formation of granulomatous masses, of polypi, or, later, of cholesteatomatous material. So long as the inflammation, acute or chronic, persists, complications may arise. These are (1) acute mastoiditis, (2) extradural abscess, (3) sinus phlebitis, (4) leptomeningitis, (5) cerebellar and cerebral abscess. These complications depend upon the direction in which the infection spreads from the middle ear. From the mastoid antrum, the posterior end of the middle-ear cleft, the inflammation may spread outwards, upwards, or backwards. If outwards, a periostitis is set up and a mastoid abscess may present itself. This occurs most often in children. This abscess may remain in the locality of the mastoid or, passing downwards, may appear under the deep fascia below the mastoid process. If the spread is upwards from the antrum or middle ear, necrosis of the thin bony roof occurs, or the process may result in thrombosis of the osseous veins. In either case extradural abscess, leptomeningitis, or cerebral abscess may result. If the direction of spread is backwards an abscess may form round the wall of the lateral blood sinus, the wall itself may become inflamed, septic thrombosis may occur within the lumen, the leptomeninges of the posterior fossa may be infected, or, lastly, a cerebellar abscess may form. Should the infection spread inwards the labyrinth is involved and the delicate mechanisms—cochlear and vestibular—are destroyed. The infection passes readily from here along the internal auditory meatus to the cranial cavity, giving rise to a generalized purulent leptomeningitis.

Symptoms and Signs

A careful assessment of the patient's general condition is just as important here as in other specialties. The history-taking and as much of the examination as possible should be conducted in daylight. Time is not then likely to be lost in the treatment of certain occasionally concurrent manifestations of disease—icterus, for example. There are complications of cardiac, renal, and blood systems which are called more readily to the surgeon's mind when the preliminary examination takes place in good daylight.

To the infant "all that is painful is evil, while all that is pleasant is good." Crying is practically the only means by which the infant can indicate discomfort or pain. The history will be obtained from the mother or nurse, and the onset of the disease is arrived at by questioning back day by day up to the time when the child was well. Disturbed sleep or irritability of temper has usually been noticed by the mother. If at all possible, the examination should be carried out while the child is asleep in his mother's arms, so that if he should awake he will not be alarmed. In the infant, therefore, it is best to complete the examination of the ears before that of the nose and throat. A view of the tympanic membranes is not difficult to obtain when an electric otoscope is used, and this instrument is to be recommended, especially for children. Gentle pressure on the chin is sufficient to cause wide opening of the mouth, thu allowing of a thorough examination of the mouth and fauces further, it is quite easy to inspect the anterior nares.

Frequently symptoms ascribed to the teething period ar found to be due to unrecognized inflammation in the middle ear cleft. The association of the eruption of teeth with middle ear disease is well recognized by many of the laity. Not lon ago an anxious mother brought her child for examinatio because his ears had not run when he was cutting his teeth

For reasons already explained, infants and children ar especially susceptible to the acute type of catarrhal otitis medi Any unexplained febrile illness in a child should lead to a care ful examination of the drumheads. Fever of 100° F. ofte sibility of finding a chemotherapeutic compound which will cure tuberculosis. At the present time the defeatist attitude which exists in the field of tuberculosis is to be deprecated, and it is a sad state of affairs that we are content to spend millions on palliative measures alone. What is needed is a drug to cure the disease, and the only answer is a scientific research unit planned on a nation-wide scale and backed by the country's resources. Untold millions have been spent on research for discoveries having any bearing on war, and yet a mere quarter of a million pounds is the Government's contribution to medical research each year. I can think of no better or more useful purpose than the application of science to finding a cure for tuberculosis. Furthermore, planned research to attack the problems of tuberculosis would be a fitting memorial to our Service men and women, many of whom are now lying in sanatoria throughout the country rendered *hors de combat* by the treacherous tubercle bacillus.

The political cry of the moment is for first things first. In medicine, too, there is a real need for such a maxim, and men of enterprise and ingenuity are needed to co-operate in an undertaking which would be whole-heartedly approved by all mankind.—I am, etc.,

Preston Hall, Maidstone. George R. W. N. Luntz.

Oedema during Macrocytic Anaemia

Sir,—The article by Lieut.-Col. E. G. Holmes (Oct. 27, p. 561) on the occurrence of oedema during the course of macrocytic anaemia raises some very interesting points which bear on the attitude towards the anaemias found in the Tropics.

(*a*) The description of the case DT./1574 includes the following data: 5/1/45, R.B.C. 1,830,000, Hb 38%, C.I. 1.05, etc.; 8/1/45, high protein diet; 21/1/45, reticulocytes 5%; 23/1/45, Hb 82%, R.B.C. 4,630,000. These figures represent an increase of R.B.C. 2,800,000 per c.mm. and Hb 44% in eighteen days. General experience would estimate the improvement in the case of pernicious anaemia of comparable severity, assuming the absence of any inhibiting factor such as sepsis or vitamin C deficiency and given adequate liver therapy with a preparation of proved efficiency, at about 800,000 R.B.C./c.mm. and an improvement of, say, 20% in the Hb. I do not question the accuracy of the observations made, but call attention to the disparity between the observed figures of improvement and those which might be expected. I believe that the explanation is probably to be found in the following suggestion. If a "hydraemia" existed on 5/1/45 which disappeared before 23/1/45 the blood count would show an "improvement" without the occurrence of a physiological reticulocytosis, and without any change at all in the rate of blood regeneration. Readers of the literature on the treatment of various types of anaemia found in the Tropics may note either a lack of reticulocyte response despite improvement, or a reticulocyte response much lower than would be expected with effective treatment of pernicious anaemia or a simple achlorhydric anaemia with the same initial count. I believe that part of the answer is that the true level is not expressed by the blood count, and that the reticulocytosis therefore corresponds to that expected in an effectively treated anaemia of less severity.

(*b*) The anaemia in these cases is described as "macrocytic" on the appearance of the cells in a blood film. The marrow, however, revealed a normoblastic response, and in the one case in which a report on the morphology of the cells is given no macroblasts or macrocytes are mentioned. (The author does state elsewhere: "Macrocytosis was observed in all cases"—p. 561, para. 4.) The colour index is raised, but even this is reversed in the later counts of the same case. One may reserve the opinion that the diagnosis is suspect in this case, but the form of the investigation forced on the author and his colleagues raises another point. On this I may be accused of splitting hairs, but I do believe it to be important because of the trap it lays for the unwary.

The term "macrocytosis" was coined for cells of large diameter, which incidentally have a larger volume. Since the technique of estimation of cell diameter is both tedious and time-consuming, the more easily estimated mean corpuscular volume is in general use, and the term "macrocytic" is applied to cells with a high corpuscular volume. In practice it is generally true that bloods showing a high M.C.V. are macrocytic, but they may be spherocytic. There is nothing fundamentally new in the comment that a macrocytic anaemia cannot be diagnosed on the haematocrit alone, but needs the confirmation provided by identifying macrocytes or macroblasts in the blood film. But if the anaemia shows little evidence of regeneration these cells may be hard to find. Those, therefore, who attempt short-cuts to diagnosis with these anaemias of the Tropics may find themselves treating on the basis of the M.C.V. cases which could not possibly respond to treatment for "macrocytic anaemia." Will the medical etymologists please produce a term other than "macrocyte" for the description of cells of large volume.

(*c*) Under the heading of treatment I would point out that liver, yeast, and yeast extracts are high-quality protein as well as being sources of substances specific in the treatment of truly macrocytic anaemias. Their value in treatment may depend on the former attribute rather than the latter, and their successful use in treatment is not a further argument for regarding the anaemia as "macrocytic" when laboratory facilities do not permit of exact diagnosis.

(*d*) This article, among others published recently, presages a new attitude in haematology which is fundamentally important—i.e., the change from haematology as "red-blood-corpusculology" to the study of the blood as a whole tissue. The subject can surely no longer remain the study of the particulate elements of the blood, but must also include the study of the matrix of those cells. My own rather sketchy attempts to work out some problems relating to anaemias in Assam suggest to me that many cases are brought about by protein deficiency resulting from poor diets plus the accidents of dysentery, pregnancy, etc., on top of which are the usually recognized deficiencies of iron, vitamin B complex, red cell maturation factors, etc.

Taking the article as a whole one is not impressed with the evidence for regarding these cases as macrocytic anaemias, but one must be appreciative of what is, I think, the first article describing a large group of cases in which a definite correlation is attempted between the state of hypoproteinaemia and disturbances of the A/G ratio and anaemia, and successful treatment is based on an argument which gives new significance to restoration of the blood proteins to normal levels.—I am, etc.,

Khasi Hills Welsh Mission Hospital,
Shillong, Assam. R. Arthur Hughes.

Therapeutic Effect of Induced Jaundice

Sir,—Referring to the article by Drs. Frances Gardner, Alice Stewart, and F. O. MacCallum (Nov. 17, p. 677) on the therapeutic effect of induced jaundice in rheumatoid arthritis, some twelve years ago I noticed in a patient with leprosy, with lesions of the major tuberculoid type scattered all over the body, and who acquired severe jaundice, that all the lesions disappeared; also as the erythrocyte sedimentation rate was being tested every 7 or 14 days in the hospital where the patient was I noticed that the E.S.R. fell rapidly. The effect was so striking that I considered the question at the time of inducing jaundice as a therapeutic measure in leprosy, but was not successful in doing so.

About 18 months ago I had another case in which a woman had leprous lesions of a similar nature and who acquired an acute hepatic condition with severe jaundice. Within a few days all her lesions disappeared, and a few weeks later her hepatic condition cleared up temporarily and she seemed to be in excellent health. The latter condition, however, returned and ended fatally, but there was no return of the leprous lesions.

I think these records are worth considering, especially as mention is made in this article of a similar improvement in tuberculosis, a disease which so closely resembles leprosy in every respect.—I am, etc.,

British Empire Leprosy Relief Association,
London, S.W.1. E. Muir,
Medical Secretary

Anticoagulant pH in E.S.R. Estimations

Sir,—It is known that neutral solutions of sodium citrate tend to become alkaline when sterilized by autoclaving. This effect varies with the glassware of the container, and increases with prolonged exposure to high temperatures, so that a final *p*H as high as 9.5 may be reached. For this reason special steps are usually taken to secure a more neutral solution for intravenous infusions and blood transfusion.

accompanies this acute catarrh, and when the condition is latent—that is, without pain or discharge—the patient may run such a temperature for some weeks. In one case, as a result of blocking of the Eustachian tube and the rarefaction of air in the middle ear, the tympanic membranes may be indrawn and the light reflex distorted or absent; while in another case, when as a result of hyperaemia an exudate takes place, the membrane will bulge outwards.

Pain is apparently spasmodic, and the mother will have noticed the child repeatedly putting a hand up to the affected ear. This is accompanied by fits of restlessness and crying. The further signs will depend upon such factors as whether the condition resolves either spontaneously or under treatment, or whether it remains as a catarrhal condition or goes on to suppuration with perforation of the membrane.

Before dealing with acute suppurative otitis media, I should like to mention tuberculous disease. This occurs most commonly in the first year of life, and is notable for the absence of pain. The first indication of its presence may be a watery curdy discharge from the ear or a painless swelling over the mastoid region; or it may be noticed that the "child cries with one side of his face only"—facial paralysis having resulted from the pressure of tuberculous granulation tissue on the exposed facial nerve in the middle ear.

In acute suppurative otitis media the temperature is higher—101 to 103° F.—and the general disturbance more intense than in acute catarrhal otitis media. The pain is more severe, so that the child may knock his head against the side of the cot. Occasionally meningismus, which quickly disappears after the tension in the middle ear has been relieved, is present. Pus in the meatus or on the pillow may direct attention to the ear if the disease has not been apparent in its early stages.

On examination with the otoscope the drumhead shows redness, and its insertion into the tympanic ring loses definition. It is impossible to distinguish the handle of the malleus, and the membrane begins to sag and redness of the deep meatal wall appears. If unrelieved by percentesis rupture of the membrane occurs, with discharge of the products of inflammation from the middle ear. In the child, on account of the relatively thicker drumhead, perforation may be longer delayed than in the adult, and instead of this occurring in two or three days it may take eight or ten.

There appears to be a quality in some strains of infection which causes the middle-ear cleft to be attacked. We are all familiar with epidemics in which there is a high incidence of aural infection, and also with other epidemics, not less severe, in which the complications are pulmonary or gastro-intestinal. For that reason it is important to recognize early if otitis media is complicating a specific epidemic, in order that treatment may at once be carried out. This was well seen in a recent epidemic of gastro-enteritis in infants when a large proportion of the patients had aural complications.

Treatment

It is questionable if any developments in surgery have done more for the general health and well-being of the community than the enormous progress made in the treatment of the nose, mouth, and throat. The reduction in cases of chronic otorrhoea as well as of enlarged cervical glands, of adenoid facies, of stunted chests, and of undeveloped adolescents is evident since the operation for removal of adenoids and tonsils came into vogue. It is a most depressing daily occurrence in dispensary practice to be asked for advice on behalf of a child with ear inflammation by an anxious guardian, herself the seat of obvious chronic rhinitis and dental sepsis. The treatment of these conditions or of chronic suppurative otitis media in the parent may be a not unimportant step in the treatment of the child.

Attention has been drawn already to the need for a careful general preliminary examination in daylight, and a urine test at this stage may be of considerable value. Not infrequently anaemia or constipation, bronchitis, enteritis, or, in female children, pyelitis may require treatment at the same time. If the fever has been long sustained a marked resistance to the infection may be obtained if the urine be rendered alkaline by means of copious alkaline drinks.

A word of warning must be given about indiscriminate sulphonamide therapy. "Sulpha" drugs should not be used in ear disease unless combined with surgical treatment. Naturally, situations may arise where this is not possible, and, in the absence of contraindications, these drugs are best given in maximum doses until the patient has been brought to the otologist. For the preservation of the hearing, and on occasions of life itself, all patients who are receiving sulphonamides for ear disease ought to be examined by an otologist as early as possible in the course of the treatment. That we are most grateful for these life-saving drugs goes without saying, but it is necessary to show some discrimination in the cases chosen for their use.

In local treatment it is to be emphasized that freeing of the nasal airway is of first importance when once ear disease has established itself. It is equally to be remembered that until this unfortunate complication of otitis media is established little interference with the anterior nares is permissible. If the temperature is very high early in an illness in which symptoms and signs are referable only to the middle ears, look to the nasopharynx, from which large inflamed surface much of the toxaemia may be arising. Freeing of the anterior nasal obstruction by means of steam inhalations of friars' balsam and menthol, followed immediately by pouring into the nostrils, with the neck extended, a teaspoonful of parolein, will bring about a quick change in lessened absorption of toxins from the nasopharynx and pharynx. Not only acute but subacute otitis media may resolve more readily in the presence of adequate ventilation and drainage of the nose and nasopharynx. In catarrhal otitis media these simple measures, combined with the instillation of warm ear-drops of 1% carbolic in glycerin, may suffice, so long as the effusion is serous and of short duration.

Occasionally, however, the serous condition does not improve. Here treatment is particularly important from the fact that the disease, if unchecked in its early stages, represents the starting-point of morbid processes leading to deafness later on in life. The proper treatment is paracentesis with a fine myringotome, followed by a course of Eustachian-tube inflation. Uncalled-for sulphonamide medication may mask the symptoms and prevent adequate treatment. It is my opinion that these simple measures of paracentesis of the drumheads, followed by inflation of the Eustachian-tubes, are not resorted to often enough. I feel that cases of deafness labelled later on in life as dry catarrh or otosclerosis would be less frequent if these harmless operations were more common in childhood. No one may be blamed for the omission of earlier treatment: Nature endows the patient normally with such reserves of hearing that much damage has already occurred before he complains. Indeed, a child may lose one-third or more of his hearing power before any disability is noticed. The appearance of pure-tone audiometers marks an advance in diagnosis, and their use in schools is likely to direct our attention to those cases of latent catarrhal otitis media, so that paracentesis and Politzer inflation may be instituted earlier. Even in adults, and certainly in children, it is not possible to arrive at a quantitative evaluation of hearing loss except by audiometric measurement. It seems, therefore, that such accurate early diagnosis, followed by paracentesis of the drum and expression of plugs of mucus from the middle-ear clefts by inflation, may in the future contribute to the reduction of deafness.

Patent nasal, post-nasal, and Eustachian-tube passages, it has been seen, are necessary for successful treatment of ear inflammation, and, while major operative treatment in the anterior nares is seldom required in children, it should be remembered that recurrence of adenoids after the age of 10 is occasionally due to nasal sepsis—for example, antrum infection. Removal of such a recurring mass of adenoids is essential, and should be done during a quiescent period, but care must be taken to avoid injury to the cartilages of the Eustachian tubes. Some weeks after operation for adenoids a course of inflation of the middle ears may be necessary to prevent adhesive changes taking place.

A word may be said about paracentesis. Before carrying out this operation the meatus must be made surgically clean by mopping out with an antiseptic. Acriflavine 1/2000 of spirit has been found useful in the past, but a small experience with penicillin suggests that here, as in other directions, this drug will prove of the greatest value. Prevention of injury to the skin of the meatus and middle-ear structures by the discharges, and promotion of healing while preventing secondary

The following experiment was carried out to discover the effect of such variations in *p*H upon E.S.R. determinations by the Westergren method. Three bottles of 3.8% sodium citrate solution were autoclaved at 15 lb. pressure for increasing lengths of time. The *p*H levels then determined were 7.8, 8.5, and 9.5 in the different bottles. An acidified solution of *p*H 6.5 was also prepared. Four simultaneous E.S.R. measurements were then made on the blood of three patients, using a different citrate solution for each of the four measurements. At the end of one hour readings were taken. In one patient the levels were equal in all four tubes, but in the other two the readings were greater in the tubes containing alkaline citrate, the greatest difference being 2.5 mm. between 10 mm. and 12.5 mm. (a 25% addition).

It appears, therefore, that the *p*H of the anticoagulant can affect the E.S.R. reading; and that for comparable results to be obtained a standard anticoagulant of specified *p*H should be used.—I am, etc.,

Bridge of Earn Hospital, Perthshire. M. E. MORGAN THOMAS.

Transmission of Hepatitis during Blood Transfusion

SIR,—It is an established fact that hepatitis (homologous serum jaundice) can occur two to six months after transfusion of human serum or plasma. In some episodes it has been possible to incriminate certain batches. With some batches the incidence of affected persons has been as high as 60%. In other instances only isolated cases occurred, and the vast majority of recipients showed no ill effects. In the first group the transmission of an icterogenic agent is undoubted. The cases in the second group are more difficult to understand. An explanation might be that apart from the serum or plasma used some icterogenic material was administered accidentally. Such an inoculation will occur through syringes contaminated with icterogenic material and inadequately sterilized between injections (*Lancet*, 1945, 2, 116). Moreover, in some hospitals a Higginson syringe is used for creating a positive pressure in the transfusion bottle. This Higginson syringe is not always sterilized before use, but is attached to the bottle by a sterile glass tube containing the cotton-wool plug acting as a filter. If one such transfusion were carried out with icterogenic material, the Higginson syringe may, by reflux of the icterogenic material, be contaminated and later on the icterogenic agent passed on to bland bottles. The cotton-wool plug in the connecting glass tube may not afford enough protection. It should be, therefore, a routine to clean and autoclave Higginson syringes after each transfusion in order to avoid the possible transmission of hepatitis by this method.—I am, etc.,

S W London Blood Supply Depot, Sutton. K. MAUNSELL.

Artificial Pneumothorax Needle

SIR,—Dr. A. Allan's article (Nov. 3, p. 607) describing a needle specially designed to minimize the grave danger of air embolism in artificial pneumothorax work prompts me to mention a simple technique which I adopted for similar reasons.

Any refill needle is used that will fit on a Record syringe; I find a 1-c.cm. syringe a convenient size. So fitted, the needle is inserted through the chest wall into the pneumothorax space. The piston of the syringe is then withdrawn, and if the needle is correctly inserted air must enter the syringe and thus give absolute proof that the aperture of the needle is not in soft tissue. At the same time the needle is cleared of any remaining drop of fluid. Then by a feat of dexterity (easily achieved by five minutes' practice beforehand) the syringe is detached while the needle is left *in situ*, and the rubber tubing from the refill apparatus is connected in its place. I use a small metal connecting-piece on the end of the rubber tubing, so that the nozzle of the rubber tubing is made exactly similar to that of the Record syringe. The change-over should easily be made in less than a second, and if carried out during expiration no unfiltered air enters the chest, and the amount of air blown out is so small as not to affect the pressure readings. If a Maxwell's refill apparatus is used and the air is run in not too fast the manometer registers a swing throughout the refill, thus enhancing the certainty that all is well. I would emphasize Dr. Allan's statement that one has to experience the feeling of confidence which results to appreciate the value of certainty that the needle is correctly inserted. During the refill, should the operator suspect that the needle may have slipped, it is easy to reverse the change of nozzle and repeat the attempt to withdraw air. In addition to reassurance this commonly clears the needle of a little blood.

This technique confirms the presence of an air space before any air is run in should, by any chance, the patient not have been screened immediately prior to refill. It also avoids using a wide-bore needle, with the attendant anaesthetic. I disagree with Dr. Allan that "humanity and common sense call for the anaesthetization of the needle-track." Provided that the needle is inserted swiftly, and withdrawn swiftly—which is important—practically every patient I have come across prefers to be refilled without anaesthesia. I certainly do myself.—I am, etc.,

Tuberculosis Dispensary, Reading. W. H. TATTERSALL.

Acute Inversion of the Uterus

SIR,—On reading Dr. Doreen Daley's letter on acute inversion of the uterus (Nov. 3, p. 626) one or two questions arise naturally in one's mind. For instance, the writer implies, though not distinctly stating, some surprise "that such strenuous efforts to combat the shock were quite ineffective *until replacement was carried out.*" Apart from the well-known difficulty of getting anything into the circulation at all when the blood pressure is reduced so low as is usual in cases of shock, one would have thought that the maxim that the first step in the treatment of any disease is to remove, if possible, the cause rather than to treat the symptoms would apply equally well to the treatment of acute inversion of the uterus. So long as the chief cause of shock persists it is hardly reasonable to expect the shock to respond to other treatment. One can have little doubt that, as the writer says, this woman would have died but for the correction of the inversion of the uterus.

Then there arises a further question. In a case where there has been severe haemorrhage a blood transfusion is obviously indicated. But why proceed to put 10 pints of blood into the circulatory system of a patient who was believed to have lost some 4 pints, not to mention the following up of this big transfusion by "a slow saline drip continued for a few more hours"? There must surely be a limit to the capacity of the circulatory system. It is generally stated in textbooks on physiology that the average amount of blood in the body is round about 12 to 13 pints, and recognized authorities on blood transfusion have stressed the dangers of giving excessive amounts. Besides blood transfusion the patient was given methedrine—twice—as well as ergometrine; and subsequently it was thought proper, *for prophylactic purposes only*, to give sulphadiazine and *B. welchii* serum.

Now, I ask, how is it possible to adjudge the effects of so many different remedies given within one short period of time? This patient in grave danger needed: (1) a supply of fresh blood to make up for the loss; (2) replacement of the uterus, the inversion of which was the main cause of all the trouble; whether the one or the other should take first place we leave to the experts. How far the other injections were worth anything, or even justifiable before the replacement of the uterus, is open to doubt, and I should really be glad to know on what grounds scientifically the transfusion of as much as 10 pints of blood plus a 4-hours saline drip infusion is justified.

It is true that it would be very easy to quote any number of articles or letters in the medical journals of recent years in which at least half a dozen different drugs, all requiring great caution in usage, had been administered within the space of a few hours for various emergencies (or even in the mere "premedication" preliminary to anaesthesia). The patient, of course, makes a wonderful recovery, but we are left wondering how far all the medication assisted, or whether the patient is not to be rather congratulated on having successfully survived the bombardment. But I have chosen this particular case, in which the medication is relatively quite mild, because of the special interest attaching to the blood transfusion, and because I feel sure that there is much abuse of this most useful measure.

I make no pretence to any special knowledge of obstetrics, but write only from a general medical standpoint and, as one belonging to the now vanishing Victorian-Edwardian-Georgian era, I shall be only too pleased if the adherents of the modern school of therapeutics can convince me that my doubts as to the great advances in the scientific use of new drugs (in the wide infection from entering from the meatus, are of paramount importance and call for the use of a unique antiseptic. The incision in the tympanic membrane is done under a general anaesthetic and with good illumination of the drumhead. It is made from below upwards in the most bulging portion of the posterior half of the drum, and may extend beyond the pars tensa of the drum into Shrapnell's membrane. A wick of sterile gauze, which is kept moist with the antiseptic of choice, is placed in contact with the incision in the drum to serve as a drain.

Chronic Suppurative Otitis Media.—No consideration of ear disease in children would be complete without reference to this condition, which is still too frequent among our school-children. Not uncommonly it is already of some years' standing when the child arrives at the age for attending school. The parents may not have sought advice for what in their opinion was a trifling complaint, and as a result of repeated infection from the external auditory meatus the disease, even at this early age, may be deep-seated and associated with osteitis in the "honeycomb" of the mastoid air cells. It is worthy of repetition that, in these untreated cases, if it were not for the secondary infection from the outer ear, middle-ear inflammation would lose half its significance. In the course of numerous operations done for chronic suppuration in children it has been my experience that the destruction of the bone of the mastoid and the delicate middle-ear structures is usually greater at operation than had appeared to be likely. It is frequently our custom to persist for years in various kinds of conservative treatment, in the hope that these, added to increased general resistance to disease acquired with the years, may tip the balance in favour of resolution of the chronic inflammation. I am of the opinion that no benefit to the patient's hearing is likely to follow from delaying operation after five years of conservative treatment has been tried without cessation of the discharges. Healing may occur after some further years of treatment, it is true, but these years of ulceration in the middle ear and mastoid cells will have taken their toll of the delicate hearing mechanism. With the healing an increased amount of scar tissue is laid down; fixation of parts which should move is more prominent, and increased deafness is the result. Prolonged toxaemia from the chronically inflamed bone may have permanently affected the sensitive end-organ in the labyrinth, and may have laid the foundation for an even more resistant deafness. An operation performed on those patients before leaving school would save much time spent in dispensaries in later years; and, what is more important, would reduce considerably the incidence of deafness among our adult population. If a modified radical mastoid operation (modified to preserve the middle-ear structures and the hearing) is followed by the same careful conservative treatment which these children get before operation, a better-hearing ear is usually the result in a few weeks. Improvement in hearing must not be sacrificed for early cessation of discharge. The latter takes place usually within a matter of months. The mental brightening and physical benefits in school-children which so often follow a modified radical mastoid operation for chronic suppurative otitis media make the operation one of the most satisfactory to both patient and surgeon.

The Lasker Award in Mental Hygiene, which was instituted in 1944, has this year been presented jointly to Major-Gen. G. Brock Chisholm (now Deputy Minister of Health for Canada) and to Dr. J. R. Rees, medical director of the Tavistock Clinic, London, and lately consulting psychiatrist to the Army with the rank of brigadier. This award, given for outstanding contributions to the advancement of mental health, has special reference in the current year to rehabilitation. It was presented on Nov. 1 in New York at the annual meeting of the National Committee for Mental Hygiene by General Omar C. Bradley, who is now in charge of the Veterans Administration of the United States. The citation for Dr. Rees, read by Gen. Bradley, was written by Prof. John C. Whitehorn, of Johns Hopkins University. It paid warm tribute to his leadership and encouragement in bringing together a remarkable group of psychiatrists to apply the best available scientific knowledge of human nature to aid the Army in the use of its man-power. "In particular, Brig. Rees and his associates developed the preventive aspect of Army psychiatry. Eminently practical contributions thereto were made through the systematic use of psychological and psychiatric skills in the selection of officers for qualities of leadership and through the application of psychiatric principles in the assignment of men to special duties."

POISONING DUE TO MOBILIZATION OF LEAD FROM THE SKELETON BY LEUKAEMIC HYPERPLASIA OF BONE MARROW

BY

ALEXANDER BROWN, M.D.Glas., M.R.C.P.Ed.

AND

SIDNEY LIONEL TOMPSETT, D.Sc.Glas., Ph.D.Glas., B.Sc.Lond., F.R.I.C.

(*From the Royal Infirmary, Glasgow*)

It is now generally recognized that traces of lead are present in all the tissues of the body even in normal subjects. Relatively large amounts occur in the bones, and the more recently absorbed lead is deposited in the trabeculae—a situation from which it may be readily mobilized. Under conditions of increased exposure and increased storage, mobilization may produce lead-poisoning. In the following case mobilization occurred in an unusual manner owing to leukaemic marrow hyperplasia.

Case Record

Wm. M., aged 31, had been a compositor for 12 years, and until Sept., 1939, had enjoyed perfect health. At this time, over a period of about two days, he became seriously ill. He had severe occipital headache and pain and stiffness in the posterior cervical muscles. Both became progressively more severe, and within the next two weeks gradual paralysis of the muscles of mastication developed. Left facial and right hypoglossal paralysis followed. Diplopia, blurred vision, and vomiting appeared during the next few days. Within 10 weeks of the onset of the illness there were complete facial paralysis, almost complete paralysis of the muscles of mastication, and general weakness of all the skeletal muscles to such a degree as to confine him to bed. Intractable pain had developed in the shoulders and arms, thirst was excessive, and constipation very marked.

On admission to hospital on Dec. 1, 1939, he had obviously lost a great deal of weight. He was drowsy, cerebration and speech were very slow, and general muscular weakness was so marked that he was almost completely helpless. Mastication was impossible, and even swallowing was difficult. All tendon reflexes were greatly diminished. The B.P. was 110/90. No obvious cardiovascular disease was present. The mouth, gums, and teeth were healthy. The fundi were normal. The cerebrospinal fluid was normal except for a slight increase in lymphocytes. The blood urea was 25 mg. per 100 c.cm. During the week following admission there was mild pyrexia (100° F.). Vomiting occurred on several occasions. Headache and confusion were almost constant. On Dec. 20, 1939, when both red cell and white cell counts were normal, the blood lead was 280 microgrammes per 100 c.cm. On Dec. 31, for the first time, examination of the fundi revealed signs indicating early papilloedema. His blood picture was then still normal (Table I), but the blood lead had risen to 455 microgrammes per 100 c.cm. Throughout January and the greater part of February, 1940, the patient's general condition deteriorated slowly. At the beginning of March it was evident that a leukaemic state was developing, and its progress and morpho-

TABLE I

Date	R.B.C. (millions)	W.B.C.	Remarks	Blood Lead (μg. per 100 c.cm.)
1939				
Dec. 1 ..	6·7	5,000	Blood urea, 25 mg./100 c.cm.	
„ 11 ..	4·9	5,000	C.S.F. normal	
„ 20 ..	4·3	5,600		280
„ 31 ..	—	—	Early papilloedema	
1940				
Jan. 2 ..	4·5	5,700	P., 78%; L., 12%; M., 10%*	455
„ 17 ..	5·0	7,000		
„ 31 ..	—	7,600		
Feb. 3 ..	—	6,000		
„ 10 ..	4·6	8,200		
„ 16 ..	4·7	5,600		
„ 21 ..	4·8	10,400		
„ 28 ..	—	9,600		
Mar. 6 ..	—	18,000		
„ 7 ..	—	21,000		
„ 12 ..	—	90,000	P., 12%; primitive cells, 88%	
„ 13 ..	—	97,400	General glandular enlargement, purpura, large liver and spleen	485
„ 16 ..	—	147,000	Polymorphs, 3%; primitive cells, 97%	
„ 25 ..	—	—	Patient died	

* P. = polymorphs; L. = lymphocytes; M. = monocytes.

sense) and of blood transfusion on the heroic scale, claimed by them, are groundless. For the present I fall back on ancient authorities such as our old friend, Sir William Osler (" an enemy of indiscriminate drugging," to use his own words), or that old stickler for the accurate investigation of new methods of treatment, Sir James Mackenzie; and would hold up as worthy of the notice of the modern school of " go-aheads " that old motto, *Primum non nocere*.—I am, etc.,

Southborough, Tunbridge Wells. E. WEATHERHEAD.

Ergometrine in Migraine

SIR,—In the *Journal* of Nov. 10 (p. 654) appears an annotation in which you discusss the use of certain alkaloids of ergot in the treatment of migraine. Surprisingly no mention is made of ergometrine, which has proved its value. Yet it was in the *Journal* some five years ago (Dec. 14, 1940, p. 849) that Dr. A. G. Auld of Harley Street wrote to commend it. Since that time I myself have used it both orally and by injection with great satisfaction. The dose is 1.0 mg. by mouth or 0.5 mg. by injection. Injection is only necessary when there is vomiting or nausea. Patients are convinced of its efficacy, as their attacks are either prevented or promptly curtailed.

This letter is written in the hope that the information may be of service to other practitioners who missed Dr. Auld's original notice.—I am, etc.,

Sedbergh. H. THISTLETHWAITE.

The Discharging Lesion

SIR,—No one doubts the storing up of energy in the form of intracellular substances which is available for function, and energy may be released as physiological stimuli under abnormal conditions. In the supposed case of release of energy not as growth or physiological stimuli the result is merely destruction of the cell involved. Hyperexcitability should not be applied to instability of cell constituents, since it is a property of the intact cell.

Your report of the meeting of the Section of Neurology of the Royal Society of Medicine (Oct. 27, p. 580) quotes Dr. J. Purdon Martin as saying: " Energy might be discharged without a physiological stimulus " ; and " there might be a state of instability of the energy substance, and this might be the basis, etc." Would he define more clearly his own views upon this, " energy substance," the " imperfectly recovered cell," and the mechanism of " excessive response to normal stimuli " ?

Nerve cells degenerate when exhausted and insufficiently supplied with material for recovery. In sleep, anaesthesia, and hibernation all exhaustion is prevented, and moderate reduction in blood supply is not then harmful; but in sick or elderly people exhaustion of the nerve elements by severe stimuli or other forms of shock results in lasting clinical effects because their normal or reduced local cerebral blood supply is insufficient to allow of complete recovery.

Alexander and Woodhall (*J. Neuropath. exper. Neurol.*, 1943, **2**, 1) showed that the presence of nerve cells with normally functioning axonal and dendritic processes within an area of brain tissue degeneration constituted the truly epileptogenous lesion. Where the locus of such epileptogenous foci can be determined then the cutting of the axones is beneficial, provided the necessary cutting of near-by normal tissue does not introduce more serious disadvantages. This principle is also used for treatment of intractable neuralgias and for mental disease.

Faulty integration of cell impulses is the cause of untoward clinical symptoms. This is not attributable to any instability of cell constituents, but to a lowering or heightening of the threshold of stimulation of neurone groups by pathological alteration of the pattern of blood flow which predetermines the faulty reflex pathways.—I am, etc.,

Medical School,
Hospital Centre, Birmingham. F. A. PICKWORTH.

Surgical Catgut

SIR,—Mr. J. Hosford, in his letter (Nov. 10, p. 668) regarding the variation in strength of sterilized catgut ligatures prepared by British manufacturers, overlooked the difficult conditions under which the various firms worked during the war to meet the demands of surgeons and hospitals in this country, also supplies for the Services and export trade. In 1944 minimum standards of strength and gauge were included in a Supplement to the *British Pharmaceutical Codex*, 1934, to which all manufacturers of sterilized catgut ligatures conform, thereby eliminating so far as possible variation in gauge and tensile strength. I have used sterilized catgut of British manufacture throughout the war and have found it as good as that produced by any American firm.—I am, etc.,

London, W.1. CECIL P. G. WAKELEY.

SIR,—I would like to support very strongly the letter of Mr. John Hosford. Most of us have had trouble with catgut since the war. I believe that at present most of the chromicizing is unreliable, the rate of absorption varies tremendously as well as the tension and size and, I regret to say, sterility. I believe that the raw material for making catgut in this country is all imported, and from the point of view of shipping space the manufactured article would probably take up less room. I realize that the dollar position makes things difficult, but surely this is a matter which can be overcome. Material of less vital importance is imported—for example, £20,000,000 is spent annually on American films—and where the welfare and even the life of our patients are at stake we should be able to use catgut upon which we can rely.—I am, etc.,

Hove. H. J. McCURRICH.

Acute Yellow Atrophy after Trilene Anaesthesia

SIR,—After reading the interesting case report by Major K. N. Herdman (Nov. 17, p. 689) it occurs to me that perhaps trichlorethylene was not the primary cause of the liver necrosis in this case, although it may have been a contributing factor. Despite the current practice in many clinics some anaesthetists still consider 0.8 g. (16 c.cm.) of pentothal an excessive dose for induction of anaesthesia, especially when preceded by 1/4 gr. morphine. In this particular case there is the added complication that the liver may already have been damaged by previous sepsis.

According to Adriani (*The Pharmacology of Anaesthetic Drugs*, 1942) the liver function is decreased by both barbiturates and morphine, the glycogen being depleted and the blood sugar raised. In the case of pentothal and other short-acting barbiturates special caution is necessary, as these drugs are almost entirely detoxicated in the liver. Langton Hewer (*Recent Advances in Anaesthesia*, p. 129) writes: " Pentothal sodium, unlike evipan sodium, is extremely toxic to the liver in small animals such as mice, and it is worth noting that toxic jaundice has occurred in man."

I would like to congratulate Major Herdman on his excellent report, which should stimulate considerable interest and discussion.—I am, etc.,

Newcastle-upon-Tyne. PHILIP AYRE.

SIR,—In his report of a case of acute yellow atrophy of the liver following trilene anaesthesia (Nov. 17, p. 689) Major Herdman has not considered another possible aetiological factor. The interval between the injury and symptoms of hepatitis was 93 days, which is about the usual incubation period of homologous serum jaundice. As the patient was treated for burns in two B.L.A. hospitals plasma or serum may have been administered, and this factor should be excluded before incriminating the anaesthetic.—I am, etc.,

London Hospital, E.1. CLIFFORD WILSON.

Sciatic Neuritis

SIR,—Dr. J. MacD. Holmes and Mr. B. R. Sworn in their paper with this title (*Journal*, 1945, **2**, 350) describe swelling and oedema of the first sciatic nerve root in two cases of sciatic pain and of adhesions around the root in a third. In their comment they write: " We must for the moment be content with having seen a lesion which Symonds considers has not yet been granted to human eyes."

The swollen condition of the nerve root commented on by the writers is one with which most neurosurgeons are familiar, and I have frequently demonstrated it at operation as evidence of the radiculitis which is the common cause of sciatica. The lesion referred to by Dr. C. P. Symonds, however, was regarded as affecting the sciatic nerve itself. Except in a case of direct injury of the nerve trunk by a piece of glass I have never seen it, and in common with Dr. Symonds and others believe it to be but a figment of the imagination of earlier writers on sciatica. Swelling of the nerve roots (radiculitis) composing it must be clearly distinguished from swelling of the sciatic nerve trunk itself (neuritis).

I have just received my copy of the *Journal* for Sept. 15, and by the time this letter reaches you others may have already passed similar comment on the distinction which the writers of the paper have apparently overlooked.—I am, etc.,

Sydney, N.S.W. LAMBERT ROGERS.

Pellagra in a Morphine Addict

SIR,—With regard to Major Ellis Stungo's comments (Oct. 20, p. 547) on the case report by Dr. Comerford and myself, I note that he suggests that the patient "remained a morphine addict" throughout the period of treatment. I am not quite clear as to what is meant by this, but I can state categorically that the patient received no sedatives after her first day in hospital. Further, I am inclined to believe her statement that she ceased taking morphine after her discharge from hospital: first, because her original source of supply was then no longer available, and, secondly, because of the confirmatory evidence of her son. I am sorry if in improving rapidly despite an abrupt withdrawal of the drug of addiction our patient offended against Major Stungo's sense of the clinical proprieties, but the logic of events is the strongest logic of all.—I am, etc.,

St. Mary Cray, Kent. BRIAN H. KIRMAN.

Clinical Photography

SIR,—The *British Medical Journal* as the practitioner's weekly technical instructor appears to lag in its seeming omission of the pictorial method of conveying clinical information by photographic illustration, the occasional pictures reproduced being few, too small, and not of the first order.

As a visual aid to memory, next best to contemplating the patient in person, particularly helpful to the busy practitioner, pictorial reproductions would make a valuable improvement. This might be effected in one of three ways: (1) by interpolating from time to time in the *Journal* a sheet of fully captioned clinical pictures printed back and front, as suitable material became available; (2) by the occasional issue of a photographic supplement to the *Journal*; (3) by the publishing of a British medical photographic journal, quarterly or bi-yearly, additional to the number of subsidiary journals produced by the Association, taking precedence in time to others. Such an addition to our medical literature would prove itself to be a great attraction to the medical man—greater by far than any of these "specialist" journals.

A medical photographer co-opted by the Journal Committee would advise in choice of illustrations from the likely ample supply in the hands of the many widely scattered medical photographers, who would doubtless explore all fields, including that buried in past medical writings, now copyright-free, whence numbers deserve to be exhumed to live again even for a day. Photographic reproductions of both the usual and the unusual would relieve the tedious monotony of the printed page. Change being the spirit of the age, this would assuredly be one welcomed by members, not to be for any trifling excuse longer postponed.

The subject of clinical photography is important by reason of its growing magnitude, presently unrealized: its educative value cannot be gainsaid; than this, nothing could be more useful as a ready aid to diagnostic memory, and in cultivating the photogenic mind. In the *Journal* the display of the pictorial need not be sectional only, but should find room in the body of the paper to relieve original articles.

All medical men in practice appreciate the high value of the *B.M.J.*, upon which they continue to depend for practical instruction, and the renewal of the varied interests which it brings without fail from week to week. Our debt to the *Journal*, illustrated as suggested it ought to be, would be greater than ever. Such illustrating might encourage the initiation in medical schools of the clinical picture 'gallery', and of the lantern lecture, as a means of instructing medical students and graduates—one hitherto passed by and sadly neglected. It is of pleasing interest to know that Dr. C. O. Hawthorne, for so long a pillar of strength to the British Medical Association, was a pioneer in this country of the pictorial art in teaching. His example would do well to be followed wherever students are taught.—I am, etc.,

Bournemouth. S. WATSON SMITH.

*** Dr. Watson Smith may recall that before September, 1939, we used to include four-page photogravure insets at intervals of approximately five weeks. Paper has been very scarce for six years and still is.—ED., *B.M.J.*

Medical Aspects of Prisons

SIR,—After a careful study of the recent correspondence on this topic I cannot but deplore the emotional sentimentalism which induces some people to rush into print to champion the unscrupulous, and, in too many cases, the amoral and professional law-breaker who preys upon society. Before we bewail the sufferings of the criminal due to the lack of *ideal* sanitation in prison, might we not spare a thought for the overcrowded occupants of the thousands of back-to-back houses, where the few lavatories for the whole street are situated at the ends of the street? Think of the sanitary conditions of our slums. Are these law-abiding but unfortunate citizens—mothers, expectant mothers, and young children—to live in squalor and misery while we rebuild all our prisons with a water-closet to each prisoner? When we think of the poor criminal eating his carefully balanced and well-cooked diet, which throughout the war has contained his full quota of rations and more meat and vegetables than the average worker could obtain (due to purchases in bulk), spare a thought for the children of the poor who have been brought up on bread, margarine, cheap jam, and tea, with chipped potatoes as an occasional delicacy, since the days of the industrial revolution.

Most of this rather misdirected sympathy derives from the doctrine that crime *per se* is an illness: that you simply cure the patient (the criminal) and he commits crime no more. Naivety personified. Why have we not cured rheumatism, the common cold and cancer? Why are our mental hospitals congested with patients our psychiatrists cannot cure, and grossly understaffed? We are to apply in our prisons "the great advances which have been made in recent years by psychiatry in the understanding treatment and prevention of antisocial behaviour." What are these advances of, say, the last ten years, especially in the treatment and prevention of antisocial behaviour? What experience in their application has Dr. Ahrenfeldt and what are his results? On what grounds does he say that "the authorities still remain far behind contemporary psychiatric, educational, and sociological research in the field of criminology"? If there is one group of cases which is the despair of the practising psychiatrist it is the group known as the constitutional psychopaths, and, after the group of professional criminals who are normal psychiatrically if not morally, and who hold the belief that they can make crime pay, the psychopathic group is also a problem to the prison authorities.

Unfortunately for its reputation Civil Service medicine does not publicize, but that is no ground for assuming that it is inactive or non-progressive. Actually there is no recent development in modern psychiatry which has not been utilized in prison medicine, or for which facilities for its use have not been authorized where it would be considered justifiable or worth while—e.g, electro-encephalography or electro-convulsive therapy.

If some of these armchair critics would rally to the help of the prison and civil authorities by joining as *active workers* one of the organizations such as the Discharged Prisoners Aid Society or the Central Association for the Aid of Discharged Convicts, which seek to give a helping hand to ex-prisoners trying in the face of extreme difficulty to rehabilitate themselves socially, they would learn the real nature of some of the grievous problems with which the prison authorities, with their extreme shortage of staff and lack of suitable buildings, not to mention an unaccountably swollen prison population, have to grapple. The world to-day needs workers, not talkers.—I am, etc.,

"REALIST."

The "Stamping" of the Guards

Sir,—No man could complain of Major E. Grey Turner's courtesy (Nov. 17, p. 707) in his attempt to correct my perspective and want of understanding. Is it the correct perspective of a medical officer to apportion the price paid by the bodily injuries of a soldier in the cause of so-called smartness? It seems to me that his duties lie in a more humane and medical direction. If the drill is considered by authority essential to smartness then it seems to me also essential for the medical officer to point out the existence of the positive dangers involved and do his best to stop them.

My understanding of this problem and the charge of ineptitude of some medical officers were founded on the confessions of a retired senior officer of the Guards Brigade who did not sign his name to a letter he wrote in this particular correspondence in the *British Medical Journal.*—I am, etc.,

Stanmore. G. Lenthal Cheatle.

Sir,—I have been following with interest the correspondence from Sir Lenthal Cheatle and two R.M.O.s of the Brigade of Guards. It is depressing to think that neither an R.M.O. nor an A.D.M.S. has the power or the courage to put a stop to a form of ceremonial drill which admittedly jeopardizes the men's health. One wonders what exactly is the function of an R.M.O. I consider that the letter written by Major E. Grey Turner is an indictment against himself. He is prepared to allow "some varicose veins and a few cases of march fracture" to occur in his battalion in order to enhance Britain's propaganda abroad when the Coldstream Guards stamp their feet on parade!

It seems a pity that any R.M.O. should be so weak as to allow a form of drill which produces a fracture to continue without a word of protest or even advice from a "doctor in uniform."—I am, etc.,

Edinburgh. J. W. Perrott.

Volvulus of Small Intestine

Sir,—Major Salisbury Woods reports a case of volvulus of the small intestine. May I as a junior member of the profession add a case, which I personally operated on, to the list of this comparatively rare condition?

It was my week-end on "emergencies" and I was called to see a woman of 35 years who, believe it or not, had walked into the casualty department at 4.30 a.m. on Saturday morning. I came along to the casualty department to see her. The first thing that greeted me was a bilious vomit over my dressing-gown. She was vomiting copiously, complained of severe colicky abdominal pain, was obviously shocked and on the verge of collapse. It was next to impossible to obtain a history from her because she insisted on saying, "I'm all right, doctor; I must go home as my husband is due back on leave." Each time I endeavoured to get a history she again said, "I'll be all right now, doctor." I looked at her abdomen and noticed: (1) a Kocher's incision; (2) a lower right paramedian incision; (3) a left paramedian incision; (4) obvious distension. On examination I was certain of palpating some sort of a lump below the umbilicus in midline. On further questioning I gathered that she had passed neither faeces nor flatus per rectum for about thirty-six hours.

After much persuasion she consented to come in. I tried hard to persuade her to allow me to operate but she refused, all on the grounds that she would have to be home when her husband arrived. Because of the incessant vomiting, distension, and absolute constipation I had suspected intestinal obstruction due to a band or adhesion, but still she refused operation. I put her up on a glucose-saline intravenous drip, passed a Ryle tube, and ordered after two enemas a high rectal tube. Ultimately under much pressure and persuasion, together with my Irish blarney, she consented to operation at 6 p.m. in the evening.

I took her to the theatre. Under a general anaesthetic, given by the house-physician, Dr. D. McGrath, I made my incision medial to the left paramedian scar. On opening the peritoneum I found blood-stained fluid. With the aid of the "sucker" I removed about 1½ pints of this blood-stained fluid. I then saw coils of dark, black, distended bowel. On further examination I identified a volvulus of the small intestine due to a very thick band travelling from the site of the right paramedian scar to the root of the mesentery. The small intestine had rotated three times around this band. I divided the adhesion immediately and undid the volvulus. Despite hot bathing with saline to the black bowel there was no return to peristalsis or sheen. I therefore presumed the affected part to be dead. I then resected nearly 3 feet of the affected bowel and did an end-to-end anastomosis and closed the abdomen with drainage. When we got the patient back to the ward I put her up on plasma. She had 2 pints of plasma and 3 pints of glucose-saline. Thirty-six hours after operation I put her on full doses of sulphasuxidine. She waxed and waned for about nine days and then began to "come out of the wood." She was discharged from hospital five weeks later and felt perfectly well. My thanks are due to Mr. C. M. Pearce, F.R.C.S., for granting me permission to publish this case.—I am, etc.,

Blackpool. Stanley Devlin.

Welfare Work a Branch of Medicine

Sir,—In your issue of March 17 (p. 357) in an article by Lord Horder on "Shall we Nationalize Medicine?" he asks: "Is welfare work really a branch of medicine?" Is there really any doubt as to the answer to this question? "Doctor" means "teacher"; it does not mean a bottle of medicine. Surely the basic function of the doctor is to teach his patient to be healthy, whether that teaching implies medication, operation, how to avoid them, or merely by blowing off steam.

Lord Horder goes on to quote an admirable passage from Nathaniel Hawthorne describing the ideal doctor–patient relation: "He deemed it essential, it would seem, to know the man before attempting to do him good." This is the very quintessence of welfare work: to know the man in whatever size, shape, colour, or age he may be presented, and to try to do him good. If welfare work has failed in this it is because our schools of medicine have been separated from it and take up a detached and critical attitude towards it. I hold absolutely no brief for work that is stereotyped and formulated, but it is only by being an integral part of medicine that sanity in welfare work can be attained. Was it St. Augustine of Hippo who said: "How can their corruption become incorruptible, and their mortality become immortal save only if they return to the general body of the congregation"?

As Lord Horder paid me the compliment of referring to me as "a distinguished paediatrician" I feel it is most ungrateful to cavil at his article. But as he quotes me only to disagree I feel bound to defend my credo. I regret that this comment is belated. This is due to circumstances over which I have but recently resumed control.—I am, etc.,

London, W.1. Cicely D. Williams.

Obituary

W. D. H. STEVENSON, C.I.E., M.D.,

F.R.F.P.S., D.P.H.; Lieut.-Col., I.M.S. (ret.)

Lieut.-Col. W. D. H. Stevenson, director of the Government Lymph Establishment, Hendon, and a distinguished member of the staff of the Ministry of Health, died on Nov. 3 at University College Hospital. An honours graduate of Glasgow University and medallist in many subjects, Stevenson joined the Indian Medical Service in 1906 and served on the North-West Frontier in 1906–8 and again in 1915–16. He served also in Mesopotamia in 1916–18, where he did admirable work in the control of dysentery and the enteric infections, for which he received mention in dispatches and was awarded the C.I.E. In 1922–4 he was Assistant Director-General, I.M.S. (Sanitary), and in the latter year was made director of the Pasteur Institute of India at Kasauli—a post he resigned on leaving the service in 1927.

J. R. H. writes:

Stevenson returned to Glasgow and became pathologist to the Glasgow Municipal Hospitals until 1930, when he was appointed to succeed the late Dr. Blaxall at Hendon. His work hitherto had been in the field of general rather than special bacteriology and pathology, but he threw himself into his new work with zest and thoroughly justified his appointment. A good Scot, courteous, loyal, hard-working, and entirely reliable, Stevenson soon became master of his subject, and he and his staff proved equal to any emergency. He was entirely responsible for the manufacture and issue of smallpox lymph for public vaccinators and the fighting Services, and, during the recent war, also for United States troops in this country. This involved a sixfold increase in output—from 400,000 to 2,500,000 doses a year—which could be done only by modifying the method of preparation, which Stevenson, with characteristic care and foresight, had anticipated and was ready for.

To medical literature Stevenson made valuable contributions on rabies, leprosy, malignant melanomata, plague, smallpox and vaccination, and allied subjects. His studies on the cultivation of vaccinia virus on the chorio-allantoic membrane of chick embryos, and dermal strain of vaccinia virus grown on chorio-allantoic membrane of chick embryos, are a model of painstaking and conscientious effort. He leaves a widow, and a son and daughter who have followed him in his own profession.

C. W. ALFORD, M.D.

Dr. Cyril Wolrige Alford, who died on Nov. 2, practised in Chelmsford for 43 years. The son and grandson of a doctor, Alford was educated at Epsom College and Middlesex Hospital, where he had a most distinguished career. He qualified with the Conjoint diploma in 1896, graduated M.B.Lond., with honours in midwifery and medicine, in the following year, and in 1899 qualified for the gold medal in the London M.D. At the Middlesex he held the posts of casualty medical officer, house-physician, obstetric house-physician, and demonstrator of physiology. He also served as Hunterian Prosector at the Royal College of Surgeons. A colleague writes:

Dr. Alford settled in general practice in Chelmsford in 1902 and held many important public appointments. Chief among these was surgeon to the Chelmsford and Essex Hospital. It was here that he did his greatest work, and he served it with untiring energy and devotion until within a few weeks of his death. During his 43 years' service it developed from a comparatively insignificant cottage hospital of 30 beds into a large and flourishing general hospital, and this great progress was in no small measure the outcome of Alford's exertions and foresight. In 1937, when he was approaching the age for retirement from the staff, his colleagues, reluctant to lose his wise counsels, created the post of medical superintendent, which he filled with distinction, and to the great benefit of hospital and staff alike, until the time of his death. In addition to being surgeon to Chelmsford Hospital, he was also consulting surgeon to the Courtauld Hospital, Braintree, and in World War I he served as surgical specialist in the R.A.M.C.

As a surgeon, Alford was sound and resourceful and he loved his work; as a general practitioner, he seemed to prefer to devote his skill and care to the poorer sections of the community, and by them he was greatly beloved; as a man, his outstanding characteristics were his honesty of purpose and his sound common sense. Alford always kept both feet on the ground and he seemed never to take a false step. He displayed wise judgment in all problems that confronted him, whether clinical or administrative, and his advice will be sorely missed by a very wide circle of patients, friends, and medical colleagues. His great industry and devotion to his work left him little leisure for pastimes, but he was an avid reader, a keen gardener, and a great lover of music, being chairman of the Essex Musical Festival for many years. He married Dorothea, daughter of Prebendary D. J. Pring, by whom he is survived. Her grief is shared by all his colleagues, who have lost their elder statesman at a time when he can least be spared, and by countless patients, who had learnt to regard him as "the beloved physician."

R. D. GILLESPIE, M.D., F.R.C.P.

Dr. Arthur Markson writes from Glasgow: It was with an acute sense of personal shock that I learned of the death of Robert D. Gillespie. Prof. D. K. Henderson's appreciation of him is so complete that it would be difficult to add to it, nevertheless I feel impelled to add a personal tribute to a good and valued friend. His professional achievements were of the highest order, and he undoubtedly reached Olympian heights in his own sphere of medicine; yet even in these exalted realms he never forgot his old friends. As is inevitable, I lost touch with him for some time, yet only a few months ago I received a letter from him, in which, though primarily professional, he still found space in his memory to recall "old times." I well remember how at school we shared the joy of resuscitating the *Hutchesonian*, of which we became joint editors, and I can also recall his brilliant article entitled "Caesar: de Germanis," which even in these early days showed that his mind was turning to psychology. Besides being a brilliant Latin scholar, he was very devoted to English literature, especially poetry, and I still treasure a small book of poems he once sent me as a present. His untimely passing at the height of his career has left a sad emptiness to which even with time, the inveterate healer, it will be difficult to become resigned. "Nor in truth," wrote Cicero, "would the honours of illustrious men continue after death, if their own spirits did not make us preserve a longer remembrance of them." Robert Dick Gillespie had indeed a nobility of spirit and loftiness of character which shone through his whole life, giving added distinction to the honours he achieved in medicine, and we shall not forget him. *Ave atque vale!*

Mr. D. Harcourt Kitchin writes: I was shocked to read of R. D. Gillespie's death at such an early age. The writer of your obituary notice, good though this is, makes no mention of one feature of Gillespie's work which always impressed me. I sometimes saw him give expert evidence in the courts. He not only made an excellent impression by his immaculate dress, but he managed to deal with extremely difficult questions of forensic psychiatry with such impartiality and dignity, and to display such a wealth of first-hand knowledge, that he must have added greatly to the reputation of expert witnesses in general. He always seemed to me to be a shining example of what a medical witness ought to be.

Dr. **JOHN FOSTER BEALE**, who died at Folkestone on Oct. 19 aged 67, had been bacteriologist to the Essex County Council and consulting analyst and bacteriologist to the Port of London. A native of Monks Kirby, Warwickshire, he was educated at Malvern College, Clare College, Cambridge, and the London Hospital, qualifying M.R.C.S., L.R.C.P. in 1904 (followed by the D.P.H. in 1905), and taking his M.A. in 1927. Dr. Beale began his career in sanitary science as demonstrator of public health at the London Hospital, and was then assistant M.O.H. for the City of Westminster and for Essex before his appointment as bacteriologist to the Essex County Council and to the Willesden Urban District Council, and joint director of the Counties Public Health Laboratories in Queen Victoria Street, E.C. He published a number of papers on water examination and on water-borne diseases, and the book by Dr. J. C. Thresh and himself, *Simple Method of Water Analysis*, reached its tenth edition in 1931. W. A. B. writes: The sudden death of Dr. John F. Beale came as a great shock to all his old colleagues in Essex. His first contact with Essex arose when he became assistant to Dr. John C. Thresh, the first county medical officer of health, little dreaming that it was the commencement of a long partnership. Thus over 30 years ago he acquired a detailed knowledge of the highways and byways of Essex, and from a good master learnt the rudiments of preventive medicine. That period of apprenticeship shaped his career. He had found the work he loved, and he never spared himself in the war against disease and in the efforts to improve and safeguard the health of the people. Out of all this grew the combination of Thresh and Beale, serving the general public through the Counties Public Health Laboratories. The regulations which Beale drafted as bacteriologist for Essex at the inception of the scheme are still in operation except for modifications required by changes in the service. He laid down for the county arbitrary standards for water supplies, sewage and trade effluents, non-designated milk and ice-cream, all of which are still operating. He showed keen interest in field work and rendered invaluable assistance to local medical officers of health, surveyors, and sanitary inspectors. When public and private swimming pools were being opened in increasing numbers he appreciated and acted on the necessity for safeguarding the general public. Subsequently "Thresh and Beale" became "Thresh, Beale, and Suckling," to be followed by "Beale and Suckling," which partnership continued until March, 1938, when Dr. Beale retired. Readers of medical and technical journals owe much to the many contributions he made from time to time. He is perhaps remembered most of all by the 3rd and 4th editions of *The Examination of Water and Water Supplies*—in the former jointly with the late Dr. John C. Thresh, and in the latter with the late Dr. E. V. Suckling. The popularity and usefulness of this monumental work are proved by the fact that each edition went quickly out of print. His charming, kindly disposition appealed to everyone—he was more than a public servant; rather was he a public benefactor.

Dr. **RICHARD WOODWARD HIGSON**, of Bolton, died on Oct. 4 after an illness lasting four months. He was educated at Manchester Grammar School, and in 1905 graduated M.B., Ch.B. Victoria from Owens College, Manchester. He had been in practice at Bolton for the past 40 years, during which time he was medical referee for the Lancashire and Cheshire miners; he was also a Poor Law medical officer for 35 years, and carried on a large panel and private practice. Dr. Higson, who joined the British Medical Association in 1913, leaves six children—three sons and three daughters.

We regret to record the death on Oct. 23 of Dr. **JOSEPH RICKARDS**, of Brackley, Northants, at the age of 63. A native of Manchester, he had been educated at Owens College, and obtained the degrees of M.B., Ch.B., and B.Sc. of Victoria University. After holding assistantships at Ashton-under-Lyne and in South Wales, he took over a practice at Aynho, Northants, and after war had broken out in 1914 he joined the

Derby Scheme and was called up in 1916. He was attached to the Royal Scots, and at the Battle of Arras he won the Military Cross, being later taken prisoner. On his release he returned to his practice at Aynho. Since then he had done a large amount of lecturing for the British Red Cross Society in many places, and also lectured on anti-gas. The last eight years of his life were spent in the adjoining town of Brackley, where he had an extensive practice. He was medical officer for the Public Assistance Committee and also of the Brackley Cottage Hospital. In addition he had been borough coroner for Banbury, Oxon, for about ten years. Dr. Rickards was a keen musician, noted for his organ-playing in the district. He had been a member of the B.M.A. for 40 years.

A very learned man in his special field of study, Dr. **John Smyth Crone**, deputy coroner for West Middlesex 1916–39, and for a year Sheriff of Middlesex, died at Ealing on Nov. 6. He was born in Belfast on Nov. 25, 1858, and was educated at the Royal Academical Institution, at Queen's University, Belfast, and at the London Hospital. He qualified in 1882, and during 40 years' practice in Willesden he became widely known as an authority on Irish literature and history and a whole-hearted bibliographer. He was a member of the Irish Literary Society of London from its foundation in 1892, and its president for seven years, a Fellow of the Royal Society of Antiquaries of Ireland, and a member of the Royal Irish Academy. He founded and edited for 15 years a monthly magazine, *The Irish Book Lover*; wrote a book on the life and work of Henry Bradshaw, the famous librarian of Cambridge University; and compiled a *Concise Dictionary of Irish Biography* which stands as a memorial to his industry and enthusiasm. Dr. Crone was a J.P., had been chairman of the Willesden District Council, a member of the Middlesex County Council, chairman of the Willesden Division of the B.M.A., and president of the Willesden Medical Society.

Lieut.-Col. **Ernest Frederick Gordon Tucker**, I.M.S. (ret.), died on Nov. 11 at Oxford, where he had served during the war as chairman of the Medical Recruitment Board. Born in 1869, he studied medicine at St. Mary's and the London Hospitals, qualified in 1895, and took the M.B., B.S.Lond. degrees (with distinction in surgery) in 1909, and the M.R.C.P. in 1910. During his period of service in the I.M.S. Col. Tucker was senior physician to the J.J. Hospital, and professor of medicine at the Grant Medical College, Bombay, and had served with the China expedition of 1900. He published a paper in 1904 on the management of a plague epidemic. After his retirement he lectured for a time in tropical hygiene for the I.C.S. Delegacy at Oxford, and became a member of the university, taking the B.Sc. and B.A., and the M.A. in 1932. He joined the British Medical Association in 1904, and acted as representative at the Annual Meeting at Aberdeen, which broke up just before the declaration of war in August, 1914; he gave up membership two years ago on account of failing health.

Dr. **William Young Woodburn**, who died at Southsea on Nov. 13 aged 66, was associated with the Royal Portsmouth Hospital for 26 years, having been appointed honorary assistant physician in 1919 and promoted to the senior staff in 1937. He undertook in addition to his other duties the charge of the out-patients clinic for treatment of rheumatism at the hospital; he was also medical officer to the Royal Naval and Marine Orphans' Home for over thirty years. Dr. Woodburn, a native of Australia, studied medicine first in Melbourne and then in Edinburgh, graduating M.B., Ch.B.Ed. in 1903, and proceeding M.D. in 1906. In the war of 1914–18 he served with the R.A.M.C., and from the time of the outbreak of war in September, 1939, he remained on duty in Portsmouth and worked there throughout all the air raids. A keen cricketer, who bowled with much success up to the age of 54, Dr. Woodburn was also a good shot, played a useful round of golf, and was a formidable opponent at lawn tennis. In professional life his thoroughness and devotion to duty, combined with great sympathy, endeared him to all his patients. He joined the B.M.A. in 1911, and at the Portsmouth Annual Meeting in 1923 was secretary of the Section of Tuberculosis.

Dr. **George Herbert Lancashire**, consulting physician to the Manchester and Salford Hospital for Skin Diseases, and formerly lecturer on dermatology in the University of Manchester, died on Nov. 20 at Alderley Edge. He was born in 1866, and from Manchester Grammar School went to study medicine at Owens College, qualifying M.R.C.S., L.R.C.P. in 1890 and taking the Brussels M.D. in 1901, after a period of study in Vienna. From 1895, when he was elected to the honorary staff of the Manchester and Salford Skin Hospital, he devoted himself entirely to dermatology. He published numerous articles on his specialty, and translated from the German Dr. L. Freund's *Elements of General Radio-Therapy* in 1904. He joined the B.M.A. in 1896, and held office as secretary in 1902, vice-president in 1922, and president in 1929, of the Section of Dermatology when the Association met in Manchester. He became a member of the Dermatological Society of London in 1902, and was elected a Corresponding Member of the Dermatological Society of Vienna.

The death of Dr. **David F. Todd** removes a vigorous personality who for many years took an active part in the work of the British Medical Association, both in the North-East of England and at headquarters in London. He studied medicine in Belfast and Edinburgh, took the Scottish triple qualification in 1890, and settling in practice at Sunderland became surgeon to the Sunderland Dispensary and medical referee under the Workmen's Compensation Act. During the war of 1914–18 he served as temporary major, R.A.M.C., attached to the 3rd Northumberland Brigade, R.F.A., and as medical officer in charge of troops and medical inspector of recruits. David Todd joined the B.M.A. in 1897, and represented the Sunderland Division at no fewer than twenty-three Annual Meetings between 1905 and 1939; he was also for three periods a member of the central Council and served on the Naval and Military Committee, the Finance Committee (five years), the Medico-Political Committee (five years), and the Contract Practitioners Subcommittee. In November, 1922, he stood, without success, at the General Election as Unionist candidate for the Parliamentary Division of Chester-le-Street; in the following year he was elected chairman of the Durham County Insurance Committee, and in 1925 became a member of the Health Committee of the Durham County Council. He held office as president of the North of England Branch of the B.M.A. in 1924–5. His last appearance at an Annual Representative Meeting was in Aberdeen five weeks before the outbreak of war. Death has taken toll of the friends he used to meet year by year at the A.R.M., but many survive to mourn his passing.

Dr. **Ghulam Hussein** Pirmohamed died in Zanzibar on Jan. 19, 1945. Born at Karachi, India, on Nov. 20, 1896, he studied medicine at Grant Medical College, University of Bombay, and obtained his M.B., B.S. degrees in 1922. He practiced medicine for three years in Bombay, and later took up the appointment as a physician in charge of the Nasser Noormohamed Charitable Dispensary, Zanzibar, in 1925, which position he resigned in 1941 to start his own practice. Dr. Ghulam Hussein was for many years an active member of the Zanzibar Maternity Association and was also appointed unofficial member of the Liquor Licensing Court on many occasions. He was a member of the B.M.A. As a physician he had established a high repute, and his loss has been keenly felt in Zanzibar. He leaves a widow and six children, with whom much sympathy is felt.

The following well-known medical men have died abroad: Dr. **Hugh Cabot**, the eminent surgeon of Boston, U.S.A., aged 73: Dr. **David Linn Edsall**, emeritus Jackson professor of clinical medicine at Harvard Medical School; Dr. **Froehlich**, honorary professor at the Nancy Faculty of Medicine; Dr. **L. Delrez**, professor of surgery at Liège; Dr. **Paul H. Valdervehr** a prominent physician of Brussels; Dr. **William Ningen**, an outstanding surgeon of Hungarian birth and emeritus professor of surgery at Long Island College, aged 72; Dr. **Juan N. Corpas**, a distinguished surgeon of Colombia, formerly rector of the National Faculty of Medicine at Bogota and professor for many years in the general and surgical clinic of the same faculty and ex-Minister of Education; Dr. **Roberto Salé**, a distinguished surgeon and anatomist of Buenos Aires, and honorary professor in the University and ex-president of the Buenos Aires Academy of Surgery.

The Services

Surg. Lieut.-Cmdr. K. J. R. O'Connor, R.N., and Temp. Acting Surg. Lieut.-Cmdr. T. B. Fitzgerald, D.S.C., R.N.V.R., have been mentioned in dispatches for bravery, skill, and endurance while serving in certain of H.M. ships in mine-sweeping operations and the bombardment, supported by air strikes, of Japanese airfields in Puket Island, Salang, during July, 1945.

CASUALTIES IN THE MEDICAL SERVICES

Died.—Surg. Cmdr. Archibald Hamilton Douglas Ord Richmond, R.N.V.R.

Died in a prison camp in Malaya.—Capt. Henry Alexander Deverell, R.A.M.C.

Died in a prisoner-of-war camp, Borneo.—Capt. Kenneth Daniels, R.A.M.C.

Universities and Colleges

ROYAL COLLEGE OF SURGEONS OF ENGLAND

ANNUAL MEETING OF FELLOWS AND MEMBERS

The annual meeting of Fellows and Members of the Royal College of Surgeons of England was held on Nov. 15, Sir **ALFRED WEBB-JOHNSON**, Bt., presiding. In submitting the report of the Council for the year ended July 31 last, the President referred at length to the proposal for bringing the three Royal Colleges together on one site—a matter, he said, which interested not only their own College but the whole medical profession and a considerable section of the public. The Council of the Royal College of Surgeons had pledged the funds of the College to the extent of £100,000 to provide the opportunity, and if the opportunity was missed it would not be their fault. What they had done meant a considerable sacrifice—namely, the loss of income on that sum year after year—but they thought it their duty to keep the opportunity open.

He then read correspondence on the subject with the Royal College of Physicians, who had written on Oct. 23 stating that they had come to the conclusion that their interests would best be served by remaining in their present premises in Trafalgar Square. A further letter, at the request of the Council of the Royal College of Surgeons, had been forwarded to Lord Moran, P.R.C.P., stating that in spite of this decision it was hoped that the Comitia would consider very seriously whether the future of academic medicine in this country would not best be served by having their buildings in close proximity. In 1941 the governing body of each of the Colleges had affirmed that the desirability of bringing the three Colleges into close proximity was of "infinitely greater importance than that of attachment to any particular site." The letter continued:

> "The Fellows and Members of this College [of Surgeons] have consistently supported the plan for contiguous College buildings because they have felt that there were much bigger issues involved than the immediate interests of their own College. They consider that, in order to secure and retain the confidence of the Government and people, the representative academic medical institutions must be able to advise the State with a single authoritative voice, and that they can do this more effectively from a common centre. Moreover, a medical academic centre, in which each College would retain its identity, would have great imperial and international influence. It would be a centre of research and learning. It would be able to maintain liaison with the Dominions and foreign countries, to arrange and conduct international congresses, and provide for the organization of research and the publication of standard medical literature in foreign languages."

It was added that the plans for the restoration and development of the Royal College of Surgeons included many facilities which would gladly be placed at the disposal of the sister colleges. "While financial considerations and the present interests of each college may determine a decision on a short view, my Council feels that the big question of future policy requires a different approach." The present opportunity would be kept open by the retention of the properties already acquired in the hope that on future consideration the Comitia of the R.C.P. would decide to co-operate, and no negotiations would be entered into to dispose of the sites for other purposes without information first being given to the other Royal Colleges.

The meeting passed unanimously a resolution approving the action of the Council in the matter.

The Proposed National Health Service

The **PRESIDENT** went on to refer to the proposals for a National Health Service. The Council, which had debated this matter on several occasions, had considered it from the point of view of what would be best for the people, without any consideration of vested interests. When they talked about the freedom of the profession it was not vested interests they had in mind, but the fundamental right of a free people to get independent professional opinion. Rumours as to the character of the new service were flying about; he hoped they were not well founded, because a service so set up would not be in the best interests of the people. It would be well not to go into detail when so much was uncertain, but to confine themselves to two fundamental principles which must not be outraged if a satisfactory service was to be forthcoming. The first was the freedom of the profession, and the second that there must be a real partnership between the administrators of the service and those who actually carried out the treatment of the patients.

Mr. **CYRIL E. BEARE** proposed:

(1) That this meeting is of opinion that in any proposed National Medical Service no hospital shall be prevented from carrying out such work as its medical staff can efficiently perform in that hospital;

(2) That this meeting is of opinion that the efficiency of the work done and not the number of beds in a hospital is of primary importance in any National Medical Service.

He was concerned at the course which might be adopted with regard to the smaller hospitals, that the Government might offer to leave the large teaching hospitals in an independent position, provided the smaller hospitals were placed under the control of local authorities. It was to the advantage of both the public and the profession that the voluntary hospitals, both large and small, should survive, and that the place of the hospital in the medical service should be determined not by its size or the number of its beds but by the efficiency of the work done and the ability of its staff to provide the service which the patients demanded.

The **PRESIDENT** said that the resolutions were such as could generally be accepted. He assured Mr. Beare that the Council and the members of the staffs of the teaching hospitals were just as anxious to preserve the non-teaching voluntary hospitals as the staffs of those hospitals themselves, and the point was rather covered by the general principle that there should be a true partnership between the administrators and the profession. There could not be a better example of such partnership than a well-run voluntary hospital. With regard to the second resolution, the corporate body of surgeons from the earliest times had been concerned with the quality of the practice of surgery by ensuring that those who practised it were qualified to do so and by maintaining a proper code of ethics among practitioners. Admittedly the Government was concerned with quantity and distribution, but quality was the particular concern of the College.

The resolutions were unanimously carried and the proceedings ended.

UNIVERSITY OF LONDON

Kenneth Mellanby, Sc.D.Camb., Ph.D.Lond., has been appointed to the university readership in entomology tenable at the London School of Hygiene and Tropical Medicine from Oct. 1, 1945. Dr. Mellanby was engaged in research at the London School of Hygiene and Tropical Medicine in 1930–6, and was elected Sorby Research Fellow of the Royal Society in 1936. He joined the R.A.M.C. in 1943, but was released in 1944 to proceed to South-East Asia for research on behalf of the Medical Research Council.

UNIVERSITY OF EDINBURGH

Dr. Douglas Guthrie, consulting aural surgeon to the Royal Hospital for Sick Children, Edinburgh, whose recent book, *A History of Medicine*, was reviewed in these columns on Nov. 3 (p. 606), has been appointed lecturer on the history of medicine in the University of Edinburgh, in succession to the late Dr. J. D. Comrie.

WELSH NATIONAL SCHOOL OF MEDICINE

Postgraduate Courses for Demobilized Medical Officers

Provided there are sufficient candidates, a fortnight's concentrated course of instruction for demobilized medical officers will be held at this School of the University of Wales from Jan. 14, 1946, and, in addition, a special week-end course in paediatrics will begin on Friday, Jan. 11. Demobilized medical officers may attend both the week-end course and the fortnight's concentrated course, but the Government grant and allowances will be available for one of the courses only, a fee for the other being charged by the School. Applications to attend the above courses should be received by the secretary, Welsh National School of Medicine, 10, The Parade, Cardiff, not later than Saturday, Dec. 22.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH

At a quarterly meeting of the College, held on Nov. 6, with the President, Dr. A. Fergus Hewat, in the chair, Dr. A. J. Murray Drennan (Edinburgh) and Dr. William Forbes (Edinburgh) were introduced and took their seats as Fellows of the College. Dr. Angus MacNiven (Glasgow), Dr. J. S. Fulton (Glasgow), and Dr. W. D'A. Silvera (Jamaica) were elected Fellows of the College.

The Hill Pattison-Struthers bursary in anatomy and physiology was awarded to David Bull.

The Oct.–Nov. number of the *Austrian Medical Bulletin* is published at 1s. 6d. by the Association of Austrian Doctors in Great Britain, 14, Craven House, Kingsway, W.C.2. The contents include an article by Dr. H. S. Baar on hyperchromic anaemias, and a plan by Dr. Robert Schnitzer for a modified E.M.S. hospital for emergency work in Austria; also medical notes on current events and reconstruction work in Austria.

Medical Notes in Parliament

Atomic Energy: Three Powers' Statement

Mr. Herbert Morrison on Nov. 15 announced the decisions made in Washington between Mr. Truman, Mr. Attlee, and Mr. Mackenzie King on the control of atomic energy. This statement declared that the three Powers possessing the knowledge essential to the use of atomic energy were willing to proceed with exchange of fundamental scientific information and interchange of scientists and scientific literature with any country which would fully reciprocate. It added: "We believe that the fruits of scientific research should be made available to all nations and that freedom of information and freedom of ideas are essential to the progress of knowledge."

Scottish Public Health Bill

The Public Health (Scotland) Bill, which has passed the House of Lords, came up for second reading in the House of Commons on Nov. 13. Mr. Buchanan said the Bill provided for medical control at airports in Scotland and brought up to date and consolidated the control which already existed. It brought the provisions into line with the corresponding provisions for England, but conferred no new powers on the Secretary for Scotland except for making regulations for medical control of airborne traffic. The English authority received these powers in 1936. The Department had taken the opportunity to bring up to date the whole code of the Scottish Public Health Acts which dealt with the powers of the Secretary of State to make regulations for preventing the spread of epidemic, endemic, or infectious disease. Previous Acts were now 50 years old. A few obsolete provisions were to be dropped.

Mr. J. S. C. Reid remarked that under the Bill it would be competent to deal with all the mixed questions—venereal disease, vaccination, milk supplies. It would be possible to remodel the regulations on the first and the law about the other two. Cmdr. Galbraith said that under the Bill the Secretary of State could make regulations of any kind. Any disease which was common among the people could be included as endemic.

Mr. Buchanan offered an assurance that the Government did not seek more than the 1897 powers.

The Bill was read a second time.

Scholarships for Medicine.—Replying to Mr. Somerville Hastings on Oct. 18 Miss Wilkinson said State scholarships and major awards by local education authorities could be held for the study of medicine or dentistry. These were the only awards with which the Ministry of Education was concerned. The figures available did not show what proportion of the total number of students were in receipt of such scholarships.

"Wartime" Nurseries.—In reply to Mrs. Castle on Oct. 29 the Minister of Health stated that the existing financial arrangements for wartime nurseries would continue until March 31, 1946. He would shortly be asking welfare authorities how a comprehensive nursery service—comprising nursery schools, nursery classes, day nurseries, and other measures—could best be organized, using existing services as a basis, to meet the needs of their areas. As from April 1, 1946, he proposed a weighted 50% Exchequer grant, comparable to that payable to local education authorities for nursery schools and nursery classes, to be payable to welfare authorities on their approved expenditure on such facilities as they might provide as part of such a nursery service.

Nurses' Salaries.—Mr. Buchanan announced that the Scottish Nurses' Salaries Committee is considering a revision of the salary scales of nurses in Scotland. Prof. T. M. Taylor had resigned from the chairmanship because of pressure of other work, and Mr. John Wheatley had offered his services as chairman.

Special Hospital for Disseminated Sclerosis.—Squad. Ldr. Segal suggested on Nov. 1 that the Minister of Health should arrange for a special hospital to be allocated for the care and investigation of patients suffering from disseminated sclerosis. Mr. Bevan said segregation in a specialized hospital would not necessarily be in the interest of this type of patient. Moreover, it would add considerably to nursing difficulties, and in the present shortage of hospital staff this could not be contemplated.

Rheumatic Fever Notification.—On Nov. 1 Dr. Comyns asked Mr. Bevan to consider including rheumatic fever among the list of compulsorily notifiable diseases to permit of its early diagnosis before heart disease had taken hold. Mr. Bevan replied that he was aware of the evil consequences of rheumatic fever. The whole problem of how best to fight this disease was being intensively examined and the question of notification would not be overlooked.

Research in Rheumatism.—Mr. Bevan stated on Nov. 15 that a number of universities and teaching hospitals had been approached to set up diagnostic and research centres for the study of rheumatic conditions. Progress had been slow because of the shortage of medical and nursing staff.

Compensation for Pneumoconiosis.—The Workmen's Compensation (Pneumoconiosis) Bill was read a first time in the House of Commons on Nov. 14. It provides for periods of war service or war employment to be disregarded for certain time limits in schemes under the Workmen's Compensation Act, 1925.

Silicosis in Rhodesian Copper Mines.—Mr. George Hall stated on Nov. 14 that the presence of silicosis in some mines in Northern Rhodesia was established as the result of an inquiry by medical experts in 1943. In that year a committee was set up to examine and advise on certain aspects of the problem. As a result of the committee's recommendations the Silicosis (Temporary Arrangement) Ordinance had been passed, which provided for the establishment of a Silicosis Bureau, the regular medical inspection of miners, the payment of compensation to miners who contracted the disease in the Northern Rhodesia Mines, and the cessation in certain circumstances of work as miners by those who contracted the disease.

Liquid Paraffin Shortage.—Mr. Bevan told Sir E. Graham-Little on Nov. 15 that he knew of the shortage of potable liquid paraffin. The matter was engaging his attention and that of the Minister of Fuel and Power and the Minister of Supply. The treatment or use of liquid paraffin conforming to the *British Pharmacopoeia* specification for any purposes other than medicinal purposes, except under the licence granted by the Minister of Fuel and Power, was prohibited by the Control of Petroleum Order, 1944.

Notes in Brief

On Oct. 17 Mr. Wilfred Paling, Minister of Pensions, refused to bring artificial limbs under price control. He pointed out that each artificial limb was made and fitted to an individual's requirements, so that its production and maintenance services did not lend themselves to control.

The lymph made at the Government Lymph Establishment is derived from seed lymph obtained from Cologne. Rabbits are used in the reinvigoration of the lymph.

Medical services in the West Africa Command are being reorganized. Considerable reductions in medical and nursing staff are being made.

Medical News

Dr. Cecil Wall's Fitzpatrick Lectures before the Royal College of Physicians, announced for Dec. 11 and 13, have been postponed.

A joint meeting of the Society of Public Analysts and Other Analytical Chemists with the Food Group of the Society of Chemical Industry will be held at the rooms of the Chemical Society (Burlington House, Piccadilly, W.) on Wednesday, Dec. 5, at 6.15 p.m., when there will be a discussion on "New Routine Tests and their Application in Modern Food Industry."

Dr. W. J. O'Donovan will deliver a lecture on "The Most Modern Dermatological Treatments" before the Whipps Cross Hospital Medical Society at the hospital on Friday, Dec. 7, at 8.30 p.m.

Sir Joseph Barcroft, F.R.S., will deliver the Harben Lectures for 1945 before the Royal Institute of Public Health and Hygiene on "The Respiratory Function of the Blood" at 28, Portland Place, W., on Dec. 10, 11, and 12, at 3 p.m.

The British Institute of Philosophy has arranged a lecture to be given by Dr. Russell Brain on "The Neurological Approach to the Problem of Perception" at University Hall, 14, Gordon Square, W.C.1, on Friday, Dec. 14, at 5 p.m. This is the first Manson Lecture on "Philosophy and Medicine," and medical men and women will be welcomed.

At a meeting of the Court of Directors of the Society for Relief of Widows and Orphans of Medical Men, held on Oct. 10, with the president, Dr. R. A. Young, in the chair, the audited accounts for the half-year ended June 30 were presented and approved. During the period £2,002 10s. had been granted as relief to 55 widows; a legacy of £5,000 had been invested in 2½% Consols; £251 2s. 6d. had been received in subscriptions; and the expenses amounted to £197 19s. Membership of the society is open to any registered medical man who at the time of his election, which is by ballot, is resident within a twenty-mile radius of Charing Cross. Relief is granted only to necessitous widows and orphans of deceased members. Full particulars may be had from the secretary at 11, Chandos Street, Cavendish Square, W.1.

On Oct. 20 the Association of Scientific Workers held a meeting to consider "the interrelations between the social and the natural sciences," with Sir Robert Watson Watt, F.R.S., in the chair. The meeting resolved to set up a Joint Sciences Committee to consider the best ways in which natural and social scientists can be brought together to deal with social problems, and to consider certain fields in which such work is of particular importance.

Dr. Ruth Young, late Principal of the Lady Hardinge Medical College, New Delhi, is visiting Egypt, Palestine, and Syria for two months, under the auspices of the British Council, to lecture on child welfare and British achievements in that field.

Dr. T. P. Feng, an eminent Chinese physiologist, has arrived in this country for a stay of some months under arrangements made by the British Council, in collaboration with Prof. A. V. Hill, Secretary of the Royal Society. After visits to the Physiology Departments in the Universities of Oxford, Cambridge, Edinburgh, and Bristol, Dr. Feng will work in laboratories and libraries. A graduate of Fuhtan University, he spent three years here and gained the degree of D.Ph. at the University of London in 1933, and was elected a member of the Physiological Society. On his return to China Dr. Feng became associate professor of physiology in Peking Union College, and latterly has been professor of physiology in the Shanghai Medical College, temporarily in Chungking, and technical director of the Medical Research Institute, which he organized.

The Treasury has made an Order entitled "The Purchase Tax (Exemptions) (No. 2) Order, 1945," the effect of which is to exempt from Purchase Tax a large number of drugs and other medicinal products which are specified in a schedule. In general the new Order amplifies and in some respects recasts the list of drugs already exempt. A revised Notice No. 78 B incorporating in a single schedule all the exempt drugs will shortly be issued and a copy will be supplied to all registered traders likely to be concerned.

The Provisional National Council for Mental Health (39, Queen Anne Street, W.1) has lately appointed Col. K. Soddy, M.D., to the medical directorship of the National Association for Mental Health. Col. Soddy has, since September, 1943, acted as deputy director of selection of personnel and chief technical officer, India Command, and is still serving in that capacity. The appointment was made in the candidate's absence over-seas, and will be taken up as soon as he secures his release from the Army.

The Home Nursing Scheme for Greater London, which was noted recently in these columns, has prepared a small pamphlet giving a list of telephone numbers of district nurses in the London area. The organizing secretary (19, Hammersmith Broadway, W.6) will supply a copy to any doctor or hospital on receipt of an application with a 2d. stamp to cover cost of printing and postage.

The Minister of Health has supplied to hospitals owned by county councils and county borough councils, joint boards for tuberculosis and joint sanatorium boards, copies of the second memorandum on hospital diet issued by King Edward's Hospital Fund for London. The first memorandum was noticed in the *Journal* of Sept. 18, 1943 (p. 365), and the second on Sept. 8, 1945 (p. 328).

EPIDEMIOLOGICAL NOTES

Discussion of Table

In *England and Wales* the only changes in the incidence of infectious diseases were decreases in scarlet fever and measles, of 198 and 51 respectively, and an increase of 77 in cases of whooping-cough. The incidence of scarlet fever notifications went down slightly in most areas, except in the north, where the trend remained practically constant. The largest falls in scarlet fever were in Warwickshire (46) and in London (36). The chief feature of the diphtheria returns was a fall of 31 in Lancashire; the largest rise was in Durham (11). Only small fluctuations occurred in the local trends of whooping-cough; the increase was mainly due to small rises in the southern part of the country. The trend of measles showed a change only in Wales, where there were 45 fewer cases. Notifications of dysentery were 1 more than in the preceding week. The only fresh outbreak of any size was in Kent, Maidstone M.B. 19. The other large returns were Lancashire 34, London 34, Yorks West Riding 20, Glamorganshire 19, Caernarvonshire 14, and Warwickshire 10.

In *Scotland* the incidence of diphtheria decreased by 31 cases, and dysentery by 15, while measles rose by 37. The fall in diphtheria occurred in the western area. The reduction in dysentery took place mainly in Glasgow, where the cases fell from 52 to 37.

In *Eire* 16 fewer cases of diphtheria were recorded, while whooping-cough, scarlet fever, and measles were slightly more prevalent, with rises of 24, 7, and 7 respectively. Forty-three further cases of diarrhoea and enteritis were recorded in Dublin C.B., being 6 fewer than last week. Practically all the cases of measles, and more than half the cases of whooping-cough, were notified in this city.

In *Northern Ireland* the only change in the totals was a decrease of 13 in scarlet fever.

Week Ending November 17

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,674, whooping-cough 1,203, diphtheria 646, acute pneumonia 420, measles 403, dysentery 180, cerebrospinal fever 36, acute poliomyelitis 32, paratyphoid 1, typhoid 1.

No. 45

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended Nov. 10.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1945					1944 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever	37	3	25	3	—	37	3	12	3	—
Deaths		—	1				—	1		
Diphtheria	573	39	157	77	24	642	14	198	123	26
Deaths	4	1	3	—	—	12	—	5	4	—
Dysentery	212	34	74	1	—	320	64	100	—	—
Deaths				1	—				—	—
Encephalitis lethargica, acute	—	—	1	1	—	1	—	2	—	—
Deaths		—					—			
Erysipelas			47	7	4			41	15	2
Deaths		—					—			
Infective enteritis or diarrhoea under 2 years				53					35	
Deaths	30	3	6	13	3	41	3	14	13	1
Measles*	445	23	89	112	3	5,752	57	345	11	207
Deaths	1	—	—	—	—	6	—	—	—	—
Ophthalmia neonatorum	54	4	6	—	—	66	4	14	1	—
Deaths										
Paratyphoid fever	5	—	4 (B)	—	—	3	—	1 (B)	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenzal†	463	34	9	4	2	583	30	9	3	7
Deaths (from influenza)	15	3	1	1	—	25	2	1	—	—
Pneumonia, primary			199	23				221	18	
Deaths		24		9	4		22		15	9
Polio-encephalitis, acute	3	—				2	1			
Deaths		—					—			
Poliomyelitis, acute	33	8	2	3	—	13	—	1	2	—
Deaths		—					—			
Puerperal fever		9	17		—		1	12		1
Deaths										
Puerperal pyrexia‡	136	7	11	—	1	161	2	13	2	1
Deaths		—					—			
Relapsing fever	—	—			—	—	—			—
Deaths										
Scarlet fever	1,621	113	309	32	36	2,132	46	351	43	80
Deaths	—	—	—	—	—	1	—	1	—	—
Smallpox	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Typhoid fever	2	—	—	2	1	4	—	1	9	4
Deaths	—	—	—	—	—	2	—	—	—	—
Typhus fever	3	1	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Whooping-cough*	1,118	82	71	52	5	1,297	34	97	16	13
Deaths	7	2	1	1	—	2	—	—	1	—
Deaths (0–1 year)	276	30	49	45	16	290	26	53	46	23
Infant mortality rate (per 1,000 live births)										
Deaths (excluding stillbirths)	4,053	639	535	192	101	4,338	598	627	220	153
Annual death rate (per 1,000 persons living)			12·1	12·4	§			14·4	14·3	§
Live births	6,636	930	764	364	256	6,414	552	888	383	256
Annual rate per 1,000 persons living			15·3	23·5	§			18·1	24·8	§
Stillbirths	190	24	29			209	15	30		
Rate per 1,000 total births (including stillborn)			37					33		

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

‡ Includes puerperal fever for England and Wales and Eire.

§ Owing to movements of population, birth and death rates for Northern Ireland are still not available.

Letters, Notes, and Answers

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ANY QUESTIONS?

Incontinence in the Elderly

Q.—*A single woman of 76 begins to lose control of her bladder. What might be the cause of this?*

A.—There are many possible causes, and a lesion of the nervous system should be first excluded, bearing in mind that the lesion may be an early one, with disturbance in urination as its first symptom. Another possibility is organic disease within the bladder or urethra. Any tumour in the lower abdomen or pelvis might disturb bladder control, and conditions such as nulliparous prolapse, diseases of the cervix and vagina, urethral caruncle, etc., should also be kept in mind. A very full investigation of the nervous and genito-urinary systems is indicated, but if an organic lesion is not found, then the loss of control could be explained by senile atrophy of the muscles of the sphincter mechanism. Such a condition is not rare, and at the age of 70 its treatment is likely to be difficult. Incontinence of this type was dealt with very fully in an answer to a question published in the *Journal* on Jan. 27, 1945 (p. 139), and reference to this should be made.

Fleas in the Laundry

Q.—*As medical officer to a laundry I am looking for a preparation to be applied externally, or taken internally, which will repel fleas. It is impracticable to disinfest the bundles of clothing before the fleas jump out on the sorters. Apparently D.D.T. is unlikely to stop this immediate jumping out. I have tried sulphur gr. 5 t.d.s. on one subject over several days, but this had no effect, and the ordinary proprietary creams were also ineffective.*

A.—We do not know of any substance which, taken internally, will prevent insect-bites. The most effective repellants for external application act mainly by being irritant or paralysing to the insect on contact—e.g., dimethyl phthalate, indalone, pyrethrum preparations, etc. These will prevent an insect's walking over skin or garments on which they are smeared.

Since it is clearly impossible to apply such materials all over the body of the laundry sorter, they must obviously be combined with protective clothing. Overalls with trousers and sleeves are desirable. The cuffs and trouser ends should be tightly fastened and repellant applied liberally to the garments in these regions and also at other openings to the body.

Chronic Recurrent Parotitis

Q.—*A man of 76, in good health but deaf, has obstruction to the flow of saliva from both parotid glands. The stoppage, on one side or the other, lasts for hours, with gradually increasing pain and swelling of the gland. Eventually there is a gush of secretion into the mouth, and relief. The ducts have been probed but no calculus located. Various methods of applying heat during the acute attack have been used and help to relieve the pain and to overcome the resistance to the flow of saliva, but the condition recurs. Is there any possible connexion between the trouble in the gland and the chronic deafness—possibly interference with nerve control?*

A.—The condition described in this patient is almost certainly one of chronic recurrent parotitis, and as it is bilateral it is most unlikely that it is associated with parotid calculi. Confirmation of the diagnosis may be obtained by examination of a specimen of saliva taken directly by a glass cannula from the parotid duct. This saliva may show turbidity due to the presence of numerous blobs of muco-pus, or a uniform turbidity. Cytological examination will show many pus cells and columnar or pavement epithelial cells, often containing bacteria. The commonest infecting organisms in this type of parotitis are the *Str. viridans* or the pneumococcus. A sialogram with the injection of lipiodol will give detailed information about the degree and type of dilatation of the duct system. The catarrh and infection are present in the ducts all the time and the acute attacks are due to blockage of the larger ducts with tenacious muco-purulent secretion. It is unlikely that there is any connexion between the parotitis and the deafness, and unlikely that there is any interference with nerve control.

At the age of 76 drastic measures hardly seem called for, and the simplest procedure is to show the patient how to empty each gland digitally. In the case of the right parotid the index and middle fingers of the patient's right hand are placed firmly on the left side of the chin and the thumb over the right parotid gland. The gland is then stroked firmly with the thumb in a forward direction towards the angle of the mouth. The first stroke is started at the tragus of the ear, the second at the lobule, and the third just behind the angle of the jaw. Each forward movement of the thumb should be firm and deliberate and take about half a minute to reach the angle of the mouth. This manœuvre should be carried out for five minutes on each side first thing in the morning and last thing at night. It will help to keep the gland empty of tenacious secretion and will usually avert the acute attacks. Other methods of treatment include dilating the ducts with graduated probes, deep *x*-ray treatment in the case of *Str. viridans* infections, and in the worst cases a plastic operation on the duct. Mastication is the most important single factor in inducing the flow of saliva and in emptying the parotid glands. In almost all cases of chronic recurrent parotitis there is some impairment in the efficiency of the chewing mechanism as the result of missing teeth, ill-fitting dentures, etc.

Lupus Vulgaris

Q.—*An otherwise apparently healthy girl of 15 has a patch of lupus on the cheek and is having out-patient treatment. Her work consists of (1) helping in a grocery shop, and (2) looking after the grocer's three children, one a baby of a few months. She "lives in." Ought she to continue with either of these two jobs, and if so what precautions, if any, should she take? Her employer, while anxious to retain her service, is equally anxious to avoid running unjustifiable risks.*

A.—With very rare exceptions there is no risk of contagion or infection from a patient suffering from lupus vulgaris. So far as the lupus vulgaris itself is concerned there is no risk whatever, and it is almost true to say that the presence of lupus vulgaris in the skin denies the presence of any active visceral or other lesion which might be a source of infection. Should such active tuberculosis arise elsewhere it is customary for the lupus vulgaris to disappear quickly. However, there are rare exceptions where patients with lupus vulgaris have visceral tuberculosis, and treatment of the lupus should not be undertaken until the patient has been carefully overhauled medically and by *x*-ray examination of the chest to exclude such a possibility. If that has been done in this instance and all is satisfactory, there is no reason why the patient should not continue in her employment, and in care of the children, and "live in." Most patients suffering from lupus vulgaris are best treated in properly equipped hospital departments, by daily treatment as out-patients while continuing their normal vocations. Such circumstances probably play a part in the response to treatment and in recovery.

Chronic Prostatitis

Q.—*A patient has chronic prostatitis due to Staph. albus and a mildly haemolytic streptococcus. Sulphadiazine and penicillin have been used without appreciable effect. He has had severe "rheumatic" pains in most parts of his body for years. Would an autogenous vaccine help, or would shock therapy be likely to cure?*

A.—To treat any lesion by vaccines without knowing its pathological anatomy is unsound. The query gives no description of the rectal and bimanual examination of the prostate. Even when this has been done the case has not been completely investigated until a posterior urethroscopy has been carried out. It is only by this means that dilated ducts, perhaps exuding pus, can be recognized. An *x*-ray film to exclude prostatic calculi is also necessary. If these special examinations are negative it may be reasonable to try vaccine treatment. Shock therapy is not likely to be useful. If gross disease, recognized by the methods mentioned above, is found, then probably surgical treatment through the posterior urethra, laying open the ducts widely by a diathermy knife, may lead to cure.

Thiouracil for Graves's Disease

Q.—*What is the mode of action of thiouracil in Graves's disease? What are the drawbacks? Is it possible to use it in general practice, and if so in what dosage, and what precautions are necessary? Is there any concise literature on the subject?*

A.—Thiouracil acts by interfering with the production of thyroxine in the thyroid gland. By means of thiouracil thyrotoxicosis can be controlled, but unfortunately about one in every ten patients shows signs of sensitivity to the drug and treatment has to be discontinued. Such sensitivity usually occurs during the first eight weeks of treatment, and infrequently later when maintenance doses of the order of 100 mg. to 50 mg. daily are being used. The most dangerous manifestation of sensitivity is agranulocytosis. Treatment with thiouracil is justifiable only when the patient can be kept under close observation. She should be in hospital for the first month, and thereafter seen at intervals of not more than one month. In hospital, treatment can be controlled by estimation of the B.M.R., and sensitivity detected by counting the white blood cells. After discharge, counts of the white blood cells should be made at monthly intervals. The duration of treatment is six months to one year. A concise account of the treatment and its drawbacks is given by H. P. Himsworth (*Proc. roy. Soc. Med.*, 1944, **37**, 693).

Pneumoperitoneum for Early Apical Tuberculosis

Q.—*On page 520 of the* Journal *of Oct. 13 a question is headed "Pneumoperitoneum and Pregnancy." Presuming the "apical lesion" refers to the chest, is pneumoperitoneum a recognized treatment for this, or is this a slip for pneumothorax?*

A.—Pneumoperitoneum is often a very useful measure in the treatment of early apical tuberculosis, especially when combined with paralysis of the hemidiaphragm. In these circumstances very considerable relaxation of the lung can be obtained, which affects all parts, including the apex. Obviously the treatment would have no effect in cases of chronic, cavitated, fibroid, apical disease.

Keeping Properties of Penicillin

Q.—*How long does penicillin retain 75% of its potency (a) once dissolved for intramuscular use or for use as eye-drops; (b) when made up in the form of pastilles for oral medication in Vincent's infection? As the keeping property varies with temperature, I should like a figure for room temperature and for 5° C.*

A.—A precise answer to this question cannot be given, if only because stability depends on purity. The rapid loss of potency in solution which characterized the cruder penicillin of early days does not occur with the more refined present-day product, but different makes and batches still vary in their content of impurities. Some idea of the stability in solution of reasonably good penicillin may be gained from the observations of W. M. M. Kirby (*J. Amer. med. Ass.*, 1944, **125**, 628), who kept weak solutions at incubator and room temperature and could detect no deteriorations until after 4 and 7 days, respectively. J. S. Gotts and A. M. Glazer (*War Med.*, 1945, **7**, 168) found that solutions and creams lost the whole of their activity in about one month at either incubator or "room" temperature (this, being in summer in Florida, averaged 28° C.), but lost practically none of it in the refrigerator (2° C.) in 60 days. In preparations other than simple solutions stability might be affected by the vehicle, but the bases used both for creams and for pastilles are understood to have no deleterious effect. It need perhaps hardly be added that one cause of very rapid loss of potency in any fluid preparation of penicillin is bacterial contamination; frequently used solutions such as eye-drops are particularly liable to this.

Inheritance of Diaphysial Aclasis

Q.—*What advice should I give a female patient aged 23 about the advisability of marriage? There is a family history of multiple congenital osteochondromata. Her grandmother was affected; her father was free from it; but his six brothers developed bony growths at 2½ years of age. The patient herself is free, but her brother developed the complaint in infancy, and now his son (the patient's nephew) has developed growths at the age of 2½ years. All the bony growths appear near the epiphysis of long bones or on the spine. Is the aetiology known? And is any preventive treatment by drugs—e.g., calcium—of any use?*

A.—The condition is probably diaphysial aclasis (multiple exostoses). It is inherited as a dominant, but in the heterozygous state, particularly in females, the exostoses may be so small or so few that they are overlooked, and sometimes there may be none at all. In view of the fact that the patient's father was apparently free and yet transmitted the condition, the patient may also be capable of transmitting it. It is, however, more likely that all her children and descendants will be normal. If she does decide to get married it would be advisable, before taking this step, to have *x*-ray films of all her long bones and spine taken. It is an inherited developmental defect of bone, but the exact nature of it is unknown. No treatment with the drugs which have been tried so far has had any effect.

"Leucopenic Index" in Allergy

Q.—*Is there a reliable quantitative test of protein sensitivity in allergic conditions? In Bigger's "Medical Bacteriology" (4th edition, p. 265) mention is made of a test called "leucopenic index." How is this test performed and what is its clinical value?*

A.—The "leucopenic index" was suggested by Vaugham (1932). The principle of the test is the same as that of the haemoclasic crisis test of liver function (Widal), the occurrence of a leucopenia after the ingestion of food instead of the usual digestive leucocytosis. Vaughan found that the drop occurred after a patient partook of the food to which he was sensitive. Two leucocyte counts thirty minutes apart are made on a patient who has fasted for at least six hours. One and a half hours after the ingestion of the suspected food another leucocyte determination is made. If the number of leucocytes after ingestion is 1,000 lower than before the result is considered positive, but all the work should be done by a single technician, using the same apparatus, and the patient must have been at rest and not mentally upset. Only one food can be tested on one day, and repetition of the test often yields different results. The test has received both support and criticism. According to many observers, sometimes a rise comes instead of a fall. Even Vaughan considers that it cannot be regarded as a diagnostic procedure in allergy. As yet it is certainly not reliable, and has been used only in food sensitivity and not in the more common inhalant sensitizations.

Air Embolism in Pregnancy

Q.—*Recently a case was reported in which death occurred in a pregnant woman due to air embolism stated to be caused through blowing during or shortly after intercourse. It was said that this condition, unknown to the laity, was only little known to medical men. How exactly is it brought about? Why is there a greater risk of air embolism during pregnancy? Is air embolism possible by blowing up the vagina?*

A.—Fatal air embolism (the air gaining entrance via endometrial vessels) has been recorded in non-pregnant women when air is forced directly into the uterus—as in tubal insufflation. The chance of this, small at any time, is increased just before menstruation when the endometrial vessels are dilated. During pregnancy, when the vessels of the decidua are widely dilated and their walls fragile, the risk of air embolism is much greater. If the cervix is slightly open embolism can occur even if the air is forced only into the vagina. It is more likely in multiparous women and in late, rather than early, pregnancy. Although air might gain entrance through a damaged vessel in the vagina or cervix, the usual route is for it to travel through the cervix, outside the membranes, up to placental site, where it enters one or more of the maternal sinuses. At least four cases[1-4] of fatal air embolism following the vaginal insufflation of antiseptic powder during pregnancy are recorded, and I know of one other, not published as yet. It is stated that it requires 500 c.cm. of air to enter the blood stream to produce death; and Breyfogle estimates the capacity of the distended vagina during pregnancy to be in the region of 1,150 c.cm. If the maximum amount of air which can be expired is put at 3,500 c.cm. after a full inspiration, and at 2,000 c.cm. after a normal inspiration, it is clear that with a single expiration an individual could blow enough air into the vagina to fill it to capacity and also to cause fatal embolism via the uterus. There is, therefore, little doubt that the forcible blowing of air into the vagina, and particularly if the introitus were obstructed at the same time, could result in fatal embolism. The fact that post-mortem examination may not reveal the site of entry of the air or any separation of the membranes is not necessarily of significance, since the findings in this respect were negative in at least two of the recorded cases of death following insufflation.

It remains to be added that air embolism may occur during intra-uterine manipulations in labour, and is most common immediately after delivery is complete, when air may be sucked into the uterus by intermittent pressure applied to the fundus. Its causation is dependent on the same factors: (1) entrance of air into the vagina under pressure, (2) an open cervix, (3) the widely dilated venous sinuses of the placental site.

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Purifying Water Supplies

Q.—*Is chlorination of water effective—that is, does it destroy germs, such as Bact. coli? Is there any other efficient means of purifying a city's water?*

A.—Chlorination is the most widely used method of sterilization of water. It is employed as the final or sometimes as the only stage in the purification of surface supplies, and is often the only treatment required for well supplies where the water is bright and clear. Chlorine is a germicide and obeys the laws of disinfectant action. In waterworks practice the aim is to destroy all intestinal organisms; for if all the normal inhabitants of the human and animal intestine, such as *Bact. coli*, are destroyed, then it can confidently be assumed that all pathogenic intestinal organisms have also been killed off. A water is considered safe to drink if *Bact. coli* is absent from 100-ml. samples. Chlorine may be added to water in several ways, but there must be adequate time for contact between the chlorine and the water for the disinfectant action to be completed before the water passes to the consumer. In this way the dose of chlorine applied may be so small that no taste of it can be detected by the users.

Ozone is another efficient "finishing process" in the purification of water, and, although more popular on the Continent than in this country, it may become more widely adopted here as cheaper methods for its production are devised. This allotropic form of oxygen has some advantages over chlorine. In addition to the production of a clear and sparkling water, it is capable of removing certain earthy or musty tastes and odours and of reducing colour. Ozone completes its beneficial effect within a few minutes and decomposes into oxygen, so that it may be said that no "foreign" substance is present in the water.

Enemas in Diphtheria

Q.—*For how long should enemata be given to a moderately severe case of diphtheria? What is the safest laxative to give when enemata are discontinued?*

A.—In diphtheria of such severity as to introduce the possibility of toxic myocarditis bowel action is best maintained by small enemata on alternate days throughout the whole period of strict recumbency. Once the child is sitting up in bed aperients may safely be used, but they are often not required in young children. A suitable one in diphtheria at all ages is an equal mixture of liquid paraffin and liquid extract of cascara in appropriate amount.

INCOME TAX

Appointment—Expenses: "Living In"

A. B. receives a salary of £350 a year as a demonstrator. (*a*) What deduction can he claim for subscriptions for professional literature, or to professional societies, renewal of instruments, etc. (*b*) How will he be affected if (i) he "becomes resident with the cost of residence deducted at source," or (ii) "takes a post with residential emoluments"?

⁂ (*a*) No deduction can be claimed unless membership of the societies is a condition of the appointment, or, in the case of instruments, he is required to supply his own. If he is not debarred by that condition reasonable out-of-pocket expenses can be claimed provided that they are not of a capital nature. (*b*) (i) If he is entitled to a specified salary (of £*x*) but being resident is liable to have a deduction (£*y*) made therefrom in respect of board and lodging, he is liable to tax on the full amount—i.e., £*x*. On the other hand, if the terms of the engagement are that he shall receive a specified sum (£*x*—£*y*) and in addition have the advantage of free board and lodging, then his liability is on the actual cash payment due (i.e., £*x*—£*y*).

Locumtenent—Expenses

N. H. has been informed that commission paid on his salary as a locumtenent cannot be deducted as expenses under Schedule E.

⁂ The statement is legally correct but requires amplification. It is the accepted practice to assess a locumtenent—meaning by that a medical man who practises his profession by taking comparatively short-term engagements—not under Schedule E as if he holds a series of appointments each one of which is a separate subject of assessment, but under Schedule D as a man exercising his profession in a special way. If, therefore, N. H. has held a number of locumtenencies or in the natural course of events will do so, he should claim that under the recognized practice of the Inland Revenue Department he should be assessed under Schedule D (in which case the commissions payable can be deducted as expenses) and that the Schedule E assessment should be discharged.

LETTERS, NOTES, ETC.

Use of Liver Extracts

In the JOURNAL *of Oct. 6 we published a question and answer on the use of liver extracts. The answer was criticized in the* JOURNAL *of Nov. 17 (p. 714) by Dr. H. M. Walker. Our adviser replies as follows:*

It was made clear in the answer to which Dr. H. M. Walker demurs that liver extract cannot be expected to cure aplastic anaemia or thrombocytopenic purpura. It might have been added that, though the Order made by the Minister of Health on July 19, 1945, permits injectable liver extracts to be used without any restriction as to the conditions to be treated, it is still a breach of the regulations to use oral extracts of liver for any conditions except pernicious or other megalocytic anaemias. Moreover, it was apparent from the context that the reference was to anaemias of a grave prognosis, and the writer would strongly discourage the injection or ingestion of liver in the simple form of hypochromic anaemia which is so common in women in this country. The rule might therefore be amended to read, "No patient with a blood disorder should be allowed to die without being given the opportunity of responding to liver therapy," and the writer has no hesitation in reaffirming it in that form.

It seems probable that Dr. H. M. Walker has had little experience of treating patients with severe blood disorders such as aplastic anaemia or acute leukaemia. In their extremity the relatives turn for help in every direction, and sooner or later they discover that a patient with a severe anaemia has made a miraculous recovery on treatment with liver. It may be disastrous if they make such a discovery after their own patient has died without benefit of liver therapy. It is idle to try to persuade them that this is an entirely different type of blood disorder. In the first place, they ask, may we not be wrong? And in the second place, can it possibly do any harm? We may indeed be wrong. The writer has seen patients recover completely on treatment with liver when they had been diagnosed as suffering from carcinoma of the stomach with pyloric deformity; aplastic anaemia; purpura haemorrhagica; and cirrhosis of the liver. Liver is undoubtedly often misused, and that is a bad thing in these times of scarcity. Before the war more batches of liver extract were sold than there were patients with pernicious anaemia on whom to test them. Nevertheless, the great volume of misused material goes to people who are not anaemic at all, and who sometimes quite frankly take it as a pick-me-up. The amount that will be wasted in parenteral treatment of aplastic anaemia, purpura haemorrhagica, and leukaemia is a mere trickle in comparison.

Dr. H. M. Walker further states that purified and crude extracts of liver are equally reliable, and that they are submitted to exactly the same type of test. This may be true of some particular brands, but it is certainly not generally true. There is no compulsion on British manufacturers to submit liver extracts to clinical trial and to record their potency in units, as is the rule in Canada and the United States. It is well known to practising haematologists that some British manufacturers have put batches of liver extract on the market without clinical trial during the war, and that the commonest cause of relapse in treated cases of pernicious anaemia has been an inactive preparation of liver. It is also a matter of experience that the refined extracts have been more reliable than the crude.

Finally, Dr. H. M. Walker misquotes the answer in regard to the use of proteolysed extract of liver. Injection of liver extract was recommended as the treatment of choice for pernicious anaemia, but it was pointed out that refractory cases which fail to respond to treatment by injection will often respond to proteolysed extract of liver by mouth. Evidence of the decisive superiority of proteolysed extract by mouth in refractory anaemia of the pernicious type can be found in the paper by Davis and Davidson (*Quart. J. Med.*, 1944, **13**, 53). In the experience of the present writer fluid extract of liver (*B.P.*) is as effective as proteolysed extract in these uncommon refractory pernicious anaemias. The explanation of the superiority of oral over parenteral treatment in these particular instances is obscure. It may be mass action of the extract, or it may be the presence of synergic factors which are not available in sufficient quantity in the parenteral preparations. As Dr. H. M. Walker has misconstrued the previous answer, he may rest assured that the writer is well aware of the fact that in the average case of pernicious anaemia liver extract is probably 40 to 60 times as active by injection as by mouth. In refractory cases of pernicious anaemia, however, there is a diminution or reversal of this ratio, and in refractory cases, therefore, oral extract of liver may be superior to intramuscular extract of liver, however complex and however carefully assayed.

"The Frozen Pelvis"

Lieut.-Col. F. R. W. K. **ALLEN** writes from the Indian Military Hospital, Poona: The reviewer of *Surgical Errors and Safeguards* in your issue of July 7, 1945 (p. 16) should look up O'Meara's *Medical Guide for India* and turn to Section VI, 7, "Gynaecology," by V. B. Green-Armytage. "The frozen pelvis" appears in my edition at page 722.

Humanitarianism and the European Situation

Mr. J. W. **NIEMANN**, chairman of the Reception Committee for Young People from Occupied Countries, writes from 35, Eaton Square, London, S.W.1: I have been advised by one or two doctors that a letter appeared in your *Journal* on Sept. 29, written by a doctor serving in U.N.R.R.A., who asked that an organization be set up to enable children from the Continent to come to this country for a recuperative holiday of twelve months or so. I would like to draw attention to the work of the Reception Committee, Y.P.O.C. This organization has been in existence since 1942 and has been working in close collaboration with the British and Dutch Governments. Up to date nearly 6,000 Dutch children have been accommodated in this country, and all of them have been in camps for two months, 5,000 of whom have also been in private hospitality homes for a further eight weeks. These children have been distributed with great success into private homes in Scotland, the Midlands, and Wales, and we are now busy on plans to send about a thousand children to the southern districts of England, including Kent, Surrey, and Sussex. These children are welcomed as guests in the homes of these British people, and from all sides we have been encouraged by excellent reports. The Reception Committee is run on voluntary subscriptions, and the administrative work of the headquarters is carried out locally by branch reception committees, all of whom work in an honorary capacity. The organization is international, and we are hoping to welcome children from Norway, France, Czechoslovakia, and Greece.

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HEARD AT HEADQUARTERS

The Profession in the Making

Medical students from all, or nearly all, the schools of Great Britain and Ireland held their annual meeting at B.M.A. House during the last week-end of October. The medical profession in the shaping promises well. The students are refreshingly free from the inhibitions of their elders, and do not recognize the need for being excessively polite to one another when they differ. Disagreements were talked out frankly, which is all to the good. It was also interesting, at the beginning of the conference, to hear a grave protest from a Cambridge delegate at the alleged facetiousness of the reports and news letters circulated to the schools from the headquarters of the B.M.S.A. Was this a national body or was it not? If it was a national body such facetiousness was out of place. The retiring president, Mr. John Rich, of London, nobly took the blame. He said that his predecessor had sent out most serious and succinct letters, which had been posted up on notice boards and not read, and to his mind some element of facetiousness was necessary in order, so to speak, to cross the student threshold.

Student Opinion

The British Medical Students' Association was established three years ago and has already done some excellent work. Such a body suffers inevitably from some lack of continuity. As soon as a member becomes exceptionally useful and reaches high office he is likely to have come to the end of his undergraduate career, and, as a young doctor, he is no longer eligible for membership, and probably would not be interested in student affairs if he were. The association got out a useful report on the National Health Service, but further work on that is " hanging fire " while the Government's proposals are still unannounced. Another report is on the Goodenough recommendations, and yet another on student health. The B.M.S.A. is now hard at work through its new secretary, Michael Honey of Cambridge, collecting material on the cost of medical education. How much does it cost to qualify as a doctor, and to what extent is financial help available by means of scholarships, grants, or loans from the State, from local authorities, from universities and medical schools, and from private trusts? And yet further, how many young men and women who might be expected to make good doctors are prevented from pursuing the profession solely because they cannot afford the money for training?

Cost of Medical Education

This cost of medical education is a question on which the students feel deeply. Some investigations made at Newcastle were cited, from which it appeared that the cost of six years' medical education worked out for the average student at £1,070 if he lived at home, and £1,380 if he was in lodgings, to which amounts should be added the loss of early earnings which would have come to him had he followed some occupation that demanded less in the way of training. But there is a great difference in these costs as between London and the Provinces and as between the Provinces and Scotland ; so much so that it has been found impossible to draft a single questionary which would apply to all medical schools. One student from Manchester argued that as the profession is likely to come under the jurisdiction of the Government, the State should bear the whole cost of medical education—rather a breathtaking proposition. The conference did pass a resolution urging the Ministry of Health, the voluntary hospitals, and other authorities concerned to adopt for all recently qualified persons a uniform commencing salary scale ranging, according to the grading of posts, from £200 to £400 a year, with full residential emoluments, and also that during the pre-registration period of internship payment at the rate of £100 a year, again with residential emoluments, should be made. Another question on which the students had ideas was the general education programme. One motion from Birmingham—not put to the meeting—was that the first year at the university should be given up to purely medical education, imparted in a general way, so as to get the general view before the particular. Someone else wanted wards to be opened to students in the afternoons during vacations and classes to be held at such times by registrars.

Student Health

A good deal of concern was expressed at the students' conference about the health of students in general—not medical students only, but all at the universities. They are at a critical age, not usually well-to-do, and they are not insured persons. Their lodgings very often lack much in home comfort, and college canteens are said to be in some cases only in the " C " category, which means that their allowance of essential foods is very small. Mass radiography is being carried out among students ; at Liverpool, out of 1,465 students at the university, 1,245 have been examined, and at Belfast 623. Health services for students, including a medical examination on entrance and re-examination at regular intervals, were pressed. The schools are also being urged to organize local insurance schemes.

Full House

A Council meeting in which every one of the sixty-three members attended may well be a record in B.M.A. annals. Whether it was the prospect of meeting the new Minister of Health or the fact that an unusual number of important matters were down for decision, not a seat was vacant when the Council met on Nov. 7. The usual item " Apologies for Absence " had been pessimistically placed on the agenda, but none was forthcoming. It is interesting to estimate the mileage travelled in connexion with such a Council meeting. Only about one-third of the members live in London or within fifty miles of it. Ten members (from Scotland and Northern Ireland) travelled over 300 miles in order to attend ; five (from the North of England) travelled between 200 and 300 miles ; twenty-two (from the Midlands and South Yorkshire, the West and South-West of England, and Wales) travelled between 100 and 200 miles, and four others between 50 and 100. Although not technically the first meeting of the new session, it was a meeting of new beginnings. Dr. James Fenton was welcomed on his first appearance as chairman of the Public Health Committee, and Dr. J. A. Pridham as chairman of the Organization Committee. The new Northern Ireland Committee presented its first report, and a report was forthcoming from the Welsh Committee, which has not met during the war, though its Contract Practice Subcommittee has been active.

The Minister of Health

It was interesting to hear the reactions of various members of Council after meeting the new Minister of Health. One highly critical member described him as " obviously clever and charming, with the cherubic outlook and manner of a boy." There is something disarming about the way in which the new Minister confesses his ignorance and his willingness to learn. He attended a meeting of medical men the day after he had visited the Council, and said that he had been primed by his Department as to what he should say on the occasion, but it would be too embarrassing for him to use the documents prepared for him, because it would be a pretence to knowledge which he did not himself possess: very unlike some former Ministers—not Ministers of Health alone—who have come along and read speeches in which they assumed omniscience. At the same time, behind this disarming front there is probably a very combative spirit. The Welsh Aneurin from whom Mr. Bevan takes his name was both a bard and a warrior.

THE BUYING AND SELLING OF MEDICAL PRACTICES

A LAYMAN LOOKS AT THE PROBLEM

The Minister of Health has not yet announced the intentions of H.M. Government about the buying and selling of medical practices. Let me assume, for the purpose of this article, that the Government decides to prohibit the custom. What would this mean? First of all, why have practices been bought and sold? Let us try to examine this question without prejudice.

Doctors, in the main, are not wealthy. Generally speaking, they become comfortably off only after many years of hard work. Their only asset, in a business sense, is what is known as goodwill, and this is what is bought or sold when a practice changes hands. Goodwill is an expression of the success or failure of an individual or business to satisfy clients or customers. If it has a high financial value it indicates success; if low it proves failure.

When a shop changes hands but the name on the front remains the same it is clear that the business was a success and the late owner had earned the goodwill of his customers. The purchase price would, therefore, include an amount for goodwill, which might even be more than the value of the premises and stock. The buyer of the goodwill would, in return for his money, get the opportunity of trading at once with a number of satisfied customers, who would remain his customers only if he continued to prove himself worthy of their goodwill by satisfying them. He would also receive an assurance that the seller of the business would not start again round the corner and take all the customers back. This is a well-understood procedure, and not only does no one object to it in business life, but everyone agrees that it is a simple and straightforward way of handing on, or of acquiring, a connexion which has taken a lot of time and energy (or would do so) to build up. That this goodwill has a financial value is beyond dispute.

Now what is wrong with the buying and selling of practices —i.e., of medical goodwill? Nobody raises a protest when a would-be shopkeeper buys the goodwill of an existing shopkeeper, simply because there is nothing wrong about the transaction. Solicitors, architects, and accountants are never attacked because their partnership agreements are based on goodwill. Why, then, is the medical profession singled out for attack?

Apparently in the minds of some people there is a difference between the medical profession and other vocations. Because doctors apply their specialized skill to healing the sick and because sickness and suffering go together doctors are supposed to take a more unworldly view of their work than other people do of theirs. There is, of course, nothing horrible about the buying and selling of practices. A doctor, having given satisfaction over a number of years to a number of patients, can reasonably expect that, given the same care and attention, those patients will continue to come to him for a further period of years. This assurance gives him an expectation of income which an accountant can translate into a capital value.

Now supposing a doctor finds that the place he is in does not suit his wife or he wants to leave it for some other reason, or wishes to retire, he can, under the present method, select another doctor and introduce him to his patients, recommend him, and hand the practice over in return for a payment calculated on the capital value of anticipated income over an agreed period. With this money he can make an offer for a practice in an area that suits him better or add to his savings on retirement. If the doctor who has taken over the practice fails to satisfy the patients they leave him and it is his own fault. If the one moving to the new practice similarly fails it is his own fault. In other words, the patient is under no obligation to either doctor. So far as the patients are concerned they may get a better or not so good a doctor, *but they get one who wants to be there* instead of retaining one who wants to go. Nobody, therefore, is penalized. Doctors have their freedom and the patients have theirs. There is nothing sordid about the matter. The fact that it is a straightforward business deal does not make it unethical.

The other objection to the buying or selling of practices is that only the children of the rich can become doctors. That can most easily be remedied by granting more scholarships. It is the long training which costs the money.

As to the buying of a practice, there are many ways in which the poorest of qualified doctors can acquire the necessary funds without crippling themselves. There is a lot of uninformed talk about young doctors "mortgaging themselves to insurance companies" as though they were the only people who ever used the facilities offered by financing institutions. Here is a typical example of how a newly qualified doctor can buy a practice.

Dr. X, who has no capital, wishes to buy a practice. He need not be deterred, because there are ways and means by which this can be done. He can approach, say, an insurance company and obtain a loan on the security of his anticipated earnings—i.e., on the goodwill of the practice. The company would also ask that as additional security he should insure his life for an amount sufficient to cover his indebtedness. If he is wise he will, of course, have already insured his life. He could arrange to repay the loan together with the interest by instalments, and on a loan of £1,000 the yearly payment would probably be about £125, so that he need suffer no more hardship than anyone else starting a career on his own. All the time he would be gaining possession of a capital asset the value of which he could increase by his own efforts. It is possible that in some cases there would be no need to approach a business firm. In the case of a doctor who is offered a share in a partnership, for example, it might well happen that the price asked for the goodwill might be paid on a "pay-as-you-earn" arrangement acceptable to the senior partner.

It is apparent, therefore, that the objection is ideological. It has nothing to do with ethics, justice, morality, or whatever you care to call it. It is simply that some people believe that everybody and everything should be subservient to the State and that free transactions between free individuals are wrong anyhow. As the medical profession will be required to take a leading part in making the social security plans work they are first on the list of individuals to be controlled, but only the first. All the others must follow. What will be the consequence to patients of the prohibition?

Doctors will first of all be unable to move without sacrificing their goodwill. This will not tend to make them happy in their work. As there will be no "free market" in practices doctors wishing to find employment will have to apply to a central registry and go where the Ministry of Health says there is a vacancy. It will, in effect, become civil direction in peacetime, though it will not be called that. This will not suit most doctors, and those it suits will not be the best doctors. Far from getting a better service as the result of depriving doctors of their freedom the public will get a worse one. Without for one moment criticizing the medical services of the Forces it is suggested that both Service doctors and Service patients in the great majority of cases prefer private practice and private treatment. It is the physical facilities available in the Forces, not the discipline and methods of organization, which are appreciated by doctor and patient alike.

When the medical practitioner is the sole arbiter of whether or not some benefit shall be paid or prolonged and, by reason of his loss of freedom, is a servant of H.M. Treasury, the public may regret the departure of the old-fashioned G.P. who bought his practice and from the stronghold of his independent position could stand up as advocate for their rights as well as his own. The fact that compensation for loss of goodwill may be paid in the form of a retiring pension does not affect the major issue so far as the public are concerned, nor so far as newly qualified or unplaced doctors are concerned. The public will almost immediately feel the disadvantages of a State service in which the doctor represents the Treasury against the patient (see Beveridge report and report of Government actuary on Social Insurance), and the doctors will at once find themselves immobilized or directed.

At the annual meeting of the St. Helens (National Health) Insurance Committee Dr. D. Campbell, M.R.C.P., was appointed chairman of the committee for the eleventh consecutive year.

GENERAL MEDICAL COUNCIL

PRESIDENT'S ADDRESS

At the opening of the one hundred and sixty-sixth session of the General Council for Medical Education and Registration on Nov. 27 the President, Sir HERBERT EASON, gave an address.

He recorded with the deepest regret the death of Mr. N. Bishop Harman, which followed so shortly on his retirement from the Council. "I can add little to what I said on that occasion about Mr. Bishop Harman in May, with regard both to his valuable services to the Council, and to the affection with which he was regarded by his colleagues. His death brings home to us the fact that we have lost for ever a good brain and a kind heart." The President also recorded regret at the retirement in June of Prof. W. J. Wilson, who had represented the Queen's University of Belfast since 1941, and has been succeeded by Dr. W. W. D. Thomson, professor of medicine in the University. "We also welcomed at the session in May Dr. N. E. Waterfield, who is a direct representative elected by the Council under its emergency powers to fill the vacancy caused by the retirement of Mr. Bishop Harman. We have already experienced some indication of Dr. Waterfield's value to the Council through his wide knowledge of the principles of practice which ought to govern the ethical conduct of the members of our profession. We further have to welcome on this occasion Prof. R. M. F. Picken, who fills the vacancy caused by the lamented death of Mr. Sheen. Prof. Picken's experience as the medical officer of health of a great Welsh city, and in the chair of preventive medicine in the Welsh National School of Medicine, together with his presidency of the Society of Medical Officers of Health, will render his advice of great value to the Council in the revision now in progress of the Rules as to courses of study and examinations for diplomas in public health. Finally, we have to congratulate Lord Hacking on his elevation to the Peerage on the occasion of the dissolution of Parliament."

The Education and Examination Committees would be considering the general reports of the inspectors in medicine and in midwifery, Prof. J. A. Nixon and Sir William Fletcher Shaw, as an inspection of all final examinations in these subjects had now been completed. Owing to the death of Mr. Harold Collinson it would not be possible for the Council to have a general report on the examinations in surgery, but Prof. Nixon had prepared for the confidential information of the Council a memorandum on the reports of Mr. Collinson on the several qualifying examinations in surgery at which he attended. The Curriculum Committee were making good progress with their task, and matters had now progressed so far that it would be advantageous at this session for the three committees dealing with pre-clinical studies, clinical studies, and social medicine and public health to meet jointly and pool their ideas, and if possible cement them into a consecutive whole.

Consolidation and Amendment of Medical Acts

The special committee of the Council on consolidation and amendment of the Medical Acts, appointed a year ago, would be considering at this session how far any future proposals by the Government as to a National Health Service might necessarily involve amendments of the Medical Acts. If, for example, the Government were to accept the recommendation of the Interdepartmental Committee on Medical Schools in favour of a requirement that men and women who had passed their final examinations in medicine, surgery, and midwifery should be required to hold certain house appointments before they could be registered in the *Medical Register*, substantial amendments of the Medical Acts would be required to meet the new situation.

But the Council and the public are, I believe, as much interested in the consolidation as in the amendment of the Acts. Since the principal Act was passed in 1858, Parliament has added to the Statute Book no fewer than twenty or thirty other Acts which directly affect the constitution and functions of the Council and of the constituent licensing bodies. We do our best to assist ourselves to find the way through this mass of legislation by means of the book containing reprints of the more important Acts, or parts of them, which members have in front of them. But their problem is reminiscent of a passage "Concerning the Service of the Church" in the Introduction to the Book of Common Prayer: "Moreover the number and hardness of the Rules called the *Pie*, and the manifold changings of the Service, was the cause, that to turn the Book only was so hard and intricate a matter, that many times there was more business to find out what should be read, than to read it when it was found out."

It will therefore be for the Special Committee also to consider on what lines any proposals for the consolidation and amendment of the Acts could best be drawn up so as to preserve what is valuable, to dispense with what is obsolete, and to introduce what the experience of nearly ninety years has shown to be desirable, or the future, so far as can be foreseen, will require. This is a heavy task, but the time which it takes will have been well spent if it enables the Council to be ready with suggestions for the consideration of the Government and their expert advisers should they find themselves disposed not only to amend what must be amended, but to consolidate and amend what must be so treated if a single and intelligible Medical Act is to be made available for the public good.

MEDICAL WAR RELIEF FUND

FIFTH ANNUAL REPORT

1. This report covers the twelve months from Sept. 1, 1944, to August 31, 1945. The year's work shows a considerable increase on that of previous years as regards both the number of applications received and the total amount spent in awards. This increase was particularly marked towards the end of the year, the amount voted in gifts and loans in August being more than three times the average of the earlier months..

2. The number of awards made during the year is fifty-six. Approximately one-half of the beneficiaries were medical officers in the Services or ex-officers who had relinquished their commissions through ill-health or had been released under the reallocation of man-power scheme. The number of appeals from men in the latter category has been growing rapidly. Some of the returning Service doctors need substantial help while they are rebuilding seriously depleted practices. Others are unable to resume their former activities owing to disablement resulting from wounds and require assistance in establishing themselves in new forms of professional work.

3. The other cases dealt with during the year are similar to those which have been described in earlier reports. They include seven in which assistance towards the maintenance and education of children was given to widows of medical officers killed on active service, one of whom had been awarded posthumously a very high decoration for great gallantry in the action in which he lost his life.

4. The audited statement of account for the twelve months is appended to this report. It will be seen that the amount spent in awards is about three times the amount of the new income from donations during the year. The Committee of the Fund expects that, as demobilization proceeds during the next year, far heavier demands will be made on the Fund's resources than ever before. It has therefore decided to launch a fresh appeal for subscriptions in order that the balance remaining in the Fund may be very substantially reinforced.

5. The work of the Prisoners-of-war Subcommittee during the year has been limited owing to difficulties in the transport of books to the prison camps and the eventual release of the prisoners. Fifteen applications for books were received and thirty-five books ordered for dispatch to the camps.

6. The Fund has suffered a heavy loss in the resignation of Sir Hugh Lett from the Committee of the Fund and the Distribution Subcommittee on account of pressure of other duties. Sir Hugh had been chairman of the subcommittee since the inauguration of the Fund and had earned boundless admiration by his intense devotion to the work, his unexampled thoroughness in presenting the applications, and his most wise, tactful, and altogether efficient conduct of the proceedings. The committee records with deep gratitude its appreciation of his magnificent service to the Fund.

7. The committee once again wishes to express grateful thanks for the invaluable help received from the Royal Medical Benevolent Fund; for the continued assistance of the British

Medical Association in providing accommodation for meetings and in other ways; for the most helpful co-operation given by the Education Books Section of the Red Cross and St. John War Organization; for the generous services of Messrs. Price, Waterhouse and Co. as honorary auditors; and for the admirable way in which the genial, tactful, and efficient Honorary Secretary of the Distribution Subcommittee, Mr. E. C. Pennefather, has carried out his increasingly arduous duties.

APPENDIX

Statement of Accounts for the Twelve Months ended August 31, 1945

1. *For Relief of Financial Distress*

		£ s. d.	£ s. d.
To Balance brought forward:			
£7,000 3% National Savings Bonds, 1955/65		7,000 0 0	
£14,000 2½% National War Bonds, 1946/48 ..		13,985 18 9	
£3,000 2½% National War Bonds, 1949/51 ..		3,000 0 0	
£4,000 2½% National War Bonds, 1951/53 ..		4,000 0 0	
£1,000 3% Defence Bonds Post Office Issue		1,000 0 0	
£100 3½% Conversion Stock		96 0 0	
500 National Savings Certificates ..		375 0 0	
Deposit with Post Office Savings Bank and interest accrued		2,148 13 6	
Cash at bank on current account		1,408 6 10	
Cash at bank on deposit account		2,000 0 0	
Cash in hand		1 3 1	
		35,015 2 2	
Less: Amount set aside for books for prisoners of war (see below)		119 16 6	
			34,895 5 8
,, Donations		3,648 18 9	
,, Interest on investments (gross)		768 10 0	
,, Interest on bank deposit		14 4 10	
,, Interest on deposit with Post Office Savings Bank (including accrued interest to August 31, 1945)		32 17 6	
,, Profit on sale of investments		86 2 1	
			4,550 13 2
			£39,445 18 10

		£ s. d.	£ s. d
By Loans advanced during year (including £200 to be administered by Royal Medical Benevolent Fund)		1,950 0 0	
Less: Repayment during year		100 0 0	
			1,850 0 0
,, Gifts (including £1,141 15s. to be administered by Royal Medical Benevolent Fund) ..		8,989 16 6	
Less: Amounts refunded		213 12 3	
			8,776 4 3
,, Petty cash expenses			6 17 0
,, Bank charges			1 0 0
,, Printing and postages			2 18 6
,, Honorarium to secretary of Distribution Subcommittee ..			100 0 0
			10,736 19 9
,, Balance carried forward at August 31, 1945:			
£7,000 3% National Savings Bonds, 1955/65		7,000 0 0	
£12,000 2½% National War Bonds, 1946/48 ..		11,985 18 9	
£4,000 2½% National War Bonds, 1951/53 ..		4,000 0 0	
£1,000 3% Defence Bonds Post Office Issue		1,000 0 0	
500 National Savings certificates		375 0 0	
Deposit with Post Office Savings Bank and accrued interest		181 11 0	
Proceeds of sale of investments due but not received		5,076 18 1	
Cash in hand		4 6 1	
		29,623 13 11	
Less: Bank overdraft .	£847 10 11		
Amount set aside for books for prisoners of war (see below) ..	£67 3 11		
		914 14 10	
			28,708 19 1
			£39,445 18 10

Notes: (1) Gifts voted during the year amounted to £9,099 16s. 6d. In one instance an instalment of £300 remained unpaid.

(2) Since the inception of the Fund, loans to a total of £7,812 have been voted; of this sum £200 had not been paid over at August 31, 1945, and £742 15s. was repaid prior to August 31, 1945.

2. *For Books for Prisoners of War*

	£ s. d
To Balance brought forward	119 16 6
	£119 16 6

	£ s. d.
By Cost of books distributed	52 12 7
,, Balance carried forward (see above)	67 3 11
	£119 16 6

Examined with the books and vouchers and found correct.

3, Frederick's Place,
Old Jewry,
London, E.C.2.
November 21, 1945

Price, Waterhouse & Co.,
Honorary Auditors.
Chartered Accountants.

PANEL CONFERENCE DINNER

A function suspended since 1938 was revived at the conclusion of the Panel Conference when the representatives entertained the members of the Insurance Acts Committee at dinner at the Savoy Hotel. Dr. J. A. Brown presided. The springs of serious oratory had apparently been exhausted during the day's conference, and the proposers of the toasts, Dr. E. J. Allen of Derbyshire and Dr. D. L. S. Johnston of Halifax, in giving the health of the Insurance Acts Committee and of the Chairman, amused the company with some clever persiflage and oblique compliment. Dr. Gregg, in replying, claimed for the Committee that it was the best in the British Medical Association; all its members, he said, were experts in the subject, and his position as chairman called for constant vigilance, because if he made any slip he was sure to be detected. Dr. J. A. Brown, who said that this was the third conference but the first dinner over which he had presided, in his turn proposed the health of the B.M.A. secretariat. Dr. Hill responded for his colleagues—Dr. Macrae, Dr. Potter, Dr. Agnes Kelynack, and Mr. Scrivener, the clerk of the Committee, who was responsible to a very large extent for the smoothness of its working. He mentioned that this was probably the last Conference which the retiring Scottish Secretary, Dr. R. W. Craig, would attend in an official capacity, and on behalf of the London staff he tendered to him their warm thanks for his services and their good wishes for his future happiness. Dr. Hill concluded with an appeal for unity in the ranks. He said that if at any point the Chairman of Council and he were compelled to speak in diffident tones it was because of uncertainty as to whether on that point they could command the full support of the profession. To present the case of a united profession was simplicity itself compared with the task of presenting the mixed views of divided cohorts. There were calls for a speech from Dr. Craig, who in a few words spoke of his pride at having served his fellow Scotsmen and at having retained their esteem notwithstanding the highly critical faculty which was developed north of the Border. He considered himself fortunate in having been able to see the profession inside and outside, first as a general practitioner for many years, and then for fifteen years as an administrative officer, and no less fortunate in having served as such an officer under three chiefs—that wonderful veteran Alfred Cox, George Anderson, whose untimely death they still deplored, and Charles Hill, whose courage and personality were making so great an impression both in the profession and in public life generally. At the close of his speech Dr. Craig was given an ovation by the Scottish members present.

Correspondence

Panel Prescriptions and Certificates

Sir,—One of the chief bugbears of the harassed general practitioner, as we all know, is the enormous amount of clerical work imposed upon him, chiefly the continual repetition of prescriptions and panel certificates. Cannot something be done to alleviate this monotonous burden—a definite obstruction stealing our time, which could be employed in far richer fields? The following suggestions may appear ludicrous and quite impracticable, but in the hope of stimulating further constructive criticism here are a few ideas for what they are worth.

Instead of writing out panel certificates, three coloured disks would be supplied: red disk, first certificate—stop work; amber disk, intermediate; green disk, final—resume work. The disks are *stamped* with the doctor's signature and the date, and then handed to the patient. (No disease is to be stated, as this is confidential between the doctor and patient and should be nobody's business.) Another idea would be to let the patient "clock on" the panel, the necessary machines to be installed in the doctor's surgery; anything to remove this evil in our midst. After all we did spend at least five years training to qualify as doctors, but under the present system if we happen to lose or mislay our fountain pens, instantaneously we become practically useless as a panel practitioner.—I am, etc.,

Nottingham. Gordon Tresidder.

Legal Obligations of the Practising Doctor

SIR,—There are, I believe, some 56,000 members of the B.M.A. Yet from all that number there have been, so far, only two letters of protest over the action of the G.M.C. in punishing a doctor for failure to visit a patient. Are we as a profession incapable of any emotion save that of the tempered joy which we may, or may not, exhibit on the safe arrival of our panel cheques? One can even admire the dockers, for they at least show a sense of cohesion and co-operation and a determination to hang together. Doctors, however, as distinct from dockers, seem to wish to hang as individuals.

What is the B.M.A. doing about it? There are some, we know, who will no doubt say: "Nothing, as usual." Let us have the full facts about this case which is causing much mental disquiet among those who think the price of liberty is eternal vigilance.—I am, etc.,

Hove. G. L. DAVIES.

SIR,—Dr. J. V. Mainprise's letter in the *Supplement* of Oct. 27 (p. 96) raises a most important legal point, on which I agree counsel's opinion should be obtained. Like him I am no legal expert, but the matter is one of great importance to us all, and an authoritative answer should be in our hands as soon as possible to the question: "Where no actual or implied contract exists has a doctor any legal obligation to attend a case merely if asked to do so?" I agree that very often he may have an ethical or humanitarian obligation, and where such exists it is unthinkable that he would refuse if it was physically possible for him to attend, but the legal position should nevertheless be clarified, and we look to the B.M.A. to give or obtain guidance on this important point.—I am, etc.,

Southport, Lancs. R. R. M. PORTER.

Duty of the Profession

SIR,—On all sides we are beset by rumours of the Government's plans for a National Health Service, but now one fact has emerged. Although Mr. Bevan has been in office for 3½ months and promises his "plan" next month he has had no discussions or negotiations whatsoever with our representatives. Now many of the rumours are likely to prove empty, but what of the promised "plan"? Does all this mean that Mr. Bevan is "bluffing," or does it mean that he is about to ignore our opinions?

One thing is certain at this time. It is essential that there should be the greatest possible unity in the profession. To this end we must all strive to the utmost, laying aside our differences so as to maintain the high ideals of the medical profession, whether in its present form or in a new one of which so many of us have such high hopes, but oh, such fears. When unity in the profession is mentioned thoughts immediately go back to 1912 and the failure then to "stick together." Without doubt this was due to the bitter competition between doctors which then existed, and which lowered our prestige so seriously in the eyes of the public that they thought it was but for them to raise a finger for the doctors to scramble for their favour. Fortunately now things are very different; almost everywhere among doctors there is developing a fine comradeship—a comradeship, indeed, which soon may be severely tested.

Although so many of us are hoping for a health service in this country second to none, we must obviously be wary of all politicians and their "catch-phrases." Let us not be misled into hasty decisions; if the "plan" is a good one it will bear scrutiny, and in it plainly visible will be many benefits to our patients and an honourable service for ourselves. If we can see this it will be the clear duty of the profession as a whole to accept the Government's proposals. But what if our hopes are unfounded and we are presented with some political window-dressing instead? Then most assuredly must we give an emphatic "No," and Service men, specialists, general practitioners, stand steadfast against blandishments or threats, refusing any part in the scheme until such changes are made as will permit our consciences to say, "It is good," and only then, all together, we can accept it.—I am, etc.,

Bristol. W. H. HAYES.

Association Notices

GROUP OF DERMATOLOGY

Notice is hereby given of the formation by the Council of a Group of Dermatology, which shall be composed of all those members of the Association who are engaged predominantly in the practice of dermatology. Members of the Association who claim to conform to this definition, including those serving with H.M. Forces, are requested to apply to the Secretary, B.M.A. House, Tavistock Square, W.C.1, not later than Jan. 31, 1946, for a form of application for membership of the Group. The first general meeting of the Group will be held at a date to be subsequently announced in the *Supplement*.

CHARLES HILL,
Dec. 1, 1945. *Secretary*.

Meetings of Branches and Divisions

LEIGH DIVISION

A number of activities were resumed during the year, states the report for 1944–5 of the Leigh Division, which was approved at the annual meeting on Oct. 23. Altogether five meetings were held, to two of which all practitioners in the area were invited. Addresses were given by Dr. G. E. Hayward, Dr. R. Hamilton, Mr. F. H. Scotson, Dr. M. L. Thomson, Dr. F. H. Stratton, and Miss E. M. Mills. The annual dinner was held once more. Of the Protection of Practices Scheme the report remarks that it continues to operate with fair success.

NORTH-EAST ESSEX DIVISION

An open meeting of the North-East Essex Division, to which all doctors in the area were invited, was held at the Essex County Hospital, Colchester, on Oct. 3, under the chairmanship of Dr. Frank Guiver. On the proposition of Dr. A. MacQuarrie, seconded by Mr. T. A. Ogilvie, the following proposition was carried without dissent: That this meeting is solidly behind the Negotiating Committee of the British Medical Association appointed to consult with the Government on the proposed National Health Service, and asks them to stand firm on the principles approved by the Annual Representative Meeting of 1944 and the Special Representative Meeting of 1945.

Branch and Division Meetings to be Held

EAST HERTS DIVISION.—At Long's Restaurant, Bishops Stortford, Wednesday, Dec. 12, 8.30 p.m. to 1 a.m., supper dance.

HOLLAND DIVISION.—At the Café Imperia, 44, Market Place, Boston, Thursday, Dec. 6, 9 p.m., demonstration of talkie film by Dr. J. Stanley White: Sex Hormones—Physiology, Diagnosis, and Treatment. A discussion will follow.

SWANSEA DIVISION.—Thursday, Dec. 13, address by Lieut.-Col. C. J. Cellan-Jones.

WAKEFIELD, PONTEFRACT, AND CASTLEFORD DIVISION.—At Clayton Hospital, Wednesday, Dec. 12, 8.15 p.m., Mr. D. H. Russell: Colliery Accidents.

H.M. Forces Appointments

ARMY

Lieut.-Cols. R. McKinlay, O.B.E., and A. E. Richmond, C.B.E., from R.A.M.C., to be Cols.

ROYAL ARMY MEDICAL CORPS

Lieut.-Col. R. McKinlay, O.B.E., has been restored to the establishment.

Major H. A. Ferguson and Major (War Subs. Lieut.-Col.) J. J. O'Dwyer to be Lieut.-Cols.

Capt. I. D. Paterson has been placed on the half-pay list on account of disability.

Capts. T. W. Carrick and A. J. Fulthorpe, holding short-service commissions, have been appointed to permanent commissions.

REGULAR ARMY RESERVE OF OFFICERS

ROYAL ARMY MEDICAL CORPS

The following having exceeded the age limit of liability to recall have ceased to belong to the Reserve of Officers: Lieut.-Col. F. C. Davidson, M.C., and has been granted the honorary rank of Col.; Lieut.-Col. L. F. K. Way, D.S.O., retaining the rank of Lieut.-Col.; War Subs. Lieut.-Cols. J. P. Litt. W. B. Laird. L. G. Bourdillon, D.S.O., D. McVicker, O.B.E., M.C., W. W. MacNaught, and H. C. Todd, and have been granted the honorary rank of Col.; Majors H. H. Mulholland, W. Stewart, P. A. Stewart, W. A. Rankin, T. K. Boney, P. Carney, M.C., and War Subs. Majors R. N. Porritt, H. B. Walker, M.C., W. Moodie, J. A. Binning, O.B.E., J. E. Foley, T. R. Snelling, and A. L. Taylor, and have been granted the honorary rank of Lieut.-Col.; Majors R. J. Clausen, M.C., and W. F. Christie; Capt. W. L. Partridge, M.C., and has been granted the honorary rank of Major; Capt. J. A. Cowan.

Majors D. Pottinger, M.C., and P. G. Russell, having attained the age limit of liability to recall, have ceased to belong to the Reserve of Officers.

War Subs. Majors W. H. Valentine, O.B.E., and H. D. K. Wright, from Supplementary Reserve of Officers, to be War Subs. Majors.

TERRITORIAL ARMY

Royal Army Medical Corps

War Subs. Major E. Shipman to be Major.

War Subs. Capts. F. D. Hindmarsh and R. W. Malim have relinquished their commissions on account of disability, and have been granted the honorary rank of Major.

War Subs. Capts. D. J. A. Alban-Jones and R. T. R. Freshwater to be Capts.

LAND FORCES: EMERGENCY COMMISSIONS

Royal Army Medical Corps

War Subs. Majors W. E. M. Mitchell, M.C., and F. A. Donnolly have relinquished their commissions, and have been granted the honorary rank of Lieut.-Col.

War Subs. Major A. J. Cokkinis has relinquished his commission on account of disability, and has been granted the honorary rank of Lieut.-Col.

War Subs. Capts. H. G. Floyd, I. Gurland, and N. Wren have relinquished their commissions, and have been granted the honorary rank of Major.

War Subs. Capts. A. C. Miller, L. G. Morrison, W. R. H. Mackay, E. D. Portman, J. Sinclair, and B. R. Medlycott have relinquished their commissions on account of disability, and have been granted the honorary rank of Major.

War Subs. Capts. A. B. Unwin, J. Y. Walker, C. G. Gordon-Wilson, W. G. Roberts, S. Shaw, J. O. E. Apthorp, H. G. Farquhar, D. Y. Carter, and M. B. Watson have relinquished their commissions on account of disability, and have been granted the honorary rank of Capt.

War Subs. Capt. A. L. Karstaedt has relinquished his commission, and has been granted the honorary rank of Capt.

Lieuts. J. S. Chapman and E. R. Corbett have relinquished their commissions on account of disability, and have been granted the honorary rank of Lieut.

To be Lieuts.: M. A. Epstein, A. J. M. Reese, W. C. B. Harrison, T. F. Strang, H. W. Webb, S. H. Wong, D. M. Proctor, W. McC. Anderson, G. B. Barker, J. P. D. Bates, R. G. L. Brittain, D. W. Campbell, R. G. Chaytor, I. M. P. Dawson, C. W. Dixon, E. J. Dowling, J. L. Edmondson, W. N. Fitzpatrick, A. E. Gibbs, F. R. C. Johnstone, H. Kaufman, J. D. S. Melville, J. F. O. Mitchell, J. McC. Murdock, J. E. Norman, E. C. W. Parkes, F. C. Place, J. P. R. Rees, R. G. W. Reeves, A. F. Robinson, G. F. G. Siggins, T. P. Smith, D. B. Spanton, J. H. Stirrat, J. E. Stobbs, D. Q. Trounce, W. J. Vickers, W. J. Walkden, N. P. L. Wildy, N. E. Wood, P. B. Wilkinson, and A. W. W. B. Woods.

WOMEN'S FORCES

Employed with the R.A.M.C.

War Subs. Capt. (Miss) W. M. Creak has relinquished her commission on account of disability, and has been granted the honorary rank of Major.

War Subs. Capts. M. Shack and E. A. Thompson have relinquished their commissions and have been granted the honorary rank of Capt.

Kathleen N. Berger has been granted a commission in the rank of Lieut.

ROYAL AIR FORCE

Squad. Ldrs. H. H. S. Brown and H. P. R. Smith have been transferred to the Reserve and called up for Air Force service.

The following Fl. Lieuts. (Temp. Squad. Ldrs.) have been transferred to the Reserve and called up for Air Force service: J. C. Groves, R. M. Hewat, D. T. Lewis, V. A. F. Martin, V. T. Powell, J. B. Ross, J. D. Tonkinson, C. N. Young, L. L. Ingram, J. I. M. Smith, K. C. P. Smith, S. Kent, P. J. Macnamara, and J. E. Dalton.

P. F. King has been appointed to a short-service commission as Flying Officer, and seconded to Charing Cross Hospital.

Reserve of Air Force Officers

Squad. Ldrs. (Temp.) M. Hamlin, D. G. Smith, and R. C. H. Tripp have been granted the rank of War Subs. Squad. Ldr.

Fl. Lieut. (Temp. Squad. Ldr.) V. D. Jones has relinquished his commission on account of medical unfitness for Air Force service, retaining the rank of Squad. Ldr.

Royal Air Force Volunteer Reserve

Fl. Lieut. (Temp. Squad. Ldr.) A. M. G. Campbell has relinquished his commission on account of medical unfitness for Air Force service, retaining the rank of Squad. Ldr.

Fl. Lieut. (Temp. Squad. Ldr.) H. S. Atkinson has resigned his commission, retaining the rank of Squad. Ldr.

Fl. Lieuts. J. McM. Mennell and W. A. Clarke have relinquished their commissions on account of medical unfitness for Air Force service, retaining their rank.

Fl. Lieuts. J. C. MacWilliam, C. Rutter, R. N. Rycroft, M.C., and B. M. Jensen have relinquished their commissions, retaining their rank.

Fl. Lieuts. A. E. M. Stevenson, W. G. Zorab, C. A. Lewis, and W. Boyd have relinquished their commissions on account of medical unfitness for Air Force service.

Fl. Lieut. W. A. Parker has relinquished his commission.

Flying Officer A. Goldblat has relinquished his commission.

C. M. Shafto to be Flying Officer (Emergency).

WOMEN'S FORCES

Employed with the Medical Branch of the R.A.F.

Fl. Lieut. W. A. Kane has relinquished her commission on account of medical unfitness for Air Force service, retaining the rank of Squad. Ldr.

Fl. Lieut. G. Bainbridge has relinquished her commission on account of medical unfitness for Air Force service, retaining her rank.

Fl. Lieut. E. M. Prior has resigned her commission, retaining her rank.

Fl. Lieut. M. Smaill has resigned her commission.

Flying Officer E. Elliott to be War Subs. Fl. Lieut.

The notification concerning A. H. Reade in a *Supplement* to the *London Gazette* dated Sept. 7, p. 4483, col. 2, has been cancelled.

INDIAN MEDICAL SERVICE

Cols. W. R. Stewart, C.B., C.I.E., and W. E. R. Dimond, C.I.E., C.B.E., to be Major-Gens.

Lieut.-Cols. G. R. McRobert, C.I.E., S. L. Bhatia, M.C., J. R. Kochhar, and S. M. A. Faruki to be Cols.

Lieut.-Cols. A.-N. Bose, O.B.E., and B. S. Dhondy have retired.

Major S. Annaswami to be Lieut.-Col.

Capts. K. N. Rao and J. H. Caverhill to be Majors.

EMERGENCY COMMISSIONS

Capts. J. R. Davidson, A. B. Gilroy, and B. A. Lamerell to be Majors.

Capt. G. de V. Merriman has relinquished his commission on account of ill-health, and has been granted the honorary rank of Capt.

M. E. Winters to be Capt.

POSTGRADUATE NEWS

The Fellowship of Medicine announces: (1) Week-end course in diseases of the ear, nose, and throat, at Metropolitan Ear, Nose, and Throat Hospital, all day Saturday and Sunday, Dec. 8 and 9; (2) Week-end course in gynaecology, at South London Hospital for Women, all day Saturday and Sunday, Dec. 15 and 16; (3) Primary F.R.C.S. course, three evenings weekly, 6 p.m. to 8.15 p.m., Jan. 28 to April 1, 1946. Full particulars of courses from the Fellowship of Medicine, 1, Wimpole Street, W.

The course for the Diploma in Public Health will begin in the University of Edinburgh on Jan. 8 next.

DIARY OF SOCIETIES AND LECTURES

Royal College of Surgeons of England, Lincoln's Inn Fields, W.C.—*Mon.*, 5 p.m., Mr. A. Tudor Edwards: Surgery of the Lung. *Wed.*, 5 p.m., Mr. George Black: Ocular Injuries. *Thurs.*, 5 p.m., Mr. R. O. Ward: Surgery of the Kidney.

Royal Society of Medicine.—*Tues.*, 5 p.m., Section of Orthopaedics. *Wed.*, 2.30 p.m., Section of History of Medicine; 5 p.m., Section of Surgery. *Thurs.*, 8 p.m., Section of Neurology. *Fri.*, 10.30 a.m., Section of Otology; 2.30 p.m., Section of Laryngology; 5.30 p.m., Section of Anaesthetics.

Biochemical Society.—At Bearsted Theatre, London Hospital, E. *Sat.* (Dec. 8), 2.15 p.m. Communications and demonstrations.

BIRTHS, MARRIAGES, AND DEATHS

The charge for an insertion under this head is 10s. 6d for 18 words or less. Extra words 3s. 6d. for each six or less. Payment should be forwarded with the notice, authenticated by the name and permanent address of the sender, and should reach the Advertisement Manager not later than first post Monday morning.

BIRTHS

D'Arcy.—On Nov. 10, 1945, at Londonderry, to Hester (*née* Gourley), wife of Major T. M. W. D'Arcy, R.A.M.C., a son.

Williams.—On Nov. 17, 1945, at the Maternity Hospital, Preston, to Nan, wife of Dr. A. Langford Williams, of 49, Frenchwood Avenue, Preston, a second daughter.

MARRIAGE

Hutchinson—Anderson.—On Dec. 1, in London, Alexander Caldwell Hutchinson, B.Sc., A.M.I.Mech.E., to Geraldine Anderson, M.R.C.S., L.R.C.P.

DEATHS

Bank.—On Oct. 29, 1945, Ernest Gilbert Bank, aged 66, of "Cluny," Manor Road, Wallasey, Cheshire.

Spencer.—On Nov. 16, 1945, Edith Mary Spencer, M.R.C.S., D.O.M.S., at Leicester.

RETURN TO PRACTICE

The Central Medical War Committee announces that the following have resumed civilian practice: Dr. Redvers Ironside, F.R.C.P., at 89, Harley Street, W.1; Mr. E. R. Garnett Passe, F.R.C.S., at 32, Devonshire Place, W.1; Mr. A. E. Porritt, F.R.C.S., at 10, Upper Wimpole Street, W.1 (*not* 3, Regent's Court, N.W.1, as previously announced); Mr. T. Henry Wilson, F.R.C.S., at "Tavistock," 6, Carlisle Road, Eastbourne.

NOTICE—Applications for vacancies advertised should, except where otherwise specified, state name, address, age, nationality, qualifications, and be accompanied by copies of 3 recent testimonials★ with short statement of experience and appointments held. Unless closing date is stated applications should be sent at once.

. ★ *SERVICE MEMBERS may have difficulty in supplying recent testimonials, but this should not deter them from applying.*

R—Male, W—Woman practitioners, liable to military service under the National Service Acts.

B1—Whole-time appointments, usually resident within the senior establishments—e.g., Registrar, R.S.O., etc.

A—Whole-time resident house appointments open to practitioners without previous experience.

B2—Whole-time house appointments not within the senior establishment, usually resident, and usually held by practitioners with six months' experience.

APPOINTMENTS

GOVERNMENT OF BAHRAIN.—The Government of Bahrain, an Arab State in the Persian Gulf, is prepared to receive applications for the post of LADY MEDICAL OFFICER to be in charge of the Women's Hospital and public health work among women. The lady medical officer will be under the State Medical Officer (British), but will be in complete charge of her own department. Previous experience in the East would be an advantage. The work is mainly among subjects of H.H. the Shaikh of Bahrain, but private practice is allowed among the Europeans living in the islands. Only candidates with the right sympathies and interest should apply. The appointment would be for a period of three or four years, commencing March, 1946. Salary £700 to £850 according to age and experience. Practitioners serving in H.M. Forces are invited to apply.* Copies of testimonials and particulars should be forwarded not later than March 23, 1946, to Box 4476, B.M.J.

INDIAN MEDICAL SERVICE. Recruitment of WOMEN MEDICAL OFFICERS.—The Government of India are prepared to recruit a limited number of woman medical officers for service with the Indian Medical Service for so long as their services may be required. Applicants must be British subjects, of not more than 45 years of age, and those selected will be appointed in the rank of Lieutenants. Antedate of seniority may be granted up to a minimum period of 6½ years in respect of resident hospital appointments, higher qualifications, and/or professional experience. The antedate will count for pay and promotion, but, in the case of candidates recruited in this country, higher rank will not be assumed until the date of disembarkation in India. On termination of service, a minimum gratuity is guaranteed to those officers who complete one year of service, viz., Rs. 2,000 to officers whose registrable medical qualification is dated before January 1, 1940, and Rs. 1,000 to those who qualified after that date, plus one month's pay for each further completed year of Army Service. Further particulars regarding rates of pay, etc., may be obtained from the Medical Adviser, India Office, London, S.W.1, or from the Secretary, Military Department, India Office, to whom all inquiries should be addressed.

MINISTRY OF HEALTH REGIONAL BLOOD TRANSFUSION SERVICE. MEDICAL OFFICER. —Applications are invited from registered practitioners of either sex for the post of Medical Officer in the Regional Transfusion Service. The duties include work in the Regional Laboratories situated at Manchester Royal Infirmary, and other centres in the North-Western Region with the Mobile Unit. The salary will be £250 to £350 per annum plus £100 allowance in lieu of board and lodging. Application should be made immediately to Dr. J. F. Wilkinson, Regional Transfusion Officer, Research Department, Manchester Royal Infirmary.

MEDICAL OFFICER OF HEALTH, etc. (Combined Appointment).—Applications are invited from duly qualified medical practitioners possessing a Diploma in Public Health or similar qualification, including those now serving in H.M. Forces, for the following offices to be held as a whole-time joint appointment :—

1. MEDICAL OFFICER OF HEALTH for the Rural Districts of Taunton and Wellington and the Urban District of Wellington. (Population 31,536. Area 110,772 acres).
2. MEDICAL SUPERINTENDENT of Taunton Joint Isolation Hospital (63 beds, including a unit of 3 beds for puerperal fever) and Tuberculosis Sanatorium (20 beds).
3. MEDICAL OFFICER for attendance at the V.D. Clinic of the Somerset County Council, in Taunton.

The total salary for the combined appointments will be £900 per annum, rising by annual increments of £50 to £1,000, plus cost-of-living bonus at present £59 16s. 0d. and a travelling allowance of £130 per annum. Office accommodation, telephone facilities and necessary clerical assistance will be provided at the offices of the Taunton Rural District Council. Further particulars as to the duties and conditions of appointment may be obtained on application to the undersigned. Applications must be sent to the undersigned not later than March 24, 1946. The consent of the Minister of Health has been obtained to the making of this appointment, but his decision is that the appointment must be temporary.—P. O. Cowlishaw, Acting Clerk for Constituent Authorities, Mary Street House, Taunton.

NERVOUS DISEASES HOSPITAL, Belfast.—Applications are invited for the post of HONORARY* PSYCHIATRIST for the above hospital, including practitioners serving in H.M. Forces. Applications with testimonials should be sent to the Secretary, The Nervous Diseases Hospital, Claremont Street, Belfast, not later than March 23, 1946.

BOROUGH OF SCARBOROUGH. MEDICAL OFFICER OF HEALTH AND SCHOOL MEDICAL OFFICER.—Applications are invited from qualified medical practitioners (including serving members of H.M. Forces so qualified) for the above appointment. The person appointed will be required to: (1) perform all the duties imposed on the medical officer of health and school medical officer under relevant Acts, Orders and Regulations; (2) act as medical superintendent of the maternity and child welfare services, and of the Council's isolation hospital; (3) undertake the medical examination of entrants into the Council's Superannuation Scheme; (4) carry out such other duties as may from time to time be prescribed by the Council, and (5) devote his whole time to the duties of the office; not engage in private practice and reside within a radius of three miles from the Town Hall, Scarborough. The appointment is subject to the provisions of Section 110 of the Local Government Act, 1933, and the Sanitary Officers (Outside London) Regulations, 1935. The post is also subject to the provisions of the Local Government Superannuation Act, 1937, and the successful candidate will be required to pass a medical examination. The salary will be at the rate of £900 per annum, rising by annual increments of £50 to a maximum salary at the rate of £1,100 per annum, plus war bonus, which is at present £59 16s. per annum, and a car allowance. In order to allow time for candidates now abroad or in H.M. Forces to apply, the last date for receipt of applications has been fixed at April 1, 1946. Applications should be accompanied by testimonials or the names of three referees and endorsed Medical Officer of Health and School Medical Officer. The consent of the Minister of Health has been obtained to the making of this appointment. Canvassing, either directly or indirectly, will be disqualification.—E. L. Horsfall Turner, Town Clerk, Town Hall, Scarborough.

COUNTY BOROUGH OF SOUTHEND-ON-SEA. Southend Municipal Hospital, Rochford.—Applications are invited from women practitioners for the post of ASSISTANT RESIDENT OBSTETRIC OFFICER (B1) at the Council's Municipal Hospital, Rochford (four miles from Southend-on-Sea). Salary scale £400 by £25 to £500, together with full residential emoluments and war bonus amounting to £24 1s. per annum. Candidates should have had postgraduate experience in midwifery, and preference will be given to those possessing a senior qualification. In fixing the commencing salary, regard will be had to previous experience and qualifications. The Local Government Superannuation Act, 1937, will apply. Application forms obtainable from the Medical Superintendent, Southend Municipal Hospital, Rochford, Essex.—Archibald Glen, Town Clerk, Town Clerk's Office, Southend-on-Sea.

COUNTY BOROUGH OF MIDDLESBROUGH. Hemlington Emergency Hospital.—Applications are invited from registered medical practitioners for the appointment of ASSISTANT RESIDENT MEDICAL OFFICER (B2), at the above hospital (480 beds). Good experience is afforded in both medical and surgical work. The salary is at the rate of £200 per annum, together with full residential emoluments. The successful candidate will be required to pass satisfactorily a medical examination. R and W practitioners who now hold A posts may apply. In the case of R practitioners the appointment will be limited to six months; otherwise twelve months. Applications should be sent to the Medical Officer of Health, Health Department, Municipal Buildings, Middlesbrough, immediately.—Preston Kitchen, Town Clerk, Municipal Buildings, Middlesbrough.

COUNTY BOROUGH OF HASTINGS. Hastings Municipal Hospital.—Applications are invited from registered medical practitioners for the post of ASSISTANT MEDICAL OFFICER (B2) (female). The hospital contains 350 beds, including a Children's Block and a Maternity Unit of 28 beds and is a group A1 Hospital under the Government's Emergency Hospital Service. Candidates must be fully qualified registered medical practitioners and should have held a previous resident hospital appointment. The number of confinements at the hospital during the last year was 450, and the candidate will have every opportunity of gaining experience in maternity work, normal and abnormal, also ante-natal and post-natal clinics. Preference will be given to candidates with practical experience of general medicine and anaesthetics. The person appointed will give her whole time to the service of the Council in accordance with the terms of her appointment. Salary £325 per annum, with apartments, board, and laundry. W practitioners holding A posts may apply. The appointment is for one year and is determinable by one month's notice on either side. Applications, on forms to be obtained from me, should be returned as soon as possible.—D. W. Jackson, Town Clerk and Director of Social Welfare, Town Hall, Hastings.

COUNTY BOROUGH OF BIRKENHEAD. Department of the Medical Officer of Health, Birkenhead Municipal Hospital. RESIDENT SURGICAL OFFICER (B1) (male or female).—Applications are invited from registered medical practitioners for the appointment of Resident Surgical Officer at the Birkenhead Municipal Hospital, which will shortly become vacant. The appointment is tenable for a period not exceeding twelve months. The duties of a Resident Surgical Officer are mainly surgical and obstetrical, and preference will be given to candidates who have had surgical and obstetrical experience in a municipal or voluntary hospital. Suitably qualified R and W practitioners now holding B2 appointments may apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C., or for other reasons are not eligible for military service. Alien practitioners will be eligible for appointment. The salary attached to the appointment will be at the rate of £300 per annum plus war bonus, and the appointment will be subject to the regulations of the Council regarding holidays, sick pay, etc. Forms of application and further particulars relating to the appointment may be obtained from the Medical Officer of Health, Dr. D. Morley Mathieson, 9, Hamilton Square, Birkenhead, to whom they should be returned as soon as possible, endorsed "Resident Surgical Officer."—E. W. Tame, Town Clerk.

COUNTY BOROUGH OF MIDDLESBROUGH. TEMPORARY ASSISTANT MEDICAL OFFICER OF HEALTH AND RESIDENT MEDICAL OFFICER.—Applications are invited from registered medical practitioners not already in whole-time Public Health employment for the appointment of Temporary Assistant Medical Officer of Health and Resident Medical Officer at the Municipal Maternity Hospital. The consent of the Ministry of Health has been obtained to the filling of the temporary appointment. The successful candidate will be required to reside at the Municipal Maternity Hospital (50 beds), and the duties will also include attendance at the Ante-natal, Post-natal and Infant Welfare Clinics, together with other general duties in the Maternity and Child Welfare Department. Applicants should have had previous experience in Midwifery and Diseases of Children, and will be required to work under the direction of the Medical Officer of Health. The commencing salary will be at the rate of £550 per annum, with residence, board and laundry valued at £150 per annum, making £700 in all, and rising, subject to satisfactory service, by annual increments of £50 to a maximum of £850. The appointment is subject to the provisions of the Local Government Act, 1937, and is terminable by three months' notice on either side. Applications to be sent to the Medical Officer of Health, Municipal Buildings, Middlesbrough, not later than Tuesday, December 4, 1945.—Preston Kitchen, Town Clerk, Municipal Buildings, Middlesbrough.

COUNTY BOROUGH OF BIRKENHEAD. Department of the Medical Officer of Health. Birkenhead Municipal Hospital (560 beds). RESIDENT MEDICAL OFFICER (A), male or female.—Applications are invited from registered medical practitioners, male or female, for the above appointment, which will be vacant shortly, including practitioners within three months of qualification who are liable for service under the National Service Acts. If held by a practitioner who is liable under these Acts, the appointment will be for a period of six months, otherwise it will be for one year. Applications from alien practitioners will be considered. Salary at the rate of £200 per annum, plus bonus and full residential emoluments. Application forms to be obtained from Dr. D. Morley Mathieson, the Medical Officer of Health, 9, Hamilton Square, Birkenhead, to whom they should be returned as soon as possible after completion.—E. W. Tame, Town Clerk, Town Hall, Birkenhead.

COUNTY BOROUGH OF SOUTHEND-ON-SEA —Applications are invited from registered medical practitioners, male and female, including R and W practitioners who now hold A posts, for the appointment of RESIDENT ASSISTANT MEDICAL OFFICER, Grade II (B2), at the Southend Municipal Hospital, Rochford, Essex. Previous experience in the administration of anaesthetics is desirable. The salary is at the rate of £325 per annum with full residential emoluments, plus war bonus. The person appointed will be liable to pay superannuation contributions if the provisions of the Local Government Officers' Superannuation Acts are applicable. To R practitioners the appointment will be limited to six months; otherwise for a period of one year and subject to one month's notice on either side. The appointment becomes vacant January 1, 1946. Application forms obtainable from the Medical Superintendent, Southend Municipal Hospital, Rochford, Essex, should be returned as soon as possible.—Archibald Glen, Town Clerk, Town Clerk's Office, Southend-on-Sea.

IMPORTANT—All applicants should read the notice at the top of page 9 about qualifications required.

CITY AND COUNTY OF NEWCASTLE-UPON-TYNE. Newcastle General Hospital (900 beds). HOUSE SURGEON (B2) to the Neurosurgical Department.—Applications are invited from registered medical practitioners, male and female, for the above post, now vacant, including R and W practitioners who now hold A posts. The appointment is tenable for six months and the salary is at the rate of £250 per annum, plus cost-of-living bonus and full residential emoluments.

Applications are also invited from registered medical practitioners, male and female, for the appointments of TWO HOUSE PHYSICIANS (A) and FOUR HOUSE SURGEONS (A), to become vacant between January 16 and 31, 1946. The appointments will be for a period of six months. Salary at the rate of £150 per annum, with full residential emoluments and cost-of-living bonus. Practitioners within three months of qualification and liable under the National Service Acts may apply.

Applications are also invited from registered medical practitioners, male and female, for the appointment of HOUSE PHYSICIAN (A) to the Children's Department, to become vacant on February 1, 1946. The department is actively associated with, and shares staff with, the Department of Child Health of Durham University, and the post offers exceptional opportunities for gaining experience in many aspects of paediatrics. The appointment is tenable for a period of six months and the salary is at the rate of £150 per annum, plus cost-of-living bonus and full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply.

Applications for each appointment should be forwarded to the Medical Officer of Health, Town Hall, Newcastle-upon-Tyne.

CITY AND COUNTY OF BRISTOL. Department of Public Health. ASSISTANT RESIDENT MEDICAL OFFICER.—Applications are invited from registered medical practitioners, male or female, for the immediate appointment of Assistant Resident Medical Officer (B2) at Ham Green Infectious Disease Hospital and Sanatorium (500 beds), including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months. Otherwise it will be held for a period of one year. Salary £200 per annum, plus full residential emoluments. Application forms may be obtained from the undersigned, to whom they must be returned, accompanied by copies of not more than three recent testimonials, forthwith.—R. H. Parry, Medical Officer of Health, Kenwith Lodge, Westbury Park, Bristol, 6.

CITY OF STOKE-ON-TRENT. City General Hospital. ASSISTANT RESIDENT MEDICAL OFFICERS.—Applications are invited from registered medical practitioners (single—male or female), including R and W practitioners who now hold A posts, for two appointments of Assistant Resident Medical Officer (B2), at the City General Hospital, Stoke-on-Trent. If offered to R practitioners, the appointment will be limited to a period of six months, otherwise they will be for a period of one year. The salary is at the rate of £250 per annum, plus bonus, with full residential emoluments. The hospital, which is an emergency hospital, has approximately 1,200 beds, and there is excellent scope for medical, surgical and obstetrical work. Applications, endorsed "Medical Officer—City General Hospital," should be sent to the undersigned immediately.—Harry Taylor, Town Clerk.

CITY OF LEEDS. POLICE SURGEON.—The Watch Committee invite applications from qualified and registered medical practitioners (including those now serving in H.M. Forces) for the post of Police Surgeon. The salary for the post is £1.200 per annum rising by annual increments of £50 to £1,400 per annum, with motor car allowance. Particulars as to the duties of the appointment may be obtained from the Town Clerk, Civic Hall, Leeds, 1. The person appointed will be required to devote his whole time to the duties of the office and to pay into the General Rate Fund all fees, emoluments or other payments whatsoever which may be received in connexion with the appointment. The appointment will be subject to the provisions of the Local Government Superannuation Act, 1937, and to the passing of a medical examination. Applications, endorsed "Police Surgeon" must be delivered at my office, Room 57, Civic Hall, Leeds, 1, not later than 12 noon on March 30, 1946 Canvassing in any form either directly or indirectly will be a disqualification.—O. A. Radley, Town Clerk.

CITY OF ABERDEEN. REGIONAL TUBERCULOSIS MEDICAL OFFICER.—Applications (including those from Medical Practitioners serving in H.M. Forces) are invited for the post of Regional Tuberculosis Medical Officer for the City of Aberdeen and for the Counties of Aberdeen and Kincardine. The salary payable shall be not less than £1,000 per annum. In addition a war bonus amounting at present to £60 per annum is payable. The selected candidate will be required to pass a medical examination for superannuation purposes before appointment. A memorandum setting forth the duties, conditions of appointment etc., and the official form of application may be obtained from the undersigned, with whom the said form, duly completed, with copies of testimonials, should be lodged on or before March 30, 1946.—D. B. Gunn, Town Clerk, Town House, Aberdeen.

CITY OF PORTSMOUTH, St. James Hospital for Mental and Nervous Disease. SENIOR ASSISTANT MEDICAL OFFICER (B1) (male or female).—Applications are invited from suitably qualified practitioners holding B2 appointments or those holding B1 appointments who have been rejected by the R.A.M.C. for the post of Senior Assistant Medical Officer. The commencing salary for this post is £500 per annum plus full residential emoluments valued at £150 per annum with wartime bonus of £24 14s. per annum and an extra £50 per annum for holders of the D.P.M., rising by £50 per annum to £700.

This appointment is at present on a temporary basis, but when re-advertised on a permament basis the successful applicant will be eligible to apply. There is a comprehensive Mental Health Service. for the City of Portsmouth based on the hospital. The post involves work in all branches of psychiatry, including out-patient clinics, psychoses, psychoneuroses, delinquency and child guidance.

SECOND ASSISTANT MEDICAL OFFICER (B1) (male or female).—Applications are invited from suitably qualified practitioners holding B2 appointments or those holding B1 appointments who have been rejected by the R.A.M.C. for the post of Second Assistant Medical Officer. The commencing salary for this post is £400 per annum plus full residential emoluments valued at £150 per annum with wartime bonus of £24 14s. per annum and an extra £50 per annum for the holders of the D.P.M., rising by £50 per annum to £600

This appointment is at present on a temporary basis, but when re-advertised on a permanent basis the successful applicant will be eligible to apply. There is a comprehensive Mental Health Service for the City of Portsmouth based on the hospital. The post involves work in all branches of psychiatry, including out-patient clinics, psychoses, psychoneuroses, delinquency and child guidance.

Applications for each post should be addressed to Dr. Thomas Beaton, O.B.E., Medical Superintendent, St. James Hospital, Milton, Portsmouth.—Frederick Sparks, Town Clerk and Clerk to St. James Hospital Visiting Committee, Municipal Offices, Royal Beach Hotel, Southsea.

CITY OF LIVERPOOL. PART-TIME VISITING RADIOLOGIST.—Applications are invited from registered medical practitioners for the permanent appointment of a part-time visiting Radiologist to Alder Hey Children's Hospital and Belmont Road Hospital. Applications from Service candidates are invited. The salary is at the rate of £500 per annum and all fees received in connexion with the appointment are to be handed over to the City Council. The successful candidate will be required to attend for six sessions per week to be arranged between the two hospitals. Applicants must possess the Diploma in Medical Radiology and Electrology, and have had considerable experience in radiological duties. The appointment will be made in accordance with the Standing Orders of the City Council and will be determinable by three calendar months' notice on either side. Canvassing members of the City Council, either directly or indirectly, will be regarded as a disqualification. Applications should be endorsed "Visiting Radiologist" and sent to the undersigned so as to be received not later than March 30, 1946. The consent of the Minister of Health has been obtained to the making of this appointment.—W. H. Baines, Town Clerk, Municipal Buildings, Dale Street, Liverpool, 2.

CITY OF LIVERPOOL. Belmont Road Hospital, Belmont Road, Liverpool, 6 (1,930 beds). RESIDENT ASSISTANT MEDICAL OFFICER (B2).—Applications are invited from registered medical practitioners, male and female, for the above appointment, including R and W practitioners who now hold A posts. If held by an R practitioner, the appointment will be limited to six months, otherwise it will be for a period of twelve months. The hospital is mainly for the treatment of chronic sick and infirm. There is also a large department for the treatment of skin diseases. The salary is at the rate of £350 per annum with full residential emoluments and cost of living bonus. All fees received in connexion with the appointment to be handed over to the City Council. The appointment will be made in accordance with the Standing Orders of the City Council and will be determinable by one month's notice on either side. Applications should be endorsed "Resident Medical Officer" and sent to the undersigned forthwith.—W. H. Baines, Town Clerk, Municipal Buildings, Dale Street, Liverpool, 2.

CITY OF LEEDS. Public Health Department. St. James's Hospital. ORTHOPAEDIC HOUSE SURGEON (B2) (male).—Applications are invited from registered medical practitioners for the post of Orthopaedic House Surgeon (B2) for the above Municipal Hospital. Candidates must have had previous orthopaedic experience. R practitioners who now hold A posts may apply, when the appointment will be limited to six months; otherwise it will be for a period of twelve months. The salary is at the rate of £200 per annum, plus cost-of-living bonus, together with full residential emoluments. Applications endorsed Orthopaedic House Surgeon to be forwarded to the undersigned.—J. Johnstone Jervis, Medical Officer of Health, Public Health Department (Hospitals Administration Section), 12, Market Buildings, Vicar Lane, Leeds, 1.

CITY OF BIRMINGHAM. TEMPORARY ASSISTANT MEDICAL OFFICER OF HEALTH. Maternity and Child Welfare.—Applications are invited from qualified medical women to act as Temporary Assistant Medical Officer for the Maternity and Child Welfare Department. The medical officer appointed will attend ante-natal and children's clinics and will undertake duties at one of the city maternity homes. This will involve relieving the senior medical officer on alternate nights and week-ends. She should have had previous obstetric experience. The post is non-resident and the salary scale will be £575 by £25 to £775, plus cost-of-living bonus. The commencing salary within the scale will be according to experience. The consent of the Ministry of Health has been given to this appointment, but persons already in whole-time public health employment by local authorities will not be eligible to make application. The successful applicant will be required to undergo a medical examination and to join the City of Birmingham Superannuation Scheme. Applications to be made on a form obtainable from the Medical Officer of Health, Council House, Birmingham, 3, and returnable to him on or before December 12, 1945.

CITY OF BRADFORD.—Applications are invited for the permanent position of MEDICAL OFFICER OF HEALTH of the City at a salary of £1,750 a year, rising by annual increments of £50 to £2,000. The person appointed must devote his whole time to the service of the Council, and a copy of the duties required to be performed may be obtained on application to the undersigned. The appointment is subject to the Local Government Superannuation Act, 1937, and the successful candidate will be required to undergo a medical examination. Applications should reach me not later than February 28, 1946. Candidates serving overseas may furnish the names of three referees in lieu of forwarding copies of testimonials, and should indicate where a telegram, or cable, will reach them if selected for interview. The consent of the Minister of Health has been obtained to the making of this appointment. Canvassing will be a disqualification.—N. L. Fleming, Town Clerk, Town Hall, Bradford.

CITY OF CARLISLE. City General and Fusehill Emergency Hospitals, Carlisle (100 civilian beds and 180 E.M.S.).—Applications are invited for the following appointment: JUNIOR RESIDENT MEDICAL OFFICER (A) to assist in care of civilian beds and for orthopaedic and general surgical duties in the adjacent E.M.S. Fracture A Hospital. Practitioners within three months of qualification who are liable for service under National Service Acts may apply. Appointment will be for a period of six months from December 1, 1945. Salary £200 per annum, with full residential emoluments. Applications should be sent to the Acting Medical Officer of Health, 22, Fisher Street, Carlisle, as early as possible.

CITY OF NORWICH. Woodlands Hospital (311 beds). ASSISTANT RESIDENT MEDICAL OFFICER (B2).—Applications are invited from registered medical practitioners for the appointment of Assistant Resident Medical Officer (B2), including R and W practitioners who now hold A posts. If held by an R practitioner, the appointment will be limited to six months, otherwise it will be for a period of one year. The salary is at the rate of £250 per annum, with full residential emoluments. Further particulars of appointment to be obtained from the Senior Medical Officer, Woodlands Hospital, Bowthorpe Road, Norwich, and to whom applications should be sent.—Bernard D. Storey, Town Clerk, City Hall, Norwich.

COUNTY BOROUGH OF PRESTON. MEDICAL OFFICER OF HEALTH.—The Council invite applications for the appointment of Medical Officer of Health, Medical Officer to the Port Health Authority, and Superintendent Schools Medical Officer. Salary £1,200 per annum, rising by annual increments of £50 to £1 350 per annum, plus bonus. The consent of the Minister of Health has been obtained to the making of the appointment, which is subject to the provisions of Section 110 of the Local Government Act, 1933, and of the Sanitary Officers (Outside London) Regulations, 1935. Candidates must be registered medical practitioners, have practical experience of the duties of the office and possess the qualifications required by statute and the regulations of the Minister of Health. Applications to be delivered to me not later than March 31, 1946. Applications from persons at present serving in H.M. Forces will be considered. Canvassing will disqualify.—Herbert E. Nutter, Town Clerk.

COUNTY BOROUGH OF BRIGHTON.—A vacancy occurs with the Brighton Municipal Hospital Services for a B2 post as RESIDENT JUNIOR MEDICAL OFFICER, and applications are invited from registered medical practitioners of either sex, including R and W practitioners who now hold A posts. If held by an R or W practitioner, the appointment will be limited to six months, otherwise it will be for a period not exceeding one year. The person appointed will be resident at the Borough Sanatorium and duties will include work on the infectious disease wards and certain anaesthetic duties at the Municipal Hospital. Salary £300 per annum, together with residential allowances valued, for the purposes of superannuation, at £150 per annum plus cost-of-living bonus. Further details and forms of application may be obtained from the undersigned.—Stanley J. Firth, Medical Director, Municipal Hospital, Elm Grove, Brighton, 7.

IMPORTANT—All applicants should read the notice at the top of page 9 about qualifications required.

CHESHIRE COUNTY COUNCIL. Public Health Department.—Applications are invited from qualified women (including those now serving in H.M. Forces) with experience for a permanent post as ASSISTANT MEDICAL OFFICER for Maternity and Child Welfare. Candidates must hold the D.P.H. and be qualified to act as Supervisor of Midwives. Commencing salary £750 per annum rising by £25 per annum to £937, with motor allowance and travelling expenses. The holder of the post must possess a car. Application, on form to be obtained from the undersigned, must be received by March 31, 1946.—Ian Mackay, M.B., Ch B., County Medical Officer of Health, 24, Nicholas Street, Chester.

DERBYSHIRE COUNTY COUNCIL. TEMPORARY ASSISTANT MATERNITY AND CHILD WELFARE MEDICAL OFFICER.—The Derbyshire County Council require the services of a fully qualified temporary full-time woman Assistant Maternity and Child Welfare Medical Officer, experienced in ante-natal work, midwifery, and children's diseases, to hold (under the direction of the County Medical Officer of Health) consultations at the Maternity and Child Welfare Clinics and Centres of the Derbyshire County Council, and to perform such other duties as appertain to the office. The salary will be £600 per annum rising by £25 per annum to £700 per annum, plus a war bonus which at present is £59 16s. per annum, together with a travelling allowance in accordance with the County Council's scale which is at present as follows:— Cars up to and including 8 h.p.:— £63 per annum plus 2d. per mile; Cars of 9 h p. and over:—£67 10s. per annum plus 2½d. per mile. The appointment is subject to the provisions of the Local Government Superannuation Act, 1937, and the successful candidate will be required to pass a medical examination. The appointment will be terminable by three months' notice on either side. The Ministry of Health have stated that candidates already in whole-time Public Health employment by Local Authorities will not be eligible to apply. Forms of application can be obtained from the undersigned, to whom they must be returned, not later than December 17, 1945.—J. B. S. Morgan, Acting County Medical Officer, County Offices, Derby.

DURHAM COUNTY COUNCIL. Dryburn Emergency Hospital. TEMPORARY ASSISTANT MEDICAL OFFICER, RESIDENT (A).—Applications are invited from registered medical practitioners, male and female, for the appointment of a Temporary Assistant Medical Officer, now vacant, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months, otherwise it will be for a period of twelve months. Salary is at the rate of £120 per annum, plus cost-of-living bonus, with full residential emoluments. The appointment will be subject to the regulations for the time being of the County Council relative to the payment of salary in case of sickness, and the successful applicant will be required to pass the County Council's medical examination. The appointment is terminable by one calendar month's notice on either side. Applications, stating position as regards deferment, etc., should be sent at once to the undersigned.—Ian McCracken, County Medical Officer of Health, Shire Hall, Durham.

HERTFORDSHIRE COUNTY COUNCIL. Haymeads Hospital, Bishop's Stortford. HOUSE SURGEON (B2).—Applications are invited from registered medical practitioners (male) for the appointment, vacant now, of House Surgeon (B2) to the Fracture Department A at the above hospital, including R practitioners who now hold A posts. The salary is at the rate of £200 per annum, with full residential emoluments, and the appointment will be for six months. Apply to the Medical Superintendent, Haymeads Hospital, Bishop's Stortford, Herts.—P. Elton Longmore, Clerk of the County Council, County Hall, Hertford

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LANCASHIRE COUNTY COUNCIL. Public Assistance Committee · Lake Hospital, Ashton-under-Lyne. RESIDENT OBSTETRICAL OFFICER (B1).—Applications are invited for the above appointment from registered medical practitioners, male or female. Suitably qualified R and W practitioners now holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R A M C. Preference will be given to applicants who have held resident obstetrical appointments The hospital is a 300 bed hospital with approximately 1,500 births per year. Salary is at the rate of £400 per annum rising by annual increments of £25 to £450 per annum, together with a cost-of-living bonus and full residential emoluments. Appointment is subject to medical examination and is superannuable. Full particulars and forms of application may be had from The County Medical Officer of Health, Hospital and Medical Department, County Offices, Preston, to whom all applications accompanied by copies of recent testimonials, must be forwarded immediately —R. H. Adcock, Clerk of the County Council, County Offices, Preston.

LANCASHIRE COUNTY COUNCIL. Public Health Committee. County Hospital, Whiston, Prescot, nr. Liverpool. RESIDENT SURGICAL OFFICER (B1).—Applications are invited from suitably qualified registered medical practitioners, male or female, for the above appointment Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C Salary is at the rate of £400 per annum, together with a cost of living bonus and full residential emoluments. The hospital is an acute general hospital with a peace-time complement of 500 beds and is a complete training school. Appointment is subject to medical examination and is superannuable. Full particulars and forms of application may be had from The County Medical Officer of Health, Hospital and Medical Department, County Offices, Preston, to whom all applications, accompanied by copies of recent testimonials, must be forwarded immediately. —R. H. Adcock, Clerk of the County Council, County Offices, Preston.

LANCASHIRE COUNTY COUNCIL. Public Health Committee. County Hospital, Whiston, Prescot, nr. Liverpool. RESIDENT MEDICAL OFFICER (B1).—Applications are invited from registered medical practitioners, male or female, for the above appointment. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M C. Salary is at the rate of £400 per annum, together with a cost of living bonus and full residential emoluments. The hospital is an acute general hospital with a peace-time complement of 500 beds and is a complete training school. The appointment is subject to medical examination and is superannuable. Full particulars and forms of application may be had from The County Medical Officer of Health, Hospital and Medical Department, County Offices, Preston, to whom all applications, accompanied by copies of recent testimonials, must be forwarded immediately.—R. H. Adcock, Clerk of the County Council, County Offices, Preston.

LONDON COUNTY COUNCIL.—TEMPORARY ASSISTANT DISTRICT MEDICAL OFFICER required for Areas IX and X, District D (part of the Borough of Deptford). Provisional salary £400 a year, plus temporary cost of living addition. Person appointed required to carry out duties prescribed by Public Assistance Order 1930 and to reside in or near district. Remuneration and conditions subject to review Application forms obtainable (stamped addressed foolscap envelope necessary) from Medical Officer of Health (S D.2) County Hall, S.E.1. returnable by December 10, 1945. Canvassing disqualifies.

MIDDLESEX COUNTY COUNCIL. NORTH MIDDLESEX COUNTY HOSPITAL, Edmonton, N.18, and WEST MIDDLESEX COUNTY HOSPITAL, Isleworth, Middlesex. PATHOLOGISTS.—Applications are invited from pathologists of wide experience, including those serving in H.M. Forces, for whole-time appointments at above hospitals. Special knowledge and experience in either bacteriology or morbid anatomy needed for North Middlessex post, and in haematology, biochemistry and bacteriology for West Middlesex. Salary for both appointments £1,100 by annual increments of £100 to £1,700 per annum; on proof of outstanding achievement further increments of £50 up to £2,000 per annum may be granted. Additional cost-of-living bonus (now £60 per annum) paid while remuneration does not exceed £1 500 per annum. No other emoluments. Salary is inclusive; any fees received to be paid to County Council. Duties, which may include teaching such as Council may require, under general supervision of Medical Director. Established and pensionable appointments, subject to medical examination and three months' notice. Application to be made to the Clerk of the County Council. Application forms not provided. Last date for receiving applications March 30, 1946. Please state hospital at which appointment is desired.—C. W. Radcliffe, Clerk of the County Council, Middlesex Guildhall, Westminster, S.W.1.

SURREY COUNTY COUNCIL Kingston County Hospital, Wolverton Avenue, Kingston-on-Thames (400 beds).—Applications are invited from registered medical practitioners for the appointment of HOUSE SURGEON (A), two vacancies, for general surgical duties, to become vacant on January 1, 1946, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts the appointment will be for a period of six months. Otherwise it will not exceed one year. Salary at the rate of £120 per annum, with full residential emoluments. Apply to the Medical Superintendent.

BRISTOL EYE HOSPITAL.—The Committee of Management invite applications for the post of HONORARY ASSISTANT OPHTHALMIC SURGEON To enable those serving with H M Forces to apply for this post, the appointment will not be made until April, 1946. Applications should be forwarded to the undersigned not later than March 31, 1946.—D. M. Baber, Secretary and House Governor.

NEWARK COUNTY EMERGENCY HOSPITAL AND CHILDREN'S HOMES. RESIDENT MEDICAL OFFICER (B1).—Applications are invited from registered medical practitioners for the appointment of resident Medical Officer (B1) of the Newark County Emergency Hospital and Children's Homes. The post will become vacant early in January, 1946. Applicants should have held house appointments and have experience in medicine and surgery; suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £350 per annum with residential allowances. Applications by letter, to be forwarded to reach me as soon as possible.—K. Tweedale Meaby, Clerk of the County Council, Shire Hall, Nottingham.

NORTHUMBERLAND COUNTY COUNCIL. Mono Taylor Maternity Hospital, Stannington (20 beds).—Applications are invited from registered medical practitioners for the post of RESIDENT OBSTETRIC OFFICER (B2). The officer appointed may be required to undertake attendance at a child welfare centre and ante-natal clinic in addition to hospital duties. Salary is at the rate of £400 per annum, plus war bonus board, lodging, and laundry The appointment is subject to medical examination R and W practitioners who now hold A posts may apply, when appointment will be limited to six months; otherwise one year. Applications should be submitted as soon as possible to the undersigned, from whom further particulars may be obtained — John B. Tilley, County Medical Officer, County Hall, Newcastle-upon-Tyne, 1

STATES OF JERSEY. General Hospital —Applications are invited for the post of RESIDENT SURGICAL OFFICER (male), which is now vacant, at the Jersey General Hospital. Salary at the rate of £250 per annum, with full board, lodging, and laundry. There are other emoluments for certificates under the local social assurance amounting to £50 per annum. The appointment is for a period of six months at the first instance but is renewable. Taxation on the island is much lower than in England. Preference will be given to candidates who have passed the Primary Examination for the Fellowship of the Royal College of Surgeons. Applications should be forwarded to R. N McKinstry, Medical Officer of Health, Public Health Department, Royal Square, St. Helier, Jersey, C I.

WEST SUFFOLK COUNTY COUNCIL White Lodge Emergency Hospital, Newmarket (775 beds) —Applications are invited for the following appointment from registered medical practitioners (male or female).

HOUSE PHYSICIAN/ANAESTHETIST (A), one vacancy, immediately. Practitioners within three months of qualification who are liable to service under the National Service Acts may apply. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months, otherwise will not exceed one year. Salary £150 per annum The appointment includes full residential emoluments. A full-time anaesthetist is employed. Applications to be made to the Medical Superintendent.—W L. Watson, Colonel (Retd.), Medical Superintendent.

UNIVERSITY COLLEGE HOSPITAL. Radiotherapy Department —Applications are invited for the post of PART-TIME ASSISTANT RADIOTHERAPIST for five afternoon sessions per week at a salary of £400 per annum. Applicants must have had experience in Radiotherapy and hold the Diploma of Radiology. Suitably qualified R practitioners holding B2 appointments are invited to apply. Applications fro R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R A M C This appointment is for a period of one year in the first instance Details of the duties are available on application. Applications to the Secretary, Gower Street, W.C 1, not later than December 22, 1945

YORK COUNTY HOSPITAL (222 beds) —Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A), vacant immediately, whose main duties are in the Eye, Ear, Nose, and Throat Department (37 beds with busy Outpatient Clinics), but who will share in the general work of the hospital, also Casualty Duty, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months Salary is at the rate of £175 per annum, with full residential emoluments This post is recognized for D.O M.S. and D L O examinations. Applications to be sent to the undersigned immediately.—J. R. Mackrill, Secretary

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BARNSLEY HALL EMERGENCY HOSPITAL, Bromsgrove, Worcestershire.—Applications are invited from registered medical practitioners, male and female, for the appointment of a MEDICAL OFFICER (B1) to the Spinal Unit. Suitably qualified R practitioners holding B2 appointments are invited to apply. Applications from male R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R A M.C. The salary is at the rate of £350 per annum, with full residential emoluments. Applications should be addressed to the Medical Superintendent.

IMPORTANT—All applicants should read the notice at the top of page 9 about qualifications required.

AYRSHIRE CENTRAL HOSPITAL, Irvine. RESIDENT ANAESTHETIST (B1).—Applications are invited from female medical practitioners for the above appointment at the Maternity Section of the above hospital (84 beds). Suitably qualified W practitioners holding B2 or B1 appointments may apply, but they must have obtained the consent of the Scottish Central Medical War Committee to their application. The person appointed will work under the general supervision of the County Obstetrician. Preference will be given to a candidate holding a diploma in anaesthetics. The salary is £400 by £25 to £600, with war bonus and full residential emoluments. The post is within the authorized establishment, but the initial appointment will be on a temporary basis subject to review later. Applications, stating experience in anaesthetics, should be made not later than December 31, 1945, to the County Clerk, County Buildings, Ayr.

BIRKENHEAD GENERAL HOSPITAL.—Applications are invited from medical practitioners (male or female) for the following resident appointments, vacant on January 1, 1946:

SENIOR HOUSE SURGEON (B1) including R practitioners who hold B2 posts and B1 posts if rejected by the R.A.M.C. Salary £150 + £50.

CASUALTY OFFICER (B2) including R practitioners who hold A posts. Salary £125 + £50.

JUNIOR MEDICAL OFFICER (A) including practitioners within three months of qualification who are liable to service under the National Service Acts. Salary £100 + £50.

These appointments are with full residential emoluments, and are for a period of not less than six months. Membership of a Medical Defence Society is a condition of appointment. Applications for each post should be sent to the undersigned at once.—H. Hewitt-Cooke, Acting Secretary-Supt.

BURTON-ON-TRENT GENERAL INFIRMARY (200 beds normal).—Applications are invited from registered medical practitioners for the appointment of HOUSE PHYSICIAN (A). Salary at the rate of £200, with the usual residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months. Applications to be sent to the Secretary-Superintendent.

COVENTRY AND WARWICKSHIRE HOSPITAL. HOUSE SURGEON (B2) to the Fracture and Orthopaedic Department.—Applications are invited from registered medical practitioners, male and female, for the appointment of House Surgeon (B2) to the Fracture and Orthopaedic Department, including R practitioners who now hold A posts. The appointment, which is for six months, is vacant from December. Salary at the rate of £170 per annum, together with full residential emoluments. Applications should be sent to the undersigned.—S. Cecil Hill, House Governor and Secretary.

CHARING CROSS HOSPITAL. OPHTHALMIC SURGEON.—The Council invite applications for the post of Honorary Ophthalmic Surgeon to the Charing Cross Hospital. Practitioners serving in H.M. Forces are invited to apply. Candidates, who must be Fellows of the Royal College of Surgeons of England, should send in their applications to the undersigned not later than first post on Monday, March 18, 1946.—George J. Jones, Secretary, Charing Cross Hospital, W.C.2.

CAMBORNE-REDRUTH MINERS' AND GENERAL HOSPITAL, Redruth.—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (A), vacant immediately. Salary at the rate of £200 per annum, with the usual residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months. Applications to be addressed to J. C. Field, Secretary-Superintendent Redruth

THE CORBETT HOSPITAL, Stourbridge (106 beds).—The Board of Management hereby give notice that there are vacancies on the Honorary Staff for TWO ACTIVE VISITING SURGEONS who must be Fellows of the Royal College of Surgeons.

The Deputy Visiting Surgeon is an applicant for one vacancy. Applications including those from medical practitioners now serving in H.M Forces or who have been demobilized therefrom are especially invited. Applicants must not be in general practice and applications should be sent to the undersigned as soon as possible. No appointment will be made until after the expiration of four months from the date of this advertisement.—W. G. H. Weston, House Governor and Secretary.

THE CHESTER ROYAL INFIRMARY. (Normal capacity 225 beds.)—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A), now vacant, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, the appointment will be for a period of six months. Salary is at the rate of £175 per annum with full residential emoluments. Applications should be sent to the Secretary.

DARLINGTON MEMORIAL HOSPITAL (200 beds).—Applications are invited from registered medical practitioners, male, British, for the following appointment, vacant immediately: HOUSE PHYSICIAN (A) Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months. Salary £150 per annum, with full residential emoluments. Application should be sent as soon as possible to Secretary-Superintendent, Memorial Hospital, Darlington.

DUNDEE ROYAL INFIRMARY. WHOLE-TIME RADIOLOGIST (temporary appointment).—The Directors invite applications for the appointment of a whole-time Radiologist (temporary). Salary £800 to £1,000 according to experience. Further particulars may be obtained from the Medical Superintendent. Applications, together with the names of three persons to whom reference may be made, should be sent, not later than December 15, to the Secretary, Royal Infirmary, Dundee.

DERBYSHIRE HOSPITAL FOR SICK CHILDREN, North Street, Derby.—The Board of Management invite applications for the appointment of SURGEON to this hospital. Applicants should be Fellows of the Royal College of Surgeons. The appointment will be part-time and will carry a salary of £400 a year. Private surgical practice will be permitted. The contract to be for two years in the first instance, but subject to review earlier if the conditions of the projected National Health Service require it. Doctors serving in H.M. Forces are invited to apply. Applications should be sent to the Secretary by March 8, 1946.

DREADNOUGHT SEAMEN'S HOSPITAL, Greenwich, S.E.10. HOUSE PHYSICIAN AND RECEIVING ROOM OFFICER (B2).—Applications are invited from male registered British practitioners including R practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months. Salary at £200 per annum, with full residential emoluments. Applications to be sent to the undersigned.—F. A. Lyon, Administrator and Secretary.

ELIZABETH GARRETT ANDERSON HOSPITAL, Euston Road, N.W.1.—The Managing Committee invite applications from qualified medical women for the following appointments:—

HONORARY PAEDIATRICIAN. Applicants must be members of the Royal College of Physicians.

HONORARY PSYCHIATRIST to the out-patient department.

Applications are also invited from registered medical practitioners, male or female, for the appointment of PART-TIME REGISTRAR to the Ear, Nose, and Throat Department, at a salary of £100 per annum.

Appointments to commence April 15, 1946. Applications from Service candidates will be considered. Applications should be sent to the Secretary by Monday, April 1, 1946.

EXMINSTER HOSPITAL, Exminster.—Applications are invited from registered medical practitioners, male and female, for the following appointment, vacant now:

HOUSE SURGEON (B1). Salary at the rate of £350 per annum, with full residential emoluments. R practitioners holding B2 posts, also those holding B1 and rejected for service in H.M. Forces may apply.

HOUSE SURGEON (B2). Salary at the rate of £200 per annum, with full residential emoluments. R practitioners who now hold A posts may apply, when the appointment will be limited to six months. This is an Orthopaedic Hospital with 160 beds, and also a centre for treatment of Peripheral Nerve Injuries.

Applications to the Medical Superintendent, Exminster Hospital, Exminster, near Exeter, Devon.

EAST SUFFOLK AND IPSWICH HOSPITAL (400 beds).—Applications are invited from registered medical practitioners for the post of HOUSE SURGEON (B2) to the Senior Surgeon, vacant January 3, 1946. R practitioners now holding A posts may apply. Appointment will be for six months. Salary at the rate of £175 per annum, with full residential emoluments.—Arthur Griffiths, Secretary, The Hospital, Ipswich.

EVELINA HOSPITAL FOR SICK CHILDREN, London, S.E.1.—Applications are invited from registered medical practitioners, male and female, for the appointment of CASUALTY AND OUT-PATIENT OFFICER (A), vacant January 1, 1946. Salary £150 per annum. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when appointment will be for a period of six months. Applications to be sent to the undersigned by first post on Friday, December 14, 1945.—W. H. Sidnell, House Governor.

EVELINA HOSPITAL FOR SICK CHILDREN, London, S.E.1.—Applications are invited from registered medical practitioners for the post of ASSISTANT RESIDENT MEDICAL OFFICER (B2). Salary £200 per annum, plus full residential emoluments. The post is vacant now. R practitioners holding A posts may apply when the appointment will be for six months. Applications to be sent to W. H. Sidnell, House Governor.

ENFIELD WAR MEMORIAL HOSPITAL, Chase Side, Enfield, Middlesex (63 beds).—Applications are invited from holders of the F.R.C.S. (Eng.) for the appointment on a temporary basis of SECOND CONSULTING SURGEON to the above hospital. Details of the appointment may be obtained from the Secretary of the Hospital. Applications to be made not later than March 17, 1946.

GRANTHAM AND KESTEVEN GENERAL HOSPITAL (125 beds). JUNIOR RESIDENT MEDICAL OFFICER.—Applications are invited from registered medical practitioners, male and female, for the appointment of a Junior Resident Medical Officer (A), including practitioners within three months of qualification who are liable under the National Service Acts. The post is now vacant. The appointment will be for a period of six months. Salary is at the rate of £200 per annum, with full residential emoluments. Applications should be addressed to the undersigned at the hospital.—John E. Ray, House Governor, The Hospital, Grantham, Lincs.

GUY'S HOSPITAL. ASSISTANT PHYSICIAN.—Applications are invited from Service candidates and others for the appointment of Assistant Physician to Guy's Hospital.

ASSISTANT SURGEON.—Applications are invited from Service candidates and others for the appointment of Assistant Surgeon to Guy's Hospital.

SURGEON IN THE EAR, NOSE AND THROAT DEPARTMENT.—Applications are invited from Service candidates and others for the appointment of Surgeon in the Ear, Nose and Throat Department at Guy's Hospital.

ORTHOPAEDIC DEPARTMENT.—Applications are invited from Service candidates and others for the appointment of an additional member of the Visiting Staff of the Hospital in the above Department. The successful candidate may be appointed either Orthopaedic Surgeon or Assistant Orthopaedic Surgeon to the hospital, depending on his age and experience.

Copies of the Standing Orders for the appointments can be obtained from the Superintendent, to whom letters of application, together with the names of three persons willing to act as referees, should be submitted not later than March 31, 1946. If any of the referees whose names a candidate wishes to submit are at present in the Far East or difficult to communicate with, testimonials may be submitted instead. Applications for each of the above appointments should be lodged with the Superintendent, Guy's Hospital, London, S.E.1.

GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION (Voluntary Hospital of 250 beds). Preliminary Notice.—The following vacancies on the honorary medical and surgical staff will shortly arise due to the operation of the retirement rule: PHYSICIAN, TWO GENERAL SURGEONS, GYNAECOLOGIST, RADIOLOGIST, AND SURGEON to the Ear, Nose, and Throat Department. Inquiries from practitioners serving in H.M. Forces are invited. The new appointments will be made in August, 1946. For any further information application should be made to C. J. Adams, House Governor and Secretary, Royal Infirmary, Gloucester.

GENERAL LYING-IN HOSPITAL, York Road, Lambeth, S.E.1.—Applications are invited for the post of HONORARY REGISTRAR. Preference will be given to candidates possessing the qualifications of F.R.C.S and M R.C O.G. Practitioners serving in H.M. Forces are invited to apply. Applications to be received not later than April 1, 1946.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.3.—Applications are invited for the following appointments from registered medical practitioners, male and female, including R and W practitioners, who now hold A posts:

HOUSE PHYSICIANS (B2), for which there are three vacancies. The duties include work in the Out-patient Department as well as in the Wards, and the appointments are for six months, commencing February 1, 1946, with an honorarium of £50 and board and residence. Applications, stating age, qualifications with dates, nationality, and present post, and accompanied by copies of one or more recent testimonials, should reach the undersigned not later than Saturday, December 8, 1945.—F. G. Rouvray, Secretary.

HOSPITAL OF ST. JOHN AND ST. ELIZABETH, 60, Grove End Road, N W 8.—Applications are invited for the post of SECOND RADIOLOGIST. The post will carry an honorarium of £100 per annum, with a share of private patients' fees. Practitioners serving in H.M. Forces are invited to apply. Applications must reach the undersigned on or before April 30, 1946.—F. Dudley Hobbs, M.A., Secretary.

HEREFORDSHIRE GENERAL HOSPITAL, Hereford (204 beds).—Applications are invited from registered medical practitioners, male, including practitioners within three months of qualification and liable under the National Service Acts, for the appointment of JUNIOR HOUSE SURGEON (A), including HOUSE SURGEON to Ear, Nose, and Throat Department. The appointment will be limited to six months. Salary is at the rate of £150 per annum, with residential emoluments. Applications should be sent to T. W. Upton, Secy.

IMPORTANT—All applicants should read the notice at the top of page 9 about qualifications required.

HULL ROYAL INFIRMARY.—FIRST AND SECOND HOUSE SURGEONS (B2), two posts. Vacant now. Suitably qualified R practitioners who now hold A posts may apply. If held by R practitioners the appointments will be limited to six months. Salary for each post £200 per annum, with full residential emoluments.

Applications are also invited for the post of TEMPORARY HONORARY ASSISTANT OPHTHALMIC SURGEON from candidates holding the Diploma of Ophthalmic Medicine and Surgery. Applications, with copies of testimonials, should be addressed to the Chairman of the Managing Committee by December 31, 1945.—R. J. Carless, House Governor.

HAMPSTEAD GENERAL HOSPITAL, The Green, N.W.3.—Applications are invited from registered medical practitioners, male and female, for the post of JUNIOR MEDICAL OFFICER (B2), vacant January 1, 1946. Tenable for six months. Post includes medical and surgical work. Salary £133 6s. 8d., with board, lodging, and laundry. R practitioners holding A posts may apply. Applications on the prescribed form, with copies of three recent testimonials, to be returned not later than December 12.—Kenneth A. F. Miles, House Governor.

HOSPITAL OF ST. JOHN AND ST. ELIZABETH, 60, Grove End Road, N.W.8.—Applications are invited for the post of SECOND GYNAECOLOGIST. Applicants must be Fellows of the Royal College of Surgeons. Practitioners serving in H.M. Forces are invited to apply. Applications must reach the undersigned on or before April 30, 1946.—F. Dudley Hobbs, M.A., Secretary.

HIGH WYCOMBE AND DISTRICT WAR MEMORIAL HOSPITAL (100 beds).—Applications are invited from registered medical practitioners for the post of RESIDENT MEDICAL OFFICER (B2). Salary £200 per annum plus residential emoluments, vacant now. R practitioners holding A posts may apply, when appointment will be for six months. —Applications to E. Barber, Secretary.

HEREFORDSHIRE GENERAL HOSPITAL, Hereford (152 beds).—Applications are invited for the post of TEMPORARY HONORARY ANAESTHETIST. Applicants must be duly qualified and registered medical practitioners. Applications should be sent to the undersigned.—T. W. Upton, Secretary.

HUDDERSFIELD ROYAL INFIRMARY (321 beds).—HOUSE SURGEON (A) required to commence January 1, 1946. Duties will include those of House Surgeon to the Abnormal Maternity Department. Practitioners within three months of qualification who are liable to service under the National Service Acts may apply. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary at the rate of £187 10s., with full residential emoluments. Applications should be sent to the undersigned immediately.—H. J. Johnson, General Superintendent and Secretary.

IPSWICH BOROUGH GENERAL HOSPITAL.—Applications are invited from registered medical practitioners, male and female, for the appointment of RESIDENT ASSISTANT MEDICAL OFFICER (B2), preferably with experience in anaesthetics, vacant now, including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months, otherwise it will be for a period of twelve months. The salary is at the rate of £250 per annum, with full residential emoluments. Applications should be forwarded to the Medical Officer of Health, Elm Street, Ipswich.

KING EDWARD MEMORIAL HOSPITAL, Ealing. —Applications are invited from registered medical practitioners for the appointment of HOUSE PHYSICIAN (A), to become vacant on December 20, 1945, including practitioners within three months of qualification who are liable to service under the National Service Acts. Six months appointment. Salary at the rate of £150 per annum, with full residential emoluments. Applications stating age, nationality, qualifications, should be sent to the undersigned by December 12, 1945.—R. A. Mickelwright, House Governor.

THE KIDDERMINSTER AND DISTRICT GENERAL HOSPITAL. Resident staff comprises a Resident Surgical Officer and Two House Surgeons.—Applications are invited from registered medical practitioners, male and female, for the following appointment: SENIOR HOUSE SURGEON (B2). R and W practitioners now holding A posts may apply, when appointment will be limited to six months. Salary from £200 per annum according to experience. Applications should be sent to the undersigned immediately.—C. M. Smith, House Governor and Secretary.

LONDON CHEST HOSPITAL, Victoria Park, E.2.—Applications are invited for the post of SENIOR ASSISTANT PATHOLOGIST (wholetime), commencing salary £1,000 per annum. Particulars as to duties may be obtained from the Secretary. Practitioners serving with H.M. Forces are eligible. Applications, with copies of three testimonials, should be sent to the Secretary not later than April 30, 1946. If these are not available the names of three persons in this country to whom reference may be made should be given.

LEEDS PUBLIC DISPENSARY AND HOSPITAL. —Applications are invited from registered medical practitioners for the appointment of HOUSE SURGEON (A), mainly Casualty duties. Appointment for six months. Salary at the rate of £150 per annum, with board, residence, and laundry. Practitioners within three months of qualification and liable under the National Service Acts may also apply. Applications to be addressed to Charles F. J. Maury, Secretary and Superintendent.

LONDON CHEST HOSPITAL, Victoria Park, E.2. —HOUSE SURGEON (B2), male or female, required on February 1, 1946, with previous surgical experience, preferably thoracic. Salary £150 per annum, with full residential emoluments. R practitioners who now hold A posts may apply, when appointment, will be limited to six months. Applications should be sent by December 22 to the Secretary.

MERTHYR GENERAL HOSPITAL (115 beds).—Applications are invited from registered medical practitioners for the appointment of a RESIDENT HOUSE SURGEON, male or female (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. The appointment will be for a period of six months. Salary at the rate of £200 per annum, with board and lodging.—Applications to the Secretary, Merthyr General Hospital, Merthyr Tydfil.

MINEHEAD AND WEST SOMERSET HOSPITAL, Minehead, Somerset. (58 beds).—Applications are invited immediately from registered medical practitioners (male and female), for the appointment of RESIDENT HOUSE SURGEON and ANAESTHETIST (B2), including R and W practitioners who now hold A posts. The appointment is for six months. Salary is at the rate of £250 per annum with full residential emoluments. Walter J. Chorley, Secretary.

MANCHESTER NORTHERN HOSPITAL (General, 113 beds).—The Committee of Management invite applications from qualified medical practitioners for the post of MEDICAL REGISTRAR to the out-patient children's clinic. Duties will consist of attending the Honorary Medical Staff on Monday and Wednesday mornings each week, at a fee of £1 1s. per session.—Applications to be sent to the Secretary, Mr. J. C. Daniels, 38, Barton Arcade, Manchester, 3, as soon as possible.

NORFOLK AND NORWICH HOSPITAL, Norwich.—Applications are invited for the post of CASUALTY OFFICER (B2). Salary is at the rate of £170 per annum with full residential emoluments. R practitioners holding A posts may also apply when the appointment is limited to six months. Applications should be addressed to the Secretary.

NEW SUSSEX HOSPITAL FOR WOMEN, Windlesham Road, Brighton.—Applications are invited from registered medical practitioners, female, including W practitioners who now hold A posts, for the appointment of a HOUSE SURGEON (B2). The appointment is for a period of six months. Salary at the rate of £150 per annum, with full residential emoluments. Applications should be sent to the undersigned.—Percy F. Spooner, Secretary.

OLDHAM ROYAL INFIRMARY (203 beds). HOUSE SURGEON (A).—Applications are invited from registered medical practitioners, male and female, for the appointment of House Surgeon (A), now vacant. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months. The salary is at the rate of £175 per annum, with full residential emoluments. Applications to be submitted to the undersigned. —E. W. Barnett, General Supt. and Secretary.

OXFORD. UNIVERSITY DEPARTMENT OF ORTHOPAEDIC SURGERY, Wingfield-Morris Hospital. ASSISTANT SURGEON.—The salary will be £650 a year and consulting practice will be allowed. Applications are invited from junior surgeons with experience of orthopaedics, and should be sent to the Secretary of the hospital. Application should include the names and addresses of three sponsors, and unless circumstances such as service abroad render their preparation difficult ten copies of the application should be supplied. In order that medical officers serving abroad may have ample time to apply the election will not be made before April 15, 1946.

PRINCESS ELIZABETH ORTHOPAEDIC HOSPITAL, Buckerell Bore, Exeter. (E.M.S. Fracture and Orthopaedic Centre 1A, 150 beds with Annexe).—Applications are invited from registered medical practitioners for the post of HOUSE SURGEON (B1). Salary £200 per annum, with board, residence, and laundry. The appointment is for six months. Suitably qualified R practitioners holding B2 posts, also those holding B1 and rejected by the R.A.M.C. may apply. Applications to J. A. Warburton, Secretary.

PRINCESS ELIZABETH ORTHOPAEDIC HOSPITAL, Exeter.—Applications, including those from practitioners serving in H.M. Forces, are invited for the post of additional ASSISTANT ORTHOPAEDIC SURGEON. The successful candidate must be a Fellow of one of the Royal Colleges of Surgeons. Applications should be sent not later than March 16, 1946, to J. A. Warburton, Secretary.

PAPWORTH VILLAGE SETTLEMENT, near Cambridge.—Applications are invited from registered medical practitioners for the appointment of a RESIDENT SURGICAL OFFICER (B1). Applicants should have held house appointments and have had experience in tuberculosis and thoracic surgery. Preference will be given to candidates holding the Diploma of F.R.C.S. Suitably qualified practitioners now holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. The appointment is for one year in the first place. Salary £600 per annum, rising to £800 per annum by £100 per annum, with full residential emoluments. There is no accommodation for married men. Applications should be sent to the Medical Director, Papworth Village Settlement, Papworth Hall, Cambridge.

PAPWORTH VILLAGE SETTLEMENT, near Cambridge.—Applications are invited from registered medical practitioners for the post of JUNIOR ASSISTANT MEDICAL OFFICER (B1). Suitably qualified R practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary at the rate of £300 per annum, rising to £400 by £50 per annum, with full emoluments. There is no accommodation for married men. Applications should be sent to the Medical Director, Papworth Village Settlement, Papworth Hall, Cambridge.

PONTYPOOL AND DISTRICT HOSPITAL Pontypool, Mon.—Applications are invited from registered medical practitioners, male or female, for the appointment of RESIDENT MEDICAL OFFICER (B2), medical and surgical beds, including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months, otherwise it may be extended for a further period. The salary is at the rate of £250 per annum, with full residential emoluments. Applications should be sent to N. A. Ball, Secretary.

PRESTON AND COUNTY OF LANCASTER ROYAL INFIRMARY. RESIDENT SURGICAL OFFICER (B1).—Applications are invited for the post of Resident Surgical Officer (B1). Applicants should have held house appointments, and preference will be given to candidates holding diploma of F.R.C.S. Salary at the rate of £350 per annum, with full residential emoluments. Suitably qualified R and W practitioners holding B2 appointments and also R practitioners holding B1 appointments who have been rejected by the R.A.M.C. may apply. Applications to be sent to the undersigned as soon as possible.—John Gibson, Superintendent and Secretary, Royal Infirmary, Preston

PRESTON ROYAL INFIRMARY (375 beds). Resident medical staff 8.—Applications are invited from registered medical practitioners, male and female, for the appointment of CASUALTY OFFICER (B2), including R practitioners who now hold A posts. If held by an R practitioner, appointment will be limited to six months. Salary £200 per annum, with full residential allowances. Busy department. Applications to be forwarded to the Superintendent and Secretary, Preston Royal Infirmary.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.1—Applications are invited from registered medical women practitioners for the appointment of RESIDENT ASSISTANT PATHOLOGIST at the above hospital. Salary £250 per annum. Duties to commence forthwith for a period of six months in the first instance.

Applications are also invited from registered medical women practitioners for the appointment of HOUSE SURGEON (B2) for Liverpool Road Annex. Duties to commence forthwith for six months. Salary £200 per annum.

Applications for each post should be sent to the undersigned immediately.—Richard T. Bartley, Secretary.

ROYAL SHEFFIELD INFIRMARY AND HOSPITAL.—Applications are invited from registered medical practitioners for the appointment of TEMPORARY ASSISTANT PATHOLOGIST at the Royal Hospital, vacant shortly. Salary is at the rate of £450 per annum, non-resident. Applications to the General Superintendent, The Royal Hospital Sheffield, 1.

ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY, Wigan.—Applications are invited from registered medical practitioners for the appointment of a HOUSE SURGEON (A), now vacant. Salary £150 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months; otherwise it may be extended for a further period. Applications should be sent to the undersigned as soon as possible.—A. Stanley Brunt, General Supt and Secretary.

ROYAL HALIFAX INFIRMARY.—Wanted, THIRD HOUSE SURGEON (A) (male, unmarried). Practitioners within three months of qualification who are liable for service under the National Service Acts may apply. The appointment is for six months, at a salary of £175 per annum. Applications should be sent to the undersigned.—A Midgley, Secretary

IMPORTANT—All applicants should read the notice at the top of page 9 about qualifications required.

ROYAL VICTORIA INFIRMARY, Newcastle-upon-Tyne. APPOINTMENT OF MATRON.—The House Committe of the Royal Victoria Infirmary wish to proceed with the appointment of a Matron to succeed Miss Charteris, who is retiring at an early date. The infirmary is a general hospital with special departments and a recognized training school for nurses. It is the teaching hospital for the University of Durham. The infirmary has a present total of 810 beds. The House Committee desire that this appointment should offer new opportunities to someone who is anxious to advance nursing practice and nursing education, and for these purposes have arranged to relieve the Matron of all duties within the hospital other than those directly related to nursing. She will be provided with adequate technical, educational and secretarial staff. She will be encouraged to study in practice and by inquiry the nursing needs of the patient on the one hand and the needs of the nurses on the other, so that new methods and standards of nursing may be kept constantly in mind throughout the hospital. She will be given the opportunity of travel and of using all other means of keeping abreast of modern advances in nursing and of educational methods in other fields. The House Committee will welcome applications for this appointment from as wide a field as possible, including those who have not had recent nursing experience and from those with medical and other academic qualifications, and every opportunity will be given for applications from those who are at present in H.M. Forces. The salary will be within the Rushcliffe scale, subject to modification for special qualification or experience. Terms and conditions of the appointment will be discussed at interview. Form of application, together with more detailed particulars of terms and conditions of appointment, may be had on application to the undersigned.—A. W. Sanderson, House Governor.

ROYAL HOSPITAL, Wolverhampton. (Incorporated under Royal Charter). (500 beds). ASSISTANT RADIOLOGIST (DIAGNOSTIC).—Notice is hereby given that the Board of Management of, the Royal Hospital, Wolverhampton, wish to let it be known that a vacancy will shortly occur on the Honorary Staff of the Royal Hospital, for an Assistant Radiologist (Diagnostic). The Royal Hospital, Wolverhampton, is an associated hospital of the University of Birmingham Medical Faculty for Clinical Teaching. Inquiries will be welcomed from prospective candidates, including practitioners serving in H.M. Forces, who must hold a Diploma in Radiology. The vacancy will be advertised early in the new year, and the appointment probably made some time after April 1, 1946.—W. Cockburn, House Governor.

ROYAL SHEFFIELD INFIRMARY AND HOSPITAL.—Applications are invited from registered medical practitioners, male and female, including Medical Officers recently demobilized from H.M. Forces, for the post of CASUALTY OFFICER (B1) with salary at the rate of £150 per annum resident. Applicants should have held house appointments and had experience. Suitably qualified R and W practitioners holding B2 appointments and also R practitioners holding B1 appointments who have been rejected by the R.A.M.C. are invited to apply. Applications to be forwarded immediately to the undersigned.—Percy N. Glass, General Superintendent, Royal Infirmary, Sheffield, 6.

ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL, Southampton (255 beds).—Applications are invited from registered medical practitioners for the appointment of RESIDENT MEDICAL AND SURGICAL OFFICER (B1), vacant forthwith, at the Hospital's Annexe at Romsey (75 beds). The appointment will be for a period of six months in the first instance. Salary is at the rate of £350 per annum, with full residential emoluments. Certain facilities are available to married applicants. Suitably qualified R practitioners holding B2 appointments, also those B1 and rejected by the R.A.M.C. may apply. Applications should be forwarded as soon as possible to Frank Jennings, House Governor and Secretary.

ROYAL WATERLOO HOSPITAL, Waterloo Road, London, S.E.1. HONORARY ASSISTANT SURGEON.—Applications, including those from practitioners serving in His Majesty's Forces, are invited for the post of Honorary Assistant Surgeon. Candidates must be Fellows of the Royal College of Surgeons, England. Applications should be sent to the undersigned on or before April 1, 1946.—J. H. Teasdale, Secretary.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.1.—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (B2), for a period of six months, to become vacant January 1, 1946, including R practitioners who now hold A posts. Salary £200 per annum. Applications should be sent to the undersigned on or before December 7, 1945.—Richard T. Bartley.

ROYAL UNITED HOSPITAL, Bath, HOUSE PHYSICIAN (A).—Applications are invited for the above appointment. Salary at the rate of £150 per annum, with board, residence, etc. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months. Applications to the undersigned.—J. Lawrence Mears, Secretary-Superintendent.

ROYAL CRIPPLES HOSPITAL, Birmingham. One of the largest Orthopaedic Hospitals in the country, with 338 beds for acute patients and large Out-patient Department in Birmingham where 126,153 attendances were made in 1944: The Hospital is also responsible for staffing Out-patient Clinics in a number of adjoining towns.—Applications are invited from registered medical practitioners, including R and W practitioners who now hold A posts, for the appointment of a RESIDENT HOUSE SURGEON (B2), vacant January next. Appointment will be for six months. Commencing salary not less than £200 per annum, with full residential emoluments. Applications to the Secretary, 80, Broad Street, Birmingham, 15.

ROYAL SEA-BATHING HOSPITAL, Margate (for Surgical Tuberculosis).—Applications are invited from legally qualified and registered candidates for the post of ASSISTANT MEDICAL SUPERINTENDENT (male) at the above hospital, at a salary of £500 per annum, with full board and laundry. The appointment will be tenable for two years. Candidates, who must be single, should have held a resident surgical appointment in a general hospital and have had some experience of pathology and orthopaedic surgery. Officers demobilized from H.M. Forces, or about to be demobilized in the near future, are invited to apply. Applications should be sent to the Secretary, R.S.B.H. Offices, 2, High Street, Bracknell, Berkshire, as soon as possible.

ROYAL SUSSEX COUNTY HOSPITAL, Brighton.—Applications are invited from registered medical practitioners for the appointment of SENIOR RESIDENT MEDICAL OFFICER AND RESIDENT SURGICAL OFFICER (B1), to become vacant on February 1, 1946. Applicants should have held house appointments and had surgical experience. Suitably qualified R practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £300 per annum with full residential emoluments. Applications should be forwarded to the undersigned by December 16 next.—L. L. W. Lancaster-Gaye, Secretary-Superintendent.

ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL, Southampton (255 beds).—Applications are invited from registered medical practitioners, male, including R practitioners who now hold A posts, for the appointment of CASUALTY OFFICER AND HOUSE SURGEON (B2) to the E.N.T. Department. The appointment will be for a period of six months. Salary is at the rate of £200 per annum, with full residential emoluments. Applications should be forwarded immediately to Frank Jennings, House Governor and Secretary.

ROYAL HAMPSHIRE COUNTY HOSPITAL, Winchester (432 beds).—Applications are invited from registered medical practitioners, men and women, for the appointment of HOUSE SURGEON (A), vacant immediately. Salary is at the rate of £175 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when appointment will be for a period of six months. Applications should be sent to D. M. Stanbury, Acting Superintendent and Secretary.

SOUTHEND-ON-SEA GENERAL HOSPITAL.—Applications are invited from registered medical practitioners, including registered practitioners who now hold A posts, for the appointment of HOUSE PHYSICIAN (B2), vacant immediately. The appointment will be for six months. Salary at the rate of £150 per annum, with full residential emoluments. Applications to be sent immediately to the undersigned.—John Williams, House Governor and Secretary.

SOUTH LONDON HOSPITAL FOR WOMEN, Clapham Common, S.W.4. HOUSE SURGEON (A).—Applications are invited from registered medical women practitioners for the above appointment to become vacant on January 1, 1946. The appointment will be for a period of six months. Salary is at the rate of £100 per annum, with full residential emoluments. Applications should be sent to the Secretary at the hospital as soon as possible.

STOCKPORT INFIRMARY (167 beds).—Applications are invited from registered medical practitioners for the post of ASSISTANT RESIDENT SURGICAL OFFICER AND CASUALTY OFFICER (B2), now vacant, including R practitioners who now hold A posts. Salary is at the rate of £200 per annum, with full residential emoluments, and the appointment is for six months. Applications to be sent to the undersigned immediately.—H. G. Price, Secretary-Superintendent.

SALFORD ROYAL HOSPITAL.—Applications are invited for the post of RESIDENT SURGICAL OFFICER (B1). Salary £250 plus the usual residential emoluments. Appointment for one year. R practitioners holding B2 posts, also those holding B1 and rejected by the R.A.M.C. may apply. Applications to be made on the prescribed form obtainable from the General Superintendent at the hospital.

ST. PETER'S HOSPITAL FOR STONE, ETC., Henrietta Street, Covent Garden, W.C.2.—The appointment of CLINICAL ASSISTANTS to the undermentioned members of the honorary staff, who attend the out-patient department at the times indicated, will be considered at an early date for the six months commencing January 1, 1946. A fee of five guineas becomes payable to the funds of the hospital on appointment, and applications should reach the undersigned on or before Monday, December 10, 1945.

MR. JOHN SANDREY.—Mondays, 2 p.m. to 5 p.m.

MR. ALBAN ANDREWS.—Tuesdays, 2 p.m. to 5 p.m.

MR. R. OGIER WARD.—Wednesdays, 2 p.m. to 5 p.m.

MR. F. J. F. BARRINGTON.—Thursdays, 2 p.m. to 5 p.m.

For MR. R. OGIER WARD.—Fridays, 9.30 a.m. to 11.30 a.m. (women and children).

MR. ALBAN ANDREWS.—Fridays, 2 p.m. to 5 p.m. (male patients).

MR. JOHN SANDREY.—Saturdays, 2 p.m. to 5 p.m.

D. A. Ewins, Secretary.

ST. MARY'S HOSPITAL, London, W.2.—The following vacancies exist on the honorary medical staff of the hospital:

TWO PHYSICIANS to Out-patient.
TWO HONORARY ANAESTHETISTS.
ONE ASSISTANT OPHTHALMIC SURGEON.
ONE ASSISTANT DENTAL SURGEON.

The following vacancies will be filled in April, 1946:

TWO HONORARY ANAESTHETISTS.

Applications are invited from Service and other candidates for these two appointments. Applications must be submitted to the House Governor on or before March 31, 1946.

ST. BARTHOLOMEW'S HOSPITAL, E.C.1.—Notice is hereby given that a meeting of the election committee will be held on Tuesday, April 9, 1946, at 4 o'clock in the afternoon, to elect the undermentioned to the staff of St. Bartholomew's Hospital.

(a) TWO ASSISTANT PHYSICIANS, who must be Fellows or Members of the Royal College of Physicians of London.

(b) TWO ASSISTANT SURGEONS, who must be Fellows of the Royal College of Surgeons of England.

(c) ONE ASSISTANT GYNAECOLOGICAL AND OBSTETRICAL SURGEON who must be a Fellow of the Royal College of Surgeons, England, and Member of the Royal College of Obstetricians and Gynaecologists.

(d) ONE ASSISTANT MEDICAL OFFICER to the X-ray department who must possess a diploma in Medical Radiology

(e) ONE DENTAL SURGEON to the hospital who must hold a Registrable Medical British qualification as well as a Registrable Dental qualification.

Candidates for the foregoing vacancies, including practitioners serving in H.M. Forces, are required to lodge 50 copies of their applications and testimonials with the undersigned on or before Saturday, March 30, 1946.—C. C. Carus-Wilson, Clerk to the Governors.

STOCKPORT INFIRMARY (167 beds). RESIDENT SURGICAL OFFICER (B1).—Applications are invited from registered medical practitioners for the appointment of Resident Surgical Officer, to become vacant on or about January 15. Applicants should have held house appointments and had surgical experience. Preference will be given to candidates who hold Diploma of F.R.C.S. Applications from R practitioners now holding B2 posts are invited. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £250 per annum, with full residential emoluments. Applications should be sent to the undersigned not later than December 6, 1945.—H. G. Price, Secretary-Superintendent.

SOUTHEND-ON-SEA GENERAL HOSPITAL.—Applications are invited for the post of SURGICAL REGISTRAR (B1) vacant early January, 1946. Salary at the rate of £350 per annum with full residential emoluments. The appointment will be for one year. Candidates must have had previous experience in a surgical post and preference will be given to those holding diploma of F.R.C.S. Suitably qualified R practitioners hold B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Applications to be sent as soon as possible to John Williams, House Governor and Secretary.

SUSSEX EYE HOSPITAL, Eastern Road, Brighton (48 beds).—Applications are invited from registered medical practitioners for the appointment of a HOUSE SURGEON (B2), male or female, including R practitioners who now hold A posts. Salary is at the rate of £175 per annum, with full residential emoluments. If held by an R practitioner the appointment is limited to six months. Applications should be sent to the undersigned.—Percy F. Spooner, Secretary-Superintendent.

IMPORTANT—All applicants should read the notice at the top of page 9 about qualifications required.

STAMFORD, RUTLAND AND GENERAL INFIRMARY.—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A), now vacant. Salary is at the rate of £200 per annum with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months. Applications should be sent immediately to the Secretary, H. F. Donald, The Infirmary, Stamford.

STAMFORD, RUTLAND AND GENERAL INFIRMARY.—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (B2), to become vacant immediately, including R practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months. Salary is at the rate of £300 per annum, with full residential emoluments. Applications to the Secretary, H. F. Donald, The Infirmary, Stamford.

STOCKTON AND THORNABY HOSPITAL, Stockton-on-Tees (135 beds, 3 residents). HOUSE PHYSICIAN ALTERNATING CASUALTY OFFICER (A).—Applications are invited from registered medical practitioners for the above post, now vacant, including practitioners within three months of qualification who are liable for service under the National Service Acts, when appointment will be for a period of six months. Salary £150 per annum, with full residential emoluments. Applications should be sent to the undersigned as soon as possible.—J. Wilkinson, Secretary-Supt.

SUTTON AND CHEAM GENERAL HOSPITAL, Sutton, Surrey (117 beds).—Applications are invited from registered medical practitioners female, for the appointment of JUNIOR RESIDENT MEDICAL OFFICER (A), vacant immediately. The appointment will be for a period of six months. Salary is at the rate of £150 per annum, with full residential emoluments. Applications should be sent to the Secretary as soon as possible.

TORBAY HOSPITAL, Torquay (188 beds).—Applications are invited from registered medical practitioners, male and female, for appointment on January 1 as HOUSE PHYSICIAN (A) or HOUSE SURGEON (A) Salary, in each case is at the rate of £175 per annum with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when appointment will be for six months; otherwise for six months renewable at the pleasure of the Committee. Applications should be sent to E. L. Grist, Secretary.

TAUNTON AND SOMERSET HOSPITAL (150 beds, 3 residents)—Applications are invited from registered medical practitioners, male and female, for resident appointments. One HOUSE PHYSICIAN and one HOUSE SURGEON (one post B2, including R and W practitioners who now hold A posts, and an A post including R practitioners within three months of qualification). Salaries £200 per annum (B2), £175 per annum (A), with full residential emoluments. If held by R practitioners the appointments will be for six months. Applications will be welcomed from Medical Officers recently released from H.M. Forces. Address, Secretary-Supt., Taunton and Somerset Hospital, Taunton.

THE ROYAL NATIONAL THROAT, NOSE AND EAR HOSPITAL, Gray's Inn Road, W.C.1, and Golden Square, W.1. ASSISTANTS IN THE OUT-PATIENT DEPARTMENTS.—There are vacancies at both Gray's Inn Road and Golden Square for attendance any afternoon (excepting Saturday) at 2 p.m. The appointments, which are honorary ones, afford a good opportunity of acquiring extended clinical knowledge of the speciality, as the work consists of assisting the surgeons in seeing patients. Applications (which may be for a period of three, six or twelve months) should specify the hospital and time at which regular attendance could be made, and should be sent to the undersigned immediately.—John H. Young, Secretary-Superintendent.

ULSTER HOSPITAL FOR CHILDREN AND WOMEN (Inc.), Haypark, Ormeau Road, Belfast, Northern Ireland.—A vacancy exists on the HONORARY MEDICAL VISITING STAFF for a position in the Gynaecological Department. Practitioners serving in H.M. Forces are invited to apply. Full particulars may be had from the undersigned, to whom application should be made before March 31, 1946.—A. E. Titterington, Hon. Secretary.

VICTORIA CENTRAL HOSPITAL, WALLASEY. HOUSE SURGEONS (A).—Applications are invited from registered medical practitioners, male or female, for the appointment of two House Surgeons (A), to become vacant on January 1 next, including practitioners within three months of qualification who are liable to service under the National Service Acts. The appointment will be for a period of six months. Salary is at the rate of £200 per annum with full residential emoluments.—Applications to the undersigned as early as possible.—Arthur S. Clark, Secretary-Superintendent.

IMPORTANT NOTICE

APPOINTMENTS

Medical practitioners are requested **not to apply** for any appointment referred to in this notice without first having communicated with the Secretary to the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of the Eire Army appointments, with the Medical Secretary, Medical Association of Eire, 95, Merrion Square, Dublin; and in the case of the Australian appointment, with the Secretary at B.M.A. House, or the Hon. Secretary, Western Australian Branch, Shell House, 205, St. George's Terrace, Perth).

GOVERNMENT SERVICE

ARMY MEDICAL SERVICE OF EIRE.—*(Army, Army Reserve and L.D.F. of Eire, whether in a military or civilian capacity.)*

COMMISSIONER OF PUBLIC HEALTH, Perth, Western Australia.

CONTRACT PRACTICE

ABERTYSSWG MEDICAL AID SOCIETY.—*(Medical Officer.)*

LLWYNYPIA, CLYDACH VALE, PEN-Y-GRAIG, GLAMORGAN.—*(Workmen's Medical Scheme.)*

MID-RHONDDA MEDICAL AID SOCIETY.—*(Assistant Medical Officer.)*

NEATH AND DISTRICT.—*(Medical Aid Association.)*

OGMORE VALLEY, GLAMORGAN.—*(Wyndham Colliery Medical Aid Society.) (Workmen's Medical Scheme.)*

PUBLIC ASSISTANCE

CITY AND COUNTY OF BRISTOL. PUBLIC ASSISTANCE COMMITTEE.—*(District Medical Officer.)*

MENTAL HOSPITAL SERVICE

ROXBURGH DISTRICT MENTAL HOSPITAL, MELROSE.—*(Medical Superintendent.)*

VOLUNTARY HOSPITAL

NORTHAMPTON GENERAL HOSPITAL.—*(Whole-time Pathologist.)*

By Order of the Council.

CHARLES HILL,
November 27, 1945. *Secretary.*

VICTORIA HOSPITAL, Blackpool (200 beds normal complement, plus 300 beds E.M.S. complement).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON to the Surgical Unit No. 2 (B2), vacant January 1, 1946, including R practitioners who now hold A posts. The appointment is for a period of six months and the salary is at the rate of £200 per annum, with full residential emoluments, plus £150 per annum in the case of the successful applicant being a medical officer released from H.M. Forces who desires postgraduate education and rehabilitation as recommended by the Ministry of Health. Applications should be sent immediately to Walter R. Smith, General Superintendent.

WEST BROMWICH AND DISTRICT GENERAL HOSPITAL (200 beds including E.M.S.).—Applications are invited from registered medical practitioners for the appointment of a HOUSE PHYSICIAN (A), to become vacant on December 27, 1946, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary is at the rate of £200 per annum, with full residential emoluments.

Applications are also invited from registered medical practitioners for the appointment of CASUALTY HOUSE SURGEON (B2), to become vacant on January 15, 1946, including R and W practitioners who now hold A posts. If held by an R practitioner, the appointment will be limited to six months. The salary is at the rate of £200 per annum, with full residential emoluments.

Applications are also invited from registered medical practitioners for the appointment of a HOUSE SURGEON (A), to become vacant immediately, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts appointment will be for a period of six months. Salary is at the rate of £200 per annum, with full residential emoluments.

Applications should be addressed to the undersigned.—John O. Robins, House Governor and Secretary.

THE ROYAL LIVERPOOL UNITED HOSPITAL.—Applications are invited for the following permanent appointments to the Honorary Medical and Surgical Staff of The Royal Liverpool United Hospital, duties to commence as soon as possible after appointment, at such dates as may be arranged with the successful candidates.

At the Liverpool Royal Infirmary Branch:—
HONORARY ASSISTANT PHYSICIAN.
HONORARY SURGEON.
HONORARY ASSISTANT SURGEON.
* HONORARY ORTHOPAEDIC SURGEON.
HONORARY ASSISTANT ORTHOPAEDIC SURGEON.
HONORARY DERMATOLOGIST.
* HONORARY PHYSICIAN FOR TROPICAL DISEASES.
HONORARY ASSISTANT PHYSICIAN FOR TROPICAL DISEASES.

At the David Lewis Northern Hospital Branch:—
* HONORARY SURGEON.
HONORARY SURGEON.
HONORARY ASSISTANT SURGEON.
HONORARY ASSISTANT ORTHOPAEDIC SURGEON.
HONORARY MEDICAL OFFICER IN CHARGE OF MASSAGE AND ELECTROTHERAPEUTIC DEPARTMENTS.

At the Royal Southern Hospital Branch:—
* HONORARY PHYSICIAN.
HONORARY PHYSICIAN.
HONORARY ASSISTANT PHYSICIAN.
* HONORARY SURGEON.
HONORARY ASSISTANT SURGEONS (TWO).
HONORARY GYNAECOLOGICAL AND OBSTETRICAL SURGEON.

At the Liverpool Stanley Hospital Branch:—
HONORARY PHYSICIAN.
HONORARY SURGEON.
HONORARY GYNAECOLOGICAL AND OBSTETRICAL SURGEON.
* HONORARY ASSISTANT GYNAECOLOGICAL AND OBSTETRICAL SURGEON.

Temporary war-time appointments have been made to the posts marked thus *

The following qualifications are required:—

Honorary Physician and Honorary Assistant Physician.—A medical degree of a University of the British Empire and the Membership or Fellowship of the Royal College of Physicians of London

Honorary Surgeon and Honorary Assistant Surgeon.—A medical degree of a University of the British Empire and the Fellowship of the Royal College of Surgeons of England.

Honorary Orthopaedic Surgeon and Honorary Assistant Orthopaedic Surgeon.—A registrable qualification, and the Fellowship of the Royal College of Surgeons of England, Edinburgh or Ireland.

Honorary Gynaecological and Obstetrical Surgeon and Honorary Assistant Gynaecological and Obstetrical Surgeon.—A registrable qualification, the Fellowship of the Royal College of Surgeons of England, Edinburgh or Ireland, and the Membership of the Royal College of Obstetricians and Gynaecologists.

Honorary Dermatologist.—A registrable qualification, and also the Membership of the Royal College of Physicians of London, Edinburgh or Ireland, or the Fellowship of the Royal College of Surgeons of England, Edinburgh or Ireland.

Honorary Physician for Tropical Diseases and Honorary Assistant Physician for Tropical Diseases.—A registrable qualification and the degree of M.D. of a University of the British Empire, or the Membership of the Royal College of Physicians of London, Edinburgh or Ireland, and also the special diploma in Tropical Medicine.

Honorary Medical Officer in charge of Massage and Electrotherapeutic Departments.—A registrable qualification and the degree of M.D. of a University of the British Empire, or the Membership of the Royal College of Physicians of London, Edinburgh or Ireland, or the Fellowship of the Royal College of Surgeons of England, Edinburgh or Ireland, or a special diploma in the subject of Radiology.

Candidates wishing to offer themselves for appointment to one or other of a group of posts need not submit more than one application, but should indicate the posts for which they are willing to be considered, together with their order of preference. It should also be noted that some posts of Honorary Assistant rank, additional to those listed above, may become vacant if members of the existing Staff are elected to senior posts. Candidates should indicate whether, failing appointment to a post listed above, they would wish to be considered for appointment to an additional post which may for this reason become vacant. Persons at present serving with H.M. Forces are invited to apply. Testimonials are not required, but candidates should give the names of three persons to whom reference may be made.

Applications should reach the undersigned not later than March 31, 1946.—A. V. J. Hinds, Secretary, The Royal Liverpool United Hospital, 80, Rodney Street, Liverpool, 1.

(Continued on the Inside Back Cover)

PLEASE NOTE

Classified Advertisements for the issues of DECEMBER 22 and 29 must reach the Advertisement Manager not later than December 11 and 17 respectively.

CHARGES FOR CLASSIFIED ADVERTISEMENTS

Circulation 55,500

Advertisements should reach the Advertisement Manager not later than the THURSDAY ten clear days before publication.

Cancellation cannot be accepted after 10 a.m. MONDAY for current week's issue.

To economize in accounting, postage and collection, all advertisements should be paid for at time of order. Publication will be in the earliest possible issue, but delay is unavoidable in present circumstances.

1. TO MEMBERS OF THE ASSOCIATION the cost of advertisements for Assistants, Dispensers, Locums, Partnerships, *Practices, Secretaries, is ten shillings for 24 words, including name and address. Four figures and £ sign count as one word (example £2,000). WHEN A BOX NUMBER IS USED, IT MUST BE RECKONED AS SIX OF THE TOTAL NUMBER OF WORDS IN EACH ADVERTISEMENT, AND 1s. *EXTRA* SHOULD BE ADDED FOR EACH INSERTION TO COVER THE BOX FEE AND POSTAGE OF REPLIES.

Additional words 2s. 6d. for every six or part.

Please mark advertisements clearly, *MEMBER.*

2. To all other (private) advertisers the charge under the headings specified above, para. 1, is 12s. (minimum) for 24 words, including name and address. Four figures and £ sign count as one word (example, £2,000). WHEN A BOX NUMBER IS USED IT MUST BE RECKONED AS SIX OF THE TOTAL NUMBER OF WORDS IN EACH ADVERTISEMENT, AND 1s *EXTRA* SHOULD BE ADDED FOR EACH INSERTION TO COVER THE BOX FEE AND POSTAGE OF REPLIES.

Additional words 3s. for every six, or part.

*SALE OF PRACTICE. The name and address of owner and of the firm negotiating the sale must accompany the advertisement. Those details are not for publication.

3. Consulting rooms, Dietetic, Duplicating, Hotels, Houses, Miscellaneous, Motor Cars, Typing, the charge is same as para. 2.

Personal, Notices, University and Industrial Appointments, minimum charge of 20s. for 24 words, including name and address. Four figures and £ sign count as one word (example, £2,000). When a Box Number is used, it must be reckoned as six of the total number of words in each advertisement.

1s. *extra* should be added for each insertion to cover the Box fee and postage of replies.

Additional words 5s. for every six or less.

Educational, Hospitals, Public Health Appointments, 3s. a line, minimum charge 15s.

Births, Marriages, and Deaths.—The charge for an insertion under this head is 10s. 6d. for 18 words or less. Extra words 3s. 6d. for each six or less. Payment should be forwarded with the notice, authenticated by the name and permanent address of the sender.

BOX NUMBERS.—A Box number is used in place of name and address to conceal identity of advertiser. In no circumstances will this information be divulged by this office. Separate applications should be written to each, addressed Box—, c/o B.M.J. (address as below). All applications are forwarded to the advertiser in plain closed envelopes.

TRADE ANNOUNCEMENTS, 20s. minimum 24 words. Extra words 5s. for six or less.

Every effort is made to ensure the accuracy of advertisements appearing in the Journal. No recommendation is implied by acceptance, and the British Medical Association reserves the right to refuse or interrupt the insertion of any advertisement.

Advertisement Manager, British Medical Journal,
B.M.A. House, Tavistock Square, London, W.C.1.
Telephone: Euston 2111.
Telegrams: Articulate, Westcent, London.

APPOINTMENTS—Hospitals and Public Health, commence at page 9

PERSONAL

MEDICAL WOMAN DOCTOR would take a WOMAN PATIENT, mental or otherwise, for personal supervision in her home (private).—Box 4581, B.M.J.

ROLLS BLADES RE-SHARPENED, cleaned, and adjusted 2/- each (reg. post 6d. extra).—J. Nesbitt Ltd., 42, Market Street, Manchester, 1.

NOTICES

APPLICANTS ARE ADVISED not to send original testimonials when replying to advertisements. Copies will answer the purpose quite as well, and in the event of their being lost or mislaid no inconvenience will ensue.

FOR SALE BY AUCTION, by order of the exors. of the late Mr. V. P. Greenyer, F.R.C.S.Eng., 33, New Church Road, Hove. Messrs. Graves, Son & Pilcher will sell by auction on Wednesday, December 12, 1945, the residue of the furniture and effects, surgical instruments and x-ray apparatus. Catalogues (3d. each) from the Auctioneers, 42, Church Road, Hove.

THE FACT THAT GOODS made of raw materials in short supply owing to war conditions are advertised in this *Journal* should not be taken as an indication that they are necessarily available for export.

UNIVERSITY AND INDUSTRIAL APPOINTMENTS

THE INCORPORATED LIVERPOOL SCHOOL OF TROPICAL MEDICINE (University of Liverpool). LECTURER IN MEDICAL PARASITOLOGY.—Applications are invited for the appointment of Lecturer in Medical Parasitology. Candidates must hold a qualification in medicine and/or in zoology (a qualification in medicine is desirable but not essential). The selected applicant will be expected to assist in the teaching of students studying for the Diploma in Tropical Medicine, etc., and to devote his energies to some special line of research under the direction of the Professor of Entomology and Parasitology. Preference will be given to candidates who have had experience of laboratory work during the war and who intend to make use of the appointment as a training for further research work, either at home or in the tropics. The salary for a candidate holding a medical qualification will be at the rate of £600 per annum, and the appointment will, in the first instance, be for a period of one year. The duties of the successful applicant will begin within a short period of the time of appointment or upon release from H.M. Forces or other National Service. Applications, giving particulars of age, qualifications, previous experience, and the names of three referees, should be sent by March 1, 1946, to The Secretary, Department of Entomology and Parasitology, School of Tropical Medicine, Pembroke Place, Liverpool, 3.

EXAMINING SURGEONS: Factories Act, 1937.—The following appointments as Examining Surgeons under the Factories Act, 1937, are vacant: Cowes, in the County of Isle of Wight; Brackley, in the County of Northampton. Applications, which should be received not later than December 17, 1945, should be sent to the Chief Inspector of Factories, 8, St. James's Square, London S.W.1.

LARGE ENGINEERING WORKS, situated Essex, 5 000 employees, seeks services FULL-TIME MEDICAL OFFICER, preferably one with experience in Services. £1,000 to £1,200 per annum dependent upon qualifications. Practitioners serving in H.M. Forces are invited to apply. Four months will elapse between insertion of advertisement and selection of applicant. Applicants should give full details, qualifications and experience and state age, marital status.—Box 4798, B M.J.

UNIVERSITY OF ST. ANDREWS.—The University Court of the University of St. Andrews invites applications for the BUTE CHAIR OF ANATOMY in the United College, St. Andrews. The stipend attached to the Chair is £1,450 per annum. Further particulars may be obtained from the undersigned with whom applications should be lodged not later than March 31, 1946. The date on which the appointment will take effect has been left open to meet the case of applicants now serving with the Forces but will not be later than October 1, 1946. —David J. B. Richie, Secretary, the University, St. Andrews.

EDUCATIONAL

F.R.C.S.(EDIN.)

POSTAL AND ORAL COURSES continued as usual. Full details.—H. C. Orrin, F.R.C.S., Surgeons' Hall, Edinburgh.

CRANLEIGH SCHOOL, SURREY.

ENTRANCE SCHOLARSHIPS, £100-£30: INSTRUMENTAL AND CHORAL, £50-£30, are offered in March and June. At each examination one close SCHOLARSHIP of not less than £50 per annum will be awarded to the son of a member of the MEDICAL or DENTAL profession. Details from Bursar.

DIPLOMA IN PUBLIC HEALTH THE ROYAL INSTITUTE OF PUBLIC HEALTH AND HYGIENE.—The Course of Instruction may be commenced at any time. A prospectus and full particulars can be obtained from the Secretary, 28, Portland Place, London, W.1. Telephone: LANgham 2731-2.

L.M.S.S.A. FINAL EXAMINATIONS. Surgery, Feb. 11, Mar. 11, April 8. Medicine, Pathology, Feb. 18, Mar. 18, April 15. Midwifery, Feb. 19, Mar. 19, April 16.—For particulars apply Registrar, Apothecaries Hall, Blackfriars Lane, E.C.4.

EXAMINING BOARD IN ENGLAND
by the
ROYAL COLLEGE OF PHYSICIANS OF LONDON and the
ROYAL COLLEGE OF SURGEONS OF ENGLAND

Notice is hereby given that the following Examinations will commence on the dates stated below:

DIPLOMA IN PUBLIC HEALTH
Friday, December 28.

Candidates who have fulfilled the necessary conditions, and who desire to present themselves for Examination, must give notice in writing to the Secretary, Examination Hall, 8/11, Queen-square, London, W.C.1, at least twenty-one days before the date of the Examination, transmitting at the same time such certificates as may be required by the Regulations of the Board, together with the amount of the fee due (£6 6s. for each Part).

Horace H. Rew, Secretary.

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE. Incorporating The Ross Institute. COURSE OF INSTRUCTION IN TROPICAL MEDICINE AND HYGIENE.—The next course of instruction will open on January 7, and close on May 24, 1946. It will include instruction in Clinical Medicine, Parasitology, Bacteriology, Pathology, Physiology and Hygiene in relation to the aetiology, diagnosis and prevention of tropical diseases, and is designed primarily to prepare qualified medical practitioners for the examination of the Conjoint Examination Board for the Diploma in Tropical Medicine and Hygiene. The fee for the whole course is £40, exclusive of the examination fee payable to the Conjoint Examination Board.

Applications for admission to the course, or requests for further information should be sent to The Registrar, London School of Hygiene and Tropical Medicine, Keppel Street, London, W.C.1.

MEDICAL CORRESPONDENCE COLLEGE, 19, Welbeck Street, London, W.1, provides Coaching for all Medical Examinations: D.A., D.P.M., D.O.M.S., D.L.O., D.C.H., D.M.R.E., and D.M.R.T., M.R.C.P., F.R.C.S., M.D. thesis, and all qualifying exams. by a staff of highly qualified Tutors, Honoursmen, and Gold Medallists. Complete Guide to Medical Examinations sent free on application. Applicants should state in which qualification they are interested.

POSTAL COACHING for all Medical Examinations. Some successes from 1901-1944: M.D.Lond., 440; M.B., B.S.Lond., final, 386; M.R.C.S.Eng., primary, 365; F.R.C.S.Eng., final, 262; M.R.C.P., Lond., 365; M.R.C.S., L.R.C.P., final, 815; D.A. (1936-44), 72; F.R.C.S.Edin., and D.R.C.O.G., many successes. Assistance with M.D. thesis. Special arrangements for medical officers with Forces. Medical prospectus (24 pp.) gratis, along with list of Tutors, etc., on application to the Principal.—University Examination Postal Institution, 17, Red Lion Square, London, W.C.1. Phone: HOLborn 6313.

PRIMARY F.R.C.S. COURSE. Lecture-demonstrations in Anatomy, Physiology, Pathology, and Bacteriology. Thrice weekly at 6 p.m., January 28 to April 1, 1946.—Apply Fellowship of Postgraduate Medicine, 1, Wimpole Street, London, W.1. Langham 4266.

POSTGRADUATE STUDY instruction is arranged in medical, surgical, and special subjects, as circumstances permit. Information and advice obtainable from the Fellowship of Postgraduate Medicine, 1, Wimpole St., London, W.1. Langham 4266.

REQUIRED, ADDITIONAL TUTORS for M.R.C.P., London, oral and postal.—Write, giving qualifications, experience, Medical Correspondence College, 19, Welbeck Street, W.1.

THE BEDFORD PHYSICAL TRAINING COLLEGE, 37, Landsowne Road, Bedford. Principal, Miss C. M. Read. Vice-Principals, Miss D. M. Wilkie, Miss M. V. Lace. Students are trained to become teachers of all branches of physical education. The training extends over three years, and includes educational and remedial gymnastics, games, dancing, swimming, and allied theoretical subjects. Fees, £186 per annum. Two scholarships of £50 and two of £25 are offered annually. For particulars apply Secretary.

UNIVERSITY OF MANCHESTER. DIPLOMA IN PUBLIC HEALTH—A COURSE for the Diploma in Public Health will be held, beginning January 15, 1946, and occupying nine months of full-time attendance. Applications should be made as early as possible to Professor H. B. Maitland, Department of Bacteriology and Preventive Medicine, Public Health Laboratory, York Place, Manchester, 13, from whom further information may be obtained.

UNIVERSITY OF MANCHESTER. Faculty of Medicine—Department of Industrial Health.—A POSTGRADUATE REFRESHER COURSE IN INDUSTRIAL HEALTH will be conducted at the University from December 6 to 19, inclusive. Applications for further particulars and admission to the course from qualified medical practitioners should be addressed to: The Dean of Postgraduate Medical Studies, University of Manchester. The number accepted will be strictly limited. Preference will be given to demobilized medical officers under the Ministry of Health scheme.

ASSISTANTSHIPS VACANT

WANTED, immediately, young MALE ASSISTANT, single, partnership of three, Midland city. Accommodation and car expenses. Salary to £600. —Box 4780, B.M.J.

WANTED, ASSISTANT, MALE (with or without VIEW), mixed panel and private practice in South Midlands town, 30 miles from London, five partners, central, modern, well equipped surgery; excellent salary and prospects for keen ex-Service man. Furnished flat, 5 rooms, with garden available. Car essential.—Box 4770, B.M.J.

WANTED, for large industrial practice in Essex, 10 miles centre London, PART-TIME ASSISTANCE for end of December, can live in, suitable postgraduate, suitable full-time assistant considered.—Box 4718, B.M.J.

WANTED, keen British OUTDOOR ASSISTANT under 35 Midland town. Car provided. £850 p.a. —Box 4730, B.M.J.

WANTED, ASSISTANT, either sex, for general practice in Glamorgan. Comfortable accommodation with attendance. Car available or allowance. Dispenser employed. Salary £650.—Box 4731, B.M.J.

WANTED, for country practice in pleasant district, an ASSISTANT to help in partnership of two, for about 6 months.—Further particulars on application. Dr. Armson, Yoxall, Burton-on-Trent. Tel.: Yoxall 202.

WANTED, OUTDOOR ASSISTANT, small modern house provided, unfurnished, in Northants town. Salary according to experience.—Box 4729, B.M.J.

WANTED, ASSISTANT, immediately. Mixed general practice in South-West country town. Hospital. Salary £800 or by arrangement. View to partnership.—Box 4723, B.M.J.

WANTED, immediately, indoor and outdoor ASSISTANT for town and country practices with and without view to partnership, also Locums, good salaries offered, state full particulars.—British Medical Bureau, 33, Cross Street, Manchester, 2.

WANTED, ASSISTANT for branch practice, pleasant West Riding town. Bachelor accommodation provided in the first instance. Car available. Work moderate. Good prospects.—Box 4717, B.M J.

WANTED, INDOOR ASSISTANT for non-colliery town in South Wales.—Box 4777, B.M.J.

WANTED, OUTDOOR ASSISTANT, married, for mixed practice in Lancashire. Furnished house free, car provided. Commission midwifery. Salary £650, £50 car allowance.—Box 4546, B.M.J.

WANTED, ASSISTANT for Monmouthshire colliery practice, either sex, experience in anaesthetics. £600 p.a., with car allowance £100. Hospital anaesthetists salary £75. Outdoor, furnished rooms provided. —Box 4501, B.M.J.

WANTED, outdoor ASSISTANT, either sex, in country district in the Midlands. Unfurnished house provided, car essential. Salary by arrangement.—Box 4022, B.M.J.

WANTED, ASSISTANT in country practice in North Yorks. Indoor. Must be motorist. Prospects. —Box 4775, B.M.J.

WANTED, by officer at present serving R.A.F. but expecting demobilization by end of year, doctor to ASSIST in South West London practice. Unfurnished house. VIEW to partnership.—Write for particulars Box 4789, B.M.J.

ASSISTANT WANTED, either sex, unmarried, mixed industrial practice, Newcastle/Tyne. Previous experience G.P. desirable. Own car essential. Comfortable lodgings arranged. Good post for suitable, keen applicant. Salary £900 per ann., inclusive.—Box 4765, B.M.J.

ASSISTANT WANTED, married or single, for general practice near Newcastle-upon-Tyne. Salary £650 live in, or £800 and free unfurnished house.—Box 4710, B.M.J.

ASSISTANT WANTED, woman or man, in mixed panel and private practice near Newcastle-upon-Tyne. Salary 10 guineas weekly all found; car available.—Box 4764, B.M.J.

ASSISTANT, MALE, wanted, country practice Shropshire. Salary and car allowance by arrangement. Indoor at present.—Box 4728, B.M.J.

ASSISTANCE WANTED. Pleasant semi-rural semi-industrial practice, West Riding. No view meantime, well worth while to pleasant and willing worker. Ample car allowance.—Box 4792, B.M.J.

CHRISTIAN ASSISTANT WANTED, preferably married, long or short term. Furnished accommodation and car available. Pleasant country practice.—Dr. Hensel, Milton Abbas, Dorset. Telephone 210.

WOMAN ASSISTANT WANTED for woman's practice in Home Counties. Full-time. Salary according to experience. House available.—Box 4760, B.M.J.

ASSISTANTSHIPS WANTED

WANTED, ASSISTANTSHIP, preferably with VIEW, in N.E. Scotland, by Scottish graduate, ex-R.A.M.C. Experienced hospital and G.P. Own car.—Box 4709, B.M.J.

WANTED, ASSISTANTSHIP with VIEW. Hospital and G.P. experience. Married. House furnished essential. Own car.—Box 4791, B.M.J.

WANTED, OUTDOOR ASSISTANTSHIP with VIEW to partnership. Britisher, age 34 Married. Own car. House required. Demobilized shortly. —Write Box 4547, B.M.J.

WANTED, OUTDOOR ASSISTANTSHIP, easy reach London, by young single doctor, good hospital experience, driver.—Box 4748, B.M.J.

WANTED, ASSISTANTSHIP with definite VIEW; outdoor. Leeds or York districts. Married, English, 33, Leeds graduate. Demobilization from R.A.M.C. early December. Hospital and G.P. experience.—Box 4738, B.M.J.

WANTED, LONG ASSISTANTSHIP by experienced practitioner. Ex.-R.A.M.C., available now, furnished or unfurnished accommodation and car essential.—Dr. Ferguson, Isolation Hospital, Waltham Abbey, Essex.

WANTED, ASSISTANTSHIP with definite early VIEW. Coastal town, Scotland preferred. Edinburgh graduate, B.Sc., M.B., Ch.B., age 33, married. Experienced in hospital work, resuscitation, blood transfusion, anaesthetics, etc. Recently demobbed. Available February. Hospital appointment desirable. —Box 4797, B.M.J.

WANTED, ASSISTANTSHIP by M.B., B.Ch., married, no family, unfurnished accommodation required; South Wales or South or South-West England preferred. Excellent testimonials.—Box 4795, B.M.J.

WANTED, PART-TIME ASSISTANTSHIP in or near Leeds or Newcastle. Own car. Excellent references. 5 years' experience.—Box 4784, B.M.J.

WANTED, ASSISTANTSHIP, preferably London or Cardiff area. Furnished accommodation for wife essential. No midwifery.—Box 4788, B.M.J.

ASSISTANTSHIP WANTED by experienced male general practitioner, married. Unfurnished house with garden required. British, age 37. Own car. Excellent testimonial. Country district preferred.—Box 4703, B.M.J.

AVAILABLE IMMEDIATELY: ASSISTANTSHIP wanted, VIEW if possible. London or area. Ex-Services. Experienced hospital and locums. Aged 44. Driver.—Box 4733, B.M.J.

DEMOBILIZED SQUADRON-LEADER, R.A.F.V.R., desires ASSISTANTSHIP. Furnished or unfurnished house. Country or small town preferred. With or without VIEW.—Box 4742, B.M.J.

DOCTOR, BRITISH. London qualified, aged 49, married, requires ASSISTANTSHIP, London area, with or without VIEW. Driver. Furnished accommodation essential. Free now.—Box 4565, B.M.J.

DOCTOR, EX-R.A.M.C., 4 years' G.P., wants PART-TIME EMPLOYMENT in Edinburgh, references.—Box 4759, B.M.J.

LIGHT ASSISTANTSHIP, or LIGHT WORK of any kind, required by ex-R.A.M.C. doctor. Size of salary secondary consideration.—Box 4732, B.M.J.

MAJOR, R.A.M.C. (D.P.M., Army specialist in psychiatry), recently demobilized, could undertake PART-TIME EMPLOYMENT in PSYCHIATRY in London area (3 days a week).—Box 4771, B.M.J.

M.D., M.R.C.P., do EVENING SURGERIES and week-ends in exchange keep and accommodation, Jan.-March, Central London.—Box 4529, B.M.J.

M.B., EX-R.A.F., experienced hospital, G.P., requires ASSISTANTSHIP, preferably Southern England. Own car. Married. Furnished accommodation essential.—Box 4761, B.M.J.

POSTGRADUATE STUDENT, woman, M.B., B.S., desires PART-TIME ASSISTANTSHIP in London. Box 4714, B.M.J.

PART-TIME WORK in London, preferably evenings and week-ends, required from January by postgraduate student.—Box 4719, B.M.J.

LOCUMS

ADVERTISER, married, thoroughly experienced private, panel, hospital work, would act as LOCUM or ASSISTANT. Own car and furniture if necessary, within 70 miles London.—Box 4747, B.M.J.

LOCUM WANTED, one week from December 8. Private orthopaedic hospital. Live in, all found. 10 guineas weekly.—Box 4712, B.M.J.

LOCUM WANTED, Northampton, female or male, to replace lady assistant for one month Dec. 14. Driver. All found.—Box 4568, B.M.J.

M.B. (EDIN.), 1933, age 34, now free as LOCUM. Widely experienced, keen physician.—Box 4706, B.M.J.

NORTHERN IRELAND.' LOCUM wanted for six months. Experience in operative surgery and general practice essential. Hospital, 70 beds. Salary by arrangement.—Box 4772, B.M.J.

VIENNESE DOCTOR, M.R.C.S (Engl.), employed 4 years with now retiring G.P., free LOCUM or ASSISTANT January.—Box 4774, B.M.J.

WOMAN DOCTOR, experienced locum tenens' work, seeks further LOCUMS or PART-TIME WORK. Southern England. Drives own car.—Box 4743, B.M J.

PARTNERSHIPS

WANTED, by energetic practitioner, PARTNERSHIP following short assistantship, married, age 34. Hospital and general practice experience. House essential.—Box 4720, B.M.J.

WANTED, PARTNER to take equal share in large mixed practice in West Country town.—Box 4238, B.M.J.

PARTNERSHIP in old-established practice in Bucks for disposal. Share worth £1,400 at two years' purchase. Good house, 3 reception, lounge hall, 5 bedrooms, for sale, price £2,200, or would transfer with practice in London.—Box 4272, B.M J.

QUARTER PARTNERSHIP in £5,200 p.a. (pre-war £6,200). Panel 5,750. Appts., clubs, etc., £1,350 p.a. House to buy or rent. London area. Preliminary assistantship. £2,500.—Box 4782, B.M.J

VACANCY EXISTS now or in the near future for THIRD PARTNER in excellent mixed practice on East Anglian Coast. Good qualifications, hospital experience and personal interview essential. Good house available.—Box 4757, B.M.J.

MEDICAL POSTS

WANTED, by middle-aged woman doctor, B.A (Cantab.), M.R.C.S., L.R.C.P., D.P.H., WORK with office hours, week-ends, holidays free, in London or Essex, disengaged January.—Box 4349, B.M.J.

DOCTOR REQUIRES INDUSTRIAL OR ADMINISTRATIVE POST, London or Home Counties area. Long administrative experience in Service and civil life. Free now.—Box 4566, B.M.J.

R.A.F. DOCTOR, keen, aged 31, due release December, requires POST or PROPOSAL. Birmingham area preferred.—Box 4702, B.M.J.

RADIOLOGIST, 40, married, released army, seeks full-time hospital or private APPOINTMENT.—Box 4767, B.M.J.

SQUADRON LEADER, R.A.F.V.R., aged 37, university graduate, 7 years' hospital and G.P. experience pre-war, desires FULL-TIME INDUSTRIAL or other POST, not G.P. Available now.—Box 4781, B.M.J.

PRACTICES

WANTED, EAR, NOSE, AND THROAT PRACTICE or partnership in provincial town by F.R.C.S.(Eng. and Edin.), D.L.O., ex-Lieut.-Col., R.A.M.C.—Apply Box 4779, B.M.J.

WANTED, good mixed PRACTICE. Brighton area, some time in 1946, by experienced practitioner. Modern house and garden essential.—Box 4567, B.M.J.

WANTED URGENTLY, PRACTICE in Liverpool Area. Lancashire or Cheshire. House to rent preferred.—Box 4521, B.M.J.

WANTED, PRACTICE, suitable two, South or South-West, reasonable panel, two houses essential. —Box 4519, B.M.J.

WANTED, SURGICAL PRACTICE or partnership in provincial town by F.R.C.S.(Eng. and Edin.), late Lieut.-Col., R.A.M.C.—Box 4778, B.M.J.

E.N.T. PRACTICE FOR SALE, old, well established E.N.T. specialist practice for sale in thriving town of 40,000 in Natal, S. Africa. Been averaging £2,500 p.a., no resident opposition, 400 bed hospital. Full range specialist instruments available. Owner retiring. Good introduction. Premium £3,000.—Box 4520, B.M.J.

FOR SALE, well-established mixed PRACTICE, Masboro', Rotherham, on death, in the Royal Naval Volunteer Reserve, of practitioner. July, 1945, panel 1,629 (July, 1939, panel 2,471), successor protected for one year by the Protection of Practices Committee. Ample scope for recovery and expansion of pre-war panel and good private connexions. Long lease of roomy house available at reasonable rental —Apply A. W. Lamb & Co., Solicitors, 54, Bank Street, Sheffield, 1.

FOR SALE, COTSWOLDS, main line London, good private, panel over 1,800, near cottage hospital. Appointments, little domiciliary midwifery. Introduction now.—Box 4245 B M J.

FOR SALE, MIXED PRACTICE, inland town N.W. England. Panel 1,450, receipts £2,500 (audited). Excellent house for sale. Premium 1½ years Hospital appointment assured. Scope husband and wife. Part instalments optional.—Box 4749, B.M.J.

FOR SALE, Lancs-Yorks border, mixed country working-class PRACTICE, 70 years in one family, Panel 1,700, etc. House to rent. Adequate introduction, but must sell soon. Suit returning M.O. or two friends. Car available.—Box 4531, B.M.J.

FOR SALE, old-established PRACTICE in small country town near Nottingham. Panel 1,160, Takings £1,700. Premium 1½ years' purchase. Freehold family house and surgeries in good condition for sale.—Box 4556, B M J.

FOR SALE, DENTAL PRACTICE and LABORATORIES, Oxford St., prominent position. Room for doctor, second floor. Valuable lease. Professionals only.—Box 4737, B.M.J.

FOR SALE, fifteen miles from London, mixed general PRACTICE. Panel 1 940, Income £2,000, Hospital appointment. Garden, modern house. Suit two people. Growing district.—Box 4740, B.M.J.

FOR SALE, WOMAN'S mixed general PRACTICE in N.E. town. Average receipts till last year £1 600 p.a. Vendor abroad one year, practice at present protected by E.M.S., to be sold as nucleus, with house, garden, and garage, for £1,700.—Box 4727, B.M.J.

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THE IN-VITRO SENSITIVITY OF H. INFLUENZAE TO PENICILLIN

WITH SPECIAL REFERENCE TO MENINGEAL STRAINS OF PITTMAN'S TYPE b

BY

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Since the publication of Fleming's (1929) original paper on the antibacterial action of penicillin it has been generally accepted that *H. influenzae* is an organism on which penicillin has little or no bacteriostatic effect. Though Fleming and Maclean later (1930) observed some inhibitory effect on the growth of *H. influenzae* with higher concentrations of penicillin, this was not stressed, and Fleming (1932, 1937) includes *H. influenzae* in the list of organisms practically insensitive to penicillin. Hobby, Meyer, and Chaffee (1942) also emphasize this insensitivity, and Mortara, Feiner, and Levenkron (1944) obtained growth of *H. influenzae* with concentrations as high as 2 units of penicillin per c.cm. of medium, though apparently they tested only one strain.

We were recently concerned with the isolation of *H. influenzae* from nasopharyngeal swabs, using the techniques described by Fleming (1930), of incorporating penicillin as a selective agent in the medium. During preliminary observations it was found that the growth of some strains of *H. influenzae* were completely inhibited at the higher concentrations used. In view of the possibility of treating meningitis cases due to *H. influenzae* with penicillin, it was decided to investigate more fully the sensitivity to penicillin of the comparatively large number of *H. influenzae* strains in our possession.

Technique

Seven lots of heated blood-agar medium were prepared with oxalated horse blood. Before pouring these on to plates they were cooled to below 50° C. and a solution of calcium or sodium penicillin was incorporated in the media to give concentrations of 0.1, 0.25, 0.5, 1, 2.5, and 5 units of penicillin per c.cm. of medium respectively. No penicillin was added to the seventh lot of heated blood agar, which served as a control.

In all, 61 strains of *H. influenzae* were tested. Fifteen were isolated from nasopharyngeal swabs, 28 were strains isolated from bronchial secretions (Allison, J. Gordon, and Zinnemann, 1943), and 16 were known to have been isolated from the cerebrospinal fluid. Fourteen of these latter strains were of Pittman (1931) Type b, and two, although isolated from cases of meningitis, presented the characteristics of rough strains commonly present in the respiratory tract (Pittman, 1933; Mulder, 1939; J. Gordon, Woodcock, and Zinnemann, 1944). Two *H. influenzae* Type b stock strains kindly sent to us by Miss Pittman and Miss Straker were also included. Four of the Type b strains had undergone dissociation from the smooth to the rough phase during continued subculture over a long period.

Heavy broth suspensions of these organisms of approximately equal opacity were inoculated on to the experimental plates. Suspensions of the Oxford standard staphylococcus and the streptococcus 4241, used as an additional standard in this laboratory, were also inoculated on to each plate to act as controls for the inhibiting action of penicillin. The plates were incubated at 37° C. for 48 hours, and in the case of markedly inhibited growths subcultures were made to heated blood-agar plates to test viability.

Results

Respiratory Strains.—From Table I it is seen that the growths of 31 out of 43 strains were completely inhibited by a concentration of 2.5 units of penicillin per c.cm. of medium, and even in a concentration of only 1 unit per c.cm. the growths of 11 strains were completely and of 18 markedly inhibited. Only 7 strains showed growths with 5 units of penicillin per c.cm. of medium, and these were all markedly inhibited.

TABLE I.—*The Action of Penicillin on the Growth of 43 H. influenzae Strains Isolated from the Respiratory Tract*

	Units of Penicillin per c.cm. of Medium			
	0·5	1·0	2·5	5·0
No. of strains completely inhibited ..	2	11	31	36
„ „ markedly inhibited ..	2	18	9	7
„ „ not inhibited	39	14	3	0

TABLE II.—*Action of Penicillin on the Growth of 18 H. influenzae Strains Isolated from Cerebrospinal Fluid*

Strain	Characteristics of Strains	Concentration of Penicillin in units/c.cm. of Medium						
		0·1	0·25	0·5	1·0	2·5	5·0	0
P.B.* ..	Smooth, Type b	+++	++	0	0	0	0	+++
Str. B.* ..	„ „	+++	+++	+	0	0	0	+++
Morris ..	„ „	+++	+++	+++	+++	10	0	+++
Bradford ..	„ „	+++	+++	25	0	0	0	+++
Ainsworth	„ „	+++	++	++	+	0	0	+++
L. 2351/45	„ „	+++	+++	15	0	0	0	+++
L. 3825 ..	„ „	++	7	0	0	0	0	++
D. 67947 ..	„ „	+++	++	0	0	0	0	+++
Maltby ..	„ „	+++	+++	+	+	0	0	+++
Edward ..	„ „	+++	+++	++	0	0	0	+++
Lee ..	„ „	+++	+++	++	0	0	0	+++
Coleman ..	„ „	+++	+++	+	0	0	0	+++
Day ..	Rough „	+++	+++	+++	+++	+	0	+++
Eldred ..	„ „	+++	+++	+	+	0	0	+++
L. 6936 ..	„ „	+++	+++	+++	0	0	0	+++
Goodinson	„ „	+++	+++	++	0	0	0	+++
Rhodes ..	„ respiratory group	+++	+++	++	+	0	0	+++
Cambridge	„ „	+++	+++	+++	0	0	0	+++

* Stock strain.

+++ = Heavy growth. ++ = Moderate growth. + = Markedly inhibited growth. Figures denote numbers of colonies when less than 50. 0 = No growth.

Meningeal Strains.—Table II shows that with 2.5 units of penicillin per c.cm. of medium the growths of 16 out of 18 meningeal strains were completely inhibited and those of the other 2 strains showed marked inhibition. Even with 0.5 unit per c.cm. of medium the growths of 3 strains were completely inhibited and those of 6 markedly so. One of the strains (Morris) varied in its sensitivity to penicillin, as in earlier experiments it showed inhibited growths even up to 5 units of penicillin per c.cm. of medium.

Discussion

These experiments establish the fact that *H. influenzae* strains are not insensitive to penicillin, though the sensitivity is very much lower than that of staphylococcal and streptococcal strains. This finding supports the results obtained by Hobby (1944). She investigated the action of penicillin on a number of Gram-negative organisms previously considered to be insensitive to penicillin. *H. influenzae* was not included in her experiments. She states that "it is apparent that penicillin exerts an antibacterial action against Gram-negative as well as Gram-positive organisms."

The practical application of these observations is restricted to cases of *H. influenzae* meningitis at the present time, since the role of *H. influenzae* as a pathogen in the respiratory tract is still under discussion. The mortality in cases of *H. influenzae* meningitis, treated non-specifically, is about 97% (Lindsay, Rice, and Selinger, 1940). Treatment with sulphonamides appears to have reduced this mortality, and, in combination with specific rabbit antiserum therapy, has lowered it further to 26% of 75 cases quoted (Alexander, 1943). Unfortunately type-specific rabbit antiserum is not available in this country, and penicillin as an additional means of treating *H. influenzae* meningitis appears to be worthy of trial. Penicillin, however, does not seem to penetrate the meninges readily, Fleming (1943) having shown that after intramuscular administration the concentration of penicillin in the cerebrospinal fluid is only one-quarter to one-half of that in the serum. For the most effective treatment of meningitis due to *H. influenzae* it would be necessary, therefore, to administer penicillin intrathecally in addition to the usual intramuscular or intravenous methods. A concentration of at least 2.5 units per c.cm. in the cerebrospinal fluid should be reached at the outset. Later, more exact determination of the penicillin sensitivity of the particular *H. influenzae* strain isolated and assay of the penicillin content of the cerebrospinal fluid should serve as a guide to the further dosage to be given.

Summary

Fifteen *H. influenzae* strains from the nasopharynx and 28 *H. influenzae* strains from bronchial secretions were examined for their penicillin sensitivity. The growths of 31 of these respiratory strains were completely inhibited by 2.5 units of penicillin per c.cm. of medium. Only 7 strains showed growths on media containing 5 units of penicillin per c.cm., with evidence of marked inhibition.

The growths of 18 *H. influenzae* strains, 16 of which were of Pittman's Type b and all of which were isolated from the cerebrospinal fluid, were completely inhibited on medium containing 5 units of penicillin per c.cm. The growths of 16 strains were completely inhibited with 2.5 units of penicillin, the growths of 12 strains completely inhibited with 1 unit of penicillin, and only 3 strains completely inhibited with 0.5 unit of penicillin per c.cm. of medium.

It is suggested that penicillin therapy is worthy of trial in cases of *H. influenzae* meningitis.

Our thanks are due to Prof. J. W. McLeod for the supply of penicillin made available to him for experimental purposes by the M.R.C., and to Prof. W. J. Tulloch and Drs. J. M. Croll, J. S. Faulds, F. W. Gunz, A. I. Messer, G. McIntosh, K. Rogers, and C. J. Young for some of the meningeal strains of *H. influenzae* used.

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MENINGITIS DUE TO A PENICILLIN- AND SULPHONAMIDE-SENSITIVE PITTMAN b STRAIN OF H. INFLUENZAE: RECOVERY

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The following case appears to be of interest by reason of (1) the occurrence of *H. influenzae* meningitis during convalescence from meningococcal meningitis; (2) the isolation of a Pittman b type of organism which was sensitive to penicillin and sulphonamides (sulphamezathine and sulphathiazole); (3) complete recovery following treatment with penicillin and sulphamezathine.

Case Report

A female child aged 2½ years became suddenly ill on June 18 with vomiting and difficulty in walking. She was admitted next day to Dundee Royal Infirmary, where lumbar puncture revealed purulent fluid under increased pressure from which a pure culture of meningococci was obtained. In the course of three days while in the Infirmary she had been given 58,000 units of penicillin intrathecally and 10.5 g. of sulphadiazine by mouth, and was transferred to King's Cross (Infectious Diseases) Hospital, Dundee, on June 21.

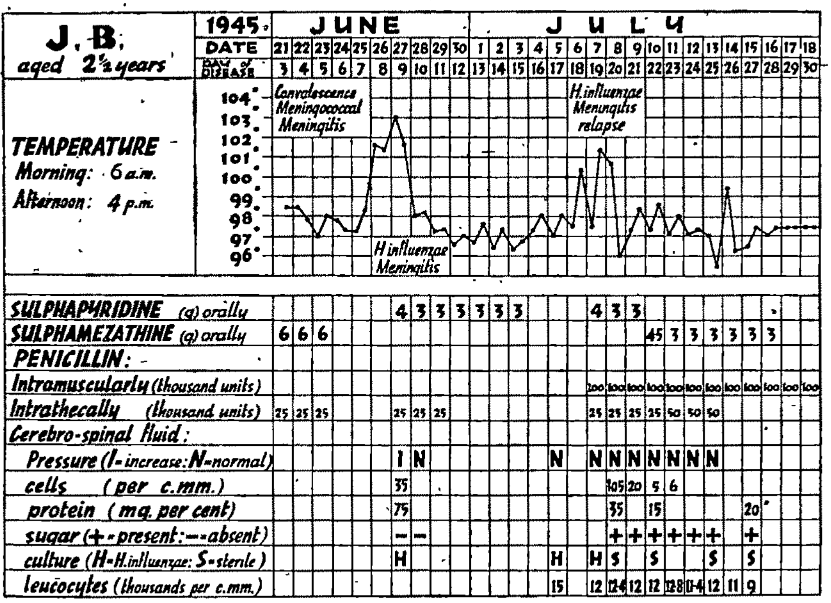
On admission she was semicomatose and irritable. Pupils were equal and reacted to light (the left sluggishly). Kernig's sign was present; abdominal reflexes were absent. Temperature, pulse, and respirations were respectively 98.4° F., 144, and 32. Lumbar puncture revealed slightly turbid fluid under normal pressure. During June 21, 22, and 23 she received 18 g. of sulphamezathine by mouth and 75,000 units of penicillin intrathecally, and on June 23 lumbar puncture produced clear fluid under normal pressure; sugar was present. On June 24 the child's clinical condition appeared to be normal. It will be noted that for the meningococcal infection she had been given 133,000 units of penicillin intrathecally and 28.5 g. of sulphonamide (sulphadiazine 10.5 g., and sulphamezathine 18 g.) by mouth. On June 25 the evening temperature rose at 8 p.m. to 101° F. and the child became flushed and irritable, showing signs of upper respiratory catarrh—cough, injected conjunctivae, excessive lacrimation, congested buccal mucous membrane—suggestive of the invasive stage of measles, but Koplik's spots were not seen.

By June 27 marked neck rigidity had developed, Kernig's sign was present, muscular twitchings of the face and hands were observed, and lumbar puncture produced turbid fluid under increased pressure containing 35 cells per c.mm. and 75 mg. of protein per 100 c.cm. Sugar was absent. Numerous Gram-negative bacilli were demonstrated microscopically and a pure growth of *H. influenzae* (filamentous form) was reported by Prof. Tulloch. During the 7 days June 27 to July 3 the patient was given 75,000 units of Seitz-filtered penicillin intrathecally and 22 g. of sulphapyridine by mouth. On June 28 muscular twitchings were much less frequent, and next day had ceased. Improvement continued on July 1, 2, and 3, and on July 5 lumbar puncture revealed clear fluid under normal pressure; sugar was present. The evening temperature rose to 100.4° F. on July 6 and to 101.6° F. on the following evening, and a culture of *H. influenzae* was reported from the fluid obtained on July 5 and 7. During July 7, 8, and 9, 10 g. of sulphapyridine by mouth, 75,000 units of penicillin intrathecally, and 300,000 units of penicillin intramuscularly (12,500 units three-hourly) were given. On July 9 Prof. Tulloch reported that the organism was sensitive to penicillin (not so marked as standard staphylococcus), sulphamezathine, and sulphathiazole, but insensitive to sulphapyridine. Dr. Gordon, of Leeds, very kindly examined the culture, and reported that the organism possessed the characteristic colonial and serological features of a Pittman Type b.

In view of the bacteriological report sulphamezathine was substituted for sulphapyridine and during the 7 days July 10 to 16 22.5 g. were given by mouth. During the 9 days July 10 to 18, 175,000 units of penicillin were given intrathecally and 900,000 units intramuscularly (3-hourly injection). Apart from listlessness and the presence of intention tremors of the hands and forearms when picking up her toys, the child remained free from symptoms and her temperature became normal on July 8, on which day lumbar puncture revealed less turbid fluid, under normal pressure, containing 105 cells per c.mm. and 35 mg. of protein per 100 c.cm.: sugar was present: culture was sterile. On July 9 turbidity of fluid was less and cells numbered 20 per c.mm. Next day the fluid was clear, with sugar present and cells 5 per c.mm.: culture was sterile.

Cultures repeated on July 13, 15, and 23 were also sterile. Since treatment was restarted on July 7, 32.5 g. of sulphonamide by mouth (10 g. sulphapyridine, 22.5 g. sulphamezathine), 250,000 units of penicillin intrathecally, and 1,200,000 units of penicillin intramuscularly were administered. Details of daily dosages and of leucocyte counts are shown in the Chart, from which it will be seen that the standard intrathecal dose of 25,000 units of penicillin was increased to 50,000 units on July 11, 12, and 13. The injection on the last date gave rise immediately to the following symptoms:

As soon as the injection had been completed the child lay on her side with knees drawn up and uttering agonized cries continuously. Five minutes after the injection myoclonic movements of the face, arms, and lower limbs occurred, lasting about one minute. Five minutes later pallor, sweating, and vomiting occurred: the pulse rate was 125 per minute and the temperature 95.4° F. Gradual recovery took place over the course of 6 hours: 8 hours after the injection the temperature was 101° F. Next day the condition was normal, and recovery proceeded without interruption. The patient was discharged fully recovered on Aug. 16.



1945	JUNE										JULY																	
DATE	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
DAY OF DISEASE	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
SULPHAPYRIDINE (g) orally							4	3	3	3	3	3	3				4	3	3									
SULPHAMEZATHINE (g) orally	6	6	6																	45	3	3	3	3	3	3		
PENICILLIN:																												
Intramuscularly (thousand units)																	100	100	100	100	100	100	100	100	100	100	100	100
Intrathecally (thousand units)	25	25	25				25	25	25								25	25	25	25	50	50	50					
Cerebro-spinal fluid:																												
Pressure (I = increase: N = normal)							I	N							N		N	N	N	N	N	N	N					
cells (per c.mm.)							35											105	20	5	6							
protein (mg. per cent)							75											35		15					20			
sugar (+ = present: — = absent)							—	—										+	+	+	+	+	+		+			
culture (H = H.influenzae: S = sterile)							H								H		H	S		S			S		S			
leucocytes (thousands per c.mm.)															15		12	12.4	12	12	12.8	11.4	12	11	9			

Discussion

An excellent review of the results obtained during the last five years in the treatment of meningitis due to *H. influenzae* has been given by Mutch (1941) and by Gordon, Woodcock, and Zinnemann (1944). In all but one (Jones and Sudds, 1942) of the references cited by the last-named authors serological examination of the causal organism had not been carried out. Gordon, Woodcock, and Zinnemann, following the suggestion of Mutch (1941), have examined serologically the organisms isolated from five cases. From two patients, aged 7 and 5 years, non-Pittman strains were isolated: both recovered after treatment with sulphapyridine (26 g. in 6 days and 21 g. in 7 days respectively). The other three cases were due to Pittman b strains. One of the patients, aged 5 years, recovered after three relapses, following the administration of 46.25 g. sulphapyridine. The remaining two were fatal: one of these patients, aged 5 years, died shortly after admission and before an adequate dosage of sulphathiazole could be given; the other, aged 2, died suddenly without specific treatment having been given, and the organism was obtained from a post-mortem specimen. Forgacs, Hutchinson, and Rewell (1945) described 2 cases, from both of which they recovered a penicillin- and sulphadiazine-sensitive Pittman b strain of *H. influenzae*. In their first case, aged 2½ years, striking improvement followed the intramuscular injection of 30,000 units of penicillin alone, and complete recovery resulted after giving about 210,000 units of penicillin intramuscularly and 36 g. of sulphadiazine within 7 days. The second patient, aged 1 year, died 10 hours after admission, having received approximately 12,000 units of penicillin and 2 g. of sulphamezathine. The prompt response observed in the present case after administration of penicillin and sulphapyridine was almost certainly due to the former, as the organism was found to be insensitive to the latter, although rapidly acquired drug resistance cannot be excluded, since sensitivity tests were not conducted until after relapse had occurred. The tendency for *H. influenzae* meningitis cases to relapse has been a feature of this infection. Archer and Singer (1943) reported the case of a child 5½ years of age who relapsed two days after receiving 30 g. of sulphapyridine in 10 days. Complete recovery followed the administration of 32 g. of sulphathiazole in 7 days. Birch (1943) treated a child of 3 years with 23.75 g. of sulphapyridine in 8½ days: 6 days after clinical recovery relapse took place. Permanent recovery followed the administration of 10 g. of sulphapyridine in 3½ days. One of the cases described by Gordon, Woodcock, and Zinnemann (1944), referred to above, relapsed on each of three occasions when sulphapyridine was withdrawn. Complete recovery ultimately ensued after 46.25 g. of the drug had been given. In the present case relapse occurred three days after cessation of treatment with sulphapyridine (22 g. in 7 days) and penicillin (75,000 units intrathecally in 3 days), followed by complete recovery after administration of 22.5 g. of sulphamezathine in 7 days, 1,200,000 units of penicillin (intramuscularly in 12 days. and 250,000 units of penicillin (intrathecally) in 7 days. This case endorses the recommendation of Forgacs, Hutchinson, and Rewell that cases of *H. influenzae* meningitis should be treated without delay with a combination of penicillin and a sulphonamide. In view of the high incidence of bacteriaemia (Mutch, 1941) combined systemic and intrathecal administration of penicillin is indicated. While sulphamezathine, sulphadiazine, or sulphathiazole is suitable for the beginning of treatment, sensitivity tests should be carried out with a series of sulphonamides in order that the most potent may be used, or another be held in reserve should relapse or drug sensitivity occur.

Summary

A case of *H. influenzae* meningitis which occurred during convalescence from meningococcal meningitis is described.

The organism belonged to the Pittman b type and was sensitive to penicillin, sulphamezathine, and sulphathiazole, but insensitive to sulphapyridine. Complete recovery followed treatment with penicillin and sulphamezathine in combination.

We desire to acknowledge our thanks to Prof. W. J. Tulloch for helpful advice; to Dr. J. Brodie, Lecturer in Bacteriology, University of St. Andrews, who carried out the bacteriological work; and to Dr. J. Gordon, Senior Lecturer in Bacteriology, University of Leeds, who typed the organism and to whom our notes of the case have been given for inclusion in his group of Pittman b type cases.

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The report of the joint committee on the training and qualification of hospital administrators has been published as a pamphlet of sixteen pages by the Institute of Hospital Administrators, 12, Grosvenor Crescent, London, S.W.1. A representative conference held under the chairmanship of Sir William Goodenough in June, 1943, expressed the opinion that this branch of work is of such importance as to call for special training, leading to a recognized qualification, and that a standard qualifying examination should be established. The joint committee comprised representatives of Government Departments, the Association of Municipal Corporations, the British Hospitals Association, the County Councils Association, the Mental Hospitals Association, the L.C.C., and other interested bodies. The report includes among main recommendations that a standard examination in hospital administration common to all sections of the hospital service should be established; that it should be divided into two parts—intermediate and final; and that entry to the final examination should be restricted to persons with a minimum of two years' service on the administrative staff of a hospital.

REPATRIATION

A PSYCHIATRIC STUDY OF 100 NAVAL EX-PRISONERS OF WAR

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The opportunity arose during July and August this year, at Royal Naval Barracks, Chatham, to examine a number (29) of ex-prisoners recently repatriated from Germany and referred to this department on account of neuropsychiatric symptoms. We therefore sought to obtain a clearer picture of the process of resettlement and of the "normal" reactions following repatriation. To do this we interviewed, in addition, an unselected group of 71 ex-prisoners who were apparently making a satisfactory readjustment, as judged by their not having reported any symptoms or difficulties. The 29 neuropsychiatric cases were referred as the result of routine medical examinations on their return to barracks after repatriation leave; the 71 unselected normals were referred through the co-operation of the officer appointed specially to care for the welfare of these men. As a general rule each man had completed a minimum of 42 days' leave; he was already assured of six months' shore service in this country and of special privileges in respect of extra week-end and night leave. Each rating was interviewed by this officer, and efforts were made to fit him into a suitable job and, wherever possible, to arrange for him to serve near his home. In the psychiatric interviews precautions were taken to avoid implanting doubts or the seeds of symptoms in men already adjusted or adjusting satisfactorily. These precautions imposed certain restrictions on the method of inquiry in the normal subjects—viz., a single interview and the avoidance of importunate questioning on intimate matters. Those abnormal cases which did not require admission to hospital were kept under observation and treated as out-patients. Within these limitations information has been sought on the incidence, clinical characteristics, and aetiological factors of neuropsychiatric disorders among these ex-prisoners and on the normal process of readjustment.

The case material has been divided into three groups: *Group A (71 cases)*, comprising men who were found to be making a good spontaneous readjustment with only trivial and transient difficulties, or none at all; *Group B (25 cases)*—men who showed minor neurotic reactions which, while they necessitated out-patient treatment and perhaps special recommendations for suitable employment, were not sufficiently disabling to prevent continuance at duty; and *Group C (4 cases)*—men who showed moderate or severe disorders necessitating admission to hospital or invaliding. These figures are quite unrepresentative of the incidence of neuropsychiatric disorders among repatriated naval ratings; more than 300 ex-prisoners passed through Chatham Barracks during July and August. It is probable that, with very few exceptions, all of those who showed moderate or severe disorders are included in the series. The great majority of those not referred for interview can be presumed to have found no serious difficulty, so far, in making a readjustment. Some of them may report sick later on, while a number of those included in Group B may, through the operation of hysterical mechanisms or adverse circumstances, later qualify for inclusion in Group C. It is too early to attempt to assess the influence which hysterical prolongation and elaboration may have upon the prognosis in these cases. Social and economic developments, as yet unpredictable, may play a decisive part.

Although no precise estimate of the incidence of neuropsychiatric disorder among naval repatriates can be drawn from our material, we have found no reason to believe that the incidence of severe disorders exceeds 5%. Using the ordinary prognostic criteria and assuming appropriate treatment, it seems likely that even in this group the proportion of men who will become problems for their lifetime is small. One of the four men included in Group C has already been discharged from hospital fully recovered after eight weeks' treatment.

Group A.—The Normal Reaction (71 Cases)

Thirty of these men said that they had not at any time since their repatriation experienced any difficulty at all in resuming relations with their families and friends or in adapting themselves to life at home, on leave, or afterwards at duty in the barracks. A typical comment on the home-coming was: "It was just like going back for an ordinary leave." The existence of this group is perhaps one of the most sociologically important and encouraging facts that have emerged from this investigation. These men left an impression of a positive drive towards a successful readjustment, and of a resilience and a resource which, in our opinion, justify a firm confidence in their stability.

The remaining 41 men admitted having experienced difficulties at first which, although not always trivial, were transient, devoid of neurotic overvaluation, and no longer caused any serious trouble at the time of their examination. We would agree with Newman (1945) in holding that "these are not neurotic or psychopathic phenomena, but a normal response of a normal man to release from an abnormal external environment."

The commonest of the phenomena of readjustment shown by our subjects are given below in order of frequency. They persisted for periods varying from a few days to two months; two weeks was commonly given as the duration.

1. Restlessness, inability to settle to any one activity for any length of time.—This very common experience often included difficulty in concentrating on intellectual activities, such as reading or writing letters.
2. Impatience and irritability.—A few said that they had found themselves too exacting, others that they had been "on edge"; one said he was "like a cat on hot bricks," two others that they were "fed up with being asked questions." Waiting in shopping and bus queues was found particularly exasperating and in a few cases provoked a "cold sweat."
3. Difficulty in mixing and entering into conversation with relatives and friends owing to lack of common topics.—A few found difficulty in becoming interested in topics outside their own experience. A few were self-conscious; one felt tongue-tied in the company of women, and another was afraid of lapsing into bad habits—e.g., swearing. Many preferred to stay indoors for the first few days.
4. Dyspepsia and diarrhoea.—This appeared in some cases to have been a physiological reaction to over-indulgence in food and drink immediately after repatriation.
5. Insomnia, usually over a very short period.

One man mentioned that he had been afraid to cross the road, another that he had on two occasions almost been knocked down by a motor-car in a busy street. Yet another became seriously alarmed when the trains in which he travelled entered a tunnel. A normally thrifty man spent his money "like water" until his relatives took him in hand. Finally, one man said he had had no difficulty in settling down once "everybody stopped trying to do everything for me all at the same time." Inability to express themselves more clearly led a few to confine their remarks to saying that they had "felt strange" for a few days. Not one of these phenomena is specific to ex-prisoners of war; they might be shared by anyone returning home after a long absence.

Antisocial traits leading to resentment of authority and to indiscipline have so far not been a serious problem. Minor leave-breaking has occurred from time to time, but graver offences have been rare. The chronic offender who has always been a "King's hard bargain" seems to be neither more nor less of a Service and social problem than he was before his captivity. A striking negative finding has been the absence of complaints of sexual difficulties. Making due allowance for reticence, it is remarkable that not one of these 71 men made any complaint on this score. Inquiry into their experiences and behaviour leads us to believe that the great majority achieved a compromise solution of this problem during captivity which did not give rise to any serious difficulties afterwards. The overwhelming majority seemed to have found hunger far more important than sex-deprivation, and observed that conversation on sexual matters and sexual unrest were mainly confined to the short periods after the arrival of Red Cross parcels, when hunger was temporarily appeased.

It may perhaps be mentioned here as illustrating their fundamental stability that some of these men who achieved a rapid spontaneous readjustment did so in the face of great domestic misfortune. One very stable man whose wife had an illegitimate baby six weeks after he returned home had, after a struggle with himself, decided to forgive his wife and to bring up the child with his own son. This man had been a prisoner for three years. His attitude had already become tolerant and reasonable. His only complaint was of nausea and anorexia, which he attributed to over-indulgence in food and drink during his first week at home. Another man had learned of his wife's infidelity nine months before he was repatriated, and became restless and unable to sleep without drugs until he came home. He still found it hard to forgive his wife, but his insomnia had cleared up within six weeks of his return.

Most of the men were not aware of any change in their character or mental outlook and said that none had been noticed by their relatives. A dozen thought there was some slight change; but, so far from this being in the general direction of impairment, all but a few who considered, for example, that they had become "harder," felt that the change was for the better—e.g., "wiser," "more serious," "broader in outlook." Here again some, for lack of capacity for self-expression, found difficulty in describing the change save as "older" in the sense of more mature. The observation of Charters (1945), based on his experience with severely wounded prisoners, applies in some degree to many in this group: "Rather would I say that the majority of these men have gained in tolerance, understanding, patience, forbearance, and courage. They have acquired a bigger concept of comradeship, and of community life. They have more fully recognized the need for the individual to pull his weight in the interest of the group."

Groups B and C.—Abnormal Reactions (29 Cases)

Twenty-nine men complained of psychiatric or psychosomatic symptoms at the time they were examined. The diagnoses made were as follows:

Anxiety state	18 cases
Anxiety state with hysterical features	3 „
Anxiety state with mental backwardness	1 case
Hysteria	2 cases
Reactive depression	3 „
Migraine	1 case
Post-concussional state	1 „

In 17 of these cases the onset of symptoms occurred during captivity, in 12 after repatriation. Four (Group C) were severe enough to need admission to hospital. The remainder (Group B) were treated as out-patients while still at duty; segregation in a rehabilitation centre was unnecessary, and, in any case, appeared to hold out less promise of success than a gradual and careful reintroduction to normal duties.

Except in four cases (Group C), the symptoms and signs were seldom very disabling or severe, and usually responded satisfactorily to simple methods of explanation, reassurance, sedation, and psychological management. Often the symptoms complained of differed only in their greater intensity or persistence from the phenomena previously described as normal. It is legitimate to ask, Would these so-called abnormals have made a successful adjustment given a little longer in which to achieve it? It is hoped that our reasons for regarding these cases as neurotic will be apparent in the brief descriptions which follow. Some of these men would probably have made a complete recovery sooner or later without any special treatment, others might never have asked for medical help had they been able to continue their efforts to readjust at a slower tempo in their own homes. However liberally leave may be granted and Service rules interpreted, returning to duty, with its unwelcome separation from home, the inevitable mixing with a crowd of strangers, and the obligation to conform with an impersonal code of behaviour, is an ordeal for the repatriated prisoner. Help in facing up to this ordeal was what many of these men required.

Selected Case Summaries

Case 1: Group C.—Able seaman aged 27; C.S.* Date of capture, June, 1942. Joined the Navy in 1933. Strong family history of psychosis. Previously stable and healthy apart from slight unilateral deafness. Very nervous during the action which led to the sinking of his ship and to his capture. Sustained splinter wounds of the neck and leg during this action. During captivity, after five weeks in hospital for his wounds, he had "influenza" three times; he complained of frequent "blackouts" while short of food in Italy, and of tinnitus dating from the final action. In Jan., 1945, his camp was evacuated owing to the Russian advance, and he began a march which lasted four months. The columns were attacked on two occasions by Allied planes and many men were killed or wounded. The stress was very severe and there was panic. On his return home he found his wife in bad health, having been invalided a year before from the W.R.N.S. He found it difficult to settle down at first, and "kept looking round to see if anyone was following with a rifle." He preferred to be alone, and would leave the room if anyone came in. On waking he had difficulty in realizing that he was not still a prisoner. He complained of bad dreams and of twitching of the face. On examination—after leave:—Intelligence normal; nutrition good; marked tremor; increased tendon reflexes; facial tics; blood pressure 150/105. Diagnosis:—Anxiety state. Main precipitating factors: experiences on the long march shortly before repatriation, and discovery of his wife's ill-health on return. Admitted to hospital and later invalided on grounds of aural and psychiatric disabilities.

Case 2: Group B.—Stoker aged 27; C.S. Captured Jan., 1942. Joined the Navy in 1938. Previously healthy and stable; keen on games and athletics. Considerable stress in previous actions (ship sunk). During the action which led to his capture he was wounded in the right knee and had to swim around for ten minutes before being picked up by a German trawler. Throughout his captivity he was afraid to do anything strenuous lest his knee, which gave continual trouble, should be permanently crippled. Thus he became a reluctant spectator of the games and other physical activities which he had formerly enjoyed. This enforced inactivity preoccupied his mind and became the dominant factor in his life. Shortly before his release he became very nervous after Allied bombing of his camp, which resulted in a number of casualties. At the end of his leave he reported sick because his "mind seemed to wander off." He had found that his attention often lapsed during conversation, and he would "come to" to find that his companion had broken off the conversation and was walking away. On examination:—Intelligence normal; nutrition fair; no physical signs of anxiety. He was mildly depressed, concerned about his lapses of attention, but in other respects showed a certain apathy, indifference, and loss of initiative and vitality in both physical and mental spheres, which he expressed as, "It's taken the stuffing out of me." Diagnosis:—Mild reactive depression. Main precipitating factor: enforced inactivity. Improved with reassurance, but prognosis uncertain for complete recovery.

Case 3: Group B.—Signalman aged 25; H.O.* Captured May, 1941. Joined the Navy in Aug., 1940. Previously healthy and stable. Considerable stress in earlier actions. In the action which led to his capture his ship was sunk with the loss of hundreds of lives. He remained well for the first two years of his captivity, then developed anxiety symptoms after Allied bombing of the camp area which resulted in 30 deaths. Subsequently was excused work on many days on account of headaches. "Something snapped in my brain." During the period after release while awaiting repatriation he developed a fairly severe psoriasis (his first attack), which cleared up after he was admitted to hospital while on repatriation leave. After leave he reported sick, complaining of apprehensiveness, self-consciousness, anorexia, and epigastric discomfort. He was chiefly concerned, however, over the fact that during leave he had been capable of intercourse with his wife only twice a week. He was 2 st. under weight on return home and had regained this during leave. He had married only nine months before he was captured; he admitted to having masturbated "nearly every night" while in captivity, and felt guilty about it. On examination:—Intelligence normal; nutrition good; no physical signs of anxiety. He had not expected to be called on to continue to serve in the Navy. The personality was hysterical; he exhibited much self-pity and a poor morale. Diagnosis:—Anxiety state with hysterical features. Main precipitating factors: stress at time of capture, bombing during captivity, worry over marital relations, the whole coloured by deficient morale.

Taking these groups of 29 cases as a whole the symptoms most often met were irritability, nervousness, gastro-intestinal disturbance, insomnia, restlessness, dislike of mixing in crowds, excessive sweating, tremulousness, self-consciousness, nightmares, headaches, and a feeling of being out of touch. Many other symptoms—e.g., listlessness, difficulty in concentration, intolerance of noise, "blackouts"—were only slightly less common. The frequent occurrence of psychosomatic complaints—nausea, anorexia, diarrhoea, excessive sweating, tremulousness—was striking. Tachycardia and tremor were common physical signs, but, except in the case of one man with early mitral stenosis, effort syndrome was not seen.

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* C.S.=Regular naval ratings. H.O.=Ratings serving for the duration of hostilities only.

As to character and mental outlook, a number of these men reported slight changes in the direction of increased tolerance and maturity similar to those met with in Group A. The problem is complicated by the persistence at the time of examination of symptoms, such as irritability, which may or may not prove to be permanent. There was in some cases an impairment of morale which may influence the prognosis with respect to readjustment to Service life. With this proviso, however, the outlook for ultimately successful readjustment, at any rate as civilians, appeared in most cases to be good.

Aetiological Factors: 1. Factors operating Before Captivity

These hundred men belonged to many branches of the Royal Navy—seamen, engine-room, and special branches—and differed in non-commissioned rating, age, experience, and background. They represent, in fact, a cross-section of the whole, and could hardly have been a better illustrative sample had they been the result of deliberate choice. Perhaps these points can best be shown in tabular form, although any conclusions which may be drawn from such small numbers can only be regarded as lending weight to clinical findings.

Table I.—*Service Background*

	Group A (Normal Reaction) 71 Cases		Groups B and C (Abnormal Reaction) 29 Cases	
	No.	%	No.	%
Total number of N.C.O.s ..	18	25	9	31
Total number below N.C.O. rank	53	75	20	69
Ratings serving for hostilities:				
Volunteers	15	29	7	24
Conscripts	29	41	8	28
Ratings in continuous service ..	23	32	13	45
Reservist ratings	4	6	1	3
Length of service in R.N. before capture:				
Two years or less	48	68	16	55
Three, four, or five years .	8	11	5	17
More than five years.. ..	15	21	8	28
Ages (Aug., 1945):				
27 and under	37	52	20	69
28 and over	34	48	9	31
"Age-and-service groups" for demobilization:				
30 and under	25	35	12	41
31 and over	29	41	8	28
Regular naval ratings with further service	17	24	9	31

Table I shows that abnormal reactions are fairly evenly distributed among all types of rating and are not predominant in any one group of men. An exception is a higher percentage of younger men in the abnormal groups, B and C. These men were captured from ships or in actions in widely different situations and circumstances. Such names as Crete, Normandy, Coastal Forces, Malta Convoys, Submarines, Dieppe, Saint-Nazaire, and Spitzbergen are examples which illustrate their varied service; there is even one parachutist among them.

Table II.—*Experience of Action Stress*

	Group A (71 Cases)		Groups B and C (29 Cases)	
	No.	%	No.	%
A history of previous action and severe war stress in the Navy	35	49	16	55
Severe stress at time of capture	71	100	28	96
Many shipmates killed in action at time of capture	42	59	17	59
History of bad reaction to stress in action at or before capture	1	1	4	14

A glance at Table II shows that the amount of stress of this kind is almost evenly shared between the two groups. It is here, however, that the first striking difference can be noted. Although the totals are very small, a higher proportion of those who show abnormal reactions on release reacted badly to action stress.

This difference is again apparent when the personal histories of these ratings are considered. Here, also, each figure in itself is small, but the total of evidence is in favour of a higher proportion of those with a neurotic predisposition in Groups B and C.

Table III.—*Personal Histories*

	Group A (71 Cases)		Groups B and C (29 Cases)	
	No.	%	No.	%
Family history showing two or more near relations with psychiatric disorder	2	3	6	21
Illegitimate birth	1	1	1	3
Loss of both parents in childhood ..	4	6	1	3
Loss of one or other parent in childhood	7	10	4	14
Neurotic traits in early childhood ..	0	0	5	17
A poor school record (Standard V or below)	0	0	2	7
Unstable work record	3	4	3	10
Serious physical illness in the past ..	1	1	1	3
Neurotic breakdown in the past	1	1	2	7
Evidence of marked personality defect ..	2	3	7	24
Married or engaged before capture ..	32	45	12	41
Single	39	55	17	59

2. Factors operating During Captivity

The men were confined in many different camps in Italy and Germany, a large proportion of them in either Marlag M or Stalag 8b (Lamsdorf). Many of the lower ratings were given arduous forced work by the Germans. A few managed to avoid it, usually from patriotic motives, but a small number preferred to occupy their time in this manner; ratings of N.C.O. standing were not liable for forced labour. Neurotic reactions on release were a little more frequent in those who had done forced work. Nearly all were very badly fed, and most of them lost a considerable amount of weight. Red Cross parcels were all-important, and in periods without them suffering was greatly increased. Exposure to physical cruelty by their captors and exceptional privation (save during the final march) were very rare and almost confined to Group A. Large numbers, however, were on the march for anything from a fortnight to four months in the early months of 1945. This was exceptionally rigorous, and in some cases they were exposed to bombing and shooting by our planes, which killed some of their companions. Again, a few were bombed in factories or in their camps earlier in captivity. Neurotic reactions were more frequent in men exposed to these hardships and dangers, and several ascribed anxiety symptoms to such experiences. Physical illness was not uncommon, and was more frequent in Groups B and C. Some also had been wounded on capture. Neurotic illness during captivity was not recorded in Group A and was rare in Groups B and C.

The length of captivity varied between nine months and five and a quarter years, the greatest number—42—being in captivity for three years. Neurotic reactions were somewhat more common in those who had been imprisoned for more than three years. (Of the men captive for more than three and less than four years, 22 in Group A and 10 in Groups B and C were from the same ship, a destroyer, in which, incidentally, morale had been extremely high.)

Finally, among the factors operating during captivity, the recreation and activities of these ratings were studied. Forced labour did not leave time or energy for much activity, nor did insufficiency of food help matters. It is true that a higher proportion of abnormal reactions was found in those who did not occupy themselves, but it is difficult to assess whether this was *post hoc* or *propter hoc.*

It seems to be apparent from Table IV that although the stresses of captivity, such as greater duration, forced labour, and physical illness, were more frequent among those who subsequently developed neurosis, these differences are on the whole small. In fact, in contradistinction to the prophecies of some writers, neurotic predisposition as shown in Table III appears to be of somewhat greater importance than the stresses of captivity. It should, however, be mentioned that among the 30 men in Group A who experienced no difficulties at all during the period of readjustment the proportion who had been subjected to severe stress in action before the incident which led to capture was less than in any other group. During captivity proportionally fewer of these men lost weight, were exposed to bombing or gunfire, or suffered from physical illnesses.

The return in the near future of many men who have been in Japanese hands may throw greater significance—in their case at least—on those factors operating during captivity. It remains to be seen what will be the effect of this latest example of man's inhumanity to man.

TABLE IV.—*Factors operating during Captivity*

	Group A (71 Cases)		Groups B and C (29 Cases)	
	No.	%	No.	%
Captured by Germans	39	55	17	59
Captured by Italians and later in German hands	32	45	12	41
Wounded at capture	15	21	5	17
Average duration of captivity	2·8 years		3·2 years	
Forced labour	39	55	21	72
Loss of weight during captivity	54	76	24	83
Admitted sex difficulties during captivity	2	3	5	17
Bombed in camp or on the march	34	48	17	59
Long march lasting 2 weeks to 4 months, early 1945	42	59	20	69
Other stress:				
In open boat for some days after ship sank Beaten up by S.S. men Chained for a long period Exceptional privation	9	13	2	7
Physical illness during captivity	24	34	15	52
Neurotic „ „ „	0	0	3	10
Domestic stress at home during captivity (death of near relative, etc.)	5	7	1	3
Recreation (physical):				
Active (played games, etc.)	49	69	11	38
Inactive (watched games, etc.)	17	24	13	45
None	5	7	5	17
Recreation (intellectual):				
Active (constructive study, etc.)	24	34	9	31
Inactive (light reading, etc.)	40	59	14	48
None	5	7	6	21

3. Factors operating after Repatriation

The very successful and greatly appreciated policy of repatriating these men by air entailed an extremely rapid transition from captivity, danger, and privation, and implied that the demand for readjustment came with startling suddenness. Their arrival was in most cases to happy homes. Difficulties and even tragedies were bound to occur in a few cases, and it was found that the incidence of serious domestic misfortune after return was 6% in Group A and 10% in Groups B and C. It certainly accounted in part for the onset of symptoms in a very small number. To offset this preponderance of domestic misfortunes in Groups B and C there was also a higher incidence of long-awaited marriages and new engagements in these groups.

In addition, the circumstances to which these men were called upon to adapt themselves on repatriation varied according to their status in the Navy. Some of the regular naval ratings had several years still to serve; others were nearing or had already passed their pension date, and could expect early release. Those who were "Hostilities only" ratings were scheduled in age-and-service groups (see Table I) for release within varied periods of time. In general they showed a willingness to carry out their contract, though it was noticeable that some of the more senior ratings who had previously been keen and ambitious in their naval careers had lost their enthusiasm. While prepared to serve out their time, they looked forward eagerly to the day when they could settle down at home in a "quiet job."

It is of importance that these repatriated men have come back to a victorious country, with the hope of taking up the threads of their lives again apparently to be fulfilled. The optimism induced by this has hardly been damped by the austerity of life in this country, although many were surprised at the sparseness of rations and the emptiness of the shops. It is yet too early for the full effects of the difficulties of a post-war world to make themselves felt. Again, a sweeping Labour majority may have added to their hopes of better social conditions. The influence of these factors cannot be discounted when the low incidence of neurosis is considered.

Summary

In a series of 100 naval ex-prisoners of war, examined two to three months after repatriation, the incidence of severe neurotic reactions was very low. An encouragingly large proportion had no difficulty at all in achieving a successful readjustment within this period of time. Neurotic reactions, usually of no great intensity, occurred in a minority of the cases. The symptomatology comprised nearly all the characteristics common to the minor affective disorders of Service and civilian practice, and was distinguished by the frequent occurrence of psychosomatic complaints and of restlessness and irritability. The tendency was for these symptoms to respond fairly quickly to simple methods of treatment and management. While psychogenic factors operating before, during, and after captivity all played their part in precipitating neurotic reactions, constitutional predisposition was found, on the whole, to have been more important. This finding does not exclude the possibility that where there are greater environmental stresses, as may prove to have been the case among prisoners in Japanese hands, these may gain greatly in importance.

We wish to express our thanks to Surg. Capt. Desmond Curran, R.N.V.R., and Surg. Cmdr. J. A. Fraser-Roberts, R.N.V.R., for advice on the presentation of the results of this inquiry.

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SIXTH-NERVE PARALYSIS AFTER SPINAL ANALGESIA

BY

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Analgesia by spinal injection was first practised about the beginning of the century. The pioneers used cocaine or cocaine and adrenaline for induction, but owing to the frequency of toxic after-results the method fell into disuse for a time. The introduction of stovaine soon followed, giving the procedure a new stimulus, and it was adopted by surgeons throughout the world.

The early workers reported paralysis of the eye muscles as a rare complication. Tuffier (1905–6), having used this method in 2,000 cases, gave it as his opinion that no bad results followed spinal analgesia. General experience since that time calls for some revision of his opinion, because, in addition to other unfavourable results, paralysis of the cranial nerves has occurred in hundreds of cases after spinal injection, and of the 12 nerves only the olfactory, glossopharyngeal, and vagus have escaped (Hayman and Wood, 1942). However, of all these cranial paralyses well over 90% involve the abducens. The incidence (Hayman and Wood, 1942) of abducens paralyses after spinal injection was given by Terrien in 1923 as one in 100; by Contonnet and François in 1933 as one in 250. Experience here (1944) indicates that it occurs once in 202 cases.

During the last ten years the literature on the subject has been sparse, and the number of cases reported comparatively small. Hayman and Wood (1942) discuss the subject and publish two cases. The paucity of records of late years may be due to improvement in technique and drugs, or possibly to lack of interest in the subject. Whatever the cause, the fact remains that during the last two years, since making inquiries about the condition, 10 cases of sixth-nerve paralysis after spinal analgesia have been referred to me.

The abducens is notoriously vulnerable in cerebral lesions and increased intracranial pressure generally. The various theories that have been advanced to account for this susceptibility of the sixth nerve to injury are:

1. That the long course of the nerve exposes it to injury. Incidentally the trochlear (fourth) is the most slender cranial nerve, and it has the longest intracranial course—about 75 mm.

2. Cushing's opinion that the nerve may be damaged between the pons and occipital bone at the site where the anterior inferior cerebellar artery crosses it anteriorly at right angles, as it does in over 80% of normals. The internal auditory artery is also credited with injuring the nerve in the same way.

3. That the nerve may be injured where it bends over the angular apex of the petrous bone. As in increased intracranial pressure, the brain in some cases may be forced down into the foramen magnum, and the sixth nerve, being practically fixed at its two ends, in the pons and cavernous sinus, becomes stretched and is damaged as it bends over the more or less sharp petrous angle.

The following theory, though not providing the basal cause of paralysis of the sixth nerve, would account for the fact that it so often shows signs of injury earlier than any of the other cranial nerves, and that it may do so even if its anatomical disadvantages did not exist.

A New Theory as to the Cause

In intracranial conditions, toxaemias, mechanical disturbances, and inflammations all the cranial contents are influenced by the disturbing factor, and frequently there comes a time when the abducens shows clinical signs of being affected—the first nerve to show evidence of trauma. I submit some points concerning binocular vision and the necessary faculties concerned in its maintenance that seem to be definite contributing factors in causing the abducens to be so often the earliest cranial nerve to supply clinical evidence of cerebral pathology.

It is well recognized that the highest and most recently acquired faculties and attributes of the human being are the first to be lost or disturbed under stress. A patient undergoing general inhalational anaesthesia without premedication is the common illustration of the fact. From a phylogenetic point of view, binocular stereoscopic single vision—characteristic of the primates only—is one of these latest-acquired attributes. Binocular vision (Duke-Elder, 1932) is a single mental impression, brought about by the co-ordinate use of the two eyes. To maintain it it is necessary (1) that the two fields of vision overlap; (2) that the corresponding points of each retina function together; (3) that the cerebral fusion-sense functions; (4) that the synergic action of the extraocular muscles is such that the three previous conditions can function.

Ample evidence of defects in the last three conditions necessary to maintain binocular vision is very prevalent. Non-correspondence of retinal points, the dominant eye, and defective fusion sense are of frequent occurrence. Eye-muscle imbalance and insufficiencies, concomitant squint, the heterophorias or latent squints, and refraction errors all have a definite bearing on the subject, and are so common as to affect a considerable proportion of the population. The eye examinations of candidates for fitness for flying have revealed the frequency of defects in the binocular vision system among seemingly normal young men.

A study of the evolution and physiology of vision in general encourages one to appreciate how the injection of a toxic drug into the central nervous system could probably cause diplopia. The whole visual faculty and the brain are so essentially interdependent that the late Prof. Elliot Smith stated that the cultivation of vision acted as a powerful stimulus in the development of the cerebral hemispheres, and that vision is the fundamental factor in the development of the cerebral cortex and intelligence of the human type.

The varying stability of the binocular vision function makes it possible that any cerebral pathology, even slight in degree, would tend to cause a breakdown of the binocular system, with resulting diplopia. A person more or less under the influence of alcohol first loses his highest and latest-acquired attributes—reason, judgment, fine co-ordination, and binocular single vision. Only some have or retain the wit to be aware of the double vision, but it is commonly present if looked for. A partially inebriated man, when reading, often unconsciously closes one eye to avoid confusing the images. This type of diplopia is generally uncrossed and lateral—that is, an abducens defect is present. It seems unnecessary to assume that this double vision is due to the alleged intracranial anatomical disabilities of the sixth nerve. Some other factor causes diplopia, and I suggest that the common presence of a defect in one or more of the above essentials necessary for the maintenance of binocular vision, and an added toxin, together provide the factors causing the abducens to falter or fail in its function.

It is not uncommon for patients with certain muscle insufficiencies to complain of occasional diplopia, and to mention that they quite often read with one eye closed more comfortably than with the two eyes open. This is due to the difficulty they have in maintaining binocular vision—without any toxic drug. By closing one eye the single binocular vision effort is abandoned, and the covered eye wanders from the correct alignment.

In none of the 10 cases of diplopia here recorded was the paralysis complete. In some it was slight and in others marked, but all retained some power of abduction. The complete sixth-nerve paralysis following skull fracture or certain other cerebral lesions is a quite different clinical entity. It is probable that a toxic drug acting on an unstable binocular vision function is in many cases the cause of the diplopia and abducens paralysis following spinal analgesia.

Normally the adduction power of the two eyes is three times that of abduction, measured in prism dioptres. Esophoria is a common form of muscle imbalance. It is a latent convergent squint. To prevent the latent squint becoming obvious or manifest an extra tonic nerve impulse is constantly sent by the abducens to the external rectus of each eye to preserve parallelism of the eyes and avoid diplopia. If a spinal injection is given to a patient with esophoria, where the tonic contraction of both external rectus muscles is present in order to overcome the tendency to convergent squint, only a slight trauma of the abducens would block this extra tonic impulse which is required to maintain parallelism of the eyes, and the esophoria or latent squint would then become a manifest convergent squint with uncrossed double vision. Further, no theory that I am aware of has been put forward to account for the abducens paralysis being so commonly unilateral and only partial. That it is so may be explained by the probability that in esophoria, when diplopia is established and the extra impulse required to maintain binocular vision has been abandoned, the second eye is often able to carry on monocular movements normally with the less-powerful stimulus.

Defects of the other previously mentioned component parts of the binocular system may also offer reasonable explanations of the frequent early production of diplopia. Examination of these functions before and after spinal injection may prove of interest. Of the 10 cases here reported 9 were examined after the patients considered that their eye condition had returned to normal. Each of them had some degree of esophoria varying from 1 to 5 P.D. at 6 metres, and none had exophoria.

Other Causal Theories

Various authorities hold different theories—some being directly opposed to others—regarding the cause of abducens paralysis following spinal injection. None take any note of the possibility of an unstable binocular vision function entering into the picture, and none of these opinions explain the great preponderance of unilateral paralysis.

These causal theories (Hayman and Wood, 1942) may be grouped under three headings:

1. Mechanical Causes.—One argument for this theory gains support from the fact that paralysis of the sixth nerve has followed ordinary spinal puncture without injection. Some suppose there is a pre-existing hypertensive condition of the cerebrospinal fluid, and the added injection provides the last straw, as it were. Others think the palsy is due to hypotension of the fluid from continued leaking after the puncture.
2. Toxic causes, relating chiefly to the drugs used.
3. Inflammatory Causes.—Supporters of this idea suppose a low-grade meningitis is set up by organisms of low toxicity, and they consider that ocular paralyses following the introduction of air into the ventricles uphold the theory. Hayman and Wood believe that the problem will be solved on the basis of a disturbance in the dynamics of the spinal fluid during spinal analgesia.

The common symptoms following lumbar analgesia are headache, pain in the neck, dizziness, photophobia—the latter two symptoms may be due to threatening or partial diplopia—and diplopia. Though the abducens paresis may be partial, the convergent squint and limited outward movement of the eye are easily demonstrated. Homonymous diplopia is present, the distance between the images increasing as the test object is moved into the sphere of action of the paralysed muscle; secondary deviation can be seen, and false orientation can be demonstrated by covering the unaffected eye. The headache appeared in the present cases between the second and fourth days, and had faded away in between five days and five weeks, except Case 2, in which the headache persisted for about fifteen months. The diplopia appeared five to eleven days after the spinal injection, and persisted for varying periods—1, 2, 3, 4, 5, 6 (2) weeks, 2 months, 3 months, and 14 months. Relief from headache and diplopia occurs gradually.

The prognosis is therefore ultimately good, though occasionally the complications may reactivate existing neuropathic conditions which may prove fatal (Blatt: quoted by Hayman and Wood, 1942).

Treatment

Sedative drugs are not very effective in treating the severe basal and general headaches, but keeping the head in the horizontal position gives some relief. The inhalation of oxygen, using the B.L.B. inhaler, has given definite relief in many cases. Galvanism for the paresis is of psychological value only.

For the diplopia, covering the deviating eye gives relief, but continued covering is not advised, as thereby any subconscious effort to fuse images and re-establish binocular vision will not be made. Dark glasses should be worn, with the outer third of the glass before the affected eye made opaque with, say, adhesive black paper. It is probable that muscle exercises and fusion-training may assist in re-establishing parallelism of the eyes and binocular vision in cases in which natural recovery is delayed.

Case Reports

Case 1.—Mrs. A., aged 36. Uterine operation, April 20, 1943—Mr. Douglas Robb. Spinal percaine 1/200, 1.5 c.cm. The patient suffered from bronchiectasis and was unfit physically. She became pregnant, and it was considered advisable to terminate the pregnancy. Headache appeared on the second day and persisted for three weeks. Diplopia was complained of on the fifth day after the lumbar injection and persisted for five weeks. The right abducens was paretic; a certain degree of abduction of the eye was possible. Homonymous diplopia, increasing to the right, and all the signs of paralytic strabismus were present. Two months later the patient felt completely well so far as the eyes were concerned, though she still showed 5 P.D. of esophoria. Probably this is her usual state of muscle imbalance. Right vision 6/6, Hm. 0.50; left vision 6/6, Hm. 0.50; fundi normal. This patient was in the habit of "standing" on her head and shoulders three times a day for about half an hour at a time in order to empty the bronchiectatic cavities. While in this position she constantly noted an easing of the headache and that the double vision seemed less marked. This statement suggests several possibilities. One of the male patients was later prescribed standing on the head and shoulders for a quarter of an hour three times a day as treatment. He reported no benefit.

Case 2.—Miss B., aged 22. Appendicectomy, April 20, 1943—Mr. D. W. Guthrie. Spinal percaine 1/200, 2 c.cm. Headache appeared on the third day and persisted for 15 months. Diplopia was complained of on the seventh day and persisted for about 14 months. The right abducens was partially paralysed, with all typical signs. April, 1944—a year later: The headache persisted, with occasional diplopia; 12 P.D. of esophoria with Maddox rod and tangent scale. Aug., 1944: Occasional headaches, but no diplopia; 5 P.D. esophoria present; right vision 6/6, no Hm.; left vision 6/6, no Hm.; fundi normal.

Case 3.—Mr. C., aged 40. Haemorrhoidectomy, Sept. 14, 1943—Mr. F. P. Furkert. Spinal percaine 1/200, 1.5 c.cm. Headache appeared on the third day and persisted for three weeks. Diplopia was complained of on the seventh day and persisted for three months. Right abducens partial paralysis was present with all typical signs. This patient tried standing on his head for 15 minutes three times a day without benefit. Sept. 27, 1944: Esophoria 2-3 P.D. present; slight congenital ptosis right eye; right vision 6/18, anterior polar cataract; left vision 6/6 with 1. cyl. vert.; fundi normal.

Case 4.—Mr. D., aged 65. Cholecystectomy, Dec. 19, 1943—Mr. D. W. Guthrie. Spinal percaine 1/200, 3 c.cm. Headache appeared on second day and persisted for two weeks. Diplopia was complained of on the eighth day and persisted for six weeks. Left abducens affected. Oct. 19, 1944: Esophoria 1 P.D.; right vision 6/6, Hm. 25; left vision 6/6, Hm. 25; fundi normal.

Case 5.—Mrs. E., aged 38. Cholecystectomy, May 22, 1944—Mr. D. W. Guthrie. Spinal percaine 1/200, 2.5 c.cm. Headache appeared on the fourth day and persisted for 10 days. Diplopia was complained of on the fifth day and persisted for three weeks. Right abducens paralysis. Aug. 8, 1944: Esophoria 3 P.D.; right vision 6/6, Hm. 0.75; left vision 6/6, Hm. 0.75; fundi and fields normal.

Case 6.—Mrs. F., aged 35. Appendicectomy, June 6, 1944—Mr. J. Fitzsimons. Spinal percaine 1/200, 2 c.cm. Headache appeared the second day and persisted for eight days. Diplopia was complained of on the sixth day and persisted for four weeks. Right abducens paralysis. Oct. 3, 1944: Esophoria, 1 P.D.; right vision 6/6, Hm. 50; left vision 6/6, Hm. 50; fundi normal.

Case 7.—Mr. G., aged 47. Haemorrhoidectomy, Aug. 15, 1944—Mr. J. Dreadon. Spinal percaine 1/200, 1.5 c.cm. Headache appeared on the second day and persisted for two weeks; diplopia complained of on the eleventh day and persisted for two months. Right abducens paralysis. Oct. 20, 1944: Esophoria 2 P.D.; right vision 6/6; left vision 6/6; fundi normal.

Case 8.—Mr. H., aged 57. Right inguinal herniorrhaphy, Aug. 18, 1944—Mr. A. Smith-Gray. Spinal percaine 1/200, 2 c.cm. Headache appeared on the third day and persisted for three weeks. Diplopia was complained of on the seventh day and persisted for six weeks. Right abducens paretic.

Case 9.—Mrs. I., aged 50. Operation for stone in common bile duct, Aug. 29, 1944—Mr. J. Fitzsimons. Spinal percaine 1/200, 2.5 c.cm. Headache appeared on the second day and persisted five weeks. Diplopia was complained of on the fifth day and persisted for six weeks. Left abducens paralysis. Oct. 18, 1944: Esophoria 1 P.D.; right vision 6/6, Hm. 1; left vision 6/6, Hm. 1; fundi normal.

Case 10.—Mrs. J., aged 46. Cholecystectomy, Oct. 2, 1944—Mr. D. W. Guthrie. Spinal percaine 1/200, 2.5 c.cm. Headache appeared on the second day and persisted for five days. Diplopia was complained of on the fifth day and persisted for two weeks. Right abducens affected. Oct. 21, 1944: Esophoria 4 P.D.; right vision 6/6; left vision 6/6; fundi normal.

Comment

Apart from the incomplete unilateral abducens paralysis no defects were noticed, except that Case 1 complained of "double hearing" for a time, and Case 3 had slight ptosis and anterior polar cataract, which were congenital in origin. Of the 10 cases reported 6 were female and 4 were male. The right abducens was affected in eight instances and the left in two. All the patients considered the headaches and double vision the most distressing part of their surgical experience, and some stated that the headache was almost intolerable. Ochaporski (1942) writes: "The aetiology of 282 cases of paralysis of the sixth nerve was . . . spinal puncture, 21. The frequency of sixth-nerve paralysis following spinal anaesthesia led Russian surgeons and gynaecologists to abandon this form of anaesthesia."

During the period under review spinal analgesia was administered to 2,021 patients. Ten of these developed paralysis of the sixth nerve. Though the number of cases is not large it indicates that abducens paralysis may be expected to occur once in every 202 cases after spinal analgesia. Premedication was given in all cases, and in a number of instances the lumbar injection was supplemented by the use of general anaesthetics—gas-and-oxygen, pentothal, and others.

Summary

Sixth-nerve paralysis and diplopia after spinal analgesia are discussed.

A theory is developed and a contributing factor presented to account for the diplopia and frequent early failure of the abducens in cerebral lesions, founded on the instability of the binocular vision function—phylogenetically a recently acquired attribute in man.

Ten instances are recorded of abducens paralysis following 2,021 cases receiving spinal analgesia.

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The Ministry of Education has issued an administrative memorandum on the position of speech therapists employed by local education authorities in connexion with their provision for children suffering from stammering and other forms of speech defect. For some years the work of the speech therapist has been regarded as primarily educational, and the majority of those employed by local education authorities have in fact been recognized or approved as specialist teachers under the Code of Regulations for Public Elementary Schools. Recently, however, there have been changes in the courses of training for speech therapists and in the work on which they are employed. In England the training is now given in four training schools, each of which is maintained by, or conducted in close association with, a hospital and comprises instruction in anatomy and physiology; neurology; pathology of the ear, nose, and throat; phonetics and speech therapy. It does not include training in teaching, in handling classes of children, or in school practice. Correspondingly the work which the speech therapists have to do has been decreasingly educational and more curative. It is carried out, in part at least, under medical supervision, and the only persons whose employment as speech therapists is approved by the Minister of Education are those who have been admitted to the *Register of Medical Auxiliaries*. In these circumstances the Minister proposes that as from Nov. 1, 1945, speech therapists employed by local education authorities shall be treated as members of the staff of the school health service and shall not ordinarily be regarded as teachers.

TYPHOID FEVER COMPLICATED BY BENIGN TERTIAN MALARIA

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The difficulties in making an early diagnosis of enteric fever are considerably increased if the patient is already suffering from other febrile diseases. We are here describing our observations on 34 patients with typhoid fever, because 10 of them also had benign tertian malaria. In two others the onset of malaria preceded that of typhoid fever by 17 days. Other conditions, such as sinusitis, recent T.A.B. vaccination, and suspected hepatic amoebiasis, caused confusion; while in two cases the question of kala-azar was raised.

The majority of our patients admitted to a Middle East hospital during the autumn of 1944 were involved in two small epidemics (see Table I). The first eight to arrive, all of whom suffered from a similar febrile illness, came from an Italian prisoner-of-war camp hospital. Benign tertian parasites had been found in the blood of two of them. All had received antimalaria treatment, but none had responded. The death of one of them from perforation of the small bowel finally revealed the true state of affairs. Investigations failed to show the source of this epidemic. Sixteen British patients from one mess in a malarious site were infected by a typhoid carrier—a native employed in the mess kitchen.

Table I.—*Distribution of Cases before Admission*

An Italian P.o.W. camp	14 (2 with concurrent B.T. malaria)
A static British unit	16 (8 " " " " ")
A British unit in transit ..	3 (No malaria)
Sudanese ghaffir	1 (" ")

Most of the recognized clinical manifestations of an enteric fever were present at some time, and they are classified in Table II. We propose to discuss only a few of them.

Table II.—*Chief Clinical Manifestations*

	Typhoid Fever (24 patients)	Typhoid with Concurrent B.T. Malaria	Total
Infections:			
Benign tertian malaria (concurrent only)	—	10	10
Miscellaneous:			
Typhoid stupor, severe	5	1	6 } 12
" " mild	4	2	6 }
" exanthem	3	1	4
Circulatory:			
Bradycardia	14	3	17
Dicrotic pulse	6	6	12
Alimentary:			
Intestinal haemorrhage	3	0	3 (all died)
Perforation of typhoid ulcer ..	1	0	1 (died)
Meteorism, severe	2	1	3 } 13
" moderate	8	2	10 }
Enlarged liver	8	1	9
" spleen	10	5	15
Respiratory:			
Tonsillitis	5	0	5
Sinusitis and pharyngitis ..	2	3	5
Bronchitis	4	3	7
Bronchopneumonia	2	0	2 (terminal)
Pleural effusion	1	0	1
Urinary:			
Albuminuria (temporary) ..	4	2	6
Typhoid pyelonephritis	1	0	1

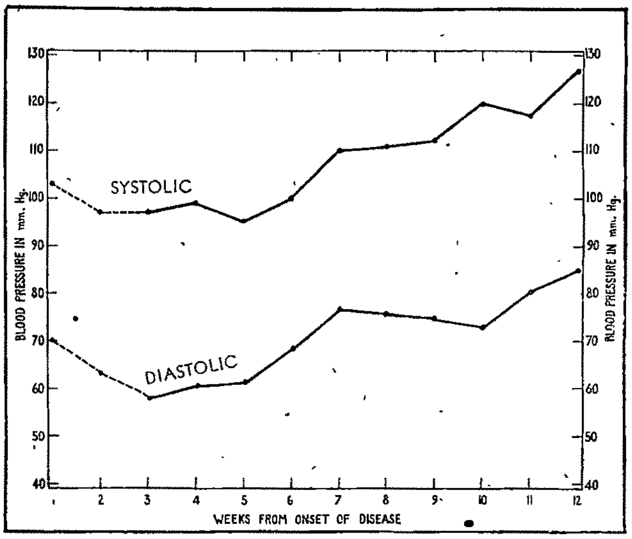
Clinical Manifestations

Fever.—Only on two occasions did the temperature charts suggest double infection—showing alternating hectic and remittent fever for the first four days. The other eight patients with both infections had an irregular remittent fever at the onset which became intermittent during a prolonged lysis (see Table III). Only one had a relapse (not malaria), whereas eight patients suffering from typhoid fever alone had relapses—which on three occasions exceeded the initial attack in length and severity.

Table III.—*Severity of Typhoid Fever in Relation to Concurrent B.T. Malaria*

	Severity					Fever	
	Mild	Moderate	Severe	Deaths	Total	Relapses of Fever	Average Duration Initial Fever (Days)
Typhoid fever only	12	6	3	3	24	8	22
Typhoid, with B.T. malaria concurrent	4	3	3	—	10	1 (Not malaria)	29
Total ..	16	9	6	3	34	9	24
No T.A.B. ..	—	—	—	1	1	1	—
T.A.B. vaccination incomplete	3	2	—	1	6	1	27

Circulatory System.—Relative bradycardia was present in 17 cases, only three of which had malaria. The pulse rates increased towards the end of prolonged fever and during relapses, and were unstable during convalescence. Twelve patients had a dicrotic radial pulse during the first weeks of illness. Blood pressures were always low during the first five weeks, returning to normal about the tenth week. The weekly average blood pressures of seven severe cases observed over a long period are shown in the accompanying Graph.



The weekly average blood pressure in 7 severe typhoid cases. There was no significant difference between the B.P. in typhoid alone (3 cases) and concurrent typhoid and B.T. malaria (4 cases). The averages were compiled from readings taken every third day.

Although apparently unrelated to fever, relapses, pulse rate, dicrotic pulsation, or concurrent B.T. malaria, blood-pressure readings proved useful as indices of the general condition and as guides during convalescence.

Respiratory System.—Nasopharyngitis and tonsillitis were common during the first three weeks. Two malarial patients were found to have frontal and maxillary sinusitis respectively. Typhoid fever—the third concurrent febrile disease—was recognized only when they failed to respond to treatment for the other two diseases. Subacute bronchitis occurred after the fourth week—sometimes as an exacerbation of chronic bronchitis. One patient developed a small pleural effusion associated with a relapse of fever.

Exanthem.—Only four patients had a recognizable enteric rash, but one or two doubtful maculae were seen on seven others.

Spleen.—Enlargement of the spleen was noticed on 15 occasions (44%). The incidence in doubly infected patients was 50%, and in patients with typhoid fever alone 42%. The sera of two non-malarial patients whose spleens were considerably enlarged reacted positively to Chopra's antimony test and to Napier's aldehyde test. No leishmania were found in smears from sternal bone-marrow (both cases) or the spleen (one case post mortem).

Liver.—The livers of nine patients were found to be slightly or moderately enlarged during the first five weeks of illness. Only one of these patients had both infections.

Fatal Cases.—Essential facts about the three patients who died are shown in Table IV. None of them were British. Not one of the doubly infected patients died, although they were febrile for a longer period than the average (see Table III). The warnings of Bhatnagar (1944) concerning the dangers of delayed diagnosis, lack of rest, and the administration of anti-pyretic drugs in typhoid fever are exemplified in the deaths of two Italian patients.

T.A.B. Vaccination.—One patient who died (Table III; Table IV, Case 3) received a full quota of T.A.B. vaccinations. A second was partially protected; the third had had no T.A.B. vaccine. Table III shows the relation between the severity of the attacks of typhoid and T.A.B. vaccination state. The data do not provide sufficient grounds for any conclusions. Four British patients were admitted within three days of T.A.B. vaccination apparently suffering from severe reactions. *B. typhosus* was cultured from the blood taken on the second, third, third, and eleventh days respectively after administration of the vaccine. Apparently these were the only four patients who received the new alcoholized vaccine.

TABLE IV.—*Deaths*

Case	Age	T.A.B. Protection	Day of Death After Onset	Outline of Course of Disease	Necropsy
1	34	Incomplete (0·5 c.cm.) 1 month before admission	14	Gradual onset with diarrhoea. Treated for this and for malaria in camp. 11th day: small haemorrhage. 12th day: meteorism, abdominal pain and rigidity	Many typhoid ulcers in ileum. One ulcer had perforated—purulent peritonitis
2	28	No protection	23	Temperature normal by 6th day; relapse fever, 8th day; 2nd blood culture positive 12th day; intestinal haemorrhage 21st day. Napier's and Chopra's tests positive	Spleen showed typical typhoid changes. No Leishman-Donovan bodies seen
3	34	Full quota T.A.B.	45	Persistent high fever. 3rd week: meteorism. 20th day: haemorrhage followed by remission and improvement. Finally died in typhoid stupor	Many typhoid ulcers in ileum. Broncho-pneumonia

Diagnosis

In 28 out of 34 cases *B. typhosus* was cultured from the blood —taken as early as the second or as late as the 24th day of the initial fever. Here we should mention that it is not always possible to decide with accuracy the date of onset of typhoid fever, especially in cases with mixed infection. Apparently, recent or simultaneous administration of quinine, mepacrine, or pamaquin does not reduce the chances of obtaining a positive culture. The first blood culture was positive in 26 out of 28 cases. In the remaining two *B. typhosus* was cultured from the blood at the second and the third attempt respectively. Positive cultures of urine (1) and faeces (1) established the diagnosis in two other cases, whereas another was diagnosed post mortem the day after admission.

A diagnosis of typhoid fever was eventually made on three occasions in spite of repeatedly negative cultures of blood, urine, and faeces. These three patients, of whom two also had malaria, were the first arrivals from a British unit.

We attached little importance to the leucocyte counts, as the results were usually compatible with the diagnosis of either of the two prevalent diseases. "O" and "Vi" agglutination tests were not carried out systematically. No conclusions can be drawn from our incomplete results, which are therefore omitted.

Discussion

Medical officers still too often fail to consider the possibility of a double infection during the first week of illness. We have found that patients with uncomplicated B.T. malaria always improved on quinine. Tests of the urine of some of our patients with Tanret's reagent showed that quinine was being absorbed.

Our initial examination seldom revealed any signs suggestive of an enteric infection. Temperature charts gave us little help. The pulse rates of doubly infected patients were as a rule proportionally accelerated.

A typhoid rash was observed on only four occasions during the second week of disease. The finding of splenic enlargement was no help to diagnosis. So far we have not observed the blood-pressure changes during the last two weeks often enough to enable us to judge whether they are constant or specific.

Evidently the only two *early* distinctive signs of an enteric fever—progressive stadium incrementi and relative bradycardia—may both be absent, especially in patients simultaneously afflicted by some other febrile disease, such as B.T. malaria.

The value of taking blood for culture is diminished if it is postponed until the full enteric syndrome has developed.

Summary and Conclusions

We have recorded observations on 34 patients suffering from typhoid fever, three of whom died.

The early clinical diagnosis was hindered on 12 occasions by the simultaneous presence of or immediate recovery from B.T. malaria. None of those suffering from malaria died.

Blood pressures were low during the first five weeks and did not reach normal levels until the tenth week.

B. typhosus was cultured from the blood in 28 out of 34 patients.

Blood cultures should be carried out early and repeatedly while the cause of fever remains unknown.

Blood cultures should always be carried out when there is a relapse of fever, whatever the initial condition.

We wish to express our gratitude to Col. A. C. MacDonald, *M.C., T.D.*, our late commanding officer, for permission to publish these cases; and to Lieut.-Col. J. Gibson-Graham, officer in charge of the Medical Division, for his advice and help.

REFERENCE

Bhatnagar, S. S. (1944). *British Medical Journal*, 1, 417.

Medical Memoranda

Neurological Complications in Cerebrospinal Meningitis treated with Penicillin

The following case, in which neurological complications arose after treatment with penicillin, may be thought of interest.

CASE HISTORY

On June 30 the patient, a boy aged 12, was "off colour"; he had no definite complaints and was not confined to bed. Next day he complained of headache and stiffness of the neck; his face was flushed. His parents thought it was a chill or influenza, and, it being Sunday, did not call for medical aid. The family doctor was called early in the morning of July 2 and found the boy unconscious but extremely restless, with flushed face, increased pulse and temperature, and neck rigidity. The patient was removed to hospital in an unconscious state. Lumbar puncture was performed; the fluid was very turbid and under pressure. The laboratory report was as follows: Cells, 45,000 per c.mm.; protein, 350 mg./100 c.cm.; chloride, 630 mg./100 c.cm. Gram film: polymorphs +++; Gram-negative intracellular diplococci. Meningococci were isolated on culture.

The patient was put on sulphapyridine treatment on July 2 and 3 (8 g. in 24 hours), but he continued unconscious and was extremely restless. The temperature remained in the region of 103° F. and the neck rigidity was more pronounced, almost amounting to opisthotonos. Strabismus with unequal pupils and a left facial paresis developed; knee-jerks were exaggerated and the plantar reflexes were flexor. There was incontinence of urine and faeces. Apparently he was not responding to sulphapyridine treatment, so penicillin was substituted on the evening of July 3. The first injection of 18,000 units was given intrathecally; the cerebrospinal fluid had now become very purulent and thick, and was withdrawn with difficulty. Subsequent injections of 18,000 units were given intramuscularly every 3 hours. The patient was still unconscious, and became extremely restless after the intrathecal injections.

July 4.—Lumbar puncture; fluid less purulent but still under pressure. Laboratory report: Cells, 3,000 per c.mm. Gram film: cells, polymorphs; no organisms seen. Culture, sterile. Penicillin 18,000 units was given 3-hourly, once intrathecally. The treatment was continued 3-hourly for 5 days, three injections being given intrathecally, the remainder intramuscularly.

July 5.—The patient regained consciousness and became quieter. The neck rigidity persisted, but the temperature had dropped to 99.4° F.

July 6.—Temperature normal; patient able to talk rationally and take nourishment. The strabismus and inequality of pupils disappeared and the facial paresis cleared up.

July 8.—The patient received the last injection of penicillin at 4 p.m., and by 8 p.m. he developed a marked oedema of the anterior aspect of the neck, extending from the root of the neck to the thyroid cartilage. The temperature had risen to 99.2° F. The neck rigidity was still present, but was much less marked. Sulphadiazine 1 g. was given 4-hourly, and by the next morning the oedema had subsided.

July 9–15.—The patient steadily improved; the neck rigidity became gradually less severe and the temperature was normal, but on July 10 a flaccid paresis of the left arm developed, affecting the trapezius, deltoid, biceps and triceps, and forearm muscles, with a wrist-drop. The muscles were painful to touch or on movement. The arm was abducted, placed on a pillow, and an electric pad applied. From July 10 to 15 the condition improved and function returned to the trapezius, forearm muscles, and extensors of the wrist; the deltoid and biceps remained paralysed. During the evening of the 15th the patient suddenly cried out, and it was discovered that he had lost the power of speech. There was a right facial paresis; the pupils reacted to light and accommodation; the tongue deviated to the right side; and a spastic paresis had developed in the right leg, with exaggerated knee-jerks, sustained ankle clonus, and a doubtful extensor plantar response. The temperature rose to 99.8° F.; pulse 104. Sulphadiazine 1 g. 4-hourly was given, but within 4 hours the temperature had dropped to normal, the power of speech was restored, and the right facial paresis and the spastic paresis of the right leg had disappeared. The flaccid paresis of the left upper arm remained. The exaggerated knee-jerks, extensor plantar, and ankle clonus had gone.

July 16–23.—General progress was maintained; temperature remained normal, full movement of the neck was obtained, and the only remaining paresis was in the deltoid and biceps of the right arm. He was discharged home on July 23.

The patient was seen on July 31 by the orthopaedic surgeon, who recommended massage and electrical treatment, and suggested that the prognosis for full recovery was very good.

After three months' massage and electrical treatment the deltoid and biceps muscles fully recovered. He has been discharged from the orthopaedic hospital and is completely well, and there is now no evidence of any neurological lesion.

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Myxoedema induced by Thiouracil

The reported harmful effects of thiouracil have included various transient symptoms, granulocytopenia, and purpura and other rashes, but examples of gross depression of thyroid function are rare. In the following case clinically obvious myxoedema appeared after a total dosage of 39.8 grammes in 4 months.

CASE REPORT

About nine months after the birth of her first baby a woman aged 24 complained of being easily tired. Her hands were moist and tremulous and her eyes staring. A diffuse enlargement of the thyroid gland was present (neck circumference, 13¾ in.). Her weight, usually over 9 st., had fallen to 8 st. 2 lb. A clinical diagnosis of primary hyperthyroidism was made and she was given thiouracil 0.6 g. daily for one week and then 0.4 g. daily for two weeks. White cells at onset of treatment numbered 7,200 per c.mm. She left hospital after three weeks and continued on 0.2 g. daily for one month, feeling very much better. White cells, 10,800. She did not attend hospital during the next two months and obtained her treatment elsewhere. Dosage was 0.4 g. daily.

When next seen it was at once obvious that a striking change had occurred. Her face was puffy and she looked coarse and dull. Her voice was deep, and her hair was falling out. Her fingers were swollen so that her ring could not be removed. She complained of aching pains in the limbs and felt the cold greatly. Her weight had increased fairly suddenly by 1 st. and the neck circumference was 15 in. Menses remained unchanged at 4/28. The heart rate was around 50; B.M.R., − 20; plasma cholesterol, 330 mg. per 100 c.cm.; white cells, 8,500.

Cessation of thiouracil and administration of thyroideum siccum 1/2 grain twice a day brought her back to normal appearance and a feeling of well-being in about three weeks.

Chase Farm Hospital, Enfield.

C. ALLAN BIRCH, M.D.

Further regulations permitting certain persons not covered by the regulations made under the Nurses Act, 1943, to use a title including the word "nurse" have been made by the Minister of Health and the Secretary of State for Scotland. Persons who are 18 or over, and are gaining experience under trained nurses in a hospital or institution with a view to admission to the roll of assistant nurses as "intermediate" assistant nurses, may call themselves "probationer assistant nurses."

Reviews

METHODS OF APPROACH IN LIMB SURGERY

Extensile Exposure Applied to Limb Surgery. By Arnold K. Henry, M.D., M.Ch., F.R.C.S.I. (Pp. 180; illustrated. 30s. plus 7d. postage.) Edinburgh: E. and S. Livingstone. 1945.

Mr. Arnold K. Henry's publications on novel and ingenious methods of approach in surgery are well known, and owing to the sound anatomical principles upon which they are based they have been much utilized in the practice of the art; further, the originator's claims for them have not proved false. He has now collected and elaborated such of this material as applied to limb surgery in a book entitled *Extensile Exposure Applied to Limb Surgery,* a somewhat clumsy title, though it is difficult to see how the author could otherwise have indicated its scope. What "extensile exposure" means he reveals in the preface: "Exposure that will vie effectively with the 'great arsenal of chance' must be a match for every shift, and therefore have a range *extensile,* like the tongue of a chameleon to reach where it requires." This, then, indicates the nature of the contents of a book for which we have nothing but praise. Many of the exposures described are quite novel, and the anatomical and surgical reasons for their choice are made abundantly clear and further emphasized by a large number of excellent drawings. The reproduction of these upon art paper has allowed them to keep all their original quality, and puts the book into the high grade of medical publications which we come to associate with the name of E. and S. Livingstone, Ltd.

In the effort to make his points easy to understand and remember the author, professing his inability to share the artist's gift of recalling "the un-Euclidean visage of anatomy," has not disdained to use whatever crutch or simile or dodge has proved its worth, such as "satellites, loopholes, half sleeves, shoulder straps, cloaks, seams, leashes, bucket handles, lids, sandwiches, Vs, and manual mnemonics."

So far we agree, but it perhaps seems a little incongruous to find mixed up with all this copious quotations from the classics and philosophers, for the style of writing is what may be somewhat loosely described as "literary." One cannot fail to be impressed by the author's erudition, or by the aptness of his quotations; we certainly would not wish to criticize the style, but we may be allowed to comment. We recognize that there are differing schools of thought as to whether a scientific writing should aspire to literary merit, and come down heavily in favour of it, and Mr. Henry; but even so we cannot help wondering if the following footnote (there are others like it) does not savour rather too strongly of pedantry. "Recognise, recognize; mobilise, mobilize, etc. The *Oxford English Dictionary* is strong for 'z.' But Pater, who was 'Oxford,' allows the 's'—like Quiller-Couch of Oxford *and* Cambridge. I shall abide by Kent's uncompromising verdict (*King Lear,* Act II, Sc. 2)." If the surgeon faced with the necessity for extensilely exposing the femur is really concerned about the "whoreson zed! thou unnecessary letter," any zany can remind him with zest (the operation we hope being successfully completed meanwhile) that descriptive medicine would be seriously handicapped without its zygote, zymotic, ziphi, zygoma, to say nothing of the difficulties in his zoological studies before the student reaches his zenith. Even Mr. Henry's compositor could not entirely discard his font of "zeds," nor his most skilful artist, Miss Zita Stead, her name. But perhaps we are wrong; anyway this book is a notable contribution to surgical literature.

PATHOLOGY

Pathology. An Introduction to Medicine and Surgery. By J. Henry Dible, M.B., F.R.C.P., and Thomas B. Davie, M.D., F.R.C.P. Second edition. (Pp. 946; illustrated, including 8 plates in colour. 45s.) London: J. and A. Churchill. 1945.

The publication of a second edition of Dible and Davie so soon after the first is ample evidence of its popularity with medical undergraduates in this country. It provides a straightforward and clearly written account of the views of the majority of British pathologists. It is not overweighted with histological and cytological minutiae which have neither interest nor educational value for the clinical student. On the other hand, the correlation between changes in structure and clinical signs and symptoms is heavily stressed.

The chapters dealing with the acute infections are particularly instructive. The senior author's long experience as a microbiologist has obviously enabled him to strike a true balance between the bacteriological and immunological problems presented by these diseases and the structural changes they cause in the tissues. This broad treatment of infection in a textbook of pathology not only stimulates the student's interest but is of very considerable educational value.

The illustrations are well chosen, the diagrams are instructive, and the book is neither heavy nor cumbersome. It has obviously established itself as a reliable and well-planned standard textbook.

TWO BOOKLETS ON NUTRITION

Nutrition. By W. R. Aykroyd, M.D., Sc.D. Oxford Pamphlets on Indian Affairs, No. 21. (Pp. 32. 9d.) London: Oxford University Press.

Manual of Nutrition. By Rose Simmonds, S.R.N. (Pp. 90. 1s.) London: Cassell and Co. 1945.

Nutrition, by Dr. W. R. Aykroyd, is No. 21 of the Oxford Pamphlets on Indian Affairs. In it the author gives details of India's food production and the composition and defects of typical Indian diets. He points out that the diet of the mass of the population is grossly deficient in quality and usually in quantity, and that much of the ill-health and disease in the country can be attributed to malnutrition. The economic aspects of nutrition and the population problem are briefly discussed, and finally methods for improving the nutrition of the country are suggested. Malnutrition in India cannot be prevented by teaching the masses what to eat when it is not available. Developments and changes in agricultural production are needed to make the food supply satisfactory, and economic reform must ensure that all are able to buy an adequate diet. It is a pity that this booklet is printed on such poor-quality paper.

The little book by Miss Rose Simmonds, which was written at the request of the British Red Cross Society for the use of its members, may be described as nutrition in a nutshell. The treatment is essentially practical. After describing the different food elements, the author gives the composition of the common foods and their place in the diet. There are also chapters on suitable diets for infants, school-children, adolescents, sedentary and active workers, and expectant and nursing mothers. At the end of the book is a comprehensive table giving the composition and vitamin content of common foods. Useful information is also given on the best way to cook foods so that the vitamins are conserved as much as possible. The style is brief and to the point, and the book is free from technical jargon, so that it can be understood by the layman without previous knowledge of the subject. A useful handbook for the mother of a family.

A VIEW OF SEX

A Psychologist Looks at Sex. By Howard L. Philp, Ph.D. (Pp. 110. 8s. 6d.) London: Hutchinson's Scientific and Technical Publications.

In dealing with sex it is very difficult not to be either ribald or smug, and in published works on the subject there is practically always a tendency to smugness. The present book is no exception to this rule. The author starts with the premiss, to which most people will adhere, that the only satisfactory situation in which sex can be successfully practised and enjoyed is in monogamous marriage with the foundation of a family as its chief end. He then proceeds to bring evidence to support this premiss, but the reader cannot help feeling, if he is really detached, that the evidence is highly selective and that the whole tone of the argument is didactic rather than strictly scientific.

This is one of the few books which does not cloak its didactic nature by a pseudo-scientific discussion, with diagrams, of the anatomy and physiology of the sex organs, and this omission is certainly to be commended. The chapter on the influence of the personal attractions and repulsions of early childhood on the subsequent capacity of the individual for love is admirable, but the author's criticism of the work of Freud lacks depth of understanding.

As an exposition of the ideals to be aimed at in the love life of the normal individual this volume is excellent; but it is doubtful if there is really a sufficiently deep and sympathetic understanding of the difficulties which beset so many people in modern society, where economic and social factors make early and continuously happy marriage so very difficult.

Notes on Books

To assist doctors, nurses, and other persons looking after the health of displaced persons, U.N.R.R.A. has produced a comprehensive *Medical Manual.* The first part gives general information about U.N.R.R.A. and its health organization; the second deals with the health problems of displaced persons; and the third contains eight chapters on such special problems as nutrition, maternity and child welfare services, communicable diseases, immunization, and disinfestation. The *Manual* is available in the library of the B.M.A.

Accompanying the annual report of the British Council for 1944–5 comes an interesting booklet outlining the work of its Science Department, whose activities are directed by Mr. J. G. Crowther under the general advice of a committee of distinguished men, with Sir Henry Dale as its chairman. The Science Department has panels for medicine, engineering, and agriculture. A printed scheme of the organization shows that medicine has an impressive place in it, under the directorship of Dr. N. Howard Jones. The most familiar product of the department's activities is the *British Medical Bulletin,* the function of which is to record for the benefit of foreign readers surveys of current British medical literature.

An interesting picture of efforts to combat microbic infection in the U.S.S.R. during the war is given in *Microbiology and Epidemiology,* by various authors, translated from the Russian by Dr. H. P. Fox (London: Medical Publications Ltd.; 15s.). It is a volume in a series recounting the "Achievement of Soviet Medicine in the Patriotic War" and was published in the U.S.S.R. in 1943: its rather propagandist flavour was therefore designed originally for home consumption. The principal subjects dealt with are immunization against typhus, cholera, dysentery, and tetanus, the destruction of disease vectors, the use of bacteriophage in preventing or treating cholera and gas gangrene, and among chemotherapeutic agents "phytoncides," gramicidin, and penicillin. Like many papers in the *American Review of Soviet Medicine,* which has been a valuable source of information about medical progress in the U.S.S.R., the accounts given in these chapters are only of a general nature, with neither the technical details nor the statistical data on which to base any serious judgment. The prevailing note of optimism consequently awakes a rather subdued echo in the reader's mind, particularly in connexion with some of the newer and more peculiar forms of treatment advocated.

The Pioneer Health Centre has issued from 8K, Hyde Park Mansions, Marylebone Road, N.W.1, a pamphlet (price 1s.) bearing the title *Observations on the Population Question.* This is a memorandum presented to the Royal Commission on Population by Dr. INNES H. PEARSE, and the facts given and the opinions expressed have been drawn from studies of some 1,500 families that have passed through the Health Centre at Peckham. Part I leads to the conclusion: "No bigger mistake could, in our opinion, be made than to conclude that contraceptives are the predominating *cause* of the fall in the birth rate. Contraception is a method; the fall in the birth rate is the consequence of some deeper underlying factor." Then follows a discussion of methods for family limitation and conditions operating to limit the size of the family, and from this the general conclusion is drawn that the cause of a falling birth rate is a matter for direct experimental research by trained scientists searching for the natural social conditions which will promote parenthood.

The *Yorkshire Post* has described a plan put forward by the Medical Faculty of the General Infirmary at Leeds to provide, as a 1939–45 War Memorial, a model "health village," within easy access of the city, for general and surgical cases in need of long-term treatment. The proposal is to expand the original long-stay hospital idea into a country village scheme, with hostels for after-care, houses and flats for doctors and nurses and other staff, administrative offices, shops, schools, workshops, and market gardens, and other facilities for rehabilitation and vocational training; also a village hall, cinema, and theatre for entertainment, as well as a single general hospital for treatment. The Medical Faculty recommends provision for about 850 patients, adults and children—500 in the hospital and about 350 outside, which would mean a village population of between 2,000 and 3,000. The Yorkshire Regional Hospitals Council set up a subcommittee to investigate and discuss the problem, and the "health village" outlined is its suggestion for meeting the need in a country site reasonably near Leeds.

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CONTROL OF MALARIA IN THE TROPICS

The part that research is likely to play in the future in the development of our Colonies is very clearly brought out in the recently issued official pamphlet entitled *Colonial Research, 1944-45.* It includes the second annual report of the Colonial Research Committee, which, among other things, records the findings of the Colonial Medical Research Committee. This committee, constituted jointly by the Secretary of State and the Medical Research Council, with Sir Edward Mellanby as chairman, deals in its report with two points of outstanding importance relating to malaria. These are the extent to which the new insecticide D.D.T., of which field trials have recently been made under the direction of the committee in British Guiana, is likely to influence malaria control, and the question how far the development of new synthetic drugs should affect the policy of cinchona cultivation in the Colonies. It is pointed out that, while D.D.T. will undoubtedly provide a very powerful weapon against malaria, it is not likely that the promise shown by it or any other like substance will as yet justify relaxation of orthodox and tested antimalarial measures, though a careful review of these should be made. This conservative estimate of the part likely to be played by D.D.T. is apposite at the present time, when lack of knowledge of the intricate and varied nature of malaria control may give rise to exaggerated ideas of what can be immediately accomplished. What changes this new and remarkable insecticide may bring about can in fact be left to those who have already done so much to develop methods of control.

The second of the points referred to brings to the fore important matters of policy, and a difficult decision has to be made. What should be done about cinchona cultivation? The reason for growing it at all at present is that in spite of the proved efficacy of atebrin, and now of the new compound paludrine, quinine may still have a place in the treatment of malaria and still be the safest drug for general employment without medical supervision. That atebrin could replace quinine even for the second purpose is not so debatable as was at one time thought, for experience has tended to lessen the likelihood of untoward effects from it. But it is still possible that Governments and sanitary authorities may wish to be on the safe side and so prefer quinine for general distribution. There is even more at issue than this, for a quite different policy is required depending upon whether the cultivation of high-grade cinchona varieties most adapted for the manufacture of the pure alkaloid quinine is to be encouraged, or that of quite other varieties if the view is accepted that what is mainly required is not pure quinine but some form of cheap product containing the total alkaloids of cinchona. In the latter case it is usual to elect for some minimal percentage of quinine itself, and this may not be easy to conform to if the low-grade quinine-yielding cinchonas are too exclusively cultivated. Again, how far is the view correct that what is wanted is above all a cheap product? Preparations of the total alkaloids can scarcely but be looked upon as an inferior article even by the poor, and it might be wiser for this and other reasons to elect for the pure drug with the cheapest possible production. It would seem, therefore, in view of so much uncertainty, that the committee has been wise to recommend a scheme of research and development in relation to the growing of cinchona in the Colonial Empire based on East Africa. In this way it is hoped to work out what the proper production policy should be.

The right policy for malaria control is also discussed in the report of the fifteenth annual meeting of the Ross Institute Industrial Advisory Committee. Dr. George Macdonald, the Director of the Institute, refers in this to the remarkable scheme carried out lately by the Yellow Fever Control Service for eradicating *Anopheles gambiae* in Brazil. It was started in 1939 and was based on the principles used in the control of yellow fever. By September, 1940, nineteen months later, this dangerous mosquito, which had invaded the New World from Africa, had been wiped out of Brazil—well worth the two million dollars spent on the project. A similar campaign has now been started in Egypt over 300 miles or more of the Nile Valley, and Dr. Macdonald foresees similar operations in Mauritius, the Seychelles, and other places where conditions are favourable. He appreciates the many valuable applications of D.D.T., but points out that it will not be a panacea—the greatest difficulty in mosquito control is the maintenance of adequate supervision.

Still another important contribution bearing upon research into malaria and its control, this time in India, appears in the section recording the work of the Malaria Institute of India in the report for 1944 of the Scientific Advisory Board, Indian Research Fund Association. The headquarters of the Malaria Institute are at Delhi, but its activities extend throughout India, and it advises upon, initiates, and carries out malaria survey, research, and control, and at the same time acts as a training centre and teaching school. It publishes its own journal—one of the few wholly concerned with malaria—has its own complete reference library and collections, issues technical bulletins on different aspects of malaria, and generally acts as a permanent centre for malaria work in India. During the war it has played an active part in providing and training officers and personnel for the large number of malaria units engaged in control work with the military authorities in India, Burma, and other countries in the Middle East. As the report notes, the carrying-on of its normal peacetime functions has been much curtailed, and research has been confined largely to that on insecticides, repellants, protection by impregnated clothing and netting, and other problems of immediate military importance. Among more normal peacetime items, however, is a reference to a critical statistical study of the present method of forecasting the occurrence of epidemics. These violent manifestations of malaria with their heavy mortality are a feature of

North-West India, and to be able to foretell their onset, and so enable early arrangements to be made for distribution of quinine and various forms of public assistance, is an important aspect of malaria control. The practical bearing of such research is a good example of the variety of ways in which the control of malaria must be tackled. It also serves to illustrate the need for specially trained workers in various branches of research. It will not be inappropriate in this connexion to turn back to the recommendations made by the Colonial Medical Research Committee; it points out that in regard to medical research in general the way is now clear for a rapid and systematic attack on the major medical problems of the Colonies. But it feels bound to point out that research cannot be prosecuted effectively in this field without a regular flow of skilled scientists, and expresses the hope that, to meet this need, energetic steps will be taken in co-operation with British universities. These remarks of the committee refer especially to the shortage of entomologists; but malaria control is far from being merely an entomological problem, and there is great need also for the trained medical observer —a fact which is sometimes apt to be overlooked.

EPIDEMIC RISKS IN EUROPE

Of the international quarantine diseases, yellow fever has been absent from Europe for very many years and cholera since 1925. There remain smallpox, plague, and typhus. The head of the Epidemics Control Branch of U.N.R.R.A., Dr. George Stuart, who was formerly with the Colonial Medical Service in Palestine, at a recent Press conference drew an epidemiological map of Europe, pointing out the main epidemic risks. Smallpox at present is to be found only in Italy; in Dr. Stuart's words, it has been "largely vaccinated out of Europe." Plague is to be found only in Malta, although so long as ports in the Suez Canal, West Africa, and Palestine remain plague-infected there is always a threat to the European coast of the Mediterranean. Typhus has been practically eliminated from the entire area lying west of a line drawn along the Elbe to the Adriatic. The black spots of residual infection east of the line are Slovakia, east and south, Hungary, in the north, Bosnia, Carpathian Russia, Poland, Rumania, Bessarabia, and Bukovina. Other countries affected to some extent are Bulgaria and Greece.

Of other epidemic diseases normally endemic in all countries Dr. Stuart mentioned diphtheria, the incidence of which is still high in France and Holland, and highest in Germany, particularly in Berlin. In Germany not only is the incidence abnormally high but there is an increased proportion of severe infections, together with a shift of the age groups affected from those under 15 to those over 15. Last year 30% of the deaths from diphtheria in Rostock in Germany were of persons over the age of 15. In a recent article in this *Journal*[1] Dr. Stuart, analysing the available figures, concluded that since 1941 the incidence of diphtheria in Northern and Central Europe has increased to an extent unparalleled since control of the disease became possible: it has become "the leading epidemic war disease on the European continent, both in morbidity and in mortality." The experience of England stands out in strong contrast to that of France, Germany, Belgium, the Netherlands, and Norway; in 1944 the diphtheria morbidity and mortality in England and Wales were the lowest ever recorded.

Scarlet fever is not now obtrusive; there is no change in type or gravity of the disease. Typhoid fever has greatly increased in the western countries of Europe and in Finland. There is a typhoid epidemic in Germany, where there was thirty times the normal incidence in September, and in Poland, where 46,800 cases were notified in the first nine months of the present year—a notification rate of about 1.3 to the 1,000 of population. The cause is the destruction of the water supplies and sewage disposal systems, together with inadequate nutrition in overcrowded and bombed areas. Dysentery is more prevalent than usual; this must be said of Great Britain as well as of Norway, Germany, and Austria. In Berlin and Vienna the case mortality is said to be 20%. Poliomyelitis was recently prevalent in Belgium and Bohemia, but there has been no extension to neighbouring countries; the incidence of cerebrospinal meningitis continues to decline. The last wave of influenza was in the winter of 1943–4: there has been no pandemic since the one which occurred at the end of the last war. Of endemic diseases the tuberculosis incidence has much increased in many Continental countries. It is especially high in Greece, Yugoslavia, and Italy. In Italy it has been found that from 2 to 4% of cases examined by mass miniature radiography need further investigation, as compared with something like 3 or 4 out of every 1,000 in England. Syphilis has shown a large increase in most countries—in Germany a twenty-fold increase. It is declared that control of venereal diseases has been set back nearly twenty years as a result of the war. Another endemic disease, malaria, is the leading cause of illness in a large part of the Mediterranean basin, and is of epidemic proportions in Greece.

Dr. Stuart concluded his survey by making three points. The situation in Europe to-day is not nearly so disastrous as it was at a comparable period after the war of 1914–18. No communicable disease at present has an incidence which constitutes a menace to international health. But the "hump" has not yet been passed, and it is impossible to forecast whether one or other communicable disease may not yet assume epidemic form during these winter months. Meanwhile U.N.R.R.A. is garrisoning devastated Europe with medical supplies. Up to the end of September this organization had shipped over 1,000 tons of medical and sanitary equipment and material, of a value of £4,387,000, to Albania, Czechoslovakia, Greece, Italy, Poland, and Yugoslavia, and to the U.N.R.R.A. camps. To combat epidemics in particular it included 100,000 doses of antiplague vaccine to Italy, 1,000 doses of antiplague serum, and 750 doses of antiplague vaccine flown to Belgrade in view of a threatened epidemic there, 400,000 sulphaguanidine tablets flown to Athens for use in a serious outbreak of dysentery, and 4,000 vials of an antimony compound to be employed against kala-azar in Yugoslavia. Under the new international sanitary conventions signed early in 1944 U.N.R.R.A. has temporarily assumed responsibility for exchange of epidemiological information, and for Europe this is centred in Dr. Stuart's branch of the Health Division in London. By arrangement with the International Health Office in Paris, the League of Nations, the various Governments, and the U.N.R.R.A. missions (staffs of doctors, nurses, and sanitary engineers in five countries, and medical liaison officers in four others) a constant stream of information is now coming in for analysis and being sent out again to Governments.

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[1] *British Medical Journal*, 1945, **2**, 613.

A LITTLE OF WHAT YOU FANCY

Some animals eat a limited range of foodstuffs; and it may well be supposed that they have an inherent preference for those specially suited to their constitutions. But rats are omnivorous, and experiments such as those of Gaunt, Irving, and Thomson[1] have shown that they may be induced to eat a diet so inadequate that a colony may come near to dying out in a few generations. Are rats that have a choice of food protected by an instinctive appreciation of nutritive values?

L. J. Harris and colleagues[2] at the Cambridge Nutrition Laboratory made a series of carefully controlled experiments on the relation of choice of food by rats to their requirements. Normal rats, given a choice between three jars of food, one of which supplied aneurin, ate about equal amounts of all three. But after a short time rats that had been depleted of vitamin B_1 ate the aneurin-containing food almost exclusively. However, rats depleted of vitamin A or D did not choose the food that would supply the vitamin they needed. Harris concluded that the rats were guided in their choice of food by the benefit felt shortly after eating aneurin, and that they had no instinct to lead them to eat foods the benefit of which would be perceptible only after some time. This conclusion is supported by Kon's experiment,[3] in which rats offered casein and sugar (or starch), separately, ate so little protein that they did not grow; whereas rats given casein and sugar mixed grew well. This interpretation of the choice made by rats puts it on a level with the refusal by human beings of foods "that do not agree with me." It is one stage beyond the consumption of stimulants for the sake of the immediate effects, despite a "hangover" within a period short enough for the *propter hoc* to be appreciated. Richter's experiments on the choice of food by rats with endocrine deficiencies admit of the same interpretation. After adrenalectomy rats consumed about fifteen times as much sodium chloride as before[4]; after parathyroidectomy rats consumed large amounts of calcium salts and avoided sodium phosphate.[5] After incomplete pancreatectomy[6] rats promptly increased their consumption of carbohydrate, protein, and vitamins of the B group. But after a variable period the consumption of fat was nearly trebled and that of carbohydrate reduced to under one-half, while that of protein was increased by about a half; the consumption of the B-group vitamins, with the exception of choline and nicotinic acid, was then about twice the pre-operative level. After operation the rats were lethargic, but when they began to eat large amounts of fat they became active again, and they no longer passed large quantities of urine or drank corresponding amounts of water. Owing to possible errors of technique, Richter and his colleagues did not consider that the change of appetite for B-group vitamins was more than suggestive. But this increased appetite is in agreement with experiments in which depancreatized dogs required more insulin when these vitamins were withdrawn from their diet.[7]

A comparable adjustment of diet to requirements was noted by Higgins.[8] Young rats being treated with promin (promanide), used in the experimental therapy of tuberculosis, developed a craving for aneurin, riboflavin, and pyridoxine. An increased intake of these vitamins was found to counteract the toxic effects of promin. It may be supposed that in all these experiments the rats learnt from experience. The benefits of a high-fat diet after pancreatectomy are less obvious than those of high-salt and high-calcium diets after adrenalectomy and parathyroidectomy, and the rats, in consequence, took longer to adapt their diets. There remain, however, the experiments quoted by Richter[9] in which rats given a choice of nearly pure foods grew as well on their own choice of food as on McCollum's diet, although they ate 15 to 40% less. This recalls the experiments of Davis,[10] showing that babies, judged by their health and development, made a highly satisfactory choice from a wide range of foodstuffs; one baby with rickets chose cod-liver oil until the rickets was healed.

Whether based on instinct or experience, the selections made by the rats were sound. Patients with Addison's disease crave for sodium chloride—like adrenalectomized rats. In human nutrition practice has been so far ahead of theory, until recent times, that we may wonder whether we should not pay greater attention to personal choice of food. The almost universal desire for meat may be evidence that meat has some nutritive value that we do not as yet appreciate. But in human choice the mouth is so much more important than the metabolism; human beings are so influenced by habits, prejudice, and wrong theories that these preferences must be viewed with suspicion. The Oriental's preference for polished rice—and beriberi—is a case in point. Even if preferences are sound they can but point to a possible goal. For the present most of us must eat what we can get, not what we would like.

AFTER-CARE OF HEAD INJURY CASES

The Nuffield Provincial Hospitals Trust, the Ministry of Pensions, and the Radcliffe Infirmary, Oxford, have had under consideration for 18 months the devising of a scheme for the after-treatment of head injury cases. The interest of the Nuffield Trust and the Radcliffe Infirmary in this question derives from the work done at the Military Hospital for Head Injuries at St. Hugh's, Oxford. The interest of the Ministry of Pensions flows from its responsibility for the treatment of disability arising from the war, and includes cases of head injury treated at special centres of the Emergency Hospital Scheme and in military hospitals. As a result of modern neurosurgery and chemotherapy, men with brain wounds have survived who formerly would have died. Many have regained much of their lost brain function; speech, sight, and mental faculties have returned, paralysed limbs have moved again. But recovery is often incomplete, and sometimes the permanent damage is severe. Inability to cope with the conditions of civilian life, coupled with the fear of being a drag on their families, causes such men anxiety, disappointment, and frustration. If they are to make their contribution to the community within the limitations imposed upon them their physical, mental, and vocational capacities for work must be assessed while they are in hospital. Later they must have simple training in various forms of work, more advanced and more satisfying than occupational therapy alone can afford. The gravely disabled must be given a permanent centre in and around which they can live with their families under the protection they need.

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[1] *J. Hyg.*, Camb., 1939, **39**, 91.
[2] *Proc. roy. Soc.*, B, 1933, **113**, 161.
[3] *Biochem. J.*, 1931, **35**, 473.
[4] *Amer. J. Physiol.*, 1936, **115**, 155.
[5] *Amer. J. med. Sci.*, 1939, **198**, 9.
[6] *Johns Hopk. Hosp. Bull.*, 1945, **76**, 192.
[7] *Endocrinol.*, 1945, **36**, 227.
[8] *Amer. J. med. Sci.*, 1944, **207**, 239.
[9] *Psychosomat Med*, 1941, **3**, 105.
[10] *Amer. J. Dis. Child*, 1928, **36**, 651.

The following steps are now being taken to cope with this problem. In addition to the routine treatment provided by the Ministry of Pensions, there is need for research into the best methods of rehabilitation, and into other problems of head injuries. To carry out this research the Radcliffe Infirmary has, with the aid of £20,000 from the Nuffield Trust, appointed a neurologist, Dr. W. Ritchie Russell, who will work in close touch with the departments of Oxford University which are already studying lesions of the nervous system. One of his primary duties is to give special assistance and advice to the Ministry, so that the latest methods of treatment may be made available for pensioners.

TUBERCULOSIS IN WALES

Already the chief medical officer of the Welsh National Memorial Association is contemplating a resumed decline in the death rate from tuberculosis. During 1944 Wales was probably the only country in Europe able to report a substantial fall between the years 1938 and 1944, from 812 deaths per million to 715. A large part of this tactical success in the campaign against tuberculosis must be due to Dr. Norman Tattersall's Association, and his annual report this year is, as always, a welcome exception to the dullness of the average unimaginative summary of local authority work.

We are not surprised to hear that the supply of nurses is the main preoccupation, and the tragedy of 328 beds unoccupied through shortage of staff, compared with 777 patients awaiting admission, must be paralleled in other areas besides Wales. The tuberculosis officers are not any less overworked. New work connected with silicosis and disabled persons, the care of Norwegian seamen and the examination of wartime nursery staffs, are fresh responsibilities added to their normal dispensary work, which goes on, however, with unabated fervour, since over 3,000 more cases were examined at the clinics than in the previous year, while *x*-ray examinations have gone up 25%. New buildings are required—a large hospital near Swansea and up-to-date clinic premises elsewhere. The unification of the Welsh counties in this admirable tuberculosis scheme shows how the needs of a whole area can be planned without disproportionate regard for the natural but inconvenient loyalties of local areas. The Welsh Tuberculosis Scheme is indeed a model which should be studied widely by English counties and county boroughs. The directors of the scheme have naturally been concerned with organization in the future, but their pronouncements are guarded. Probably there will be less need for radical change in Wales than elsewhere, since the principle of unity has been accepted. One would think that this way of regarding the tuberculosis problem as a whole, with preventive and curative methods carried out by the same officers, was its own justification.

Over 60,000 persons have been covered by mass miniature radiography, with the usual 1% of persons with definite pulmonary tuberculosis, or some other chest condition requiring observation. The Welsh National Memorial Association congratulates itself with reason on the mobility of its *x*-ray apparatus, which can apparently examine patients on the side of a mountain with as much speed and convenience as in a mining village. The education of patients in sanatoria is a newly developed feature, and Prof. Davies has been appointed in an advisory capacity to superintend correspondence and study courses. Even in illness Welshmen do not give up their intellectual ambitions. Speaking of thoracic surgery, Dr. Tattersall emphasizes the need for a surgical team in constant practice, and shows that all forms of chest disease can and should be dealt with by the one unit. The scheme in Wales costs about half a million pounds a year, and a thoughtful reader of this report will feel that the public authorities and the community receive value. The presentation of the report itself is a model of the way in which medical schemes should be explained to the public, whose co-operation, both financial and moral, is so essential to their success.

THE NEW QUEEN CHARLOTTE'S

The Queen recently paid a visit to Queen Charlotte's Maternity Hospital, which, its old Marylebone Road days forgotten, is now housed in splendid buildings at Ravenscourt Park in the west of London. Her Majesty inspected in particular the new nurses' home, which anticipates, so far as building and institutional arrangements can do so, the Ministry of Health code on nursing conditions.[1] The Bernhard Baron memorial staff home, which is ultimately to house 135 Queen Charlotte's nurses, is the most modern expression of the endeavour to ensure the comfort and health of the hospital nurse. It includes sitting-rooms, lounges, and a library as yet unfurnished. One innovation is six private rooms for pupils studying for examination or for nurses wishing to write letters or receive visitors, who may be of either sex. The teaching school, with its roomy class-rooms and its wards with dummy patients, is in the same building.

Every nurse has a separate bedroom, attractively furnished, and every sister a bed-sitting room and small dressing-room. Many of the bedrooms have french windows leading out on to balconies or a terrace roof. There is one bathroom for every four nurses. A sunny sick-bay with five windows is provided. The cafetaria-restaurant for the medical and nursing staff is equal to the dining-room of a good-class hotel, and beyond it are ample kitchens for staff and patients; these kitchens are equipped with all kinds of labour-saving devices, and have a system of ventilation so perfect that no smell of cooking penetrates beyond. The patients' food is served from electrically heated chromium-plated trolleys wheeled from the kitchens. The six acres of ground in which the hospital stands grow fruit and vegetables for staff and patients, while 170 hens provide two eggs a week for everyone.

The modern Queen Charlotte's, in which there are between 2,000 and 3,000 confinements a year, has now 135 beds and 123 cots open, its full complement being 200 beds and 175 cots. Its nursing force averages five to every four patients. The main patients' block has an unusual number of delivery suites and large tiled sluice-rooms. No ward has more than six beds, each bed surrounded with cubicle curtains on noiseless rings, and there are many one-bed and two-bed wards. A department for *x*-ray pelvimetry is established. Antenatal, postnatal, and infant clinics are in a separate building, and the oldest parts of the Ravenscourt Park hospital estate are the isolation block and the Baron research laboratories, in which much of the early work on the sulphonamides was done. The hospital and nurses' home, representing an outlay of over half a million, is mainly a wartime construction as yet incomplete, but in scale and provision it bears few marks of wartime stringency.

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[1] See *British Medical Journal*, Nov. 24, 1945, p. 733.

IMPRESSIONS OF SURGERY IN WEST AFRICA

BY

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It is common knowledge that the West Coast of Africa is no health resort, and on the journey to that land one wondered how these strange surroundings and the equatorial climate would affect the problems of surgery. In this article I have endeavoured to convey my general impressions of the work, and of its background. Siting a hospital in a jungle is no easy task at the best of times, and my efforts to describe as accurately as I can our situation and working conditions should not be interpreted as a veiled criticism of those who had to solve the insoluble.

The hospital to which I was posted was on the fringe of a very large native town just over 100 miles from the coast, in the heart of the thick coastal belt of tropical vegetation. In the early days the " bush " came close to the hospital buildings, and there were as yet extensive undrained swamps on three sides of us—swamps whose ramifications seemed endless and against which we waged ceaseless war. Both they and their air-borne progeny were more than equal to the struggle, and " though men might come and men might go," the mosquitoes went on for ever. Two years after the hospital had opened, a senior visiting medical officer remarked that he had never seen so many mosquitoes gathered together in one place as in the latrines in the officers' lines. These conditions combined to produce the high incidence rate of malaria among our personnel that one would expect.

The hospital was primarily, and at times exclusively, for European troops, so that the following account of the surgical work relates chiefly to Europeans.

During a period of 19 months the total number of cases passing through my hands was very small by comparison with that of surgeons in an active theatre of war, but covered a wide range of surgical problems in climatic conditions far different from those of Europe and North Africa. In my opinion the most important climatic difference was the hot, moist atmosphere which persisted for all but about six weeks in the year, and which favoured the growth of micro-organisms, and indeed of almost any form of life, vegetable or animal. While moulds invaded our books and white ants devoured the woodwork, the staphylococcus seemed to lose all sense of proportion and to spread with the invasiveness of its friend and ally, the haemolytic streptococcus.

There was one other general factor to which I would refer, and that was the ever-present subclinical malaria, which it is reasonable to suppose played some part in altering the normal course of other diseases, whether by flaring up into a full attack, by precipitating blackwater fever, or, in some more obscure way, by influencing the rate of recovery of general health. That this last point is not without scientific support is borne out by the observation that insomnia, general debility, and anaemia frequently remained intractable to any form of treatment other than antimalarial therapy. It was commonly accepted that there was a general falling off of health some time after the lapse of a year and that most Europeans were " run down " after eighteen months, that they became increasingly more susceptible to bacterial infections of all sorts, and that the morbidity rate in non-tropical as well as in tropical diseases was higher among the military personnel than among European civilians. My first feelings were that this was no place for major surgery if it could be avoided—an impression which received ample support from the local civilian European inhabitants, who, if they expressed a view, always seemed to bear this out.

I will now review under a few general headings my impressions of the cases which came under my care, with special emphasis on the differences rather than on the similarities of like problems in Europe. I would like again to emphasize that the patients were European British or Allied soldiers and some civilians, and that Africans are designated as such when mentioned, and to state that I have purposely avoided the mention of figures, which are too small to have any real statistical value.

Wounds

We soon discovered that the surgically inflicted wound, under aseptic conditions, could be expected to heal as cleanly as and even quicker than in a temperate climate. One's confidence mounted by stages, and as a result of increasing experience with relatively safe cases. I have no hesitation now in recommending an exploratory operation on the knee-joint in West Africa, provided full aseptic conditions are obtainable. None of the knee-joints that were operated on in the hospital to which I was posted showed any sign of post-operative infection thoughout my tour, and clean surgical operations such as for hernia ran a course exactly similar to cases at home. With regard to these latter, and to the abdominal cases, the only noteworthy difference was the absence of post-operative chest complications. This was especially noteworthy as it included some severe upper abdominal operations.

The general impression was that clean surgical wounds, such as I have described, did best if lightly dressed with gauze to allow the maximum evaporation of moisture from the skin surface, and it was our usual custom to fix the dressing at either end with strapping, and to avoid the use of wool and bandage or anything approaching an occlusive dressing.

We formed the impression that contaminated wounds could be expected to run a parallel course to those in Europe, but it should be emphasized that we had no penicillin and no sulphathiazole, and that, therefore, results could not be expected to compare with more recent ones. Heavily infected wounds, on the other hand, were a very different proposition indeed. Where it had been possible to treat a clean penetrating revolver bullet wound of the ankle-joint, with much shattering of bone, in a closed plaster cast with excellent results, we found all attempts to treat heavily infected wounds by occlusive methods a total failure. So far as my experience went Winnett Orr's or Trueta's methods were a total failure in the area of West Africa where I worked. Whether one used plaster-of-Paris, elastoplast, or any other improvised method, whether one changed the dressing frequently or at longer intervals, the result seemed to be always the same—the sepsis tended to be deeper, the pus more profuse, and the evidence of healing non-existent. This state of affairs set a nice problem in the treatment of septic compound fractures, which fortunately were few.

In the great majority of cases the predominant organism was the *Staphylococcus aureus*, which seemed, as I have already stated, to take on the invasive and septicaemic tendencies of the haemolytic streptococcus. A certain number of infected wounds and ulcers grew a mixture of organisms, but my impression was that in the great majority of cases the *Staphylococcus aureus* quickly overgrew the others.

In the absence of penicillin and sulphathiazole, we found the best local treatment of such wounds was immobilization, free drainage, and frequent hypertonic saline or eusol dressings. Most of these cases could be quickly brought under control by such methods, though I was completely defeated by a septic ulcer below the inner malleolus in an officer, which was still pouring pus after four months in spite of every resource at my disposal having been tried.

As the staphylococcus was the predominant organism we did not get, or expect to get, much success with oral sulphonamides or sulphapyridine, and we gave up using them in cases where the tendency for infection to spread had been arrested.

I did not see a case of gas gangrene or tetanus in either a European or an African.

Inflammatory Conditions

Mention has already been made of the tendency for staphylococcal infections of the skin to spread. The incidence of boils and carbuncles was high, especially in men towards the end of their tour, and the tendency for cellulitis to develop from what was originally a localized staphylococcal lesion was very marked. In my experience a streptococcus was rarely obtained by culture, though clinically one would have expected it frequently. The incidence of staphylococcal lesions in the deeper parts of the body seemed to me to be far greater than at home and on a par with those of the skin. Staphylococcal septicaemia, empyema thoracis, frontal sinusitis, and urethritis were noteworthy among them.

The case of frontal sinusitis, which occurred in a young airman, took a sinister course, starting quietly and ending in three months in death.

Staphylococcal urethritis was frequent and extremely intractable, and staphylococcal infections of the external genitalia, on one occasion associated with superficial gangrene, were not uncommon. It seemed to me that there was an abnormally high incidence of perianal suppuration such as ischio-rectal abscess and fistula formation. I did not have a case of intramuscular abscess of unknown origin in a European, so often seen in the African. Infections of the hand were common, but I had a case in an African of tenosynovitis of the finger due to monilia in pure culture, which is described, but is, I believe, extremely rare. Chronic suppurative conditions did badly in West Africa, and in fact any chronic inflammatory lesion tended to get worse, and attempts to heal such cases there frequently failed.

Tropical ulcer without the characteristic spirochaete may not be the genuine article, but I can only say that a large ulcer, occurring almost always below knee level, and following slight trauma, occurred frequently among British troops, and never once did we find the characteristic organism described in textbooks. The ulcer formed rapidly, after the breakdown of a local patch of cellulitis with intense but localized engorgement of vessels, and took months to heal. The organism we found in almost every case was the *Staphylococcus aureus*. Had we at that time had penicillin powder available I think we could have cured the cases in a matter of days. We tried everything from closed plaster-of-Paris casts to fresh air in the air-conditioned room, to shorten the period in hospital. Some surgeons had successes in African cases by skin grafting, but I must admit that my skin grafts suffered the fate of all lesions under a thick dressing, for they were floated off in a sea of pus. It may well be that my technique was at fault, and that 48-hour dressings would have saved them. At all events, what had sufficed for success in Europe I found was a total failure in West Africa. Neither did I find insufflation with any sulphonamide preparation then available to be of the slightest use, as the powder formed a thick crust with the discharges, and suppuration went steadily ahead underneath. We found that the air-conditioned room, which was drier, cooler, and insect-proof, was probably the most efficacious treatment, and after that Capt. Henry Foster's method of directing a current of air at the lesion from an electric fan. Hypertonic saline dressings frequently applied came third, and at the bottom of the list a closed plaster cast or other form of occlusive dressing, than which nothing could have been worse.

Acute appendicitis occurred among Europeans in about the same proportion as in Europe, but I personally did not come across a genuine case in an African. Among my cases I noted two points: a relatively high proportion of gangrenous and perforated appendices, and a tendency for really acute appendicitis to be associated with diarrhoea. This latter symptom was not by any means invariably associated with pelvic peritonitis or pelvic abscess, and must either remain unexplained or be regarded as a freak observation. It is not unreasonable to suppose that, with the higher incidence rate of bacterial and parasitic diseases of the intestine in tropical countries, the appendix on becoming involved does not arrest the excessive peristalsis of the irritated large bowel.

Fractures

During my tour of service I was called upon to survey the case records of all our fractures, as it had been reported that there was a relatively high incidence of delayed union in certain hospitals on the Coast. Among the European patients I did not find any evidence of this, but it was noted that skiagrams of the bones of European British and Allied troops showed relatively denser calcification than was the case in Africans, and I think it is probable that hospitals treating African troops only might well have had a higher percentage of delayed union. On looking back, I think now that both British and African cases showed a smaller quantity of callus than one is accustomed to see some weeks after injury, which would suggest that there might have been some degree of vitamin C deficiency.

Closed fractures were treated in exactly the same way as in Europe—usually by immobilization in closed plaster-of-Paris after reduction, and with satisfactory results. In spite of the climate we treated three cases of fractured spine in complete hyperextension plasters, in which the occupants walked about freely and without showing signs of heat-stroke. We took the precaution of cutting a window over the abdomen with this in mind.

At this point it may well be asked why serious cases of all types, and those becoming chronic, were not sent back to England rather than retained in West Africa under adverse climatic conditions. The explanation is that the shipping situation was at that time so bad that it took weeks, and often months, before serious cases could be moved, as they had to travel in an escorted ship. The only policy that could be followed was to treat all cases on definitive lines, and to transfer to England the more urgent ones whenever possible.

Tropical Diseases

Among the Europeans I found surgical conditions due to tropical diseases extremely uncommon. I searched in vain for bilharzia of the bladder and for an amoebic abscess of the liver. Both these conditions were frequent enough in African troops, who also could often produce guinea-worms out of their legs, and occasionally loa-loa worms out of their conjunctivae, amidst great excitement and much hasty sterilization of ophthalmic instruments. Usually by the time we were ready the worm had passed on, and we had the forlorn pleasure of demonstrating to the excited onlookers where it had been five minutes before.

But about amoebic infections of the lower bowel I would emphasize, at the risk of being thought tedious, the following points: That we had numerous instances in which examination of the stools for *Entamoeba histolytica* had failed repeatedly and over a period of months, during which time the patient's health had steadily deteriorated, but that on passing a proctoscope typical amoebic ulceration was immediately seen, and a direct smear from an ulcer with a platinum loop revealed the organism in large numbers. In my experience of this disease, if ulceration does not come within the range of the proctoscope it is very unlikely to come within that of a sigmoidoscope, which probably means it is not there at all. Provided certain elementary rules are observed, the chances of an immediate and accurate diagnosis with this simple and safe instrument are extremely high. The rules are these:

(1) Don't give any form of treatment to the patient for 48 hours before examination, especially any rectal lavage.

(2) Don't use a proctoscope which has been dipped in any antiseptic, as the amoebae immediately "freeze up."

(3) Have the pathologist at your elbow when you take the specimen, so that it is immediately mounted in warm saline and examined without delay.

Rare Diseases

I saw three cases, all in Africans, which I think worthy of mention.

The first was a case I have already mentioned of a monilia infection of the tendon sheath of a finger in an African corporal. The history was of five days' pain, stiffness, and swelling in the finger, which had an old deformity due to a boxing injury five years before. Clinically the finger suggested a tendon-sheath infection, but of such mild degree that for 24 hours I was in some doubt as to the diagnosis. There was no sign of infection round the root of the nail or elsewhere on the hand, and no past history of infection. On incising the tendon sheath a pearly opalescent fluid came out, which was investigated bacteriologically and found to contain the fungus mentioned, in pure culture. Unlike bacterial sheath infections, there was a return to full function.

The second was in an African boy of 8 years, who had a massive osteoma growing from the horizontal and ascending ramus of his lower jaw, chiefly from the outer aspect. But it extended downwards into the neck and upwards inside the malar arch, displacing the latter outwards. There was a long history of gradually increasing deformity. Dr. Garrett, of the Colonial Medical Service, who was in charge of the case, asked me for my opinion as to treatment, and we decided that an attempt should be made to remove the bony mass after ligation of the external carotid artery. At operation I found I was unable to reach this vessel on account of the downward extension of the tumour, and was obliged to ligate the common carotid instead. The bony mass was then chiselled away piecemeal from the outer aspect of the mandible in a relatively bloodless field. There was no resultant hemiplegia following the ligature of the vessel, but the cosmetic result was to some extent spoilt by the distortion of the malar arch. The bony mass arose from practically the whole of the outer aspect of one side of the mandible and was a mixture of cancellous and ivory bone. There was no evidence of malignant change.

The third was that of a female child of 3 years, with a circumscribed mass in the abdomen about the size of a large grapefruit, which was shown to me by Dr. Northrop, of the American Baptist Mission Hospital at Ogbomosho. There was no clinical indication as to what this might be, and we decided to do a laparotomy. We found a circumscribed tumour of the size of a grapefruit in the substance of the liver, which appeared to have no metastases nor to be attached to any other structure, and which shelled out surprisingly easily. The child unfortunately died on the tenth day after operation. The tumour, which I reported on in more detail in the *Journal of the R.A.M.C.* of July, 1944, has been the subject of much discussion, but no definite opinion has been given as to its nature, though Major Janet Niven, R.A.M.C., expressed the view that it was probably a case of congenital cystic disease arising from bile-duct epithelium.

Some General Observations

Along the coastal belt of parts of West Africa there is stated to be a layer of vapour approximately 10,000 feet in depth, which to a large extent filters off the ultra-violet rays before they can reach the surface of the earth. Whatever the precise physical phenomena may be, it is certainly true that the skin tans unwillingly, and that many people who lead a comparatively open-air life look pale and washed out. I do not know to what extent this may affect the general health of Europeans, but assiduous sun-bathing does eventually produce tanning of the skin, and it seemed to me that latterly, when a greater proportion of men were sun-bathing fairly regularly, there was a rise in the general standard of health. But, as I have already said, other factors were also at work. It seems hardly possible in a land of green vegetation and many varieties of fruit that there could be serious vitamin A or C deficiencies, but the filtration of the sun's rays by vapour may have had some effect on man and vegetation alike. On this subject I feel I am on dangerous ground, but at all events the possibility of vitamin deficiency in tropical ulcer, gingivitis, prolonged sepsis, and broken-down wounds was not forgotten, and extra vitamins in big doses were given in many cases; but I confess that I never felt that this line of therapy appeared to affect the progress of the cases materially.

In regard to haemorrhage during operations, I think that there was rather more at times than one would expect in most cases in Europe, but I was never faced with uncontrollable bleeding in the course of any operation I performed.

Papillomata of the skin anywhere, but especially of the genitals, seemed to thrive in West Africa, and to seed themselves with alarming rapidity. I never saw one on the penis of a circumcised patient, and soon learned that circumcision was the only treatment holding out any prospect of cure.

Owing to the kindness of medical friends who were in charge of the civil population, I had opportunities of seeing many curious conditions in Africans and of operating on a number of them. I formed the opinion that the average African was less susceptible to surgical shock than a European, and that the degree of haemorrhage during an operation was comparable with that of a European in Europe.

Conclusion

I have written these impressions of surgery in West Africa from the point of view of a surgeon whose whole training and past experience have been in Europe, in the hope that they may have some general interest. My experience of the African is much more limited than that of many of my contemporaries on the Coast, but I had opportunities of treating a larger proportion of European British and Allied patients there than most surgeons, and on these I have largely based this article. As a result of ceaseless effort in many directions the unsatisfactory conditions in which we worked in the early days were, by the time I left, largely remedied, and the general health of our personnel had greatly improved.

I am deeply grateful to all my colleagues in the Army, in the Colonial Medical Service, and elsewhere for their friendship, their collaboration, and their generous hospitality.

MEDICAL SCIENCE IN RUSSIA

The following account of the work of the recent session of the Academy of Medical Sciences, U.S.S.R., has been sent to us from Moscow by Academician V. Parin, the general secretary.

Connecting Theory and Practice

The second session of the Academy of Medical Sciences, held in Moscow between Oct. 28 and Nov. 2, summed up results of the organizational period of the Academy and its institutes. The session outlined the tasks confronting the Academy in connexion with the new five-year plan that is now being drawn up: that in the field of public health services calls for complete restoration of all medical institutions wrecked in Nazi-ravaged districts and for further improvement of medical assistance in the service of the population of the U.S.S.R.

A characteristic feature of this session was the desire shown by all its participants to connect theory still more closely with practice. During the war medical men of the Soviet Union achieved outstanding successes in treatment of the wounded and in protecting the health of the population. These attainments were a result of the selfless work of medical personnel and of the introduction into practice of new or perfected medical preparations and methods of treatment.

Academician A. Bogomolotes and others who took part in the discussions spoke of the necessity for including certain long-term research problems in plans for research institutes which may serve as a base for important future medical discoveries. All the speakers mentioned the achievements of medical science in Europe and in the U.S.A., particularly the study of nutrition and dietetics in the latter country, and expressed great interest in foreign equipment and in the foreign scientific press. It was noted that institutes associated with the Academy had in the course of ten months carried out comprehensive research work giving highly satisfactory results. Methods for improving the efficacy of penicillin had been worked out in the Institute of Neurosurgery, under the direction of Academician N. Burdenko. An expedition from the Institute of Neurology, headed by Prof. Chumakov, had studied a hitherto unknown virus disease—Crimean haemorrhagic fever—and discovered methods for combating it. Interesting experiments had been made in the Institute of Haematology and Blood Transfusion. The importance was stressed of collaboration between representatives of various departments and institutes of the Academy.

A Five-year Plan for Research

Prospects for the development of the Academy of Medical Sciences during the five-year period 1946–50 were discussed in detail. The following are the chief scientific problems around which the work of research institutes and departments of the Academy is to centre in the immediate future: more efficient methods for combating infectious and parasite-borne diseases, cancer, and tuberculosis; study and elimination of traces left by the war on public and individual health; further improvement in maternity and child welfare measures; study of nutrition and dietetics and the reactivity of the human organism.

The session elected an additional number of new members and corresponding members of the Academy. Medical organizations of the country had nominated 65 candidates, whose scientific activities were thoroughly considered by special commissions formed in all departments of the Academy; 39 new members were elected into the Academy by secret ballot.

BRISTOL HOSPITALS PROVIDENT FUND

The Bristol Hospitals Provident Fund, through which persons of moderate means may obtain grants towards the cost of specialist fees, surgical operations, and hospital and nursing-home treatment, has now a total membership exceeding 58,000. It was recently decided, having regard to the increase in cost of hospital maintenance, that the rate of contribution to the fund should be raised from 3d. to 4d. a week. In 1944 over £25,000, or 40% of the fund's total distribution, was paid towards the cost of services rendered by the hospitals to the contributors and their dependants; of the remainder, 29% was on account of services to members of other contributory funds with which there are reciprocal agreements, and 31% was distributed in the form of grants for specified or unspecified purposes. The fund has made a number of agreements with municipal and county authorities under which contributors are exempt from inquiry into their means and payments are accepted by the authorities from the fund in full settlement. In 1944 it was agreed to abolish the income limits of £4, £5, and £6 a week according to family responsibilities in favour of the new National Health Insurance limit of £420 a year irrespective of number of dependants, on condition that the medical staffs of hospitals receive a percentage of contributory scheme grants for services rendered.

Reports of Societies

PROTEIN METABOLISM

A meeting of the Scottish Group of the Nutrition Society was held in the Rowett Institute, Aberdeen, on Oct. 20, under the chairmanship of Dr. D. P. CUTHBERTSON.

In opening the meeting Dr. Cuthbertson gave a historical survey of protein metabolism and emphasized certain points. He recalled that when animal proteins were short the dietary proteins might economically be supplemented by soya bean and similar foods. That being so, the old terms first- and second-class protein as applied to mixtures of food proteins became meaningless and should be discarded. The protein intake had been shown to be important in relation to resistance to disease. Protein depletion decreased the capacity to form antibodies, and this rapidly improved when high-quality protein was available. Physical trauma appeared to induce a phase of vigorous protein katabolism, which might be largely controlled by the addition of methionine to the diet.

Essential Amino-acids

Dr. C. P. STEWART (Edinburgh) said that by common consent the term "essential amino-acid" was restricted to those which an animal could not synthesize from ammonia or non-nitrogenous substances, though some restricted the term still further to those which the animal could not synthesize in sufficient quantity to promote normal growth. For the growing rat the ten essentials were threonine, valine, isoleucine, leucine, methionine, lysine, phenylalanine, arginine, histidine, and tryptophan. Requirements for maintenance of the adult animal might be different. In the case of adult rodents arginine could be dispensed with. In man certain experiments had thrown some doubt on the necessity for histidine. Under normal conditions there was some evidence that amino-acids not ordinarily needed in the diet, like cystine, might become indispensable. In certain cases, apparently, the natural amino-acid might be replaced by the corresponding keto- or hydroxy-acid, the N-acetyl or the N-formyl derivative.

Amino-acids were undoubtedly used for other purposes than the manufacture of proteins. Histidine would seem to be utilized as a precursor of purines and for the formation of histamine. Phenylalanine could give rise to adrenaline, thyroxine, and tyrosine, and possibly melanin. Methionine was concerned with the formation of creatine and of cysteine. Special functions had not yet been discovered for certain amino-acids. In general, lack of an essential amino-acid produced no definite specific symptoms such as were associated with the vitamin deficiencies.

Mr. H. D. GRIFFITH (Aberdeen) described the use of isotope tracers in the study of protein metabolism. Stable isotopes of hydrogen, carbon, nitrogen, and sulphur and radio-active forms of carbon, sulphur, and phosphorus were available. Radio-active isotopes could be followed in metabolic processes much more readily than stable isotopes. Nitrogen and carbon were particularly valuable in tracer research.

Modern Methods

Dr. J. N. DAVIDSON (Hampstead) discussed modern methods of studying protein metabolism. He pointed out that the most important advance of recent years had been the use of isotopes for following metabolic pathways. Nitrogen N^{15}, Sulphur^{31}, and Deuterium C^{13} had been used in this way. Heavy nitrogen, for example, could be introduced in the synthesis of amino-acids, and these labelled amino-acids could be traced in the tissues and in the excreta. Curiously enough only a fraction of the special nitrogen appeared in the urine as labelled urea, the rest being distributed throughout the body, even in such inert tissues as skin and tendon; and in the body the labelled nitrogen was found not only in the amino-acid fed to the animal but also in other amino-acids. From this it was inferred that the nitrogen of any amino-acid could be rapidly and easily transferred to others and that the tissue proteins were in a constant state of flux, forming a sort of general metabolic pool. If this was so, then the terms "exogenous" and "endogenous" metabolism ceased to have any precise meaning. By introducing both labelled nitrogen and carbon into an amino-acid more details could be obtained. Certain amino-acids could readily change the amino group, but their carbon chain was indispensable and could not be built up by the body. The behaviour of lysine was rather different, for both carbon chain and amino group were indispensable as a single unit. Since lysine did not take up nitrogen from other amino-acids it could be used as a means of labelling proteins, and this had been employed in the study of shock. By such methods useful information could also be obtained about the metabolism of methionine and nucleoproteins.

Dr. A. B. ANDERSON (Glasgow) discussed the therapeutic use of protein hydrolysates, and gave an account of his experience of their administration. He concluded that intravenous alimentation appeared to be of most value in cases of burns and in patients before and after operation. Hydrolysate therapy had no special advantage in starvation and in the gastro-enteritis of infants. Casein digests by mouth had the disadvantage of unpalatability, and for oral administration meat digests were preferable.

Medico-Legal

INSULIN AND THE MOTORIST

In an attempt to deal with the problem of the drunken and drug-addicted motorist, Parliament enacted in the Road Traffic Act, 1930, that it should be an offence for anyone to drive a car while under the influence of drink or drugs to such an extent as to be incapable of having proper control of the vehicle. The drugs in the contemplation of Parliament were obviously more or less identical with those controlled by the Dangerous Drugs Acts—chiefly morphine and cocaine—and it is highly doubtful whether any legislator who approved the passage of the Bill foresaw that one day a diabetic motorist would be charged with driving under the influence of insulin. This, however, happened earlier in the year at Bournemouth,* where the magistrates convicted a driver, fined him £2 and costs, and suspended his licence for a year. He had collided with a van and been found partially helpless and incoherent. There was no dispute that he was a diabetic and had had too much insulin and insufficient carbohydrate with his midday meal. His own story was that he depended on his car to carry out his duties; on the day of the accident he did not have his normal midday diet; during the afternoon he felt a tingling in his fingers and took a lump of sugar, and later he felt tired and decided to drive home; he thought he drove perfectly normally, but could not remember the accident. On his appeal to Quarter Sessions, his counsel advanced the ingenious argument that there was no proof of the unlawful influence of a drug. The motorist, he said, was right to take insulin to restore himself to normal health on medical advice, and he was under the influence, not of the drug, but of too little food. Medical men, however, gave evidence that insulin is a drug in the medical sense of the word, and the Recorder, Mr. H. D. Samuels, held that it was a drug within the meaning of the Act and that the motorist had been rightly convicted. On the other hand, as the appellant was entirely blameless in the matter and did not deserve to be punished, he dismissed the case under the Probation of Offenders Act and restored the licence, but left each side to pay its own costs. The decision is not binding on another court, and any bench of magistrates may still hold that insulin is not a drug for this purpose; but it is rather difficult to avoid the conclusion to which the Recorder of Bournemouth came.

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* *Bournemouth Daily Echo*, June 26.

Dr. W. Essex Wynter, consulting physician to Middlesex Hospital, who died on Jan. 4, bequeathed all his real estate at Newbury to Middlesex Hospital for use as a home for retired and pensioned sisters and nurses or convalescent sisters and nurses, and his household effects, etc., and also £7,500 upon trust for the upkeep thereof. A full account of the very ancient building within the curtilage of Bartholomew Manor which Dr. Wynter bought and restored was given in the *Journal* of Feb. 19, 1938.

Correspondence

The Operation for Varicose Veins

SIR,—I have read Mr. Harold Dodd's letter on the operation for varicose veins (Oct. 13, p. 510). May I be permitted to record a few of my own observations in regard to the treatment and operative procedure for varicose veins.

1. It is my opinion that in all cases where the valves of saphenous veins are proven to be incompetent and accompanied by multiple varicosities of the leg, ligation and excision is the operation of choice.

2. Inasmuch as the anatomy of the venous system is variable a thorough search should be made in the groin incision in order to ligate tributaries—e.g., superficial external pudendal, superficial epigastric, superficial circumflex iliac, and other nameless tributaries which may or may not be present. Two or three inches below the fossa ovalis the saphenous vein will often be seen to be joined by two or three large venous branches—e.g., the external femoral, middle and internal femoral tributaries of the great saphenous. At operations for recurrence of varicosities I have noted that these veins appear to be markedly dilated, due to the fact that they were not ligated and sectioned at the time of the original operation.

3. Prior to operation a series of tourniquets from the thigh to lower leg should be applied while the patient is lying down and his leg elevated in order to empty the venous system. The patient is then allowed to stand and walk and the tourniquets are removed starting from below upwards. Areas of incompetence due to the communication tributaries from the deep to the superficial system are discovered. These areas are then marked out with indian ink in order to facilitate the operative procedure.

4. Certainly the saphenous vein should always be ligated in the groin, but it is my opinion that many unsightly ankle scars can be avoided if ankle ligations are reserved for the very infrequent cases which would require this procedure. The secondary sites of ligature depend on the site of gross venous incompetence, as shown by the tourniquet test. There are several cases which require only a high saphenous ligation, but where there are "blow-outs," sites of gross incompetence, these must also be ligated and sectioned to obtain good results. De Takats (1933) claims that high saphenous ligation alone will result in a direct cure in 20% of the cases. High ligation followed by injection produces excellent results and diminishes the incidence of pulmonary emboli.

I have found that injection at the time of operation lengthens convalescence because of delayed healing at the operative site and pain in the extremity involved. I prefer to do a high saphenous ligation alone, or combined with multiple ligations depending on the individual case. Both ends of the saphenous should be doubly ligated and transfixed. The patient is allowed to go home on the day following operation. Six days later the sutures are removed and, if necessary, injections are started. For injection therapy it has been my practice to use 5% sodium morrhuate solution or a product called "sylnasol"—sodium psylliate in 2% benzyl alcohol. It has been our experience that patients treated by these methods have been able to return to work with a minimum loss of time and wages, with obvious advantages to themselves and their families.—I am, etc.,

New York. LÉON F. MULDAVIN.

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Treatment of Varicose Ulcers

SIR,—I had not been long in general practice before I realized how tedious it was to get chronic varicose ulcers to heal. It is interesting to review the various methods one has used in the past. My earliest recollections are those of seeing "elastoplast" used for varying lengths of time. The bandage was removed after, say, a week or ten days, sometimes perforce earlier, because of its sodden and always offensive condition, only to be replaced with a fresh bandage; and this went on for weeks on end. Healing took months. The next trial was that of "viscopaste" bandage and similar absorbent preparations, the idea being for the bandage material to absorb any discharge or eczematous matter. I found this type of bandage little or no advance on the last. Incidentally I well remember a case where I incorporated an ulcer in a plaster-of-Paris bandage (taking a tremendous risk) when treating a fracture, with perfect results on removal of the plaster.

My next efforts consisted in making an ointment of zinc oxide and white vaseline and covering the ulcer with strips of lint c̄ paste. I found that whereas this was soothing it did not promote healing or absorb the eczematous fluid, nor did the wound remain sweet. This led me to try another modification of zinc oxide with olive oil, with a touch of scarlet-red ointment. This gave better results for a few cases.

In an endeavour to improve on this preparation—for some skins were sensitive to scarlet red—I used cod-liver oil and sulphanilamide powder, occasionally (usually after trial) in combination with a little scarlet red. Healing with this preparation was quicker; the wound was clean; but I failed to dispose of or absorb the eczematous fluids. Repair still took weeks. This, then, led me to discard oily preparations, and for the past eighteen months I have been using pulv. lapis calamin. with gentian-violet powder and solution made into a mauve paste of the consistency of putty. This paste was spread on the ulcer with a knife in an endeavour literally to fill it and to level off at the edges. In a couple of hours this would dry and possibly crack in a few places. A simple dry dressing would be put over the paste to keep it in position. Patients were taught and instructed that when cracks appeared or where there was an oozing of sero-sanguineous fluid they were to apply a fresh layer of paste, allow to dry, and cover. This process of applying a fresh layer was repeated by the patient as often as cracks developed or matter oozed from the edges or little pieces of paste fell out.

In two or three weeks' time a hard, dry, mauve, wart-like crustation would form over the ulcer; and this was not removed. It would fall off in due course, leaving a healed smooth shining surface level with the rest of the skin. Occasionally curiosity on the part of patient and attendant would lead to removal of this mass to see what was happening underneath. This naturally prolonged the time of healing; and, of course, the ulcer had to receive fresh applications of the paste till the dry stage was reached. To this paste I have at times added sulphanilamide powder, especially for dirty ulcers, but sulphanilamide should *never* be applied to a deep ulcer, as it only increases the flow of sero-sanguineous offensive exudate. This last method has rarely failed to effect a healing, even though slow and drawn out a bit. But its main advantage was that the patient could carry out the necessary instructions after a couple of simple demonstrations. There have been occasions where the skin for several inches surrounding the ulcers was red, with a dry scaly eczema. Using the gentian paste for the ulcer *alone*, I have applied another preparation of castor oil, pulv. lapis calamin., a trace of tar, and salicylic acid, to the dry eczema, with gratifying results. Care, however, must be taken to see that the oily tar paste does not merge into the ulcer, for it will not mix with the gentian paste and healing will be retarded.

I have no figures and no lengthy detailed notes of individual cases, and I think they would serve no purpose. In a small practice with a limited number of cases such things as controls and day-to-day notes are not possible, but the above methods have been tried out, each in turn, for a fair number of cases over a period of thirteen years.

I next come to my latest venture—namely, the use of penicillin cream. Through the courtesy of the Department of Preventive Medicine, Bristol University, I have been given a small quantity (strength 400 Oxford units per g.). I have had four cases (one a woman whose ulcers have been in existence for twenty years) of varying degrees of ulceration. My results so far have been most encouraging. Two cases have completely healed. Two will require at the most two further applications, when the ulcers should have filled in with granulation tissue and levelled off with the skin. In all four cases healing has been very rapid as compared with earlier methods: where formerly it was months, now it is weeks.

May I advise any who may be interested to try this latest method that the cream should be applied thinly over the raw surface of the ulcer, paying particular attention to the edges. Thick applications of cream are a waste of so precious a commodity. Furthermore, too frequent changes of dressings are, in my opinion, harmful and wasteful. On an average a fresh dressing with fresh application of cream should not be oftener than once a week.

In conclusion, with all methods (including the use of penicillin) repeated elevation of the limbs every day for a couple of hours at a time is necessary.—I am, etc.,

Chipping Sodbury, Glos. ROSS. K. BROOKS.

Morphine as a Prophylactic for Ileus

SIR,—In reply to Mr. Judson Chesterman's letter (Nov. 24, p. 740), is it not unnecessary to look at recent work to discover what is the effect of morphine on the movement of the intestinal contents? We all know that pil. plumb. c̄ opio *B.P.C.*, pulv. cret. aromat. c̄ opio *B.P.*, pulv. kino. co. *B.P.C.*, etc., are preparations in which opium is used to check diarrhoea.

The precise effect of morphine on the intestine has been studied by many workers, including those mentioned by Mr. Chesterman. A detailed account of all this work, including a critical summary, is given in Supplement No. 165 to the *Public Health Reports* of the United States Public Health Service. This most valuable publication on the *Pharmacology of the Alkaloids* is written by Krueger, Eddy, and Sumwalt, who have themselves studied the action of morphine on the intestine. They discuss the different methods which have been used to examine the action of morphine on the intestine and emphasize what has been pointed out by earlier workers, that these methods often make it impossible to draw conclusions about the joint effect of increased tone, increased segmentation movements, and changes in peristalsis on the propulsion of intestinal contents. They say:

> "The most satisfactory contribution to the subject of the effect of morphine on the peristalsis of the small intestine has been made by Quigley, Highstone, and Ivy (*J. Pharmacol.*, 1934, **51**, 308). They made determinations of the interval required for the passage of a bolus through a Thiry-Vella loop, the bolus being immediately reinserted and its propulsive rate redetermined. Following 0.5 mg. of morphine per kg., intestinal propulsive activity of the ileum was increased 30 or 40% for about 30 minutes and was followed by a secondary rapidly developing decrease in propulsive activity. . . .
>
> "The bolus method showed an abrupt and pronounced decrease in propulsive activity beginning 30 minutes after the injection, at a time when balloon records indicated augmented peristaltic activity. Thus it was evident that the tracings obtained by the balloon method cannot be directly translated into terms of propulsive efficiency. The period of reduced propulsive activity, which is really the outstanding effect of morphine, must play an important role in the well-known constipating action of this drug."

Krueger, Eddy, and Sumwalt have calculated the reduction in propulsive activity from the data of Quigley, Highstone, and Ivy. They find that after 0.5 mg. morphine per kg. (which is equivalent to 0.5 grain for a man of 60 kg.) a bolus moves in 4 hours about 80 cm., whereas before this dose of morphine it moved 300 cm. Thus, although there is an initial quickening of propulsion, the main effect of morphine is to produce fourfold delay.

Mr. Chesterman says that "morphine produces a long-lasting increase of intestinal tone unassociated with spasm in both the small and the large intestine." Both Thomas (*Proc. Soc. exp. Biol.*, N.Y., 1926, **23**, 748) and Schroeder (*Arch. exp. Path. Pharmakol.*, 1933, **170**, 359) are definite that morphine causes spasm of the pylorus. Spasm of the lower part of the bile duct has been shown to follow the injection of morphine and to cause a rise in intrabiliary pressure in man from below 20 mm. water to above 200 mm. (Butsch, McGowan, and Walters, *Surg. Gynec. Obstet.*. 1936, **63**, 451). Observations that morphine causes increased tone and spasm of the sphincter of the bladder date back to 1828, when it was first described by Bally. It would be surprising, in view of this widespread spasm-producing action, if the small and the large intestine were exempt, and Schroeder (loc. cit.) observed that morphine produced a contraction of the ileo-colic sphincter.

In view of these considerations, surely there is no justification for the use of morphine as a prophylactic against ileus! No evidence in which control observations were made during an earlier period can modify this conclusion. It is surely impossible to say afterwards that there has been no change in the readiness with which the operation of Caesarean section has been undertaken. If in the earlier period the operation was more often undertaken late in labour, when the patient was suffering from some exhaustion, the results observed would be explained.

With regard to the parasympathomimetic drug physostigmine, which, by preserving the acetylcholine formed in the gut wall, increases intestinal movements through the natural mechanism, it is important to remember the great variation which exists in individuals towards any drug. It is necessary to find the right dose, and, if nausea and colic occur, too large a dose has been given. Repeated small doses should be used of a freshly prepared solution. The *B.P.* dose is 1/100 to 1/50 grain, and it is probably wise to begin with 1/200 grain; a second dose can then be given after 30 minutes.—I am, etc.,

Department of Pharmacology, Oxford. J. H. BURN.

Sequelae of Emphysematous Lung

SIR,—Dr. Ronald Jones has described in the *Journal* (Oct. 20, p. 530) two cases of massive surgical emphysema, pneumothorax, and pneumomediastinum associated with bronchoscopy, and these were discussed in an interesting letter by Dr. J. E. Bannen (Nov. 10, p. 665).

Cases of pneumomediastinum followed by interstitial emphysema of the tissues of the face, neck, and trunk have been described occurring spontaneously in association with a variety of conditions—e.g., the exertions of labour (Nussbaum was able to add twelve cases to the 130 Gordan collected, while Phillips had a remarkable series of five personal cases in four years); phthisical haemoptysis (Bryan); asthma (L. and J. Rosenberg reviewed eighteen cases in 1938 and I have had one personal case not yet described); whooping-cough (Beaumont); exposure to depth charges (Cameron, Short, and Wakeley), etc., as well as being produced traumatically in association with such operative procedures as tracheotomy, lobectomy, and bronchoscopy.

Although, as Bannen suggests, vesicular emphysema is usually present when this condition arises, yet it is not invariably so, as *x*-ray examination of the chest in Phillips's five cases failed to demonstrate its presence. In fact, if vesicular emphysema were a necessary precursor, one would expect to find, in view of the number of cases of pneumomediastinum occurring during labour, puerperal emphysema, a condition not so far described, of common occurrence. C. C. Macklin, however, showed experimentally that vesicular emphysema was not essential before pneumomediastinum could be produced. He produced it by over-infiltrating part of a normal healthy lung of an anaesthetized cat. He showed that it was due to a break through the alveolar base into the perivascular sheath, along which the air passed to the mediastinal wall, and, when pressure was sufficient, this wall ruptured to give pneumomediastinum.

With regard to treatment, it is well to remember that this alarming-looking condition of marked subcutaneous interstitial emphysema usually calls for no treatment *per se*, and that it will entirely disappear in the course of a few days. Heroic incisions are not necessary. The exception is the very rare condition of "pressure pneumomediastinum," shown by marked dilatation of the veins of the neck, in which case all that is required, as M. T. Macklin pointed out, is the insertion of a hollow needle into the mediastinum at the side of the sternum, or the insertion of a catheter into the base of the neck and pushing it down to the site of the encapsulated air. Hamilton Bailey suggests that it may be necessary to incise in the neck down to the trachea and provide some sort of suction apparatus, quoting Tiegel's case. However, it is difficult to know why it should be necessary to "suck" out air that is under pressure. Thus in Jones's two cases air failed to escape although needles were inserted into the mediastinum, and although in one case suction was applied. This would seem to bear out the contention that in the majority of cases this treatment is unnecessary. The cyanosis must have been due to the blockage of the respiratory tracts by the swollen mucosa he describes, and not due to "pressure pneumomediastinum," and the rapid reintroduction of the bronchoscope and other measures of resuscitation undertaken undoubtedly saved the patient's life.

Bannen's sign for the diagnosis of pneumoperitoneum is surprising and the reverse of what one would have imagined—i.e., one would have thought that the intraperitoneal gas would have risen and not sunk to the most dependent part.—I am, etc.,

Parkstone. T. B. L. Bryan.

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Non-specific Mesenteric Lymphadenitis

Sir,—I cannot help writing to congratulate Mr. Ian Aird on his excellent and timely article on acute non-specific mesenteric lymphadenitis (Nov. 17, p. 680). During the last few years I have come across two definite cases of this condition, and, feeling that I should like to know more of the pathology, etc., I have been disappointed to find how little is mentioned of acute abdominal lymphadenitis in the textbooks. For this reason I think we owe a debt of gratitude to Mr. Aird.

The first case which I saw and was able to label a non-specific lymphadenitis occurred when I was called to a fever hospital to operate on a child with scarlet fever, and diagnosed as suffering from an acute appendicitis. On performing a laparotomy the appendix was found to be normal, but the mesentery of the bowel contained masses of enlarged lymphatic glands. These were round and elastic in consistency, as described by Mr. Aird.

The second case, which was more recent, was in a lady medical officer in the R.A.M.C., whom I was asked to see because of severe abdominal pain. The history was that a week previously she had developed a sore throat. After this she began to complain of abdominal pain which was colicky in nature. In addition there was some backache. Between the attacks there was entire freedom from pain. As there was an appendicectomy scar the possibility of appendicitis was ruled out. All other investigations proved negative. The only conclusion I could arrive at was that this was a case of acute mesenteric adenitis. It is interesting to note that in this case the patient later developed acute rheumatic fever, which excluded her from being sent abroad.

These two cases, the one occurring in the course of scarlet fever and the other preceded by a sore throat and subsequently developing rheumatic fever, lend support to the theory suggested by Mr. Aird and others that acute mesenteric adenitis is due to a virus infection. In conclusion I should like to state that, although Mr. Aird has given us a complete description of this clinical entity, acute non-specific mesenteric lymphadenitis is a very dangerous diagnosis to make when confronted with an acute abdomen, especially in a child. One realizes how very variable the symptomatology of acute appendicitis is in children, and to withhold operation because of a diagnosis of acute mesenteric adenitis will, I feel sure, court disaster in many cases. For this reason I feel it is safer to look and see, rather than to be sorry afterwards.—I am, etc.,

London, W.1. Maurice Lee.

Sir,—The world of surgery should be indebted to Mr. Ian Aird for his very illuminating paper on non-specific mesenteric adenitis, for it is a condition that requires to be very much more widely known than it is at present.

I first became familiar with the condition about 18 years ago when acting as a full-time municipal surgeon. Children were frequently sent to me by local practitioners with a provisional diagnosis of appendicitis, in whom there was a history of *previous* attacks of abdominal pain, in many instances extending over a period of months or even years. I held the view, and I hold it now, that appendicitis in children is generally an acute fulminating disease leading on to rapid perforation and peritonitis; so much so that operation must be done forthwith. These cases with histories of previous attacks of abdominal pain, which rapidly resolved, leaving the child fit to return to school, did not fit in at all with my conception of appendicitis in children. The ones I operated on—and there were a fair number in those early days—almost invariably showed the distribution of swollen discrete mesenteric glands so clearly described by Mr. Aird, and like him I arrived at the conclusion that there was a definite syndrome in children, which I labelled loosely "mesenteric adenitis." I learned in time to differentiate those cases clinically and confidently abstained from operating.

I formed the opinion—perhaps without sufficient clinical proof—that the condition was largely due to the ingestion of unboiled milk, not so much the bovine bacilli as the numerous pathogenic organisms that result from the gross contamination of milk so prevalent in this country. When my own daughter, aged 6 years, who had never had one drop of unboiled milk up to that time, was operated upon for appendicitis I was impressed to learn from the operating surgeon that not one gland was pathologically enlarged. This finding naturally strengthened me in my belief. As regards accompanying factors I must admit that I found no constant association with upper respiratory infections, although I regarded this association as important in appendicitis, especially after learning that, in a girls' school, of 100 pupils with tonsillitis 25 required operation for appendicitis, and that in each case the same organism was found in the tonsils, the stools, and the appendix. Neither did I find an increase of cases at those times when upper respiratory infections were most prevalent.

However, the main point I wish to stress is the agreement with Mr. Aird that acute non-specific mesenteric adenitis is a definite clinical entity and, in spite of some obscurity about its cause, merits widespread recognition as an important disease, especially in children.—I am, etc.,

Wimbledon. N. L. Maxwell Reader.

Penicillin Pastilles

Sir,—Now that penicillin pastilles are coming into use, it is perhaps worth pointing out that if gelatin lozenges containing penicillin are allowed to dissolve *under* the tongue, in some people at least there appear demonstrable amounts of penicillin in the urine. These amounts are small in relation to the contents of the lozenges, and we presume that the blood level obtained by this method of administration is low. It would seem important, therefore, to remember that in the presence of an infection one may by this method contravene the generally accepted rule of chemotherapy that suboptimal dosage carries certain dangers.—We are, etc.,

A. C. Lendrum.
University of Glasgow. I. Lominski.

Spinal Analgesia in Operative Obstetrics

Sir,—Despite Dr. Louis Resnick's article (Nov. 24, p. 722), there are, I feel, a variety of objections to spinal analgesia in operative obstetrics.

First, there is a quite definite risk. Dr. Resnick presents a series of 393 apparently successful cases; but that does not eliminate the possibility—it is really a probability—of a fatality sooner or later from an "alarming drop in blood pressure." This drop is often met where spinal analgesia is employed in cases of abdominal distension, and is caused by the slow adjustment of vasomotor control after the removal of pressure. Whatever Dr. Resnick may say, the "risk" cannot be eliminated in obstetric cases, and spinal analgesia in such cases is, therefore, wholly unjustifiable.

The second objection concerns the suitability of the method. The majority of patients prefer to be asleep during operation. This seems especially desirable during manœuvres where a certain amount of force may be necessary, as in difficult forceps extractions. Accordingly, from the point of view of the patient's comfort general anaesthesia is the better choice, particularly as no obstetrician in my experience would agree to premedication with "omnopon 1/3 gr. and scopolamine 1/300 gr. . . . about 45 minutes before operation," as Dr. Resnick advises. At worst this may so depress the baby's respiratory centre as to result in stillbirth; at best there are anxious moments before the baby "gets going." In those cases for Caesarean section where a general anaesthetic is contraindicated, regional field block is a satisfactory and safe substitute, and, though admittedly the multiple injections are more unpleasant than the single one, the extra degree of safety obtained is the factor of paramount importance.

With regard to vaginal delivery, there is a very true dictum to the effect that if a patient is fit to undergo labour she is fit to have a general anaesthetic. Such anaesthesias are usually short, and the necessary manœuvres can be accomplished under gas and oxygen with minimal ether or trilene, or under cyclopropane O_2, according to indications.

Finally, apart from the question of fatalities under spinal analgesia, there are a number of possible unpleasant sequelae inherent in the method. The commonest, but by no means the most dangerous, of these is headache. Dr. Resnick admits its high incidence in his cases. It may be extremely intractable and is, of course, always annoying to the patient even if slight.

My own view is that in operative obstetrics spinal analgesia should be abandoned in favour of methods less fraught with potential danger and more suited to the conditions.—I am, etc.,

London, N.W.3. HELEN BOWER ALCOCK.

Sir,—It was interesting to read the recent article on spinal analgesia in operative obstetrics by Dr. Louis Resnick. While believing that the ordinary methods of inhalation and intravenous anaesthesia are indicated in routine work in operative obstetrics, I agree that spinal analgesia has certain advantages which make it the method of choice in certain types of case. The main indications are:

1. *Caesarean Section.*—In this operation the advantages of spinal analgesia are well known.

2. *"Failed Forceps" Cases.*—These patients have usually been given large doses of chloroform prior to admission.

3. *Destructive Operations on the Foetus and Difficult Forceps Deliveries.*—In this type of case the operative procedure is often time-consuming and apt to produce shock. Under spinal analgesia there is a surprising absence of shock and the general condition of the patient is much better than it would be under general anaesthesia. Furthermore, the operator has more time at his dispopsal and can go easily.

4. *Cases of severe toxaemia.*

It is a matter of common knowledge, however, that pregnant women are peculiarly susceptible to the effects of spinal analgesia when given by the ordinary methods. Some operators have experienced collapse due to a sudden fall in blood pressure directly upon the injection. Others have commented upon the high incidence of post-operative complications, particularly headache and retention of urine. Personally, I abandoned the use of heavy nupercaine some time ago on account of the high incidence of these post-operative complications. After this I evolved another method of giving nupercaine, based on Quarella's technique, and so far have obtained much better results apart from the absence of the post-operative complications mentioned I believe this method is safer.

The isotonic buffered spinal solution 1 in 200 is used. For cases requiring operative vaginal delivery the spinal needle is inserted between L 3 and 4 with the patient in the lateral position. A 10-c.cm. syringe containing 1 c.cm. of the nupercaine solution is attached to the needle and cerebrospinal fluid withdrawn to the 5-c.cm. mark. The syringe is now removed from the needle, the stylet quickly inserted to prevent loss of cerebrospinal fluid, and the contents of the syringe well mixed. The syringe is attached again to the needle and the solution injected very slowly at the rate of 1 c.cm. a minute. With this slow rate of injection a sudden fall in blood pressure is less likely to occur. For Caesarean section the spinal needle should be inserted between L 2 and 3, 1.5 c.cm. of nupercaine solution should be put in the syringe, and cerebrospinal fluid withdrawn to the 7.5-c.cm. mark. For operative vaginal delivery ephedrine hydrochloride 1 gr. is given intramuscularly. For Caesarean section it is not wise to rely on ephedrine for maintaining the blood pressure, and this drug should be omitted. Instead continuous intravenous adrenaline should be used as described by Evans (*Lancet*, 1944, **1**, 15). I regard this method of Evans as the most important recent advance in the technique of spinal analgesia.

I am glad to see that Dr. Resnick advocates premedication for Caesarean section. The ill effects of this have been exaggerated, and I am quite sure that the advantages far outweigh the disadvantages. Either heroin 1/12 gr., or omnopon 1/3 gr. with scopolamine 1/150 gr., can be given. I see no point in giving atropine to every case. It can always be given intravenously if spinal block should fail and general anaesthesia become necessary.

With the technique described above a 1 in 1,000 nupercaine solution comes *slowly* in contact with the nervous tissue, and as a result causes less physiological upset than in the heavy nupercaine technique, when a concentrated solution comes rapidly in contact with the nervous tissue. It is for this reason, I think, that there is less tendency for a fall in blood pressure to occur, and a much lower incidence of post-operative urinary retention and headache, with the method described.—I am, etc.,

Stockport. JAMES ROSS.

Sir,—Dr. Louis Resnick has made such a good case for spinal analgesia in his very able article that there would appear to be some danger of its routine adoption for operative obstetrics by others with less experience of the technique or appreciation of the risks. It would seem prudent to utter a word of warning.

So far from holding an unreasonable prejudice against spinal analgesia, I appealed for an eclectic attitude towards its use (*Journal*, March 7, 1942, p. 339), and would now urge that this also be applied to its use in connexion with Caesarean section and operative vaginal delivery. Every new drug or agent for the production of anaesthesia or analgesia—general, local, regional, or spinal—is tried in obstetrics; some are discarded, others retain a limited sphere of usefulness; none has proved universally applicable; so let it be with heavy nupercaine.

Caesarean section presents certain marked points of difference from any other abdominal operation:

1. *Psychological.*—There is inevitably more tenseness, more drama. To the normal pre-operative apprehension on the part of the patient are added the hopes and fears of the mother for her unborn child; nor can these be dulled by heavy premedication, most surgeons insisting on a minimal amount or even none. Should the baby be apnoeic the routine of respiratory resuscitation, however quiet and well ordered, or the hiss of escaping oxygen is no substitute to the conscious mother for a lusty cry.

2. *Technical.*—The rapid removal of a large abdominal tumour coinciding with a sudden loss of blood do not go well together with the change in haemodynamics associated with normal spinal analgesia. The laxity of the abdominal wall ensures ease of closure.

The percentage of spinal headaches seems a high price to pay for relaxation so easily obtained by any competent anaesthetist who has cyclopropane, gas-and-oxygen with minimal ether or trilene, pentothal alone or in combination, from which to choose; and with any of these can provide ideal operating conditions with safety to mother and child with negligible or no unpleasant sequelae.

Operative Vaginal Delivery.—The well-known effect of a spinal in inhibiting the action of the longitudinal muscle fibres while increasing that of the circular fibres, thus producing a violently contracting uterus with poor expulsive power, should be a sufficient contraindication without suggesting the undesirability of performing destructive operations such as perforation and craniotomy in the conscious patient.

Since the risks of sepsis would be greatly increased in domiciliary midwifery, the doubtful advantage of being able to combine the functions of anaesthetist and accoucheur is further vitiated, since only in extreme emergencies is it justifiable for one person to administer an anaesthetic and operate; such circumstances should be rare in hospital practice.

Finally I should like to submit the following indications for spinal analgesia in obstetrics: (1) the presence of metabolic or respiratory disease of such a degree as to render the skilful employment of a general anaesthetic a greater risk than a spinal; (2) the absence of an anaesthetist capable of producing satisfactory operating conditions with safety to the patient by means of general anaesthesia.—I am, etc.,

Aylesbury. H. W. LOFTUS DALE.

Acute Inversion of the Uterus

Sir,—It may be of interest to record another case of inversion of the uterus treated by the method described by Mr. J. V. O'Sullivan (Sept. 1, p. 282). This patient, a primigravida of 23, was admitted to St. Luke's Hospital, Bradford, on Nov. 10, profoundly shocked. The history is as follows:

L.M.P.—Jan. 18; E.D.D.—Oct. 25. In the antenatal period there were severe headaches and oedema.

Nov 9, 1945.—12.00 hrs.:—Labour commenced.

Nov. 10.—13.00 hrs.: Normal delivery of full-term child; 9 lb 1 oz 14.30 hrs.: Placenta and membranes expressed. Patient suddenly collapsed, pulseless; total loss 1 pint. The resuscitation van was called and plasma drip started, three pints being given. B.P. could not be recorded. 17.30 hrs.:—Admitted to hospital; pulse not palpable, B.P. 70/50; indefinite swelling in lower abdomen, very little loss. 18.30 hrs.:—Blood transfusion, 1 pint. Pituitrin m. 4, ergometrine 0.5 mg.; no improvement followed. 19.30 hrs.:—Ten ounces of urine withdrawn; the abdominal swelling was now no longer palpable. Per vaginam a large, firm, shaggy mass could be felt protruding through the cervical rim; it was tender to touch. Two or three pints of dettol lotion at 120° F. were run into the vagina while the introitus was blocked by hand. This was but imperfectly accomplished because of the size of the operator's hand. The manœuvre was only partially successful, although the uterus, with a depression at the fundus, could now be palpated abdominally. A second pint of blood was now given.

I saw the patient at 20.45 hrs., when she was profoundly shocked, B.P. not registering. The shock was greatly exaggerated by the simplest vaginal manipulation. About 6 pints of dettol lotion were run into the vagina, better occlusion being obtained by my larger hand. The fundus rose steadily, and eventually no depression could be palpated abdominally. The douche was then discontinued. Ergometrine 0.5 mg. was injected into the drip-tube. At the conclusion of this operation the pulse was still not palpable and the B.P. could not be registered. 22.00 hrs.:—Pulse still impalpable, B.P. 65/40, fundus rather soft, no vaginal bleeding. Third pint of blood given. 23.00 hrs.:—Fourth pint of blood given.

Nov. 11.—00.45 hrs.:—B.P. 105/60, condition much improved. 09.30 hrs.:—B.P. 120/70, pulse 100, condition good.

Subsequent Progress.—Rise of temperature on the third day, fundus not tender. Involution proceeding satisfactorily, lochia normal. Local cellulitis around the site of the intravenous wound.

The points which seem to me to call for comment are: (1) The profound shock with small loss of blood, aggravated by the slightest vaginal manipulation and failing to respond to antishock treatment. (2) The absence, in this case, of a *dramatic* recovery from shock—in contradistinction to the case recorded by Dr. Daley. It will be observed that a period of two hours followed the reposition of the partial inversion before the blood pressure returned to 105/60. (3) The simplicity of the treatment.—I am, etc.,

Bradford. E. GLEDHILL, M.R.C.O.G.

Acute Yellow Atrophy after Trilene Anaesthesia

SIR,—Major K. N. A. Herdman's description of a case of acute yellow necrosis of the liver following trilene anaesthesia (Nov. 17, p. 689) prompts me to recall a case of my own experience of acute yellow atrophy as a late sequela of burns, which I saw some 18 months ago. My case, though similar in many respects to that described by Major Herdman, differs from it by the fundamental fact that at no time was trichlorethylene administered to the patient. Yet acute yellow atrophy supervened. I do not recall all the details of my case, but the history is briefly as follows:

A soldier aged between 30 and 25 years, in good health hitherto and without serious illnesses in his past history, was admitted to hospital suffering from second-degree burns of face, arms, and chest. He was moderately shocked, and antishock measures were instituted at once. Surgical toilet was carried out approximately two hours after admission, under pentothal (0.5 g.), nitrous oxide and oxygen. The patient was very ill for a few days, but then made a slow but steady recovery. Sepsis was slight. No further anaesthetics were administered. Some six to seven weeks later, when he was almost due to be discharged, he suddenly developed jaundice, which rapidly became deeper; vomiting set in, and despite prompt treatment the patient died in coma a few days later. Necropsy revealed acute yellow atrophy of the liver.

In comparing this case with the one published by Major Herdman, what, then, are the factors, if any, common to both? Both patients received a small amount of pentothal, but, while symptoms in Major Herdman's case appeared a few days after its administration, jaundice in the second case set in more than six weeks after anaesthesia. Moreover, it has now been established that pentothal has no deleterious effect on the healthy liver, being broken down in the blood stream itself. And in my case, at least, not sufficient time had elapsed between the accident of burning and the administration of pentothal to conceive the possibility of gross liver damage, due to the burns, at the time the pentothal was given. Thus to my mind pentothal can be excluded as the culprit. The only common factor in the two cases then are the burns themselves, followed after several weeks by symptoms of hepatic damage.

In the absence of any other known cases of yellow atrophy due to trilene, is it not safe to assume that the condition might be due to the deleterious effect of some abnormal metabolites, toxic to the liver parenchyma after absorption from the burned areas, causing severe symptoms only after some weeks have elapsed?—I am, etc.,

G. M. WYANT,
Ashton-under-Lyne. Capt., R.A.M.C.; Graded Anaesthetist

SIR,—One cannot help feeling alarmed at Major K. N. A. Herdman's account of yellow necrosis of the liver following trilene anaesthesia. Ever since Dr. Langton Hewer's reports to the Royal Society of Medicine in May and July, 1943, I have used the agent—fortunately never with a closed circuit, as I had never seen it so used—as an adjuvant to nitrous oxide and oxygen, and one is tempted to inquire, "Was all that trilene really necessary?" Two ounces seems a large quantity when unconsciousness and immobility are all that are required and the patient has been very adequately premedicated with morphine 1/4 gr. and hyoscine 1/100 gr. followed by 0.8 g. of pentothal. If his liver was damaged already surely he would not have required 0.8 g. pentothal to produce unconsciousness, so the chances are that he had more than a "sleep dose" of pentothal. Surely before any long operation the patient should always have glucose, and some of the more efficient ward-sisters administer it pre-operatively by mouth without being asked.

As I have found it possible to maintain anaesthesia for long operations (anything up to six hours) with only a few drachms of trilene without complaint from the surgeon, I am wondering whether, since the reflexes were brisk when the patient left the table, he was unusually anaesthetic-resistant but with an impaired liver, or whether he could have been "kept under" with less trilene.—I am, etc.,

London, S.W.13. MARGARET JOAD.

SIR,—Major K. N. A. Herdman (Nov. 17, p. 689) reports a case in which the patient died of liver necrosis some eleven days after a general anaesthetic which included, among other agents, the administration of 2 oz. of trilene. He suggests a parallel between this case and delayed chloroform poisoning, but emphasizes that such a complication of trilene anaesthesia has not hitherto been recorded. Burns, sepsis, and malnutrition are considered and rejected as possible factors producing liver damage in this case. The necropsy report lacks detail, but the liver necrosis would appear to be as much in keeping with an infective as a toxic hepatitis, and it seems to me that epidemic infective hepatitis or homologous serum jaundice should be kept in mind. It would be interesting to know more about the treatment of this case between March 4 and April 14 with reference to plasma transfusion and the use of pentothal anaesthesia. Injection of an icterogenic agent between these dates and the onset of symptoms of hepatitis on June 5 gives an incubation period compatible with that of homologous serum jaundice (93 to 52 days). Epidemic infective hepatitis is probably less likely, as this would assume infection of the patient while in hospital, although it is known that infective hepatitis was not uncommon in the B.L.A.—I am, etc.,

London, S.W.13. S. M. LAIRD.

Acroparaesthesia

SIR,—We are indebted to Dr. F. M. R. Walshe for his re-description of acroparaesthesia (Nov. 3, p. 596). He renders the concept unmistakable, and so stimulates further investigation. May I be permitted to submit some points of difference and amplification regarding this syndrome.

(a) Though commoner by far in women, it is not confined to females.

(b) It is not confined to persons greatly physically fatigued or even with muscular atony.

(c) Dr. Walshe's implication that it is not always associated with observable clavicular sagging is confirmed. (He records his impression that such sagging is "commonly" seen in these cases.)

(d) It may undergo remission without physical environmental change. Physical rest is not always indispensable in therapy.

(e) A very comparable state can occur in the feet, though, for fairly obvious reasons, patients do not complain of it so much in this site, and I have not met it rivalling manual disability in extent.

(f) A further objective sign occasionally occurs, in that the finger-tips look as if pinched side to side. Viewed from below the comparative semicircle is replaced by a decided peak. This pinching will modify slowly if there be long-period fluctuations in the acroparaesthesia. As a permanent state the variant is not pathognomonic of this syndrome.

Some queries would appear to be relevant.

(1) Is not rest for a harassed housewife likely to affect a great deal more than her thoraco-clavicular relations? (I cannot follow Dr. Walshe to his "logical conclusion" that, since "a rest or holiday affords remarkable relief," "it suggests a mechanical origin for the syndrome.")

(2) If a "great majority" of cases are indeed due to these mechanical factors, what are the other cases due to? (I agree with Dr. Walshe that "the temptation to find a single pathology for a well-defined syndrome is a strong one, and may often be fallacious." When a human being is in dis-ease, pathology is never "single" in the sense in which he presumably used that word. Traction on, or compression of, the brachial plexus may well play its part in some persons. I have no intention of suggesting that any other factor may singly be operative. Are there not exactly as many pathologies as there are patients?)

(3) Has Dr. Walshe tried the effect of having a colleague of his treat control cases by the regime of comfort and massage he prescribes, but with down-traction applied to the clavicles?

(4) How is it that germinal fringes of the syndrome (uselessness and tingling of the hands for a fleeting period after awaking) commonly occur in people who do not often, for this complaint, come to the neurologist or indeed to any doctor practising medicine?

(5) Dr. Walshe has propounded a term novel to most of us—"medicine proper." It is not clear what he includes under this new term; could he be more explicit?

In the past month I have met typical bilateral manual acroparaesthesia in a young R.A.F. officer of powerful physique, whose cervico-thoracic area showed no *x*-ray abnormality and who had been doing no heavy manual work. He passed through an emotional disturbance of considerable magnitude, after a certain phase of which his acroparaesthesia disappeared. Nor was there (to use Dr. Walshe's own words) sacrifice of any dietary, vitamin, or physiotherapeutic "goat to Aesculapius."—I am, etc.,

Q.A. Military Hospital,
Shenley, Herts.

G. R. PEBERDY,
Major, R.A.M.C.

Artificial Pneumothorax Refill

SIR,—I was interested to read Dr. Alastair Allan's description of an improved artificial pneumothorax needle (Nov. 3, p. 607). It certainly has the advantage of permitting the continuous reading of the intrapleural pressure while the refill is going on; this will minimize the danger of introducing air into a pleural or pulmonary vessel. But it has been shown that air embolism occurs most frequently at the initial plunge of the A.P. needle, before the operator has the opportunity of reading the manometer or introducing air.

The points in favour of Dr. Allan's needle are counterbalanced by two shortcomings: first, the large diameter, which necessitates the use of local anaesthetic in all cases of refill; secondly, the two separate air channels, thus increasing greatly the chances of accidental blockage of the needle during its passage through skin and parietal pleura. Writing about the usual type of A.P. needle Dr. Allan remarks: "During the refill—the dangerous period—no reading can be observed." But this surely can be successfully remedied by switching off the air as frequently as needed and taking manometric readings.

I agree with Dr. C. F. Hawkins (Nov. 24, p. 742) that the use of an ordinary A.P. refill needle is practically painless. Needless to say, the point of the needle has to be sharp and the needle inserted by a quick plunge. Mayer (Packard *et al.*, *Artificial Pneumothorax*, 1940, p. 73), describing the technique of refills, states that "many workers do not employ a local anaesthetic for refills because the operation is usually painless." The reason why so many patients ask for local anaesthetic is that they remember the sometimes lengthy and laborious procedure of A.P. induction, and do not realize the difference between the latter and the subsequent refills. Several patients I persuaded to try a refill without "local" expressed afterwards the wish to continue without it. Many others spontaneously ask to discontinue the use of local anaesthetization, saying that they do not mind the "needle prick." The local anaesthetic seems to have primarily a psychological effect; patients who have never had local anaesthesia do not ask for it.

From a fairly large experience of collapse therapy in Paris hospitals I concluded that a local anaesthetic is unnecessary and anyway is unknown there. I may quote here the authority of the late Dr. Michel Léon-Kindberg, eminent French phthisiologist, under whom I had the privilege to work in Paris None of his patients, whether in- or out-patients, ever received preliminary local anaesthesia before A.P. refill. I can remember no instance of air embolism or shock. Air embolism probably may occur whether the needle track has been anaesthetized or not. The pathogenesis of pleural shock is as yet completely obscure, and must be very rare in cases of well-established A.P. How much novocain or procaine will avert the occurrence of pleural shock is also unknown. Yet we know that certain individuals are hypersensitive to cocaine derivatives used locally. Thus Packard (loc. cit., p. 92), discussing what he terms the symptom-complex of pleural shock and gas embolism, draws attention to the importance of derivatives of cocaine in causing acute toxic manifestations indistinguishable from those of pleural reflex or air embolism. Some other workers find also that reactions and pleural effusions are less often encountered if no anaesthetic is used.—I am, etc.,

St. Charles' Hospital, London, W.10.

A. I. SUCHECKI.

SIR,—Dr. C. F. Hawkins disagrees with Dr. A. Allan's quotation about the use of local anaesthetic in pneumothorax refills. May I range myself on the side of Dr. Hawkins. It has been my experience that once a patient has been refilled without the use of an anaesthetic it is almost invariably the method of choice for that patient thereafter. I have on several occasions during the past year conducted a census of opinion among my own patients. Out of a total of approximately 200 individuals only three have stated a preference for an anaesthetic, and two of them became ultimately converted. The third is a rather excitable female patient who prefers not to take a chance.

I find that the insertion of the needle is greatly facilitated by a simple manœuvre. This consists of placing an ordinary hard pillow folded lengthwise and tied with a bandage under the patient's waist. The patient lies on the unaffected side, and is rolled partly towards the operator. The arm is extended above the head. This not only increases the available space between the ribs but stretches the intercostal structures and makes it extremely easy to insert the needle and actually to feel its passage through the parietal pleura.

In answer to those who stated that the giving of a local anaesthetic makes it possible to confirm the presence of a free pleural space, I would point out that there is no guarantee that the A.P. needle will be inserted exactly the same distance or in exactly the same place as was the needle through which the anaesthetic was administered. In any case, the presence or absence of a space should have been ascertained by previous screening.

Perhaps the whole argument is summed up in the words of my patient who, when offered the choice, said: "It depends on who is doing it, Doctor."—I am, etc.,

Noranside Sanatorium, Fern, Forfar.

PHILIP H. DALGLEISH.

SIR,—I endorse the remarks of Dr. C. F. Hawkins (Nov. 24, p. 742) against Dr. Alastair Allan's quotation that "humanity and common sense call for anaesthetization of the needle track." I find that, with an experience of close on 2,000 refills annually, patients from all walks of life invariably prefer the operation without a local anaesthetic; indeed all my patients refuse such. Immediately before refill the extent of the pleural space should be observed by screen or film examination, noting particularly the position of the lung border at the end of both inspiration and expiration. If two radiographs are taken, one at the end of both phases, they will show in sharp contrast the different positions of the collapsed lung border, the second showing the obviously greater distance of the lung-edge from the chest wall; and, incidentally, the presence and site of adhesions will be seen to greater advantage in the second.

The needle should accordingly be inserted during the natural pause which takes place at *the end of expiration*, thus obviating any risk of injury to the lung, which at this phase is *more out of reach*. There should be no sudden stab. The patient should be instructed to inspire, then expire, and then stop breathing. A Morland needle with a very sharp spear-headed point is next placed *on* the skin in the appropriate interspace and then, comparatively slowly and deliberately, pushed through skin and pleura. The following inspiration on the part of the patient will then show the maximum inspiratory swing on the manometer, the clip on which should be left open and air allowed to enter the pleural cavity at low pressure, thus avoiding air embolism, undue pull on any adhesions, and possibly subsequent pleural effusion.

Incidentally, it is worthy of note that after induction a puddle of fluid immediately collects at the bottom of the pleural space. This is not to be confused with the onset of pleural effusion; it is simply due to the new position taken up by the lymph, which, before induction, normally bathed the pleural surfaces, including the interlobes. This phenomenon can be observed on the *x*-ray screen or radiograph if the patient is examined immediately after induction, provided the mechanical diaphragm on the *x*-ray plant is sufficiently widely open to include the lowest depth of the costo-phrenic sinus.—I am, etc.,

Cambridge. W. Paton Philip.

Sir,—I read the correspondence on the humane A.P. refill with much interest. I entirely agree with the views expressed by Dr. C. F. Hawkins. I gave up the use of local anaesthetic after careful investigation of a considerable number of A.P. cases. A random sample of A.P. cases were selected at each refill session; one would be given a local anaesthetic and another no local. When this had been done over a period each patient at different times had a refill with and without anaesthetic. Only two patients expressed a desire to have a local anaesthetic before refills; the others preferred refills without a local anaesthetic. It is interesting to note that the two patients who preferred to have local anaesthetic before refills were given refills after sterile-water injections and declared that the refills were less painful than without a local anaesthetic. Owing to the prolonged nature of the treatment it is decidedly beneficial to the patient not to have injections of either cocaine or novocain before each refill; but if the patient expresses a desire to have a local anaesthetic I give it.

I do not believe that the danger of pleural shock in an established A.P. is greater when local analgesia is omitted. I have had only one case of pleural shock in an established A.P. case in a series of over 15,000 refills, and this occurred in a transfer with a history of several so-called fainting attacks after refills and to which no reference was made in the case notes on transfer. It is interesting to note that the same patient developed pleural shock following the development of pleural friction on re-expansion of the lung. I regard this as redux pleural shock. —I am, etc.,

H. P. Fernandes,
Derbyshire Sanatorium, Chesterfield. Medical Superintendent.

Latent Disease in Far East P.O.W.s

Sir,—The prisoners of war from the Far East are nearly all home by now and about to be demobilized. Many of them are suffering from diseases which may give them trouble in after-life. Stool examinations done on them by Sergt. Baptist, S.S.V.F., as prisoner of war, and later in Rangoon under the aegis of Lieut.-Col. G. A. Ransome, I.A.M.C., showed that about 40% had some intestinal parasite, 13% *Entamoeba histolytica*, 30% ankylostomiasis (by saline concentration), and a few cases of trichomonas and *Strongyloides stercoralis*. Examinations carried out on the troopship coming home showed 3% with enlarged livers. *Entamoeba histolytica* cysts were found in the stools of a high proportion of these. Anaemia due to hookworm is rather more rare, but is present in an appreciable number. Deficiency neuroretinitis leading to reduced vision with central scotoma is particularly common among those who did not leave Singapore Island. Chronic malaria seems to have responded in most cases to the six-weeks prophylactic mepacrine course. Old tropical ulcer scars may become eczematized and break down. (The figures quoted here are rough computations and should not be taken too seriously.) Psychoneurotic manifestations are seen chiefly among the civilian internees, who had more attention from the Japanese Gestapo and worse food than the military.

I very much doubt whether the routine demobilization medical examination includes a microscopical stool examination, so it is probable that some of these cases will be coming into the hands of civilian doctors, especially in East Anglia, the soldier having been demobilized without the condition having been spotted while still in the Army. It is up to the medical practitioner to see that these men have a square deal as regards financial compensation for lost hours of work and pension.—I am, etc.,

Ealing, W.5. F. E. de W. Cayley.

The Saline Infusion Bottle

Sir,—Since the blood transfusion services unanimously adopted the Medical Research Council's transfusion bottle for the supply of blood, plasma, and serum many hospitals have been led to use it for all intravenous solutions. In most large hospitals the various saline and dextrose saline solutions used for intravenous infusion are made up by the pharmacist and delivered sterile in M.R.C. bottles.

These bottles, however, are too small for the average routine saline infusion. Unlike blood, saline is commonly required in quantities of 10 or even 20 pints (over the course of several days), and the frequent changing of the one-pint bottle is inconvenient, especially at night. Moreover the washing, filling, sterilizing, and labelling of multiple small bottles give the pharmacist unnecessary work. It is perhaps not sufficiently realized that the expense of a saline infusion lies mainly in the handling of the bottles; the larger the bottles, the cheaper is the infusion. Even in sterilizing, where one would suppose that the autoclave would take only a certain volume of saline irrespective of its containers, the big bottle is still economical, for an autoclave with a capacity of 16 pint bottles will often take 10 of quart size. Anyone doubting these facts should examine the prices of the commercial article; the pint and the quart cost almost the same.

If the quart is the best size for saline, why is it not in general use? Unfortunately those patterns at present available differ from the standard in all their dimensions, so that their use entails the provision of two types of "giving set." This is the crucial point. To avoid it we require a companion to the standard blood bottle with the same size of mouth and same height, and a double capacity accommodated laterally. It seems that no such bottle is made. We have approached the United Glass Bottle Company (makers of the M.R.C. pattern), but they can offer nothing suitable from stock, and to begin manufacture would require an order for a larger number than any single hospital could use.

United effort is required. We find that the Medical Research Council is handing over its wartime responsibility in this field. We have heard, with some alarm, that this subject has been discussed recently among those who are particularly concerned with the organization of the blood transfusion services, and that there was such diversity of opinion that no decision could be reached. Perhaps some of the points of disagreement will appear in subsequent correspondence. For our own purposes we are in no doubt as to the type of bottle we require. We would place an order for it if, through the kindly medium of your *Journal*, we could find a few hospitals who would join us.—We are, etc.,

J. C. H. Hanson, Pharmacist.
Hertford County Hospital. T. C. Beard, R.M.O.

Subcutaneous Oxygen for Sciatica

Sir,—In your correspondence columns (Nov. 17, p. 703) Dr. H. Avery writes on the treatment of sciatica by subcutaneous injection of oxygen, and refers to a letter of mine (Oct. 20, p. 544). He used for the purpose an oxygen injector with bag reservoir supplied by the Sparklet Company. He "used this treatment when all others had failed . . . and had a large number of spectacular cures, until on one occasion (the needle having apparently slipped) my patient suddenly complained of pain over the heart and faintness; in fact he presented a complete picture of air embolism." Fortunately the treatment was successful. The patient rapidly improved and walked home half an hour later. He has never had any sciatic pain since, neither has Dr. Avery used the treatment again.

There was an excellent account of the methods of diagnosis and treatment of sciatica given in vol. 3 of *Modern Technique in Treatment* (published by the *Lancet* in 1927), written by Dr. J. P. Martin when assistant physician to the National Hospital, Queen Square. He defines sciatica as an inflammation of the interstitial tissue of the sciatic nerve or its roots. This is the true neuritis, and a correct diagnosis is essential.

Dr. Martin described the method of injecting oxygen into the subcutaneous tissue over the nerve from a cylinder via a washbottle with warm water until the surrounding tissues are thoroughly distended and ballooned. "These injections often give the most surprising relief" and the "extreme simplicity [of the method] makes it always worth trying."

The oxygen treatment was also recommended by Dr. James Collier, who was physician to the Queen Square Hospital, and described by him in Price's *Textbook of Medicine*, 3rd edition, page 1656, as "a simple and harmless process which is quite painless and often brings most surprising relief." I can thoroughly endorse these opinions from my own experience with cases of sciatica when all other methods had failed (*vide British Medical Journal*, Feb. 12, 1944, p. 230).—I am, etc.,

Worthing HERBERT H. BROWN.

The Child with Frequent Colds

SIR,—The article by Drs. Irwin and Frankel (Oct. 27, p. 566) has already attracted attention from several contributors, who have offered appraisals and criticisms. One factor which seems to have escaped all mention so far concerns the influence of a properly balanced diet on the problem of susceptibility to disease in general and to catarrhal infections in particular. No attempt was made to investigate in detail the dietetic habits of the 130 children under review or to classify them into acid and lymphatic or alkaline groups. For instance, the importance of the acid-producing foods, as chiefly represented by bread, sugar, and meat, if consumed in too great a proportion, is well recognized as a cause of diminished tissue resistance. Since it is true that the children of the poorer classes live mainly on acid bread and are the first to fall victims to epidemics, it is a fair assumption that the children of the not-so-poor frequently fall short of the properly balanced diet due to the lack of sufficient basic or alkaline foods, such as vegetables (raw and cooked), fruit, milk and its products. Many physicians recognize the "catarrhal" type of child, with its exaggerated "mucoid" reaction, especially in regard to the nose and throat, and the remarkable improvement which can be effected by reducing to a minimum such unsuitable carbohydrates as refined sugar and white bread and adjusting the balance as circumstances permit. This may sound an over-simplification when one realizes that even the correct foods must have the qualities of freshness and vitality that are hardly ever to be found in tins and never in large cities. Nevertheless the principle holds good, and I believe that, had the authors attempted to include in their investigation an evaluation of the dietetic habits of the children on the above lines, it is almost certain that their conclusions would have yielded something much more valuable than the negative results recorded.—I am, etc.,

Kilmacthomas, Co. Waterford. P. G. DOOLEY.

SIR,—My observations lead me to believe that it is children who have been subject to the process of "spoiling" and are in consequence neurotic who suffer most frequently from common colds. These occur despite, or most likely because of, the physical care lavished upon them. Spoiling consists of a mixture of savage restriction of the child's activities on the one hand and lavish indulgence on the other. As a consequence the child is constantly in that emotional state which is the primary cause of the common cold, or perhaps I had better say is the predisposing cause of it. I am sure it is a most dangerous procedure to act—especially surgically—on the assumption that colds have invariably a physical causation. Indeed, such an assumption is contradicted by many facts open to observation.—I am, etc.,

Leeds. E. WRIGLEY BRAITHWAITE.

Significance of the E.S.R.

SIR,—Recent correspondence on this subject emphasizes once more the wide divergence of opinion regarding its value. True, we still do not know what the E.S.R. is measuring, but, whatever the essential mechanism by which the stability of the blood is upset, the interpretation of the result in terms of tissue destruction gives valuable information to the clinician. Determination of the E.S.R. gives a measure of a state or condition, just as determination of the body temperature gives a measure of the febrile state. The one test does not claim to be any more specific than the other. The position has been further obscured by over-elaboration and differences in the methods employed. One would expect widely different results between the original Westergren method, using blood diluted 1 : 4 with 3.8% sodium citrate, and undiluted blood prevented from coagulating by the addition of dry potassium oxalate, even when set up in similar tubes; but so long as one method is used the results are comparable.

The lack of uniform standard values even with the same methods, and of agreement as to the extent of physiological variations, undoubtedly invites criticism and further research. In spite of these drawbacks, however, there are many clinicians who are satisfied that it is possible to get useful information from this test, when it is used, as any experimental procedure ought to be used, as one link in the chain of evidence on which a diagnosis or an assessment of progress may be founded. Too many of its detractors expect the E.S.R. to give information which it is incapable of giving, whilst refusing to accept the information which it can give.

May I cite one example of a situation in which the E.S.R. gives information not provided by any other procedure. The diagnosis of acute endocarditis is often a matter of great difficulty (Price's *Textbook of Medicine*, 1937), since it is not infrequent to find a mitral systolic murmur due to anaemia or simple dilatation. With a true endocarditis the E.S.R. is markedly accelerated, far beyond even the most optimistic of physiological limits, and it should be noted that this information is available in the early stages, just when it is most valuable. Indeed, it is frequently present before there are any localizing signs. Again, it is very difficult to decide whether the lesion is still active after convalescence is apparently established. The E.S.R. gives accurate information on this point, particularly if the result is graphed by 15-minute readings over the hour. My attention was first directed to the value of the E.S.R. in this type of case by the article by Oakley (*St. Bart's Hosp. Rep.*, 1936, 69, 241), and my own experience in dealing with endocarditis in scarlet fever would lead me to support the views expressed by Dr. J. W. Shackle (Nov. 24, p. 742) rather than those of Drs. D. G. McIntosh and D. M. Keay (Oct. 27, p. 584).—I am, etc.,

JAMES KELMAN.

Diet in Morphine Addiction

SIR,—In reply to Dr. Clifford Allen's letter (Nov. 17, p. 705) I must confess that I have never had the opportunity of treating a morphine addict suffering from pellagra. My assertion that "in no circumstances have I ever known a patient to gain weight in the first two weeks of treatment" referred to addicts only, and not to addicts suffering from pellagra.

I do not question that cases of pellagra respond rapidly to treatment and gain weight within a few days, but it certainly surprised me to read about a morphine addict, of twelve years' standing, with pellagra gaining weight within eleven days in spite of the fact that morphine was entirely withheld. I have no quarrel whatsoever with the treatment given, and, far from offering any criticism, indicated that intensive vitamin therapy, which I have employed with gratifying results in the treatment of drug addiction, might have been responsible for the "cure" in the case described by Comerford and Kirman (July 14, p. 44). My communication (Oct. 20, p. 547) nevertheless did intentionally convey considerable doubt regarding the "cure," not of the pellagra but certainly of the drug addiction.

Many authorities assert in the most unequivocal terms that there is no such thing as a cure for narcotic drug addiction. Dr. Allen's statement that he cannot believe that the patient could obtain a supply of morphine over a period of several months while under mental hospital observation is so naive that it prompts me to inquire how many cases of drug addiction he has endeavoured to manage. The fact that the patient "could walk several miles after discharge" is just as consistent with the persistence or relapse of the addiction as it is with cure.

The point of my letter was certainly not unfairly to criticize an account of an interesting case, but to suggest that a not inconsiderable item in the symptom-complex of drug addiction is a dietetic and vitamin deficiency.—I am, etc.,

London, W.1. ELLIS STUNGO, Major, R.A.M.C.

Avitaminosis and Arcus Senilis

SIR,—Having seen in one week a so-called arcus senilis in two men of 25 and 28, both of whom had suffered from beri-beri while in the hands of the Japs, I wonder whether avitaminosis may not have been the cause, as a case of an incomplete arcus seen a year ago in a middle-aged patient has cleared up entirely under better living conditions. A tendency to early arci may be familial, though the earliest age at which I have seen it was in a colleague in the last war; he was 24 and had an almost complete circle in both eyes.—I am, etc.,

London, W.1. SYDNEY TIBBLES.

Politics and Medicine

SIR,—There is much latent criticism of the profession's policy of "Wait and See" towards the new Health Services Bill. It seems to me that it might be useful if some fundamental principles were brought forward in the columns of the *Journal*. To start the ball rolling, I suggest that the profession should agree that politics should play no part in the advancement of doctors in their profession. A parallel case is discussed by Marshal Foch in the preface to his Memoirs. He points out that Joffre, before the war of 1914–18, "had made it possible to reduce, but not entirely eliminate, the number of inefficient general officers whose political opinions had won them their commands. . . . It may be remarked in passing that the very position of an officer should prohibit him, whether in time of peace or of war, from mixing up in the struggles and quarrels of politics." This is arguable, but Church of England clergymen and civil servants are not allowed to sit in the Commons. Foch then goes on, "His professional value can reveal itself only on the field of action before men of the same trade, his peers or his superiors; it cannot be estimated by political men. . . . Politics bring to the choice of Army officers nothing but error and injustice, two causes which more than anything else tend to enfeeble that body of public servants." It would be a great mistake if key positions in the new Health Service were given to medical men because of their political opinions. And if once appointed they can be got rid of only with the greatest difficulty, as Joffre found when he tried to unstick Sarrail.—I am, etc.,

London, W.1. WILFRED SHAW.

The Aim of Medicine

SIR,—The aim of modern medicine should be the "good life" as the Greeks understood the term. The fit body and the fit mind must go together, and to achieve this we should aim at complete mental, physical, and emotional development. Unless we do this various phases of our personality are in different stages of development, and they will cause emotional instability and conflict within the personality and also with the outside environment.

As Dr. Harry Coke says in his letter (Nov. 10, p. 667) there are many physiological responses to emotional stimuli, probably associated with a pituitary dysfunction. But surely to treat merely the dysfunction of the pituitary is to treat only the symptoms of the disease and to leave the cause itself undiscovered and untreated. Similarly in the treatment of a peptic ulcer the underlying cause should also be treated, otherwise the ulcer is apt to return. Also such metabolic disorders as atheroma and arteriosclerosis starting early in life, and essential hypertension, probably have a background of nervous stress and emotional frustration.

As any doctor who has worked in general practice knows, there is a close association between the antisocial or frustrated and the person suffering from subnormal health. These people already form a large proportion of any medical practice, and as more organic diseases are controlled they will form an increasing percentage. There is a solid mass of chronic ill-health among people leading unsatisfactory lives in rooms, hotels, and boarding-houses which will never be cured by orthodox methods.

I had an extreme case of social maladjustment and chronic ill-health some time ago. A man of 47, physically fit, came to me complaining of psychological impotence. He was an intelligent man of some charm and culture, had always been, but became a heavy drinker and gambler. He lived apart from his wife and had had at least three illegitimate children for whom he had been astute enough to evade responsibility. His early history was as follows: He was orphaned at an early age and joined a cavalry regiment in the 1914–18 war. When his regiment was turned over to infantry he decided this would be too hard work for him. Unfortunately he was able to regurgitate and vomit at will, and he immediately decided to put this faculty to some practical use. He was admitted to hospital and literally vomited his way through nine different hospitals, and after eighteen months in hospital, having lost 3 st. in weight, he was discharged from the Army. He then carefully fed himself up and joined the Royal Flying Corps. Since I treated him in 1943 this man has had a nervous breakdown, and his impotence has been sufficiently cured for the girl friend of the moment to have become pregnant.

How many men have been invalided from the Services in two wars as being psychologically unsuitable, with their neurotic and antisocial traits still untreated, to lead a life of ill-health or perversion causing trouble wherever they go? We as doctors realize that emotional maturity is as essential as physical maturity for adult well-being, and until we are given facilities to treat these cases effectively there will be a great mass of subhealthy and mentally abnormal people in the country.—I am, etc.,

Chepstow. MARY R. ANDERSON.

Training for Released Service Doctors

SIR,—I am glad to see that Col. C. D. Evans (Oct. 27, p. 585) has drawn attention to the unhelpful Government policy in regard to the further training of doctors who were starting to specialize before being called up. My own experience has shown that this policy, which looks so good on paper, will provide but little assistance to many returning medical officers who would now, but for the war, be well on their way to becoming competent specialists.

I joined the R.A.F.V.R. medical branch in 1937 on qualifying, and had intended to take the F.R.C.S. and M.R.C.O.G. with a view to specializing in midwifery and gynaecology. I did one H.P. and one H.S. job, and then settled down to work for the Fellowship, my intention being to complete that before doing the year's work in midwifery and gynaecology necessary to qualify for entrance for the M.R.C.O.G. examination. I was called up in August, 1939, being due to sit for the Fellowship the following January. Owing to circumstances beyond my control I was not able to continue study, but later, while overseas in 1942–3, took out a correspondence course for the Fellowship. On my return to this country a few months before D-Day, when our bombing offensive was in full swing, study again had to be dropped owing to pressure of work.

I wished to put in six months' intensive study to sit for the Fellowship in July, 1946, but am told that no grant can be made to cover this. Instead, the authorities state that I can have a "house" job for six months at £350 per annum, or a "short general refresher course of two weeks' duration, for which a fee not exceeding seven and a half guineas is paid by the Government." Nothing more. Yet I know of two men who were three years behind me in qualifying, who stayed in the E.M.S. until they had obtained the Fellowship, and then entered the Service as specialists, and are therefore eligible on demobilization for Class III jobs at a salary of £550 per annum. Like Col. Evans, I shall have to live (and support my wife) for six months on the large sum I have amassed as "gratuity" and "leave with pay" if I am to stand a reasonable chance of getting the Fellowship. And what of my wife, who has been separated from me by the "exigencies of the Service" for four out of our six years of married life?

I submit, Sir, that I am paying now for the patriotism which led me to "join up." Never again.—I am, etc.,

AMARUS.

Buying and Selling Practices

SIR,—You were wise, in your leading article of Dec. 1, to draw attention to the wider consequences of any restriction which the Minister may seek to introduce on the buying and selling of practices. Carefully avoiding all personalities, I would like, by a considerable effort, to imagine myself a hypothetical, logically minded Socialist Minister of Health. My object is the laudable one of distributing doctors evenly among the people, of seeing that the poor are attended on the same terms as the rich, of co-ordinating hospitals, laboratories, and other institutions, and of seeing that everything connected with medical care is ultimately controlled by myself.

I have to bear in mind that I am dealing with a very conservative-minded profession, of whose highly technical work I am ignorant. They have the reputation of being as stubborn as mules, so it will be better to lead this donkey with a carrot than to urge him with a goad—at any rate until I have him where I want him. I myself am an idealist who has never hankered for wealth, but I firmly believe that every Conservative has his price, for, to me, the pursuit of private gain is synonymous with Conservatism. Now I find myself in a fortunate position. I firmly believe that it is against the public interest for medical practices run by public money to be bought and sold privately, though it seems fair that the present owners should be compensated. Here, then, is the carrot. Everything now falls together. I arrange that a doctor must have about 2,000 patients to make a living; I forbid him to have more than 3,000. Automatically, the doctors in overdoctored areas plead with me to be allowed to practise in the underdoctored districts. As for the hospitals: Should they beg for pennies in the street? Is it right that the workers should have to join these voluntary contributory schemes? Obviously the State should accept this responsibility. And so—he who pays the piper calls the tune; fortunately and inevitably. All hospital staffs should be paid—why should they give their services? This is pauperism. They shall be paid—by me. Fixed salaries—and that will be the end of this Harley Street racket. What a simple and subtle scheme I have devised! I compensate the doctors; I compensate the hospitals. I just give—which is more blessed than to receive. I need do nothing else for the whole thing to adjust itself.—I am, etc.,

Ashtead, Surrey. W. EDWARDS, M.D.

Obituary

SIR DAVID GALLOWAY, M.D., F.R.C.P.Ed.

We regret to report the death in his 85th year of Sir David James Galloway, which it is now known took place on March 5, 1943, at his home at Johore Bahru, Malay Peninsula. Sir David had a most distinguished and varied career in Malaya—outlying parts of the British Empire which furnish opportunities for medical men of his calibre. He was born in 1858 in Edinburgh, and educated at Daniel Stewart's College and the University of Edinburgh. He took the M.B., C.M. degrees in 1884, the M.D., with gold medal for his thesis, in 1900, and in 1903 was elected to the F.R.C.P.Ed., having become a Member of the College in 1899.

He went out to the Straits Settlements as early as 1885 to practise medicine, and by 1895 his rapidly growing reputation as a physician led to his appointment to accompany the Sultan of Johore on his visit to England in that year. For his services he received the Second-class Order of the Crown of Johore, and in 1914 he was promoted to the First Class for services to the Johore State. Among other responsible positions held by Sir David may be mentioned service as Unofficial Member of the Executive Council of the Straits Settlements in 1903–14 and 1921, vice-chairman of the Straits Opium Commission in 1908, president of the Royal Asiatic Society Straits Branch, and member of the Council of the College of Medicine, Singapore, in which for years he lectured on the principles and practice of medicine. In January, 1924, he was knighted for his many public services, and on his retirement from active work he decided to make his home in the country he had served so long and faithfully, among his many friends. He published papers in this and other journals on splenic abscess of malarial origin, the aetiology and treatment of sprue, otomycosis, and other tropical diseases.

Sir David Galloway was a member of the British Medical Association for fifty years, and held office as president of the Malaya Branch in 1928–9. He represented his Branch at the Birmingham Annual Meeting in 1911 and at the Edinburgh Meeting in 1927.

W. S. DIGGLE, M.Ch.Orth., F.R.C.S.

Mr. Walter Saxon Diggle, whose early death took place on Nov. 17, had made a name for himself as an orthopaedic surgeon in the North-West of England. He studied medicine at the University of Liverpool, graduating M.B., Ch.B. in 1931, and obtained the degree of M.Ch.Orth. in 1936, a year after taking the F.R.C.S. His first appointments were as house-surgeon at the Liverpool Royal Infirmary and surgical registrar at the Northern Hospital; he then became supervising surgeon to the Oakmore Rehabilitation Centre under the Miners' Welfare Committee, and orthopaedic surgeon to the Walton Hospital, to the Bootle General Hospital, and to the Warrington Infirmary. In 1944 he was elected to the staff of the Royal Liverpool United Hospital.

A colleague writes:

The premature death of Walter Diggle has written *finis* to a career only half completed. Had he not been afflicted with the disease which so quickly and remorselessly exacted its ransom he would certainly have achieved a position of eminence and authority in his chosen specialty of orthopaedics; not that his ambitions lay in that direction. His only concern was to do his work honestly and well, and although he could delight his friends and students with frank and humorous expositions of his ideas, he seldom sought a wider audience. Those of us who were privileged to be his friends will have many happy memories of Diggle and one sad, splendid memory of a brave man facing a death sentence with almost unbelievable courage. Perhaps what will be remembered most is his uncompromising hatred of shams and hypocrisy. He was a stalwart champion of straight thinking and straight talking. He was never in two minds about his own opinion on any subject, but would listen readily, almost eagerly, to an opposite view, ready to laugh it to scorn if he could expose its falsity or to change his own view if convinced by the force of an argument new to him. He lived his life to the full, worked hard, played hard. He seemed to bring a breath of fresh air into the company when he joined it. It seems hard to realize that his boisterous laugh is now stilled for ever.

Diggle had, in the short space of ten years, established a wide connexion in hospital and private practice in Liverpool, Bootle, Warrington, and St. Helens. A year ago came his appointment to the teaching school of the Royal Liverpool United Hospital, and the fact that he was given senior rank without a preliminary period of assistantship was a high tribute to the reputation he had established. He was on the threshold of great achievements, and his untimely death has robbed us of a well-loved friend. He leaves a widow and a young daughter

DONALD DUFF, F.R.C.S.Ed., F.R.F.P.S.

We regret to announce the death on Nov. 25 of Mr. Donald Duff, the well-known Glasgow surgeon, who gave outstanding service at the Royal Infirmary as a member of the visiting staff for many years, and afterwards on the Board of Management.

Donald Duff was born in Glasgow in 1873 son of Murdoch Duff, and was educated at Daniel Stewart's College, Edinburgh, and St. Mungo's College, Glasgow. He took the Scottish triple qualification in 1901, the F.R.C.S.Ed. in 1904, and the F.R.F.P.S.Glas. in 1905. He was elected surgeon and gynaecologist to the Glasgow Central Dispensary in 1907 and assistant gynaecologist to the Glasgow Maternity Hospital in 1911, and for ten years held the chair of physiology at St. Mungo's College. During the war of 1914–18 he was a surgical specialist in the R.A.M.C., and consulting surgeon to the Malta Command with the rank of major. After his return to civilian practice he was appointed surgeon in charge of wards at the Glasgow Royal Infirmary and visiting surgeon to the Bellahouston Hospital under the Ministry of Pensions. He lectured in clinical surgery at the University, and examined for the Royal Faculty of Physicians and Surgeons and for the Scottish Conjoint Board; he was a Fellow of the Association of Surgeons of Great Britain, of the Glasgow Northern Medical Society, and of the Medico-Chirurgical Society of Glasgow. He took a particular interest in bone surgery and abdominal surgery, and published many papers on these subjects, including one in these columns in 1922 on the treatment of ununited fractures by bridge grafts. On his retirement from the active staff of the Glasgow Royal Infirmary in 1938 he was elected consulting surgeon.

R. D. GILLESPIE, M.D., F.R.C.P.

Dr. F. O'Donnell Finigan writes from Bampton, N. Devon:

The untimely death of Dr. R. D. Gillespie has left a void in psychiatry and British medicine which will be felt for years to come as a loss sustained by the whole profession. His reputation and original fertile influence extended to every corner of the globe and, possibly, he was regarded even more highly in America than in his native land: his name was almost a household word in Continental medicine.

Dr. Gillespie's graciousness and kindliness, his humility and greatness were appreciated by all who knew him, whether as patient, friend, or colleague. Having known him as a colleague and friend one is apt to forget the brilliance of his attainments. By the age of 28 he had reached senior consultant rank, and from then on he rose from height to height for nearly twenty years. Among his innumerable friends and admirers the opinion has been expressed that there is no man of sufficiently great calibre on whom his mantle might fall. Profoundly impressive also has been the deep sadness and sense of personal loss expressed by his patients—a loss seeming to go deeper than is usually felt by patients after the death of even the most beloved physician. It has been stated sometimes that he had about him some "other-worldness" as though through him something shone from another sphere. He himself seemed to be quite unaware of this, but all who came in contact with him sensed it and left feeling the richer.

The world, and in particular this island, is the poorer for his passing; nevertheless it may be that his memory will act as a spur to renewed effort in the field of psychiatric research, and thus in death he may achieve even more for his beloved science and people than he did during his lifetime. It is for those who received their early encouragement from him, and for all who remain, to carry forward his ideals, sensing that fidelity to this cause may lead them to the mountain peak which "R. D." so often referred to in allegory. This would be a living memorial such as he himself would have wished.

News has been received of the death of Capt. **Kenneth Daniels**, R.A.M.C., in a prisoner-of-war camp in Borneo on Aug. 6. He studied medicine at Newcastle-upon-Tyne, and graduated M.B., B.S. of Durham University in 1929. A member of the Portsmouth Division of the B.M.A., he was in partnership at Copnor before the war, and soon after joining up in 1939 was sent to Singapore Military Hospital. He became medical officer at Kuala Lumpur until the fall of Malaya, when he managed to make his way back to Singapore; as the Japanese approached he escaped to Java, where he was eventually taken prisoner. "C. R." writes: The death of Kenneth Daniels will be felt among a very large circle of friends and patients. His "happy-go-lucky" spirit and his charming boyish manner endeared him to all. He leaves behind the memory of a very fine and painstaking doctor, a great gentleman and a brave man. The greatest sympathy will be extended to his widow, who has borne the separation bravely, the more so when little or no news could be had of him. She had hoped that "no news was good news," it was *not* to be.

Lieut.-Col. **William Byam Lane**, C.I.E., C.B.E., I.M.S. (ret.), died on Nov. 20, aged 79. He was educated at Christ's Hospital, London, at Neuenheim College, Heidelberg, and at St. Bartholomew's Hospital, and qualified with the M.R.C.S. and L.R.C.P. in 1888. In the same year he entered the Indian Medical Service, and soon saw active service with the Hazara Expedition in 1891, in Waziristan in 1894–5, and with the Chitral Relief Force in 1895; for each of these he received a medal with clasp. Soon after he entered the Jail Department, and was promoted to be Inspector-General of Prisons in the Central Provinces from 1905 to 1916. His reputation as a sound administrator led to his being chosen for the important work of Inspector of the Disciplinary Labour Corps, Mesopotamia Expeditionary Force, in 1916; in 1920–1 he held the post of Inspector-General, Civil Jails, Mesopotamia; and from 1919 to his retirement in 1921 he was Acting Director of Health Services, Mesopotamia. For his valuable work in those responsible positions Col. Lane was awarded the C.I.E. in 1918 and the C.B.E. in 1919. After his retirement he lived in London, and in 1925–6 held the honourable position of Master of the Mercers' Company. He joined the British Medical Association on qualifying in 1888 and retained his membership for 58 years. He was a thoroughly sound and much-respected officer of the I.M.S. who will be mourned by his many friends.

The Services

A meeting will be held at the Duke of York's Headquarters (Centre Block), Chelsea, on Wednesday, Dec. 19, at 6.30 p.m., of officers who served in the 17th (1st County London) General Hospital, Territorial Army, to discuss the question of an annual dinner.

Capt. A. R. T. Lundie, R.A.M.C., has been awarded the M.C., and Capt. H. Mannington, R.A.M.C., has been mentioned in dispatches, in recognition of gallant and distinguished services in the field.

The following have been mentioned in dispatches in recognition of gallant and distinguished services in Italy: Brig. (Temp.) S. Arnott, C.B.E., D.S.O., and Col. C. H. K. Smith, O.B.E., M.C., late R.A.M.C. Brig. (Temp.) W. M. Cameron, O.B.E., Brig. (Acting) J. Kinnear, O.B.E., T.D., and Brig. (Local) F. A. R. Stammers, C.B.E.; Cols. (Temp.) W. A. D. Drummond, T. D. Inch, C.B.E., M.C., T.D., W. A. Y. Knight, A. S. Pern, O.B.E., T.D., and W. L. Spencer Cox, O.B.E., M.C.; Col. (Acting) J. T. Robinson; Lieut.-Cols. (Temp.) H. J. B. Atkins, T. F. Briggs, J. B. Herman, R. Johnston, D. W. E. Lloyd, M.C., C. M. Marsden, J. B. McEwen, M.C., J. S. Miller, T. P. Sewell, E. G. Sibley, W. R. Sprunt, T.D., A. W. S. Thompson, O.B.E., C. S. Thomson, A. P. Trimble, A. S. Wesson, P. L. E. Wood, D.S.O., M.B.E.; Majors H. F. Anderson, R. L. Benison, A. D. C. S. Cameron, R. G. Davies, E. A. Fiddian, C. Kenton, W. McLeod, R. M. Paton, M. S. Williamson, M.C., and G. H. Wooler; Major (Temp.) A. Beardwell, D. Bell, A. B. Birt, R. W. Cope, S. H. Croot, D. H. Cummack, H. W. Davis, A. C. Dornhorst, T. Duncan, K. B. Gibson, A. M. Giles, R. E. Haswell, J. Howell, M. A. Jones, A. R. Kennedy, T. G. Lowden, L. G. Macfarlane, W. B. McKenna, R. J. Milbank, R. I. Mitchell, A. A. Murray, W. M. Owen, J. H. Patterson, W. A. V. Payne, K. R. D. Porter, M.B.E., H. E. Smith, R. S. Stevens, D. L. Stewart, A. M. Tait, R. B. Terry, A. J. Thomas, J. H. Vickers, M. A. G. Ward, J. H. Warren, M.B.E., and G. N. Wilson; Capts. E. S. Aiello, J. W. Clark, S. A. Cohen, H. J. S. Coldham, J. Comyn, A. Fearnley, D. Ferguson, R. Fletcher, N. E. France, C. B. Hinckley, B. L. Hoffmann, M. S. Howe, M.C., P. H. Jones, W. A. D. Jones-Roberts, M. Latner, R. S. Lawrie, R. T. S. Louttit, B. S. Lush, J. Macdonald, A. F. J. Maloney, J. F. Mawe, R. P. Maybin, R. I. McAlley, A. D. McGill, J. D. McGregor, N. C. Mond, M. E. Moore, N. P. Orchard, A. T. Pagan, A. Paterson, D. E. Paterson, D. Purdie, E. E. Rawlings, J. J. Reeks, J. W. Richmond, J. F. Robertson, F. H. Robson, L. C. Robson, H. D. Rossiter, R. P. G. Sandon, J. Scott, H. A. Shaw, J. R. S. Shields, E. C. S. Talbot, J. E. Tannian, A L. Tulk, E. Vure, A. S. Walker, J. S. Walters, D. Weitzman, F. J. Whitaker, and A. L. Wyman; Capt. (Temp.) F. de B. White; Lieuts. W. H. Chanter, N. Dancer, J. R Grice, W. Hawthorne, F. H. Hogarth, R. J. Holliday, J. Noble, J. R. Purvis, E. A. Williams, and C. D. Woodhead, R.A.M.C. Col. M. Kirk Bryce; Col. (Temp.) D. Datt; Lieut.-Cols. (Temp.) C. W. Greene and W. Laurie; Lieut.-Col. (Acting) D. N. Basu; Major R. H. Neeve; Majors (Temp.) P. K. Chaterjee and S L. Rikhye; Major (Acting) V S. Trivedi; Capts. B. Uddin, A. Bhattacharya, K C. Ganapathy, M. Y. Ghaznavi, P. Jacobs, J. Singh, I. Jahan, K. C. Makerjee, J. D. Phibbs, S. R. Sarma, S. B. Datta, T. M. Seetapathy, and T. Stephens, M.C.; Capts. (Temp.) S. V. Ghurye and A. B. Rushton, I.A.M.C. Major G. Singh, Jaipur Medical Services. Col. J. R. Boyd, C.B.E., M.C., New Zealand Military Forces.

CASUALTIES IN THE MEDICAL SERVICES

Killed in action or died on active service.—Capts. Robert William McNamara and Adiel Elad Hazael Reid, R.A.M.C., and Flight Lieut. Hugh Macivor Given, R.A.F.V.R.

Died.—Capt. William Thomson, M.C., I.A.M.C.

Previously reported missing, now known to have been killed in action at Alexandra Hospital, Singapore, on Feb. 14, 1942.—Lieut. Geoffrey Rogers, R.A.M.C.

Killed in air accident.—Major Harry William Gilbert Staunton, I.M.S.

DEATHS IN THE SERVICES

Capt. **George Peter Nash**, R.A.M.C., died in Brussels of diphtheria on Nov. 23 when on his way home for demobilization. He was born in Canada, and qualified in 1932 from Queen's University, Ontario. He had only been just over a year in practice at Oxford when he sought a commission in the R.A.M.C. He was in the landings at Sicily, Salerno, and Anzio. He leaves a widow and two small sons. The news of his tragic end when so near home after over five years of service was received with profound regret by his colleagues in Oxford, who extend their sincere sympathy to his widow and young children.

Universities and Colleges

ROYAL COLLEGE OF PHYSICIANS OF LONDON

The Fitzpatrick Lectures on "The History of the English Medical Profession," which were to have been given by Dr. Cecil Wail on Dec. 11 and 13, have been cancelled owing to the illness of the lecturer.

Lord Moran, P.R.C.P., writes: In your issue of Dec. 1 you have printed extracts from a letter addressed to me by the President of the Royal College of Surgeons. It is, therefore, only fair to your readers that I should send you my reply:

Royal College of Physicians,
Nov. 30, 1945.

My dear President,—Thank you for your letter. There are two issues: what is best for the nation, and what is the course which is most likely to help the Royal College of Physicians to discharge its duties to the profession in the years to come. If I may dispose of my second question forthwith, I think you will agree that the only body that can answer such a question is the Comitia of the College. The Comitia decided on Oct. 25, with only two dissentients, that at the present time the College must remain where it is. I tell you this because I feel that it would be unfair to your Council if they were left in doubt about the actual feeling of the Fellows of my College. And I may add that this verdict has been endorsed on practical grounds by a Committee of independent experts.

May I then pass to consider whether that decision is at variance with the national interest? Most Fellows of this College have yet to be convinced of the precise benefit to the State if they were to abandon a building where they have long been the guests of the Crown, a building which for them has treasured historic associations, in order to migrate at a very difficult time so that they might live nearer to the sister College. It is, incidentally, common ground that if the Royal Colleges should ever decide on a common site (and the resolution of the Standing Joint Committee to which you refer spoke of a common site, and not of any particular site, such as Lincoln's Inn Fields) each College would retain its identity.

I am anxious to say nothing which may make it more difficult for my College to work together with our surgical friends, but this should be said. The consultant service of the future will inevitably bring all sections of consultants and specialists into more intimate co-operation, and the new responsibilities that will necessarily fall on the three Royal Colleges in connexion with that service will give them a unity of purpose which will not be dependent on geography. Meanwhile, it can only be hurtful to the natural development of a friendly partnership of that kind to refuse to accept the decision of the Comitia, and to ignore the very weighty reasons which made that decision inevitable. "When friends plan and do together, their minds become one mind and the last secret disappears." What is needed is a common purpose. In the coming months the Royal Colleges will have an opportunity of serving the nation by pooling their resources and their wits to give it a really efficient consultant service. If that opportunity is taken we need not fear that a real partnership of the Royal Colleges will fail to come into being.

Yours sincerely,
MORAN.

UNIVERSITY OF OXFORD

In a Congregation held on Nov. 24 the degree of D.M. was conferred, in absence, on J. C. Ryle.

UNIVERSITY OF CAMBRIDGE

Sir Lionel Whitby gave his inaugural lecture as Regius Professor of Physic on Dec. 5. Its title was "The Science and Art of Medicine."

The report of the Financial Board on allocations from the University Chest to the several funds states that in the published estimates no account is taken of the Treasury grant of £15,000 for medical purposes. Since it is necessary for a separate account to be kept of the expenditure of this grant, it will be credited to a Medical Grant Fund, from which allocations may be made direct to the medical departments concerned.

At a Congregation held on Nov. 23 the following medical degrees were conferred:

M.D.—E. E. Pochin, G. E. Parker, I. A. Guest.

M.B., B.CHIR.—*D. A. N. Barran, *R. Bellamy, * D. N. Seaton, *R. V. Walley, *J. A. Waycott, *E. J. M. Weaver.

* By proxy.

UNIVERSITY OF LONDON

At a meeting of the Senate, held on Nov. 28, Walter Freudenthal, M.D., was appointed to the University readership in dermatological histology tenable at University College Hospital Medical School as from Oct. 1.

The title of professor emeritus in morbid anatomy in the University was conferred on G. W. de P. Nicholson, M.D., who was University professor of morbid anatomy at Guy's Hospital Medical School from 1922 until April, 1944.

The *University of London Gazette* dated Oct. 12, only recently received, announces that the Wellcome Trustees are giving to the University an endowment of £44,000 to provide for the institution of a part-time Chair of Tropical Medicine to be held at the London School of Hygiene and Tropical Medicine.

An Institute of Child Health has been set up, at which will be tenable the Chair of Child Health recently established through the generosity of the Nuffield Foundation. For the time being the institute will be a central activity of the University and will be given facilities for its work both at the Hospital for Sick Children, Great Ormond Street, and at the British Postgraduate Medical School at Ducane Road. Eventually the institute will form part of the federation of postgraduate medical institutions in London, the scheme for which is now being worked out.

The following have been recognized as teachers of the University in the subjects indicated in parentheses: *London (R.F.H.) School of Medicine for Women:* Dr. W. G. Scott-Brown (Laryngology and Otology); Dr. Mary M. Shaw (Venereal Diseases); Dr. Ursula Shelley (Paediatrics); Dr. Ernest T. D. Fletcher (Medicine); Dr. Emma C. Williams and Dr. Lucy Wills (Chemical Pathology). *St. Thomas's Hospital Medical School:* Dr. C. B. B. Downman (Physiology). *St. George's Hospital Medical School:* Dr. R. D. Teare (Forensic Medicine). *King's College:* Dr. J. A. C. Knox (Physiology).

The appointments of house-physician at Southmead Hospital, Bristol, and medical clinical assistant at Sheffield Royal Infirmary have been approved for the purposes of the M.D. examination (Branch I).

The reduction in the clinical course for the M.B., B.S. examination from 36 to 30 months is to be continued up to the end of the session 1945–6, but the question of continuing it after that date will be considered this month.

An additional M.B., B.S. examination will be held in 1946, beginning on Monday, Jan. 28.

Medical Notes in Parliament

Postgraduate Courses for R.N. Doctors

Mr. A. V. Alexander explained on Nov. 16 that postgraduate medical courses up to six months' duration were provided for medical officers of the Royal Navy who were making their career in the Navy, so that they might be of greater use in their subsequent service. To throw open these courses to R.N.V.R. doctors would involve additional expense which he did not consider justified in view of the fact that the careers of these officers lay outside the Service.

The Navy's Ratio

Mr. Alexander stated on Nov. 19 that the present ratio of medical officers in the Navy to personnel was nearly 3 per 1,000. The present proportion of doctors to the civil population was 0.7 per 1,000. Conditions in the Royal Navy so differed from those in civil life that true comparison was impossible. Duties of Naval doctors included treatment of Merchant Navy personnel in certain ports.

Medical Demobilization

Replying on Nov. 20 to questions on the demobilization of medical officers, Mr. Isaacs said the number to be released in Class B in the medical profession, as in other professions, was necessarily limited. Within this limited number the Central Medical War Committee was able to deal with the cases where the need was most urgent, knowing the position over the country as a whole. Release of medical officers in Class A proceeded concurrently with release in Class B. He did not think it appropriate to interfere further with the Class B scheme. Col. Stoddart-Scott said the Central Medical War Committee was allowed to recommend only 33 medical officers monthly for demobilization under Class B, although over 100 cases worthy of recommendation came before it each month.

In a statement circulated on Nov. 21 Mr. Dugdale gave the following target dates of releases of medical officers in the Royal Navy: Groups 17 to 20, Dec. 31, 1945; 21 and 22, Jan. 31, 1946; 23 and 24, Feb. 28, 1946; 25 and 26, March 31, 1946 A tentative further forecast for medical officers was: Groups 27 to 29, April 30, 1946; 30 to 32, May 31, 1946; 33 to 35, June 30, 1946. Target dates were also given for dental officers.

Blood Tests in Motorists

In reply on Nov. 22 to Col. Gomme-Duncan, Mr. Ede said the law made no provision for blood tests to be taken compulsorily in a case where a motorist was suspected of being under the influence of drink. He was not aware of any cases in which these tests had been made on the instructions of the police. Where samples of blood had been taken from a motorist this had been done at the motorist's express request. It was open to a motorist to arrange for a separate analysis to be made; the difficulty would be to ensure that the analysis related to samples of blood taken from the defendant at the same time.

Mr. MANNINGHAM-BULLER asserted that it was a fairly regular practice in the Midlands for samples to be taken from suspected persons when in hospital with injuries sustained in a motor accident. He suggested that where blood samples were taken duplicate evidence should be given to the suspected person. Mr. EDE said that if the police did take such samples it would have to be the subject of some regulation so that the defendant could produce his own independent evidence. He was not convinced it was necessary to give the police this power in England. A practice of the kind prevailed in some of the United States.

Women Medical Students

Replying on Nov. 22 to Mr. Peter Freeman, Mr. BEVAN said the Government had made it a condition of future grants to medical schools that a reasonable proportion of women students should be admitted. Medical schools which had not previously admitted them were making plans to do so as soon as the difficulty of providing the necessary additional accommodation could be overcome.

Health of British Forces in Germany

There is no indication of an increase of cases of infectious diseases in the British Zone in Germany. An epidemic control system has been established on the borders of this zone.

After consideration by the Army Pathology Advisory Council on behalf of all three Services it has been decided not to immunize against diphtheria the British Forces generally in Germany. All medical and attached personnel in medical units are immunized where necessary after Schick testing. In the event of outbreaks steps will be taken to immunize all at risk.

Mr. Dalton on Doctors

On Nov. 27, during a Finance Bill discussion about the taxation of motor cars and of petrol, Mr. DALTON said that if the petrol duty were increased all sorts of people would claim rebates, including the doctor, who used his car in the course of his profession. The Government would give bits of paper to doctors or commercial travellers entitling them to get their petrol cheaper. These would be "traded" and the Government would not be able to control this black market.

The House agreed to the duty on cylinder capacity as proposed in the Bill.

Private Practice and Colonial Medical Service

Answering an inquiry on Nov. 28 by Col. Dodds-Parker, Mr. GEORGE HALL recorded that since the Colonial Medical Service was instituted in 1934 no officer appointed to it had a right to engage in private practice. In many cases officers were allowed to do so as a privilege under conditions governed by local regulations. Differences in local circumstances and in previous custom led to a wide variation in the procedure hitherto adopted in the different Colonies. He had now under consideration proposals which would lead to much greater uniformity.

Professional Subscriptions

When the House of Commons was in Committee on the Finance Bill on Nov. 29 Colonel ERROL moved that any amount not exceeding £15 in any year, which was paid by a taxpayer as subscription to an institution or other body conducted mainly for the advancement of any branch of learning, science, or technology and not operated for profit, should be deducted from the taxable salary, fees, or emoluments of such a person. He said these subscriptions were a burden to young men struggling to make their way in a profession. Mr. LINSTEAD said that the independent practitioner was entitled to deduct subscriptions which he paid to scientific societies if necessary in the practice of his profession. The man who happened to be an employee was not allowed to deduct them.

Sir FRANK SOSKICE said the practice differed under Schedule D and Schedule E. The former was more generous. Mr. Dalton was considering the discrepancy. He could not accept Colonel Errol's proposal. The proposed new Clause was negatived.

Committee on Scientific Man-power and Resources

Mr. ATTLEE announced on Nov. 29 that the Government had decided to appoint a committee of leading scientists and others to consider the policies which should govern the use and development of British scientific man-power in the next ten years. He was asked by the committee to submit an interim report on broad lines at an early date. Man-power was the most urgent problem. The committee would start its inquiry at once under the temporary chairmanship of Sir Alan Barlow.

Nurses in Mental Institutions: Government Regulation.—During the debate on Nov. 20 on the second reading of the Emergency Laws (Transitional Powers) Bill, Mr. W. S. MORRISON pointed out that it prolonged temporary laws for two years. The schedule of the Bill included Regulation 22AB, which gave power to require nurses, etc., to continue in employment in mental institutions. Why should the Minister of Health have this power? There was no doubt that compulsion would be needed for the unhappy purpose of staffing these mental institutions in the next two years. Mr. EDE said that Regulation 22AB had received a surprising amount of attention. A considerable number of the male staff of mental institutions were non-commissioned officers who had served in the Army. There was still a shortage of these men. Until they came back it was necessary that the people who took their places should be retained in employment. The Order did not apply only to male nurses, but the serious shortage was in respect of them. He hoped the Regulation need not be enforced through the whole period to Dec. 31, 1947. The Bill was read a second time.

T.T. Milk in Schools.—On Nov. 22 Miss WILKINSON said that under the Regulations for the Provision of Milk and Meals, 1945, the source and quality of school milk must be approved by the medical officer of health. Subject to this no exception was taken by her Department to the supply of tuberculin-tested milk to schoolchildren if heat-treated milk was not available or, in other cases, if no extra expense was involved. There were no medical grounds on which she would be justified in encouraging the supply of tuberculin-tested milk in preference to heat-treated milk.

Beds for Tuberculosis in Scotland.—At June 30, 1945, the latest date for which information is available, local authorities in Scotland had 1,898 tuberculous patients on their waiting lists and 5,470 patients under institutional treatment. The total number of beds available is approximately 6,700. The difference is accounted for mainly by the number of beds, estimated at 500, for which no nurses are available, and the number of beds in private sanatoria.

Medical News

On his 80th birthday, Nov. 28, 1945, a silver rose bowl was presented to Dr. H. G. Adamson by thirty of his old assistants and house-surgeons in the skin department of St. Bartholomew's Hospital at a sherry party held at Dr. Henry Corsi's house in Harley Street. Subscriptions had been sent by his old pupils from places as far apart as Australia, South Africa, and East Africa. In spite of the difficulties of the present time some sixteen of the subscribers attended the party to pay tribute to their old teacher, whom they were glad to see looking hardly a day older than when he retired from St. Bartholomew's Hospital eighteen years ago.

The Long Fox Lecture will be delivered at 8.15 p.m. on Tuesday, Dec. 11, in the main lecture theatre of the Wills Physical Laboratory (Royal Fort), Bristol University, by Prof. M. Skene, D.Sc. Subject: "Substances controlling Plant Growth."

The Royal Surgical Aid Society will hold its 83rd annual meeting at the Mansion House on Wednesday, Dec. 12, at 4 p.m., with the Lord Mayor of London in the chair.

Dr. C. J. Blok, chief pharmacist to the University and Municipal Hospitals, Amsterdam, will give a lecture on "Pharmaceutical Conditions in Holland under the German Occupation" before the Pharmaceutical Society of Great Britain (17, Bloomsbury Square, W.C.), on Thursday, Dec. 13, at 7 p.m.

On Thursday, Dec. 13, at 8 p.m., at the Royal Society of Tropical Medicine, 26, Portland Place, W., the American Ambassador will present to Dr. C. M. Wenyon, F.R.S., the Theobald Smith gold medal, awarded to him by the American Academy of Tropical Medicine.

A meeting of the London Association of the Medical Women's Federation will be held at B.M.A. House (Tavistock Square, W.C.) on Friday, Dec. 14, at 8.30 p.m., when Miss D. J. Kinloch Beck, F.R.C.S., will speak on "The Scope of Neurosurgery."

A lecture entitled "A Criticism of Physical Medicine" will be given by Sir Morton Smart on Saturday, Dec. 15, at 3.15 p.m., at the Royal Institute of Public Health and Hygiene, 28, Portland Place, W. Mr. V. Zachary Cope, president of the Board of Registration of Medical Auxiliaries, will take the chair. Physiotherapists and students of physiotherapy are invited, but admission will be by ticket only, which can be obtained from the honorary secretary, Society of Physiotherapists, 24, South Molton Street, London, W.1.

At the 283rd anniversary meeting of the Royal Society held on Nov. 30 Sir Henry Dale, O.M., gave his presidential address; Sir Robert Robinson was elected as his successor, and a portrait of the retiring president by Mr. James Gunn was unveiled.

The annual meeting of the Empire Rheumatism Council will be held at 11, Chandos Street, London, W.1, on Thursday, Dec. 13, at 4.30 p.m., when the chairman, Lord Horder, will present the annual report.

On Oct. 20 (p. 543) Sir Arnold Lawson, president of the Royal Medical Benevolent Fund, made a moving appeal for contributions to the Christmas Gifts Fund. Readers who meant to respond but have not yet done so are asked to send their contributions marked "Christmas Gifts" to the Secretary, R.M.B.F., 1, Balliol House, Manor Fields, Putney, S.W.15.

Visiting hospitals and medical centres in Britain for the next three weeks are the following Norwegian doctors: Dr. Kristian Kristiansen, Neurological Department of Oslo University Clinic; Dr. Hans Frederik Fabritius, Municipal Hospital, Oslo; Dr. Alf Brodal, University of Oslo; and Dr. Per Hanssen, Oslo Municipal Hospital. The visit has been arranged by the British Council.

The American Association for the Study of Goiter again offers the Van Meter prize award of 300 dollars and two honourable mentions for the best essays submitted concerning original work on problems related to the thyroid gland. The award will be made at the annual meeting of the Association in Chicago, in April or May, 1946, providing essays of sufficient merit are received. The competing essays may cover either clinical or research investigations; should not exceed 3,000 words in length; must be presented in English; and a typewritten double-spaced copy sent to the corresponding secretary, Dr. T. C. Davison, 207, Doctors Building, Atlanta, 3, Georgia, not later than Feb. 20.

The National Association for the Prevention of Tuberculosis has appointed Major Eric Wittkower, R.A.M.C., to conduct an investigation into the psychology of tuberculosis, and he will take up this work on his release shortly from military service. The research will begin with careful case histories and personality studies on a number of tuberculous patients.

The Food Group of the Society of Chemical Industry has issued from 56, Victoria Street, London, S.W.1, its syllabus for the remainder of the session 1945-6. All meetings are to be held in London, except joint meetings with the Yorkshire section at Leeds on Dec. 15, and with the Edinburgh section on Jan. 24.

To meet the increased demand for essential medicinal supplies during the winter months the Minister of Food has decided to authorize a temporary increase in allocations of sugar for the preparation or manufacture of medicines in accordance with formulae of the *British Pharmacopoeia, British Pharmaceutical Codex*, and *National War Formulary* during the period ending Jan. 5, 1946. The amount of the increase is 5% of the usage of sugar for this purpose during the twelve months ended June 30, 1939.

EPIDEMIOLOGICAL NOTES

Discussion of Table

In *England and Wales* whooping-cough, diphtheria, and scarlet fever were more prevalent, increasing by 85, 73, and 53 cases respectively. Decreases were recorded for acute pneumonia 43, measles 42, and dysentery 32.

Scarlet fever and whooping-cough followed similar trends during the week; the general picture was one of small rises in the north and south with fewer cases in the midlands.

Diphtheria had its highest incidence for 85 weeks; rises were recorded in Lancashire 41, Northumberland 17, Yorks West Riding 16, London 11, and Middlesex 11. Notable decreases were in Warwickshire 25, and Durham 18.

Measles was prevalent only in Norfolk, Norwich C.B. 56; one-seventh of the total cases in the country were notified in this city.

Dysentery fell to the lowest level for the past forty-six weeks. The chief returns were London 37, Lancashire 22 (Liverpool C.B. 11), Gloucestershire 19 (Bristol C.B. 18), Yorks West Riding 14, and Glamorganshire 12.

In *Scotland* infectious diseases were less prevalent. The falls in notifications included primary pneumonia 51, scarlet fever 40, whooping-cough 20, dysentery 20, cerebrospinal fever 13. The only increase was one of 26 for diphtheria, this rise being confined to the south-eastern and western areas.

In *Eire* diphtheria rose by 14, and whooping-cough fell by 20, while enteritis and diarrhoea remained stationary with 50 cases, of which 33 were notified in Dublin C.B.

In *Northern Ireland* there were 9 fewer cases of diphtheria, and 6 more notifications of scarlet fever.

Week Ending November 24

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,911, whooping-cough 1,232, diphtheria 654, measles 453, acute pneumonia 579, cerebrospinal fever 32, acute poliomyelitis 15, dysentery 223, paratyphoid 10, typhoid 7, typhus 2.

No. 46

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended Nov. 17.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county) (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1945					1944 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever	36	2	12	4	1	45	3	19	2	2
Deaths		—	1				1	2		
Diphtheria	646	50	183	91	15	619	20	171	110	29
Deaths	11	2	2	1	—	15	—	2	3	1
Dysentery	180	37	54	1	—	217	33	88	—	—
Deaths				—	—				—	—
Encephalitis lethargica, acute	—	—	—	—	—	2	—	2	—	—
Deaths		—					—			
Erysipelas			51	9	2			62	15	2
Deaths		—					—			
Infective enteritis or diarrhoea under 2 years				50					29	
Deaths	34	2	16	11	1	55	3	7	8	3
Measles*	403	35	92	118	1	6,001	65	311	34	191
Deaths	1	—	—	—	—	5	—	—	—	—
Ophthalmia neonatorum	54	5	19	—	—	62	6	19	—	—
Deaths										
Paratyphoid fever	1	—	2 (B)	—	—	18	1	1 (B)	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenzal†	420	31	9	4	2	626	15	7	4	4
Deaths (from influenza)	14	2	2	—	1	33	1	4	1	—
Pneumonia, primary			148	15				233	26	
Deaths		18		12	10		38		9	10
Polio-encephalitis, acute	3	—				2	—			
Deaths		—					—			
Poliomyelitis, acute	32	1	1	1	—	12	1	2	1	—
Deaths		—					—			
Puerperal fever		2	13		—		2	12		1
Deaths										
Puerperal pyrexia‡	125	12	16	—	—	127	8	11	2	1
Deaths		—					—			
Relapsing fever	1	—			—	—	—			—
Deaths										
Scarlet fever	1,674	134	269	19	42	2,335	56	357	37	90
Deaths	—	—	—	—	—	2	—	1	—	—
Smallpox	3	3	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Typhoid fever	1	—	—	8	1	7	—	2	13	1
Deaths	—	—	—	—	—	—	—	—	1	—
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Whooping-cough*	1,203	84	51	32	3	1,410	46	116	60	13
Deaths	5	2	—	1	1	3	1	3	1	—
Deaths (0-1 year)	30[illegible]	31	49	25	14	366	23	66	30	25
Infant mortality rate (per 1,000 live births)										
Deaths (excluding stillbirths)	4,294	638	560	184	109	5,099	747	663	184	146
Annual death rate (per 1,000 persons living)			12·7	11·9	§			15·2	11·9	§
Live births	6,345	855	786	335	265	6,507	584	927	337	259
Annual rate per 1,000 persons living			15·7	21·6	§			18·9	21·9	§
Stillbirths	174	26	30			228	18	29		
Rate per 1,000 total births (including stillborn)			37					30		

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* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

‡ Includes puerperal fever for England and Wales and Eire.

§ Owing to movements of population, birth and death rates for Northern Ireland are still not available.

Letters, Notes, and Answers

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ANY QUESTIONS?

Diphtheria Immunization

Q.—*A child was immunized three years ago with A.P.T., 0.1 c.cm. and then 0.5 c.cm. one month later. It is now said that the correct dosage is 0.2 c.cm. and then 0.5 c.cm. Should the child be re-immunized with two doses in view of this, or would one boosting dose be sufficient?*

A.—The defect in the immunization course described is the possible inadequacy of the primary stimulus to the immunity mechanism. A single reinforcing dose might give all the response that is required, but, in view of the long interval, it would probably be better to give a complete course consisting of two spaced doses of 0.2 c.cm. and 0.5 c.cm. of A.P.T.

Hepato-renal Syndrome

Q.—*What is the hepato-renal syndrome and how is it related to the state described as cholaemia? What is the best treatment for a patient with liver disease who seems in danger of passing into the state of hepatic (? hepato-renal) failure?*

A.—The name "hepato-renal syndrome" is sometimes loosely applied to any condition in which there is simultaneous insufficiency of the liver and the kidneys; examples of this are Weil's disease and carbon tetrachloride poisoning. If the term is used in this sense it becomes so comprehensive as to be almost meaningless. The name "hepato-renal syndrome" is therefore better confined to conditions in which primary hepatic disease is followed by signs of renal failure. The syndrome in its classical form is seen after operations on the gall-bladder or biliary tract and after mechanical injuries of the liver. It may, however, occur with any severe hepatitis or necrosis of the liver. It is not generally appreciated that degenerative changes of varying degree are always found in the kidneys of patients dying from acute infective hepatitis and homologous serum jaundice. The lesions range from simple cloudy swelling to actual necrosis, similar to that of mercurial poisoning, and they are classified by the pathologist as cholaemic nephrosis. Similar renal changes are found after death in the hepato-renal syndrome, and we might therefore define the syndrome as cholaemia plus cholaemic nephrosis.

There are two schools of thought about the mechanism of production of the renal damage. It is similar to the renal damage which results from the crush syndrome, gas gangrene, and incompatible blood transfusion. One school ascribes it to the action of toxic substances, such as products of digestion, which are detoxified in the normal liver, products of liver autolysis, and the toxins of micro-organisms in the liver or the biliary passages. The other school ascribes the renal damage, not only in the hepato-renal syndrome but in all these disorders, to vascular shock, dehydration, and failure of the blood supply to the kidney.

The primary objectives of therapy in cholaemia and the hepato-renal syndrome are to repair dehydration and restore the disturbed blood chemistry to normal, to reduce the metabolic load on the liver and kidneys, and to promote the regeneration of cells which have been destroyed. It is desirable to have frequent estimations of the blood urea, blood sugar, plasma chloride, and plasma bicarbonate, and a chart should be kept of the fluid balance. If parenteral therapy is used, the greatest care must be taken to avoid circulatory overloading, oedema of the lungs, or abrupt alterations in the blood chemistry. Glucose should be given freely, by mouth or intravenously. Calcium salts are of value for the relief of symptoms of cerebral irritation. Barbiturates are dangerous and should not be used for intravenous anaesthesia. If there are signs of vascular collapse, transfusion of plasma is probably desirable. So far there will probably be general agreement; controversy arises over the value of treatment with proteins, amino-acids, and choline. Orthodox therapy is to restrict the intake of both proteins and fat, to reduce the work of the liver. Recently there has been a tendency to give a high protein intake, in the belief that proteins may protect the liver from fatty infiltration and necrosis and promote regeneration of the parenchyma. Data are still inconclusive, and the use of protein hydrolysates and methionine must be considered very much an experiment. There is a stronger case for choline chloride, as it is unlikely to do harm if injected slowly, and it is believed to influence the kidneys as well as the liver. A daily dosage of 10 g. has been recommended, and this should be given by slow intravenous drip in normal saline, not exceeding 3 g. choline an hour.

Oral or Injected Oestrogens

Q.—*What are the advantages of injecting synthetic or natural oestrogens into the body over the oral route? Please indicate any diseases or disorders alleviated and corrected by parenteral oestrogens only, and unaffected by oral treatment.*

A.—In giving oestrogens it is important to avoid unnecessarily high dosage and to aim at achieving a continuous action, bearing in mind that small and oft-repeated doses are more effective than large doses given at infrequent intervals. So long as it is efficient, oral administration is clearly preferable, for it not only assures a regular and frequent intake but is more convenient than repeated injections.

Natural Oestrogens.—With the possible exception of oestriol, which is in any case weakly oestrogenic, natural oestrogens are much less effective when given by mouth than when they are injected intramuscularly. Oral preparations are therefore employed when a minimal effect is sufficient, as in the treatment of climacteric symptoms, vulvo-vaginitis in children, etc. When a maximum effect is desired parenteral administration is necessary. Aqueous solutions are quickly absorbed and their action is fleeting, so they are rarely used. Hormone esters (e.g., oestradiol benzoate, oestradiol dipropionate) in an oily medium, which are more slowly absorbed and have a more prolonged effect, are therefore usually employed for therapeutic purposes. They are used in the treatment of uterine hypoplasia, uterine inertia, to suppress lactation, and to induce abortion when the foetus is dead. For such uses it would be difficult to achieve a sufficient concentration of hormone in the blood stream by oral administration alone. In many cases there is much to be said for combining oral and parenteral administration, thus ensuring both a powerful and continuous application of the hormone. Recent developments to achieve these objects are to inject oily suspensions of crystals, and to make subfascial and subcutaneous implants of hormone tablets. Although effective, this latter method is open to the disadvantage that, once applied, the treatment is out of control; it is not easy to find and remove the tablet if it proves to have untoward effects.

Synthetic Oestrogens.—Synthetic oestrogens are not destroyed or inactivated to any extent by the processes of digestion and assimilation, so they are almost as efficient when given by mouth as by injection. Their potency on oral administration is not much less than that of natural oestrogens administered parenterally; some, indeed (e.g., dienoestrol), are more potent. The fact that synthetic oestrogens are cheaper, and that by the oral route alone it is easy to assure the patient of an intake adequate for the treatment of any condition, has led to their present popularity, which has been achieved at the expense of the natural oestrogens. This is perhaps unfortunate, because their high potency is not always appreciated; they are often administered too freely and in too large a dose. Again, they frequently cause toxic symptoms such as nausea, vomiting, and headache (? due to overdosage). There is little, if any, need to give synthetic oestrogens by injection—they are sufficiently active by mouth. Parenteral administration does sometimes seem to decrease their tendency to produce vomiting, but not always.

Furunculosis

Q.—*I would be grateful for advice on an obstinate furunculosis. The patient is a woman of 35, stout and in good condition. Several boils develop together in the external auditory meatus. The patient attributes her condition to wartime feeding.*

A.—This may be a case of boils localized by reason of the character of the skin in which the first lesion arose. In that case appropriate local treatment is most important. The part should be kept dry, and watery solutions, syringing, and ointments should be avoided. Dry heat, as in short-wave diathermy and x-ray therapy, is beneficial. A solution of one of the dyes in spirit, or 10% phenol in glycerin, is also a suitable local measure. It is doubtful if specific therapy, such as penicillin injections, is necessary, but it may be considered, and penicillin may similarly be used as a local application. If the affection is of long standing, then penicillin or vaccines or non-specific shock therapy often help. The patient should be warned against fiddling with the ear.

In a general way chronic boils are dependent upon general health (urine and blood particularly should be examined), a focal source of infection (such as a fissure, running ear, mouth or nose sepsis, pruritus ani), the type of skin and patient (seborrhoeic and hyperhidrotic), and occupation (oil and tar workers, etc.). Even with localized boils this approach is necessary and desirable. Wartime diet is not responsible for boils.

Rubbing the Skin after Subcutaneous Injections

Q.—*What are the indications for, and the rationale of, rubbing or kneading after giving a subcutaneous injection? Is, spirit or iodine swabbed over the surface a few times likely to sterilize the skin? If not, does massage encourage inoculation of the puncture with staphylococci, etc., from the neighbourhood?*

A.—The object of this manœuvre is to disperse the injected fluid and so hasten its absorption. This may be of slight benefit when the fluid is a drug which is required to act as quickly as possible. It is actually contraindicated after the injection of an active immunizing agent, particularly A.P.T. In other circumstances it is merely superfluous. The added risk of infection must be very slight; pressure would tend to produce an outward flow along the track of the needle, and penetration by bacteria from the surface should therefore not occur. Adequate treatment with iodine or spirit does disinfect the skin in the sense of ridding it to a large extent of its "transient" and possibly dangerous flora. It is impossible to destroy the "resident" flora (including staphylococci), but these organisms are usually non-pathogenic.

Test for Death from Drowning

Q.—*When the body of a man who had fallen overboard and been caught up in the boat's propeller was eventually hauled out of the water I noticed that, although no clotting was present (presumably due to the action of sea water), there was no bleeding from any of the severe lacerations. Apart from the length of time the body had been held under water, I concluded from the absence of bleeding that the heart had stopped. Was this correct? If so, could one test for death in cases of drowning by incising a vascular part of the body? If, after squeezing out any stagnant blood from the surrounding parts, no further bleeding occurred, could one assume stoppage of the heart and death? Does a weak pulsation of the heart cause some blood-flow in the arterioles, which could be recognized from an incision? The answer given in these columns that death should be assumed only when rigor mortis had begun to set in shows that a quicker test for death is desirable.*

A.—It can always be assumed that death has taken place when arteries cease to bleed, and the bigger the artery the more definite the proof of death becomes. To make use of this fact in a test for death would be unjustified for several reasons.

Under certain conditions the action of the heart is liable to be so weak that it cannot be observed by ordinary clinical procedures. Such instances commonly occur in cases of hanging, suspected drowning, electric shock, injury by lightning, and in the newly born. In these cases the weak action of the heart may maintain only a very small flow of blood through the vessels. Incising a vascular area, even arteriolar, may reveal a slight ooze of blood only, devoid of pulsation and leading to an erroneous impression of actual death. The incision of a larger artery may indeed indicate whether or not life still exists, but such an operation is unwarranted and may itself precipitate a fatal issue or lead to unnecessary complications. The only procedure in any case of doubt is to continue with resuscitation until breathing is established or death is absolute. In cases of suspended animation from electric shock or lightning this may necessitate the continuance of artificial respiration for two hours or more.

Fatigue and Depression

Q.—*Is there any satisfactory treatment by drugs or diet for fatigue and depression in a male aged 60? All tests are negative, despite a long history of colitis, which has improved with the onset of a synovial hypertrophy in one knee-joint. This knee trouble has itself improved, but the subjective symptoms have increased. Occupation is full-time. Energy runs down rapidly, especially after lunch. Abstainer and smokes tobacco, two ounces a week.*

A.—The difficulty here is mainly one of diagnosis. The commonest cause of such symptoms appearing, in the absence of any abnormal physical finding, would be involutional depression. If this were established the prospects of recovery with electrical convulsion treatment would be excellent. Other possibilities are an anxiety state, possibly brought about by uncongeniality of work or by private affairs, dietetic inadequacies, early cerebral arteriosclerosis, etc. A psychiatric examination is required and reference to a consultant seems to be indicated.

Supraorbital Neuralgia

Q.—*A girl of 22 suffers from right supraorbital neuralgia. Health is otherwise good. Dental and E.N.T. examination revealed nothing abnormal. An injection of novocain into the supraorbital nerve relieves the pain for one or two days. What treatment is suggested?*

A.—Supraorbital neuralgia is a term used to describe more than one condition. It may mean a pain strictly confined to the distribution of the supraorbital nerve or it may include any pain situated above the orbit. Supraorbital neuralgia in the former sense is likely to be associated with some tenderness of the supraorbital nerve, and often with hyperaesthesia and hyperalgesia of the skin which it supplies. It is due to a toxic or inflammatory lesion of the nerve itself, and is likely to be relieved temporarily by an injection of novocain into the nerve, and permanently by following this with a few minims of 90% alcohol.

Supraorbital neuralgia in the more general sense may be a symptom of a large variety of disorders. The pain may be referred to this region from the eye, nasal sinuses, and the upper incisor teeth. One form of supraorbital neuralgia is associated with migraine and is known as migrainous neuralgia. Trigeminal neuralgia usually involves the ophthalmic division only after the second or third division is already affected. Lastly, it must be remembered that such pain is sometimes psychogenic. The treatment will depend upon the cause.

Autogenous Vaccines in Tuberculosis

Q.—*A male patient aged 35 had pulmonary tuberculosis, confirmed by x-ray examination and positive sputum. Before the war he was given an autogenous vaccine, and has since kept perfectly fit. Is this case exceptional, and is there any risk in giving a patient with a positive sputum an autogenous vaccine?*

A.—It is unlikely that the administration of an autogenous vaccine was instrumental in causing the apparent recovery of this patient Spontaneous "cure" is not an uncommon occurrence in tuberculosis, and it accounts for the occasional apparent successes of popular nostrums. It is possible that the patient's symptoms were due to secondary infection of an indolent fibrocavernous lesion and that the vaccine helped to control this secondary infection. Autogenous vaccines have been recommended for the treatment of cases of this type, but few authorities are convinced of their value

Effects of Putrefied Meat

Q.—*May I continue the discussion on putrefaction of meat, poultry, and game (*JOURNAL, *Oct. 20, p. 555). The wild Naga tribes of N.E. India appear to prefer their meat putrid. I was inclined to think this was a case of acquired immunity. On the other hand, I have seen cases of nausea, vomiting, and diarrhoea—usually transient—in ordinary individuals who have eaten partly putrid venison. However, I have never seen similar ill effects from eating game, such as grouse, partridge, etc., in this country or abroad Have experiments been carried out to ascertain the effect of "extracts" made from putrid game on cultures of some of the ordinary pathogenic organisms?*

A.—Your correspondent's experience of putrid meat being eaten by Naga tribes without harm is quite in line with experience elsewhere. His other remark, that transient symptoms may occur from the consumption of such foods in individuals, is less well authenticated, but "high" venison might be contaminated with pathogenic staphylococci and so might contain toxic enterotoxin. He asks if experiments have been carried out, and the answer is, Yes. Savage (*J. Hyg.*, Camb., 1921, **20**, 69) carried out a long series of experiments with kittens (the most suitable animal), feeding them daily for at least a week with meat foods in an extreme state of decomposition. The general result was that, apart from some loss in weight in some of the kittens, there were no symptoms or detrimental effects. Savage remarks: "In no case was there the slightest evidence of infection or any ill effects, apart from disturbances of nutrition, probably to be accounted for by the nauseating food." The experiments also included feeding with large quantities of the bacteria isolated from these highly decomposed foods, and with sterile filtrates. Decomposed fish was used as well as decomposed meat. Considering the whole question, including a study of a very large number of food-poisoning outbreaks, Savage adds that his investigation "singularly fails to bring forward any evidence associating the consumption of food in a state of incipient putrefaction with illness in those who consume it."

Dry Rot

Q.—*What is "dry rot"? Is it caused by a fungus? What steps can be taken to prevent its spread? Is there anything in the superstition that dry rot in a house is detrimental to the health of its occupants?*

A.—Dry rot is caused by a fungus, *Merulius lacrymans* Fries Timber which is attacked is reduced to a dry, powdery consistency; hence the name of the disease. Occurrence of the fungus is always associated with excess of moisture in the timber. Common predisposing causes are the use of unseasoned wood, leaky pipes, faulty gutters, inadequate dampcourses, and cracked or porous walls. Trouble may also arise from lack of ventilation and consequent accumulation of very humid air. Once established, *Merulius lacrymans* spreads rapidly and is capable of forcing its way through brick or stone walls in search of fresh food. Prevention of spread involves: (1) finding and removing the source of moisture; (2) complete removal of all infected wood; (3) replacement with well-seasoned timber treated, preferably by pressure impregnation, with creosote or copper naphthenate.

The only way in which dry rot in a house may affect the health of the occupants is by the sudden collapse of floors or other structural timber. The superstition probably arises from the fact that the damp conditions which favour growth of the fungi may, in themselves, affect health adversely.

Demerara v. White Sugar

Q.—*How does sugar-cane or beet become the white product on our table? Are any vitamins or minerals lost in the process? Is demerara sugar better than white sugar?*

A.—The juice obtained from beet-root or cane is evaporated and sugar crystallizes out. This sugar is redissolved and purified by the precipitation of salts, such as calcium carbonate, in the solution, and by treatment with activated charcoal. Vitamins and minerals of the cane or root are lost in the process. In the case of beet-root the chief vitamin lost is ascorbic acid.

Demerara sugar contains small amounts of nitrogenous impurity, calcium, and iron, which are almost completely absent from white sugar. If our present ration of sugar were taken as demerara sugar it would increase the day's calcium and iron by 17 mg. and 0.3 mg. only.

INCOME TAX

Expenses of Employment

W. T. inquires what expenses are allowable to a whole-time M.O.H. for income-tax purposes.

⁂ The statutory rule is that expenses wholly, exclusively, and necessarily incurred in the performance of the duties of the employment are allowable. This covers the cost of running a motor-car in so far as it is used for the purposes of the employment and the cost is not met by the employer. "Capital" costs—e.g., the cost of purchasing a car—cannot be deducted, but a depreciation allowance can be claimed annually. Subscriptions to professional societies can be deducted if the employer requires the employee to belong to the societies in question.

LETTERS, NOTES, ETC.

Examination Questions for Radiographers

Dr. HUGH MORRIS (Manchester) writes: Can anyone connected with the Society of Radiographers tell a mere radiologist what importance is attached in radiographic circles to the lymphatic drainage of the breast? For, believe it or not, candidates for Part I of that society's November examination were expected to be able to describe that drainage in detail. Surely the examiners can find, in the whole of the human body, enough questions bearing on the daily work of the radiographer without hunting for questions that are not of the slightest practical importance. Or is it that they have been reading some of the questions for the S.R.N. examinations and have decided to produce semi-medical radiographers? Whatever it is, it should never have happened.

Phytic Acid and Calcium Deficiency

Dr. J. P. McGOWAN (Aberdeen) writes: Regarding your annotation on phytic acid and calcium deficiency (Nov. 3, p. 610) may I point out again that rickets is due not to a lack of calcium but to a lack of phosphate. The simple fact that vitamin D is useless in preventing or curing the condition due to calcium deficiency (osteoporosis) ought to leave no doubt that this condition is not rickets.

Ichthyosis

"A DOCTOR'S WIFE" writes: I have just read the question and answer headed "Ichthyosis" (Nov. 17, p. 713). It occurred to me that it might be of interest to give my experience of treating this condition in my own case (even though I am a laywoman).

My father—now aged 85—has always had marked ichthyosis. Loose flaking scales up to 3/4 in. in diameter are quite usual, particularly on his legs and arms. As a child the skin all over my body—and to a lesser degree on my face—was very dry and scaly; and a source of great misery and shame to me, particularly when staying in other people's houses, where I left a trail of skin at each dressing and undressing. It improved very slightly about puberty. When about 17 I discovered the advantage of using some cosmetic cream on my face and hands after each washing. Later I began experimenting with the rest of my body, and after some years, during which I tried a great many different things, I finally found that I could keep the condition almost completely in check by a daily hot bath with superfatted soap, followed immediately—and this is most important—while the skin is still slightly moist and warm, by a fairly liberal application of paraffin. molle alb. While the skin in still moist and pliable this is almost immediately absorbed, but sometimes a slight excess has to be wiped away before dressing. I found that by regularly doing this, and also exposing the skin gradually to the sun and air after sea-bathing (followed, of course, by an application of the ointment) during every spell of fine weather, my skin is, in the summer, able to sweat and tans well, while becoming almost as smooth as the average skin. In the winter, although drier, it does not scale or crack.

As this skin disorder can be a source of great misery, particularly to women, I have felt it might be helpful to give the result of my many years of experiment. This is not of course a cure, and it relapses to its former state if for any reason I have to miss my routine treatment. One other thing: in my experience liquid paraffin is not nearly so good—it is not well absorbed and aesthetically is unpleasant, leaving the skin shiny and soiling the clothes. Also yellow petroleum jelly is irritating over a long period, is not so emollient, and not well absorbed. No ointment, I find, is the slightest use unless the skin has been warmed and wet before rubbing it in.

Surgical Emergencies in Dogs

Dr. FARQUHAR MURRAY (Newcastle-upon-Tyne) writes: I have had two black Aberdeen terriers. Both had major surgical emergencies and made excellent recoveries. *Case 1.*—At 8 weeks old it hurriedly gulped the knuckle of a chop bone, which became impacted between the glottis and the sternum. It was diagnosed by Mr. Elphick (veterinary surgeon) and confirmed by *x*-ray examination. The bone showed clearly in the photo like an arrow-head with the prongs upwards. Under nembutal the oesophagus was opened and the bone, which had been impacted for four days, removed. The dog was back in my house, with the stitches out and the wound completely healed, in three days. *Case 2.*—At 2 years old it suddenly flopped one morning, and during the day showed symptoms suggestive of obstruction. It retched repeatedly and made abortive efforts at defaecation. Mr. Colin Welsh (veterinary surgeon) considered there was intestinal obstruction, but neither *x*-ray nor palpation nor repeated rectal examination was able to determine the site or the cause. A later rectal examination showed blood and mucus, and he diagnosed an intussusception. He operated under nembutal at 2 a.m. next day, and found a gangrenous ileo-colic intussusception with local peritonitis. He resected the mass and did a lateral anastomosis. The dog was back in my house, with the stitches out and the wound well healed and as fit as a fiddle, in six days. I mention these two cases not only for their surgical interest but also in the firm belief that possibly in the secretions of dogs we may find something comparable to penicillin. I quote them also out of admiration for members of an allied profession whose diagnostic ability and technical skill are well worthy of recognition.

A Question of Nationality

Dr. J. UNGAR writes: In his lecture, reproduced in the *Journal* of Nov. 10, Sir Howard W. Florey mentioned the pyocyaneus protein used in the treatment of varicose ulcers by Honl and Bukovsky, who are described as Russians. The two above-named investigators were actually Czech professors at the Charles University in Prague, and their original work was published in the Slav language in the *Proceedings* of the Royal Academy of Science and Art some forty years ago, and therefore hardly accessible now. The information Sir H. W. Florey got was from abstracts in German journals, and that is why the origin of the two was erroneously attributed to another Slav nation.

Journals and Books for Italy

Major W. MACKENZIE, R.A.M.C., wishes to thank the many doctors who have contributed whole-heartedly in response to his appeal (July 7) for British medical publications, of which there is still a need in Italy. Parcels should in future be addressed to Lieut.-Col. G. Frizelle, R.A.M.C., Deputy Director, Public Health Subcommission, Allied Commission Headquarters, Rome.

Corrections

Dr. J. L. BURN, M.O.H. for Salford, writes to point out an error in the annotation entitled "The Case for Nurseries" published on Nov. 24 (p. 735). The letter printed in the appendix to the memorandum was not from the medical officer of health for Salford, but the medical officer of health for Smethwick. Dr. Burn does not agree with the statement that the dangers described "are entirely theoretical." Although these dangers may have been over-estimated in the past they are, he says, real and demand great vigilance and effort.

The report of Dr. Wenyon's presidential address which appeared in last week's issue contained a mistake in the account of Lieut.-Col. W. H. Hargreaves's work on amoebic dysentery and the importance of eradicating bacterial infection by penicillin or one of the sulphonamides in the treatment of resistant cases (p. 775). Col. Hargreaves's name was inadvertently written Henderson.

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THE PROPOSED NATIONAL HEALTH SERVICE

FUNDAMENTAL PRINCIPLES OF THE MEDICAL PROFESSION

The principles set out below were drawn up and agreed upon last week by the Negotiating Committee. This committee is composed of representatives of the British Medical Association, the Royal College of Physicians of London, the Royal College of Surgeons of England, the Royal College of Obstetricians and Gynaecologists, the Royal Scottish Medical Corporations, the Society of Medical Officers of Health, and the Medical Women's Federation. The Negotiating Committee is therefore truly representative of the medical profession and speaks on behalf of all medical men and women in this country.

All Government proposals for a National Health Service should be looked upon in terms of these principles, and when the principles are infringed in any one particular the medical profession should be able to unite itself in opposition. So long as none of these principles is infringed then the profession should find no difficulty in co-operating with the Government in working out the administration of a National Health Service.

For a quarter of a century the medical profession has stressed the need for a complete health service.

The profession is willing and anxious to co-operate with the Government in evolving this service, for it believes that the knowledge and experience of the profession are indispensable contributions to its success.

It re-emphasizes that good housing and social, economic, and environmental circumstances are the principal factors in the maintenance of health and the prevention of disease. It urges the expansion of medical research.

In the interests both of the public and of medicine the profession regards the acceptance of the following principles as essential:

I. The medical profession is, in the public interest, opposed to any form of service which leads directly or indirectly to the profession as a whole becoming full-time salaried servants of the State or local authorities.

II. The medical profession should remain free to exercise the art and science of medicine according to its traditions, standards, and knowledge, the individual doctor retaining full responsibility for the care of the patient, and freedom of judgment, action, speech, and publication, without interference in his professional work.

III. The citizen should be free to choose or change his or her family doctor, to choose, in consultation with his family doctor, the hospital at which he should be treated, and free to decide whether he avails himself of the public service or obtains independently the medical service he needs.

IV. Doctors should, like other workers, be free to choose the form, place, and type of work they prefer without Governmental or other direction.

V. Every registered medical practitioner should be entitled as a right to participate in the public service.

VI. The hospital service should be planned over natural hospital areas centred on universities in order that these centres of education and research may influence the whole service.

VII. There should be adequate representation of the medical profession on all administrative bodies associated with the new service in order that doctors may make their contribution to the efficiency of the service.

STATEMENT BY MINISTER OF HEALTH

COMPENSATION IN RESPECT OF MEDICAL PRACTICES

The following statement was made by the Minister of Health in the House of Commons on Thursday, December 6, 1945:

"The Government have not yet finally decided upon the proposals which they will be submitting to Parliament for a National Health Service.

"They believe, however, that it will be incompatible with the provision of an efficient service that the future exchange of medical practices and the creation of new practices within that service should be left entirely unregulated and that no effective steps should be taken to secure a proper distribution of doctors to fit the public need.

"I appreciate that intervention in this field, in whatever form it may take, will probably have the effect of preventing the sale and purchase of the practices of doctors taking part in the new service, and the Government therefore think it right to give warning of this probability at once and in advance of the formulation of their full proposals.

"At the same time and in order to allay the natural anxieties of doctors already in practice, or coming into practice from the Forces or elsewhere, the Government wish to make it clear that there will be an appropriate measure of compensation to doctors in respect of loss of capital values directly caused by the new arrangements.

"It is intended that discussion should be undertaken immediately with the profession's representatives with regard to the steps to be taken to give effect to this decision."

STATEMENT BY SECRETARY OF NEGOTIATING COMMITTEE

The Secretary of the Negotiating Committee of the medical profession, Dr. Charles Hill, made the following comment on the Government statement:

The Government's undertaking to pay compensation for any loss of capital values incurred by doctors as a result of its new proposals—whatever they may turn out to be—is plain justice. The capital represented by a doctor's practice is something which he has paid for or built up and something which he relies upon for his retirement years. Any Government which takes steps to destroy or diminish a capital asset should compensate for the loss it causes, and this Government's desire to relieve anxiety on this point of principle is appreciated.

When a practice changes hands what is in fact transferred is goodwill, the patients themselves being free to accept the incoming doctor or choose another doctor as they please. Many will not share the Government's view that an efficient medical service can be secured *only* by such a fundamental change in existing arrangements. This has yet to be argued. The Negotiating Committee representing the medical profession has not yet had an opportunity of putting forward to this Government its own proposals for a complete health service, including those for a wider distribution of doctors.

The abolition of goodwill cannot be considered in isolation. What matters most is what machinery the Government proposes to substitute for the present arrangements in order to facilitate the entrance of doctors into medical practice and their freedom of movement thereafter. If, for example, it is proposed to substitute for existing arrangements a system of *posting* or *direction,* the medical profession will be opposed to it. If the Government assumes that by destroying the goodwill of existing practices it thereafter becomes entitled to appoint doctors to practices, directing them where and how and with what colleagues they shall practise, the proposal is fraught with danger to public and professional freedom. Doctors should, like other workers, be free to choose the form, place, and type of work they prefer without Governmental or other direction.

For these reasons the attitude of the medical profession to any proposal to abolish the sale and purchase of practices can be determined only when it is known what is to be substituted for the existing arrangements. To promise compensation if capital values are affected by the new arrangement is only fair and just. But whether it is necessary to introduce such new arrangements, and whether such arrangements involve the loss of the essential freedoms of the public and the profession, can be judged only when all the cards are on the table.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE

The forty-sixth report of the Liverpool School of Tropical Medicine states that Lieut.-Col. B. G. Maegraith, who was recently appointed to the Alfred Jones Chair of Tropical Medicine at the University, in succession to the late Prof. Warrington Yorke, has taken up his duties in the School, and has brought with him Surg. Lieut. R. E. Havard, whose services have been lent by the Royal Navy for the purpose of continuing in Liverpool the work on the therapy and pharmacology of mepacrine which had been carried on in the Army Malaria Research Unit under Prof. Maegraith's direction. Clinical trials of new antimalarial drugs synthesized by Imperial Chemical Industries are proceeding and the pharmacology of the most promising of them is being investigated in human volunteers and in patients. It is stated that the preliminary investigation of one drug of great promise—it is unnamed in the report, but apparently it is paludrine—is now being carried out both in prophylaxis and treatment in the field of the South-West Pacific and in India. Prof. Maegraith has undertaken a full investigation into its pharmacological properties, and the report adds: "There is reason to hope that this new compound may play an important part in the future treatment of malaria and that its development may lead to the preparation of further compounds even more effective."

The first investigation in this country of penicillin as a remedy for syphilis was entrusted to the Department of Chemotherapy at the School by the Penicillin Clinical Trials Committee of the Medical Research Council. This work is being undertaken in conjunction with the laboratories of the Public Health Department of the Liverpool Corporation. A serious limitation to the large-scale use of penicillin in a campaign against syphilis in civilian communities is the necessity, in officially recommended schemes of treatment, for confining patients to hospital during the course of injections. One of the main objectives of the present investigation, under Dr. E. M. Lourie, has therefore been to establish forms of penicillin treatment which would be effective if administered on an out-patient basis, without requiring any interference with the patient's daily occupation. Considerable progress has been made towards this end, and a report is in an advanced stage of preparation. Many data have also been accumulated on the fate of penicillin in the body, after injection and on the mechanism of its action against spirochaetes.

SURVEY OF FRACTURE TREATMENT*

BY

C. MAX PAGE, C.B., D.S.O., F.R.C.S.

The survey which I propose may be aptly introduced by a consideration of the historical side of the matter. Precise separation of the history of any subject into periods, convenient though it may be, is never fully accurate: any one period is in some degree the child of the past and the parent of the future. Acknowledging this limitation, I will divide the development of fracture and dislocation treatment in an arbitrary manner into three sections. The first may be called the "Galenical," extending from the earliest historical period to the Renaissance; the second, the "Hunterian," which follows it and reaches the time of Lister; and, lastly, the "modern," which within this century has been determined by the full development of aseptic surgery and radiological technique.

The Galenical Period

The treatment of fractures and dislocations, if perhaps the simplest, is also the oldest section of the surgeon's art. Material for its study has been available in quantity so soon as a definite social organization was established. As early as the second millennium B.C., the reputed date of the fragmentary Edwin Smith papyrus (Breasted, 1923; Hussein, 1934), precise instructions on the management of some fractures and dislocations are to be found; in the Hippocratic canon of about 600 B.C. a more extensive account of the subject is set out. The Egyptian document reveals a remarkably high level of practice in some branches of surgical knowledge: for example, the treatment prescribed for a grossly displaced fracture of the clavicle closely resembles the procedure advised to-day in some textbooks for the management of a similar injury in the case of a society beauty; the description of the diagnosis and treatment of a dislocated jaw might usefully inform the modern casualty dresser. In the Hippocratic treatise there is a fairly full account of the treatment of fractures and dislocations. The methods advised remained the basis of treatment up to and including the time of Ambroise Paré. For the rest of the Galenical period the lack of further literary evidence on current technique of fracture treatment is, however, striking: though it is true that in the first renaissance of French surgery in the early 14th century Henri de Mondeville and Guy de Chauliac did include the subject of fractures in their writings, this section of the former's works has been lost and that of the latter is essentially based on the Hippocratic tradition derived from the Arabian school. The same absence of written accounts of the subject is also noticeable in medical treatises of the early Sumerian, Indian, and Chinese medical writings. We may perhaps deduce from this that fracture management in the periods in question was mainly in the hands of illiterate practitioners of inferior status to the physician and that knowledge of the subject was passed on by mouth and example only. There is, at any rate, clear evidence that such was the case in the Roman Army organization. In general it would seem that the Roman surgeons and those of the Middle Ages did not get beyond the methods, still valid to-day, of direct clinical observation and the application of simple mechanical devices. This period therefore presents little of value to the active clinician; its interest remains mainly historical or associated with individual drama.

"Hunterian" Period: The Scientific Outlook

It was not till the Renaissance and in what I have classified as the "Hunterian" period that anatomical study and pathological investigation were gradually brought to bear on our subject. The works of Paré are the first to show something of this spirit. The advances in surgery effected by him (Paré, 1840) were mainly in the field of wound treatment. The section of his writings on fractures does, however, reflect his common-sense judgment on practical details. The chapter on dislocations reproduces in the main the traditional Hippocratic methods. Here is one of his figures showing that traction with the pulley and counter-traction were well understood (Fig. 1).

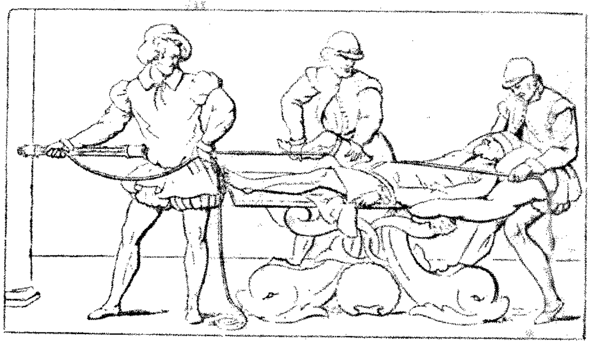

FIG. 1.—Method for reducing an anterior dislocation of the hip-joint. (From Paré's *Surgery*.)

The first contribution made in this country with a scientific outlook on the treatment of fractures was that by Percivall Pott. Pott was undoubtedly, after John Hunter, our outstanding surgeon of the 18th century. His writings range over a wide field, and his monograph on fractures and dislocations was not put forward as a treatise, but was entitled "a few remarks" on the subject and was printed with his *Head Injuries* in 1768 (Pott, 1808). Pott was conscious that all was not well in the treatment of fractures by surgeons of his day, and indeed recalls that he "some years ago had heard a Judge from the bench tell a jury that he believed a country bone-setter knew full as much, if not more, of the matter of his own business than any, the most eminent surgeon in the Kingdom." In his essay on this subject he is concerned to caution against the over-use of traction, and he emphasizes the value of a relaxed position of the joint both in relation to the reduction of deformity and in the maintenance of position after fracture. These principles are exemplified in the treatment set forth in his classical description of fracture-dislocations of the ankle. He appears to have been the first to define the necessity for fixing the joints immediately above and below a fractured long bone. In the treatment of compound fractures he is insistent on the importance of excluding air and advocates the use of a closed dressing, he himself having been successfully treated for an injury of this kind on that principle.

Sir James Earl in editing Pott's surgical work (1808) adds several practical points and gives details of a bed and beam convenient for managing fractures of the femur. This apparatus (Fig. 2) clearly antedates the Balkan beam, which was discovered anew in 1912.

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* Bradshaw Lecture before the Royal College of Surgeons of England on Nov. 8, 1945 (abridged).

Sir Astley Cooper first published his more ambitious treatise on the subject in 1810 (Cooper, 1823). The work is based on clinical lectures and case reports, and contains some fine plates (Figs. 3 and 4). His practice shows no great advance in detail on that of his predecessor. He extolled the value of the inclined plane (introduced by White of Manchester) for the treatment of fractures of the shaft of the femur. His main claim to fame is based on his study of the intracapsular fracture of the neck of this bone. He clearly differentiated the outlook for intracapsular fractures from that for the extra-articular variety. He analysed the cause of non-union in the former, carrying out some experiments on dogs to prove his views, which closely conform to those held to-day. The ability to establish the differential diagnosis of these injuries without the assistance of radiology is a striking tribute to the clinical acumen of the surgeons of that time—though one cannot think they were always correct. For the treatment of intracapsular injuries he advocated 10 days in bed, after which the patient was placed in a chair and gradually worked up to such weight-bearing as he could manage. This style of treatment was still in vogue when I was a student.

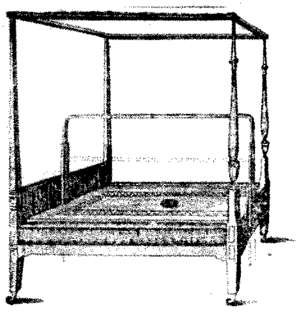

FIG. 2.—Earl's bed and beam.

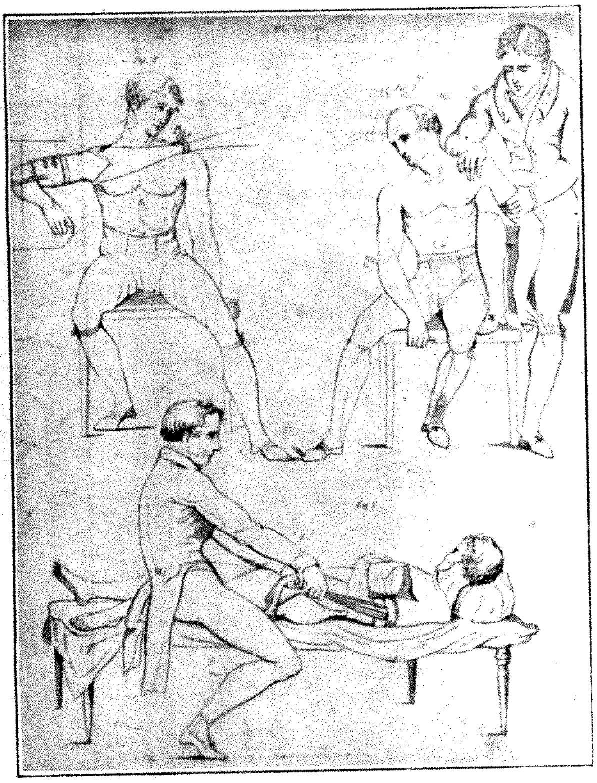

FIG. 3.—Astley Cooper's treatment of dislocation.

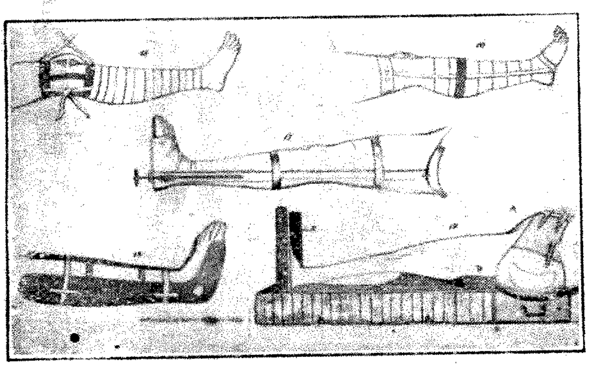

FIG. 4.—Astley Cooper's splints.

Evidence of the somewhat crude standard of surgical methods in the early part of the 19th century, particularly in relation to the reduction of dislocations, is to be found in many case reports reproduced by Malgaigne (1847). He recites the experience of Delpech, who had some difficulty in reducing a dislocation of the shoulder recently sustained by the Mayor of Nîmes. Traction was exercised by 10 assistants and is said to have been successful in obtaining reduction, but during the manipulation the Mayor turned pale, lost consciousness, and did not recover—he was found to be dead.

Michaux, at Louvain, when attempting to reduce a recently dislocated elbow in a boy of 10 produced a rupture of the brachial artery. Gangrene followed, and the arm was amputated six days later. Flaubert, the well-known Rouen surgeon and father of the author of *Madame Bovary*, reports on a woman of 70 with a 38-day-old axillary dislocation of the humerus. Eight assistants were charged with applying traction. The cries of the patient were so violent that emphysema was produced below the clavicle. This was followed by a hemiplegia and syncope. Death took place 18 days later. A dissection showed that the four lower cords of the brachial plexus had been torn out of the cord. Altogether Malgaigne reports 11 ruptures of the axillary vessels, 3 examples of avulsion of the brachial plexus, and one of ruptured lung from similar procedures, all being conducted without anaesthesia. He himself advises that when traction and manipulation have been carried on for half an hour without success it is prudent to stop.

During the latter part of the "Hunterian" period the literature shows a great development of interest by the general surgeon in fracture treatment. Most of their contributions were concerned with methods of splintage and bandaging, and it may be well to consider here this section of our subject. From an early period padded wooden splints were in common use; the splints were plain slats of wood, and a fit to the contour of the limb depended on the padding. In Egypt in the dynastic period sewn bundles of reed were employed, and were of a more adaptable nature. Similar appliances of straw or reed—called farrons—were also well known and in use by most surgeons in the Middle Ages. Bandages of linen or other woven material date back to the earliest times. The introduction of bandages impregnated with egg-white and flour is attributed to Albucasis in the 11th century, and their use is mentioned by Paré, Fabricius, Wiseman, Cheselden, and Larrey, and they had considerable popularity till displaced first by the starch bandage of Seutin and later by those impregnated with plaster-of-Paris (Malgaigne, 1840). The use of the latter is now so fully established and forms so important a part of the fracture surgeon's equipment that it is of some interest to trace its gradual development.

Development of Use of Plaster-of-Paris

Oddly enough, the earliest application of plaster-of-Paris is attributed to the surgeons of the Middle East. In 1760 a Mr. Eaton, English Consul at Basra, reports an instance of broken leg treated in plaster with success by a native practitioner after amputation had been advised by a European surgeon. Malgaigne states that plaster-of-Paris was first used in Europe in 1814 at Groningen, and a few years later by Hubenthal. The practice of the latter was to oil the skin and use two half-moulds bandaged together. In 1828 Keyl in some degree popularized the method at the Charité Hospital in Berlin. In English literature the earliest published references came from provincial centres. Bond and Gale (1833–4) of Glastonbury recorded the use of a plaster mould in the treatment of a fracture of the femur. They associated traction applied through an anklet, and say that this was the only source of trouble in the management of the case. These authors further suggest the use of the method for fractures of the neck of the femur, and say that for such injuries both femoral trochanters should be enclosed in the plaster.

In the same year Dr. Browne (1833–4) of Drogheda reported in the *Lancet* that a medical gentleman, middle-aged but of active habits and sanguine temperament, fell from his horse on a rough road and sustained a fracture of the tibia about its centre. At the end of six weeks there was no union, and so the author and a colleague proposed to pass a seton between the fragments: this the patient refused, and Prof. Kirby of Dublin was called in consultation. He put the leg in a complete plaster mould—" the leg, foot, and lower quarter of the thigh were encased in plaster-of-Paris 1 in. to 1½ in. in thickness." Union was found to have taken place six weeks later.

Dr. Browne says Prof. Kirby had used the method for fractures of the legs for 10 years past. The only criticism advanced by the former was the need for hard work with chisel and hammer in order to remove the case in due course.

It is sometimes stated that plaster-of-Paris was employed by Larrey during the Napoleonic campaigns, but I can find no record of this. The idea may have arisen from Larrey's strong advocacy of " appareils immobiles " (Larrey, 1812). These were constructed with the help of bandages impregnated with flour and white of egg. He records leaving such applications on compound fractures and amputation stumps for several weeks or even months without re-dressing, and with very great success. His advocacy of the closed dressing seems to have been but little followed till the time of Unna, Winnett Orr, and Trueta.

The plaster bandage was undoubtedly invented by a Dutch Army surgeon Mathijsen (1852). The value of this technique in fracture treatment was fully recognized, and publicized, by a Belgian, Van de Loo (1852–3). The method attracted great interest at the time in the Belgian Academy of Medicine and was discussed there with considerable acrimony; it was finally submitted to a Commission of the Academy in 1852 for report. A majority verdict in favour of the procedure was returned.

Plaster splintage was employed by both French and Germans in the war of 1870 (Délorme, 1888–93), and its use in the Crimean War is reported on by Pirogoff (1864), but I have not been able to find details of the exact methods employed. In England the application of plaster found little support till Croft (1878) of St. Thomas's published his method of making a bivalved case from impregnated house flannel. Maisonneuve had at an earlier date, in France, introduced the use of plaster-soaked tarlatan strips—a technique which was subsequently employed and elaborated by Delbet (Le Dentu and Delbet, 1915) in his ambulatory splints. The later history of the use of plaster-of-Paris takes us forward to recent times.

Before turning to the " modern " period I would call attention to a point of interest: the publications of British surgeons on fracture treatment during the 19th century and the first decade of the present century are singularly lacking in number or interest, though the monograph of H. O. Thomas, published in 1886, and that of Lane, which appeared in 1905, form exceptions to this statement.

To judge by its literature the surgery of injuries attracted considerable attention in France and Germany during the same period. Malgaigne stands out in the first half on account of both his bibliographic industry and his scientific approach to practical problems. Bardenheuer elaborated a system of the positional treatment of all fractures by means of traction applied with the help of adhesive strapping, following Buck. His monograph (Bardenheuer, 1889) represents a definite advance in the mechanical conception of the subject, the principles of which form the basis of most methods in use to-day. Helferich (1895) of Munich produced the best textbook on fractures in the latter half of the century, and in his later editions he describes and figures Thomas's knee-splint in relation to the treatment of the fractured femur and extols its use for ambulatory purposes three or four weeks after the injury. Jonathan Hutchinson junior abstracted this work for the New Sydenham Society in 1897 and reproduces these particulars. In the U.S.A. full textbooks on the subject were published by Stimson and Scudder towards the end of the century.

The " Modern " Period

The " modern " period is introduced by the discoveries of Pasteur, and their application by Lister to surgical technique. The value of antisepsis in the treatment of compound fractures was soon generally, though by no means universally, recognized, and the operative treatment of a limited group of fractures had been carried out sporadically since Lister had shown the possibility of wiring the patella with impunity. Lane in this country, and contemporaneously Lambotte of Antwerp, were the first to employ the method systematically. Lane published his *Operative Treatment of Fractures* in 1905 and Lambotte in 1906 (Lambotte, 1913). Both authors produced second editions of these monographs. It must be admitted that the French work, in its study of the mechanical side of the problem, is much the superior. Lane devoted a large part of his book to a disquisition on body position and function in relation to advanced osteo-arthritis. He displayed a superb self-confidence in his own methods and a considerable contempt for the abilities of his contemporaries. His exposition of the " no-touch " technique was perhaps the most valuable part of the publication. Here is the introductory paragraph to his description of it.

> " If the surgeon has not succeeded in such a simple operation as wiring fractures of the patella without killing or permanently disabling many of his patients, he had better bring himself to believe that the results of the generally accepted methods of treatment are excellent, and that any statements to the contrary are exaggerated or imaginary, and leave operations on recent fractures alone, since they may test the methods and skill of the operator to the utmost."

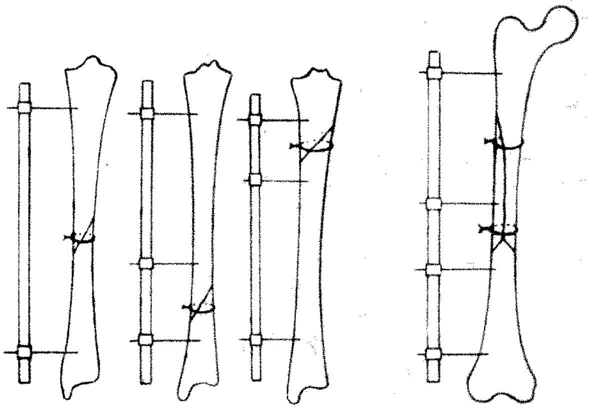

Fig. 5.—Diagrams showing Lambotte's " prothèse externe " method. (From *Chirurgie Opératoire des Fractures*, 1913, Paris.)

Lambotte discusses in detail the relative merits of various interior fixing agents. He designed plates shaped to the contour of the bone-shaft and employed screws with a grub (Whitworth) thread. He appreciated the value of transfixing with his screws both sides of the bone when operating on diaphysial injuries. He also introduced his " prothèse externe," the origins of which he traces to Malgaigne's hooks and suggestions of Rigaud; he was of the opinion that it was the ideal method for managing fractures of the shaft of the thigh and tibia (Figs. 5 and 6). Its failure to gain acceptance was presumably due to the frequency with which infection arose round the rod-holes.

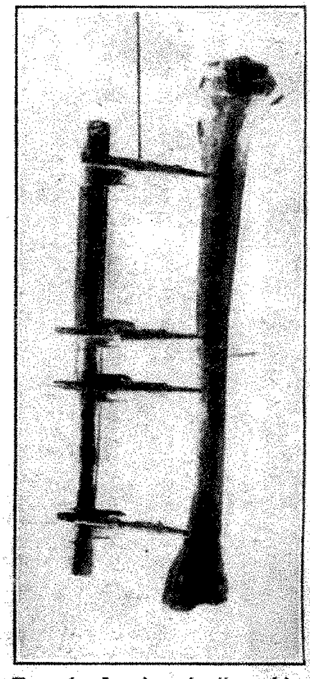

Fig. 6.—Lambotte's " prothèse externe." (From *Chirurgie Opératoire des Fractures.*)

Osteosynthesis by screw and plate, however, gained a considerable hold on the surgical world. Sherman in Cleveland championed it in America, and it has held its place in France up to the present time. In this country its many failures in other hands than those of Lane were instrumental in preventing its routine adoption and in creating some prejudice against it.

Another school of fracture treatment which came into being in the same period was that of Lucas-Championnière. In 1880 he published his *Le Mouvement est la Vie*, and in 1895 the bulky *Le Traitement des Fractures par le Massage et la Mobilisation.* His views were much criticized by surgeons of the day, and his method found little place in the treatment of injuries of the lower limbs. Its value in upper-limb fractures was considerable, and in 1912 Dr. J. B. Mennell organized a successful out-patient fracture clinic at St. Thomas's Hospital which followed this school. Moreover, its general influence was important in turning surgical thought towards the maintenance and restoration of function of the soft parts after injury.

In 1907 Steinmann (Steinmann, 1907, 1912) put forward his "Nagelextension"—a system based on Bardenheuer's application of traction, but with a direct nail- or pin-hold of the bone in place of adhesive plaster. He had been preceded by Codivilla so far as the basic idea was concerned. Despite the full exposition of his method in the German press it attracted no attention in this country till 8 or 10 years had passed.

It is about this date that the outstanding influence of the advance in radiology comes into evidence. The precision in the diagnosis of fractures which it furnishes has had its repercussions. The patient may expect too much from his surgeon; the surgeon may be over-impressed with the importance of complete reduction of displaced fragments. Another contribution, however, is the recognition of fractures where none were recognized before. Linear fractures of the carpal scaphoid and the various stress fractures are examples of this. Whether the elaboration of treatment imposed by such recognition has always been in the interest of the patient is a matter of opinion. In another direction advance in radiological technique has been equally interesting: the process of bone absorption and formation can now be almost kept under view, and this evidence forms the basis on which a new pathology of bone may be built up. If we do not all agree on, or if we are ignorant of, the why, we are able to observe the changes which bone undergoes both at the seat of injury and at a distance. The post-traumatic dystrophies of bone and the problems of calcium metabolism await the future for their elucidation.

Wartime Stimulus to Fracture Treatment

The advent of war in 1914 exposed the poverty in knowledge of fracture treatment of British surgeons as a whole. Initially, the Army splint equipment was antiquated and insufficient in quantity for the scale of casualties met with. The long Liston was the only splint available for fixing the broken thigh in the field or at the base. We had no idea of the value of the Thomas splint in the management of a broken thigh; the same was true in regard to the use of skeletal traction. Sir Robert Jones, with promptitude and great activity, made known the use and induced the production of the former. This introduction of the Thomas splint was of major importance in reducing loss of life or limb after open fracture of the femur. Its advent was enthusiastically acclaimed by Army surgeons, and incited the introduction of many auxiliary gadgets and modifications in its form and methods of use, some of which still make the Liverpool purist rend his hair. The application of skeletal traction was more slowly adopted. It was first employed in the not very satisfactory form of a calliper. Plaster-of-Paris was seldom used by us in the field during the campaign, though both German and French Armies employed it at that level.

The stimulus given to the study of injury treatment during four years of war was passed on to the peaceful years. Monographs and contributions on fractures and their treatment became so numerous for the next 20 years that I shall not attempt to analyse them all. Indeed, I may quote Shakespeare:

> "Vouchsafe to those who have not read the story,
> That I may prompt them: and of such as have,
> I humbly pray them to admit the excuse
> Of time, of numbers and due course of things."

Certain trends of thought and some individual techniques may well be studied. The 1914 war had shown the value of segregation of certain injuries in its reaction both on the individual patient and on progress in methods of treatment. The Delevingne report showed how much segregation would benefit the general population in peacetime. A fracture clinic had been organized at the Ancoats Hospital at Manchester immediately after the last war by Harry Platt (1938) and formed a model which has extended to most other large hospital centres. I will not attempt to decide whether such organizations should limit their activities to the treatment of fractures only, or whether they should include certain other injuries or accidents in general. Nor will I discuss whether such services should be directed by a general or a so-called orthopaedic surgeon. I think their undoubted success in fracture work has been based on the provision and training of whole-time assistants skilled in splint management and plaster work. The control of their own *x*-ray apparatus, the arrangements for routine after-care, and the central management of rehabilitation are further advantages possessed by units of this character.

Skeletal traction, as has been mentioned before, came into use among British surgeons at the end of the 1914 war. The introduction by Kirschner in 1927 of strained wire in the place of nails or pins gave an impetus to its popularity and an opportunity for the invention of much ingenious auxiliary apparatus (Wilson, 1932). I am inclined to think its application to hand and foot fractures did more harm than good; its use for the major bones seems to be declining in popularity as opposed to the rigid pin. The power of skeletal traction can be such that distraction of the broken ends of the bones is easily effected. There is a widely held impression that operation of this factor has been responsible in the latter years for a considerable increase in the incidence of delayed union or non-union.

The school of Boehler in Vienna made a considerable impact in this country in the early 'thirties (Boehler, 1935). His association of the skin-tight plaster with active movement may be said to have embraced both the ideas of Lucas-Championnière and of Delbet without showing the failings of either. His reduction of the deformities in impacted fractures of the os calcis and vertebral bodies opened up new possibilities, which in the case of the latter have proved fruitful in results. I think this influence has been gradually replaced by the Watson-Jones (1943) school working on a wider and more scientific basis. The latter has both introduced new methods and incorporated those which have proved useful in the old.

One of the technical triumphs of the period under consideration has undoubtedly been in the management of transcervical fractures of the femur. Royal Whitman (1925) demonstrated the mechanics of the accurate reduction of these injuries. His method of fixation was the full plaster spica. Despite the success of the method in his hands it possessed many drawbacks, and Smith-Petersen's (1931) introduction of internal fixation by means of a trifin pin overcame many of them. The replacement of closed pinning under radiological control initiated by Johansson (1932) extended the possibility of using the procedure in the feeblest of subjects. The final results have perhaps not come up to our first expectations. Here are some figures collected by Mr. Peter Elmes at Oxford, to whom I am indebted for their use before publication and final analysis; they give perhaps an average picture of the outcome of this method.

Results of Pinning Operations for Transcervical Fractures of the Femur

Cases studied	195
At time of investigation had died	24
" " not traced	43
Too recent to be of value (less than 2 years' follow-up)	13
No. of cases analysed (at least 2-year follow-up)	115
Completely satisfactory	35 (30½%)
Fair results (slight pain or limitation of movement)	42 (36½%)
Failure of union	38 (33%)

No doubt further systematic follow-ups will soon become available, and we may be able to judge how far the failures are due to errors in technique or are inherent in the method. Many active brains are concerned with this problem, and the future should show further improvements in the management of an injury for so long the despair of the profession.

It is perhaps too early to assess the value of the Roger Anderson (1936) apparatus. At first sight this ingenious appliance was so attractive and effective when operated by skilled hands that one felt that the treatment of diaphysial fractures was solved for good. Experience in this country up to date shows that it has drawbacks, and it is well to remember that Lambotte, 30 years ago, thought he had a winner on similar lines.

Deriving perhaps from American and French practice, there has lately been a strong move in some centres to return to the more frequent use of osteosynthesis. The introduction of plates and screws made of metals which develop little or no electrolytic action in the tissues seems to have been one factor responsible, though I incline to the opinion that its importance has been overstressed. The realization of the value of a grub-threaded screw holding both sides of the cortex perhaps carries more weight. What position it will hold in our practice 10 years hence it is difficult to say. If open osteosynthesis is adopted as a routine measure it may be hoped that it will be carried out so as to conform to the ideal set out by Burns and Young (1944)—i.e., to be mechanically sound enough to make post-operative splintage unnecessary and so to allow of activity of muscles and movements of joints at an appropriate time. To carry out an open operation on a broken tibia and fix the fracture with one or two screws, and then encase the limb in plaster for a couple of months, is to concentrate too much on form and to forget function.

The recent war has tested our knowledge and competence in the handling of open fractures, and I think it is generally admitted that British surgery has come well out of the ordeal. No outstanding new methods have been introduced. The Thomas splint, often disguised as a Tobruk, has stood the test of time. The use of the closed plaster, so ably advocated by Trueta, has found its level. The employment of plaster-of-Paris in the field, with due precautions, has been greatly extended, and I think the general use and proper application of the thoraco-brachial spica has saved many arms which would have been lost in the last war.

Conclusion

I must admit that my survey has covered so wide a field that it has been but superficial. I hope it has given some measure of the striking progress which has been achieved in this century. In the immediate future advances in the standard of fracture management will perhaps depend more on the organization of our accident services than on any radical changes in method.

I think I have shown that, in the past, technique has often outridden judgment and experience. I hope that I have demonstrated the importance of controlled observation with any new experiment in this branch of our work.

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NUTRITION IN VIENNA IN SEPTEMBER, 1945

BY

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During the approaching winter Vienna may be subjected to conditions approximating to famine unless strenuous efforts are made by the responsible national elements of the Allied Council. Even under the most favourable circumstances Austria has never produced enough food to support herself, and this year the ravages of war have substantially reduced the amounts normally grown. In order to supply sufficient food for Vienna it will therefore be necessary for provisions to be imported. The physical difficulties of importing supplies are great, and in addition there are competing claims for food elsewhere and the complications of international politics and international finance. It is consequently of interest to study in some detail the present nutritional state of the city in order to be able to gauge with open eyes the probable results of future events as they gradually unfold.

The city of Vienna was captured from the Nazis at the end of April, 1945, after prolonged street fighting. For some time after the fall of the city the local administration was unable to issue weekly rations, and the population were compelled to subsist on any domestic stores of food they might possess. When it became obvious at the beginning of June that domestic and retail stocks were almost exhausted and that the people would starve unless food was provided for them, the Russians permitted the release of sufficient supplies to enable a ration of bread, cereal, meat, fats, and sugar to be distributed. This ration provided normal consumers with about 800 calories daily. Certain types of workers received more, but the biggest ration issued to the heavy-worker category provided only about 1,600 calories. The only official addition to the rations was an issue of a half-litre of milk a day to children up to 1 year old and a quarter-litre of milk to children from 1 to 3 years. No supplement was given to pregnant women. Unofficial additions to the food supply were scanty. For normal individuals no worth-while supplement of calories was available. To obtain vitamin C and vitamin A, in which the rations were entirely deficient, people might acquire small amounts of potatoes and vegetables from gardens or allotments, or they might make expeditions into the country, but, apart from certain supplies for canteens which will be mentioned later, there was no organized provision of fresh vegetables, potatoes, or, except for the youngest children, milk.

Early in September the Allied Council was set up and each of the four nations in the Council assumed the responsibility of contributing food to Vienna. It was jointly agreed to try, as from Sept. 23, to provide the normal consumer with a minimum ration of 1,550 calories (with differentiation: up to 3,000 calories for the very heavy worker; for various other groups, according to the type of labour they perform). Fig. 1 shows the fluctuation in the calorific value of the rations issued to normal consumers in Vienna from Jan., 1945, in the last weeks of the Nazi State, through the period of fighting and disorganization in April and May, when no rations were distributed, up till Oct., 1945, when the Allied Council target of 1,550 calories daily was being achieved.

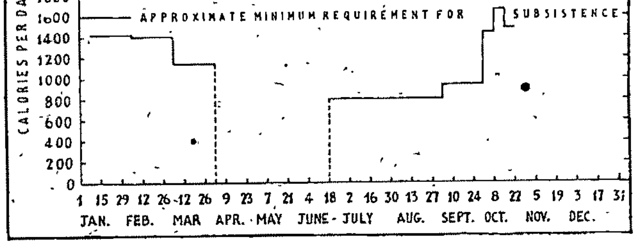

FIG. 1.—Calorific value of the ration for normal consumers in Vienna during 1945.

Dietary Survey

During the second and third weeks of Sept., 1945, an effort was made to assess the composition of the total diet actually being eaten by the population of Vienna. The technique adopted was essentially that used by Wiehl (1942). This method depends upon the questioning of the people about everything they have eaten during the previous 24 hours. Whenever an item is mentioned an equivalent amount made available at the interview is weighed. In the case of soups, which are a distinctive feature of the Vienna diet, and of made-up dishes, plates of different sizes were used to determine quantities. Recipes were obtained from women in a number of districts to discover the amounts of ingredients currently used. The composition of the official rations provided for normal consumers at the time the survey was made is shown in Table I.

makes reasonable provision. The striking difference between the amounts of vitamin A, riboflavin, and vitamin C in the average diets eaten by the two groups of people studied is of considerable interest. If it be assumed that at least 2,500 i.u. of vitamin A, 0.85 mg. of riboflavin, and 25 mg. of vitamin C are required for a subsistence diet it can be seen that, whereas the food eaten by the group in Bezirk III was seriously deficient in all three of these nutrients, in Bezirk XI an adequate intake was available. The reason for these differences appears to lie in the fact that Bezirk XI, which covers the working-class district of Simmering, contains large areas of allotments and is situated nearer the outskirts of the town. Of the people whose diet was studied there, 60% had eaten potatoes during the day and 45% had eaten green vegetables or tomatoes. Some of these potatoes and vegetables were stated to have come from gardens or been brought in from the country; the rest was frankly admitted to have been bought in the black market.

TABLE I.—*Composition of the Normal Consumer's Ration in Vienna during the Week Beginning Sept. 3, 1945*

	Daily Issue (g.)	Calories	Protein (g.)	Fat (g.)	Calcium (mg.)	Iron (mg.)	Vit. A (i.u.)	Vit. B_1 (mg.)	Riboflavin (mg.)	Nicotinic Acid (mg.)	Vit. C (mg.)
Pulses	40	122	9·6	0·4	40	3·2	0	0·20	0·14	0·5	0
Fat	7·1	64	0	6·5	0	0	0	0	0	0	0
Bread	300	747	23·7	3·3	40	5·4	0	0·60	0·21	2·1	0
Total daily intake		933	33·3	10·2	80	8·6	0	0·80	0·35	2·6	0

TABLE II.—*Composition of the Average Daily Diet Eaten by Normal Consumers in Vienna between Sept. 9 and 16, 1945*

	Calories	Protein (g.)	Fat (g.)	Calcium (mg.)	Iron (mg.)	Vit. A (i.u.)	Vit. B_1 (mg.)	Riboflavin (mg.)	Nicotinic Acid (mg.)	Vit. C (mg.)
Bezirk III (25 people: 7 men, 18 women).. ..	940	49	9	240	13	50	0·94	0·47	5·9	7
Bezirk XI (20 people: 5 men, 15 women).. ..	1,100	49	6	330	15	4,200	1·26	0·81	8·2	50

TABLE III.—*Composition of Meals Served in Werksküchen in Vienna, Sept., 1945*

	Calories	Protein (g.)	Fat (g.)	Calcium (mg.)	Iron (mg.)	Vit. A (i.u.)	Vit. B_1 (mg.)	Riboflavin (mg.)	Nicotinic Acid (mg.)	Vit. C (mg.)
Marine engineers, Bezirk III	975	30	35	140	8·5	130	0·76	0·42	9·3	19
Machine shop, Bezirk XI	635	41	2	170	13·1	30	0·94	0·53	4·4	4
Central kitchen, Bezirk V	645	15	11	50	4·1	40	0·57	0·20	3·5	10

TABLE IV.—*Composition of the Average Daily Diet Eaten by Industrial Workers in Vienna, Sept., 1945*

	Calories	Protein (g.)	Fat (g.)	Calcium (mg.)	Iron (mg.)	Vit. A (i.u.)	Vit. B_1 (mg.)	Riboflavin (mg.)	Nicotinic Acid (mg.)	Vit. C (mg.)
Marine engineers, Bz. III (group of 15 men) ..	1,760	66	40	260	19	170	1·57	0·82	13·6	26
Machine shop, Bz. XI (group of 20 men) ..	1,430	71	9	390	21	2,610	1·64	0·97	8·6	34

TABLE V.—*Composition of the Average Daily Diet Eaten by 10-year-old School-children in Vienna, Sept., 1945*

	Calories	Protein (g.)	Fat (g.)	Calcium (mg.)	Iron (mg.)	Vit. A (i.u.)	Vit. B_1 (mg.)	Riboflavin (mg.)	Nicotinic Acid (mg.)	Vit. C (mg.)
Group of 20 boys	1,340	36	16	360	16	3,250	1·29	0·84	8·6	35
Group of 20 girls	1,250	61	10	260	17	1,660	1·33	0·76	8·2	30

Two groups of normal consumers—that is, people entitled only to the ration shown above—were investigated in different parts of the city. A room was set aside in a public office (Katestelle) in Bezirk III and in Bezirk XI, and people were taken at random for examination from the queues which constantly form in these places. The composition of the average diets eaten by these two groups is shown in Table II. In calculating the nutritional values the table of food composition given in *Nutrition and Relief Work* (1945) has been used in most cases.

It is difficult to assess figures for the minimum nutrient intake needed to maintain an adult at a level of bare subsistence. If 1,600 calories is tentatively chosen as the lowest energy intake capable of preventing continuous physical deterioration, the Vienna diet in September is seen to have been grossly inadequate. Figures of 50 g. protein, 500 mg. calcium, 10 mg. iron, 0.7 mg. vitamin B_1, and 6 mg. nicotinic acid may perhaps be regarded as approximately the daily amounts needed to support subsistence; with respect to these nutrients the diet

Bezirk III, on the other hand, covers a central industrial and commercial section of Vienna. Although 48% of the people interrogated there had eaten some quantity of potatoes, from which the whole of the small and inadequate amount of vitamin C shown in the table was derived, none had access to gardens or was able to obtain vegetables from the country or elsewhere. The general deficiency of calcium in all the diets was principally due to the complete lack of milk or cheese.

Factory Workers

Out of Vienna's population of 1,400,000 in Sept., 1945, about 250,000 ate a midday meal in a canteen for six days a week. In order to do this they sacrificed coupons representing 300 g. of bread. Most of the canteens were Werksküchen attached to factories or business houses. In addition there were a number of public canteens, where the sacrifice of 500 g. of bread weekly was demanded. The food supplies made available to canteens included not only the bread or flour obtainable from the coupons given up by diners but also an issue of 50 g. of pulses, 500 g. of potatoes, and an indeterminate supply of meat (usually horse) and other foods issued somewhat capriciously as stocks allowed on a special Bezugschein. Thus, people with access to Werksküchen got a better diet than that shown by their ration entitlement. Furthermore, although some of those who used canteens were doing heavy work, many were employed in banks or offices. It was therefore clearly of importance to investigate the nutritional value of the diet of this section of the population.

Surveys were carried out in two factories. The first was a marine engineering works and office in Bezirk III, and the second a big machine shop at Simmering, in Bezirk XI. In addition to a study of the diet of these two groups of works and an investigation of the canteen meals provided, the nutritional value of the meals issued from a large central kitchen in Bezirk V was also calculated. This kitchen was preparing about 50,000 meals daily, 27,000 of which were issued in insulated containers to 290 canteens in all parts of Vienna. The remaining meals were used to feed camps of refugees from Sudetenland. The nutritional value of the meals actually issued from the two factories and the central kitchen is shown in Table III. It can be seen from this table that the sacrifice of 300 g. of bread, providing 747 calories, represents a highly favourable exchange for six meals each of, say, 650 calories, or, in total, 3,900 calories.

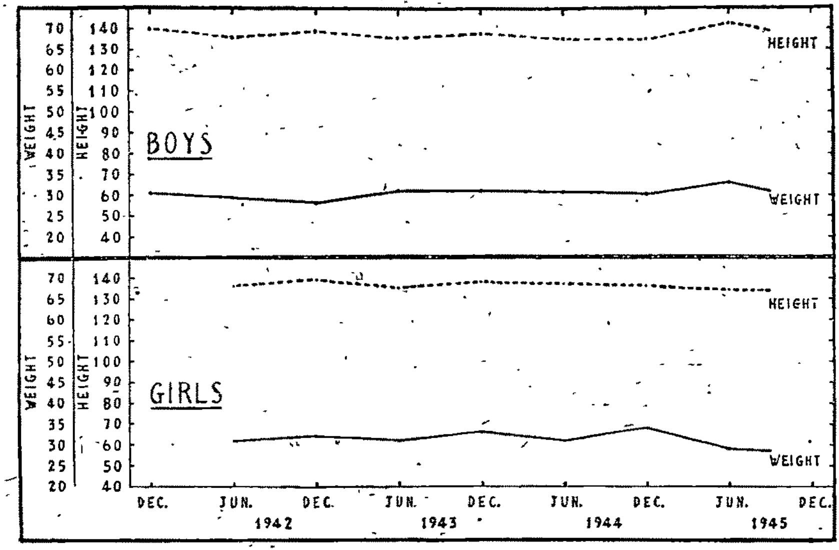

FIG. 2.—Average heights (cm.) and weights (kg.) of 10-year-old school-children in Vienna, Dec., 1941, to Sept., 1945.

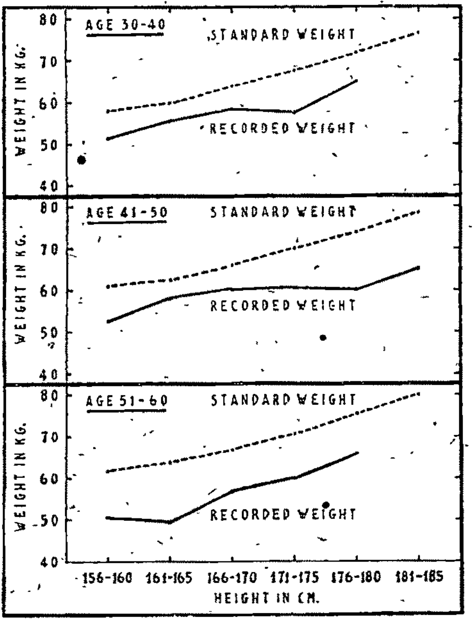

FIG. 3.—Heights and weights of male factory-workers in Vienna, Sept., 1945. (Based on the weights of 594 men.)

A group of employees at each of the two factories mentioned above was studied. Most of the individuals comprising these groups possessed workers' or heavy-workers' ration cards, entitling the holders to food providing 1,350 and 1,620 calories respectively. The right to hold such cards does not necessarily depend on the physical activity of the work done. Under the then current system, clergymen, municipal officials, senior police officers, people working in any capacity in hospitals, teachers, and many others are considered to be "heavy workers." In the two factories studied, although a certain amount of work, notably repairs to the factory buildings, was in progress, the general level of activity was not very high. The composition of the diets eaten is shown in Table IV.

In order to do a reasonable amount of physical work a man needs at least 3,000 calories. The figures above show, therefore, that the amount of food eaten in Sept., 1945, by workpeople in Vienna was not sufficient for active physical labour. The general character of the diet—its deficiencies in calcium and in Bezirk III in vitamin A—was, as would be expected, similar to that found in the case of normal consumers. The better distribution of vitamin C was largely due to the official issue of potatoes to canteens. Green vegetables and tomatoes—upon which, in the absence of dairy produce, the diet depends for vitamin A and to a lesser degree for riboflavin and other nutrients—were again available only from gardens, friends, or illegal sources, and were again more plentiful in Bezirk XI.

Children

The diets eaten by two groups of children 10 years old—20 boys and 20 girls—were investigated in two separate schools in Bezirk V. The results of this work are shown in Table V. The rations to which children of this age were entitled provided about 850 calories daily. Milk was available only for children up to 3, so that these 10-year-old boys and girls officially received none. Out of the 40 children examined, milk was reported in the diet of only 5, who had obtained what small amount they had consumed from brothers or sisters 3 years old or younger.

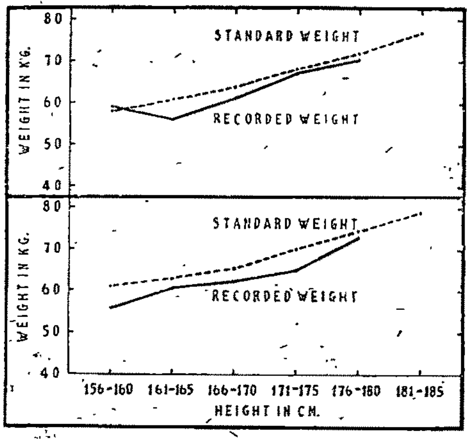

FIG. 4.—Heights and weights of coal-miners in Carinthia, Sept., 1945. (Average weight found from total of 282 men.)

From the figures given in Table V it can be seen that, although the give-and-take of family catering enabled them to get more to eat than their rations allowed, the children studied were receiving little more than half the 2,500 calories probably needed for proper growth, and that their diets were deficient in protein and riboflavin and seriously deficient in calcium.

The level of vitamin A and vitamin C was precariously maintained by off-the-ration vegetables and potatoes.

Body Weight

In an attempt to assess the effect of the food shortage in Vienna during the period from April to Sept., 1945, a series of body-weight records have been collected. Although the medical examination of school-children was reasonably well maintained during the course of the year, the collected records for the city for the period covered by the war appear to have been destroyed. It was found, however, that, at the two schools where the dietary studies were made, the children's biographical records, including their heights and weights, had been kept up to date. In Fig. 2 the average heights and weights of those children who were 10 years old at each of the dates shown have been plotted for the period from Dec., 1941, up to Sept., 1945. The general trend of these graphs suggests that, so far, no serious check in the growth of the children had occurred.

A second and more comprehensive record of body weights has been made of those employed in the large engineering works in Bezirk XI referred to in Table III. The heights and weights of the men, taken while they were wearing shirts and trousers and without shoes, are shown in Fig. 3, where they have been compared with standard British statistics for men of comparable age groups (Davidson and Anderson, 1940). From these observations it appears that, on the average, the men between 30 and 40 years of age were about 8 kg. under weight, and those between 40 and 50 and between 50 and 60 about 10 kg. under weight.

Fig. 4 has been included here as an interesting comparison and as a justification for using the British height–weight standards. It shows the body weights of a group of 282 miners at a brown-coal mine at St. Stefan, in Carinthia, one of the British-occupied provinces of Austria. When the weighings were made the men were receiving rations providing about 2,300 calories daily. The mine is situated in a rural district, and the quantity of unrationed food available at that time was estimated by supply officials to provide a supplement of about 800 to 1,000 calories daily. Thus the total food intake was greater than 3,000 calories. Since the men were weighed naked after having taken their baths, it appears that their weights closely approximated to the standard figures.

Discussion

The situation facing Vienna as winter draws nearer is a dangerous one. The sheer lack of calories shown by this September survey has been partially remedied by the provision of additional food, including meat, fats, and sugar. But the situation as shown by Fig. 1, although improved, is nevertheless precarious. The number of cases of hunger oedema for which extra rations were being provided by the Austrian authorities during the first weeks of October was from 200 to 300. This number from a city of 1,400,000 is not yet catastrophic, but shows that there is no margin to spare. The protein position has also been improved by the better rations; but supplies of milk for children, while increased, have not yet allowed any issue to be made to those over 6 years old, although it had been hoped to provide milk up to the age of 12. There is no issue of milk to adults, with the exception of a ration for pregnant women. To reduce the deficiency of calcium in the diet, which is primarily due to the lack of milk products, chalk is to be added to the flour.

For vitamin A and vitamin C, and to some extent for riboflavin, the Viennese diet depends entirely on potatoes and vegetables. Great efforts are being made to ensure that a ration of these items shall be distributed. Supplies of vitamin concentrates might serve as reinsurance.

Thus the position in Vienna this autumn has been assessed, and it is hoped that the action it has been possible to take can reasonably be expected at least to allow the population to subsist during the winter. The fact, however, must be faced that the level of nutrition upon which the Viennese must build their defences against cold and disease is dangerously low.

Summary

A dietary survey carried out in Vienna in Sept., 1945, at the beginning of British participation in the administration of the city showed that at that time the diet available to two random groups of normal consumers provided only about 1,000 calories; factory-workers were obtaining from 1,400 to about 1,800 calories; and children 10 years old about 1,300 calories. The adults' diets were deficient in calcium and often grossly lacking in vitamins A and C. The protein content of the children's diet was inadequate, owing in large measure to the fact that no milk was available for any over the age of 3 years. All the diets failed by a wide margin to provide the nutritional targets recommended by the U.S. National Research Council.

No pronounced drop was recorded in the heights and weights of the children studied. It appeared, however, that men working in a large factory in Vienna were on average from 8 to 10 kg. under weight.

This brief survey of the level of the diet in Vienna in Sept., 1945, underlines the difficulties and dangers likely to be encountered before winter is passed.

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TOXIC EFFECTS OF 2,2-*bis* (*p*-CHLORPHENYL) 1,1,1-TRICHLORETHANE (D.D.T.) IN MAN

BY

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2,2-*bis* (p-chlorphenyl) 1,1,1-trichlorethane, more usually known as "D.D.T.," has now a wide application as an insecticide, and the general consensus of opinion is that, used with reasonable care, preparations containing D.D.T. do not present significant toxic hazards to human beings (Neal *et al.*, 1944; Cameron and Burgess, 1945). Nevertheless, Wigglesworth (1945) reports a case of presumed D.D.T. intoxication in a laboratory worker after deliberate exposure, and Cameron and Burgess emphasize the possible danger to operators using D.D.T. in an oily solvent. The danger of D.D.T.-poisoning following the application of this substance in acetone is stressed by Taylor (1945), who reported fatal effects in rabbits after dressing with a 5% solution and marked toxic effects after dressing with a 0.5% solution. The incorporation of D.D.T. in paints and distempers has now become an established procedure, and the practice seems likely to be extended in the future, for such paints appear to be efficient in the control of infestation by house-flies (Campbell and West, 1944).

D.D.T. has been shown to be toxic to a variety of mammals, including rabbits, guinea-pigs, rats (Draize, Nelson, and Calvery, 1944; Smith and Stohlman, 1944; Cameron and Burgess, 1945), cows, sheep, horses (Draize *et al.*, 1944), and cats (Lillie and Smith, 1944). The main pathological features seem to be liver damage of varying degree sometimes reaching the stage of necrosis, loss of weight, anorexia, mild anaemia with a reduction of the mean corpuscular haemoglobin, polymorphonuclear leucocytosis, and damage to the central nervous system, causing excitability, instability, tremors, and muscular weakness (Cameron and Burgess, 1945). No specific histological changes have been reported in the C.N.S., though various authors have noted some degeneration, vacuolation, pyknosis, and tigrolysis of a few anterior horn cells in the thoracic and lumbar regions (Cameron and Burgess, 1945; Lillie and Smith, 1944; Smith and Stohlman, 1944).

In the one case of human intoxication to be found in the literature Wigglesworth (1945) reports heaviness and aching of the limbs, sleeplessness, "spasms of extreme nervous tension," prostration of such a degree as to confine the sufferer to bed for a fortnight, and involuntary muscular twitchings over the whole body on at least three occasions. Full recovery had not taken place at the end of the year. The victim had been exposed to concentrations of D.D.T. in acetone and in powder form far in excess of levels that might reasonably be met with in the routine use of the insecticide. This report of Wigglesworth's is of great importance in that it removes the question of human D.D.T. intoxication from the sphere of theoretical speculation to the realms of industrial medicine; for it is likely that a substance known to be toxic to mammals, shown to be toxic to man under certain conditions, and in wide use may produce subclinical manifestations, not at present recognized, which will lower the health-level and efficiency of workers at risk, and that the rapidly growing use of D.D.T. will extend into circumstances where human intoxication is likely to occur.

In view of this increasing use of the substance, and the repeated warnings of the dangers of toxic effects, it is felt that it is desirable to publish the following work, undertaken for Service reasons during the early part of this year. If the design of the experiment seems somewhat narrow, it should be realized that this is because an answer to a specific problem was wanted and many aspects had to be ignored.

The problem under investigation was the possible toxic effect of the use of a distemper containing 2% by weight of the dry film of D.D.T. in circumstances where the paint would be inevitably covered with a thin film of oil, the ambient temperature would be such that personnel at risk would be largely unclothed, their skin would be oily and sweaty, because of cramped accommodation large areas of oily skin would come into contact with the paint, and efficient washing of the body surface could take place only at relatively infrequent intervals. Any toxic effect manifested would be a serious matter, for not even the slightest lowering of efficiency of the personnel could be tolerated, and even the least functional damage to the C.N.S. would assume a serious aspect.

Experimental

Two subjects were employed in this investigation: R.A.M.C., male, presumably healthy; and A.I., male, also presumably healthy. The desired environment was secured by using a steel chamber, octagonal in plan, six feet across and six feet high. A heater was installed, and a blower fan could be controlled from inside. A narrow steel seat ran round the inside of the chamber, and a small bench was installed upon which the necessary manipulations could be performed during the sojourns. The chamber walls were distempered at first with a normal distemper and later with a similar distemper with the addition of D.D.T. An analysis of this distemper (dried film) is given in Table I. The surfaces were then covered with a thin film of lubricating oil. Two sojourns, each of 48 hours' duration, were made, with an interval of 48 hours between. On the first occasion the chamber was painted with the distemper without D.D.T., and on the second with the distemper containing D.D.T. Both subjects wore short trunks only, and were forced to sit so that a large skin area, chiefly of the back, was always in contact with the oily walls. It was found possible to sleep on the narrow seat, alternate watches being taken.

TABLE I.—*Analysis of D.D.T. Distemper*

Water	39%
Oil-modified phenolic resin	10%
Siliceous matter (china clay), yellow ochre (Fe_2O_3), titanium dioxide	49%
D.D.T.	2%

In addition the film contained very small quantities of a chlorinated phenol and a compound or substituent of ammonia as preservative and dispersing agents.

Carbon dioxide was absorbed by means of a protosorb canister, and air analyses showed that during both experiments the carbon dioxide content of the air did not rise above 1% and the oxygen content did not fall below 19%. The heater and blower were manipulated so that the temperature ranged between 25 and 30° C. dry bulb, and 24 and 28° C. wet bulb (relative humidity 88–94%), thus providing a high air temperature and high humidity.

The following observations were made:

Clinical neurological examination before the control experiment, after the control experiment and before the D.D.T. experiment, immediately after the D.D.T. experiment, and again 5 days after the conclusion of the experiment.

Electro-encephalograms were made at the same times.

Haematological examinations were made every 24 hours during both experiments and for the succeeding 5 days, and weekly thereafter up to 47 days. The criteria employed were erythrocyte counts; haemoglobin estimations, performed by the alkaline haematin method of Clegg and King (1942), the solutions being evaluated on a "Spekker" photo-electric absorptiometer and an Ilford "604" "spectral green" filter; reticulocyte count; siderocyte count, using αα′ dipyridyl-thiocyanate staining technique (Case, 1944) and the inverse binomial sampling method (Haldane, 1945); leucocyte count and differential leucocyte count, using Leishman-stained preparations. From these data the mean corpuscular haemoglobin and the haemodynamic index (Case, 1945) were calculated.

Urine analyses were conducted before and after each experiment and at intervals during the succeeding days, and the blood pressure was recorded at similar times.

Careful notes were taken of any subjective phenomena observed. The results of these investigations are summarized in Tables II to VIII.

TABLE II.—*Haematological Data—Subject R.A.M.C.*

	T.	R.B.C.	Hb	M.C.H.	S.	R.	H.I.	W.B.C.	Polys	Lymphs	M.	N.R.
Control	0	4·70	14·8	31·7	4	16	4·0	6,000	3,600	1,680	0	0
	1	4·70	15·3	32·5	6	16	2·5	9,600	6,528	2,496	0	0
	2	4·67	14·9	31·9	6	20	3·3	6,700	3,350	2,680	0	0
	3	5·10	16·3	31·9	5	20	4·0	7,200	4,032	2,592	0	0
	4	/	/	/	/	/	/	/	/	/	/	/
D.D.T. Experiment	0	5·12	16·4	32·0	6	20	3·3	5,400	3,564	1,188	0	0
	1	5·11	14·9	29·2	20	30	1·5	6,900	4,692	1,794	0	0
	2	5·22	14·8	28·4	18	40	2·2	5,400	3,672	1,404	54	0
	3	5·16	14·8	28·7	16	30	1·9	5,700	2,850	2,622	228	1
	4	5·20	14·8	28·5	18	20	1·1	5,400	1,512	3,132	54	0
	5	5·18	14·9	28·8	20	30	1·5	6,300	1,890	3,528	0	0
	12	5·02	14·5	29·0	18	29	1·6	7,300	4,234	2,190	0	0
	19	5·10	15·3	30·0	12	24	2·0	6,900	2,898	3,450	0	0
	26	5·03	14·8	29·5	8	26	3·2	7,400	2,812	4,218	0	0
	33	5·12	16·0	31·3	6	24	4·0	7,700	2,772	4,620	0	0
	40	5·07	16·3	32·2	6	22	3·6	8,300	2,905	5,063	0	0
	47	5·10	16·4	32·1	8	30	3·5	8,400	2,856	5,208	0	0

T. = Time in days from start of experiment. Hb = Haemoglobin in grammes per cent. M.C.H. = Mean corpuscular haemoglobin in μμg. S. = Siderocytes per 1,000 red cells. R. = Reticulocytes per 1,000 red cells. H.I. = Haemodynamic index = Reticulocyte count/siderocyte count. W.B.C. = Leucocytes per c.mm. Polys = Neutrophil polymorphonuclear leucocytes per c.mm. Lymphs = Large and small lymphocytes per c.mm. M. = Myelocytes (Schilling haemogram) per c.mm. N.R. = Nucleated erythrocytes per 1,000 red cells. The diagonal stroke = No observation.

TABLE III.—*Haematological Data—Subject A.I.*

	T.	R.B.C.	Hb	M.C.H.	S.	R.	H.I.	W.B.C.	Polys	Lymphs	M.	N.R.
Control	0	5·06	15·2	30·0	6	18	3·0	6,600	4,290	1,980	0	0
	1	5·14	15·3	29·8	7	20	2·9	10,800	6,912	3,024	0	0
	2	5·30	15·6	29·5	6	16	2·5	6,400	4,096	1,920	0	0
	3	5·11	15·3	29·9	6	18	3·0	9,600	6,720	2,496	0	0
	4	/	/	/	/	/	/	/	/	/	/	/
D.D.T. Experiment	0	5·11	15·2	29·7	3	20	4·0	7,600	5,472	1,672	0	0
	1	5·25	14·9	28·4	16	32	2·0	8,400	5,040	3,024	0	0
	2	5·20	14·8	28·5	18	36	2·0	5,200	1,456	3,120	52	0
	3	5·20	14·5	27·9	18	30	1·9	4,200	1,680	2,688	126	0
	4	5·10	14·1	27·6	12	20	1·5	4,800	1,728	2,400	48	1
	5	5·23	14·4	27·5	16	21	1·3	7,500	2,850	3,900	0	2
	12	5·17	14·4	28·0	18	27	1·5	6,800	3,400	4,080	0	0
	19	5·22	14·8	28·5	10	22	2·2	9,400	4,324	5,170	0	0
	26	5·40	15·9	29·5	9	31	3·4	8,700	4,002	5,046	0	0
	33	5·47	16·4	30·1	6	18	3·0	7,500	4,050	3,225	0	0
	40	5·28	15·7	29·8	6	21	3·5	9,400	5,828	3,196	0	0
	47	6·38	16·0	29·8	7	34	4·9	12,000	8,880	2,880	0	0

TABLE IV.—*Blood Pressure*

	Time in Days	Subject R.A.M.C.	Subject A.I.
		B/P (mm. Hg)	B/P (mm. Hg)
Control	0	125/85	115/65
	4	125/85	115/65
D.D.T.	3	104/90	75/50
	5	130/84	110/60
	47	125/85	110/68

Subject A.I. normally has a low diastolic pressure.

TABLE V.—*Urine Analysis*

	Time in Days	Subject R.A.M.C.						Subject A.I.					
		Alb.	R. sub.	K.b.	B.p.	I.	*p*H	Alb.	R. sub.	K.b.	B.p.	I.	*p*H
Con.	0	—	—	—	—	—	7·5	tr.	—	—	—	—	8·0
	3	—	—	—	—	—	6·0	—	—	—	—	—	6·0
D.D.T.	0	—	—	—	—	—	7·5	—	—	—	—	—	8·0
	3	—	—	—	—	++	5·5	—	—	—	—	++	4·5
	4	—	—	—	—	++	5·0	—	—	—	—	++	5·0
	5	—	—	—	—	+	5·0	—	—	—	—	++	5·0
	6	/	/	/	/	tr.	/	/	/	/	/	+	/
	7	/	/	/	/	—	7·0	/	/	/	/	—	7·5
	47	—	—	—	—	—	7·5	—	—	—	—	—	8·0

Alb. = Protein (albumin). R. sub. = Reducing substances (sugar). K.b. = Ketone bodies. B.p. = Bile pigments. I = Indoxyl sulphate (indican).

Table VI

	Subject R.A.M.C.			
	Control		After D.D.T.	
Time in Days:	0	4	3	7
Examination C. VIII	A.C. > B.C.; both Rinne =	A.C. > B.C.; both Rinne =	B.C. > A.C. rt. Rinne lt. A.C. rt. impaired	B.C. > A.C. rt. Rinne lt. A.C. rt. impaired
Supinators R	Present	Present	Diminished	Diminished
Supinators L	"	"	"	"
Knee-jerks R	"	"	Present	Present
Knee-jerks L	"	"	"	"
Ankle-jerks R	"	"	Weak	Weak
Ankle-jerks L	"	"	"	"
Abdominals ..	+ | + + | +	+ | + + | +	+ | + + | +	+ | + + | +
Cremasters R	Present	Feeble	Present	Very feeble
Cremasters L	"	"	"	"
Plantars R	↓	↓	Feeble	?
Plantars L	↓	↓	"	?
Sensation (cotton-wool)	Normal	Normal	Anaesthetic ulnar aspect rt. hand	Anaesthetic ulnar aspect rt. hand
Tremor: outstretched hands	None	None	Fine tremor	Fine tremor

Table VII

	Subject A.I.			
	Control		After D.D.T.	
Time in Days:	0	4	3	7
Examination C. VIII ..	B.C. > A.C.; both Rinne =	A.C. > B.C.; both Rinne =	B.C. > A.C. rt. Rinne =; A.C. rt. impaired	B.C. > A.C. rt. Rinne =
Supinators R	Present	Present	Present	Diminished
Supinators L	"	"	"	"
Knee-jerks R	"	"	" ++	"
Knee-jerks L	"	"	"	"
Ankle-jerks R	"	"	"	"
Ankle-jerks L	"	"	"	"
Abdominals ..	+ | + + | +	+ | + + | +	+ | + + | +	+ | + + | + All diminished
Cremasters R	Present	Present	Present	Weak
Cremasters L	"	"	"	"
Plantars R	↓	↓	↓	↓
Plantars L	↓	↓	↓	↓
Sensation (cotton-wool)	Normal	Normal	Normal	Normal
Tremor: outstretched hands	None	None	None	None

Table VIII.—*Subjective Phenomena*

	Time in Days	Subject R.A.M.C.	Subject A.I.
Control	0	None	None
	1	"	"
	2	"	"
	3	"	"
	4	"	"
D.D.T.	1	Smarting of eyes and sore throat (3 hours after entering chamber)	Smarting of eyes and sore throat
	2	Smarting of eyes. A transient period of "yellow vision" lasting 45 minutes	Smarting of eyes
	3	Smarting of eyes. A further period of "yellow vision" lasting 30 minutes. Feeling of tiredness, touchiness, and mental incapacity	Smarting of eyes. "Touchiness"
	4	Tiredness. A feeling of muscular incoordination and lack of concentration. An "apprehensive" mental state. Some "heaviness of limbs"	Tiredness. Lethargy with "apprehensive" mental state and "touchiness"
	5	Pain in limb muscles, feeling of inability to walk properly. Pain in left wrist and feeling of loss of extensor power. Extremely irritable, with marked mental incapacity	Tiredness and pains in limbs. General feeling of "illness" so marked that subject felt compelled to remain in bed. No obvious clinical signs
	5–12	Pains in limbs and especially left wrist persisted. Radiograph of wrist on 12th day: N.A.D. Fibrillation of both triceps brachii observed on three occasions during this period. A curious feeling when walking, as if the knees were bending backward, which became known as "goat-leg." This was most marked when ascending steps	Pains in limbs and right shoulder-joint. A general ill-defined malaise, with mental irritability and some mental incapacity
	12–33	The above symptoms persisted, gradually becoming less marked, during this period	Gradual improvement during this period
	33–47	None	None

My colleague, Surg. Lieut. C. C. Evans, R.N.V.R., reports upon the electro-encephalograms as follows. "Electro-encephalograms were taken on both subjects at the following times: (1) 24/5/45—before starting experiment; (2) 28/4/45—after 48 hours in the chamber without D.D.T. paint; (3) 31/5/45—immediately after 48 hours' confinement with D.D.T. paint; (4) 5/6/45—5 days later. No alterations of any significance were observed between the successive records taken."

Neurological Examination

The following were investigated: Cranial nerves, reflexes (biceps, supinators, knee-jerks, ankle-jerks, abdominals, cremasters, and plantars), motor power of limbs, sensation (pinprick, cotton-wool, and vibration), joint position sense, dysdiadokokinesis, hand tremor, finger-nose test, and Rombergism. Tables VI and VII show only those tests where some abnormality was found in one or both subjects.

Discussion

The protocols show that during the control period no measurable changes took place apart from a fall in *p*H in the urine. After exposure to D.D.T. distemper, however, various changes did occur. The most dramatic of these, as might be expected, were found among the subjective phenomena noticed. The smarting of the eyes was due to some lacrimatory substance given off by the paint, although 48 hours had been allowed for drying, with the chamber doors open and the blower on. This substance was most noticeable near the roof. Air from this area was frequently bubbled through silver nitrate solution and acid potassium chlorate–soluble starch solution, but no free HCl or chlorine was detected by the procedure. The vapour was slightly acid to litmus paper, so it was unlikely to have been the ammonia. The smell was reminiscent of dettol. I am of the opinion that this lacrimatory substance was more likely to have been the trace of chlorinated phenol added as a preservative than a product of the D.D.T., but the experiment afforded no direct evidence upon this point. The tiredness, heaviness, and aching of the limbs were very real things, and the mental state also was most distressing. Not only was a state of extreme irritability present, but also both subjects had a great distaste for work of any sort and a feeling of mental incompetence in tackling the simplest mental task. This mental incompetence was more apparent than real, for one of the subjects (R.A.M.C.) forced himself to undertake some mathematical calculations, and was able to perform them with normal precision. The joint pains were quite violent at times, and subject R.A.M.C. went to the length of having his wrist radiographed, even though it was thought extremely unlikely that any abnormal findings would be reported. Subject A.I. was so prostrated that he had to take to his bed for a day. He is far from being a hypochondriacal type, and in fact prides himself upon his ability to endure hardship and discomfort. No explanation is offered for the transitory "yellow vision," but again it seemed a very real thing at the time. On the whole, these subjective findings tally well with the symptoms described by Wigglesworth (1945), and even in an attenuated form would be serious in Service personnel.

The neurological data are of interest in that they do show some slight evidence of measurable change—in the diminution of reflexes, the alteration in auditory acuity in both subjects, and in the patchy peripheral anaesthesia produced in one subject. The production of a fine tremor in one subject is also probably significant.

The urine analyses show a progressive fall of urinary *p*H, but this change also occurred to a smaller degree in the control experiment, and little diagnostic importance is attached to it. The appearance of a marked indicanuria is more likely to be significant, and it is of interest to notice that Stewart *et al.* (1945) consider this test to be of value in early T.N.T. poisoning.

The blood-pressure records are of considerable interest, since a marked transitory fall of systolic pressure was observed in both subjects, one of whom (A.I.) normally has a low diastolic pressure. No explanation is offered for this finding.

In the haematological investigations lay our main hope of finding useful criteria for following toxic change if it should occur, since haematological changes had been reported in mammals. Furthermore, haematological examinations are a practical means of assessing toxic damage of small degree in large groups of people, and if toxic effects were to be discovered it would become important to find a practicable diagnostic and prognostic index applicable to a population at risk.

The data show that shortly after exposure to D.D.T. there is a diminution of the mean corpuscular haemoglobin. This is a more accurate index than erythrocyte counts or haemoglobin estimations alone, since the figures are unaffected by changes of blood volume. A fall in M.C.H. was found in mammals by Cameron and Burgess (1945) and also in early T.N.T. poisoning by Stewart *et al.* (1945). The change occurs so rapidly that it cannot be due to a formation of hypochromic cells in the bone-marrow, so that the red cells must lose haemoglobin. The mechanism by which this occurs is almost certainly an intracorpuscular degradation, the later stages of which are shown by the appearance of stainable non-haematin iron within the cell (Case, 1943, 1945a). If this is so, then some of these cells (siderocytes) should be found in the circulation in excess of normal levels (0.5% ± 0.25%: Case, Ladan, and Nutt, 1945). The siderocyte figures show that this is indeed the case, and suggest that the siderocyte level might be an extremely useful index. This index is already employed in the control of lead-poisoning (Case, 1945; Case, Scott, Scott, and Woolf, unpublished work). The reticulocytes also show a rise, and although the haemodynamic index (Case, 1945) shows a depression followed by a return to normality, it still lies between its normal values of 1-5. This index is an expression of the dynamic activity of the erythron, and while the index is in the range of normality a progressive haemolytic condition need not be feared.

The changes in the white cell counts are at variance with the findings of Cameron and Burgess (1945), who considered that a rise in white cell count with an absolute polymorphonuclear leucocytosis might be a sign of diagnostic importance. In our two cases there was no significant change in the leucocyte count, but after exposure to D.D.T. there was a transitory polymorphonuclear leucopenia and an increase of lymphocytes. In one subject (A. I.) this was followed by a leucocytosis and polymorphonuclear leucocytosis. In the other subject a lymphocytosis persisted throughout the period of observation. This may be due to the fact that this man had suffered from infective mononucleosis three years ago, and since then has had a tendency to time-lag in recovery from induced polymorphonuclear leucopenia.

On the third day after exposure, at a time corresponding to the polymorphonuclear leucopenia, small numbers of immature granulocytes (myelocytes in the Schilling haemogram classification) appeared, but their incidence lasted for three days only. At about the same time occasional nucleated red cells could be found in the blood films.

With the exception of the leucocyte curves, the response of both subjects was of an essentially similar nature, and by the 26th day a return to the original limits was reached for most of the haematological criteria employed.

Conclusions

This work shows that under certain conditions a preparation containing 2% of D.D.T. may, in the presence of oil, constitute a serious hazard to men at risk. The work also suggests that haematological examinations, employing siderocyte levels; haemoglobin and red cell estimations; reticulocyte counts and leucocyte counts, and also urinary indoxyl sulphate estimations might all be useful tests in the prevention or early diagnosis of D.D.T. intoxication.

It should be stressed that these experiments only show D.D.T. distemper to be toxic under special conditions, possibly rather more severe than would obtain in practice, and do not form the basis for any condemnation of the widespread use of D.D.T. if proper precautions are taken, particularly in the avoidance of oil contamination. They do, however, emphasize that D.D.T. intoxication in human beings is a hazard to be considered and guarded against.

Summary

Exposure of two subjects for 48 hours under special conditions (oily surface, large skin areas exposed, high ambient temperature, and relative humidity) produced definite toxic effects, including an increase of erythrocyte destruction (siderocytosis), a decrease in the mean corpuscular haemoglobin, an increase in reticulocytes, a slight fall in haemodynamic index, a diminution of polymorphonuclear neutrophil leucocytes accompanied by the appearance of immature white cells, the appearance of indoxyl sulphate in the urine, tiredness, heaviness, and aching of the limbs, diminution of some reflexes, unilateral slight impairment of hearing, transient "yellow vision" (one subject), muscular fibrillation (one subject), peripheral patchy anaesthesia (one subject), weakness of the legs, and a curious apprehensive mental state. A return to normality took between 26 and 33 days.

The significance of these findings is discussed, the relative merits of the examinations used are considered in relation to the control of D.D.T. intoxication, and the danger of D.D.T. in the presence of oil is emphasized.

I should like to take this opportunity of expressing my appreciation of the co-operation received from my colleagues, and wish to thank Mr. H. V. Hempleman, B.A., for the gas and urine analyses; Surg. Lieut. C. C. Evans, R.N.V.R., for the neurological examinations and electro-encephalograms; the radiologist, Surg. Cmdr. D. A. Inire, R.N.V.R., R.N. Hospital, Haslar, for the *x*-ray examination; and most particularly my technician L.S.B.A. A. Ireland, for his cheerful collaboration as an experimental animal and his careful and conscientious examination of material.

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A FATAL CASE OF D.D.T. POISONING IN A CHILD

WITH AN ACCOUNT OF TWO ACCIDENTAL DEATHS IN DOGS

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We record what is probably the first fatal case of D.D.T. poisoning in man. In addition we describe the death of two dogs following skin-absorption of that substance. The toxicity of D.D.T. has been studied in human beings by Cameron and Burgess (1945) and Draize *et al.* (1944) by means of skin-application tests, and Neal *et al.* (1944) by means of mists and aerosols. Wigglesworth (1945) has described the toxic reactions to absorption through the skin in one human case.

D.D.T. Poisoning in a Child

History.—On Aug. 22, 1945, at 11 a.m., a child aged 1 year 7 months, the son of a West African soldier, found a bottle of 5% D.D.T. in kerosene and drank about 1 oz. Within 10 minutes he began to cough and vomit violently, whereupon he was given palm-oil by the neighbours. In a short while coughing and vomiting ceased, but his general condition worsened, and at about 12.30 p.m. he became comatose and had convulsions, which, so far as can be ascertained, consisted of generalized fine tremors. At about 1.30 p.m. he was taken to a near-by M.I. room, where he was seen by Capt. R. N. Johnston, R.A.M.C., who gives the following account: "The child was comatose and collapsed, with no perceptible pulse, and had froth at the mouth. Atropine 1/400 gr. was given and the stomach washed out, the stomach washing proving to be a yellow pultaceous mass of pawpaw (native fruit). No smell of kerosene was detected. Artificial respiration was given, but the child died at 3 p.m. (4 hours after drinking the D.D.T.)." Luckily, the bottle of D.D.T. was found shortly after the mishap, and the amount of D.D.T. ingested was fairly accurately deduced. It proved to be about 1 fl. oz. The 5% D.D.T. was made up of crude D.D.T. (100% commercially pure, setting point 100°) and crude kerosene.

Post-mortem Examination.—(Aug. 22, two hours after death.) The body of a well-nourished African child weighing 10 kg.; rigor mortis in lower jaw; froth at nostrils and mouth. Meninges: Excessive fluid in subarachnoid space. Brain: Congested, soft, and oedematous. Spinal cord: Normal. Thyroid and thymus: Normal. Trachea: Slight amount of froth and yellow vomit (pawpaw). Lungs: Pale, firm, oedematous, with one or two haemorrhagic areas. Heart: Slight excess of fluid in pericardial sac; otherwise normal. Stomach: Wall normal; contained pawpaw smelling faintly of kerosene. Small and large intestines: Normal. Pancreas: Normal. Liver: Congested, otherwise normal. Spleen: Twice normal size; on sectioning, cut surface was chocolate in colour, with well-marked raised grey Malpighian bodies. Kidneys and suprarenals: Normal. Sternal bone marrow: Normal. Cause of death: Pulmonary oedema.

Histology.—Frozen sections were stained with Fett-Ponceau Sudan IV, and paraffin sections with haematoxylin and eosin. Liver: Congested; cloudy swelling of hepatic cells; sinusoids dilated, contained fibrin, R.B.C.s, and a moderate number of leucocytes; some periportal leucocytic infiltration. Kidneys: Patchy congestion, glomeruli and tubules normal. Lungs: Alveolar oedema, with a few areas of alveolar haemorrhage and infiltration with polymorphs. Heart muscle: Interstitial oedema, with a mild interstitial inflammatory reaction. Spleen: Congested; Malpighian bodies large and showing many endothelial cells. Suprarenals: Normal. Stomach, caecum and ileum, thyroid and parathyroid: Normal. Pancreas: Cloudy swelling. Cerebrum, cerebellum, pons, and spinal cord: Normal. (No special staining for nervous tissue other than H. & E. and Sudan IV.)

At first there was some doubt as to whether death was due to D.D.T. or to the kerosene. To decide this the following experiments were carried out.

Experiment I

Two baboons, weighing 7 lb. (3.2 kg.) each, were selected, and the first was given 15 c.cm. of 5% D.D.T. in kerosene and the second 15 c.cm. of kerosene alone, by stomach tube. Within half an hour the first monkey became quiet, had ruffled hair, and was obviously ill. At two hours he had recovered, and appeared well 28 days later. The second monkey was unaffected.

Experiment II

To a baboon weighing 7 lb. (3.2 kg.) 30 c.cm. of 5% D.D.T. in kerosene, and to another weighing 6 lb. (2.7 kg.) 25 c.cm. of kerosene, were given by stomach tube. Within a quarter of an hour the former monkey had lost the use of his hind legs and was seen dragging himself with his fore-limbs. Convulsions developed, and there were fine tremors of the muscles of the legs, tail, and back. After one hour he died, with bloody, frothy fluid at the mouth and nares, cessation of respiration occurring while the heart was still beating. The second monkey was unaffected, and was alive and well 20 days afterwards.

Necropsy.—(Immediately after death.) Trachea: Contained small amount of frothy haemorrhagic fluid. Lungs: Showed massive haemorrhages with a small amount of oedema. Stomach: Distended with a pultaceous mass of half-digested peanuts smelling of kerosene; mucosa normal. Large and small intestines, liver, spleen, kidneys, suprarenals, pancreas, heart, and brain presented no abnormality.

Histology.—Liver: Hepatic cells showed cloudy swelling; dilated sinusoids containing fibrin; no leucocytic reaction other than a small amount of periportal small round-cell infiltration. Kidneys: Glomeruli congested; blood in capsular space; tubules showed cloudy swelling and granular degeneration with commencing disintegration of epithelium into lumen; many tubules contained blood casts. Lungs: Alveolar haemorrhage and oedema. Heart muscle: Normal. Spleen: Well-marked Malpighian bodies; normal. Stomach, caecum and ileum, pancreas, suprarenals, cerebrum, cerebellum, pons, and spinal cord: Normal. (No special nervous tissue stain used other than H. & E. and Sudan IV.) Cause of death: Pulmonary oedema and haemorrhage, following gastric administration of D.D.T. in kerosene.

D.D.T. Poisoning in Two Dogs

Two bull-terriers suffering from demodex eczema, with skins denuded of hair and ulcerated, were sprayed once with 5% D.D.T. in kerosene. Both dogs subsequently became very ill and lost appetite and weight, dying from exhaustion about two months later. Trypanosomes (*congolense*) were found in the blood of one dog immediately before death. No necropsy was performed on this animal.

Histology.—Liver: Widespread focal and centrolobular necrosis; the necrotic zones had many areas of calcification. Liver cells outside the necrotic zones showed cloudy swelling and fatty degeneration. No obvious leucocytic infiltration periportall or in the necrotic areas Some liver-cell regeneration, but no fibrosis around the damaged areas. Kidneys: Congested; glomeruli engorged and in some cases showing early hyalinization; marked tubular degeneration; all elements of the tubules were affected with cloudy swelling, fatty degeneration, colloid droplet formation with disintegration of the epithelium into the lumen; some tubules showed calcification; many casts. (Some of the R.B.C.s looked sickled.) Lungs: Oedematous, with areas of alveolar haemorrhage and leucocytic (mononuclear) infiltration. Spleen: Congested and presenting areas of haemorrhage; the Malpighian bodies showed proliferation of the endothelial cells, which contained pigment. Brain: (hippocampus) vessels engorged; no cuffing; no Negri bodies.

Discussion

The experiments on monkeys show that the cause of death in the child was due to D.D.T. rather than to the kerosene. A fairly accurate estimate of the toxic dose for a child can be arrived at. About 30 c.cm. of 5% D.D.T. solution was ingested by a child weighing 10 kg., which suggests a *lethal dose of about 150 mg./kg.* body-weight.

Smith and Stohlman (1944) gave a 1 to 5% solution of D.D.T. in olive oil by stomach tube to rats and rabbits, and assessed the L.D. 50's as 150 and 300 mg./kg. respectively. Woodard *et al.* (1944), using D.D.T. dissolved in corn-oil administered by mouth in one single dose, found that the approximate M.L.D. was: rats, 200; mice, 400–500; rabbits, 400 or over; and guinea-pigs, 250–600 mg. per kg. The lethal dose in our experimental monkeys proved to be more than 236 mg./kg. and less than 472 mg./kg. From this and the other experiments quoted above it would seem that the human subject is more sensitive to D.D.T. than the animal when the insecticide is dissolved in an organic solvent and ingested by mouth. In the case of the two dogs the toxic dose was not ascertained, but the cases are a reminder that D.D.T. dissolved in organic solvents appears to be easily absorbed through the skin and may prove dangerous (Draize *et al.*, 1944; Cameron and Burgess, 1945), though there seems little danger from the use of the powdered form or watery suspension. It is, moreover, noted that the two dogs had only one application of D.D.T. in kerosene, producing a similar finding to that of Taylor (1945), who reports the toxic effects of D.D.T. in acetone after one application to the skin of rabbits.

The symptomatology agrees with that described by various workers with a variety of animals. The child became comatose after a short lapse of time, but hearsay evidence suggests that at one period he had developed fine tremors. Fine tremors were also seen in the monkey, associated with loss of power of the hind limbs—a sign which has been observed by almost all authors in their animal experiments. The dogs showed the signs of chronic poisoning, consisting of loss of appetite and weight and poor health. Death in both the child and the monkey was due to respiratory failure, but in the case of the two dogs it was the result of chronic toxaemia leading to liver and kidney damage. Both the child and the monkey died rapidly, and therefore one would expect little damage to be apparent histologically. The dogs showed marked centrolobular necrosis of the liver and tubular degeneration of the kidneys, both with calcification, which is in accordance with the findings of Cameron and Burgess (1945) in their animal experiments. It should be noted, however, that the animals died two months after one application of D.D.T. in kerosene, whereas in other animal experiments chronic poisoning was induced by repeated daily skin applications. This therefore suggests that the dogs received a very severe initial injury to liver and kidneys, which subsequently progressed to a fatal termination. That this is not always the case is perhaps shown in Wigglesworth's (1945) human case of chronic poisoning from skin absorption of D.D.T. in acetone, in which the patient ultimately recovered. It has also been shown in animal experiments by Cameron and Burgess (1945) that when recovery takes place it does so without any subsequent demonstrable liver lesion.

Summary

The clinical and pathological aspects of a fatal case of poisoning in a child after ingestion of D.D.T. are described.

Death was due to pulmonary oedema, probably from paralysis of the respiratory centre.

The lethal dose was approximately 150 mg./kg. body-weight of commercially pure D.D.T.—an amount somewhat less than that found for experimental animals.

Two fatal cases of chronic D.D.T. poisoning in dogs are described, with a histological picture of centrolobular necrosis of liver and tubular degeneration of kidney with marked calcification.

We wish to express our thanks to Prof. G. R. Cameron, University College Hospital, for his advice on writing this paper and for assistance with the histology of our material.

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OBSERVATIONS ON KERATOCONJUNCTIVITIS

(CASES SEEN IN MILITARY HOSPITALS)

BY

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This paper concerns 42 cases of keratoconjunctivitis seen in various military hospitals between Oct., 1943, and Feb., 1945. Details of the clinical features, investigations, course, and treatment are recorded; an endeavour has been made to demonstrate a dental or an ear, nose, or throat toxic focus as a causal factor in a portion of the cases.

Clinical Features

Previous Attacks.—Four patients reported earlier attacks in one or both eyes; the number would probably have been higher with further questioning, but care was taken to exclude previous attacks of other external ocular diseases with similar symptoms.

Onset.—The onset was usually acute, with lacrimation, photophobia, blepharospasm, and conjunctival discharge. Sometimes it coincided with another disease—e.g., malaria, tonsillitis, antritis. Disturbance of vision was unusual.

Lesion.—A varying degree of involvement of the cornea occurred in every case. With simple conjunctivitis there may be oedema of the epithelium and Bowman's membrane. Although such oedema sometimes occurred, it was typical of the cases under review to find punctate marginal corneal lesions. These varied from a spot just visible to the naked eye to one which was 1 mm. in diameter. They were commonly 1 to 2 mm. from the limbus, but could be up to 3 mm. away. They involved the epithelium, Bowman's membrane, and the superficial layers of the substantia propria. Loss of epithelium with the formation of shallow ulcers did occur, but this was unusual. Phlyctenular keratoconjunctivitis, superficial punctate keratitis, and conjunctivitis with marginal corneal ulcers should not be confused with this condition. Cases of keratitis with lesions scattered over the cornea were similar, and the dividing lines between such a keratitis, conjunctivitis with marginal ulcers, and cases of keratoconjunctivitis were difficult, if not impossible, to draw; the conjunctival discharge in the early stages and the lack of visual disturbances were distinguishing features. Both eyes were affected in four cases.

Associated Lesions.—Six cases had associated blepharitis, and skin conditions such as impetigo, external otitis, and dermatitis of face also occurred.

Investigations

Pathological Tests.—The white blood count varied between 9,850 and 13,000 per c.mm., with some increase in the polymorphs. The blood sedimentation rate was usually normal, and rarely rose above 4. Cultures from the conjunctival sac were sterile as a rule, but streptococci and staphylococci have occasionally been grown. It was noticeable what different results were obtained from different laboratories. I have discussed this with several pathologists, and it seems that certain points in connexion with conjunctival swabs should be emphasized. The swab may contain few organisms; it soon becomes dry and the organisms may get chilled and die. In taking the swab excess of tears should be removed, and the stick should be given a twist as the swab passes along the lower fornix. A culture plate should be inoculated and placed in the incubator at the earliest possible moment. Attention to these points should give the organisms the best opportunity to survive and grow.

E.N.T. Examination.—All cases were examined to exclude any ear, nose, or throat focus or sepsis. If such was discovered the next step was to decide what, if any, relation it had to the eye condition. In 17 cases some kind of toxic focus was found. These consisted of tonsillar infection (12 cases), antral infection (1 case), laryngitis (1 case), myringitis (1 case), and rhinitis (2 cases. In some of these, other parts were simultaneously inflamed to a mild degree—e.g., a subacute rhinitis with a septic tonsil. Tonsillar infection was not only present with obviously septic tonsils but, to an equal degree of importance, with small flat tonsils, tonsils which looked normal but from which pus could be expressed, and tonsillar remnants after a previous tonsillectomy; but if the patient had had recurrent attacks of keratoconjunctivitis, or attacks following tonsillitis, then, in the absence of another toxic focus, tonsillectomy was seriously considered. A controversial point should be mentioned here—the existence or otherwise of a quiet sinusitis, with neither symptoms nor positive findings, and a normal *x*-ray appearance. It is possible that such does occur, and, if so, it is relevant to this discussion as a possible toxic focus. Also, at times when *x*-ray facilities were limited, an ethmoidal or sphenoidal infection could not be definitely excluded.

Dental Examination.—All cases were examined to exclude a possible dental focus of sepsis. The following conditions were suspicious on clinical examination and confirmed by radiographs: (1) chronic pyorrhoea, with associated pus formation around tooth roots; (2) chronic granuloma, with or without a discharging sinus; (3) chronic sclerosis of tooth roots and surrounding bone, found in association with root fillings and heavily filled teeth. A mouth was often apparently healthy but on radiographic examination revealed hidden sepsis—e.g.: (1) a tooth root remaining after extractions—these often had apices projecting into the antrum; (2) granuloma of tooth root; (3) common dental cyst. The upper premolar and first molar teeth probably caused most of the trouble, their slender roots often extending to the antral floor. Eleven cases had dental lesions severe enough to be, in each case, a likely focus; 2 other cases needed dental treatment other than fillings of cavities, but simultaneously each had an E.N.T. focus which was considered a more probable cause. No cases of severe dental caries were seen, and mouths only needing odd fillings were not suspected; similarly, a limited degree of pyorrhoea did not cause trouble.

Treatment

Proflavine lotion 1/2000, penicillin drops (1000 units to 1 c.cm.), penicillin cream (500 units to 1 g.), pencillin powder, 10% protargol, 20% argyrol, 1/2000 and 1/1000 proflavine, 1/8% zinc sulphate, 1/2% atropine drops (in severe cases), painting the lids with 1% silver nitrate, hot bathings, have all been used. Although it seemed that the conjunctival discharge subsided more quickly with treatment, none of these drugs appeared to have any noticeable effect in shortening the course of the malady. When the cornea is much involved atropine helps to relieve pain and hasten resolution.

Course of the Disease

The duration varied between 3 and 64 days, with a mean of 16.8 days. Conjunctival discharge was usually present for 2 to 8 days, leaving hyperaemia only. This hyperaemia remained while the cornea continued to be inflamed, and traces could be seen for some time after. The corneal lesions were replaced by minute nebulae or disappeared altogether.

Several patients underwent tonsillectomy, and in some cases the eye condition showed an immediate improvement, and subsided more quickly than in the ordinary course of the disease. Occasionally there was an exacerbation of the ocular inflammation—possibly an allergic manifestation from a bacteriaemia; blepharitis also occurred after tonsillectomy. Similar improvement and occasional exacerbations were noticed after dental treatment—e.g., extraction of tooth root, dental extractions for apical abscess or pyorrhoea.

Conclusions

A scientific paper written under active service conditions must often be incomplete. The lack of a slit-lamp for corneal examination was keenly felt, colleagues for special examinations and laboratory facilities were not always available, cases could not be followed up for more than a brief period, the clinical entity of the disease is not always easy to recognize, and a reference library is not available. A noticeable proportion of the patients had an ear, nose, or throat toxic focus, 40% of sufficient severity to be suspected as the cause, and a similar proportion (26%) had a dental focus.

Final proof as to the cause could not be obtained, but the results were striking enough to justify investigation and treatment of toxic foci in all cases of the disease. If such is not done, it is probable that many cases will be insufficiently treated and may relapse, causing an unnecessary wastage of man-power from the need for further in-patient treatment. A possible cause having been found, it is not always a simple matter to decide how much mischief it is causing, and whether it needs drastic treatment, or any treatment at all.

My thanks are due to Capt. A. Smith, A.D. Corps, for his valuable co-operation on the dental aspect of the subject.

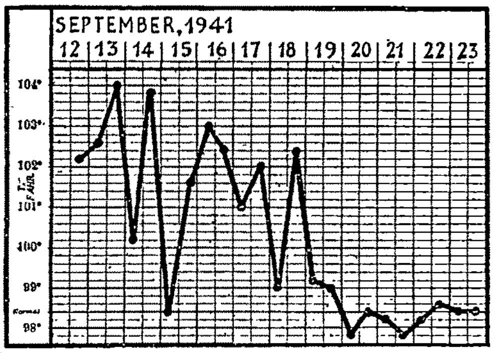
Medical Memoranda

A Case of Tick Typhus in the Sudan

Below is the history of the first case of tick typhus to be reported in the Sudan.

CASE REPORT

The patient, an English school-teacher aged 32, was admitted to Juba Civil Hospital on Sept. 16, 1941, complaining of fever and frontal headache of 7 days' duration. He was in good health until the evening of Sept. 9, when after a somewhat busy day he felt "rather weary and a trifle under the weather." On Sept. 10 he motored 100 miles over a bad road, and that night slept badly, awakening next day with a slight headache, but was still able to carry on with his work of inspecting bush schools. That evening he had abdominal pain and slight diarrhoea, and spent another restless and disturbed night. On the 12th he still felt ill, but was able to do his work. At the end of the day he felt "dead beat and really rotten." He took his own temperature at 8 a.m., and found it to be just over 102° F. On Sept. 13 the morning temperature was 103.6° F., and he felt too ill to leave his bed. He was seen by a doctor, who diagnosed malaria and treated him with mepacrine; the blood film was, however, negative. On the 14th and 15th he felt much the same, and on the 16th was transferred to Juba Civil Hospital. On arrival (11 a.m.) his temperature was 103° F., pulse rate 64, and respiration rate 21. He looked well nourished and had a sallow complexion (normal for the patient), but was obviously ill. The skin of both forearms, anteriorly and posteriorly, was covered with a dull pink maculo-papular rash, some of the papules showing vesication. The rash was also present on the trunk and abdomen, but was much more scanty; it was not present on the face. The macules faded on pressure. The rash was first noticed by the patient that day. Below the right internal malleolus was a small sore (tache noire) about 2 cm. in diameter, covered with a thin scale; this was first noticed about the end of August, and had been dressed by the patient himself, who thought it was probably a mosquito bite. Both tonsils were slightly injected, there was conjunctivits, and the patient seemed to be a little deaf. He had been constipated for two days.



• A clinical diagnosis of typhus fever was made and mepacrine treatment was stopped. This diagnosis was confirmed by the pathological report received on Sept. 24. The blood culture was negative, but the Weil-Felix reaction was positive OX2 1 in 500, OX19 negative—a report diagnostic of African tick typhus. On the 17th and 18th his condition showed slight improvement, but he felt very tired and worn out. The rash now began to fade. On the evening of the 19th his temperature fell to 99° F. and was normal next morning. The pulse rate was never above 76, and was relatively slow for the degree of pyrexia—e.g., when the temperature was 103° F. the pulse rate was only 64. During the next fortnight he felt very weak and tired, but subsequent to returning to his home in Yei, on Oct. 3, he made a rapid and complete recovery.

The diagnosis was suggested to me by the typical appearance of the rash and the sore on the ankle, and was confirmed by the Weil-Felix reaction.

COMMENT

It is impossible to say where the patient acquired the disease, as he was on tour when he fell ill. He remembers being bitten on the ankle by an insect in Yei about the end of August; he also thinks he may have been bitten while staying in Juba on Sept. 4 and 5; after that time until his illness he was on tour on the east bank of the Nile, and sometimes had to walk through long grass, in which he might have collected a tick.

The main interest in the case is that it suggests tick typhus as a possible cause of some of the cases of undiagnosed pyrexia which are admitted to hospitals in this province, and emphasizes the importance of carrying out the Weil-Felix test in cases of pyrexia in which the diagnosis is in doubt. The diagnosis would probably not have been made had the disease occurred in a native of the Sudan; the rash would have been missed, and the case would have been called "clinical malaria" or "P.U.O."

My thanks are due to the Director, S.M.S., for permission to publish this case, and to Drs. Horgan and Kirk for the pathological findings and interpretation.

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Ligature of Anterior Ethmoidal Artery for Arrest of Profuse Epistaxis

The case recorded below may be of interest as an unusual exercise in applied anatomy. For the arrest of profuse and intractable epistaxis, arterial ligature is occasionally indicated, and the great importance of the branches of the external carotid artery in the supply of the nasal cavity should not blind one to the fact that the upper and more inaccessible part of the cavity draws its arterial blood from the internal carotid by way of the anterior ethmoidal and its smaller companion, the posterior ethmoidal artery. For further amplification of these and other anatomical points I would refer to the instructive article by E. D. D. Davis (1939), which gave me the necessary inspiration to cope with this difficult case.

CASE HISTORY

On April 9, 1945, a man aged 44 was admitted for epistaxis. The bleeding had been severe and had lasted for five days. He had been admitted to another hospital, where the nose had been repeatedly packed and various styptics applied. A transfusion of two pints of blood had also been given. As the bleeding was not arrested he was transferred to this hospital.

On admission, though the patient looked pale and distressed, the bleeding had stopped. His haemoglobin was found to be 38%. The stale and offensive packing was removed from the right nostril. The nose was cocainized, and anterior rhinoscopy revealed a granular and inflamed mucous membrane, with many small abrasions, presumably the result of previous attempts at haemostasis. One small bleeding spot in the floor of the nose was touched with the cautery, though subsequent events showed that this was not the real source of the trouble. The nose was left unpacked, and two pints of blood were transfused.

No further bleeding was seen till four days later, when a copious flow occurred from the right nostril. This was controlled temporarily by firm packing with ribbon gauze soaked in liquid paraffin. Further severe bleeding followed an attempt, a few hours later, to remove the pack and deal locally with the source. The patient now showed all the signs of a severe loss of blood, and a fatal termination appeared imminent. A transfusion was begun and was maintained for 18 hours, five pints of blood being given. Under local analgesia, the bifurcation of the right common carotid was exposed, and the external carotid artery was doubly ligatured close above the origin of the superior thyroid artery. At the same time a loop of catgut was placed loosely round the internal carotid artery and the ends were brought out through the lips of the cervical skin incision, which was sutured. This catgut loop was not tied, and in no way obstructed the flow of blood through the internal carotid, but traction on the loop would act as a temporary ligature if the need should arise.

For two days the patient made good progress, but on the morning of the third day further severe epistaxis occurred from the right nostril. Gentle traction on the catgut loop stopped the bleeding at once. On releasing the tension on the loop, blood could be seen to well from the upper recesses of the right nasal cavity. With sufficient gentle traction maintained to stop the bleeding temporarily, the anterior ethmoidal artery was tied through an incision on the inner side of the orbit. This procedure, carried out under local analgesia, presented no difficulty, as it is a regular part of the commonly practised Ferris-Smith ethmoidal exenteration. Transfusion of another two pints was given.

No further epistaxis occurred. Four days after this second operation his haemoglobin had risen to 40%, and on his discharge from hospital on May 14 it had reached 70%. He has since remained free from nose-bleeding.

No cause could be found for the bleeding. There was no history of injury, and no local lesion or growth in the nasal cavity or in the nasal sinuses could be found. His blood pressure had never risen above 130/80, and an exhaustive examination of the blood showed no abnormality beyond anaemia and a slight polymorphonuclear leucocytosis, occasioned by the loss of blood: both have now returned to normal.

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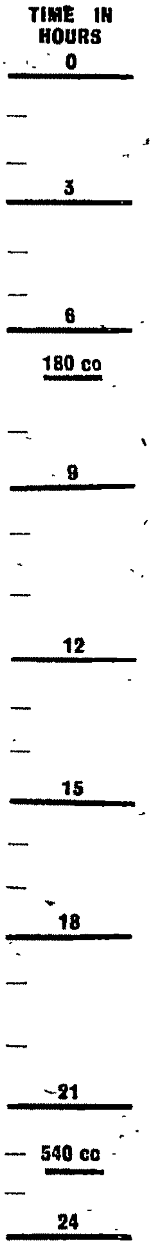
Administration of Penicillin by Intramuscular Drip



The use of the intramuscular route for the continuous infusion of penicillin (Morgan, Christie, and Roxburgh, 1944) has proved to be of value as an alternative method of administration in patients who cannot tolerate intermittent intramuscular injection. The amount of fluid that can be absorbed readily by a muscle in 24 hours is one pint or less, and in June of last year the need arose for a simple method of administration which did not require special equipment or experience. A description of the technique outlined below was therefore circulated by the Penicillin Clinical Trials Committee of the Medical Research Council to all hospitals likely to receive battle casualties. Many thousands of the graduated labels have been issued, and we understand that their use is still recommended in the Army. The method has several advantages over those which require special equipment (McAdam, Duguid, and Challinor, 1944; and Hill, 1944). Its simplicity is its main asset.

The graduated scale (as shown in the illustration), which is printed on gummed paper or copied on sticking-plaster, is attached to the standard E.M.S. transfusion bottle so that the 180 c.cm. and 540 c.cm. marks correspond with those on the bottle. A 24-hours supply of penicillin is dissolved in 540 c.cm. of sterile normal saline, and the drip set up in the usual way at 8 to 12 drops a minute. The needle is inserted diagonally into the lateral aspect of the thigh, secured with sticking-plaster and covered with a sterile dressing. The fluid level should be inspected every hour or so, and should correspond with the appropriate mark on the scale; if it does not, the drip should be adjusted.

No special claims are put forward for this method of administration. Its merits lie in simplicity and cheapness. The disadvantage of the method is that 540 c.cm. of fluid are given as an infusion every 24 hours. This can be reduced by putting two days' supply of penicillin into the bottle and doubling the time scale, thus making a pint last 48 hours. Using this method we have not failed to obtain an adequate blood concentration of penicillin.

These labels may be obtained from Messrs. A. Richardson, Ltd., 5, High Street, St. Albans. Alternatively the figure, which is reproduced full size, may be copied on sticking-plaster.

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Reviews

TECHNIQUE IN TRAUMA

Technique in Trauma. Planned Timing in the Treatment of Wounds, including Burns. By Fraser B. Gurd, M.D., C.M., and F. Douglas Ackman, M.D., C.M. (Pp. 68; illustrated. 15s.) London: William Heinemann Medical Books. 1945.

This monograph from the Montreal General Hospital is made up of three articles and a summary. The first two deal with burns, and the third with wounds in general. This last section is in accordance with principles generally accepted in this country but, being written before penicillin was generally available, it is now in need of elaboration.

The sections on burns are well documented, and the modesty of the writing is particularly attractive after the rather polemical views put forward by advocates of different methods of treatment in the past. The authors advocate a special organization for treatment of burns which would have the support of anyone who has had to take charge of these cases. It need be neither large nor elaborate. Infrequent dressing, after cleansing, with sulphathiazole emulsion, followed by early grafting, is the keynote of their local treatment. The full case records are of special interest in so far as the patients were civilians, and most of them came for treatment early without the long gap imposed by wartime transfers of casualties. It is encouraging to read of the high degree of success achieved.

This monograph is well worth reading because of its detail, its honesty, and the self-criticism which the authors have included. It is strictly practical, and the experienced can appreciate difficulties described and overcome and learn something new, while any who have only a limited experience in the treatment of burns can use the details as a safe guide.

DISEASES IN THE TROPICS

Diagnosis and Treatment of Diseases in the Tropics. By H. C. Trowell, M.D., F.R.C.P. Second edition. Baillière's Medical Manuals for Africans. (Pp. 219; illustrated. 4s.) London: Baillière, Tindall and Cox. 1945.

The second edition of this handbook incorporates several important additions and changes necessitated by recent advances of knowledge since the first edition was published. The chief of these concern the use of the sulphonamide drugs, while a new chapter on diets and malnutrition has been added. The object of the book, according to the author, is to acquaint African nursing orderlies and dressers with those aspects of medical and surgical disease which must be understood for nursing to become intelligent. He has largely succeeded in this endeavour, producing a small concise book, clearly written, and covering most of the simpler and more practical aspects of disease as encountered by the dresser in tropical Africa. It is more than a pity, therefore, that a number of errors and loosely expressed ideas have been allowed to spoil the work. For example, heart disease is stated often to produce pain under the praecordium—an erroneous idea which, if disseminated to patients, may result in much mistaken distress; the gonococcus is stated to be peculiar in that it can only produce inflammation in the urethra, conjunctiva, and joints, though it must be admitted the author later discusses gonococcal cervicitis and salpingitis; the ambiguous abbreviation S.T. instead of the clearer M.T. is used to designate malignant tertian malaria; in discussing the treatment of malaria, mepacrine is mentioned only, as it were, incidentally and is dismissed in less than two and a half lines; typhus is not mentioned at all; and relapsing fever is said to be transmitted by the bite of the louse. Though we realize that a book of this nature should not be overburdened with detail, it is desirable that what is written for the education of primitive students should be balanced, accurate, and precise.

ADULT TUBERCULOSIS

Pulmonary Tuberculosis in the Adult: Its Fundamental Aspects. By Max Pinner, M.D. (Pp. 580; illustrated. $7.50.) Springfield: Charles C. Thomas. 1945.

The author of this book states in his preface that he has not attempted to write a textbook, his aim being to create understanding rather than to impart knowledge. Prof. Max Pinner has achieved this object so successfully that it is difficult to do justice to his work within the confines of a review. The task of the reviewer must therefore be to encourage others to read the book for themselves.

The early chapters are concerned chiefly with the pathology and pathogenesis of phthisis. Taking the tubercle bacillus as the starting-point, the reader is shown, in turn, the micro-organism itself, its effect upon the body tissues, the reactions it produces, both local and general, and finally the nature and uses of tuberculin. Thence he proceeds to a discussion of the factors which determine the development of clinical tuberculosis; the vexed question of the relative importance of endogenous and exogenous factors in reinfection is skilfully and fairly expounded, but the author shows that it is of less practical consequence than the problem of the causal factors which prepare the soil for the seed. After some wise comments on the classification of tuberculosis, and the proper function of classifications, Prof. Pinner goes on to a systematic description of the whole course of pulmonary tuberculosis, from the primary complex, through the incipient stages of reinfection, to the established chronic disease. This account is illustrated by reproductions of *x*-ray pictures with comparable photographs of necropsy material and photomicrographs. An excellent description of tracheal and bronchial tuberculosis is also included. The later chapters deal with the practical problems of the diagnosis and treatment of tuberculosis. Here again we are never allowed to lose sight of the wood for the trees; our field of vision is extended by fascinating discussions of the physiology of respiration and of the principles upon which treatment is, or should be, based. The brief descriptions of various forms of treatment, including all types of collapse therapy, are admirably balanced, modern, and comprehensive. The book concludes with an evaluation of the results of treatment and a discussion of the epidemiology of phthisis.

This is largely a work of collation and assessment. From a vast knowledge of the literature the author has marshalled, weighed, and set out the facts, never losing sight of his aim, which is to present a picture of pulmonary tuberculosis as a whole, rational and consistent within itself. He does not claim to have added anything new to our knowledge of the disease, and yet the unified conception which he has set forth may seem new to many workers in tuberculosis. Preoccupation with some particular aspect or problem so often destroys the sense of proportion, and perspective is restored by this clear presentation of the established facts which must form the basis of any useful discussion. Mention must also be made of the bibliography, which is noteworthy both for its completeness and for its mode of presentation. At the end of each chapter there is not only a list of the key papers referring to the subject, but also a short review of each article quoted, with notes on its scope and value.

Good books about tuberculosis are not common, and, in spite of his modest claims, Prof. Pinner has added another to our store. Everyone who is engaged in tuberculosis work will enjoy reading and rereading this book, and it is for them that it was written.

NEW SUPPLEMENT TO B.P.C.

Seventh Supplement to the British Pharmaceutical Codex, 1934. Additions and Amendments to Parts I and III, with Cumulative Index. (Pp. 133. 7s. 6d.) London: The Pharmaceutical Press. 1945.

The *B.P.C.*, like the *British Pharmacopoeia*, has been busy in public service during the war giving birth to a family of Supplements. The young of the *Codex* are now seven in number, and the latest addition should be a favourite with a great many.

It is curious that the *Pharmacopoeia* does not put its pride in its pocket and follow the *Codex* in making itself a really useful book by including a section on actions and uses and also a list of proprietary names with their non-proprietary equivalents. Even the *Codex* is rather bashful about proprietary names, for they are not mentioned in the monograph dealing with the substance. Thus the reader will be completely in the dark concerning cinchocaine unless he happens to stumble on nupercaine in another part of the Supplement, where he discovers that cinchocaine is its non-proprietary name. Alas that we must wait for the day, which will surely come, when the proprietary name will appear unashamed in the monograph!

The members of the Codex Committee certainly stick out their necks, as the Americans say, when they describe actions and uses. They deserve credit for their courage, and a recognition that they have written these paragraphs well. Any attempt, however good, would be easy to criticize. Thus, concerning cyclopropane the *Codex* says: "The chief disadvantage of cyclopropane is that it does not stimulate respiration." What anaesthetic does? Surely the right way to explain the chief disadvantage is to say that concentrations of cyclopropane which give sufficient muscular relaxation are not far removed from concentrations which arrest respiration. In this sense cyclopropane compares very unfavourably with ether.

It is satisfactory to find a section on the treatment of barbiturate poisoning, but a pity that strychnine and nikethamide and the use of amphetamine sulphate to raise the blood pressure are mentioned several lines before the one effective drug in barbiturate poisoning—namely, picrotoxin—is brought into the story. Nor would one guess that pholedrine is superior to amphetamine for raising the blood pressure. However, the proportion of generally acceptable statements is very high and makes the Supplement of great value to the medical practitioner.

Notes on Books

We welcome the appearance of a ninth edition of Sir JAMES PURVES-STEWART'S *Diagnosis of Nervous Diseases* (Edward Arnold; 40s.). As the author relates in the preface, it has been compiled with difficulty during the war, many of the new references and illustrations which it was hoped to incorporate having reached the bottom of the Atlantic. The regional and symptomatic arrangement of matter has always made this work popular with students and practitioners alike, since it is an excellent complement to the more systematic textbooks which deal with the diseases of the nervous system. It is unfortunate that medicine in all its branches is becoming so complex, for it means that even textbooks such as this are growing out of hand, and are becoming too heavy and too long to afford the pleasant reading which earlier editions of this work used to give to the last generation of aspiring neurologists. Still the present generation will find the 880 pages before them well worth perusal, and will discover a wealth of information which is not easily gleaned from any other book.

The Inter-Allied Health Charter Movement began in 1943 under Anglo-Czechoslovak auspices, and it has now published a *Year Book*, 1945 edition, putting on record in a series of articles the efforts of Great Britain and her Allies in Western and Central Europe to further Clause 6 of the Atlantic Charter—the famous clause embodying the hope "that all the men in all the lands may live out their lives in freedom from fear and want." One of the introductory articles is by Dr. Norman A. Sprott, who complains of recommendation "B" of the British Medical Association, which, in connexion with the future of the medical services, declares that the health of the people depends primarily upon certain social and environmental conditions. Dr. Sprott thinks this an inadequate and over-simplified statement, and for his own part he sets out fourteen points as essential to health. These include regulation of size of the population, freedom from serious injury and infestation and infection, right choice of parents, and the means of satisfying certain primitive instincts. Extended in this way the word "health" seems to become meaningless; it might just as well be replaced by the word "life." There is a great deal of interesting information in this book about health movements in other countries, but it would have benefited by better arrangement and some sacrifice of matter. It is issued from the Health Charter Communication Centre, 26, Portland Place, London, W.1, at the price of 10s.

For the use of those wanting to revise their knowledge quickly Dr. R. GORDON COOKE has written *A Summary of Medicine for Nurses* (Faber and Faber; 3s. 6d.). In a hundred pages the author gets out brief notes—from "Addison's Disease" to "Worms." For those who like this sort of synopsis this is a good example of its kind.

A Circular (No. 208/45) has been issued by the Ministry of Health on the disposal of Government-owned equipment held by local authorities in excess of their requirements for the Ministry's Emergency Services. It has now been decided that, owing to difficulties of transport and lack of adequate storage space, the bulk of this surplus equipment (other than food, vehicles, and clothing) should be disposed of locally, and that where arrangements can conveniently be made the goods should be offered to the public through traders. The authority for local disposal of surplus goods provided for, or at the expense of, the Ministry of Health is designed to effect speedy clearance of premises, and the Minister feels that local authorities will welcome the opportunity of making domestic goods available to their inhabitants. The Women's Voluntary Services have agreed to help in this task of disposal wherever they can.

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THE FREEDOM OF THE PROFESSION

We print in the opening pages of this week's *Journal* a list of principles believed by the Negotiating Committee to be fundamental to the practice of medicine, the Minister of Health's statement in the House of Commons last week, and the comment of the Secretary of the Negotiating Committee. It is hoped that everyone will read the three pronouncements with care. The Negotiating Committee, it may be repeated, is composed of representatives of the British Medical Association, the Royal College of Physicians, the Royal College of Surgeons, the Royal College of Obstetricians and Gynaecologists, the Royal Scottish Medical Corporations, the Society of Medical Officers of Health, and the Medical Women's Federation. It is, therefore, truly representative of the medical profession in this country.

The essence of the principles is the freedom of medical men and women to practise the art and science of medicine according to existing knowledge, informed judgment, professional standards, and the dictate of conscience. The framework of the new National Health Service must allow for the exercise of full professional freedom, or the progress of medicine will be halted and the public will suffer.

THE MINISTER'S FIRST STEPS

The Minister of Health's statement in Parliament last week is by now familiar to readers of the *Journal*, and is recorded in full in this week's issue (p. 834). Although the Minister, Mr. Aneurin Bevan, at the same time stated that the Government had not yet decided upon the proposals for a National Health Service which it will submit to Parliament, his considered pronouncement last week is clearly linked up with these proposals. In reply to a question he summarized them when he said, "What I have done is to inform doctors that it is highly improbable that I will permit the sale and purchase of practices." The former Minister of Health, Mr. Willink, called the Government's statement "vague and menacing." He also observed that most of Mr. Bevan's colleagues in the Government agreed that the matter was "one of great complication and not essential to the introduction of the National Health Service. To this Mr. Bevan rejoined that he had every reason to believe that the announcement would be received with great satisfaction by most doctors. If the Minister is basing this assertion on the results of the B.M.A. questionary, it should be pointed out that the analysis of replies from those most directly concerned—namely, general practitioners—showed that exactly half were for and half against the sale and purchase of publicly remunerated practices.

It is important to distinguish between the sale and purchase of publicly remunerated practices and the sale and purchase of practices consisting of patients outside any public scheme. The Minister intends, it seems, to make the buying and selling of the former type of practice impossible. It should be stressed that the promise of compensation covers all capital values that would be directly affected by legislation, and that a man, for example, in a wholly private practice proposing to retire at the introduction of the new service would receive compensation from the Government. If the Minister's sole wish is to make it easier for a young man without means to enter practice, and if he does not intend to interfere with a way of professional life which has evolved on a mutually co-operative basis between doctor and patient and doctor and doctor, then the medical profession would be willing to work out with him ways and means of doing this. But a careful reading of the second item of the Minister's statement (see page 834) suggests that the question of the buying and selling of practices is linked in his mind with the distribution of doctors. To put it more bluntly, the Government intends to buy existing practices so that it can direct medical labour. That is to say, if a young man wishes to succeed his father or join with colleagues in practice in a district where he has grown up and which he knows and where he is known—and the hereditary element is strong in British professional life—he may, by *force majeure*, be translated to another place where he has no native ties or interests. Will this give the public a good doctor and a doctor who is happy in his conditions of work?

If it be granted that there is maldistribution of doctors, is the Minister clear in his own mind about the causes of this? Does he, for example, believe that there is unemployment in the medical profession, or under-employment? The finger of scorn is often pointed at Bournemouth, but Bournemouth and other places like it are to a large extent convalescent homes for invalids. There are probably as many sick people in Bournemouth as there are in Rhondda. The trouble with Rhondda, as the Minister has every reason to know, has not been under-doctoring but unemployment. Anyone with an intimate knowledge of the medical profession knows that there are few men in practice who do not do a full day's work or more, and usually seven days in the week. Doctors are distributed unevenly because there are not enough to go round, and one remedy is not arbitrary direction but an expansion of medical schools and the recruitment into them of increasing numbers of men and women fitted to become medical practitioners. If the argument may be carried a little further we would suggest that the reason why there are not enough doctors is the gross underpayment of publicly remunerated doctors since the introduction of the National Health Insurance Act. The medical profession has its own proposals for improving the distribution of doctors. It is noteworthy that the Minister has suggested a narrow solution of the problem before even hearing the views of the profession on it. Is his desire to direct stronger than the desire to discover the facts of the case?

The practice of medicine demands high qualities of character, an intelligent mind, and a resourceful nature. If the country wants a profession stocked with men having these attributes it will be wise not to produce conditions which will be antipathetic to them. The present Minister of Health is notorious for the freedom with which he uses his speech, and he would therefore, we may believe, welcome an equal freedom of approach on the part of the profession. The profession recognizes that Mr. Bevan has a real interest in the task to which he has set his hand, and a genuine wish to work with the men who are going to provide the service. He has himself said that the new health service cannot be run by men who are discontented or have a sense of grievance. The real difficulty felt by medical men who are not partisan Socialists—and they comprise the majority of the profession—is that they see themselves being called on to fashion a service in co-operation with a Government which has rigid doctrinaire views on the ordering of society. If the Government does not recognize this fact and has not the strength of mind to model the new service on the basis of fact and not theory, then the evolution of medical practice may turn out to be retrograde. Before the medical profession can give a considered opinion on the whole matter it must know what the whole matter is. At the moment it knows no more than what the Minister said last week. But it has read the writing on the wall, and does not pretend to like it.

POST-WAR VIENNA

A White Paper[1] dealing with conditions in Germany from December, 1918, to March, 1919, was published early in 1919; later in the same year the results of a full investigation conducted by Prof. E. H. Starling were published as a White Paper.[2] It is a sign of a decay in the attitude of Governments to governed during the last quarter of a century that no official reports on conditions on the Continent have appeared so far and have been refused by the Government; that official information has been given only in answer to critics in Parliament; that we have had to depend for information on journalists who might well be giving truthful but unbalanced accounts. We must therefore welcome such reports as those of Bastanie and his colleagues[3] on conditions in Belgium (though before this appeared there had been great changes) and that of Magnus Pyke which appears in this number of the *Journal* at page 839.

Comment on the failure to issue any rations for a month after the capture of Vienna, and on the gross inadequacy of rations from June to September, would be superfluous. What most concerns us now is that the Allied Council has since September agreed to try to provide the normal consumer with 1,550 calories daily. This 1,550 standard has been mentioned frequently in the lay press as the minimum needed to prevent continuous degeneration. Dr. Pyke now writes of 1,600 calories; we believe that this is the first time that such a low standard has been suggested by anyone with a claim to knowledge of nutrition. Where did this standard originate? What justification is there for it? In occupied countries rations supplied less; but, as may be seen from Brull's report[4] on conditions in Liège, people got far more of rationed foods such as bread than the regulations allowed. In the last war German rations supplied much less; Loewy's survey[5] (made in April, 1917) shows that people were actually eating about 1,600 calories per head (2,000 per unit) and were getting more than their allowances of rationed foods. Nevertheless there was a progressive decline in health. According to *Food Consumption Levels in the United States, Canada, and the United Kingdom*,[6] " in early 1941 . . . supplies fell to an average of less than 2,700 calories per head per day, and, although rationing was well established, there were indications of impaired health and working efficiency. General experience tends to show that, while the current United Kingdom supply level is adequate, the slightly lower level in 1941 was less than adequate, though some allowance must be made for the rapidity with which consumption levels fell in 1940–1. In other words, the present supply level of about 2,800 calories per head per day is, for the United Kingdom, about marginal." This was 2,700 calories " going into consumption "; the actual food eaten was equivalent to about 2,450 calories. Any impairment of health and efficiency was more probably due to causes other than lack of calories. But we cannot pose a standard of 2,500 calories for ourselves and 1,600 for others. Unemployed in Britain consumed about 2,200 calories a head.[7] Five-year-old children in English industrial towns get, on an average, 2,100 calories.[8] It is reasonable to take as the rock bottom the 2,000 calories proposed by the military authorities as the minimum daily requirement needed to prevent disease and unrest.

Vienna is at any time particularly ill situated for getting food in addition to rations; still more so when armies of occupation are taking any supplies from the country districts. Even in a part of the city which contained large areas of allotment and was situated near the outskirts the calories added amounted to only about 300. Presumably the Allied Council does not intend that the Viennese should add to their 1,550 calories by the irregular methods practised in the occupied countries during the war. The standards for vitamins A and C suggested by Dr. Pyke are much higher; certainly many people in this country have subsisted for a long time on less than 25 mg. of ascorbic acid. But, with no issue of milk to children over 6 years old, the intake of calcium by older children will remain inadequate unless more chalk is added to the flour in Vienna than is added to ours, for 1 lb. of our fortified bread supplies only about 0.26 g. of calcium. Dr. Pyke gives records of heights and weights of children in two schools from June, 1942, when rationing in Germany was already severe. These heights and weights compare favourably with those found in London in 1938,[9] while in 1920 heights and weights in Vienna[10] were much lower than in London in 1905–12. It appears that the special allowances for children in Vienna during the war were adequate, and that even during the worst period of this year the boys got enough to maintain their weights; the girls, who according to Pyke's survey ate less, had lost weight during the year. But if supplies are not increased we must expect a decline similar to that after the last war.

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[1] *Reports by British Officers on the Economic Conditions prevailing in Germany*, Cmd. 52. 1919, H.M. Stationery Office.

[2] Starling, E. H., *Report on Food Conditions in Germany*, 1919, H.M. Stationery Office.

[3] Bastanie, P. A., *et al.*, *British Medical Journal*, 1945, **2**, 351.

[4] Brull, L., *Les Etats de Carence en Belgique*, 1945, Harman et Cie, Paris.

[5] Loewy, A, *Z Phys diet. Ther.*, 1919, **23**, 81.

[6] H M. Stationery Office, 1944.

[7] Potts, T. N. V., *Report on a Study of Diets of* 205 *Families in the West Riding of Yorkshire; A Study of the Diets of Sixty-nine Working-class Families in Newcastle-on-Tyne*. 1939.

[8] Bransby and Wagner, G., *British Medical Journal*, 1945, **2**, 682.

The main problem, then, is to provide calories, and calories can be provided as wheat. Two years ago, at a time when the amounts that would be needed for relief were grossly underestimated, there were some 30 million tons of wheat available. But the International Wheat Council reported in September of this year that "the present estimate of world's import requirements for the year ending July 31, 1946, exceed by a substantial margin the present supplies available for export during that period from Argentina, Canada, Australia, and the United States." On Dec. 7 Sir Ben Smith said in the House of Commons that "one million six hundred thousand tons of wheat were required in the British zone alone, and it was a physical impossibility, because of the world shortage, to supply that." Has all that grain been used up in feeding livestock and making commercial alcohol? If there are the stocks, transport is needed to bring them across the Atlantic and distribute them on land. Was Sir Arthur Salter correct when he said that transport is available? We want a White Paper that will give a full account of conditions on the Continent and of the stocks and transport that can be used for relief.

The sufferings of Vienna have a place in British medicine, for it was there that Dr. Harriette Chick and her colleagues made the classical studies that established the importance of vitamins in human nutrition. The original intention was to study hunger oedema, which was prevalent in 1918; but by July, 1919, few cases could be found. The number of cases in the first weeks of October, 1945, was from 200 to 300. Famine oedema is still a mystery. Why does oedema appear in some cases when the serum proteins are not reduced? Why do the serum proteins fall in some cases and not in others? Could not a team from Britain carry out the investigation which was intended at the end of the last war? In Dr. Chick's report[11] there is a photograph of twins, Ida and Johann Potharany; it appeared in a paper by Chick and Dalyell[12] and has been reproduced several times since then. Both Ida and Johann had had rickets and scurvy: Ida, who had been treated with cod-liver oil, was plump and well grown; Johann had not, and remained a wizened misery. When we compare the reports about children's food in England and Vienna that have appeared within a month we feel that these little figures may be regarded as symbolic of the children in the two countries.

WHOSE LOAF?

In January of this year a Conference was convened by the Ministries of Food and Health and other Departments to discuss the composition of post-war flour and bread. The Conference met six times, and appointed two technical subcommittees to consider special points. Under the chairmanship of Lord Horder one subcommittee reported on the minimum quantities of nutrients to be prescribed in regulations dealing with flour. The second, under the chairmanship of Mr. C. A. Loombe, Director of Cereal Products in the Ministry of Food, looked into the question of regulations covering the content of nutrients in flour. Briefly, the Conference recommends that flour should contain not less than certain minimum quantities of the three "token" nutrients—vitamin B_1, nicotinic acid, and iron—the minima per 100 grammes of flour being, in milligrammes, 0.24 of vitamin B_1, 1.60 of nicotinic acid, and 1.65 of iron. It is stated that these minima can be supplied in the present 80% extraction flour, and recommended that for the time being this should be continued. A further recommendation of the Conference is that before the remaining period of control ends certain difficulties discussed should be studied.

Of the six items needing investigation, four of them refer to reinforcement with the "token" nutrients. In the last paragraph but one of the report of the Conference[1] it is stated that the Government, in the light of further studies, will have to decide whether "it will be both practicable and in the national interest to prescribe, or alternatively to permit, the manufacture and sale of low-extraction flour which has been reinforced by added vitamins."

When the wheat has finally been separated from the chaff, is this country going to have the millers' loaf or the doctors' loaf? That is the question a reading of the report provokes. The millers are concerned about the public taste for flour in various shapes, about safeguarding the position of country millers, and about the business morals of millers. Mr. Loombe's subcommittee "came to the conclusion that a regulation prescribing a minimum extraction rate could not be enforced after the present control of the milling industry ceases." To secure adherence to a prescribed minimum rate of extraction would, it believes, be possible only under a comprehensive system of Government control such as exists at the moment. Again, it is stated that flour milled to a specified minimum extraction rate could be imported only "provided the Governments of the exporting countries were prepared to agree to take the necessary action to ensure that the millers produced for export only flour so milled." Before the war about 10% of the flour consumed in Great Britain was imported from Canada and Australia in the form of flour.

If enforcement of regulations is impracticable, then reinforcement with vitamins is the remedy proposed. This is a sorry conclusion to arrive at, and one, we are glad to see, that is not accepted by "the official scientific and medical members of the Conference." These members "hold strongly the view that flour should not only have the prescribed minimum quantities of the specified nutrients but that those minima should be retained in the flour from the wheat berry in the process of milling." and it is stressed by them that the majority of nutritionists in this country are agreed about the advantage of natural over reinforced foods.

Bread is the staple of the average man's diet. The first civilization was made possible by the fact that wheat grew naturally in the Nile valley. For approximately 6,000 years man's taste was not offended by the whole wheat grain. So once more may we appeal to the millers and the bakers to join in with scientists and doctors in persuading the people of this country to return to a civilized habit. It is wonderful what propaganda will do.

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[9] Report of School Medical Officer, L.C.C., 1938, P. S. King and Son, London.
[10] Gribbon, M R, and Ferguson, M I. H, *Lancet*, 1921, 1, 474.
[11] Med. Res. Cncl Spec. Rep. Ser. No 77, 1923, H.M. Stationery Office.
[12] Chick, H., and Dalyell, E. J., *British Medical Journal*, 1921, **2**, 1061.

[1] Ministry of Food. Report of the Conference on the Post-war Loaf Cmd. 6701. H.M. Stationery Office. (4d.)

PREFRONTAL LEUCOTOMY

The introduction of prefrontal leucotomy, or lobotomy, nearly ten years ago opened a curious but promising chapter in psychiatry. Whatever speculative afterthoughts are evoked to explain the effects, the measure still belongs to the realm of the empirical. It is not unfair to state that in leucotomy one destroys cerebral tissue of uncertain anatomy and of unknown function for the relief of disorders of obscure nature and pathology. That the operation proves effective in many cases of chronic mental illness is not to be denied, even though—perhaps because—the picture of an organic brain defect replaces that of an obstinate psychosis. We may quote the restrained comments of such experienced "psychosurgeons" as Freeman and Watts,[1] who write: "Above all we do not speak of recovery, since in undergoing prefrontal lobotomy a patient may exchange one psychologic deviation for another. It comes down to a question of which deviation interferes less with his social adjustment. If a patient can take care of himself after operation we are satisfied with the results." The authors are, of course, discussing schizophrenics, in which only two-fifths may be expected to show good results, as opposed to two-thirds of depressive cases and four-fifths of obsessional neurotics.[2]

There are many steps yet to be taken before leucotomy can become a scientific rather than an experimental measure. Some less drastic attack upon the frontal lobes may perhaps produce the same beneficial results. In leucotomy we have an opportunity of neuro-anatomical and physiological research which might well be exploited by the British school of psychiatry. What is the least common factor to be observed in order to achieve results? What is the precise anatomy, and what the exact function of the associational, projectional, and commissural fibres which are sacrificed? Kindwall and Cleveland[3] say that the purpose of prefrontal leucotomy is to cut "the association pathways connecting the prefrontal lobe with the remaining ipsilateral hemisphere and, to an indeterminate degree, the contralateral hemisphere." But Freeman and Watts believe that the effects of leucotomy are due to severance of the fronto-thalamic tracts. Do retrograde degenerative changes actually occur in the dorsomedial nucleus after leucotomy, as has been stated? Further post-mortem studies are required, and much more work on the lines of that of Earl Walker. Understanding of the nature of restitution of cerebral function after brain injuries is largely *terra incognita*, but such statements as "lobotomy tends to produce extraversion, and perhaps its anatomical and physiological significance lies in that realm where correlation between the ectomorphic physical type and the cerebrotonic temperament exist," means just nothing at all. Neurologists and psychiatrists have before them the lesson of the Wagner-Jauregg treatment of general paresis. Empirical in its conception, it was found to work; but malaria, as such, was not the beneficial agent, and now in artificial, rather than natural, fever therapy we begin to witness an understandable and not unscientific measure.

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[1] *Amer. J. Psychiat.*, 1945, **101**, 739.

[2] *Physical Methods of Treatment in Psychiatry*, by W. Sargant and E. Slater, E. and S. Livingstone, Edinburgh, 1944.

[3] *Amer. J. Psychiat.*, 1945, **101**, 749.

OUTPUT OF CORTICAL HORMONE

Although the presence of a hormone (or hormones) in the cortex of the suprarenal has been clear since active cortical extracts were first prepared, there has been no evidence to indicate in what circumstances the hormone is liberated in the blood. Until recently knowledge of hormone liberation has been confined to the liberation of adrenaline when the splanchnic nerves are stimulated, and of insulin when there is a rise of blood sugar. Verney has lately demonstrated that painful stimuli give rise to an output of one of the pituitary posterior lobe hormones, and now Dr. Marthe Vogt[1] has devised a method of studying the release of hormone from the suprarenal cortex. Her method has been to collect blood directly from the suprarenal vein, to separate the plasma, and to test it by injecting it into young rats after adrenalectomy. If young rats so prepared are exposed to low temperature (2–4° C.) they die in 5 or 6 hours; if they receive injections of cortical hormone at intervals of 1½ hours they live longer, and their survival time is proportional to the amount of cortical hormone given at each injection. This method, applied to groups of young rats, enables a quantitative estimate to be made of the cortical hormone present in a sample of blood taken from the suprarenal vein.

Dr. Vogt was able to determine the presence of cortical hormone in the suprarenal vein of the dog, the cat, the goat, the rabbit, and the pig. She was unable to find detectable amounts in arterial blood or in blood taken from the right side of the heart. The average output of hormone from the dog's suprarenal was very large when compared with the amount present in commercial preparations. One well-known preparation contains the activity of 75 grammes of gland in 1 c.cm. Comparison with this preparation showed that the average daily output of hormone from the suprarenal glands of a small-size dog (10 kg.) is equivalent to 230 c.cm. of commercial extract. The output was found to be of the same order in all species examined when calculated per unit of body weight; there was variation from about half to three times the mean figure (given above).

Dr. Vogt[2] has also shown that adrenaline, when infused slowly into a vein (in amounts which occur in the body in physiological conditions), causes an immediate and prolonged increase in the secretion of the cortical hormone. The normal output increases several times. This effect is not due to changes in the rate of blood flow through the gland or to changes in blood pressure, nor is it an indirect effect exerted by way of the pituitary body. This finding is clearly one of great importance. There have been several indications that the cortical hormone plays a part in conditions of stress; we now see that adrenaline, which serves many functions in an emergency, can call forth an increased supply of the cortical hormone, perhaps to accelerate the formation of carbohydrate from protein, and for other purposes still undefined. Stimulation of the splanchnic nerves was likewise found to cause an increase in cortical secretion.

In a third paper[3] Dr. Vogt has made other observations She has found that injections of adrenaline into young rats, repeated 3 times daily for 8 days, cause an accumulation of fatty material in the cortex, and that if the injections are continued for 24 days the storage becomes greater still and is accompanied by a significant increase in suprarenal weight. These changes do not occur in the absence of the pituitary. Now suprarenal hypertrophy is also brought on by the implantation of tablets of hexoestrol, but this hypertrophy differs entirely from that produced by adrenaline, since it is accompanied by a complete disappearance of fat from the cortex, and the cells are seen to have swollen cytoplasm and nuclei. Rats treated with hexoestrol die more quickly than normal rats when the adrenals are removed, which suggests that hexoestrol administration results in a diminution of the amount of cortical hormone produced in the gland. The increased amount of lipoid material produced by adrenaline therefore probably represents an increased store of the hormone.

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[1] *J. Physiol.*, 1943, **102**, 341.

[2] Ibid., 1944, **103**, 317.

[3] Ibid., 1945, **104**, 60.

SUBACUTE DEGENERATION OF THE BRAIN IN PERNICIOUS ANAEMIA

Subacute combined degeneration of the spinal cord is the best-known neurological complication in pernicious anaemia. The name is somewhat clumsy and inaccurate, and for this reason Kinnier Wilson,[1] following the lead of French authors, suggested that it be replaced by "neuro-anaemia," although he was fully aware of the fact that there is probably no direct causal relation between the anaemia and the degeneration of the spinal cord. Subacute combined degeneration may precede disease of the blood, and may even be found in conditions such as cage paralysis of monkeys, in which anaemia is not known to occur. The present theory is that "neuro-anaemia" is due to a deficiency closely allied to but not identical with that of the anti-anaemic principle. There is no evidence for any of the known vitamins being involved in the pathogenesis of the condition.

Subacute combined degeneration usually ends at the level of the crossing of the pyramids in the medulla. It is not generally known that in a number of cases of macrocytic anaemia the cerebral white matter may be affected by a similar patchy demyelination. In a recent paper Adams and Kubik,[2] reviewing earlier reports in the literature and adding personal investigations, have proposed the name "subacute degeneration of the brain," thus emphasizing the pathological and pathogenic similarity with the lesion in the spinal cord. It is interesting to note that in cage paralysis of monkeys the lesion of the spinal cord is usually complicated by a very extensive patchy demyelination of the cerebral white matter. The occurrence of such demyelination has been held responsible for mental changes in pernicious anaemia. According to Bremer[3] psychopathic manifestations are found in about 20% and psychotic symptoms in 7 to 8% of patients suffering from pernicious anaemia, the frequent terminal confusional states being excluded. The psychotic manifestations are usually of the acute confusional type with hallucinations and delusions, but chronic depressive and paranoid syndromes have been reported. However, the demyelination of the cerebral white matter is not the only cause of mental symptoms. Some of the psychoses and psychoneuroses observed in the course of pernicious anaemia are merely exacerbations or recurrences of previous mental abnormality. Anoxia resulting from the impaired condition of the red blood cells is another possible source which may particularly account for the terminal psychotic manifestations. Moreover, evidence grows that vitamin-B deficiency, though not directly involved in the pathogenesis of subacute degeneration, may complicate pernicious anaemia. In pellagra, widespread chromatolysis of large nerve cells of the type known as retrograde degeneration is a constant histological finding, and this nerve-cell change has been reported in a number of cases of pernicious anaemia. It has also been shown (Campbell and Biggart[4] and Meyer[5]) that the Wernicke syndrome may arise in the course of pernicious anaemia. This syndrome is now recognized[6] as being caused by deficiency of vitamin B_1.

The fact that pernicious anaemia may be complicated by vitamin-B deficiency is naturally of therapeutic importance. Moreover, it may at last resolve the old controversy whether or not the lesion of the spinal cord in pernicious anaemia is accompanied by a degeneration of peripheral nerves.

ULSTER MEDICAL WAR RECORD

The number of medical graduates of the Queen's University of Belfast who served in the war is 660, so far as can be ascertained. Of these the names of 420 were dealt with by the Northern Ireland Medical War Committee, and it is considered certain that more than 240 others practising in various parts of the Empire volunteered for service without notifying the university. Some 50 medical students also volunteered. Graduates and undergraduates killed in action or dying on active service numbered 33, and 5 others are missing. Decorations were bestowed on 55, who included four recipients of the D.S.O. and 17 of the Military Cross, while 27 others were mentioned in dispatches. Four members of Queen Alexandra's Imperial Military Nursing Service lost their lives. When it is remembered that conscription was never applied to Northern Ireland, it is claimed for these figures that they constitute a noteworthy record of voluntary service. The Belfast Medical School thus sustains a long and honourable tradition, which began at the time of Trafalgar, and in the 1914-18 war gave some famous names to military medicine.

NUFFIELD CHAIR OF CHILD HEALTH

The Nuffield Trust has once more performed a highly valuable service in adding yet another extension to the always incomplete structure of medicine by founding a Chair of Child Health in the University of London. The details of this were given in the *Journal* of Sept. 23, 1944 (p. 410).

The next stage in this work has now been completed by the appointment to the chair of Dr. Alan Moncrieff—an appointment which will ensure that the work will be carried out with energy and thoroughness, and with every prospect that solid contributions to knowledge in this branch of medicine will come out of the institute in the years to come. Dr. Moncrieff is still of an age when it is permissible to describe him as a young man, and those who know of his enormous industry and of his versatility in so many fields of medicine will hope for great things from the new institute, which he now comes to preside over at the age of 44. Since 1934 he has been on the staff of the Middlesex Hospital and the Hospital for Sick Children at Great Ormond Street. Before this he studied the problems of respiratory failure and asphyxia of the newborn in Germany while holding a Rockefeller Medical Fellowship; and before this, again, had prosecuted his paediatric studies in France. For many years now he has served as Editor of the *Archives of Disease in Childhood*, published by the B.M.A., and has won distinction in other fields of medical journalism.

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[1] *Neurology*, 1940, London.
[2] *New Engl. J. Med.*, 1944, **231**, 1.
[3] *Z. ges. Neurol. Psychiat.*, 1937, **158**, 36.
[4] *J. Path. Bact.*, 1939, **48**, 245.
[5] *J. Neurol., Neurosurg., Psychiat.*, 1944, **7**, 66.
[6] See annotation, *British Medical Journal*, 1942, **2**, 249.

Reports of Societies

STETHOSCOPE *versus* X RAYS

A debate on the stethoscope *versus* *x* rays took place in the Section of Medicine of the Royal Society of Medicine on Nov. 27, with Dr. Geoffrey Evans in the chair.

Dr. James Maxwell said that recent advances in medicine had put an increasing strain on the unfortunate medical student. A pruning process was needed to give the student the opportunity of digesting more recent and fundamental knowledge. In past years emphasis in diagnosis had been laid on physical examination and signs. Nowadays these were not nearly enough. Unfortunately other aids were not used and many doctors never learned to interpret them. The student of twenty years ago had been little better off, in his knowledge of chest signs, than his predecessor a century earlier. Many doctors now practising made the false assumption that if they found no physical signs in the chest there was nothing wrong. The absence of physical signs did not exclude tuberculosis or early bronchial carcinoma, both of which were curable if detected before physical signs were present, but few teachers had the courage to teach this for fear of stultifying their elaborate instruction of physical signs. On the other hand, radiology was not taught to any great extent, and there were not enough radiologists to examine every suspicious chest case. Students should be taught the *x*-ray appearance of the normal chest and its variations before they went into the wards, in their second year of anatomy and physiology. They should be shown lateral and oblique as well as antero-posterior views, and then, entering the wards with this fundamental knowledge, they could start to look at abnormal appearances. At the same time, physical examination must not be abandoned and *x* rays would not replace it. Often an *x*-ray film would reveal a lesion which physical examination would miss, and sometimes the converse was true. Students should be made to listen to every variety of sound until they knew them perfectly, and then, when they knew that they had to have the patient radiographed, and knew what the *x*-ray image meant, the accuracy of chest diagnosis would be immeasurably improved. Examiners should be familiar with the interpretation of *x*-ray films. A practitioner who did not insist on an *x*-ray examination of a suspicious chest, especially after haemoptysis, might be sued for negligence.

Possibilities and Limitations of X Rays

Dr. Peter Kerley said that the rash statement was made from time to time that the stethoscope was obsolete; no experienced radiologist would agree with that. When an experienced physician found physical signs he himself was surprised if he found nothing on an adequate (he emphasized the word "adequate") *x*-ray film. In a hundred years the stethoscope had not altered fundamentally; it had reached its limits, and those limits, even in skilled hands, were so narrow that radiography was indispensable. Deficiencies in radiology were due in part to lack of skill and in part to ignorance of living anatomy and physiology. The old phrase that an *x*-ray film was a representation of shadows was wrong. No physicist to-day would agree with the word "shadows." The *x*-ray image was a collective picture of structures of different densities, and these could be identified almost as precisely as on the dissecting table. One of the main causes of error was reliance on a single antero-posterior view. For a proper interpretation not only views in three directions but also tomography were essential. Important technical points were the smallness of the focal spot on the anode and the speed of the exposure. Before long a spot of only 1/250th mm. would probably be available. Condenser units would replace transformers for speed, and their wave form would give finer detail. Magnification with detail would be much increased during the next ten years. The radiologist's battle was not with his medical and surgical colleagues, but with hospital and financial administrators who were aghast at a proposed expenditure that was derisory compared with the cost to the country of half a million registered tuberculous persons.

Radiography was, however, hopelessly beaten by the stethoscope in the diagnosis of heart conditions. But many advances had been made by cardiologists using the screen entirely, and they would get better results if they also took pictures with rotating anode tubes. Contrast media for angiography would soon be made completely safe, and then radiologists would be able to show the chambers of the heart and the pulmonary circulation with comparative ease. Given the staff, the equipment, and the necessary funds, the stethoscope might be put in danger of obsolescence.

Lessened Importance of the Stethoscope

Dr. Geoffrey Marshall said that there was no reason why they should do without either instrument, but if he had to take one without the other it would be the *x* rays every time. He would be very sorry, however, not to be able to examine his patient in addition, and the stethoscope might be very useful as an adjunct to radiography. By means of the stethoscope he could find out whether a wrong name had been placed on the *x*-ray film or the wrong side of the body indicated. It would be just as reasonable to talk of the stethoscope *versus* history-taking; they wanted everything they could get. *X*-ray films could be misleading and much more difficult of interpretation than was at first supposed. Dr. Maxwell's plea that students should be taught how to use *x*-ray films of the chest could not be too strongly supported. Would *x* rays always give an indication of cavitation in the lung? A straight view would very often fail to do so. Radiologists were very often ready to admit with all due modesty that they could not tell what was the significance of an abnormal appearance. The more experience they gained the more difficult did these cases seem to be. The *x*-ray picture was far from revealing a complete pathology. Students should be told the limitations of *x* rays as well as of physical examination. The stethoscope had certainly descended from its throne; it was not of such vast importance to them now as it used to be, but it still lingered in the imagination of the patient, and medical men—even those who specialized in chest diseases—when they themselves had chest trouble wanted the colleague examining them to listen to the chest. It was difficult to avoid going through the gesture—it was not much more than that—of trying to hear vague mysterious sounds, when something quite definite could be seen on the *x*-ray film. He wished to reinforce Dr. Kerley's plea for multiple views and especially for tomographs.

Dr. L. G. Blair said he shuddered at the notion that every man should be his own radiologist. After he himself had reported on chests for a year he became extremely confident—and extremely dangerous. He hoped that he was now less dangerous, and certainly he was much less confident. He did not feel that either students or doctors, if the latter were not doing much chest work, could be taught enough about chest radiology to be practically useful. The answer to the problem was more team work, as in the various thoracic units, in which the radiologist should probably take a leading part. Radiology was supremely important on three great groups: where there were no physical signs, where physical signs were present but of little use without radiology, and where diagnosis could be made with certainty on physical signs but the extent and distribution of the disease could be shown only by *x* rays. Against these three groups there were a comparatively few conditions in which physical signs were present but radiology gave no evidence of disease—for example, non-obstructive lesions of the bronchial tree, bronchitis, and some cases of bronchiectasis. The activity of a lesion, particularly a tuberculous one, was a clinical matter. The present order of examination—history, physical examination, and radiography—should be retained. It should be remembered and taught that in the vast majority of chest conditions the history was of the greatest importance, radiology came next, and physical signs were often only an aid, though at times a very valuable one, to the correct interpretation of films.

A Jig-saw Puzzle

Dr. Maurice Davidson said he was accustomed to teach students that a carefully taken history was often worth 60% or more of the value of an opinion. The teacher should emphasize that all his examinations could show only the gross underlying anatomical differences in the viscera, and only when these were correlated with the information supplied by the pathologist and the bacteriologist and with the knowledge gained previously in the post-mortem room (not so frequently in these days), and all the bits of the jig-saw were placed together, could one reach a really satisfactory conclusion.

Dr. PHILIP ELLMAN said he taught that radioscopy and radiography were important aspects—indeed, a part—of the clinical examination. A clinician chiefly concerned with chest diseases was the most suitable person to do radioscopy, and if he had an expert team he might study the film and consult with his radiological colleagues in a difficult case. He thought it was wrong to look at the film first; this should follow the history, good palpation, good percussion, and good auscultation. Accessory means such as bronchoscopy and bronchography must be included.

Dr. A. L. JACOBS was of opinion that the worst failure was in the frequent neglect of the general practitioner to order an *x*-ray examination of a test case. As a rough general rule, any doctor who saw a patient with a cough and sputum persisting for more than a short time should insist on an *x*-ray examination of the chest. Without team work between the physician, the radiologist, and the general practitioner the position would not be improved. In organizing specialist services throughout the country, particular attention should be paid to areas in which general practitioners were isolated from large hospitals.

Dr. W. M. CROFTON declared that early tuberculosis of the lung could be revealed only by a proper tuberculin test as well as by the stethoscope. The treatment of tuberculosis was in a very sorry state, and he believed that mass *x* rays had been positively dangerous in condemning sound persons to invalidism.

Dr. C. ALLAN BIRCH recalled that almost a hundred years ago Thomas Addison of Guy's had read a paper condemning the stethoscope. Instruments passed through three stages: extravagant claims, severe criticism, general use until ousted by a better method. The stethoscope was now in the third stage. Clinicians, however, should continue to use the stethoscope because patients expected to see it, and a patient not satisfied was not completely treated. Mr. L. C. OLIVER said that the stethoscope, though apparently the chain of office of the physician, was of more practical value to the surgeon, particularly in the diagnosis of acute abdominal disease.

Dr. JOSEPH SMART said that he would be very sorry to see the physical signs and stethoscope abandoned. With an accurate history and careful examination of the chest it was often possible to reach a reasonably accurate diagnosis, or at any rate to differentiate between two or three conditions. The position of the mediastinum was vitally important in chest work and an extremely valuable physical sign. A less expert radiologist might, by introducing a slight rotation, confuse the clinician badly, and then a clinical examination might help much. He himself would be content if students and general practitioners were trained to recognize a normal *x*-ray appearance and to pass on the abnormal ones for closer investigation. He added that in children physical signs of pulmonary disease were notoriously scanty and reliance had to be placed almost entirely on radiological appearances.

THE TRAINING OF DIETITIANS

A conference of the Nutrition Society on the "Training, Qualifications, and Function of Dietitians" was held on Nov. 17 at the London School of Hygiene and Tropical Medicine.

Prof. J. R. MARRACK, who presided during the morning session, in the absence of Sir Jack Drummond, said that dietitians in close contact with the actual consumers of food were ideally placed to report to those ultimately responsible on the physical and psychological effects of food policy. They must guard against the propagation of fads, such as unjustified prejudices against certain foodstuffs; the prevalence of "acidosis" in children, for example, might be ascribed to the dietetic prejudices of their nurses. Dietitians must avoid the over-simplification of ideas typical of the late Victorian era. The current popular classification of foods into "builders" and "warmers" must not be accepted too literally. A diet consisting entirely of bread was inadequate for the nutrition of experimental animals, but could be made adequate by adding yeast. Bread contained only poor-quality protein, which was supplemented by the good protein of yeast. Unfortunately, however, the same experiment might be done in reverse. Rats which failed to thrive on a diet of yeast might be successfully nourished by the addition of bread. Dietitians should be trained, therefore, to keep a sense of perspective. They should know when it was legitimate to compromise between dietetic ideals and the exigencies of the larder and kitchen, and when nutritional requirements were so vital as to permit no compromise.

Prof. S. J. COWELL discussed conflicting opinions as to what the word "dietitian" implied. Dietitians were responsible for the feeding of human beings and, as in the nursing profession, some basic training was essential. There must be some authority, such as the British Dietetic Association, to approve courses of instruction and to lay down the standards to be satisfied by individuals before they could be granted official status. The dietitian must have knowledge of the science of nutrition, based on the elements of chemistry, physics, and physiology, and must also have adequate practical experience in the conversion of raw foodstuffs into adequate meals for healthy or sick people. She must be adept in the purchase and storage of food, and the arrangement and care of kitchen equipment. She must be able to guide and instruct the numerous cooks and other personnel responsible for large-scale catering. Dietitians were often employed now in schools, canteens, and other institutions, but many were still concerned with the feeding of both patients and staff in hospitals. Those engaged in feeding healthy persons might also have to advise occasionally on the feeding of the sick. There was much to be said for retaining a period in hospital in the vocational training of all dietitians, but this should not be the only practical experience required.

The British Dietetic Association

Miss R. PYBUS spoke unofficially on the British Dietetic Association and its role in co-ordinating the training of dietitians. This organization was formed in 1936, and had about 300 full members working in this country. A subcommittee inspected any training centre wishing to be recognized by the association, and visited hospital departments and other institutions where practical experience was offered. Many hospitals and other bodies regarded membership of the association as an essential qualification. Full members were encouraged to register with the Board of Registration of Medical Auxiliaries, although this did not mean that they intended to confine their activities to feeding the sick. The essential academic qualification for dietitians was a diploma in dietetics, which might be gained at King's College of Social Science, the Glasgow and West of Scotland College of Domestic Science, the Royal Infirmary of Edinburgh, or the Royal College of Nursing. The 18-months course included both theoretical and practical instruction in cookery, elementary anatomy and biology, bacteriology, nutrition, budgeting, kitchen administration, catering, infant feeding, diet in disease, and the medical aspects of disease treated by diet. Practical work in hospital during the final six months gave experience in the calculation, preparation, and service of special diets. Before taking a diploma course students had to have a university degree in pure household or domestic science, the State registration in nursing, a teacher's diploma in domestic science, or an institutional management diploma.

Miss M. C. BROATCH emphasized the slow development of dietetic training in this country as compared with America. By 1925 the American Dietetic Society was a powerful body, and was disappointed with an attendance of only 2,000 members at its annual conference! English dietitians were employed only in the special-diet kitchens of hospitals, whereas in America they were in charge of all the catering in many large hospitals. When the need for qualified dietitians became apparent in this country the first five women sent out to America for training all took charge later of special-diet kitchens in their respective hospitals. Greater opportunities for dietetic activities might be expected in the future in the new health services, in welfare centres, in prenatal and postnatal clinics, and in schools and colleges. Miss Broatch did not agree with certain hospital matrons who thought nursing experience essential for dietitians. Training in large-scale catering, however, could not entirely replace instruction in the special-diet kitchen, where the facilities for constant individual teaching by a qualified dietitian were excellent.

Lieut.-Col. A. N. CHILDS said that greater efficiency resulted if the dietitian was in charge of a separate department responsible to the registrar of the hospital rather than to the matron. Dietitians in America were also employed in commercial organizations. In 1927 one firm tried the experiment of giving details of food values against all the items on their menu. College graduates in white coats went round giving customers scientific advice as to what they should eat. Unfortunately the mental strain proved too much for the customers, and led to the first introduction into America of the *table d'hôte* system.

Mr. A. L. BACHARACH said that hospital dietitians were the people who had succeeded in putting dietetics "on the map." It was a more open question, however, whether the present medical bias indicated the right line for the future development of the profession. Nutrition was a social rather than a medical problem. More healthy people had to be fed in schools, in industrial canteens, and at home than sick people.

Nutrition in Social Medicine

Dr. F. C. BROCKINGTON stressed the importance of nutrition in schemes of social medicine. With the prospect of a four-year university degree course in dietetics it was important to find for dietitians positions worthy of their training. There seemed to be insufficient scope for the full-time employment of a dietitian in a school meals scheme or in a small hospital. It was encouraging that the health departments of local authorities should have it in their power to create more important posts. The dietitian might be called on to provide dietary health propaganda for the housewife, to give lectures and demonstrations to health visitors and others, to advise hospitals, schools, and institutions, and to plan and supervise dietary surveys. Everyone interested in the proper care of the sick had welcomed the report of the King's Fund on hospital diets. Nevertheless it was unfortunate that the question of feeding the sick should have been given first attention. The balance must be redressed by creating posts from which the entire dietetic field could be surveyed.

Mr. F. LE GROS CLARK said that the Ministry of Education had based its estimates on the assumption that 75% of the average school attendance would obtain midday meals at school. This meant that some 3,300,000 children must be fed on 200 days in the year. Since the school dinner was supposed to provide half the daily requirement of protein, fat, vitamins, and mineral salts, about 30% of the child's yearly requirement of these nutrients would be obtained at school. Under the 146 distinct local education authorities in England and Wales there should be careers for 500 to 700 suitably qualified women. The organizer of school meals should have a sound knowledge of "conservative" methods of cookery by which vitamins and other labile nutrients might be preserved. Experience of large-scale cooking was most important. The school meal must not be a poor imitation of the delights of the home cuisine, but should be endowed with subtleties and attractions that were all its own. Local authorities would find it worth while to attract women of high administrative qualities. This would be possible only if the salary and status corresponded with those of other careers involving a comparable measure of responsibility.

Miss F. C. R. BROWN discussed the work of dietitians in industry. The Institutional Management Association recently published a report on the employment of women in large-scale catering and household administration. A standardized basic two-years training should include the management of canteens, bookkeeping, storekeeping, stocktaking, and industrial relationships. During a third year practical experience should be gained as a junior member of the staff of some organization approved by the training authorities. The number of canteens in this country had increased during the last six years from about 500 to over 18,000. Much higher salaries were earned by highly placed industrial caterers than were paid to hospital dietitians.

Hospital Dietitians

Miss J. I. MILLS said that a hospital of 700 to 1,000 beds required several dietitians. The catering officer, or food supervisor, was responsible for general administration, staff control, and for the purchase, storage, and distribution of foodstuffs. It was still a matter of opinion whether this officer should be a qualified dietitian or an executive with commercial experience of large-scale catering. The assistant catering officer had control of menu planning and the supervision of the preparation and service of meals. Her special responsibility was to supervise the feeding of the hospital staff, and she probably needed two further dietitians to supervise the feeding of the patients in the general and private wards, respectively. The dietitian in charge of the dietetic department was responsible for the planning, calculation, and preparation of special diets, for maintaining close contact with patients, nurses, and doctors, and for the supervision and instruction of the nurses and student dietitians in diet-kitchen cookery. Centralization had solved many difficulties in the control of staff and supplies, but the ideal arrangement for the distribution of cooked food from the kitchen to the wards had not yet been evolved. In the newly built Southern Hospital in Stockholm the problem had been tackled by decentralization. Instead of one kitchen attempting to serve 1,200 patients, twelve smaller kitchens, each under its own dietitian, each served 100 patients.

Miss WASHINGTON surmised that if all the attributes of scientific knowledge, domestic skill, and strength of character required by the various speakers were to be combined in one person, that person would be more than human. Sound training must be supplemented by long years of hard experience, and trained dietitians should be reserved for large hospitals or for key positions in the public health services. Dr. T. MOORE said a knowledge of nutrition was only one of the many and varied qualifications which were expected of dietitians, who appeared to be exclusively of the female sex. The advanced state of organization already reached in teaching dietetics in this country contrasted very favourably with our almost complete lack of facilities for the teaching of nutrition from a more scientific aspect. Dr. L. W. MAPSON drew attention to the weak link between the research laboratories, where knowledge of nutrition was accumulated and co-ordinated, and the various organizations concerned with teaching dietetics. University chairs in nutrition were urgently required.

Summarizing the day's proceedings, Dr. H. E. MAGEE, who presided over the afternoon session, said that while access to advice on nutritional questions was essential for those running canteens or school meals, these activities should not require the services of qualified dietitians, who should be employed in hospitals or in the public health services. It was important not to overload the syllabus, and to know where to stop in teaching the basic sciences, any of which could obviously absorb the whole time of the student if taught in full detail. Hospital experience should be an essential feature in the training of all dietitians. The aim should be to give a sound basic training, after which the student could branch out and specialize according to her own inclinations. Finally he stressed the importance of nutrition in public health training, and the need for collecting information on dietary habits by visits to the homes of the people.

During the conference it was announced that the new address of the British Dietetic Association is 342, Abbey House, Victoria Street, S.W.1. (Abbey 4909.)

An exhibition dealing with penicillin is being held in the Palais de la Découverte, the equivalent in Paris of the Science Museum, South Kensington, and a part of the University of Paris. It illustrates the discovery and early development of penicillin in Britain, and also the contributions of the U.S.A. and France. The British material, which has been assembled by the British Council, includes: a collection of penicillin cultures and bacteriological preparations from St. Mary's Hospital, London; a set of photographs of the Penicillin Research Unit, Oxford, showing the results obtained during the Italian Campaign, lent by Lady Florey; coloured photographs, showing the treatment of gunshot wounds, lent by the Medical Research Council; and reprints from various sources on clinical results obtained with penicillin. The exhibition will continue for about three months, and it is hoped that Sir Alexander Fleming and Sir Howard Florey will visit it and give lectures.

Correspondence

Buying and Selling of Practices

SIR,—Most of the arguments against dealing in practices are too obvious to merit further emphasis, except I think insufficient stress has been laid upon the enormous hardship imposed upon the young and often penurious practitioner. The details concerning loans and life insurance have been pointed out, though the need for fairly heavy cover against other risks such as sickness and accident has not been mentioned. But what is not generally appreciated is that these are not isolated items but arrive as the last straw in a pile of costs incidental to the taking over of a practice.

The event may well coincide with family responsibilities, and in any case the whole cost of furnishing and running a house has to be met. Very often the purchase of a house is necessary, and even if a fairly good mortgage is obtained this is just another gem in the necklace of millstones to be worn for many a year by the unfortunate young practitioner. Car and other equipment add to the load of debt; even accountant's and solicitor's costs can be a burden in the absence of any remaining capital. And it must not be forgotten that for about half the first year little or nothing is received from the practice unless capital has also been found to buy the retiring practitioner's book debts. Even then the aspiring medico is only in a position to begin his gamble with all the factors that make or mar a successful doctor, including many—such as "squatters"—that are completely beyond his control. And all this may arise out of the fact that he was prepared to undergo the most arduous training to enable him to serve his generation in one of its greatest needs. If not deterred altogether by the prospect he may proceed to inquire why he must still surmount such enormous financial obstacles before he can finally get in touch with those who await his skilled attention. And, of course, that question does not become easier to answer with an increasing number of public contract patients.

Under any 100% scheme, dealing in practices would be most anomalous, and, as pointed out in your leading article (Dec. 1, p. 770), we must now in any case face the thorny problems attendant upon abolition of the custom. "By dint of hard work and professional competence" most of us have maintained, if not increased, our incomes. But so far as the goodwill is concerned many of us would gladly amalgamate that to the general prestige of the profession for the simple return of all the cash we handed to the fellow who left his reputation behind. However, we in turn have been left to obtain our compensation from those who come after, and cannot very well deny that whoever buys us out is customarily entitled to our individual rights, even if we are thenceforth employed as assistants in our own practices. Herein lies the problem, as your leading article intimates. Can doctors forgo a commercial interest in the transfer of their practices without having to choose between a dead loss on the one hand and being split into individual Government properties on the other, and without rendering the process of transfer liable to even greater abuses than it is under the existing system?

Insoluble as the problem may seem at first sight, I think the answer to such questions might well prove to be in the affirmative. And I venture to suggest that one solution might be found in the transference of individual ownership of goodwill into the hands of the profession as a whole. Instead of transferring our goodwill to public ownership by accepting Government money, I would suggest that the profession as a whole buys out the goodwill of its constituents and then rents it out again to individual doctors.

The profession would have to elect a body whose function would be to raise the initial capital and purchase with it all practices, either at once or as their owners retire. It would have a committee corresponding to the British Medical Bureau whose function would be to see that transfers, retirements, acquisitions, or creations of practices were all arranged to the greatest mutual advantage. For this and other services, together with the enjoyment of all the present rights arising out of purchase, all practitioners would pay a rent amounting to a fixed percentage of their earnings, subject to a minimum. This rent could easily be collected at source, especially in a 100% National Health Service, and should rank as a practice-expense for income-tax purposes. The percentage of the earnings taken as rent for each practice would not need to be unduly high to cover the cost of the capital represented in the goodwill, and might be varied according to the type of practice. The percentage rent would, of course, depend upon the terms obtained by the profession from the financial interests loaning it the capital to liquidate doctors' individual ownership of goodwill. The loan would probably not be a permanent one, in which case the day would eventually arrive when the profession would retain ownership of its goodwill and require no more from individual doctors than payment of a small practice rent to cover the cost of administration.

The Government might be prepared to loan the profession the required capital rather than resort to other measures to prevent the sale of practices. They would certainly be likely to prefer a loan to the advancement of capital. However, the funds could probably be provided most satisfactorily by those insurance companies who will miss the large "rake-off" they have enjoyed out of both the National Health Insurance and loans for purchases of medical practices. Their interest in the venture would be considerably heightened if they also provided a complete pension insurance scheme for the whole profession. The percentage rate for each practice would have to be a little higher if such things as pensions and free locumtenents for sickness were part of the benefits to be derived from it.

Although we might even be more favourably compensated for our present outlay under such a scheme than by any the Government may have in mind, we and our immediate successors would have to realize that our practice rent, for many years to come, not only would include the redemption of our debt but would carry with it the redemption of our practices for all time from the status of publicly owned utilities. Moreover, our young successors with more wit than money might also rejoice in a professional status and great security without at any time having to shoulder a burden of debt out of all proportion to their income.—I am, etc.,

Eye, Suffolk. J. SHACKLETON BAILEY.

Medical Future of the Colonies

SIR,—The leading article in the *Journal* of Nov. 17 and the letter from Mr. R. Ogier Ward (Dec. 1, p. 781) are both opportune. More and better teaching centres are needed in the Colonies. All must be familiar with the present difficulties of accommodating those who have graduated at colonial medical centres and who wish to study as postgraduates in Britain. At present it seems that first-class medical education needs to be taken to them rather than they be encouraged to come to this country, where already postgraduate facilities are strained to the utmost, and where there exists the perennial question of colour.

In your leader the suggestion that there should be a Director-General with a panel of consultants seems an excellent one. I note that advisers in obstetrics and paediatrics have been omitted. Those who have worked in a colony appreciate the appalling wastage of maternal and child life, and if any subjects need proper emphasis these are they.

The teaching centres in Britain should be more elastic and should encourage exchange between their teachers and those of the colonial medical centres. The Dutch had this system of exchange before the war. I well remember entertaining at Hong Kong Prof. de Snoo, professor of obstetrics at Utrecht University, who was on his way on an exchange visit for a year to Batavia University. Later he told me what an education it had been for him working in such a strange *milieu* as an obstetric hospital in the Tropics. I would suggest that facilities should be given for not only the chiefs but also their juniors to participate in such an exchange.—I am, etc.,

London, W.1. W. C. W. NIXON.

Disordered Liver Function in Rheumatoid Arthritis

SIR,—The interesting paper by Drs. Frances Gardner, Alice Stewart, and F. O. MacCallum on induced jaundice in rheumatoid arthritis (Nov. 17, p. 677) discusses fully the possible bearing of bilirubin in the blood on the disease, but except for reference to variation in the blood proteins, which may be due to disordered liver function and give rise to the alteration in the erythrocyte sedimentation rate in rheumatoid arthritis, the possible influence of other disturbances of hepatic function is not considered. I believe that the explanation of the effect of jaundice in these cases is to be sought in some such disturbance, of which the jaundice is simply an index. Hench, in his work on the problem, called attention to the fact that remissions similar to those occurring in jaundice complicating arthritis also occur in pregnancy. There is a common factor in both conditions which may deserve investigation in any future research. Morris and Peden (*Quart. J. Med.*, 1937, **6**, No. 22, 211) have reviewed very fully the variations in plasma phosphatase in disease, and note that it is much increased in many froms of jaundice and at the sime time mention that Cayla and Fabre have found it much increased in pregnancy.

The coincidence may be of no importance, but on the other hand it seems worthy of further investigation. The occurrence of osteoporosis of the articular ends of the bones in rheumatoid arthritis, due presumably to lowered osteoblastic activity, suggests that there may be a lowered phosphatase, and both jaundice and pregnancy tending to raise it may beneficially affect the progress of the disease. I hope to be able to have some observations carried out on the plasma phosphatase level in active rheumatoid arthritis, but must leave the other possible aspects of the problem to research workers with better facilities.—I am, etc.,

Buxton. C. W. BUCKLEY.

The Discharging Lesion in Neurology

SIR,—Dr. F. A. Pickworth (Dec. 1, p. 784) will find answers to some of his questions when my paper is published in full, and I anticipate that it will appear in the forthcoming number of *Brain*. Meanwhile I may say that I am in full or partial agreement with many of the statements in his letter. I would point out, however, that even if it could be established (as he asserts) that "faulty integration of nerve impulses is the cause of untoward clinical symptoms," faulty integration would not account for the discharges arising at a site of injury in an isolated nerve in the laboratory.—I am, etc.,

London, W.1. J. PURDON MARTIN.

Descent of the Testis

SIR,—This problem, as Wing Cmdr. A. W. Badenoch (Nov. 3, p. 601) states, is one in which "the fancies are prolific." There are, however, three separate problems to be distinguished, and to summarize them as a "search for a lower temperature" is to use a teleological explanation in an unjustifiable manner. The three problems involved are: (1) the actual forces operating on the testes in any individual mammal during its development; (2) the function subserved by this phenomenon; and (3) the phylogenetic origin.

With regard to the first problem, a temperature difference could not enter into the system of forces operating on the gland unless there were *both* a tropism tending towards a movement to a cooler region *and* a temperature gradient existing along the whole route of descent, so that it could affect the gland in its abdominal site and initiate movement. Such a temperature gradient does not exist along this path. We do know that endocrine factors affect descent in some way. In animals which have a rutting season, and in which the testes descend at this season (rat and guinea-pig), there is an intermittent secretion of the male hormone, whilst in man it is continuous. But it is not justifiable to conclude that the secretion of hormone initiates the descent in any individual.

It has been suggested that the function subserved by the descent is the need for a lowered temperature for spermatogenesis. In criticism of this view the following points may be made:

1. Spermatogenesis takes place throughout the majority of the Invertebrata and the lower Vertebrata at a varying temperature range. It is difficult to see why in such a well-established process a few degrees should suddenly become so important. In the case of most birds the process is carried out at a temperature higher than that of the mammals. With regard to the cause of bird migration, most authorities are agreed that it is a search for fresh vegetation, and the fauna thereon, to be found in temperate zones. It might also be pointed out that spermatogenesis and egg incubation take place at the temperature of the bird—that is, in some cases over 100° C., whatever the surrounding temperature.
2. In the figures given for the human subjects, in the article cited above, the average lowering of temperature in the scrotal sac was only 2.2° C. These data were obtained with passive anaesthetized subjects, and it is to be questioned whether in the active subject the temperature *inside* the testis, where spermatogenesis takes place, is indeed lower than in the peritoneum.
3. Any lowering of the temperature in this region must be carried out by radiation and sweating. Such could not be achieved in tropical conditions in those animals in which sweat glands do not occur.
4. The rest of the experimental evidence, and the facts of cryptorchidism, could as well be explained on the following theory. In those animals in which the extra-abdominal position has been established for *any other* function, spermatogenesis has become secondarily adapted to a lowered temperature, if this does occur. It perhaps cannot now take place at a higher temperature.

This brings us to consider any other possible function which an extra-abdominal position could serve, and this can only be considered in relation to the possible phylogenetic origin of the phenomenon. The problem does not in its evolutionary aspect primarily concern man. He merely inherited it as part of his lowly origin. The extra-abdominal position of the testes appears to have arisen at least twice among the mammals: (*a*) in the Marsupalia, although the scrotal sac is not developed here; (*b*) in the true placental mammals. Darwin has suggested that "as a general principle, of all the causes leading to an external difference between the sexes, the principle of sexual selection was the strongest." The descent of the testis during the rutting season in some rodents suggests that this might be a means of sexual attraction in animals having few other visible sexual differences. In the lower mammals, which are mainly nocturnal in habit, the intra-abdominal position is retained. In the Proboscoidea and Cetacea, where the internal position is probably secondary, the thick covering of these animals would make the genitalia inconspicuous in any case. The whole phenomenon may have arisen as a "chance" mutation which gave the possessors a survival value in mating, and upon which natural selection could work.—I am, etc.,

King's College, Newcastle-upon-Tyne. MARY A. WOOD, Ph.D.

Pituitary Stimulation by Light

SIR,—The annotation on the work of Benoit and Ott on pituitary stimulation by light (Nov. 17, p. 695) has been of great interest to medical ornithologists and one hopes to others. Will you allow me as an amateur ornithologist to make some comment on the concluding sentences of the article.

It has been known for nearly a century that the gonads of most of our wild birds are in a state of profound though temporary involution, except during the breeding season. It is not only the fancy of the young bird that turns to thoughts of love in the spring but the mature bird is also thus affected. Yet, in spite of profound depression of the germinal epithelium of both sexes, which makes unseasonal reproduction impossible, some sexual display occurs in a number of species in the autumn. Two British game birds—the wild duck (mallard) and the black grouse—are good examples. In the mallard mating display leading to normal but sterile treading is regular in the autumn on the Continent. I may add from personal observations that this also applies to the English mallard, as might indeed be expected. Autumnal display of male black-game was, I think, first recorded by A. Chapman in Northumbrian birds, and has since been confirmed by observers in several other areas in Britain. The interesting feature here is that display, communal and very elaborate, repeats the "normal" spring display, except for the immediate preludes to mating. In autumn it arouses no interest in the hens.

We may presume in such cases that a *change* of illumination, increase or decrease, is the effective stimulus for gonadotrophic hormone secretion. Also, in the black-game it appears that the cock is more sensitive to such changes than the grey hen. In view of the experiments reported in your article, which indicate tissue penetration by light as apart from direct retinal stimulation, it is conceivable that the supraorbital wattle of bare skin, found only in the males, has some bearing on this differential behaviour of the sexes in autumn.—I am, etc.,

Physiology Department, Guy's Hospital, S.E.1. E. O. HÖHN.

Non-specific Mesenteric Lymphadenitis

SIR,—Mr. Ian Aird (Nov. 17, p. 680) has done a great service in reminding the profession that non-specific mesenteric adenitis is an extremely common condition and frequently missed. I would endorse most of what he says, but I would differ from him on the following points.

1. *Pathology.*—I regard these glands as bearing the same relation to the appendix as the tonsillar glands to the tonsil; in cases where the tonsillar glands are enlarged the tonsils usually show no gross abnormality, but tonsillectomy is generally followed by subsidence of the glandular enlargement. If, however, the vitality of tonsillar glands is impaired by allowing a chronic infection to persist, the tubercle bacillus is liable sooner or later to settle in them; this sequence is commonly seen in mesenteric adenitis, where a string of glands is encountered, one or more of them showing caseation or calcification. For this reason I prefer the term "ileo-caecal" to "non-specific" lymphadenitis.

2. *Symptoms and Signs.*—The cases fall into two main groups: (a) Acute:—The surgeon is usually asked to operate on an "acute appendix." I would agree with Mr. Aird's description, except that I would go further in the matter of temperature and say that "acute appendicitis" with a temperature of 103–104° immediately raises the suspicion that we are dealing with adenitis rather than appendicitis, although such a temperature by no means rules out the latter. And pain in the right iliac fossa on palpation of the left does sometimes occur. (*b*) Chronic or, preferably, recurrent:—Ileo-colic adenitis is the commonest lesion present in the children who are so often sent up to out-patient departments with a diagnosis of "chronic" or "subacute appendicitis." In these the enlarged glands are frequently palpable, but not necessarily tender.

3. *Prognosis.*—As Mr. Aird says, this is a self-limiting disease, the attacks generally ceasing at puberty or in adolescence. It can usually, however, be cut short by appendicectomy.

4. *Differential Diagnosis.*—(*a*) Acute cases:—A history of previous attacks, although suggestive, can, of course, sometimes be elicited in cases of acute appendicitis. An important point Mr. Aird does not mention is that a clean tongue is the rule in acute ileo-colic adenitis but rare in acute appendicitis. The pre-operative differentiation, although satisfying, is mainly academic because in the first condition appendicectomy is beneficial and in the second imperative; in other words, the treatment is the same but the urgency is not. It is much more important that the surgeon should be honest and not try and convince himself that the appendix, the appearance of which in these cases varies from completely normal to somewhat injected, is a "true bill." The really inflamed appendix is practically always turgid with oedema, and even in "true appendicular colic" the inflamed glands, which are the real cause of the pain, will often be found. (*b*) From chronic appendicitis:—I believe that this does not exist in childhood and that enlarged glands can always be found *if looked for* (unless the child has been operated on for an innocuous belly-ache). (*c*) From tuberculous adenitis:—Caseous or calcified glands are obvious at operation, and so are the large masses of tabes mesenterica. Apart from these the presence of tubercle in the commonly encountered glands is impossible to verify without biopsy, which is unnecessary and therefore meddlesome. (*d*) From intussusception:—Ileo-colic adenitis occurring in infants can mimic this very closely. I have seen the diagnosis turn on the presence of blood on the examining rectal finger; only unfortunately it turned out that the blood had been produced by splitting of the anal mucosa by the large forefinger of an eminent paediatrician. However, appendicectomy was followed by subsidence of the grossly enlarged glands.

5. *Treatment.*—The condition will probably subside in time, but if appendicectomy will allow the glands to subside before the tubercle bacillus gets at them it should be performed in all cases. The parents should, however, be warned that the pain is due to the glands and not directly to the appendix, and that, though in the majority of cases the child will have no further trouble, one or even a few more attacks may occur while the inflammation is resolving. Even with obvious tubercle in one or more glands there is no need to mollycoddle the children as tuberculous; take out their appendixes and let them lead a normal healthy life.

The story of my own son illustrates some of the foregoing points. From the age of 6 he had periodic vague abdominal discomfort with no physical signs whatever, but enough to raise in my mind the suspicion of ileo-colic adenitis, particularly when he told me that while away at school he had had one or two short attacks of colic. This year, at the age of 10, he produced a severe attack while we were on holiday in Cornwall, with tenderness and rigidity in the right iliac fossa on direct and left-sided palpation, but with a clean tongue. The attack subsided, so I had him operated on when we returned home. He had a string of enlarged glands, the lowest one calcified, and a normal appendix. He has had one or two lessening attacks since then, but I confidently expect him to be quite well in six months, with no treatment beyond the extra milk obtainable after any major operation.—I am, etc.,

Guildford. G. H. STEELE.

SIR,—Mr. Ian Aird (Nov. 17, p. 680) says that non-specific mesenteric lymphadenitis has found no general acceptance as one of the commonest causes of acute abdominal pain in children. As long ago as 1921 the late Dr. Brennemann of Chicago read a paper before the American Pediatric Society on this subject. This paper was subsequently published in the *Amer. J. Dis. Child.* (1921, **22**, 493), and the condition has since been widely known, as Brennemann's syndrome, as a clinical entity that is recognized by most paediatricians.

Mr. Aird says that the differential diagnosis from tuberculous mesenteric adenitis is not always easy, and that in cases of doubt "it serves better the interest of the patient and community to regard the condition as non-specific unless there is clear evidence of tuberculosis elsewhere." Surely this is one of the conditions where a tuberculin test is essential in differentiation: a negative Mantoux will exclude tuberculous adenitis.

In the diagnosis of appendicitis the rectal examination is often helpful, but no mention is made of this in Mr. Aird's otherwise comprehensive paper.

Mention is made of lymphadenitis and infectious mononucleosis in differential diagnosis, but there is a much commoner condition—abdominal allergy—to which no reference is made. Here the blood count usually shows a leucopenia with an eosinophilia, and this, together with a careful history, will aid in arriving at a correct diagnosis.—I am, etc.,

Warwick. WILFRID F. GAISFORD.

Recurrence of Infective Hepatitis

SIR,—Current articles in books and journals do not give a clear lead on the question of frequency of recurrences in infective hepatitis. The condition is known to relapse frequently usually between the third and sixth weeks, and is very variable in its severity. That true second attacks take place is hinted at rather than stated dogmatically. I have come across no mention of repeated attacks.

Recently I have been looking after a patient, a soldier aged 33 years. I have inspected clinical records of an illness suffered in November, 1942, notified as true infective hepatitis, and characterized by three weeks of dyspepsia, four days' anorexia and vomit, followed by icterus for eight weeks, palpable liver, bile in the urine for four weeks, and yielding to a low-fat, high-carbohydrate diet. This illness took place in the Middle East. At the time the incidence of epidemic infective hepatitis in the man's unit was high, and there is little reason to suppose that he did not indeed suffer from that condition. Specific note was made of the absence of malaria parasites, negative W.R., absence of exposure to arsenic or other toxic substance. His last inoculation previous to the onset of jaundice was routine T.A.B. and tetanus toxoid five months before. He had had no blood transfusions or serum products.

He remained fit and on duty until September, 1945, when he returned from Italy on leave by air. The day after arrival he felt anorexia and headache and vomited. There had been no jaundice in his unit recently and he attributed his malaise to the effects of the flight. Three days later he was admitted to hospital with icterus, bile in the urine, palpable liver, and complained of headache, anorexia, and tender abdomen after vomiting. The jaundice was of moderate severity, and after eight weeks he was discharged bile-free, liver not palpable, icterus slight. The treatment was by rest and diet only, and lotio calamin. for pruritus. Again the blood W.R. was negative, no malaria parasites found, no toxic substances or transfusions or serum preparations given. In February, 1945, he had T.A.B., and tetanus toxoid inoculations, typhus vaccine in

September, 1945. On convalescence the E.S.R. was 10 mm./1 hour (corrected), no anaemia, serum bilirubin 1.0 mg. per 100 c.cm., icteric index 15 units, and the urine contained a trace of urobilin. The oral hippuric acid excretion test gave an assessment of liver function at 65% of normal. There seems little doubt that this was a fresh infection of infective hepatitis.

It would be interesting to learn of the frequency of this occurrence and the ultimate prognosis with reference to cirrhosis of the liver.—I am, etc.,

JAS. D. P. GRAHAM,
Capt., R.A.M.C.

Military Hospital, Drymen.

Breast-feeding to Time-table

SIR,—In her letter on breast-feeding (Nov. 24, p. 744) I feel that Dr. Anne Toms lays herself open to criticism. I agree with her that the psychological aspect is important, but I disagree with her proposed remedy.

It is not necessary that everybody's arrangements should have to be upset for the sake of a rigid adherence to the infant's schedule. It is of importance that the baby should be fed regularly; if there must be an irregularity, let it be a regular one—i.e., let the mother begin all the feeds a quarter or a half hour earlier than usual. This will still allow the normal interval, which is essential for successful lactation and for the development of a healthy, thriving baby.

If the baby is howling and half-satisfied, the solution is surely not to feed the baby at irregular intervals. The result in my opinion would be the very state of affairs Dr. Toms is anxious to avoid. It would be wiser to investigate the mother's technique in feeding. Does she use both breasts? Does she empty the breasts after the feed? Does she feed the baby regularly? Does she look after "wind"? What is the state of the bowels? There are many aspects of the problem and they all demand consideration before a solution is suggested.

I think the average husband would be only too glad to give up a mere fifteen minutes to allow the baby to be properly fed. He would be a poor type indeed who would not make that small sacrifice. I fear that, by adopting the suggestions advised by Dr. Toms of making the baby fit the family time-table and not the family fit the baby's schedule, the baby's chances are being jeopardized and it would be a case of "out of the frying-pan into the fire."—I am, etc.,

Rugby. JOHN L. FARMER.

Incidence of Breast Abscess

SIR,—I have to thank Dr. Phillis Dingle for the interest shown in two papers of mine dealing with the incidence of breast abscess, and I should like to make one or two comments on her letter (Nov. 24, p. 744).

In my investigation into the incidence of mastitis the area concerned was relatively small and circumscribed—a town of 43,000 inhabitants—so that it was possible to follow up all cases for at least six months after delivery. All mothers in the town are visited by health visitors in the ordinary course of their duties, and during the period of the investigation any case of mastitis occurring in the district was reported. Despite this cases were missed, but some were found at child welfare and other clinics. By this means an incidence of suppurative mastitis of 8.9% was reported. At the same time, for the purpose of the vitamin C experiment described, 250 mothers (all but fifteen were hospital deliveries) were closely followed up for six months after delivery, and in only seven instances was it not possible to do this. These mothers were visited and kept under continuous observation for six months, a questionary was completed at the end of this period, and all cases of mastitis were carefully checked and verified. It is submitted that it was because of the intensive and exhaustive follow-up over a prolonged period (nearly half of the cases occurred after the end of the fourth week) that the high incidence was brought to light.

Dr. Dingle states that she made inquiries at clinics and hospitals and from general practitioners, but admits that only half of these replied. I might point out that if in our investigation only half of the mothers had been followed up or had replied to the questionaries, the incidence would presumably have been considerably less.

Finally I should like to mention that no manipulation of any kind—hand expression, expression by pump, or massage—was carried out in the hospital concerned, and ante-natal measures similar to those described by Dr. Dingle were employed.—I am, etc.,

Dundee. ANNIE A. FULTON.

Artificial Pneumothorax Refill

SIR,—I was most grateful for Dr. C. F. Hawkins's views (Nov. 24, p. 742) on local analgesia for pneumothorax refills in criticism of Dr. Alastair Allan's double-channel needle (Nov. 3, p. 607).

I emphatically agree with Dr. Hawkins that local analgesia is to be deprecated, being only necessary until there is an adequate pleural space, which is often present even after the first week. I also have found that patients infinitely prefer to have their refills without "local"; there is no pain (provided the needle is sharp and inserted quickly), and the puncture wound is cleaner and heals more rapidly. On at least one occasion I have given refills normally done by another doctor, and it has happened that the needle has been plunged into the chest before I realized that that particular patient was in the habit of having local analgesia. The patient, instead of being dismayed, has been amazed and gratified that the refill has been devoid of sensation, whereas the raising of an intradermal wheal during local analgesia had been distinctly painful.

I agree also with Dr. Hawkins that the danger of pleural shock is no greater when local analgesia is disregarded. I believe that true pleural shock, though it does exist, is rare and probably occurs only about once in 10.000 pleural punctures. It appears to me to bear no relation to pleural analgesia, but to be connected more with the presence of fear on the part of the patient and allied to the sudden syncope which sometimes occurs after a blow on the larynx or sudden stretching of the anal sphincter. It is usually fatal within a few seconds, and it may be that death takes place from ventricular fibrillation. Cases showing sudden collapse during or after a refill, with coma, convulsions, pallor, and paralysis, are generally due to cerebral air embolism, and though they may be fatal, recovery usually takes place. In this connexion Andosca and Foley (*Amer. Rev. Tuberc.*, Sept., 1945, **52**) have analysed some of the literature on pleural shock and cerebral embolism, and stress, among other things, that routine local analgesia for refills should not be employed on account of the danger of novocain poisoning, which has to be distinguished from cerebral embolism and which is sometimes fatal.

Dr. Allan's new needle appears to me to be cumbersome and, indeed, unnecessary, since the use of the Peter Edwards pneumothorax apparatus with a standard single-bore needle enables the manometer to be retained in circuit before, during, and after the refill.—I am, etc.,

PHILIP M. WARD,
Assistant Tuberculosis Physician.

Swansea.

SIR,—I would like to support Dr. C. F. Hawkins, who in his comment (Nov. 24, p. 742) on Dr. A. Allan's plea for anaesthetization for pneumothorax refills urges the greater humanity of refills given without local anaesthesia. I also find that patients invariably prefer to be refilled without its aid. Dr. Hawkins rightly stresses the need for (1) first ensuring an adequate pleural space, (2) an experienced operator, and (3) sharp needles. The technique he describes is, I think, much the same as that employed at most large refill clinics, and is similar to that used at this hospital for at least twelve years. The point that he raises about the possible increased risk of pleural shock is an important one. A large number of refills are given at this hospital (over 5,000 in 1944), and in the last eleven years I have known only one case of air embolism and no case which would fit the description of "pleural shock."

I personally believe that the majority of the catastrophes reported are due to an unrecognized air embolism, though the less startling episodes are often simply "faints." In skilled hands, I do not believe that the risk of air embolism (or of pleural shock, if such exists) is increased by not using local anaesthesia. Nevertheless, if there is any doubt about the pleural space, anaesthesia provides the test of ability to withdraw air into the syringe from the pleural cavity, and should be used in such cases. Those confident individuals who regard an A.P. refill as a simple and foolproof procedure (and there *are* such people), and who do not take the simple but rigid pre cautions needed to reduce the risk of air embolism, are asking for trouble and sooner or later get it. In training a succession of assistants in pneumothorax work I always stress the danger of air embolism (not pleural shock) as the ever-present risk which can be reduced to negligible proportions by constant vigilance.—I am, etc.,

RAYMOND C. COHEN,
Essex County Hospital, Braintree. Deputy Medical Superintendent.

SIR,—I am in complete agreement with Dr. Alastair Allan when he advocates anaesthetization of the needle tract when giving artificial pneumothorax refills (Nov. 3, p. 607). Given skilfully with a fine needle there is practically no pain, and I have had no complaint with this technique, even from children. My method of introducing the pneumothorax needle is by a rotatory action while maintaining a steady pressure. In this way the skin is easily penetrated and the slight "give" when going through the pleura can be distinctly felt. Thus there is no danger of going too far and entering the lung if it happens to be well expanded.

I was surprised at Dr. C. F. Hawkins's statement that "an adequate pleural space . . . is generally confirmed during the third week" (Nov. 24, p. 742). My experience, now going back over fifteen years, is that whether there is going to be adequate space can be estimated in most cases after the first three refills —i.e., within at least a week of the induction. I am convinced that only by screening the patient after every refill, and sometimes, if felt necessary, before giving the refill, can complete and proper control of the pneumothorax be established and trouble avoided.

Regarding the question of pleural shock, I have never had anything remotely resembling this occur in literally thousands of refills, and I am very doubtful whether there is such an entity.—I am, etc.,

S. D. ROWLANDS,
Tuberculosis Medical Officer and Medical Superintendent.
Whinney House Hospital, Gateshead.

SIR,—Having received A.P. refills, personally, regularly for the last six years, and having given them also for nearly as long, I can whole-heartedly support Dr. C. F. Hawkins in his contention that a refill without anaesthetic, once the A.P. is well established, is infinitely preferable to preliminary local anaesthetization.

Raising of the intradermal wheal can be a most uncomfortable process, and it is surprising how often the "local" fails to anaesthetize the pleura. On the other hand, a Morland needle deftly inserted "in one" is usually painless, and I have had painless refills without anaesthetic with much larger needles of the Saugmann type.

I am not yet sure if I have met true "pleural shock," but I have had several cases with syncope, in some of which there have been definite symptoms of embolism. Without exception these cases had preliminary anaesthetization, but in all the possibility of puncture of the lung with the needle cannot be excluded. All responded immediately to inhalation of amyl nitrite from breaking a capsule. Like Dr. Hawkins I am loath to give a refill unless the manometer is in circuit throughout.—I am, etc.,

"T.B. M.O."

Volvulus of Small Intestine

SIR,—Stimulated by the case history given by Mr. R. Salisbury Woods (Oct. 13, p. 496), I beg to submit the following report of a case of volvulus of the small intestine.

A child aged 9 years was in good health on Aug. 30, 1945. He returned home from an afternoon's play, ate his tea quickly, and shortly afterwards vomited. After vomiting he complained of abdominal pain, which, he said, was not severe; he was put to bed. Later in the evening he vomited several times, and about midnight he vomited some undigested food together with about half a cupful of blood. At 4 a.m. he vomited a small quantity of bright red blood, believed to be about a cupful. The doctor was summoned and he was admitted to hospital at 6 a.m.

On admission his condition was one of profound shock; temperature 97°; pulse 160; blood pressure 45 systolic, diastolic could not be recorded. The tongue was coated. There was central abdominal distension with generalized tenderness, but no visible peristalsis or rigidity. A transfusion of whole blood was set up and allowed to run at a slow drip, and at 10 a.m. the condition was re-assessed after nearly a pint of blood had been given. The patient was then comatose, the signs of shock persisted, the pulse had remained at about 150, and the abdomen was more distended. A diagnosis of intraperitoneal haemorrhage was entertained, but the child was moribund and died at 12 noon.

Necropsy revealed about a pint of blood-stained fluid in the peritoneal cavity. There was a volvulus of the entire small intestine with incipient gangrene extending from a point 2 in. from the duodeno-jejunal flexure to within 4 in. of the ileo-caecal valve. The mesentery had been twisted through 180°, the caecum, which was very mobile, lying in close relation to the duodeno-jejunal flexure. There was marked ecchymosis of the mesentery, the stomach and duodenum contained several ounces of dark altered blood, and the jejunum was distended with altered blood.

Further to the case report of Mr. Salisbury Woods and the letter from Mr. Roberts (Nov. 17, p. 704) it may be remarked that the condition of volvulus of the small intestine receives very scant attention in recent editions of textbooks. In particular Prof. Grey Turner writes (*Modern Operative Surgery*, 3rd ed., 1943, p. 903): "Volvulus of the small intestine is extremely rare; the condition usually involves the whole mass of the small bowel and the exact diagnosis is only made by exploration." Hamilton Bailey (*Emergency Surgery*, 5th ed.) describes only volvulus affecting part of the small intestine —a not unfamiliar sequel to adhesions affecting the small bowel. The interest of this case is chiefly in the initial symptom of haematemesis, and it is reasonable to suppose that had the case presented immediately after the first haematemesis and prior to the development of gross abdominal signs, immediate laparotomy might have been undertaken with success.

I am indebted to Mr. R. Vaughan Payne and Dr. E. Claud Malden for permission to publish this case.—I am, etc.,

BRIAN WEBBER,
King Edward VII Hospital, Windsor. Resident Surgical Officer.

Surgical Catgut

SIR,—Since starting in practice in 1910 I have used the same brand of British catgut until the present time. There has never been sufficient variation in the size or strength of the two chief gauges used—namely, 2 and 6/0 (occasionally 3/0 or 4/0) —to cause any serious worry even in threading the Paterson-eyed needles which I use. Neither has there been any sepsis which could unequivocally be attributed to catgut, and no tetanus. At first I prepared my own by the iodine–spirit method and had it tested, because I did not know the methods used by the different firms and so felt insecure; but to-day this is not the case. Other gauges and eyeless needles have also come into use.

Differences in gauge cannot matter very much. I used to see a well-known London surgeon using No. 4 for his ligatures and leave the ends long when I should have used No. 4/0 or No. 6/0 and had the ends cut short. With some methods of preparation the gut shrinks considerably as it dries while waiting to be used and gauging goes by the board. Strength increases with drying.

Incidentally I do happen to notice a great wastage of gut (about one-third) when the tied ends are of equal length. Without the use of a spool this need not occur; with the use of a spool it seldom occurs, especially if the one-handed knot is employed. A useful spool is a piece of glass tubing 1 in. long by 1/2 in. in diameter, costing less than a penny. Makers could most helpfully adopt this or something similar and include it in the ampoule with advantage to all concerned.—I am, etc.,

London, W.1. G. H. COLT.

Incision for Appendicectomy

SIR,—I read with interest Mr. Alexander Lyall's article on the treatment of acute appendicitis (Nov. 24, p. 719). In describing his choice of incision for the various types of the disease, Mr. Lyall, to my surprise, makes no mention of the oblique muscle-cutting incision of the late Rutherford Morison. This incision, which is strongly advocated by Prof. Grey Turner, is to my mind probably the best approach to the routine "acute case," and especially to an appendix abscess. For a retrocaecal or retrocolic appendix it seems to afford the maximum of accessibility with a minimum of trauma to the adjacent peritoneum. An appendix abscess can be thoroughly evacuated with ease in the majority of cases, the drainage tube being brought out through the posterior end of the incision, where it is well out of harm's way. If the cut muscles are carefully sutured in two or more layers with interrupted catgut there is a negligible risk of post-operative hernia. The incision is unsuitable for females, where disease of the pelvic organs must be excluded, also in recent or recurrent attacks in children, where the McBurney approach causes a minimum of trauma and convalescence is thereby correspondingly shortened.—I am, etc.,

Croydon. J. ROSS MACNEILL.

Therapeutic Effect of Induced Jaundice

SIR,—In the *Journal* of Nov. 17 (p. 677) Dr. Frances Gardner *et al.* quoted my finding that the E.S.R. may become strikingly slower during an attack of infective hepatitis. Dr. E. Muir (Dec. 1, p. 782) appears to assume that this improvement in E.S.R. indicated an improvement in the pulmonary tuberculosis for which my patients were undergoing treatment. I hasten to state that the improvement in E.S.R. was not maintained, and the course of the tuberculous disease was not influenced noticeably, either for the better or for the worse.—I am, etc.,

Cheshire Joint Sanatorium,
Market Drayton. A. CLARK PENMAN.

Prostatic Obstruction

SIR,—May I congratulate Mr. H. Hamilton Stewart on his paper on prostatic obstruction (Nov. 24, p. 724) with his evaluation of the suprapubic and perurethral methods of treatment. To me the different approach to the perurethral method in this country and in America is most striking, for they are almost diametrically opposite. In the States very many surgeons, both experienced and inexperienced, are using the method, and it has been the exception for an American journal of urology not to contain at least one article on it during the past five or six years, whereas in this country the surgeons using the method regularly are few and far between, or so it would appear from the small number of papers on the subject.

This is the more surprising when one has seen the excellent post-operative condition of the patient after the perurethral operation, with his ability to sit out of bed on the first post-operative evening and to walk round the ward on the second day. Also one cannot fail to be impressed by the vast improvement from the patient's point of view in the freedom from pain and absence of a suprapubic wound and drainage tube; and while Harris's method or that more recently published by Wilson Hey (*Brit. J. Surg.*, 1945, **33**, 41) eliminates the drainage tube it cannot eliminate the pain and the resulting partial immobilization of the patient by the suprapubic wound.

With regard to the examination of the patient, I cannot agree with Mr. Stewart that the supine position is the best for bimanual examination of the prostate. In my experience, in the knee-elbow or knee-chest position, particularly if the patient sits back almost on the heels, it is astonishing how easy it is to make the finger touch the hand on the abdominal wall when the bladder is empty, and assessment of the size of the prostate can be formed easily and efficiently except in the very stout. I should have thought that the supine position with the legs in the frog position would inevitably cause some tightening of the abdominal wall.

The two main disadvantages of the perurethral operation are the prolonged period required to acquire the necessary skill and post-operative haemorrhage. Barnes in his book *Endoscopic Prostatic Surgery* states that no surgeon felt proficient until he had treated 100 cases by this route, and personal experience has shown that the speed and efficiency of resection have varied directly with the number of cases treated. I found, for example, that it was not until I had treated about 50 cases that I could remove 40 g. at one sitting, that amount being resected in 30 minutes and the remainder of the operation being occupied by haemostasis. Arising from this point I think Mr. Stewart estimates the size of the normal prostate rather high at 30 to 40 g.; most authors quote it as 20 g., and I have had many cases where the removal of from 10 to 25 g. of tissue has resected the adenomata down to the capsule with abolition of all residual urine.

Post-operative haemorrhage is the complication which necessitates the highly trained nursing staff that Mr. Stewart so rightly insists is essential. A relatively small amount of haemorrhage can cause sufficient clot to block the Foley's catheter, and prevention of this requires much skill and patience on the part of the nursing staff. On the other hand, the recent introduction of "thrombin topical" for instillation into the bladder at the end of the operation has practically removed this complication in most cases. I find now that instead of bladder washouts being performed every 15 minutes for several hours they are performed only every 6 hours, to the great relief of the nursing staff and the added comfort of the patient.—I am, etc.,

Rochdale. A. M. MCMASTER.

Haematuria after Injection of Rectal Haemorrhoids

SIR,—Dr. W. Kevin Barry states (Nov. 10, p. 668) he has never heard of haematuria after varicose veins injection. Personally I have had no case of haematuria after varicose veins injection, but as a point of interest a surgeon recently injected some rectal haemorrhoids and the patient suffered afterwards from profuse haematuria for a while. Cystoscopy was done but no local lesion could be found, and the haematuria cleared up after a week without further treatment or complication.—I am, etc.,

Ely, Cambs. KENNETH HAZELL.

Chronic Undermining Ulceration

SIR,—Mr. Aubrey Leacock, in his interesting paper on a case of chronic undermining ulceration treated with penicillin (Dec. 1, p. 765), states he could not find any reference to this type of ulceration in the English medical press. Mr. Leacock might be interested in the following references: "Ulcerating Granuloma of the Pudenda: Treatment by Zinc Peroxide Paste," H. M. Hanschell, *Brit. J. vener. Dis.*, 1944, **3**, 123; and an abstract in the *British Journal of Dermatology and Syphilis*, 1945, **7–8**, 159, of an article, "Microaerophilic Haemolytic Streptococcus Infection causing Destruction of Nose," by M. J. Costello, *J. Amer. med. Ass.*, 1943, **121**, 36.—I am, etc.,

London, W.1. GEOFFREY DUCKWORTH.

The Harvard System

SIR,—Mr. Alexander Lyall has written such an excellent paper (Nov. 24, p. 719) that it is disappointing to find it marred in two places by defects inherent in the Harvard system of references. The reader unversed in the history of surgery would naturally conclude that John Hilton published his *On Rest and Pain* in 1930, and that Ochsner described his "delayed" treatment in 1934, whereas the correct dates are respectively sixty-eight and twenty-eight years previously.

In spite of your reply to Dr. C. Langton Hewer (Feb. 17, p. 234) I think further protest called for. You stated then that the system gives two pieces of information at once—the name of the author of a statement, observation, or theory, and the date on which these were published. It is evident, however, that the ordinary reader wishing to gain a correct perspective will want to know when these were *first* published, while the research worker or librarian, for easier reference, will prefer the date of the latest edition or article. As in the present instances, these will often be reprints or recapitulatory articles. It seems to me that both cannot be satisfied at once and that this slipshod and cumbersome method of attempting to do so should be abandoned.—I am, etc.,

Salisbury A. DUFF.

Disability not Disablement

SIR,—It is not altogether surprising to learn that the response of the war-injured to the invitation to register for employment as "disabled persons" has been poor. The successful rehabilitation of these men and women depends among other things on the acceptance of the fact that though they have a disability or even disabilities such need not result in disablement. In many cases, with suitable surgical appliances, proper training, and appropriate modifications of the industrial process or machine, the effects of even a substantial disability may be so mitigated as to become, if not negligible, merely a minor handicap. True, it requires courage as a rule to achieve this, but it becomes thoughtless, even cruel, to say then to such persons: "In order to improve your chances of employment you must now register as a 'disabled person.'"

A "register of disability" need carry no such stigma of inefficiency. Firms might well be proud to employ beyond the requirements of the Act numbers of keen men and women with well-compensated disabilities, whereas the employment of a "quota of disabled persons" savours too much of enforced assistance or reluctant charity. We owe it to the men and women concerned to see that the value of this scheme is not jeopardized by the use of inappropriate nomenclature. Clearly it is not only the patient who should learn that "disability" does not spell "disablement."—I am, etc.,

Hill End, St. Albans. W. J. T. Kimber.

Food for Europe

Sir,—We often find ourselves telling patients that their ailments are due to deficient food. Whether this is accurate may be open to question, but it is an undisputed fact that European children are dying of starvation. We as doctors may be unintentionally supporting those who argue that as we have not enough food for ourselves we can send nothing abroad. Good organization would improve food distribution and shopping facilities in England, and make possible the dispatch of desperately needed food to starving people. We entreat doctors to use their influence with their patients in support of this measure of relief.—We are, etc.,

John Elam.
New Barnet. F. Jean Vinter.

The "Stamping" of the Guards

Sir,—Before committing themselves further on "stamping" in the Guards, if they have had no close-up view of the subject, may I suggest that members read *Private in the Guards*, by Stephan Graham, published in 1919. The author was one of the greatest of famous pedestrians, before and after his experiences in the Guards Depot at Caterham. It is very evident that in spite of the rigorous training, stamping, etc., he was very proud of having been a Guardsman.

I served in the 'nineties as battalion medical officer in the Grenadier Guards, and never once, despite our long route-marches, did I meet with a case of varicose troubles or other injury due to the training and plenty of fatigue and stamping. The O.C. never once failed to accept my advice in cases of severe blisters or illness of any kind that would reduce a man's efficiency. Doubtless some rather "lame ducks" got into the Guards in the great rush to become a Guardsman in recent years; it is equally certain that they got weeded out at the depot.

The "smartness" of the Guards is known all the world over, and the rare occurrence of trivial injuries must not obscure the great aim of those who have to turn men into Guardsmen—soldiers obvious half a mile away.—I am, etc.,

Bournemouth. W. Johnson Smyth.

Sir,—May I, a civilian, who has served in two wars as an R.M.O. and A.D.M.S., say that I have always had my advice sought and received with the greatest consideration. Equally I have always recognized that the final decision lies with the commander. Is it, in fact, certain that march fracture is caused by stamping the feet? Is it commoner in the Guards than in other line regiments or even in the corps like the R.A.S.C. and R.A.O.C.? My own experience is limited, but I consider that it is commonly caused by route marches and is as much due to poor muscular tone as to any other factor.

Finally, may I say that I am in cordial agreement with Major E. Grey Turner (Nov. 17, p. 707) in his attitude to this matter. After considerable personal experience I can assure Dr. J. W. Perrott (Dec. 1, p. 786) that a battle "jeopardizes the men's health"; I have never advised that one should be cancelled. Equally a battle can be jeopardized by poor discipline. In and out of battle the Guards' discipline is an asset to our nation.—I am, etc.,

Moorgate, E.C.2. F. A. Bearn.

Sir,—The question of stamping very rightly raised by Sir Lenthal Cheatle is perhaps not quite so simple as it looks. Most drills produce co-ordinated sound designedly to facilitate synchronous movement, and therefore this is important up to a point; but it must not be denied that stamping can produce some most undesirable results in unsuitable personnel; also the Service boot cannot be entirely divorced from this question, as it is by no means everybody's footwear.

As one who was S.M.O. of a Marine Headquarters for nearly five war years I did raise the question, suggesting that if there was no adequate substitute it would be better to acclimatize recruits with extra P.T. and games while their physique was putting on that initial improvement which practically always occurs after joining, and then a little later putting them on to drill in boots. One undoubtedly gets cases of flat-foot and hallux valgus which develop and get much worse once certain types are put into boots and drilled on the square, even though they have been postmen or milk roundsmen in civil life!

At the same time, without wishing to give this question a psychiatric twist, I must honestly say that, as with so many other physical defects in actual Service practice, the greatest trouble occurs from the unwilling "trading" on their feet; and it is this last feature and many similar ones which largely render conscripting a man over, say, 33 years a dip in a lucky bag of many blanks and very few prizes.—I am, etc.,

Kingsbridge. L. A. Moncrieff,
Surg. Capt., R.N. (ret.).

Terminological Exactitude in Haematology

Sir,—Mr. R. A. Hughes (Dec. 1, p. 782) asks medical etymologists to produce "a term other than 'macrocyte' for the description of cells of large volume." Surely a task of more immediate importance is to clarify the terms in common use. Thus many writers tell us that pernicious anaemia is a macrocytic anaemia, in which the increase in the average size of the red corpuscles is due to abnormal maturation of the megaloblast. Then, again, Mr. Hughes himself appears to think that a macrocyte is a cell of large volume, but, in spite of etymological considerations, it is a universal practice to use the name to designate a corpuscle (not a cell) of large volume. In "red-corpusculology" the termination "blast" is used for nucleated elements.

It is probably impossible at present to reach unanimity about the characters that entitle a cell to be called a megaloblast, but we can at least be sufficiently logical to call its offspring a megalocyte. Then, if we hold that, in certain conditions, a large normoblast may lose its nucleus we shall do well to call the resulting corpuscle a macrocyte. And let us beware of the slipshod habit of using "red cell" as a synonym for "red corpuscle."

It is hoped that the peace will permit of the formation of a body of haematologists to discuss the complicated and unwieldy terminology of their subject.—I am, etc.,

London, W.1. A. Piney.

Shortage of Nurses

Sir,—One point about the shortage of nurses has not been made. The pool of trained nurses is not large enough to bear drainage at one time in all the directions indicated. There may be wastage in the Services, though nurses there hold commissioned rank and are all well diluted by medical orderlies. A more extreme form of wastage in my opinion is the direction and enticement of nurses to industrial nursing. It would be interesting to know the numbers of trained nurses at present occupied, probably below their capacity and skill, in ordnance factories, aircraft and munition works, motor firms, and railway companies. It is surely unreasonable at the present time to have nurses waiting for minor accidents preparatory to sending them to hospital out-patient departments; they might with as much justification be spaced out in "mile-castles" along the roads where most of the serious accidents occur.

And, incidentally, if, as appears likely, nursing is going to remain the sole female "directable" occupation, are new recruits to "serfdom" likely to come forward?—I am, etc.,

Bournemouth. T. R. Aynsley.

Welfare Work a Branch of Medicine

Sir,—I think the difference of view as between Dr. Cicely Williams (Dec. 1, p. 786) and myself is apparent only. I am to blame for not defining "welfare work" before asking the question, "Is welfare work really a branch of medicine?" On Dr. Cicely Williams's definition—"teaching a patient to be healthy"—I subscribe fully to the view that this is a branch of medicine.—I am, etc.,

London, W.1. Horder.

Obituary

A. M. CONNELL, CH.M., F.R.C.S.ED.

We regret to record the death in November of Mr. Arthur M. Connell, consulting surgeon to the Sheffield Royal Infirmary and emeritus professor of surgery in the University of Sheffield.

Born at St. Philip, Barbados, in 1871, he came to England to join University College, London, and after clinical study at University College Hospital took the English Conjoint diplomas in 1895 and the F.R.C.S.Ed. in 1899. He received the Ch.M. degree of Sheffield University twenty years later on his appointment to the chair of surgery. Within a year of qualification he had entered the service of the Sheffield Royal Infirmary and its associated medical school, and in 1899 was elected surgeon. He held the professorship from the end of the war of 1914–18 until 1930. After his retirement from the surgical staff of the Royal Infirmary in 1931 under the age rule, he worked in charge of the physiotherapy department of the orthopaedic clinic and so completed fifty years of service. Connell was highly esteemed as a teacher and loved teaching; his clear-cut museum demonstrations and classes in surgical pathology were famous among students. As a clinician and operator he gave house-surgeons and dressers a daily object-lesson in the principles and practice of surgery.

The outbreak of war in 1914 found him in command of the 3rd Northern General Hospital at Sheffield with the rank of lieut.-colonel, R.A.M.C.; in 1917 he was promoted colonel, A.M.S., and became a consulting surgeon to the Northern Command. He received the Territorial Decoration in 1920, and the King of the Belgians made him an Officer in the Order of Leopold. His devoted work for the Royal Infirmary and the city of Sheffield was commemorated in 1931 by the endowment of a bed in his name after a public meeting held in the town hall, and his colleagues presented the portrait which now hangs in the board room recalling the large part he took in modernizing the surgical practice and equipment of the hospital.

Arthur Connell joined the British Medical Association in 1901. He held office as secretary of the Section of Surgery at the Sheffield Annual Meeting of 1908, and vice-president of that Section at Aberdeen in 1914; he was also secretary of the Navy, Army, and Ambulance Section at the London Meeting of 1910.

R. A. CLAYTON RIGBY, L.R.C.P.&S.ED.

Nottingham has sustained a sad loss through the death of its pioneer radiographer, Dr. Clayton Rigby, which occurred after a brief illness on Sept. 26. For over 25 years he had been associated with the growth and development of the radiological department at the Nottingham General Hospital almost from its origin. He saw and was instrumental in its expansion from one small room till it has become a great specialized department with all its various ramifications—deep *x*-ray therapy, radium, etc. Not only at the General Hospital, but also at the Children's, the Ransom Sanatorium, as well as the Nottingham City Hospital and even the Boston Hospital in Lincolnshire, was his advice sought. He was senior medical officer at the Nottingham Corporation ultra-violet clinic. All this extending field of work eventually told its tale, and the ever-increasing strain of the war years has no doubt been the main factor in robbing Nottingham and the county of one of her most experienced and valued citizens; his passing has left an irreplaceable blank. He was a singularly quiet and dignified man, and these traits combined with his vast experience only served to enhance the authority and experience of his opinion to all who had the privilege of seeking his advice.

Rupert Alan Clayton Rigby was born in Ceylon, his father being chaplain to the tea planters. He was educated at Magdalen School and Westminster, and afterwards went to Edinburgh, where he took the Scottish triple qualification. He joined the B.M.A. in 1911, was a Fellow of the Royal Society of Medicine, a member of the British Institute of Radiology and a former medical officer of the *x*-ray and electro-therapeutic department of the Queen's Hospital, Sidcup. During the 1914–18 war he was captain in the R.A.M.C. and radiologist at Salonika, and became president of the Nottinghamshire Branch of the Salonika Reunion Association.

ARTHUR EDMUNDS, C.B., M.S., F.R.C.S.

Mr. Arthur Edmunds, who retired from surgical practice some years ago to live in Kent, died on Nov. 29 at King's College Hospital, London, where he was for a long time a leading figure. Born on April 17, 1874, son of Joseph Edmunds, he was educated at King's College and Hospital, and in the course of a brilliant student career was awarded the university exhibition in zoology and the university scholarship in physiology at the examinations for the B.Sc.Lond. At King's he won the Sambrooke exhibition, three scholarships, and two prizes. At the intermediate M.B.Lond. he won the exhibition and gold medal in physiology and first-class honours in materia medica, and then, after qualifying in 1900 and acting as house-surgeon, he obtained honours in obstetrics at the Final M.B., and the university scholarship and gold medal at the B.S. in 1901, and passed the M.S. examination in 1903. After demonstratorships in the physiological department at King's, Edmunds served as Sambrooke surgical registrar for four years and senior surgical registrar and tutor from 1910 to 1912, when he was appointed assistant surgeon. He reached the full staff in 1919, and was elected consulting surgeon on his retirement in 1934.

He held the temporary rank of surgeon rear-admiral as consulting surgeon to the Royal Navy during the war of 1914–18, and was created C.B. At the Royal College of Surgeons, whose Fellowship he had obtained in 1901, he was Hunterian Professor in 1926 and 1933. In his early days of practice he served for a time on the visiting staffs of the Paddington Green Children's Hospital and the Royal Northern Hospital. He was elected a Fellow of King's College in 1931.

In 1911 Arthur Edmunds was jointly responsible, with T. P. Legge, for revising and largely rewriting the second edition of Watson Cheyne and Burghard's *Manual of Surgical Treatment* in five volumes; and, besides numerous papers on scientific and surgical subjects, he published in 1908 *Glandular Enlargement and Other Diseases of the Lymphatic System.*

MARGARET BALFOUR, C.B.E., M.D., F.R.C.O.G.

A long life of service on behalf of Indian women is recalled by the death of Dr. Margaret Balfour, which took place at her home in South-East London on Dec. 1. She had spent more than thirty years in India, and even after her retirement from official positions in that country she still interested herself in Indian social conditions and did whatever she could for the Indian mother and her child.

Margaret Ida Balfour was born eighty years ago, the daughter of Robert Balfour, a chartered accountant of Edinburgh. She had her medical training at the School of Medicine for Women, Edinburgh, and qualified in 1891. Then after taking the M.D. of Brussels she went out to India as medical officer in charge of the zenana hospital at Ludhiana in the Punjab. She was one of the most enthusiastic supporters of the great work undertaken by Lady Dufferin's Fund. This work had been inaugurated about seven years previously, during the Earl of Dufferin's viceroyalty. It it said that Queen Victoria herself specially charged the Vicereine to do something to help the women of India in sickness. The aim of the Fund was to provide better medical treatment by the establishment of hospitals and dispensaries and in other ways, especially for the women who were prevented by the restrictions of purdah from being attended by male doctors.

At Ludhiana a medical school for women was founded two years after Margaret Balfour's arrival, but at that time there were only one or two Indian women qualified in medicine, and the vastness of the social need might well have depressed less ardent spirits than Margaret Balfour and Mary Scharlieb and others who determined to bring the resources of Western knowledge and skill to their Indian sisters, especially in childbirth. Women doctors were brought out from Britain, as well as nurses and midwives, and later Indian women were admitted to medical schools and colleges. After three years at Ludhiana Margaret Balfour became medical superintendent of the Dufferin hospital at Nahan, also in the Punjab, where she remained until 1902, and then for eleven years she was medical superintendent of the Dufferin Hospital at Patiala. By the time she had completed her term there modern child welfare was making headway in India, infant welfare centres were multiplying, and ante-natal work was becoming appreciated. For two years after completing her task at Patiala she worked as assistant to the inspector-general of civil hospitals in the Punjab, but in 1916 she returned to the Countess of Dufferin's Fund and served it for eight further years as joint secretary at Delhi and Simla. During that time, to facilitate administration, a separate Women's Medical Service for India was created.

though still under the council of the Fund, and of this service she was chief medical officer from its start until 1924. In that year she ended her official work in India, but not her labours on behalf of Indian women. In 1929 she, with Dr. Ruth Young, published a history of the work of medical women in India—a very lucid record, moderate in its expression, but setting out the plain facts of the social conditions as she had seen them during her long experience. In the following year she published the results of an investigation she had undertaken into maternity conditions among women mill-workers in Bombay. She had specially investigated the diet of pregnant women in that Province, and one interesting observation was that when half the calories of the women's diet were derived from polished rice the proportion of premature births went up to 20%, and when half the calories were derived from wheat there were in her sample no cases of premature birth at all.

On her return to this country she pleaded on many occasions for the employment of more women doctors in India and for a sufficient supply of drugs. She also interested herself in the care of the expectant and nursing mother under industrial conditions in this country. The Council of Action published in 1935—and republished in 1938—a pamphlet by her and Dr. Joan Drury setting out the results of an investigation of motherhood in special areas of the county of Durham and Tyneside. The inquiry was conducted on sociological rather than on medical lines, and special attention was paid to the diet of the expectant mothers. She became in 1929 a Fellow of the Royal College of Obstetricians and Gynaecologists, and from time to tmie she published papers on obstetrics and infant care.

In 1920 Dr. Balfour received the Kaisar-i-Hind medal for conspicuous service in India, and in 1924 she was made a C.B.E. She was a member of the National Council of Women and of the Medical Women's Federation. She joined the British Medical Association as long ago as 1899, and in 1932 she assisted the Association on a committee which it set up to consider the medical aspects of the report of the Indian Round Table Conference. In the three following years she was a member of the I.M.S. Committee of the Association and of the Dominions Subcommittee on India. She retained remarkable vigour of mind and body until within a few days of her death.

Dr. **KENNETH STOCKS BROWN**, who died at Grange-over-Sands, Lancashire, on Nov. 4, after seven years of failing health, studied medicine at the University of Edinburgh and graduated M.B., Ch.B. in 1920. He served as resident house-physician and house-surgeon at Leith Hospital, was then appointed house-physician at the Royal Infirmary, Sunderland, and from 1923 to 1931 held the post of assistant pathologist there. He next became assistant R.M.O. at the Westmorland Sanatorium, Grange-over-Sands, but chronic chest trouble forced him to relinquish that in 1938 and live the life of a comparative invalid. Dr. Kenneth Brown joined the B.M.A. in 1922 and was a member of the Association of Clinical Pathologists.

Dr. **BURGESS MACPHEE**, a retired consultant tuberculosis officer of the Lancashire County Council, died on Nov. 10, aged 68, at Chichester, where he had recently gone to reside after leaving Blackburn. He was born in the Glasgow district in 1877, qualified as M.B., Ch.B. (with distinction) at Glasgow University in 1900, and took the Cambridge D.P.H. in 1912. After graduation he devoted five years to general practice, and then held appointments under the Metropolitan Asylums Board, Surrey County Council, Glasgow Corporation, and at Southampton. He joined the staff of the Lancashire County Council in 1913, and until he left the county service on superannuation in February, 1942, he held the post of consultant tuberculosis officer of a dispensary area (population 330,000) in East Lancashire, with dispensaries at Accrington, Nelson, Stacksteads, and Darwen, and a pulmonary hospital at Withnell, near Chorley. MacPhee played an important part in building up the Lancashire County Scheme for the prevention and treatment of tuberculosis. He was a model consultant physician and a man of sterling character. Held in very great esteem by his medical colleagues, he was much missed when he retired three years ago. He leaves a widow, two sons, and one daughter; a third son, in the R.A.F., was lost over Germany towards the end of the war.

Dr. **EVELYN B. JACQUES**, who died in London on Nov. 21, was the wife of Dr. F. V. Jacques, who was announced as being released from internment in Japanese hands in the *Journal* of Sept. 29. Evelyn Bessie Salter studied medicine at the University of Bristol, graduating M.B., Ch.B. in 1919, and took the D.T.M.&H. two years later, after serving as resident obstetric officer at the Bristol Royal Infirmary. She joined the Malayan Medical Service as lady medical officer at Seremban. Dr. Ann Harling writes: I only knew Evelyn Jacques for the last three years of her life, but I formed a deep admiration and affection for her. Others may be able to tell of her exciting and unusual childhood on board her father's steamship, of scanty schooling except from her mother, and at schools all over the world until she was 15 years old; of her student and postgraduate years at Bristol during and after the first world war, and of twenty years with her husband in the Malayan Medical Service. I learnt only a little of these things, for she was not one to speak of herself. She was a most kind, generous, and loyal colleague, a very good doctor, much loved by many people here in Worcester Park. She bore the years of her husband's internment in Singapore with great fortitude and an irresistible hope that he was alive and would come home again. When he did come home in September of this year she had already suffered from months of the illness from which she died. She had to know both the diagnosis and the prognosis (it was a thing which could not long be hidden from a medical mind) and she lived through this experience with inspiring courage and gaiety of spirit. During the last few weeks she displayed the greatest thoughtfulness for others in spite of very severe pain and enormous doses of morphia. Her life and her death have been an inspiration to all who had the honour to know her. Our deepest sympathies go to her husband, Dr. Frederick Jacques, and her four children, who have all shown the same courage and fortitude.

Mr. **JOHN WILLIAM HEEKES**, for twenty years on the honorary staff of the Royal Hospital, Richmond, Surrey, died at his home in Barnes on Nov. 22, aged 73. He was educated at the City of London School and King's College School, and at Charing Cross Hospital, where, after qualifying in 1906, he became house-surgeon and resident obstetrical officer and clinical assistant in the throat and ear and the women's departments. During the war of 1914–18 he held a commission as captain in the R.A.M.C., serving with the B.E.F. in France and with the Mediterranean Force, mainly in Malta, and afterwards as surgical specialist at the Military Hospital, Belmont. He graduated M.B., B.S.Lond. in 1917, and was for a time surgeon at the Queen Alexandra Military Hospital, Millbank. Returning to practice in the Thames Valley he was appointed surgeon and gynaecologist at the Royal Hospital, Richmond, and visiting surgeon to the Richmond Infirmary. In 1929 he became examiner in gynaecology for the General Nursing Council. He had joined the B.M.A. in 1909, was chairman of the Richmond Division in 1931–2, and represented it at the Annual Meeting at Bournemouth in 1934. Heekes wrote a number of papers on surgical subjects, which were published in these columns between 1907 and 1924, and during the present war he worked as surgeon attached to the Emergency Medical Service.

Industrial medicine has lost one of its most distinguished pioneers with the passing of Dr. W. **DAVID JENKINS**, chief medical officer to the South Metropolitan Gas Company. He was a student of the Middlesex Hospital, and before studying medicine took a B.A. degree with honours in the University of Wales. At the outbreak of the war of 1914–18 he volunteered as a combatant and was commissioned in the Royal Artillery, and saw active service until he was invalided home in December, 1917. He then returned to his medical studies and qualified as M.R.C.S., L.R.C.P. in 1921. Subsequent to this he practised in South Wales and was commissioned as a Justice of the Peace in the County of Glamorgan. Dr. Jenkins was one of the founder members of the Association of Industrial Medical Officers, and gave good service as a member of the executive committee. He joined the South Metropolitan Gas Company in 1932, and with the company's close support introduced a medical service of the highest order. He studied the occupational hazards of the gas industry with an enthusiasm which was most infectious, and became a leading authority on the causation, prevention, and treatment of pitch and tar cancer. His contributions to medical knowledge were made more by the spoken than by the written word. A few weeks before his death he arranged with the collaboration of his company a practical demonstration of the industrial problems in this field for the advisory panel on dermatological problems in industry to the Minister of Labour and National Service. He was a Freeman of the City of London, and was intimately connected with the work of the St. John Ambulance Brigade in London. At the time of his death he was surgeon to the Brigade in the County of London. He was a prominent member of the Savage Club. Dr. Jenkins was a man of outstanding personality, of great courage and charm, and possessed an aptitude for the clear expression of his opinions. With all this, and his specialized knowledge in the field of industrial health, he will be remembered by all who worked with him, whether as a worker, employer, or as a medical colleague, until they too pass on, as a man of great humanity, honesty, and unselfishness, and we his friends for many years will feel the loss of his impartial counsel and courageous presence.—A. J. A. and E. R. A. M.

Medical Notes in Parliament

Sale and Purchase of Practices

Mr. Somerville Hastings on Dec. 6 asked the Minister of Health whether he was prepared to offer any advice to doctors demobilized from the Forces as to the purchase of a practice.

Mr. Bevan replied: The Government have not yet finally decided upon the proposals which they will be submitting to Parliament for a National Health Service. They believe, however, that it will be incompatible with the provision of an efficient service that the future exchange of medical practices and the creation of new practices within that service should be left entirely unregulated and that no effective steps should be taken to secure a proper distribution of doctors to fit the public need. They appreciate that intervention in this field—in whatever form it may take—will probably have the effect of preventing the sale and purchase of the practices of doctors taking part in the new service, and the Government therefore think it right to give warning of this probability at once and in advance of the formulation of their full proposals. At the same time, and in order to allay the natural anxieties of doctors already in practice or now coming into practice from the Forces or elsewhere, the Government wish to make it clear that there will be an appropriate measure of compensation to doctors in respect of loss of capital values directly caused by the new arrangements. It is intended that discussions should be undertaken immediately with the profession's representatives with regard to the steps to be taken to give effect to this decision.

Mr. Hastings asked if Mr. Bevan could suggest what occupation or what branch of the profession medical men returning from the Forces should take if they were not to buy practices. Mr. Bevan said it was hard to frame precise proposals in this matter ahead of legislation. He had informed doctors that it was highly improbable that he would permit the sale and purchase of practices in future, subject to the proposals laid before Parliament. However, arrangements would be made with the medical profession immediately in order to deal with individual difficulties of doctors returning from the Services.

Mr. Willink asked whether the Minister was aware that this vague and menacing statement would cause the greatest possible anxiety and distress among a section of the population to whom the goodwill they had built up was their major asset, and that many of Mr. Bevan's present colleagues in the Government agreed that this was a matter of great complication and not essential to the introduction of a National Health Service. Mr. Willink further asked what Mr. Bevan meant by his allusion to a method of regulating the distribution of doctors.

Mr. Bevan said he had every reason to believe that the announcement just made would be received with great satisfaction by most doctors; that most of the best elements of the profession regarded the sale and purchase of practices as extremely undesirable; and that they would be very glad indeed that he was about to discuss with them the conditions in which this practice was to cease. He added that his answer did not apply to dental surgeons.

Colonel Stoddart-Scott inquired whether the reply meant that doctors who could no longer purchase practices would no longer be able to choose in what part of the country they wished to practise. Did it mean that they would be directed or posted in future? Mr. Bevan asked Colonel Stoddart-Scott to await the full proposals.

Major Lloyd gave notice that he proposed to raise this matter on the adjournment. Mr. Speaker stated that as the matter involved legislation it was bound to be out of order on the adjournment.

Purchase Tax on Doctors' Cars

Major Tufton Beamish on Nov. 29 moved a new clause to the Finance Bill. This proposed that motor cars for use by registered medical practitioners or by veterinary surgeons should be exempted, like ambulances and invalid carriages, from the Purchase Tax. Major Beamish said he had asked the Minister of Health for his support, but had received a letter saying this could not be given and that doctors were not unfairly treated in the matter. The Minister of War Transport and the Chancellor of the Exchequer had said that there were administrative difficulties in the way of the concession. Mr. Dalton had pointed out that the tax was charged at the wholesale stage when the ultimate purchaser was unknown, but Major Beamish argued that it would be easy to refund the tax to doctors who had bought cars subject to Purchase Tax. If doctors did use the cars for pleasure in their scanty leisure hours the House should not begrudge them. Doctors were being demobilized all too slowly. In civil life there was one doctor to 1,300 or 1,400 persons; that proved that a car was indispensable to a doctor. The argument that doctors might resell the car at a considerable profit was invalid, because there were stringent conditions of resale. County medical committees could ensure that only practising doctors were afforded this relief.

Mr. Glenvil Hall said the amendment as drafted was unworkable. It meant that a doctor who wished to go anywhere, save on a professional visit, must keep two cars or walk. The tax was imposed at the wholesale stage, when it was impossible to know who would buy or use the car. Doctors deserved all the sympathy and help the House could give them, but it could not be given this way.

The proposed new clause was negatived.

Physiotherapists in N.H.S. Consultations

On Nov. 29 Sir Ian Fraser asked the Minister of Health if he would give the profession of physiotherapy the same opportunity of consultation as he had offered to the medical profession before he introduced his proposed National Health Service Bill. Mr. Bevan: I shall be glad to consider any views which the physiotherapists care to put before me.

Empire and United Kingdom Casualties

Total casualties suffered by the armed Forces of the British Commonwealth and Empire from Sept. 3, 1939, to Aug. 14, 1945, were given by Mr. Attlee as 1,246,025, including 353,652 killed and 475,070 wounded. Casualties for the United Kingdom were 755,257, including 244,723 killed and 53,039 missing, 77,090 wounded, and 180,405 prisoners of war. Casualties to merchant seamen included 30,189 deaths.

Doctors in East Africa Command

Colonel Price-White on Dec. 4 asked the Secretary of State for War if he was aware that under present military establishments and commitments in East Africa Command at least one-half of the staffs of medical services in that command were surplus to requirements. In view of the shortage of civilian doctors and staffs in Britain he asked the Minister to arrange for the early repatriation and release of those now so redundant. Mr. Lawson denied that the position was as stated. He said that in addition to the British troops there was a very large number of Colonial troops for whom medical attention had to be provided by the R.A.M.C. Certain reductions were recently ordered, and all medical officers in Group 24 or earlier were being returned for release in December, but it would be quite impossible to reduce by anything approaching 50%.

Milk for the Tuberculous.—Tuberculous patients are allowed a priority supply of fourteen pints of milk a week in addition to normal rations and allowances. Sir Ben Smith is advised that this provision is adequate for their needs. It is fixed on the advice of medical experts. Mr. Bevan states that tuberculous patients in civil hospitals are entitled to special supplements of ordinary civilian rations and to two pints of milk a day in addition. He is advised that this dietary compares favourably with that laid down for military hospitals.

Stakehill Detention Barracks.—Mr. Driberg on Nov. 27 referred to Stakehill Detention Barracks and to a case there last year of an apparently fit man who went into the barracks and was dead within three days. No inquest was held. The relatives saw the body with the forehead bruised and a bruise on the neck. Major Wyatt said death took place after this man had been made to run a mile in seven minutes wearing full kit. On entering the camp he had been passed by the camp doctor as fit to take such exercise. He should not have been passed as fit if he was going to collapse and die of heart failure after running a mile. Dr Morgan asked the War Office to see that proper arrangements were made in detention camps from a psychiatric point of view. Few psychiatrists attended the camps. Mr. Lawson said it was necessary that the inquiry which had been ordered should be private. He did not exclude a public inquiry later into the general question of Stakehill.

Immunization of Children.—Mr. Bevan states that returns received from all but a few local authorities indicate that during the six months to June 30, 1945, 201,465 children under 5, and 65,469 between 5 and 15, were immunized under local authority arrangements in England and Wales: that of 6,168 children notified as suffering from diphtheria 1,959 were immunized and 4,209 unimmunized; and that of 289 children who died from diphtheria 24 were immunized and 265 unimmunized. He adds that a true statistical assessment of the results of immunization in the current year must await the Registrar-General's conclusions, which are normally published in the Ministry's annual report.

Medical Students' Fees.—Mr. Bevan said on Nov. 29 that he was not empowered to make grants to relieve students taking recognized courses for a degree in medicine of the greater part of their fees. Assistance was available to medical students from various sources, including scholarships awarded by the Ministry of Education, by local education authorities, and by medical schools.

Public Assistance Mental Patients.—Mr. BEVAN stated that on Jan. 1, 1945, there were under the Lunacy and Mental Treatment Acts 10,550 persons in public assistance institutions or wards of municipal general hospitals approved for the purpose by local authorities under Section 19 of the Mental Treatment Act. On the same date there were 9,852 mental defectives in public assistance institutions which had been approved for the purpose under Section 37 of the Mental Deficiency Act, 1913. A considerable proportion of these patients required only to be looked after. Those needing treatment received it from the medical officers of the institution.

Notes in Brief

Mr. Attlee said on Dec 3 that he hoped to make another statement soon on the control of atomic energy.

Sir Stafford Cripps states that in 1935, the latest year for which figures are available, 20% of the British production of drugs, medicines, and medicinal preparations was exported.

EPIDEMIOLOGICAL NOTES

Discussion of Table

In *England and Wales* infectious diseases were more prevalent, the rises over last week's totals being: scarlet fever 237, acute pneumonia 159, measles 50, dysentery 43, whooping-cough 29.

Scarlet fever increased mainly in the Midlands, and to a less degree in London and the south-east.

Diphtheria notifications in Lancashire showed an increase of 19 cases over last week's total, but fell by 15 in Yorks West Riding and by 11 in London. The chief centres of infection are in Liverpool C.B. 56, and Birmingham C.B. 31, these two cities accounting for over one-eighth of the total notifications. Pneumonia was prevalent in the north.

There were 40 more cases of measles in Suffolk than last week.

No fresh outbreak of dysentery was recorded during the week. The largest returns were London 32, Lancashire 28, Warwickshire 21, Glamorganshire 20, Middlesex 19, Surrey 14, Gloucestershire 12.

In *Scotland* diphtheria, with 206 notifications, reached the highest level of recent months. The largest returns were Glasgow 66 and Edinburgh 28. The total notifications for acute primary pneumonia and for scarlet fever were respectively 33 and 15 higher than last week.

In *Eire* the outbreak of measles in Dublin C.B. continued, notifications mounting from 113 to 146. The incidence of diphtheria for the whole country fell by 7 and of whooping-cough by 6, but that for scarlet fever rose by 15. In Dublin the figure for diarrhoea and enteritis rose by 12 to a total of 45.

In *Northern Ireland* scarlet fever, with 53 notifications, is more prevalent than during the past six months.

Infantile Paralysis in Queensland

An outbreak of infantile paralysis centred in Brisbane has spread throughout Queensland; 191 cases with 5 deaths have been reported; 60% of the cases occurred in Brisbane.

Quarterly Returns for Scotland

The birth rate during the September quarter was equivalent to 16.4 per 1,000, which is 1.1 below the average of the five preceding third quarters and the lowest rate ever recorded in a third quarter. Infant mortality was 46 per 1,000 registered live births—14 below the five-years average and much the lowest rate ever recorded in Scotland. The previous lowest infant mortality for any quarter was 55, this level being reached on three occasions. The maternal mortality, 2.2 per 1,000 live births, was the lowest ever recorded for any quarter. The general death rate, 10.9 per 1,000, was 0.8 below the average of the five preceding third quarters and was the lowest recorded for any quarter since 1939. Deaths from the principal epidemic diseases numbered 67, and included 20 from diphtheria, 15 from measles, 13 from cerebrospinal fever, and 10 from whooping-cough. Tuberculosis caused 850 deaths, the death rate from all forms being 70 per 100,000 54 from respiratory tuberculosis). The former rate is 8 below that for the third quarter of 1944, and the latter is 5 below; the death rate for respiratory tuberculosis was the same as while that for all forms was 3 below, the five-years average. The marriage rate was 10.5 per 1,000; only on two occasions have higher rates been recorded for any quarter—those for the third quarters of 1939 and 1940, when they were 12.4 and 12.3 respectively.

Week Ending December 1

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,879, whooping-cough 1,384, diphtheria 676, measles 501, acute pneumonia 746, cerebrospinal fever 45, dysentery 231, paratyphoid 6, typhoid 12, poliomyelitis 20.

No. 47

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended Nov. 24.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1945					1944 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever	32	5	17	—	—	41	4	19	2	2
Deaths		—	—				—	1		
Diphtheria	654	39	206	84	20	616	23	209	133	19
Deaths	6	—	1	3	1	8	1	1	2	—
Dysentery	223	32	50	—	—	380	44	82	2	1
Deaths				—	—				—	—
Encephalitis lethargica, acute	1	—	—	—	—	1	—	—	—	—
Deaths		—					—			
Erysipelas			40	7	2			62	9	3
Deaths		1					—			
Infective enteritis or diarrhoea under 2 years				52					28	
Deaths	38	5	11	9	2	38	2	9	4	1
Measles*	453	42	81	154	4	7,137	110	425	19	259
Deaths	1	—	—	—	—	10	—	—	—	—
Ophthalmia neonatorum	68	6	12	—	—	81	5	16	—	—
Deaths										
Paratyphoid fever ..	10	—	2 (B)	—	—	1	—	5 (B)	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenzal†	579	41	5	4	1	755	24	10	1	8
Deaths (from influenza)	25	5	1	—	1	27	2	6	—	—
Pneumonia, primary ..			181	26				314	14	
Deaths		40		11	12		34		9	13
Polio-encephalitis, acute	4	—				2	—			
Deaths		—					—			
Poliomyelitis, acute ..	15	2	—	1	—	10	—	—	2	2
Deaths		—					—			
Puerperal fever		1	14		—		6	15		—
Deaths										
Puerperal pyrexia‡ ..	132	12	8	—	—	165	11	17	—	—
Deaths		—					—			
Relapsing fever ..	—	—			—	—	—			—
Deaths										
Scarlet fever	1,911	155	284	34	53	2,350	60	348	32	117
Deaths	1	—	—	—	—	1	—	—	—	—
Smallpox	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Typhoid fever	7	—	1	4	—	4	1	—	9	1
Deaths	—	—	—	—	—	1	—	—	—	—
Typhus fever	2	1	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Whooping-cough* ..	1,232	62	61	26	8	1,388	56	151	41	10
Deaths ..	7	—	1	—	—	9	1	1	1	—
Deaths (0–1 year)	358	51	47	29	[illegible]	358	41	65	28	13
Infant mortality rate (per 1,000 live births)										
Deaths (excluding stillbirths)	4,628	707	605	193	135	5,118	760	697	220	132
Annual death rate (per 1,000 persons living)			13·7	12·5	§			16·0	14·3	§
Live births	6,488	954	748	341	227	6,772	598	907	315	251
Annual rate per 1,000 persons living ..			15·0	22·0	§			18·4	20·4	§
Stillbirths	188	20	23			192	11	37		
Rate per 1,000 total births (including stillborn)			30					39		

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

‡ Includes puerperal fever for England and Wales and Eire.

§ Owing to movements of population, birth and death rates for Northern Ireland are still not available.

Medical News

The fourth annual general meeting of the Anglo-Soviet Medical Council will be held on Tuesday, Dec. 18, at 4.30 p.m., at the Royal Society of Medicine, 1, Wimpole Street, W. Prof. Arnold Sorsby, F.R.C.S., will speak on Soviet medicine.

A meeting of the Eugenics Society will be held at the rooms of the Royal Society (Burlington House, Piccadilly, W.) on Tuesday, Dec. 18, at 5.30 p.m., when Dr. D. V. Glass will give an address on "Aspects of the Development of Population Policy." All interested are invited to attend.

A meeting of the Colour Group of the Physical Society will be held at 3.30 p.m. on Wednesday, Dec. 19, in the small Physics Lecture Theatre, Imperial College, Imperial Institute Road, S.W., when a lecture on "Colour Discrimination, the Visibility Curve, and the Trichromatic Theory" by W. S. Stiles, D.Sc., will be followed by an informal discussion.

A meeting of the British Institute of Radiology will be held at 32, Welbeck Street, W., on Thursday, Dec. 20, at 8 p.m., when a paper by Mr. M. H. Jupe and Mr. L. A. Kemp on "The Physicist in the Radio-diagnosis Department" will be read. On Friday, Dec. 21, at 5 p.m., there will be a meeting of medical members at the same place. The Diagnosis Section of the Faculty of Radiologists will meet at the Royal College of Surgeons of England on Friday, Dec. 21, at 2.30 p.m., when there will be a discussion on "The Radiology of Non-malignant Intracranial Lesions."

The London County Council announces the retirement of Sir Thomas Carey Evans, F.R.C.S., medical superintendent of Hammersmith Hospital. His retirement is on medical grounds. The Council states that Sir Thomas Carey Evans, who entered its service in 1931, has shown himself to be a most capable organizer and medical administrator. "His professional ability, tact, and charm of manner have impressed all those with whom he has worked and have greatly contributed to the establishment of the amicable relations which exist between Hammersmith Hospital and the British Postgraduate Medical School."

Lieut.-Col. the Right Hon. Walter Elliot, F.R.S., F.R.C.P., of Bonchester Bridge, Hawick, has been appointed a Deputy Lieutenant of the County of Roxburgh. Dr. E. W. Jones, of Llety'r Eos Llanfairtalhaearn, and Seibiant, Pontllyfni, has been nominated Sheriff for the County of Caernarvonshire.

The appointment of Dr. Stuart I. A. Laidlaw as Medical Officer of Health for Glasgow in succession to Sir Alexander Macgregor, who retires in April, has been confirmed by the City of Glasgow Corporation.

Universities and Colleges

UNIVERSITY OF CAMBRIDGE

Postgraduate Courses for Ex-Service M.O.s

It is proposed to hold 14-day refresher courses for medical officers released from the Forces as follows: Pulmonary tuberculosis, its differential diagnosis and treatment, at Addenbrooke's Hospital, Cambridge, and at Papworth, beginning on Jan. 14, 1946; general 14-day course at Ipswich and Colchester beginning on Feb. 11, 1946; and a 14-day course on social and industrial medicine at Luton beginning on May 6, 1946. Should vacancies occur these courses will be available for general practitioners. Further particulars can be obtained on application to Dr. Douglas Firth, Trinity Hall, Cambridge.

UNIVERSITY OF LONDON

Alan Moncrieff, M.D., F.R.C.P., has been appointed to the Nuffield Chair of Child Health tenable at the Institute of Child Health as from Jan. 1, 1946. He is a member of the staff of Middlesex Hospital and the Hospital for Sick Children and is also paediatrician to Queen Charlotte's Maternity Hospital and to the British Postgraduate Medical School. During the war he has served as wholetime physician to the Emergency Medical Service.

UNIVERSITY OF DUBLIN

SCHOOL OF PHYSIC, TRINITY COLLEGE

The following medical degrees were conferred on Dec. 5:

M.D.—P. Delap.
M.CH.—W. Houston.
M.B., B.CH., B.A.O.—P. G. S. Beckett, J. A. D. Bradfield, K. Campbell, D. J. Crowley, W. G. Fegan, A. J. E. FitzGerald, Maire C. FitzPatrick, Joan M. Fox, T. H. F. Gillespie, H. T. C. Hitchcock, P. G. Kennedy, Elizabeth M. Kyle, Elinor W. McCloy, K. A. McFadden, C. W. E. Murphy, G. M. O'Donnell, A. J. H. Reford, Mary A. Wright.

Letters, Notes, and Answers

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B.M.A. SCOTTISH OFFICE: 7, Drumsheugh Gardens, Edinburgh.

ANY QUESTIONS?

Road Accidents while "Under the Influence"

Q.—*In charges of being "under the influence of alcohol while driving a car" the defence is often put up that the defendant's condition was due to shock or concussion. Can you help in the differential diagnosis?*

A.—Shock and concussion closely simulate the manifestations of alcoholic intoxication. The issue is liable to be complicated by the defendant having been given an alcoholic stimulant after the accident or by the ingestion of a small quantity of alcohol beforehand, which in itself would not warrant the charge of being "under the influence." The chemical examination of the blood or of the urine for alcohol is of definite value in these cases because the approximate amount of alcohol in the body, and therefore the amount ingested, can readily be determined. For the full value of such a procedure the reader is referred to the *Practitioner*, April, 1945, p. 205.

Salivation

Q.—*A man aged 50, subject to asthma, suffers from troublesome salivation. When he is trying to sleep saliva often gets into his larynx, causing fits of coughing; when asleep saliva occasionally trickles from his lips. He also complains of intestinal flatulence. What is the treatment?*

A.—The causes of salivation are many, though asthma does not appear to be numbered among them. The possibility should nevertheless be borne in mind that a drug used for the treatment of the asthma, such as iodide or arsenic, is irritating the salivary glands. Salivation is usually the result of some local or distal source of irritation. Water-brash is a well-recognized symptom of peptic ulcer, and this would be one's first thought in a case of this kind. However, quite minor digestive upsets will provoke attacks of salivation, which can then be regarded as part of the syndrome of nausea. Patients may salivate after aspirin or after taking rich food and drink. It might therefore be worth while to investigate the digestive symptoms more closely, and if no gross lesion is found an effort should be made to relieve the flatulence by avoidance of potatoes and gassy vegetables. Other common causes are irritation from teeth or dentures and disease of the central nervous system. It is stated that salivation may occur as a functional form of mouth neurosis, whatever that may mean, and there is no doubt that in certain cases the cause remains obscure. If no cause can be found, belladonna or atropine should be prescribed.

Discharge Swabs in Diphtheria

Q.—*With regard to discharge swabs of diphtheria cases* (JOURNAL, *Nov. 24, p. 753*)*, would one be justified in abolishing these altogether provided the child was clinically well and had a normal nasopharynx?*

A.—No, this is not sound practice either administratively or clinically. It is quite true that a child with a normal nasopharynx is unlikely to be either a heavy or a persistent diphtheria carrier. Still, normality in the nasopharynx is an unstable condition, and a child who contracted a respiratory infection soon after discharge from hospital could be converted thereby from a light diphtheria carrier to a potentially dangerous source of infection with a heavily infected droplet spray.

Control of Neurosyphilis

Q.—*When the clinical advancement of neurosyphilis has been checked, after full courses of treatment three years ago, do strongly positive Wassermann and Kahn tests indicate that antisyphilitic treatment should be tried again?*

A.—If the Wassermann and Kahn were *serum* tests the answer is, No. As to whether further treatment is necessary, much depends on four factors: (1) the present condition of the cerebrospinal fluid; (2) the nature of the central nervous system involvement—early or late, meningo-vascular or parenchymatous; (3) age of the infection; and (4) the total amount and nature of the treatment given ("full courses" is a somewhat indefinite expression). Lumbar puncture should be carried out; if the fluid is normal it may be sufficient to keep the patient under observation for another two years, testing the blood serum every 3 to 6 months and the cerebrospinal fluid yearly. A fluid which shows any abnormality is an indication for further treatment no matter what the clinical condition. Serial *quantitative* serum tests should be helpful by indicating whether the infection is advancing or receding.

Calcium in Tuberculosis

Q.—*Which is the best calcium preparation to use in the treatment of tuberculosis?*

A.—There is no definite evidence that patients with tuberculosis suffer from deficiency of calcium or that they benefit from its administration. It is, however, a useful placebo and is entirely harmless. Calcium may be given in the form of calcium gluconate (10 gr. in 10 c.cm. of water by intravenous injection, or 30 gr. by mouth), and the addition of vitamin D aids absorption.

Paroxysmal Auricular Fibrillation

Q.—*The blood pressure of a patient aged 62 has varied from 146/95 to 190/110 for some fifteen years. Five years ago he had a transient hemiplegia, which cleared up within 24 hours and has not recurred. For the last three years he has had increasingly frequent attacks of palpitation with dyspnoea, usually brought on by exercise, and lasting from a few hours to a couple of days. The attacks are incapacitating, and subside without treatment other than rest. An electrocardiogram taken during an attack showed typical auricular fibrillation with auricular rate 600 and ventricular 160. After the attacks a mitral systolic murmur can be heard, but between bouts the heart sounds are normal. Almost all attacks are preceded, sometimes two hours before, by frequency of micturition, which continues during the attack and ceases when it subsides. Is there any explanation of the syndrome?*

A.—This is evidently a case of paroxysmal auricular fibrillation of the "senile" type. The occurrence of such attacks, if they are sufficiently frequent to make it worth while, can sometimes be reduced by quinidine sulphate, 6 to 9 gr. daily. The frequency of micturition might serve as a warning to indicate the use of quinidine. What its association with an attack may be is quite obscure. Perhaps there is a nervous cause for both. Any attack lasting more than an hour or so, if the heart rate reaches as high as 160, with the possibility of its lasting some days, is worth treating with quinidine or digitalis—preferably digoxin intravenously.

Synthalin in Diabetes

Q.—*Some of my diabetic patients object to frequent injections of insulin. Can synthalin tablets be recommended to these patients? Are they as efficacious as insulin? Have they any injurious effects on the liver?*

A.—Synthalin was tried in the treatment of diabetes mellitus seventeen years ago (*Proc. roy. Soc. Med.*, 1928, **21**, 527, and *Quart. J. Med.*, 1928, **21**, 509). It lowers the blood sugar of many diabetic patients, and can replace from 10 to 30 units of insulin, but has no effect at all on others. Unfortunately synthalin may cause toxic symptoms, such as nausea, vomiting, and even jaundice, which may be fatal. To reduce this risk it was given in courses of three days with one day's rest, and so on. In spite of these precautions toxic symptoms developed, and its use hardly seems justified nowadays. The discovery of the slow-acting insulins—protamine-zinc and globin insulins—has made it possible to control the diabetic condition reasonably well with one dose a day. This should not be an intolerable burden for patients once they realize the benefit they receive.

Blood Tests for Non-paternity

Q.—*What is the present-day opinion on tests for paternity? A male patient of nine has been accused, and is willing to undergo any tests to prove his innocence.*

A.—Blood tests for non-paternity, as it is more correct to call them, are regarded by most courts nowadays as reliable if performed by a competent person. They consist in the determination of the inheritable blood characters of the mother, the child, and the suspected father. Several sets of inheritable characters are now recognized. Broadly speaking, if the child's blood contains a group character which does not appear in the blood of the mother he must have inherited it from his father, and so if the suspect's blood does not contain it either, the suspect is not the father. The suspect's chances of being exonerated by blood-group tests vary according to the rarity of the child's aggregate of characters, but the average is a good enough chance to be worth trying. If the mother is willing to co-operate, the parties should write to the Director of the Department of Chemical Pathology, St. Mary's Hospital, London, W.2.

Willow Contact Dermatitis?

Q.—*Has the willow tree (Salix alba coerulea) any allergic property? A man who has been measuring a large number of them—almost embracing them and perhaps touching them with his face—has developed an oedematous condition of the face, neck, and back of the right hand, which has become slightly scaly with some "weeping" at the back of the neck. He has no constitutional symptoms.*

A.—A large number of plants and woods are reputed to cause contact dermatitis, but it would seem that the willow has not been specially mentioned in this connexion. The story, while suspicious, is by no means convincing. A patch test with wet sawdust should give a reaction if specific sensitivity exists. Patch-testing is valueless and even misleading unless carried out in the approved manner and with suitable controls.

Immediate Reaction to Revaccination

Q.—*Some authorities maintain that the immediate reaction to revaccination is an allergic phenomenon, because it can be obtained with killed virus, while others consider that it denotes a high degree of resistance. Has this point been settled by estimating the antibody content of the serum of those persons giving the immediate reaction to revaccination?*

A.—There is no necessary antithesis between these two ideas. The immediate reaction is commonly regarded as allergic for the reason given, but some degree of immunity is necessary for its production. Clinical evidence suggests, however, that the degree necessary is partial rather than "high." We know of no observation on the antibody content of the blood in such subjects.

Repeated Neonatal Deaths

Q.—*Can you explain a case of repeated neonatal deaths? The wife of an Indian official has had eight children. Two of them survived and the other six all died within a few hours of birth. They were all a little short of full term, but apparently perfectly healthy. Both parents have had Wassermann and Kahn tests done repeatedly. There were no necropsies, but I cannot imagine any congenital defect incompatible with life which would be repeated in six children There is no history of malaria and the woman herself is healthy.*

A.—The history of repeated neonatal deaths without evidence of syphilis or other obvious disease suggests that iso-immunization in pregnancy may be the cause of the disasters, Rh incompatibility being the likeliest basis, with the father Rh-positive and the mother Rh-negative.

When the foetuses reach almost full term but die within a few hours of birth, evidence of haemolytic disease may be detectable only by post-mortem examination; commencing jaundice and petechial haemorrhages may easily escape recognition in dark-skinned infants. The writer does not state whether the two surviving children are the first and second infants, as is usual in haemolytic disease, but if so the six successive disasters suggest that the father is homozygous Rh-positive—RhRh—and if that is so all subsequent children will be affected since all will be Rh-positive. If, however, the two surviving children have been interspersed with those dying soon after birth, either the cause is not iso-immunization or the father must be heterozygous Rh-positive—Rhrh—with the probability that at least the younger child is Rh-negative. In this case there would be a 50% chance of each future child escaping haemolytic disease through being Rh-negative. It is unlikely that the case could be satisfactorily investigated in Kenya, but perhaps the blood of the parents could be examined in South Africa. It should be possible, however, to send specimens of whole blood by air to this country and the bloods could be typed at one of the Regional Blood Transfusion Centres. If the questioner were sufficiently practised in blood grouping he might be able to detect Rh sensitization in the mother by the open slide test of Diamond and Abelsom (*J. Lab. clin. Med.*, 1945, **30**, 668), testing the wife's blood against the husband's if the ABO groups permit.

INCOME TAX

Military Pay for Period of Return Voyage

"MAJOR" served over-seas from March 11, 1937, to June 26, 1943, being paid by the Indian Government and suffering Indian income tax. The period March 23, 1943, to June 26, 1943, was spent in travelling back to this country, and for that period pay was due at British rates by the British Government. Is British tax due on the pay for that period?

⁂ The pay for the three months in question is apparently within the scope of Schedule E of the British income-tax code, which applies to "every public office or employment of profit and in respect of every annuity, pension, or stipend payable by the Crown or out of the public revenues of the United Kingdom." The fact that "Major" was not liable on the pay issued from Indian sources for an earlier period of foreign service does not affect his subsequent liability.

LETTERS, NOTES, ETC.

Problem for Bibliophils

Lieut.-Gen. Sir W. P. MACARTHUR writes: I shall be grateful if any reader can help me by identifying a book from the following scanty details. It deals in part with plague in the past, and the illustrations include one of an ancient Roman design which shows a rat identified in the text as *Rattus norvegicus*—convincingly so to my recollection. The picture might possibly be a reproduction of the rat shown on the first-century Roman altar discovered in Rheims, but my hazy recollection is that it appears on an independent medallion. The point does not affect the value of the clue. I have tried in vain to find the book in a number of libraries, which is not surprising, as I can recall neither the title nor the author's name.

Some Suggestions and Suggestive Questions

Dr. E. W. MORGAN (London, W.11) in the course of a letter suggests that in order to avoid being confined to the restricting and restricted service of the State, which has been threatened so long, the British medical profession should join, or allow itself to be joined with, the other medical professions of the world. He goes on to show how mankind could benefit from the co-operation of medical workers among all peoples. It might, he says, even be a check against future war. Should doctors, for health or other good reasons, leave their native lands they could practise wherever they went; lack of knowledge of languages would not obstruct successful surgical manipulations, since there are enough interpreters to deal with medical history-taking. Continuing with some other suggestions, he says that every part of the British medical profession should examine itself to see where improvements are needed. Are the most suitable often enough appointed to teaching hospital staffs? Should the motives of prospective students be inquired into? Is it good that every practising doctor should be moved mostly by compassion for the sick? If so, let this be recognized, and if there are any who are not thus moved let them be guided to the laboratories, the libraries, the museums, the post-mortem rooms, etc. Is it also good for at least one or two general practitioners to serve on a hospital staff? Should hospital appointments be permanent, or should there be opportunity for change of staff if efficiency is not maintained? Is teaching of the most valuable facts, for practical purposes, sacrificed for the sake of knowledge of the whole subject, however superficial? Should the medical student's course be less intensive and exhaustive? Can anything be done to see that students find the most suitable work? He considers that some minds are built for psychological work; some arms and hands are made for orthopaedic work; some fingers are delicate enough for gynaecology; some personalities make excellent children's specialists; some all-round men make good family doctors; etc.

Car Without Foot Pedals?

Dr. C. T. NORRIS (Calne, Wilts) writes: The vehicle Dr. J. Rammell (Sept. 29, p. 450) requires for his patient was seen by me in or about 1930 in a garage I had occasion to patronize in Battersea. Soon after I found this place I was attracted by the unusual appearance of an Austin 7 of the old "bath-tub" type, now obsolete, which appeared to have a stirrup fixed upside down on either side of the steering column below the steering wheel. Inquiry from the garage staff elicited that this car was the property of a man without legs, who, as I myself saw later, appeared to be in quite humble circumstances, and I could well believe that possession of this car made all the difference to his life. The car had been adapted to his needs by the controls from each foot pedal being led from the slots in the floor, after removal of the pedal, up the side of the steering column casing to stirrup-shaped grips, where the fingers of each hand could grasp them while the wheel was still held by the thumbs and palms: thus the stirrup-shaped grip operated the clutch or the foot-brake. If I remember rightly, in order to avoid undue downward pressure on the steering wheel, and to enable one control to be operated firmly while the other hand steered, the movable grip was placed below, and fitting into, a fixed stirrup-shaped fitting; each fitting, therefore, looked like a stirrup with a bar across the opening. In order to enable the gear lever to be used with the clutch out I believe the controls were crossed, the right hand thus operating the clutch and the left the foot-brake. The throttle was operated by a separate lever, such as at that time was often seen on cars for adjustment of the mixture. I seem to remember that the Austin 7 had two such little levers on the wheel—one to adjust the spark and the other the throttle opening—so no special fitting was necessary for that work. But in a similar adaptation of a car to-day no doubt a lever of this kind would be necessary, and could be led up the steering column to below the wheel, or put, like a motor-cycle control, on a cable on one of the fixed stirrup grips. I have gone into the description of this car in some detail as it exactly answered the requirements of Dr. Rammell's patient; and I would suggest his advising a similar adaptation of a suitable vehicle, which any interested garage should be able to carry out. The requirements would appear to be: (1) The car itself must be "light" with light springing on the clutch and foot-brake, otherwise the much smaller force than usual available for operation of these controls will not act, with disastrous results sooner or later. (2) The actual fittings must be adjusted accurately to the hands of the individual who is to drive the car. My inquiries in 1930 elicited that there was then no police or other objection to the car I saw; and I think even in these days of driving tests no reasonable examiner would object to such controls once their use had been learned. I consider the present Austin 8 or any similar car could be equally well adapted in the manner I have tried to describe.

Undervalued Emoluments

"BEARING UP" writes: The position of the hospital M.O. who can, and does, live out must often be uncomfortable if not positively desperate. Before I married I enjoyed (if such a word can be used in this connexion) the "residential emoluments" (hateful phrase!) of my hospital. When I married there was no bar to my living out provided I kept a tame telephone at my own expense, so I blithely set up house and received £150 per annum added to my salary "in lieu of emoluments." I was only mildly dashed to find that this wilted to £75 under the searing hand of the Inland Revenue, but worse was to come. I found that to provide for myself the shelter, food, fuel, light, laundry, and telephone necessary for continued existence cost me £270 per annum. Obviously very heavy inroads had to be made into my salary, otherwise I could have paid the butcher and baker and candlestick-maker only 5s. in the pound. This illustrates the total inadequacy of the living-out allowance under present conditions, and the vicious system of taxing it at full rates. Hospitals which cannot offer adequate married accommodation should certainly be pressed to raise their living-out allowances to a more reasonable figure, but a more urgent demand is that taxation on allowances should be mitigated or abolished. While the present full tax is in force no recipient of a living-out allowance is being justly treated. To live out has non-material advantages, not to be assessed at cash valuation, which offset the debit balance, but I think it unfair that one should have to pay for them so dearly.

Pruritus and Glycosuria

"M.D." writes: Your answers to "Any Questions?" are always most interesting. In the *Journal* of Oct. 20 (p. 556) there is a question on pruritus and glycosuria, on which a note of personal experience may be of use. With most of the answer I agree, but not with the last suggestion to seek another cause. Some years ago I had renal glycosuria, and cut down starches and sugars for a year with good result but loss of weight. I did not, however, resort to insulin. I have had no sugar appreciable for several years now, but can renew my pruritus in a similar region any day by indulging a little in boiled sweets or "tray" chocolates. Ordinary starches—e.g., bread—do not bring it on. Surely it would be worth the lady's while cutting out sweets even if there is a craving. If she does this there may be no need to use insulin or restrict carbohydrates unduly.

Salivary Gland Tumour of Upper Lip

Mr. J. F. CURR, F.R.C.S.Ed., writes: In the *Journal* of Nov. 3 (p. 605) I published a short report on a salivary gland tumour of the upper lip, the condition being fairly uncommon according to previous records. Less than a fortnight later, and on successive days, I saw two more cases, in men aged 31 and 34, the tumours being situated near the lateral end of the lip. Using a local analgesic, each tumour shelled out easily through an incision in the mucous membrane of the lip. The typical appearances of simple, mixed parotid tumour were found on histological examination, for which I wish to thank Dr. R. F. Ogilvie and Dr. W. Forbes.

Wellcome Medical Diary, 1946

The regulations which govern the distribution of printed matter having been relaxed, Burroughs Wellcome and Co. can now issue the very limited edition of the 1946 Medical Diary free of charge. Those who have already sent remittances of 2s. may have them refunded on request. In the absence of such a request, any sum already received will be sent to the Royal Medical Benevolent Fund early in 1946, together with any further moneys received. The diary is being dispatched to all doctors who have asked for a copy. The publishers regret that few, if any, additional requests can be entertained.

Corrections

In Sir Arthur MacNalty's Vicary Lecture on "The Renaissance and its Influence on English Medicine, Surgery, and Public Health" (Dec. 1) "Sir John Elyot" should read "Sir Thomas Elyot," on pp. 757-8.

Dr. J. N. Davidson wishes to correct an error in our issue of Dec. 8 (p. 815). Under "Modern Methods" the third sentence should have read: "Heavy nitrogen (N^{15}), heavy sulphur (S^{34}), deuterium (D), and heavy carbon (C^{13}) had been used in this way."

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B.L.A. MEDICINE

BY

ERNEST BULMER, C.B.E., M.D., F.R.C.P.

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FOREWORD BY
Field-Marshal SIR BERNARD MONTGOMERY

"I should like to take this opportunity to pay a tribute to the great work done by our doctors during the campaign in North-Western Europe. It was often unspectacular work, as may be judged from the constantly recurring reports, 'Sickness rates remain low.' But as the result of the immense pains taken our great armies in B.L.A. were far healthier than the armies of the last war; this was achieved in spite of the fact that active large-scale operations continued at a high pitch throughout the campaign, and did not stop during the autumn and winter, when we experienced the worst possible weather conditions.

"The doctors of the B.L.A. can be justly proud of the results which they achieved; these results produced a force ready at all times to meet the great calls made on its endurance and physical fitness. Our doctors have in fact played no small part in the achievement of final victory in Europe."

B.L.A. surgery has been admirably dealt with by Porritt, Debenham, and Ross (1945), and reference should be made to their paper for the operational side; physicians were busiest during static periods, and in battle their work in forward areas was chiefly with chest injuries. Modern warfare in a temperate country has proved a healthy thing, and, unlike the Middle East, North African, and Far Eastern campaigns, medicine has been content to take a second place to surgery. Nevertheless the problems presented to the physician during the several phases of the campaign were varied and urgent, and in the German phase the unexpected responsibility of dealing with mass starvation strained both resources and ingenuity.

I propose to survey the field broadly, and to deal only with the twelve months I was in the theatre—July, 1944, to July, 1945. The observations of the consulting physician to a force of this size must be superficial, as they must equally be extensive; it is anticipated that papers will be published by those who had the opportunity of day-to-day studies, and it is not possible for me here to acknowledge the source of all my remarks.

The Medical "Set-up"

There were complete medical departments in the large base hospitals, with physicians, dermatologists, psychiatrists, venereologists, and neurologists. The field force had experienced physicians in casualty clearing stations and 200-bed hospitals, but they lacked full ancillary services; during battles they co-operated with the surgeons, largely in the treatment of chest wounds, while between battles they were very busy treating the sick. Light sick and skin cases were held in minor medical units with supervision from the nearest physician or dermatologist. The handling of venereal and psychiatric cases was separately organized under the respective Advisers—Lieut.-Col. D. J. Campbell and Lieut.-Col. D. J. Watterson; it will not be discussed here. The whole medical service was co-ordinated by the D.M.S. with the advice of his consultants and advisers in special subjects; a noteworthy feature was the agreed policy arrived at after regular conferences between the administrative and professional sides.

Low Sickness Rates

In each quarterly report I have had to repeat "Sickness rates remain low"; from June, 1944, until April, 1945, they averaged 23.6 per 1,000, which compares with 53.9 per 1,000 for the B.E.F. (1914–18) fighting in the same country. The reason for this very low rate needs critical examination by hygienists and statisticians, but my own suggestions are:

1. *General Management.*—The Force was carefully selected physically and part of it was selected psychiatrically. It was trained to a high pitch of fitness; both men and clothes were kept clean; food was generous in amount and water discipline was good.
2. *Infestation.*—In 1914–18 it was said that nearly half the sickness was due to infestation—trench fever and infected pyodermias, from either lice or acari. In the B.L.A. the louse was virtually abolished by personal hygiene and D.D.T., and scabies rarely became a problem, as prompt treatment with benzyl benzoate by the regimental medical officer was usually effective.
3. *Changed Conditions.*—We were spared long periods of trench warfare, although we had a dusty summer, a wet autumn, and a bitter winter.
4. *Good Fortune.*—There was no influenza pandemic.

Other Comparisons with the B.E.F. (1914–18).—We had four times as much jaundice and twice as much diphtheria; until April, 1945, the V.D. rate was just a little less; our incidence of enteric fever was 1/200, of cerebrospinal meningitis 1/4, and of pneumonia 1/6: these figures are computed on case rates per 1,000. Chemotherapy showed an improvement in case mortality: we had 1 death from cerebrospinal meningitis in 35 cases; in the B.E.F. it was 1.17%; our pneumonia mortality was 1% against 12.4%, while we had no deaths from dysentery against 0.6%.

Diarrhoeal Diseases.—In Normandy the incidence was high, and accounted for 31% of medical admissions. In the winter it still continued, and between 6 and 8% of medical admissions were diarrhoeal: its control is still imperfect.

Respiratory Diseases.—These constituted 32% of medical admissions from Jan. to March, 1945; there is a seasonal rise at this time of year, and living conditions had changed—houses instead of an open-air life. In other words, spacing was the only method of control of these droplet-spread diseases under the prevailing conditions, and it was not very effective.

General Comments on the Sickness Trends.—Much was achieved by fitness and cleanliness, by the eradication of the louse, and by the prompt treatment of scabies, while good water discipline and inoculations played an important part. Diarrhoeal diseases are but partially controlled, and droplet infections are almost uncontrolled: these facts are stressed to counteract complacency. The accompanying Table shows the varying incidence of certain diseases by quarters, expressed as percentages of 50,000 medical admissions.

Table showing Quarterly Incidence of Disease (Percentages of Medical Admissions)

Disease	July–Sept., 1944	Oct.–Dec., 1944	Jan.–Mar., 1945
Acute diarrhoea	31	8	6
Respiratory diseases	14	25	32
Infectious diseases	5	8·5	10
Skin diseases	18	15	16
Chronic rheumatism	4	6	3·5
Dyspepsia and ulcer	3	5	4
Acute infective hepatitis ..	1·5	3·1	4
Renal diseases	1·5	3	1·5
Malaria	11	2	1
Sciatica	1	1	1
Organic nervous diseases ..	1	1·5	1·5
Cardiovascular diseases ..	1	1	1

Phases of the Campaign

The campaign divided itself into three parts, each with its own problems; in each phase there were variations in seasons, living conditions, and prevalence of communicable disease in the civil population. Finally there were the problems of the civil side when Germany was overrun.

Phase 1: Normandy (June–Aug., 1944).—During the beach-head days of dust, flies, mosquitoes, and improvised accommodation (tents or foxholes) the prevalent disease was diarrhoea; it was christened the "Normandy glide," perhaps from the lessened urgency of its demands on Middle East standards. Many troops had come from malarious parts of Sicily and Italy, and their malarial relapses became a serious problem, as man-power was short. Weil's disease, although a very minor problem, made even jaundice interesting, while an outbreak of 80 cases of typhoid fever in one small headquarters mess exercised both hygienists and physicians. Droplet infection was negligible and the V.D. rate low.

Phase 2: The Low Countries (Sept., 1944, to March, 1945).—A wet autumn, a bitter winter, houses instead of open-air life for most, friendly and populous countries, and endemic diphtheria in the part of Holland then liberated—this was the background. Droplet infection became rife, and this would not have mattered had it been no worse than the colds we all got on going into houses; sore throats were prevalent, and each might be diphtheritic in view of the epidemicity of the disease. The negligible V.D. rate rose briskly, malarial relapses almost disappeared, but dysentery simmered constantly. The anticipated late autumn outbreak of jaundice did not materialize, but the incidence rose steadily.

Phase 3: Germany (April to July, 1945).—Although the Rhine was crossed in good weather the later spring and summer were wet; the troops again led a more open-air life. The disease problems were those expected, although dysentery did not become a big problem as in Normandy and sore throats still were very widespread. The V.D. rate continued to rise. Our own troops did not give us much anxiety, and even Weil's disease still remained where we had left it—in Normandy—although there were plenty of water in Holland and Germany and infected rats. Our chief worries were from civilian internees and liberated prisoners of war—typhus, starvation, and tuberculosis.

Malaria

About 30 men who had not been in malarious zones contracted malaria in Normandy; there were numbers of men harbouring gametocytes, and anophelines were identified in the Caen sector—this was not our main preoccupation. In the Force there were about 40,000 men who had served in Sicily and Italy. Many had had previous attacks of malaria, and relapses were anticipated; others had been infected late in the previous malaria season, and had their "delayed primary attack" in Normandy. About two-thirds of our cases were relapses and one-third were delayed primary attacks.

Before the invasion a rather alarming number of malarial attacks occurred in the training areas in the United Kingdom among the ex-C.M.F. contingent. An attempt was made to prevent further relapses by resuming suppressive mepacrine or by giving intensive courses of mepacrine for a week to men in the infected divisions. The effect on the relapse rate was negligible, and our final conclusion (which is widely held) was that the only way to cut down the relapse rate of B.T. malaria was to secure adequate treatment of each patient when he was actually in a relapse, and that pamaquin (plasmoquine) must be included in this treatment. Up to the middle of July, 1944, I estimated that there had been between 800 and 1,000 cases in Normandy; from then until the end of September there were a further 1,100 cases (11% of the medical admissions). The problem became an urgent one of man-power conservation. At first all cases had had to be evacuated to the United Kingdom, but from the middle of July the majority were treated in Normandy.

Treatment.—The first step had been to put malaria relapse in its right perspective—a trivial and short-lived illness. We decided on three treatments:

1. *5-day Course.*—This was a measure of expediency used in the early days with the object of getting men back to duty in about 7 days. Quinine bihydrochloride 30 gr. and pamaquin 0.03 g. were given concurrently and daily for 5 days.
2. *10-day Course.*—As soon as beds became available all relapses and delayed primary attacks had quinine–pamaquin for 10 days.
3. *21-day Course.*—If a man had three relapses in one season he was given the above course of quinine–pamaquin for 7 days, and then two-thirds the dosage for 14 days.

While the 10- and 21-day courses seem to be the best so far achieved, much has yet to be done to remove the problem of the B.T. relapse.

Acute Diarrhoeal Diseases

These were rife, but were mild on Middle East standards. The aetiology was not worked out on a large scale. Infection by the food-poisoning group seemed to be exceptional, and most cases of diarrhoea were dysenteric: this statement is based on discussions with many physicians and pathologists. Major R. W. Evans (personal communication), for example, examined 197 stools from consecutive diarrhoeal admissions in Normandy and isolated *B. dysenteriae* from 102 (Flexner 97, Sonne 4, Schmitz 1).

The supply of sulphonamides was lavish, and regimental medical officers had both sulphathiazole and sulphaguanidine, with instructions to treat all possible cases at unit level. Much man-power was thus saved. Of those admitted to hospital, and nearly always treated with sulphaguanidine, the average stay was about 7 days: this reflects the mildness of the infection, as my comparable Middle East figure was 17 days (Bulmer and Priest, 1943). No deaths occurred among Allied troops, but there were several among German prisoners of war treated by their own medical officers.

A condition which accounted for nearly one-third of medical admissions in Normandy, although relatively trivial and without fatalities, can hardly be dismissed after merely lauding its specific treatment. Can nothing be done to prevent it? Little has yet been accomplished except by the usual hygiene measures, which are of great importance and certainly reduce its incidence. In careful studies of isolated outbreaks in the U.K. many, if not most, have been traced to food-handlers who were carriers. It seemed to me justifiable to accept this mode of spread, and to recommend the periodic "sterilization" of food-handlers' stools by a week's course of sulphaguanidine. This was done in one key unit with good effects—a large-scale and controlled experiment was not practicable.

During the Normandy phase we were ignorant of the American work on chemoprophylaxis—the prevention of certain diseases by the continuous taking of sulphonamides: 1/2 to 1 g. of sulphathiazole daily during the dysentery season would be an interesting method with which to experiment under field conditions.

Typhoid Fever

In the autumn of 1944 an epidemic of typhoid fever affected 79 men from one small unit and one of the nursing sisters who attended them; the origin of the outbreak remains unsolved. It was, however, a serious one, as 11% died and complications and recrudescences were frequent. Jordan and Jones (1945) say of it: "Despite the fact that all the patients had been immunized against the enteric group of organisms the course of the disease was severe and unmodified." The efficacy of T.A.B. is not in dispute (our typhoid rate was 1/200 that of the B.E.F., 1914–18), but if patients are overwhelmed they will contract the disease, and apparently in an unmodified form.

Treatment remained expectant, but at a later date slight sensitivity of the typhoid bacillus to penicillin was demonstrated by Major R. W. Evans (unpublished), and several cases were treated very intensively with the drug without improvement in their condition.

Weil's Disease

A note has already been published on this subject (Bulmer, 1945). Buckland and Stuart (1945) re-examined our sera against further strains of leptospira, and found two which agglutinated *L. grippo-typhosa*—a form which is spread by Continental water-voles, and gives a brief brisk attack of Weil's disease without jaundice. Doubtless a number of our "short-term" fevers were due to this infection.

Diphtheria

Intelligence reports had warned us that diphtheria was endemic in Holland; we were apprehensive, as, apart from possible protection in childhood, neither British nor Canadian members of the Force had been immunized. When cases started to crop up it became evident that few medical officers had had much experience of diphtheria; owing to widespread immunization campaigns the disease had become much less common, and clinical opportunities during their student days had been limited. This applied even more to the Canadians, many of whom had never seen a case. They were soon to become very expert!

All medical officers were rapidly made "diphtheria-minded," and were asked to treat all suspicious sore throats at once on a clinical assessment. Very few cases were overlooked, and antitoxin was given very early. Naturally a great deal of it was given unnecessarily; but this did not matter—it was withholding antitoxin that we feared. The results were most creditable. My figures are liable to criticism, especially in the group called "clinical" diphtheria and not bacteriologically confirmed; nevertheless I was satisfied that the diagnostic error was not greater than 25%—many claimed it to be much less. I have notes of 3,000 cases and of 6 deaths—the figure for fatalities I know to be correct—this gives a case mortality of 0.2%.

The disease was on the whole mild, although there were a number of "gravis" infections and bull-necked types were not uncommon. Neurological complications were much less common than in the Middle East. We relaxed very considerably the strict nursing of diphtheria which is insisted upon in British fever hospitals: there were no ill effects, and the patients were much more comfortable.

Penicillin in Diphtheria.—This was used *as an adjunct* in the hypertoxic cases. Lieut.-Col. J. Bolton (personal communication) has some evidence to show that *C. diphtheriae* clears much more rapidly from the throat in penicillin-treated cases.

Convalescent Carriers.—If swabs were still positive on the 30th day the patients were transferred to a special wing of a hospital under Lieut.-Col. (now Brig.) R. E. Tunbridge, who had worked out a scheme of rehabilitation for these otherwise convalescent men. Tunbridge's studies (unpublished) on the effects of penicillin given locally in clearing carriers showed that it was not useful and that tonsillectomy remained the treatment of choice in the prolonged carrier.

Prevention.—Diphtheria is a dangerous disease; few victims are fit for duty under 6 to 8 weeks, and some are off for months with paralysis—the loss of man-power is therefore great. In future campaigns the problem need not arise if all troops are immunized on enlistment.

Typhus

The members of the Allied Forces had been protected against typhus by inoculation before D Day and had had a "booster" dose early in 1945; lousiness was uncommon, and D.D.T. was available as a dusting powder, and in solution for the impregnation of clothing. Typhus was known to be present in Germany among internees and forced-labour organizations, but it was not encountered in the mass until concentration camps such as Belsen and Sandbostel were uncovered: in them the Army medical services had to care for thousands of cases. There were some cases of typhus among released prisoners of war, and some of the British troops working in the concentration camps developed it; otherwise I am unaware of the occurrence of cases among military personnel. Protection and the anti-louse measures had proved most effective.

The disease as seen among internees was, on the whole, mild, and it was classical louse-borne typhus; the case mortality cannot be ascertained as many presumably died of starvation before the rash of typhus came out: in Belsen the case mortality from overt typhus was not high. After the internees had been deloused with D.D.T. there were very few secondary cases.

Effects of Inoculation.—In Belsen some British soldiers and some British medical students developed typhus; as they were all working in the filthy huts of the original camp, dust-borne spread seemed not only possible but likely. Among 21 such of whom I have notes there were no deaths—all had been inoculated. I have not complete notes of all the German personnel in Belsen who contracted typhus; of 25, many of whom I saw, 18 died—none had been inoculated. The series are not comparable, as there were differences in age, duties, diet, and living conditions. That typhus could kill the uninoculated is shown; that it did not kill the inoculated is satisfactory.

Starvation

Prisoners of War.—A number of cases of starvation were met with, as there had been a long period of under-nutrition, and often serious symptoms had been brought on by the forced marches from camp to camp as we advanced. There were few serious cases among British, Canadian, and United States troops, but very advanced emaciation was seen among other Allied troops, such as Russians and Poles. Our first problem was to try to get the newly released prisoner judiciously fed: serious, sometimes fatal, vomiting and diarrhoea had resulted from the mistaken kindness of their liberators. Full Army field service rations were ill tolerated; the secret of this early feeding is a soft, "pappy" diet. All prisoners fit to travel were flown back to the U.K.; those unfit were admitted to military hospitals in B.L.A. and rapidly improved on a simple gastric diet.

Civilian Problems.—Starvation was seen at its worst in civilians in Holland and in internees in Germany. I am unwilling to write on this subject, as it should be left to those who followed cases from day to day; it was unfortunate that the mass of material available for study by the R.A.M.C. was met with under conditions which made research and detailed scientific observations impossible, and it is doubtful whether anything but clinical observations will be published. I had many opportunities of observing the starving in Holland and in the German concentration camps (Belsen and Sandbostel) and camps for Russian prisoners of war—the sources of my information are too numerous to mention. I would make the following comments:

Clinical Features.—There were three types: wasting without oedema; oedema without wasting (rare); wasting with oedema. In Belsen, where starvation was acute and water scarce, *oedema* occurred in only about 6%; in Holland it seemed to be much commoner. Its cause is obscure, and there was little correlation with the level of plasma proteins. *Diarrhoea* was very common, and almost invariably present in the fatal cases; its cause, also, was obscure; dysentery bacilli were isolated in only about 15% of cases. We had assumed that it was dysenteric, and had provided large stocks of sulphonamides to treat it. Necropsy showed changes not unlike those seen in ulcerative colitis. Many cases were undoubtedly due to tuberculous enteritis. *Anaemia* was common: we had expected to find conditions resembling tropical nutritional anaemia, and had provided some liver extract, but investigation showed that both red cells and haemoglobin were equally reduced, and the blood picture suggested a simple marrow wasting. *Avitaminoses* of a clinically recognizable type were rare; perhaps they had been counteracted by the vegetarian diet—sometimes even raw grass was eaten—and by the use of potato peelings as a food. I saw two cases of pellagra at The Hague with Prof. J. Beattie, a few cases of polyneuritis, and a number of abnormal tongues, perhaps from lack of the B complex. Phrynodermia was common, but it may not be an avitaminosis. *Tuberculosis* was an alarmingly frequent sequel. *Gall-stone colic* was often seen, and gall-stones were found in most post-mortem examinations—possibly explained by dehydration.

Treatment.—*General:*—In mild cases a simple gastric diet suffices. In moderate and severe cases the best-tolerated foods were skimmed milk with glucose and the Bengal famine mixture (a gruel made with flour, sugar, salt, and water), and later the dietetic ladder was ascended. Three compound vitamin tablets were given daily. Casein and protein hydrolysates had been prepared on a big scale, and controlled experiments were conducted in Holland under the direction of Prof. Beattie: they could be given orally, by nasal tube, or intravenously. In Belsen they were used on a small scale; but they were most nauseating by mouth. Patients had to be persuaded to take their drinks, and extensive nasal feeding was impracticable; their superiority over the simpler diets has not been established. *Oedema:*—This usually disappeared with a good diet. If it was very severe salyrgan intravenously was effective and seemed harmless. *Diarrhoea:*—As the cause was not clear, rational treatment was out of the question. The multiplicity of treatments found to be effective suggests that none was specific. *Intravenous Plasma:*—At Sandbostel Camp Capt. A. R. Blower carried out a most extensive experiment with plasma; he used 1,196 pints—an average of 5.1 pints per patient. His conclusions (personal communication) were that it had no effect on diarrhoea; it gave good results in severe wasting; and in oedema the results were inconclusive.

Penicillin

We had ample supplies of penicillin, and every opportunity was seized of studying its use in medical as opposed to surgical conditions. Owing to its non-toxicity and its action on a wide range of organisms, it would replace sulphonamides were its method of administration by repeated injection not so impracticable except in hospitals: the sulphonamides remained our sheet anchor in acute infections except from resistant organisms. Penicillin's greatest value to a fighting army was in reducing the time spent in hospital for simple ailments. The Adviser in Venereology (Lieut.-Col. D. J. Campbell) was able to reduce the time of treatment for gonorrhoea to 24 hours, and for syphilis to a little over a week if treated early in the primary stage. In simple pyodermias the Adviser in Dermatology (Lieut.-Col. F. F. Hellier) exploited its use to the full, even in minor medical units with the field force, and saved countless man-days. In ulcerative gingivitis its local application seemed to be specific, and the penicillin tablet should be the simple answer to this common ailment.

In the serious infections, where our object was to save life and not man-days in hospital, it proved invaluable in staphylococcal septicaemia and staphylococcal pneumonia. In pneumococcal pneumonia it was not better than sulphonamides. In meningococcal meningitis it proved to be curative if given intrathecally; but the many lumbar punctures needed make its use objectionable, and there is the danger of introducing resistant organisms into the theca. In Weil's disease it is of value in some strains if given very early. In acute diphtheria it is a useful adjunct to adequate antitoxin, and may clear the throat of bacilli more quickly than the average time taken.

Conclusion

I fear I have done scant justice to the team of British and Canadian physicians with whom it was my privilege to be associated; this is their work, and I have made myself their mouthpiece. They, working for the most part under improvised, difficult, and sometimes dangerous conditions, maintained a high standard of medicine, and a standard of acute medicine which I know I shall not again see. I regret that individual acknowledgment is possible only in a few instances.

The Canadian side, with its happy blend of British and American medicine, was always an inspiration, and I would thank Col. Murray Baird, R.C.A.M.C., their Consulting Physician, for his constant help. Finally, my thanks are due to the Director of Medical Services, 21 Army Group, Major-Gen. E. Phillips, for permission to publish this article, but more especially for his consistent support of, and constant sympathy with, the clinical side.

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E. C. Ross Couper (*Arch. Dis. Childh.*, 1945, **20**, 117), from a study of twenty cases of various infections in infants, concludes that penicillin has a useful part to play in parenteral infection in infancy, but much further investigation is needed.

ESTIMATION OF SERUM PROTEINS BY THE LINDERSTRÖM-LANG GRADIENT

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The gradient method described by Jacobsen and Linderström-Lang (1940–1) affords a very quick and convenient means of measuring the specific gravity of serum and hence of estimating the concentration of protein in serum, as only the drop is needed. In this method a light and a heavy mixture of kerosene and bromobenzene are prepared. The lighter mixture is superposed on the heavier in a glass cylinder and the column of fluid is stirred. A zone is formed in which the specific gravity decreases with the height. The specific gravity of serum introduced into the column is estimated by comparison with the position taken up by drops of salt solution of known specific gravity. The apparent specific gravities found by this method differ from the true specific gravities, although the difference is less than that found in the copper sulphate method (Hoch and Marrack, 1945). This difference is reduced if chlorobenzene is used instead of bromobenzene.

Method

As the journals in which the preparation of this gradient is described are not available in all libraries, details of this preparation, with slight modification, are here given.

The Gradient.—Two mixtures of chlorobenzene (spec. grav. $S^{20}_{20}=1.109$) or bromobenzene (spec. grav. $S^{15°}_{15°}=1.499$) with kerosene (spec. grav. approximately 0.80) are prepared so that their specific gravities $S^{t°}_{t°}$ ($t°$ = room temperature) are approximately equally spaced about the midpoint of the range required. The specific gravities of these mixtures should be approximately 0.04 above and 0.04 below that of the midpoint of the range of specific gravities required. For example, two mixtures prepared by mixing chlorobenzene and kerosene in the ratio of approximately 7.5 and 0.69 by volume had specific gravities ($S^{24°}_{4°}$) 1.064 and 0.982. At the midpoint of the gradient prepared with these mixtures the specific gravity $S^{24°}_{4°}$ was 1.023 and $S^{24°}_{24°}$ was 1.0257, corresponding to a concentration of protein in serum of 6.75 g. per 100 ml.

About 100 ml. of the heavier liquid is placed in a wide graduated cylinder (e.g., a 500-ml. measuring-cylinder which has been cut off at the 250-ml. mark) and the same amount of the lighter liquid is superposed by letting it run in slowly down a glass rod which touches the wall of the cylinder near the surface of the liquid. The two liquids are then mixed by moving a glass rod, bent at the lower end, up and down in the column with continued rotation until streaks (schlieren) appear at the bottom and top of the column. The gradient should then be tested with two drops of standard solutions, specific gravity 1.020 and 1.030. The distance between them should be 4 to 5 cm. The apparent specific gravity of a drop can be read with an accuracy of at least ± 0.0002.

As emphasized by Linderström-Lang (1938), saturation with water is essential. After the gradient is made up a set of 10 drops of the standard solutions should be left suspended in the column for at least a day before it is used. The cylinder should be kept in a water jacket in order to prevent rapid changes of temperature.

Standard Solutions.—The series of copper sulphate solutions with specific gravities differing by 0.001 prepared from a stock solution ($S^{24}_{24}=1.1000$; 159.6 g. in 1,000 ml. at 24° C.), as described by Phillips, van Slyke, *et al.* (1944, 1945), can be used. A series of drops covering the range of specific gravities anticipated is introduced into the column by the method described for serum. Fresh drops of the standard solution should be introduced if the old ones have been disturbed on removing a batch of drops of serum.

Procedure.—With a narrow pipette, attached to a rubber bulb, take up between 5 and 15 c.mm. of serum. Bring the point of the pipette about 3 mm. below the surface of the fluid in the cylinder. Blow the serum out gently so that it does not leave the point of the pipette until the pipette is withdrawn from the surface of the fluid. A slight positive pressure should be maintained throughout. Drops of 5 to 15 c.mm. are recommended instead of 1 c.mm. as used by Jacobsen and Linderström-Lang (1940–1), in order to increase the rate of fall and, in the case of serum, to delay solution of chlorobenzene or bromobenzene. Readings should be taken at the centres of the drops, with precaution to avoid errors due to parallax. Every measurement is referred to the position of the nearest drops of standard solution by means of linear interpolation at the time of reading. Although the distances between two pairs of standard drops that differ in specific gravity by equal amounts may be found to be equal, it is possible that there may be occasional irregularities in the gradient; but the error in the estimate of specific gravity of the serum is not likely to exceed 0.0005. The level of the drops should be read 10 minutes after their introduction. This time was chosen because (*a*) it exceeds the time (2 minutes) required by drops of the standard solution to reach equilibrium to within a specific gravity of 0.0001, and (*b*) in this time the increase of specific gravity of the drop of serum, due to solution of chlorobenzene or bromobenzene, becomes so slow that no appreciable change in its level occurs while the reading is being taken. Estimations can be made on several sera before the drops are removed.

Removal of Drops.—Moisten a piece of filter-paper and wrap it round the lower end of a long thin glass rod. Bring this in contact with the drops, which will adhere to the paper. After removal of the drops the gradient should not be used again for 30 minutes.

TABLE I.—*Comparison of Specific Gravities Measured by Direct Weighing and by the Chlorobenzene Gradient*

Case	Direct Weighing $S\frac{24°}{24°}$*	Gradient $S\frac{24°}{24°}$†	Difference: Gradient/Direct Weighing $S\frac{24°}{24°}$	Equivalent (g. protein/100 ml.)
1	1·0262$_5$	1·0264$_0$	0·0001$_5$	0·05
2	1·0266$_5$	1·0269$_0$	0·0002$_5$	0·09
3	1·0270$_5$	1·0273$_5$	0·0003$_0$	0·11
4	1·0270$_0$	1·0271$_5$	0·0001$_5$	0·05
5	1·0247$_5$	1·0249$_0$	0·0001$_5$	0·05
6	1·0245$_0$	1·0248$_0$	0·0003$_0$	0·11
7	1·0260$_0$	1·0261$_0$	0·0001$_0$	0·04
8	1·0263$_0$	1·0264$_5$	0·0001$_5$	0·05
9	1·0261$_5$	1·0264$_0$	0·0002$_5$	0·09
10	1·0250$_0$	1·0252$_5$	0·0002$_5$	0·09
11	1·0246$_0$	1·0251$_0$	0·0005$_0$‡	0·18
12	1·0255$_5$	1·0257$_5$	0·0002$_0$	0·07
13	1·0255$_5$	1·0259$_0$	0·0003$_5$	0·13
14	1·0244$_5$	1·0246$_5$	0·0002$_0$	0·07
15	1·0253$_5$	1·0256$_5$	0·0003$_0$	0·11
16	1·0248$_0$	1·0247$_5$	0·0000$_5$	0·00
17	1·0237$_5$	1·0238$_5$	0·0001$_0$	0·04
18	1·0266$_5$	1·0268$_5$	0·0002$_0$	0·07
19	1·0262$_5$	1·0263$_5$	0·0001$_0$	0·04
20	1·0275$_0$	1·0277$_0$	0·0002$_0$	0·07
Post-natal:				
81	1·0243$_5$	1·0245$_0$	0·0001$_5$	0·05
82	1·0267$_5$	1·0267$_5$	0·0000$_0$	0·00
Ante-natal:				
83	1·0254$_0$	1·0255$_5$	0·0001$_5$	0·05
84	1·0247$_5$	1·0249$_5$	0·0002$_0$	0·07
94	1·0255$_5$	1·0256$_0$	0·0000$_5$	0·02
95	1·0240$_5$	1·0240$_0$	−0·0000$_5$	−0·02
96	1·0266$_0$	1·0267$_0$	0·0001$_0$	0·04
97	1·0247$_0$	1·0249$_0$	0·0002$_0$	0·07
98	1·0257$_5$	1·0258$_0$	0·0000$_5$	0·02
		Average difference:	+0·0001	0·06

* Corrected to 24° C. by applying −0·00005 per ° C.

† Measured between 19° and 22·5° C., uncorrected for temperature; the extreme correction would not exceed 0·00005.

‡ This large difference was probably caused by the error in the determination by direct weighing.

Changes with Time.—The mixture gradually becomes uniform throughout; changes in two weeks may be appreciable.

Recovery of Reagents.—The chlorobenzene or bromobenzene can be separated from the kerosene, in a state fit for use in making a fresh gradient, by distillation at normal pressure. Unless the distillation is carried out under reduced pressure, part of the kerosene must be replaced by fresh material.

Effect of Temperature

One of the advantages of the copper sulphate and gradient methods, as compared with direct weighing and the falling-drop method, is that serum is compared with aqueous solutions whose coefficients of expansion differ little from those of sera. If the slight effect of temperature on the difference of solubilities of chlorobenzene in serum and copper sulphate solution is disregarded, the effect of temperature is the same as that in the copper sulphate method: the error in the calculated concentration of protein due to change of temperature up to 34° C. or down to 14° C. will not amount to more than 0.04 g. per 100 ml.

TABLE II.—*Comparison of Apparent Specific Gravities (S^{24}_{24}) found by the Chlorobenzene and Bromobenzene Gradients*

Case	Readings after 10 Minutes: Chlorobenzene	Bromobenzene	Difference Br/Cl	Readings after 60 Minutes: Chlorobenzene	Bromobenzene	Difference Br/Cl
Malnutrition:						
21 ..	1·0286$_5$	1·0289	0·0002$_5$	1·0287$_5$	1·0293$_5$	0·0006
22 ..	1·0263	1·0266$_5$	0·0003$_5$	1·0264$_5$	1·0269$_5$	0·0005
23 ..	1·0244$_5$	1·0247$_5$	0·0003	1·0247	1·0252$_5$	0·0005$_5$
24 ..	1·0257	1·0261	0·0004	1·0260	1·0268	0·0008
25 ..	1·0237$_5$	1·0241	0·0003$_5$	1·0240	1·0247	0·0007
26 ..	1·0264	1·0265$_5$	0·0001$_5$	1·0265$_5$	1·0271	0·0005$_5$
Ante-natals:						
69 ..	1·0255	1·0257$_5$	0·0002$_5$	1·0257	1·0261$_5$	0·0004$_5$
70 ..	1·0264	1·0265	0·0001	1·0265$_5$	1·0267$_5$	0·0002
73 ..	1·0249	1·0253	0·0004	1·0251$_5$	1·0258$_5$	0·0007
74 ..	1·0270	1·0272$_5$	0·0002$_5$	1·0271	1·0277	0·0006
75 ..	1·0264	1·0271	0·0007	1·0266	1·0272	0·0006
78 ..	1·0289$_5$	1·0291$_5$	0·0002	1·0293	1·0296	0·0003
79 ..	1·0274$_5$	1·0278	0·0003$_5$	1·0276	1·0281$_5$	0·0005$_5$
Post-natals:						
71 ..	1·0257	1·0261	0·0004	1·0260	1·0262$_5$	0·0002$_5$
72 ..	1·0266$_5$	1·0271	0·0004$_5$	1·0270	1·0274	0·0004
76 ..	1·0273$_5$	1·0277	0·0003$_5$	1·0277	1·0282$_5$	0·0005$_5$
77 ..	1·0263	1 0266	0·0003	1·0266	1·0270	0·0004
Cord blood:						
31 ..	1·0289	1·0291	0·0002	1·0289	1·0292	0·0003
32 ..	1·0257	1·0261	0·0004	1·0259	1·0263	0·0004
33 ..	1·0253$_5$	1·0255$_5$	0·0002	1·0253$_5$	1·0255$_5$	0·0002
Diabetes:						
Bl ..	1·0245	1·0252	0·0007	1·0246$_5$	1·0257	0·0010$_5$
B ..	1·0264	1·0267	0·0003	1·0266	1·0269$_5$	0·0003$_5$
A ..	1·0274	1·0277$_5$	0·0003$_5$	1·0276	1·0281$_5$	0·0005$_5$
	Average difference .. 0·00035 Average protein equivalent, g./100 ml. .. 0·13			Average difference .. 0·00052 Average protein equivalent, g./100 ml. .. 0·19		

TABLE III.—*Number of Cases in which the Difference % between the Concentration of Protein calculated from the Observed Specific Gravity by Equations 2 and 3 and that calculated from the Nitrogen Content lay between Certain Limits. Values of K and A in Equation 1, calculated statistically*

Difference % of Values Calculated from Specific Gravity and Kjeldahl's	Chlorobenzene Gradient: Normals	Malnutrition	Ante-natals	Post-natals	Direct Weighing: Normals	Ante-natals	Post-natals
+5 to +5·9 ..	—	—	—	1	—	—	—
+4 to +4·9 ..	—	—	—	0	—	—	—
+3 to +3·9 ..	—	4	—	4	1	—	2
+2 to +2·9 ..	—	3	1	4	0	—	0
+1 to +1·9 ..	2	2	3	4	3	—	5
+0·9 to −0·9	19	10	5	3	13	2	0
−1 to −1·9 ..	4	4	4	3	2	2	1
−2 to −2·9 ..	—	1	2	—	1	5	—
−3 to −3·9 ..	—	1	5	—	—	3	—
−4 to −4·9 ..	—	—	—	—	—	1	—
Greatest difference, negative side ..	−1·5	−3·4	−3·8	−1·9	−2·1	−4·1	−1·7
,, ,, positive side ..	+1·9	+3·8	+2·6	+5·0	+3·0	−0·2	+3·7
Total number ..	25	25	20	19	20	13	8
Average difference in % of Kjeldahl ..	−0·16	+0·54	−1·1	+1·5	−0·05	−2·3	+1·6
Range of protein content (Kjeldahl) ..	6·16–7·44	5·27–7·81	6·27–7·99	6·24–7·54	6·16–7·39	6·22–7·38	6·24–8·48
K calculated statistically ..	359·2	353·3	364·6	348·0	358·5	—	—
A calculated statistically ..	1·0069	1·0067	1·0070	1·0066	1·0066	—	—
K calculated for A = 1·007 ..	361·6	359·3	364·6	355·6	365·3	374	359

Effect of Solution of the Halogen-benzene in Serum

The apparent specific gravity of serum in the chlorobenzene gradient is higher than that found by weighing in a pyknometer (Table I), and the apparent specific gravity in the bromobenzene is higher than in the chlorobenzene gradient (Table II). These differences are apparently due to preferential solubility of the halogen-benzene in the serum. The solubility of bromobenzene in water is 0.045 g. per 100 ml.; the increase of the specific gravity of a drop of water owing to saturation with bromobenzene is about 0.0002. The halogen-benzenes are presumably much more soluble in serum than in water owing to the lipids in the serum. As the difference between the specific gravities of bromobenzene and serum is much greater than that between those of chlorobenzene and serum, a small excess in the amount dissolved in serum over that dissolved in the standard drops has a considerably greater effect in the case of the bromine compound. The specific gravities of the drops increase as the serum becomes saturated with the halogen compound; hence the differences between the specific gravities found in the bromobenzene and the chlorobenzene gradients are greater at 60 minutes after the drops are introduced than at 10 minutes. After the first 10 minutes the increase of specific gravity in the chlorobenzene gradient amounts to only 0.0002 in 50 minutes.

The difference in the solubility of the two compounds is illustrated by the behaviour of drops of different sizes in the two gradients. Within a short interval two pairs of drops of size about 50 c.mm. and 1 c.mm. were dropped into a chlorobenzene and a bromobenzene gradient. During the first 10 minutes in the bromobenzene gradient the small drop sank much below the level of the large drop; while in the chlorobenzene gradient the two drops were nearly level. After 6 hours the small and large drops were exactly level in both gradients.

Reproducibility and Accuracy

The readings obtained when two drops of the same serum were added to the same gradient in immediate succession were always identical. The specific gravities found using different gradients, or the same gradient at different temperatures, always agreed within 0.0004 and usually within 0.0002.

The concentrations of protein in serum calculated (N × 6.25) from estimation of nitrogen by the Kjeldahl method were taken as the true concentrations. The values of K and A in Equation 1

$$P=K\,(S-A)$$

(where P is the concentration of protein in g. per 100 ml. and S the observed specific gravity), calculated statistically, are given in Table III. For convenience in calculation, in practice, the equations adopted were: Equation 2 for specific gravity found by direct weighing:

$$P=365\,(S-1.007)$$

and Equation 3 for apparent specific gravity found by the chlorobenzene gradient:

$$P=361\,(S-1.007).$$

The readings can also be made with fair accuracy 40 to 60 seconds after the introduction of the drop. If this is done the value of A should be 1.0069.

Using these equations, the agreement between the results obtained by direct weighing or the chlorobenzene gradient on the one hand and by the Kjeldahl method on the other is remarkable in the normal sera and satisfactory in others. As with the copper sulphate method, the average values found by specific gravity methods in sera from women during pregnancy and after delivery tended to differ in opposite directions from those found by the Kjeldahl method. This difference, which may be due to the higher concentration of lipids in the serum during pregnancy, is being studied further.

The "normal" sera were obtained from blood donors at the end of bleeding, after lying down for not less than 10 minutes; the concentrations of proteins found may therefore be abnormally low. The other subjects were bled with precaution to avoid stasis.

Since Table III was completed we have received a serum from a patient with extreme hypoproteinaemia, probably due to faulty nutrition. The concentrations of protein found were: Kjeldahl, 2.54 g./100 ml.; copper sulphate method (Equation 4, P=364 (S−1.006), Hoch and Marrack, 1945), 2.55 g./100 ml.; chlorobenzene gradient, 2.64 g./100 ml. The equations proposed therefore give satisfactory results when the concentration of protein in serum is very low.

[As this paper was going to press we received an article by Lowry and Hunter (*J. biol. Chem.*, 1945, **159**, 465) which gives a full description of the gradient method, using bromobenzene, with a discussion of its accuracy.]

Summary

The gradient method of Linderström-Lang is a convenient and rapid means of estimating the concentration of protein in serum.

The apparent specific gravities found by this method are higher than the true specific gravities. This difference is attributed to preferential solution of the halogen-benzene in the serum; it is less if chlorobenzene is used in the place of bromobenzene. Within moderate limits the effect of temperature is negligible.

Using chlorobenzene, satisfactory and consistent measurements of the concentration of protein are obtained.

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LIVER FUNCTION IN INFECTIVE HEPATITIS GAUGED BY HIPPURIC ACID SYNTHESIS TESTS*

BY

M. R. POLLOCK, M.B., B.Ch.

Up till recently the hippuric acid synthesis test has been employed mainly as an indication of liver damage in isolated instances, particularly in the differential diagnosis of jaundice. In the present work the test has been used serially in an attempt to follow the course of liver damage in cases of infective hepatitis. Although there are many complications, both theoretical and practical, in the interpretation and analysis of the results of this test, it was decided that it was probably the most reliable of known guides to liver function, particularly in the presence of jaundice. Moreover, one of the more serious objections to the test—the wide "normal" range of figures obtained in healthy persons—does not apply when following liver function by serial tests in the same individuals.

Methods and Technique

Cases of infective hepatitis were admitted to hospital usually within three days of the appearance of jaundice. In most instances the serum bilirubin and hippuric acid synthesis were first estimated the next morning. The serum bilirubin was subsequently estimated (Malloy and Evelyn, 1937) twice weekly until the peak value was passed, and thereafter once a week until discharge; estimations were not always done on the same day as the hippuric acid test, and many of the values on which the accompanying Table is based have been obtained by interpolation between the nearest figures before and after the date of the test. The second hippuric acid test was performed usually just under a week after admission, and a third and final test was done a week to 10 days before discharge. The method used was the intravenous modification of Quick (1939), in which 1.77 g. of sodium benzoate was injected intravenously and the urine collected after one hour. The amount of hippuric acid thus excreted was estimated by the technique recommended by Weichselbaum and Probstein (1938), and expressed in terms of the quantity of sodium benzoate detoxicated. The present series includes 81 cases, 46% of which were admitted with rising serum bilirubin. Patients who developed relapses have been excluded.

Results

The results are recorded in the accompanying Table, which is so arranged that a direct comparison can be made between the hippuric acid results and the serum bilirubin concentration.

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* A report to the Medical Research Council.

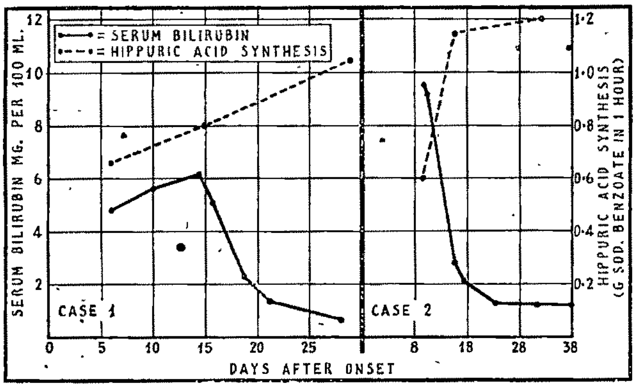
Cases have been divided into two main groups (A and B) according to whether they were admitted with rising or with falling serum bilirubin. These groups have been further subdivided arbitrarily into four roughly equal subgroups (1, 2, 3, and 4) according to the maximum recorded serum bilirubin values. The main points can be summarized thus:

(i) The hippuric acid synthesis (H.A.) appears to reflect the severity of the attack and the stage of the disease rather than to be directly correlated with the serum bilirubin concentration. For instance, there is a significant difference (Difference/Standard Error=2.84) between the initial H.A. values in Subgroups 1 and 2, indicating a correlation between H.A. synthesis and severity of attack fairly early in the disease. There is also a significant difference (D./S.E.=2.33) between the initial H.A. values in Subgroups 1 and 3, although in this case the bilirubin concentrations are roughly equal; in Subgroup 1, however, the serum bilirubin is rising, and in Subgroup 3 falling; it is not surprising, therefore, that liver function in Subgroup 3 is better than in Subgroup 1. The difference applies only to the more severe cases, and is not apparent in Subgroups 2 and 4.

(ii) There is a considerable increase in H.A. values during the first 6 days in all groups. Even in Subgroup 1 the mean rise (0.126±0.0125) is appreciable. The rise in Group B (0.325) is well over double the rise in Group A (0.139), consisting of cases admitted earlier in the disease, and the difference between the improvements in the two groups is highly significant (D./S.E.=3.91). It is of interest that this improvement in H.A. synthesis during the first week after admission occurs despite an increase in serum bilirubin. In Subgroup 1 it can be seen that there is a large mean rise of nearly 3 mg. per 100 ml. in serum bilirubin over the same period as the improvement in H.A. synthesis.

(iii) There is little difference between the groups in the mean H.A. synthesis before discharge. With the exception of Subgroup 1 this final test was performed, on an average, at the same interval after admission in all groups. Although Subgroup 1 is not strictly comparable with the other groups in this respect, there is no indication that the more severe attacks have produced any permanent liver dysfunction.

The course of H.A. synthesis and of serum bilirubin concentration in two patients are shown in the accompanying Chart, as illustrating the types of case most often met with. They represent much the same picture as would be obtained from a study of the average figures recorded in the Table.



Serum bilirubin values and hippuric acid synthesis in two "typical" cases of infective hepatitis

Possible Objections to Use of Test

(*a*) *Renal Damage.*—Although there is no reliable evidence to suggest that kidney damage occurs in any but the most severe cases of infective hepatitis, and Schwei and Quick (1942) have shown that damage to the kidney would have to be considerable before H.A. excretion became a limiting factor in the liver function test, it was thought advisable to test the renal function of a sample of cases in order to obtain first-hand evidence. Blood-urea concentrations and urea-clearance tests were therefore done on 12 unselected cases on admission. In all instances results were well within normal range. The mean blood urea was 26.4 (±1.74) mg. per 100 ml., and the mean urea clearance was 159% of average normal, the lowest value being 97%. It does not appear likely, therefore, that renal damage, if it occurs at all, is sufficient to invalidate the use of the H.A. test in infective hepatitis.

(*b*) *Changing Protein Intake.*—It has been shown by Probstein and Londe (1942) that H.A. synthesis can often be increased by ingesting large quantities of glycine. Many patients in this series suffered from anorexia on admission, and in most cases their appetite, and therefore their intake of protein, increased during the first week in hospital. It was calculated that, on an average, the protein intake per day increased from 60 g. (on admission) to 120 g. (on discharge), and a large proportion of this increase probably occurred during the first week. It was therefore considered possible that at least part of the improvement in H.A. synthesis found to occur in most cases of infective hepatitis after admission to hospital might be a reflection of improvement in appetite rather than in liver function. It was accordingly decided to investigate the effect of a severe reduction in protein intake on H.A. synthesis. Twelve convalescent patients were tested shortly before discharge—i.e., at a time when liver function might be considered to be constant or at least not deteriorating—by performing H.A. tests immediately before and after four days of a diet containing no milk, meat, or eggs and very little bread. This entailed a protein reduction from at least 120 g. a day to between 20 and 30 g. a day. The mean H.A. synthesis dropped by 10% from 1.00 to 0.90—a difference of −0.10 (±0.035). However, three patients actually showed a slight increase in H.A. synthesis after the diet. Since the conditions in this experiment are not and never could be really comparable with those pertaining to patients at the height of the disease, it is not possible to draw any hard-and-fast conclusion. The drop in protein intake of nearly 100 g. was possibly rather severe and certainly more than the average increase during the first week in hospital; and there is at present no means of knowing the relative effects of big changes in protein intake on H.A. synthesis of patients with different degrees of liver damage. It is not felt, therefore, that this difference in H.A. synthesis is great enough to invalidate the main conclusions based on our figures, although the results should, on this account, be treated with due reserve.

Discussion

These results show that in most cases there was a progressive improvement in liver function, as judged by the H.A. test, from the time of admission to hospital, although initially in nearly half of them the serum bilirubin concentration and jaundice were actually increasing. The H.A. synthesis was to a large

Mean Values of Serum Bilirubin and Hippuric Acid Synthesis during the Course of the Disease in 81 Cases of Infective Hepatitis

Serum Bilirubin Group	No. of Cases	On Admission		First Week after Admission			Before Discharge		
		H.A.	Serum Bilirubin (mg./100 ml.)	H.A.	Serum Bilirubin (mg./100 ml.)	Days after Admission	H.A.	Serum Bilirubin (mg./100 ml.)	Days after Admission
A. Rising on admission:									
(1) Maximum above 10 mg./100 ml.	14	0·527	9·50	0·653	12·45	6·0	1·048	1·61	38·8
(2) Maximum below 10 mg./100 ml.	23	0·689	4·64	0·850	5·22	5·5	1·060	1·10	27·2
Total	37	0·637	6·50	0·776	7·88	5·7	1·057	1·29	31·6
B. Falling on admission:									
(3) Admission value above 8 mg./100 ml.	17	0·678	10·25	0·993	3·86	6·7	1·155	1·05	28·3
(4) Admission value below 8 mg./100 ml.	27	0·683	4·61	1·008	1·83	6·3	1·081	0·75	27·0
Total	44	0·680	6·79	1·005	2·61	6·4	1·107	0·85	27·4

H.A. = Hippuric acid synthesis in terms of grammes of sodium benzoate.

extent correlated with the severity of the attack and the stage of the disease, but only partly, and indirectly, with the serum bilirubin concentration.

It is possible that the apparent dissociation of bilirubin excretory function and H.A. synthesis might be explained by the fact that bilirubin is being formed in the body at an approximately constant rate, and that the efficiency of the liver is therefore to be judged by the amount of bilirubin excreted each day rather than the concentration in the serum. In other words, so far as bilirubin excretion is concerned, liver function should be gauged by the rate of rise or fall of the serum concentration; it is then clear that even a rising serum bilirubin might be associated with an improving excretion, so long as the rate of rise was diminishing. This is of course an over-simplification of the problem, since it does not take into account the excretion of bilirubin into the urine. The main principle, however, still applies whatever complicating factor is introduced, and may be enough to account for the apparent dissociation of function referred to above—without, of course, being evidence against such dissociation occurring in other respects. It also, perhaps, contributes to an explanation for the oft-repeated but perplexing observation that, in infective hepatitis, the appearance of jaundice frequently coincides with clinical improvement.

The present work has shown that H.A. synthesis was already improving on the patient's admission to hospital, and the final conclusion which seems to be justified is that maximum liver damage occurs in most cases before admission. This is consistent with the finding previously reported (Pollock, 1945) that liver damage is present in the pre-icteric stage some time before the serum bilirubin rises above normal and often several days before the onset of jaundice.

The practical application of this conclusion is that in order to demonstrate satisfactorily the effect of specific treatment in the average case it is preferable that it be started before the liver has begun to improve spontaneously—in effect this means before jaundice appears. Every effort was made to arrange for admission of our patients to hospital as soon as possible after the onset of symptoms; but, even so, only three were admitted in the pre-icteric stage, and it is unlikely that speedier admission will be achieved until there is some outstanding improvement in methods of early diagnosis. The problem of treatment of infective hepatitis depends, more than in most diseases, upon accurate diagnosis in the initial stages.

Summary

The course of liver damage in 81 cases of infective hepatitis has been followed by the use of serial hippuric acid synthesis tests.

The ability to synthesize hippuric acid bore some relation to the severity of the attack and to the stage of the disease, but was only indirectly related to the serum bilirubin level.

In most cases there was progressive improvement in hippuric acid synthesis from the time of admission to hospital, even though it was often associated with a rising serum bilirubin and increasing jaundice.

It is probable that maximum liver damage in this disease most commonly occurs before the patient is admitted to hospital. Specific treatment is therefore not likely to have any striking success unless begun in the pre-icteric stage.

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Sir John Fraser, presiding at a meeting of the technical committee of the Scottish Blood Transfusion Association, reported that in the quarter ended Sept. 30 last the demands of the hospitals for blood and plasma had, for the first time, exceeded the supply of blood obtained from donors. Fortunately, Sir John said, the regional services had sufficient reserves to meet this contingency. There had been a falling off in donor attendances since the end of hostilities—a fact which gave rise to some concern in view of the continuing and increasing demands of the hospitals, particularly the maternity hospitals. During the quarter 6,986 bottles of blood were obtained from donors, as against 11,946 in the preceding quarter; and, but for reserve stocks, this would have been insufficient to meet the 3,934 bottles of blood and 2,937 bottles of plasma supplied to or reserved for the hospitals. An increase in the use of plasma by hospitals was reported at the meeting—a circumstance emphasizing the great need for new blood donors.

MANAGEMENT OF RECENT FRACTURE-DISLOCATIONS OF THE CERVICAL SPINE

BY

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The treatment of fracture-dislocations of the cervical spine by continuous skull traction (Crutchfield, 1933) is well enough established for a detailed discussion of its justification and indications to be unnecessary (but see Key and Conwell, 1937). Descriptions, however, of the practical details of the method vary considerably. The present communication is an attempt to combine various suggestions into a scheme of treatment which, so far as is possible, shall be simple, efficient, and comfortable to the patient.

Application of Traction

Reduction of a fracture-dislocation of the cervical spine involves both traction and extension (Watson-Jones, 1943). These can be achieved simultaneously, by an upward pull applied to the skull on a plane anterior to the atlanto-occipital joint. The anterior longitudinal ligament of the spine is thus tautened, and extension of the cervical intervertebral joints follows. This effect has been secured by traction on the zygomatic processes, but that has the disadvantage that extension of the head tends to proceed until the skin of the front of the neck is taut. In this position swallowing is difficult enough for the normal individual; when further impeded by dysphagia of medullary origin or by a large retropharyngeal haematoma it becomes impossible. On the other hand, if the calliper is placed directly above the pinna—i.e., vertically above the atlanto-occipital joint (as recommended by McKenzie, 1935; Barton, 1938; Watson-Jones, 1943)—the force causes traction alone without extension.

Hoen (1936) proposed to place the point of traction slightly more anteriorly, which is mechanically sound. He preferred to use 18- or 20-gauge stainless-steel wire, sinking two pairs of burr-holes in the skull near the midline and running wires through the extradural space between them. This method leaves the sides of the patient's head clear of projecting apparatus and therefore allows him to be turned more easily; the only objection is that the intervening bridge of skull has been known to break during the period of traction. In the series of cases on which this paper is based callipers or steel wire were used as they happened to be available.

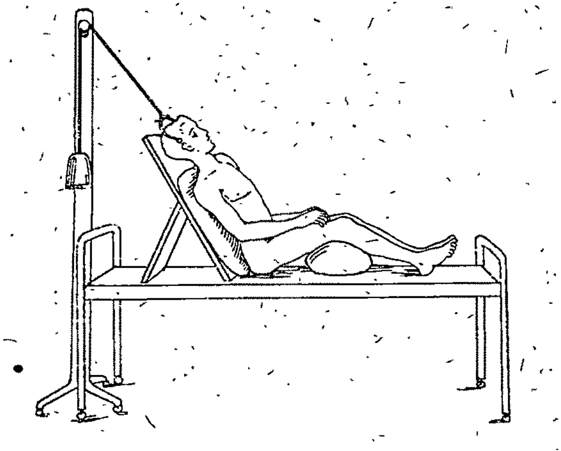
Counter-traction

Counter-traction is made by the friction of the patient's body against the mattress on which he lies, and a gravitational component may be added by raising the head of the bed. This latter also reduces the thrust of the abdominal viscera on the patient's diaphragm and his liability to pulmonary congestion and pneumonia. When abdominal distension is severe, as is not uncommon, raising the head of the bed even as much as two feet may not suffice to prevent respiratory distress. McKenzie (1935) illustrates a case of fracture-dislocation, evidently not complicated by spinal cord damage, which was nursed in the sitting position. In this position the upward thrust of the abdominal viscera is minimal and the patient can look round at others in the ward or read without recourse to mirrors or special apparatus. Further, his head is in the most natural position for the act of swallowing. I found that McKenzie's method can equally well be applied to cases with cord lesions.*

Management of the Case

In the method here described the point of application of traction is kept slightly anterior to the pinna so as to maintain extension, and the patient is nursed in the sitting position. The apparatus required has been simplified to the degree demanded by Service conditions. The bed is prepared as follows:

A stout post is lashed to the middle of the upper end and a wooden back-rest is laid at an angle of 60° on its upper half. Attach to the post a pulley at such a height that traction can be made approximately along the line of the rest. Have ready not less than 30 lb. of weights and plenty of sash-cord. I have not had to use more than 30 lb. in reducing any fracture-dislocation seen within the first three days. In a case a couple of weeks old 60 lb. has been required. Now lower the back-rest and cover enough of it with pillows to support the patient's trunk, but not his head or neck. An air ring is desirable for the buttocks and a "donkey" at knee level. On admission to the ward before reduction the patient is lifted supine on to the bed; his head and neck, being clear of the pillows, will be maintained in a position of extension.



The head-tractor can be applied without further movement. If callipers are used, burr-holes should be made in the skull, under local analgesia, at a point not more than one inch anterior to the external auditory meatus and slightly above the temporal crest. Traction so applied will not over-extend the head. When the tractor is in position the surgeon steadies it while assistants raise the back-rest to an angle of about 60° with the bed. At first 18 lb. of traction is applied (see diagram).

A portable x-ray apparatus is now brought to the bedside. If in half an hour 18 lb. has produced no radiological change, the weight should be increased by 4 lb. and the increase repeated as often as necessary. Once the reduction begins it often progresses to completion within a matter of minutes rather than hours, and when it is complete the tractive weight can be reduced to 8–12 lb. without fear of redisplacement. If further extension of the spine seems necessary it can be provided by putting additional pillows under the patient's back. At this stage, too, it is desirable to see that the patient is reasonably comfortable and can swallow. If not, a slight reduction in the weight may help. The final radiograph should be taken not sooner than 30 minutes after heavy traction has been discontinued.

Traction at the 8–12 lb. level must continue for at least three weeks, during which it is desirable to check the position of the fracture radiologically every few days. After that time the weight can usually be gradually reduced, and in a further week or ten days, if the reduction is radiologically stable, a Minerva plaster jacket can be applied and the patient allowed up, provided no complicating spinal cord lesion is present.

Nursing care during the period of traction is not more difficult than after a major abdominal operation. Although the patient cannot, of course, be turned completely on his side, sufficient changes in his position to prevent the development of pressure sores are readily made. If they should occur, which in my series they did not, the patient could at once be restored to the horizontal position and nursed on his sides for a time. There should be a constant thickness of pillows behind the back, for on the whole the less the cervical spine is extended, the heavier the traction that must be applied to it in order to maintain reduction of the fracture.

In cases presenting complete spinal cord lesions on admission the early mortality rate is very high, and when a complete lesion shows no sign of recovery within fourteen days it can be assumed to be permanent. Once this is established the nursing care of the patient and his comfort are all that need be considered; the fracture is unimportant. However, the method described here has been continued after this time because it provided a maximum of comfort.

Results and Discussion

The series of cases treated by this method is small—seven in all. Four others have been treated by the same method in Prof. Geoffrey Jefferson's neurosurgical service at the Manchester Royal Infirmary. Deaths numbered four—all in cases of complete cord lesions. Such deaths may be regarded as inevitable. The other cases gave no cause for anxiety at any time, and no difficulty was experienced in maintaining a satisfactory reduction of their fracture-dislocations. In two cases with partial cord lesions which developed severe abdominal distension the benefits of the sitting position were apparent from their comparative comfort. Respiratory embarrassment (of which I have seen several distressing examples in cases nursed flat, even with the head of the bed amply raised) was not a feature. In the patients who died from ascending haematomyelia with medullary failure there was never any appearance of "fighting for breath"; respiration appeared adequate until the cardiovascular centres were already grossly affected. Artificial respiration by mechanical means must occasionally find a place in treatment, though when it is still necessary after reduction the patient is unlikely to survive for more than a few hours. But if the lesion is from the beginning compatible with life the patient needs only the optimum conditions for respiration and he will not die of a pulmonary complication. These conditions, together with other advantages, may be derived from treatment in a sitting position.

Summary

Some advantages and disadvantages of the method of treatment of fracture-dislocations of the cervical spine by continuous skull traction are considered, and the theoretical basis of the treatment is discussed.

It is suggested that it is an advantage to nurse the patient in a sitting position. Practical details are given and the experiences of a small series of cases mentioned.

My thanks are due to Lieut.-Col. L. S. C. Roche, *M.C.*, R.A.M.C., commanding a military hospital for head injuries, for permission to publish this paper, and to Prof. Jefferson for permission to mention the cases treated in his service.

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THE THERAPEUTIC EFFICIENCY OF ULTRA-VIOLET-LIGHT APPARATUS

A COMPARISON OF TESTS

BY

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The present investigation, undertaken at the direction of the Director-General of Medical Services, Royal Air Force, set out to determine the relative accuracy of commercial methods of measuring the therapeutic output of ultra-violet-light apparatus, as compared with laboratory techniques. Ultra-violet-light apparatus is widely used throughout the Royal Air Force, both for the treatment of pathological conditions and for its general tonic value—as, for example, in the case of aircrews engaged on night operations. It was therefore considered essential to ensure that the means used for testing the therapeutic activity of the output of U.V.L. apparatus were accurate within clinical limits.

Spectral Requirements for Ultra-violet-light Therapy

First it may be desirable to review briefly the nature of the frequency spectrum produced by commercial U.V.L. apparatus, and the spectral requirements for U.V.L. therapy. The spectrum of the mercury atom has a number of emission lines of radiation between 10,140 A.U. and 1,849 A.U. The longest of these (10,140 A.U.) falls in the infra-red range; others (5,790 A.U. to 4,050 A.U.) are visible, while a powerful group occurs in the "near ultra-violet" around 3,650 A.U. In the mid and far ultra-violet, strong mercury lines are found at 3,130, 2,967, 2,537, and 1,849 A.U. The relative intensities of these wave-lengths, and others less powerful, as emitted by a particular type of mercury-vapour-lamp, are a function of its design.

It is generally accepted (Laurens, 1933 ; Blum, 1944 ; Osborne and Holmquest, 1944b) that the therapeutic action of U.V.L. is dependent chiefly upon radiation of wave-lengths less than 3,200 A.U. ; for example, the mercury line at 2,967 A.U. has antirachitic properties (Forsythe and Adams, 1944a), while that at 2,537 A.U. is highly bactericidal (Forsythe and Adams, 1944a ; Osborne and Holmquest, 1944a). The chief value of the longer 3,650 A.U. group is in the diagnosis of fungous infections by fluorescence.

From the foregoing it is seen that a substantial proportion of the energy emitted by a mercury-vapour lamp has little therapeutic action, and the importance of distinguishing between active and relatively inactive radiation becomes apparent.

Methods of Measurement

Apart from laboratory techniques, two practical methods of detection and measurement of therapeutic ultra-violet radiation present themselves. These employ respectively the barrier-layer photovoltaic cell and the vacuum or gas-filled photo-emissive cell. The former develops a small voltage, while the latter emits electrons and becomes conductive, when subjected to radiation. Accordingly the indicating instrument used with the photovoltaic cell takes the form of a sensitive low-resistance microammeter connected directly across the cell; the photo-emissive cell, on the other hand, requires a source of direct voltage for its operation. It is customary to use a load resistance in series with the photo-emissive cell and its source of supply; variations in potential across this load are applied to the input of a suitable D.C. amplifier, in whose output circuit the indicating instrument (milliammeter) is connected.

The response of barrier-layer cells and photo-emissive cells varies widely with the wave-length of the incident radiation and the composition of the sensitive surface; it is therefore necessary to choose a cell having a suitable spectral characteristic for the measurements involved. The copper-oxide barrier-layer cell has a spectral sensitivity very different from that of the eye (Bowen, 1942b), and is therefore unsuitable for direct measurement of ultra-violet radiation. It can, however, be so used in conjunction with a suitable fluorescent screen, which converts the incident ultra-violet radiation to a longer wave-length within the range of sensitivity of the cell (Bowen, 1942d). Cadmium or sodium photo-emissive cells, on the other hand, have suitable characteristics for direct measurement of ultra-violet radiation. Of these types, the cadmium cell, having optimum sensitivity between 2,500 A.U. and 3,000 A.U. (Bowen, 1942c), is the better suited for measurement of therapeutic activity; it must of course be provided with a quartz window, since glass is opaque to wave-lengths of this order.

Description of Apparatus Examined

Three practical methods of measurement were compared against a standard kindly lent for the purpose by Mr. E. J. Bowen, F.R.S., of the Physical Chemistry Laboratory, University of Oxford. These were: (i) Weston double photovoltaic U.V.L. meter; (ii) Weston single photovoltaic cell U.V.L. meter; (iii) E.M.R.U. cadmium photo-emissive cell meter.

The standard apparatus used was a Jeffree spectrophotometer; this comprises a monochromator, a sodium cell, and an electrometer. Two drums calibrated in wave-length (range 2,200 A.U. to 6,000 A.U.) control the position and width of the monochromator slit, thus passing any desired line or band of wave-lengths within the stated range. A quartz-windowed sodium photo-emissive cell is connected in circuit with a quadrant electrometer and a suitable source of H.T. (about 160 volts); a variable resistance of 50,000 ohms permits adjustment of the electrometer to zero. The electrometer scale and needle are illuminated by an internal lamp and viewed through a microscope eyepiece. A switch is provided which short-circuits the input to the electrometer; the latter is adjusted to zero with the switch closed. To make a measurement the radiant source is placed at a suitable known distance from the receiving-plane of the instrument, the wave-length drums are adjusted to the desired band, and simultaneously a stop-watch is started. The watch is stopped when the electrometer needle has moved a convenient number of divisions. The electrometer is so calibrated that its scale-reading represents the number of gramme-molecular quanta of radiation per square centimetre received during the time period measured by the stop-watch; hence to compute gramme-molecular quanta per sq. cm. per second the scale-reading is divided by time in seconds. A simple calculation converts gramme-molecular quanta to microwatts.

(i) The Weston double-cell meter was lent by Messrs. Hanovia, Ltd., and is understood to be the standard used in their works laboratory. It comprises two photovoltaic cells and a microammeter; the cells are connected in opposition through a balancing control in such a manner that the potentials generated by them may be balanced until the meter reads zero. A switch provides two ranges of sensitivity. One cell is furnished with a fluorescent screen whose function is to convert ultra-violet radiation into visible light of longer wave-length, to which the cell is sensitive. A detachable clear-glass filter, transmitting visible light but cutting off the shorter ultra-violet wave-lengths, is also provided. In use, both cells are first screened by the glass filter, and the meter is adjusted to zero by means of the balancing control. Thus all radiation (visible and long U.V.) transmitted by the filter is effectively cancelled out. The filter is then removed; one cell, being unresponsive to U.V., will be unaffected, while fluorescence of the screen of the second cell will increase its output, deflecting the meter. A calibration chart is provided, which relates scale-reading with incident energy in microwatts per sq. cm.

(ii) The Weston single-cell meter was also lent by Messrs. Hanovia, and is the pattern carried by their service engineers for checking the efficiency of ultra-violet lamps at the user's premises. It comprises a single photovoltaic cell and microammeter; in appearance it resembles the well-known Weston photo-electric photographic exposure-meter. The cell is screened by a dark-purple filter, opaque to visible light, which presumably is backed by a fluorescent screen; it was not possible to investigate this in detail, since it would have entailed dismantling the instrument, which was not permissible in the circumstances of the loan. A calibration chart is provided which claims to relate scale-reading with minimum perceptible erythema time, while other charts indicate the scale-readings to be expected from various types of commercial ultra-violet-light sources when fully efficient.

(iii) The cadmium-cell apparatus was developed by the Electro-Medical Research Unit, Royal Air Force. It comprises an Osram quartz-windowed cadmium photo-emissive cell, type U.D.G. 7, having maximum spectral sensitivity in the 2,500–3,000 A.U. range; it is insensitive to visible and long ultra-violet radiation. This type of cell was selected on the recommendation of Mr. Bowen as most suitable for measuring the important therapeutic wave-lengths. Its output is fed to a single-stage direct-coupled amplifier, in whose output circuit an indicating milliammeter is bridge-connected; a balancing control is provided for zero adjustment. The whole is operated from A.C. supply mains via a self-contained power pack providing rectified, smoothed, and voltage-stabilized H.T.

Test Results

Throughout the following tests the supply voltage was maintained constant at 230 volts, A.C. 50 c/s.

Weston Double-cell Instrument.—This instrument was compared with the Jeffree standard. A quartz mercury-vapour arc tube was used as source, and comparative measurements were made, first with the bare source, then through filters isolating 3,340–2,895 A.U. and 2,650–2,537 A.U. (Bowen, 1942e). Throughout, the Jeffree standard was adjusted to cut off wave-lengths above 3,200 A.U. The agreement found, when both series of measurements were reduced to microwatts per sq. cm., was reasonably close; it was concluded that the absolute calibration of this instrument was satisfactory, and, of far greater importance, its response to radiation longer than 3,200 A.U. was small. Such a double-cell metre may therefore be regarded as providing an entirely satisfactory means of measuring the therapeutic content of the radiation from ultra-violet sources.

Weston Single-cell Instrument.—An initial test was made by Mr. Bowen at the Physical Chemistry Laboratory, Oxford. The instrument was placed in the full light of a quartz mercury-vapour arc tube, at such a distance as to produce a scale-reading of 50°. A clear glass plate, cutting off the shorter U.V. wave-lengths, was then interposed; the reading fell to 35°. Since the built-in dark-purple filter transmits little visible light, the residual reading of 35° must be chiefly due to the powerful but relatively inactive 3,650 A.U. line. It is known that short-wave production by a quartz mercury-vapour arc tube deteriorates more rapidly with use than long-wave production, hence a measurement which includes a large proportion of 3,650 A.U. radiation may give a misleading impression of the extent to which deterioration has occurred.

At Mr. Bowen's suggestion tests were carried out with a small series of new and deteriorated tubes; comparative measurements were made with the Jeffree and Weston instruments, the Jeffree instrument being adjusted to accept all radiation between 3,200 and 2,200 A.U. The deteriorated tubes were lent by Messrs. Hanovia, and were stated to show signs of 600–800 hours' use.

For simplicity in comparison, the indications of the Jeffree instrument were reduced to a "figure of merit" for each tube; the time required to produce a given deflection of the Jeffree electrometer is inversely proportional to the intensity of the incident flux, hence the reciprocal of the time is proportional to the intensity. The figure of merit shown in Table I was calculated on this basis, and was finally so adjusted (by multiplying by a constant) that a new arc tube chosen at random is rated at 10.5, corresponding to the indication of the Weston instrument.

TABLE I

	New Tube	Old Tubes			
		A	B	C	D
Jeffree	10·5	4·0	4·2	4·0	4·0
Weston	10·5	5·5	5·0	6·0	5·0
Discrepancy, % ..	—	+37	+19	+50	+25

These figures tend to confirm the view that the single-cell Weston instrument responds to wave-lengths over 3,200 A.U., since the meter indication falls off less rapidly than the 3,200–2,200 A.U. incident flux intensity. This is further borne out by the calibration figures provided with the instrument, which connect scale-reading with M.P.E. time; the inverse relation is non-linear, the M.P.E. time increasing more rapidly than the scale-reading diminishes. Allowance must therefore be made for this factor in interpreting the indications of the instrument.

E.M.R.U. Photometer.—A series of measurements similar to those described under (ii) above were carried out with the E.M.R.U. cadmium-cell photometer. The results are given in Table II; for ready comparison the Jeffree "figure of merit" has been adjusted to agree with the E.M.R.U. meter indication in the case of the new tube.

TABLE II

	New Tube	Old Tubes			
		A	B	C	D
Jeffree	12·5	4·8	5·0	4·8	4·8
E.M.R.U.	12·5	4·5	5·5	5·0	5·0
Discrepancy, % ..	—	−6	+10	+4	+4

It will be seen that the agreement is close, confirming the value of the cadmium cell for the measurement of the therapeutic band of ultra-violet wave-lengths.

Conclusions

The Weston double-cell photometer provides an entirely satisfactory means of measuring therapeutic ultra-violet light, and is extremely portable.

The Weston single-cell photometer has the advantage of lower cost, but responds to some extent to non-therapeutic wave-lengths.

The E.M.R.U. cadmium-cell instrument provides a satisfactory alternative to the Weston double-cell photometer where extreme portability is less important.

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ANTI-M ISO-AGGLUTININS IN HUMAN SERUM

BY

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The blood-group agglutinogens M and N were discovered in 1927 by Landsteiner and Levine, using rabbit immune sera. In contrast to the agglutinogens A and B, with their naturally occurring agglutinins α and β, no anti-M or anti-N antibodies are normally present in human sera. Further, the M and N agglutinogens are practically devoid of antigenic properties in man, and thus, as the transfusion of blood containing M or N does not give rise to iso-immunization against either factor, M and N can be disregarded in choosing blood for transfusion. To date only two instances of immune anti-M agglutinins have been recorded in human sera (Wiener and Forer, 1941; Wiener, 1942). In addition to these two examples Wiener (1943) cites five other instances of anti-M agglutinins in human sera, all of which are presumed to be of natural occurrence and not of immune origin. A single example of anti-N agglutinins in human serum was described by Singer (1943), but this case was not well substantiated.

In view of the rare occurrence of anti-M agglutinins—only seven out of hundreds of thousands of human sera tested by workers all over the world—it seems worth while putting on record the finding of another example. The serum in which this irregular agglutinin was found was detected during a serological examination of 60 patients who had suffered from a degree of toxaemia in pregnancy severe enough to require admission to hospital. For each patient the ABO blood group, MN type, and Rh factor were determined, and the serum was inactivated for half an hour at 55° C. and tested by titration against a panel of Group O cells of various M, N, and Rh types at 37° C., room temperature, and 4° C. A control of the patient's own cells was included.

The patient, Mrs. J. B., belonged to Group O Type N, Rh-negative (rr). When it was shown that her serum contained an irregular antibody she was asked to report back to hospital and bring as many members of her family as possible so that a further sample of blood could be obtained from her and the cells of her children and husband tested. Unfortunately the husband and first child were not available. The obstetric history and blood groups tested are as follows: (1) 1931, full-time, male, normal; (2) 1936, full-time, male, normal, Group O, MN, Rh-positive (R_1r); (3) 1938, premature, neonatal death; (4) 1940, full-time, female, normal, Group O, N, Rh-positive (R_1r). Mrs. J. B. has never received a blood transfusion.

Serological Examination

When freshly withdrawn the serum gave no reaction with any of the cells at 37° C. At 4° C. it agglutinated all the cells, including the patient's own, apparently from the action of a non-specific cold agglutinin. When the cell-serum mixtures were allowed to warm from 4° C. to room temperature it was noted that agglutination disappeared from the tubes containing the patient's own cells and those which lacked agglutinogen M, whereas all the cells containing M substance remained clumped. Accordingly the non-specific agglutinin was removed from the serum by absorption in the cold, leaving the whole blood overnight at 4° C. and next day separating the serum in the cold. Thereafter the serum gave specific reactions with cells containing agglutinogen M, irrespective of their Rh type, the results corresponding with those given by several anti-M rabbit immune sera. The titre of the treated serum against MM and MN cells was 1/16 at 4° C. and 1/4 at room temperature. It failed to react with the fourth child's cells, and in an extended investigation did not agglutinate any Rh-positive cells of type N—i.e., anti-Rh agglutinating antibodies were absent. These findings were confirmed by Dr. Race at the Galton Laboratory, Cambridge, to whom samples of blood were submitted.

Tests for incomplete or blocking anti-Rh antibodies were also entirely negative.

Comment

The finding of an irregular iso-agglutinin in the serum of an Rh-negative individual tempts one to consider that it may have originated through iso-immunization in pregnancy, since it is known that it could not have arisen as a result of blood transfusion. This possibility is strengthened by the occurrence of a neonatal death (third pregnancy), although there is no proof that this was due to haemolytic disease caused by the action of the irregular agglutinins (anti-M) in the maternal serum. In relation to this possible explanation it is noteworthy that the next child's cells do not contain agglutinogen M and are therefore compatible with the maternal serum; this would account for the absence of haemolytic disease in the fourth child even in the presence of maternal iso-immunization to agglutinogen M. It is difficult to suppose, however, that if iso-immunization to M substance had arisen in a Type N Rh-negative woman from a pregnancy in which the foetus carried both M and Rh factors there would not have been simultaneous production of anti-Rh. In Wiener and Forer's case (1941) of iso-immunization by transfusion the Rh-negative Type N individual developed both anti-Rh and anti-M agglutinins. The frequency of anti-Rh antibodies arising from pregnancy or transfusion as compared with the rarity of anti-M agglutinins indicates that the Rh factor is usually a better antigen in man than the M substance. Since the children and mother all belong to Group O the antigenic qualities of Rh have the optimum conditions in which to exercise their effect, for it is recognized that iso-immunization to the Rh factor is more frequent when the pregnancy is homospecific for ABO groups than when it is hetero-specific (Race, Taylor, Cappell, and McFarlane, 1943; Plaut, Barrow, and Abbott, 1945; Wiener, 1945). The fact that the fourth child, who is Rh-positive, did not suffer from haemolytic disease practically excludes maternal iso-immunization to the Rh factor as the cause of the loss of the third child, because once haemolytic disease has affected an Rh-positive child of an Rh-negative mother no subsequent Rh-positive child escapes haemolytic damage. If, therefore, iso-immunization to the Rh factor has failed to occur it is reasonably certain that the irregular anti-M agglutinin in this patient's serum is of natural rather than iso-immune origin.

Summary

A case is reported of anti-M agglutinins in the serum of an Rh-negative patient, and reasons are advanced for regarding it as of natural occurrence.

The work described in this paper was carried out under the supervision of Prof. D. F. Cappell, then Director of the East of Scotland Blood Transfusion Service, and I would like to thank him for his interest and criticism.

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Medical Memoranda

Treatment of Chilblains by Paravertebral Sympathetic Block

In an article by Morris (1942) on the treatment of thrombophlebitis by paravertebral sympathetic block it was suggested that the condition is alleviated by the reduction of arterial and venous spasm, particularly the former.

Having a number of cases of severe chilblains which had resisted the usual forms of treatment, such as the administration of calcium orally and intramuscularly, I wondered whether a paravertebral block might not relieve and even cure the symptoms. On theoretical grounds it seems probable that in cases of defective circulation in the limbs the cold atmospheric conditions give rise to arterial and venous spasm. The spasm results in suboxygenation of the tissues, which of itself gives rise to further vascular spasm. This vicious circle is broken by the sympathetic block, and the circulation is restored to normal. Once having been restored it remains normal for a considerable period. Again on theoretical grounds, it would seem likely that the relief of the spasm by a short-acting local analgesic should not outlast the duration of analgesia, but in the following series this has not proved to be the case.

METHOD

The technique used is a slight modification of that summarized in M.R.C. War Memorandum No. 13 (1944). The analgesic employed has been amethocaine 1/1000 plus adrenaline, the effect of which lasts about two and a half hours. An hour before the injection the patient is given a hypodermic injection of morphine gr. 1/4 or 1/6. With the patient sitting, a 10-cm. needle is inserted four fingerbreadths from the midline at an angle of 40° to the sagittal plane at the level of the interval between the second and third lumbar spinous processes. It is pushed forwards and medially until it strikes the lateral aspect of the vertebral body. It is then withdrawn a little and re-inserted until it comes to rest in contact with the antero-lateral aspect of the vertebral body. It is pushed forward a further 1 cm. The stylet is withdrawn to make sure that the needle has not perforated a vessel. 20 c.cm. of the amethocaine–adrenaline solution is injected, and almost immediately there is a feeling of warmth in the ipsilateral lower limb. This feeling persists for the period during which the analgesic is effective. I have not yet attempted to use alcohol—first, because of fear of inaccurate placing of the solution; and, secondly, because it has not been necessary.

Of the eight cases treated six have proved to be cured throughout the whole of the winter months. The two most interesting cases were those of women, both of whom were deputizing for their husbands in butchers' shops as a war measure. After one injection these women were able to return to work in the shop with no discomfort, although cold and snowy weather persisted on and off for several weeks afterwards. Another patient was very neurotic and was unable to sit still while the injection was given. One woman recorded a certain degree of analgesia of both legs, obviously due to inaccurate placing of the solution; but it passed off after two hours, and a lasting relief of her chilblains followed.

The technique of the injection is not difficult to acquire after a little practice, and the results are so good for such a long period that it is well worth the time required to perfect it.

My experience suggests that there is a field for further investigation, not only in the treatment of chilblains but in other conditions where defective circulation appears to be due to vascular spasm.

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Acute Haemolytic Anaemia due to Sulphonamide Administration

The following case illustrates well the acute and dangerous nature of this rare complication of sulphonamide administration—two-thirds of the patient's blood being destroyed by haemolysis in two days. The remarkably quick and complete recovery after cessation of sulphonamide administration and after blood transfusion is also typical.

CASE RECORD

On the evening of Sept. 11, 1944, a South African air mechanic aged 22 sustained minor second-degree burns of both legs from a petrol fire. He dressed himself with gentian violet and did not report sick until morning, when he was admitted to hospital. On admission his temperature was 100° F. His burns were cleaned with saline, dead skin was removed, and flavine in saline was applied. They were then lightly dusted with sulphanilamide powder and dressed with vaselined gauze. In view of his temperature he was put on a course of proseptasine (benzyl-sulphanilamide) by mouth also (1 g. 4-hourly). From then on, his clinical course was as follows:

Sept. 13.—Perfectly comfortable. Temperature normal.

Sept. 14.—Feeling rather miserable. Slight headache. Temperature 99.2° in evening.

Sept. 15.—Complained of feeling very weak, headache, and pains in both loins of a dull aching character. Complete loss of appetite. His burns were re-dressed in the morning as he complained of pain in the legs; they were perfectly clean. (Dressed with flavine—dusted with sulphanilamide powder—vaselined gauze.) Early in the afternoon he passed a quantity of urine which was deep red in colour and translucent. At the same time it was noticed that his conjunctivae were yellow. *Pathological reports* were:—(i) Urine: Alkaline; albumin +++; few leucocytes; few epithelial casts; bile, *nil*; alcoholic amidopyrine test, ++++. (ii) Blood (slide only): A marked poikilocytosis and anisocytosis, and polychromasia of the red cells; a few megaloblasts and normoblasts; no malaria parasites. Administration of proseptasine was stopped as soon as the haemoglobinuria was noticed. He had by then received a total of 17 g. in 3 days, plus a small amount of sulphanilamide locally on the burns (estimated at approximately 3–4 g.).

Sept. 16.—Temperature 100° F.; pulse 88. Felt very ill. Marked anorexia and nausea. Obvious icterus—lemon-yellow colour. Pains in loins + +, and tender on palpation over kidneys. Spleen and liver not palpable. Urine still a deep-red colour. Treatment: Fluids + + +; sod. bic. 30 gr. 4-hourly; burns were re-dressed to wash away all trace of local sulphanilamide; burns clean. Full Blood Examination:—R.B.C., 2,280,000 per c.mm.; W.B.C., 36,000 per c.mm.; Hb (Sahli), 55%; C.I., 1.2. Red cells: Anisocytosis, poikilocytosis, polychromasia of severe degree; megaloblasts and normoblasts in great numbers. White cells: polymorphs, 70%; monocytes, 10%; lymphocytes, 20%; no eosinophils or basophils seen. During the afternoon he was finding it difficult to drink enough fluid on account of nausea and occasional vomiting, so he was given 3 pints of fluid (glucose-water 2 pints, glucose-saline 1 pint) intravenously.

Sept. 17.—Symptoms exactly the same as on the 16th; felt very weak and looked very yellow. Urine: Alkaline; very deep red colour—translucent; few red cells; few leucocytes, no casts; alcoholic amidopyrine test, + + + +; albumin, + + + +. Blood: Hb, 32%; Group O (IV). In view of the haemoglobin level a transfusion was considered necessary. During the afternoon he was given two pints of Group IV blood by slow drip, followed by one pint of glucose-water. After the first half-pint of blood he suddenly felt much better and began to talk cheerfully.

Sept. 18.—Much better. Appetite returning. Still slight icterus of conjunctivae. No tenderness over kidneys—no pain in loins. Morning urine—light-red colour; afternoon urine—clear. Blood (afternoon): Hb, 37%; W.B.C., 13,900 (polymorphs 68%, lymphocytes 25%, monocytes 7%); R.B.C., 2,300,000 per c.mm. Red cells: Cells improved in appearance—poikilocytosis, etc., much less; very few normoblasts and megaloblasts seen (much fewer than in last film).

Sept. 19.—Felt well and cheerful, though still weak; appetite normal. Urine: Clear; alkaline; albumin, faint trace. Sugar, *nil*; no blood or casts; few leucocytes only.

A final blood examination, made on Sept. 22, was as follows: R.B.C., 2,910,000; Hb, 58%; C.I., 1.0; W.B.C., 23,000 (polymorphs 74.5%, lymphocytes 20%, monocytes 5%, eosinophils 0.5%); no megaloblasts, normoblasts, or myelocytes seen. Fragility: normal—haemolysis in 0.3% saline.

His further clinical course was uncomplicated, and he was discharged back to duty five days later.

This man had never previously been ill, and was quite certain that he had never been given sulphonamide drugs before. It is regretted that no further investigation could be made, as the case occurred in a mobile field hospital of the R.A.F. on active service.

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Duodenal Atresia in a Newborn Infant

Successful treatment of this condition is, I believe, uncommon; the following case may therefore prove of interest.

Case History

The baby, a male, was born on May 26, 1945, in the Royal Maternity Hospital, Belfast. The weight at birth was 8 lb. 2 oz. There were two previous children, both normal and healthy. On the first day he vomited fluid which was viscid and stained with bile. The vomit was projectile in character and was more severe on the following day. Meconium was passed on the third and fourth days, and as the vomiting was still more pronounced a barium-meal examination was made. This showed almost complete gastric retention at four hours.

The baby was transferred to the Belfast Hospital for Sick Children, its weight having fallen to 6 lb. 4 oz. There was some distension of the upper abdomen, and increased gastric resonance was noted on percussion. The general condition was fairly good, although dehydration was obvious. It was decided to attempt gastro-enterostomy, and dehydration was combated by subcutaneous infusion. Laparotomy was performed (Mr. J. S. Loughridge), when it was found that the stomach and first part of the duodenum were much dilated. There was a good deal of matting of the small intestine by adhesions. The caecum was freely mobile and was situated in the mid-abdomen. A side-to-side gastro-enterostomy was done between the stomach and jejunum. The operation time was 35 minutes.

Apart from considerable shock after operation, progress was uninterrupted. Thirst was relieved by half-normal saline by mouth, and next day breast milk was given by means of a Belcroy feeder. On the fourth day success was assured, and a gain in weight of 10 oz. was recorded. The baby was discharged home on the seventh day after operation. Progress has been uninterrupted, a steady gain in weight being reported.

I wish to express my thanks to Dr. F. M. B. Allen and Mr. J. S. Loughridge, under whose care the infant was, for permission to publish these notes.

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Reviews

SURGERY OF THE HAND

Surgery of the Hand. By Sterling Bunnell, M.D. (Pp. 734; illustrated. 72s.) London: J. B. Lippincott Company.

Dr. Bunnell's remarkable book is the outcome of a life devoted to one special field of surgery, and it is a brilliant achievement. Most people accept their hands without any thought of the amazing complexity of their mechanism or of what a deformity or an injury may mean. To most surgeons this book will be a revelation.

The author has attacked his subject with massive thoroughness. Starting with the study of comparative anatomy, he then discusses the normal mechanism of the hand and methods of examination in great detail, and these chapters are ingeniously followed by a chapter on the reconstruction of the hand to restore its normal mechanism. The correction of deformities, whether due to contractures of the soft structure or to abnormalities of the bones, is then discussed. There follows a chapter on the repair of injured nerves, evidently the result of wide experience, and the author then takes up the even more difficult problem of the repair of tendons and of the intrinsic muscles of the hand. A large section follows devoted to the mechanism of injuries and to infections of the hand and their modern treatment, and the volume ends with a discussion on congenital deformities and of neoplasms.

So far as we are aware no book has ever been produced dealing with such thoroughness with injuries of the hand, and certainly none which so impresses upon one the vast importance of this subject. The author seems to deal with nerve injuries, deformities, and infections with equal facility, and perhaps the chief attraction of the book is that it so obviously all arises from his own experience. It is impossible to give any idea of the vast amount of detail which he has brought together, or of the minuteness with which the most complex procedures are described, but so thorough are the descriptions that any competent surgeon will be able to carry out in his own practice every operation. The illustrations throughout are superb, whether they are photographs or diagrams to explain minute points of detail. We would congratulate the author on a magnificent achievement, and urge any surgeon who ever has to operate on a hand to make his own the vast experience recorded in this volume.

MICROBIAL ANTAGONISMS

Microbial Antagonisms and Antibiotic Substances. By Selman A. Waksman. (Pp. 350; illustrated. $3.75.) New York: The Commonwealth Fund. 1945.

To see penicillin in correct perspective it is necessary to understand that it is only one, though therapeutically the most useful, of many similar substances formed by micro-organisms. That antagonism between different species is expressed in the formation of such substances has been recognized since the earlier days of Pasteur's work. For a broad conspectus of this phenomenon, long neglected in its wider aspects, and now exciting the liveliest interest, we can recommend Selman A. Waksman's new book, *Microbial Antagonisms and Antibiotic Substances.* The author is microbiologist to the New Jersey Agricultural Experimental Station; he has done important work in identifying antibacterial substances produced by *Actinomycetes,* and is largely responsible for popularizing the use of the word "antibiotic." He almost reconciles one to its use by contrasting "antibiosis" with symbiosis, these being two opposite forms of mutual relationship which mixtures of microbic species may exhibit in Nature. The subject is approached by way of the flora of soils and water and the competitive or antagonistic interrelationships which exist between the species found there. Methods of isolating and testing antibiotic substances are then described, following which there are accounts of those produced by bacteria, *Actinomycetes,* and fungi; the numbers of these hitherto identified are given as 11, 7, and 15 respectively, but it need scarcely be said that besides these adequately studied and characterized products there are believed to be many others. Other chapters deal with the chemical nature of these products, their mode of action, and their practical application for the control of disease in both animals and plants. There is an extensive bibliography (1,016 references given in full) and two indexes are provided, one being confined to the names of micro-organisms.

This survey, apart from its value as a scholarly treatise on a subject of great importance, seems almost to introduce a new philosophy into microbiology. Viewed as a series of warring tribes, our microbic friends and enemies seem more human—if such an expression may be used—and a good deal more vulnerable, than we had thought.

TELEPATHY AND THE GROUP MIND

Telepathy. An Outline of its Facts, Theory, and Implications. By Whately Carington. Second edition. (Pp. 176. 12s. 6d.) London: Methuen and Co. 1945.

Largely as a result of very careful experiments by such workers as Dr. Rhine and Dr. Soal, telepathy, clairvoyance, and precognition have been shown to be fit subjects for scientific research. In the words of Dr. Thouless, "the evidence for the reality of the phenomenon is now so overwhelming that scepticism can only be justified by ignorance of the experimental results." It is not so much that the sceptical feel called on to boggle at the results as that they find them impossible to fit into any reasonable theory. It is greatly to the credit of Mr. Carington, who has himself done some notable experiments, that he has evolved a theory which, though incompatible with a purely materialist philosophy, is a truly scientific one in that it can itself be tested by experiment.

Most of the worth-while experiments have been of the card-guessing type, in which high proportions of successes have been obtained despite extreme precautions to prevent any normal communication between experimenter and subject. Possible explanations by a "sixth sense" or by "wireless waves" can apparently be excluded. It makes no difference to success whether experimenter and subject are separated by the wall of a room or by a range of mountains. Mr. Carington suggests that we should not look for explanation along such lines at all. He proposes the theory that the sensa and images which are our minds are to some extent independent of physical processes in the brain, and are not wholly independent of the sensa and images which are the minds of other people. So that if A and B are presented together to the mind of Smith, not only will A be subsequently likely to call up by a process of association the image of B when it is presented to Smith, but also when it is presented to Brown. Similarly, when the experimenter in a card-guessing experiment turns up a certain card this card is associated in his mind with the idea of the experimental situation, and the subject, who is placed in the same situation, has a more than chance probability of associating with it the image of the same card. The laws of association may then be expected to obtain; and in fact there is some evidence that the laws of recency and repetition do hold good.

This leads Mr. Carington to a discussion of the group mind. He points out that minds which hold a great deal of their sensa and images in common may be especially favourably constituted for telepathic communication. One could suggest, for instance, testing this by having husbands and wives, or, better, uniovular twins, as experimenter and subject. Groups of people who lead very similar lives, such as primitive tribes, would be expected to be more liable to telepathy than civilized groups; and in the case of some animals, such as shoals of fish or armies of ants, it would not be surprising if the evidence for a group mind were still stronger.

This is an extremely interesting and, though often highly speculative, a thought-provoking book.

OTO-RHINO-LARYNGOLOGY

Diseases of the Nose, Throat and Ear. A Handbook for Students and Practitioners. By I. Simson Hall, M.B., Ch.B., F.R.C.P., F.R.C.S.Ed. Third edition. (Pp. 459; illustrated. 15s., plus 9d. postage.) Edinburgh: E. and S. Livingstone. 1944.

A third edition of this book is evidence of its popularity with those students who require a general though necessarily superficial survey. Dr. Simson Hall states that the subject-matter has been thoroughly revised and brought up to date, but it is not easy to find confirmation of this. Chemotherapy is relegated to an appendix instead of being incorporated in the text at the appropriate places; nor is a proper appreciation of either its status or its limitations attempted; and the magic word "penicillin" does not appear at all. By no means all the errors of the previous editions have been eliminated. For instance, the manipulation described for the introduction of the Eustachian catheter could not possibly induce it to enter the orifice of the tube, and the strengths of cocaine in solution recommended are much greater than necessary and not without hazard. At present the indications for the fenestration operation for otosclerosis and other forms of deafness are certainly unsettled, but are the cause of much interrogation both of practitioners and of otologists; yet the author gives no guidance, though he is admittedly one of the few in Great Britain entitled to speak with authority on the subject. Useful as the book surely is, the author has still not made full use of the opportunity for instruction which such a textbook provides.

Notes on Books

Mr. Aleck Bourne's *Synopsis of Obstetrics and Gynaecology* has now reached its ninth edition (Bristol: John Wright and Sons; 21s.). There have been many changes, both of addition and of omission. This book is, as before, an attempt to present facts to the student in a precise manner and thereby give him a foundation for building up his own experience. As the author says in his preface, "During our younger years we must learn facts. . . . No book, least of all a synoptic book, can replace attendance in the clinics."

Dr. J. G. Baumgartner's book *Canned Foods: An Introduction to their Microbiology* was highly commended in these columns on Aug. 7, 1943. A second edition is now published by J. and A. Churchill Ltd. at 12s. 6d. Among various changes from the original text there is a new chapter summarizing some of the literature on the microbial condition of marketable tinned food and indicating briefly the practical aspects of this matter. A number of methods useful in the bacteriological control of such foods have been added, and these, together with raw-material tests, form the subject of another chapter. In its present expanded form the book will prove even more helpful to medical officers of health and sanitary inspectors, and to public health and industrial bacteriologists.

A ninth edition of J. M. Lowson's well-known *Textbook of Botany*, revised and largely rewritten by Dr. W. O. Howarth and Dr. L. G. G. Warne, of the Department of Botany in the University of Manchester, has been published at 12s. 6d. by the University Tutorial Press, Ltd., Clifton House, Euston Road, N.W.1. The text has been brought up to date to conform with modern ideas, modern teaching methods, and examination requirements, and many illustrations have been drawn for this edition by Miss M. W. M. Jepson, a skilled botanical artist.

John Wright and Sons Ltd. have published at 5s. a 23rd edition of *Our Baby: for Mothers and Nurses*, by the late Mrs. J. Langton Hewer. The booklet (now in its 223rd thousand) has once again been revised from the medical point of view by Dr. Margaret Scott-Brown, with the aim of leaving Mrs. Hewer's fundamental doctrine unchanged while bringing the material into line with modern ideas.

Rebuilding Family Life in the Post-War World, edited by Sir James Marchant, with an introduction by Lord Horder, was noticed in a leading article on Aug. 25 (p. 258). In addition to the 2s. paper-bound edition a 3s. 6d. edition is now available in cloth boards. The publishers are Odhams Press, Ltd.

We have received from the Sterling Hall of Medicine, New Haven, Connecticut, the fifth annual report of the Historical Library of Yale University School of Medicine. This includes a review of the first five years by Dr. J. F. Fulton, chairman of the Advisory Board. Six years have elapsed since Harvey Cushing's death, and in that interval there has been ample opportunity to see the wisdom of his plan for combining his books with those of his friends in the hope of building up at Yale a library on the history of medicine and science that would be second to none.

In view of the acute shortage of nurses, the Minister of Health has been in consultation with the Minister of Labour and National Service and the Service Ministers with regard to arrangements for the early release from H.M. Forces of individual State-registered nurses on account of their special qualifications or to fill key positions in the civilian health services. It has been agreed that where the Ministers of Health and of Labour are satisfied on the application of an employing authority that the early release of a particular nurse is desirable, on the ground that he or she is needed either for a key position or for a vacancy requiring the possession of a special qualification which cannot otherwise be filled, the Service Ministers will consider release under Class B, assuming that the nurse is willing to accept such release.

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CARBON MONOXIDE POISONING

The danger of carbon monoxide has existed since fire was known to man. It is a colourless and odourless gas which arises from the incomplete combustion of carbonaceous matter. The introduction of coal-gas for domestic use and the invention of the internal combustion engine in the last century have heightened the risks. At present carbon monoxide is a popular suicidal poison, besides being a serious industrial hazard; it is, in fact, the cause of between one-half and one-third of all the reportable gassing accidents in factories in Great Britain: 226 cases were reported in 1941, with 239 in 1942 and 225 in 1943.[1] The risk exists in many industries, but blast furnaces and gas-producers account for nearly a quarter of the cases. In the chemical industry the manufacture of ammonia by the Haber and Bosch procedure, the synthetic production of methane and methanol, and the manufacture of soda with the Le Blanc process are the principal hazards, though charcoal burners and carbide workers may be exposed to risk. In the mining industry the main hazards result from fire-damp explosions, but the gases of explosives sometimes contain high concentrations of CO, so that blasters may be heavily exposed. Workers in the clothing, ceramic, and electrical industries, besides linotype operators, chimney sweeps, firemen, boiler-cleaners, cooks, and bakers, may become exposed, as well as workers in the motor industry—for instance, in garages and repair shops.

A full review of the literature of the hazards of carbon monoxide and of the mechanism of its action has now been published by von Oetlingen.[2] The gas possesses the property of combining with the haemoglobin of the red blood cells to cause chemical asphyxiation. The amount of carboxyhaemoglobin formed depends on the concentration in the atmosphere, the duration of exposure, and the respiratory rate of the person exposed. An increase in the temperature, humidity, and carbon dioxide content of the air, or a decrease in the oxygen content, however, will stimulate respiration and hence the amount of CO absorbed will be increased. The formation of carboxyhaemoglobin causes a corresponding reduction in oxyhaemoglobin, but the toxic effects are not entirely due to the anoxaemia brought about by this reduction in the oxygen-carrying power of the blood. The oxygen supply to the tissues is further reduced, because carboxyhaemoglobin interferes with the dissociation of oxyhaemoglobin, besides causing a reduction in the available reduced haemoglobin and in this way interfering with the carrying and dissociation of CO_2. Carbon monoxide may also react with other haem-containing pigments such as pseudo-haemoglobin, myoglobin, or cytochrome, but it is not certain whether the function of these pigments, or of those found in the brain, is affected by the poison. The early symptoms of poisoning include giddiness, a sense of oppression in the chest, a band-like feeling of constriction round the head, nausea, and throbbing of the heart; then follows loss of power in the lower limbs, and the patient falls helpless and loses consciousness. With concentrations of carboxyhaemoglobin below 20% the symptoms are negligible. They increase between 20 and 50%, while with concentrations between 50 and 80% there is danger to life from respiratory paralysis and cardiac failure.

Polycythaemia not infrequently results from CO poisoning, but this phenomenon is not merely an attempt of the organism at compensation. Hartridge[3] pointed out the slow return to normal values and argued against a temporary hyperactivity of the blood-forming organs, while Brieger[4] produced in a dog permanent polycythaemia which persisted more than a year with red blood cells 40% above the original level and haemoglobin 30% above it. Barcroft[5] has shown that the increase in circulating blood cells may be due to a contracture of the spleen, and Dittmar,[6] among others, has suggested that the phenomenon is due to a central mechanism possibly resulting from injury to the corpus striatum. Polycythaemia, therefore, should be considered as an alarm signal. Analysis of the clinical picture and of the pathological findings in CO poisoning, especially in the circulatory and central nervous systems, appears to indicate that the sequelae are more serious than would be expected from mere anoxaemia of similar degree. These include headache, chest symptoms, coldness of the extremities, psychoses which are mostly of a depressive kind, prostration, and loss of vitality; while more remote effects are paralysis, loss of memory, hallucinations, and dementia.

The treatment of carbon monoxide gassing must be directed to the restoration of normal breathing and the abatement of shock. The patient must be removed immediately from the contaminated atmosphere and artificial respiration started; the essential need is for oxygen to overcome the decreased oxygen-carrying power of the blood and to promote the dissociation of carboxyhaemoglobin. Cold and physical exertion should be avoided. Venesection, lumbar puncture, catharsis, and intravenous injections of hypertonic solutions may be considered when hyperaemia and oedema of the brain appear. Morphine and atropine must never be used. The former is a depressant of the respiratory centre, while the latter causes dilatation of the bronchioles, interfering with the elimination of CO through the lungs. As with all industrial accidents, however, prevention is much more important than treatment, and this can be achieved by insisting on proper lay-out and maintenance of plant and adequate safety precautions—such as the erection of warning notices, and the provision of safety belts and breathing apparatus. Service respirators are not proof against CO, but special breathing apparatus has been manufactured consisting of the usual type of Service face-piece connected to a length of strong wire-embedded air-piping, the free end of which is secured in the fresh air. There are several methods for detecting and estimating CO in the atmosphere. The oldest makes use of mice or canaries, which resemble human beings in their response to it. Taken into a confined space in a cage and kept under observation by the workers, they will show signs of distress if dangerous fumes are present and the place needs to be evacuated. Several proprietary instruments are also available; they make use of the reaction with either palladium chloride or iodine pentoxide, and though convenient do not indicate concentrations of less than about 50 parts in 100,000 of air.

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[1] Memorandum on Carbon Monoxide Poisoning. Factory Department—Ministry of Labour and National Service. Form 827. H.M.S.O., 1945.

[2] *Public Health Bulletin*, No. 290, 1944, U.S. Public Health Service.

[3] *Lancet*, 1928, **1**, 1137.

[4] *J. industr. Hyg.*, 1944, **26**, 321.

[5] *J. Physiol.*, 1925, **60**, 79.

[6] *Dtsch. med. Wschr.*, 1939, **65**, 500.

Is there such a thing as chronic carbon monoxide poisoning? It depends how one interprets the word "chronic." Chronic poisoning usually means the repeated or continued administration of small quantities of a poison resulting finally in toxic symptoms. Manifestly, however, there are circumstances in which "repeated mild acute" poisoning and "chronic" poisoning amount almost to the same thing. There is no evidence that CO as such, or in combination with other compounds, remains in the tissues for any considerable period of time, and so far there is no evidence that concentrations of CO which cause no acute subjective or objective symptoms will affect any structures of the organism in such a way as to lead to functional or permanent injury. The methods available for measuring small amounts of carboxyhaemoglobin have not so far been very sensitive, but it is hoped that with the development of new and accurate spectrophotometric methods it will be possible to establish how long CO absorbed by a man during an eight-hour work-shift remains in the tissues. On the whole, the reported clinical signs and symptoms of "chronic" carbon monoxide poisoning are indefinite and not characteristic; headache, vertigo, weakness and ataxia of the legs, and psychic manifestations are those most often mentioned. Lewey and Drabkin[7] have reported some experiments in which dogs were exposed for 5½ hours a day, 6 days a week, for 11 weeks, to an atmosphere containing 0.01 vol. % of carbon monoxide, which caused a carboxyhaemoglobin level of 20%. This concentration was chosen because the U.S. Department of Labour, following a report by Bowditch and his colleagues,[8] had set 0.01 vol. % as the limit of safe concentration of CO in the air in industrial plants. All the dogs showed consistent disturbances of postural and position reflexes and of gait, and some an abnormal electrocardiogram[9] characteristic of anoxia. Histological examination of the central nervous systems three months after the end of the experiment showed changes in the cortex and white matter of the cerebral hemispheres, in the globus pallidus, and particularly in the basal ganglia. They followed in their distribution the course of the blood vessels, the walls of which were damaged only occasionally. The implications of these findings with respect to chronic CO poisoning in man are uncertain, but it is clear that repeated prolonged exposure to 0.01 vol. % of carbon monoxide is not innocuous for the heart and central nervous system in dogs. There is need, therefore, for work to clarify the situation in man, and to establish whether chronic CO poisoning does or does not exist.

SURGICAL SCIENCE IN ENGLAND

The Scientific Report of the Royal College of Surgeons of England for the year ending July 31, 1945, not only is a record of the work in the scientific departments but contains many indications of the future policy of the College in regard to these departments. Perhaps the most important new development has been the inauguration of lecture courses in anatomy, applied physiology, and pathology, to which is being added a course of lectures on surgical topics by prominent surgeons. The College appears to have taken the first step towards becoming a postgraduate teaching institution. Whether it will go further and link up its teaching in the medical sciences with a university remains to be seen. The Goodenough report suggests that institutes for postgraduate education should be either departments or schools of universities. The advantages to be derived from a close liaison between the College and the University of London are too many to be lightly dismissed.

With the appointment of Prof. Wood Jones to the Collins chair of anatomy the three departments of anatomy, pathology, and experimental surgery have each a head. The report suggests that in anatomy and pathology the primary duty of the heads of these departments is to rebuild the museum collection. It is to be hoped that sufficient staff will be given to these departments to ensure that the time of the heads of them will not be occupied exclusively by museum work. These departments can do much to advance knowledge and to disseminate it. The College Museum is the obvious place to become the repository of a national type collection of tumours. The experience in this field of its professor of pathology would make such a collection unique within a very few years. It is most encouraging to note the great number of accessions to the museum collections of anatomy and pathology. When it is remembered how many young surgeons, always strong supporters of the College Museum, are still on national service, the year's total of new specimens is a good augury for the future.

The brief summary of the work in the research laboratories during the war years emphasizes the importance of patient work on some fundamental theme out of which develop inevitably lines of attack on diverse problems. Starting with the observation that infusions of plasma after the cessation of haemorrhage caused blood dilution to reach an upper limit after which further dilution was not observed in spite of continued plasma infusion, this led to experimental work which showed that the plasma proteins infused are not retained in the blood stream but move out of it at a relatively rapid rate once the normal blood volume has been attained. In a series of experiments the mobility of some of the body proteins was demonstrated and the ability of these to move into the blood stream under suitable conditions was proved. The steps which led to a study of protein synthesis in the liver in healthy animals and in patients suffering from one or other of the various hepatic diseases are set out in detail in the report. The great increase in protein destruction consequent on any trauma has been noted by many observers. Destruction also occurs in hepatic diseases such as acute infective hepatitis. The work on hepatic disease by the laboratory staff has provided many valuable clues to the causes of nitrogen loss after injury, and it is to be hoped that these will be followed up. Nothing is more disheartening to a patient than a slow convalescence. War experience, in which the College laboratories shared, has demonstrated how recovery can be speeded up and healing accelerated when the feeding of patients after injury or operation is tackled on scientific lines. The few observations recorded in the report which were made in Holland by the laboratory staff after the liberation of that country whet the appetite for the full report of this work. Cessation of the healing process under conditions of acute protein deprivation is an interesting observation and raises many problems worthy of study. The report of the laboratories ends most appropriately by posing several questions on the problem of protein breakdown after trauma: "Is the breakdown an essential process in the initiation of repair, or is it merely the effect of trauma? The breakdown process when brought to a halt or slowed down because of extreme emaciation is coincident with a cessation of healing. If we regard the processes of repair as being but a special case of growth it is possible that the hormones essential for growth of the immature animal are equally essential in repair."

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[7] *Amer. J. med. Sci.*, 1944, **208**, 502.

[8] *J. industr. Hyg.*, 1940, **22**, 251.

[9] Ehrich, W. E., Bellet, S., and Lewey, F. H., *Amer. J. med. Sci.*, 1944, **208**, 511.

OCULAR SIGNS OF ARIBOFLAVINOSIS

Much confusion still exists concerning the ocular signs of ariboflavinosis, or riboflavin deficiency. After the publication in 1940 of the observations of Sydenstricker and his colleagues[1] on the ocular manifestations of this condition, circumcorneal injection and corneal vascularization were accepted as certain diagnostic signs and used in nutrition surveys as an index of riboflavin nutrition. On the basis of ocular signs the incidence of ariboflavinosis has been reported as high as 99.5%[2] and as low as 3%[3] in the subjects examined. The incidence reported seems to depend on whether the observers were ophthalmologists—and therefore conversant with the appearance of the limbus under different conditions and with the different kinds of corneal vascularization—or not. The ophthalmologists report a low incidence of ariboflavinosis based on ocular signs. Bessey and Wolbach[4] in 1939 showed that the earliest detectable sign of ariboflavinosis in rats is corneal vascularization. Since then some observers have extended this to include circumcorneal injection, or engorgement of the limbic loops. Others have not discriminated between this and ciliary congestion, and between an engorged limbus and an actual invasion of the cornea by new vessels.

Is circumcorneal injection pathognomonic of riboflavin deficiency? Stannus[5] has examined between four thousand and five thousand eyes by slit-lamp microscopy, and has seen both corneal vascularization and circumcorneal injection without any evidence of ariboflavinosis. The vessels of the limbic plexus may appear avascular because they are constricted and empty. The slightest stimulus may cause them to become congested and engorged. This occurs in all varieties of conjunctivitis, in those whose eyes are exposed to heat and dust, cold wind, bright light, and mild infection. It may also result by just rubbing the eye,[6] and may come and go in the same individual with considerable rapidity. Engorgement of the limbic vessels is, therefore, not a sure sign of ariboflavinosis, which should be diagnosed only when new capillaries are observed budding from the apices of the limbal loops and extending on to the cornea. Even then the change should be present in both eyes and round the whole corneal circumference, and it should respond rapidly to treatment with riboflavin. Corneal vascularization may also occur in the absence of ariboflavinosis. Thus it has been noted as a result of vitamin-A deficiency, tryptophane deficiency, injury to the corneal epithelium by chemical irritants, and diseases such as trachoma, phlyctenular keratitis, and any superficial keratitis. The instillation of soap solution into the conjunctival sac may also cause collapsed, afunctional blood vessels in the cornea to become engorged.

Ida Mann[7] has recently recorded a new type of corneal lesion due to riboflavin deficiency. The cornea shows marginal vascularization and opacities in the substantia propria. The vascularization, which is distinctive and differs from that hitherto described, is in the form of parallel, radially arranged loops springing from the apices of the loops of the limbic plexus and extending over the cornea in three arcades beyond this, slightly more than half-way to the pupil margin. The vessels, which are so engorged that they stand out from the surface, are mostly subepithelial, although in the region of the opacities they penetrate the substantia propria. They extend all round the circumference of the cornea. This is probably a true manifestation of ariboflavinosis, as the engorged vessels rapidly empty and the opacities clear after treatment with riboflavin.

RECURRENT PAROXYSMAL ABDOMINAL PAIN

Transient acute abdominal pain affecting an apparently healthy person is often difficult to explain; if the symptoms are of short duration, and if operation is clearly contraindicated, precise diagnosis may be impossible. From time to time, however, little groups of cases are separated from the mysterious majority, and the number of the unexplained grows gradually less. Attacks of abdominal pain have long been known in subjects of erythema and of purpura; fifty years ago Osler[8] wrote of the visceral complications of the "erythema group," and the acute abdominal manifestations of Henoch's purpura have been recognized for even longer. Siegal[9] has now attempted to distinguish in a separate clinical category an acute affection similar to the abdominal accompaniments of erythema and purpura but free from florid cutaneous eruption. According to Siegal this syndrome is characterized by recurrent paroxysms of severe abdominal pain, diffuse and cramp-like or localized and gnawing. The attacks are said to begin as a rule in the second or third decade, and they continue for many years without affecting the patient's general health. Early attacks may be noted only once or twice a year, but later a more frequent cycle is established, the pain recurring weekly or monthly. The temperature rises during an attack, sometimes to 104° or 105° F. Nausea, vomiting, and diarrhoea may occur; the abdomen is tender, the abdominal muscles may be spasmodically contracted, and rebound tenderness is sometimes elicited. There may be pain in the chest, too, and sometimes shoulder pain; prostration may be extreme, and the white count is high.

One of Siegal's patients was submitted to laparotomy during an acute attack of pain, and the subserous vessels of the ileum, caecum, and sigmoid colon were seen to be congested. From this evidence, and from the abdominal tenderness and rebound tenderness which are present during acute attacks, Siegal suggests that the name "benign paroxysmal peritonitis" be applied to the condition until the aetiology and pathogenesis are better understood. There is still room for argument whether the existence of this syndrome as a distinct entity is justified, and whether, if it is justified, Siegal's title for it is suitable. But Siegal goes further, and suggests, though only tentatively, that the abdominal symptoms are due to allergy. A family history of allergy was elicited in the majority of cases, and urticarial wheals were occasionally observed during acute attacks, but positive allergic reactions were seldom elicited in affected individuals. In no case was any allergen proved capable of initiating an attack, and the hypodermic administration of adrenaline gave no relief from pain. That acute abdominal symptoms may accompany urticaria and angioneurotic oedema is certain, and there is no reason to doubt that some forms at least of paroxysmal abdominal pain may be allergic in origin, even if unaccompanied by cutaneous manifestations. It would be wrong, however, in any individual case to ascribe acute abdominal symptoms to hypersensitization unless clear evidence of allergy were obtained. The only certain proof would be the precipitation of an attack of pain by the administration of the responsible allergen. If Henoch's purpura be excepted no precise account yet exists of an abdominal syndrome which, from the abdominal evidence alone, can be regarded as characteristic of, and peculiar to, the allergic state; it is equally doubtful whether the abdominal symptoms of frankly expressed allergy are due to peritonitis.

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[1] *Publ. Hlth. Rep. Wash.*, 1940, **55**, 157; *J. Amer. med. Ass.*, 1940, **114**, 2437.
[2] *Canad. med. Ass. J.*, 1943, **49**, 5.
[3] *British Medical Journal*, 1943, **2**, 134.
[4] *J. exp. Med.*, 1939, **69**, 1.
[5] *British Medical Journal*, 1944, **2**, 103.
[6] Ibid., 1943, **2**, 134; *Lancet*, 1944, **1**, 431.
[7] *Amer. J. Ophthal.*, 1945, **28**, 243.
[8] *Amer. J. med. Sci.*, 1895, **110**, 629.
[9] *Ann. intern. Med.*, 1945, **23**, 1.

HUMAN LISTERELLOSIS

Listerella or *Listeria monocytogenes,* so called because of the blood picture associated with it, was first identified by Murray, Webb, and Swann as the cause of an epizootic among laboratory rabbits at Cambridge. Since then infection by this organism has been recognized in various other animals, and 23 cases of human infection have been reported. These are reviewed by M. M. Kaplan,[1] together with 13 earlier cases almost certainly of the same nature, although the organism in the then state of knowledge was merely described as a diphtheroid bacillus. All 36 patients suffered from one of two conditions—a meningitis with a high mortality, or infectious mononucleosis. The most recent case of the latter type was fully described by Webb[2] himself. The patient was a medical student with typical infectious mononucleosis, including a heterophile agglutinin titre of 1 in 2,048. The organism was cultivated from the blood, and shown by exhaustive examination to be a true *List. monocytogenes*; the only element of doubt in these findings was the absence of the agglutinin for the organism itself in the patient's blood after recovery. It is by no means accepted that *List. monocytogenes* is even a common cause of infectious mononucleosis; the few reported cases in which it has been found suggest only that further search for it should be undertaken. As Kaplan points out, there are other mysteries connected with this organism: neither its natural habitat nor the portal of entry is known, and it is a striking fact that no carrier has ever been identified, either human or animal. Infection in newborn infants nevertheless suggests transmissibility from an unrecognized human source. Both the experimental and the human disease respond to sulphonamides, but the organism is insensitive to penicillin. Only a condition which may be described as "Listerella consciousness" among clinical bacteriologists will enable knowledge of this interesting infection to be extended. Whenever pathogenic activity is attributable to a short thin Gram-positive bacillus exhibiting motility, it may be worth while to inoculate a rabbit intravenously: a sublethal dose produces an extreme mononucleosis, and the main result of fatal infection is the production of focal necrosis, most marked in the liver but also found in the spleen and lungs.

EFFICIENCY OF ULTRA-VIOLET APPARATUS

In another column will be found a paper by Fl. Lieut. B. C. Elliott on the efficiency of ultra-violet-light apparatus which may, at first sight, appear too technical for the majority of the medical profession. The paper has, however, aspects of clinical importance, and the conclusions reached, based as they are on well-proved scientific facts and careful experiments, should be known to every practitioner who employs ultra-violet light either himself or by prescription. Reduced to simplest medical terms Elliott's paper poses three questions: (1) Do ultra-violet lamps deteriorate with use to any important degree in the output of therapeutic biological rays? (2) Is the apparatus used for testing during manufacture efficient as a means of ensuring that the necessary biological rays are present in apparatus sold to the public? (3) Is the testing apparatus commonly used for servicing an efficient means of measuring those biological rays? The author answers the first two questions in the affirmative and the third in the negative. It will be well, therefore, to examine these questions and answers from the clinical point of view. An ultra-violet lamp which deteriorates in the most potent of its therapeutic rays more rapidly than in other parts of the spectrum can, clearly, lead to false clinical impressions of its efficiency as a therapeutic agent. Elliott's researches were directed to the production of a simple portable testing outfit, the sensitivity of which was maximum for the more therapeutically valuable rays. During the course of his investigations the laboratory testing apparatus of one of the largest manufacturers was submitted for investigation and found to be fully efficient. This by itself is a comforting thought, and means that care and scientific precision are exercised before new models are sold to individuals or the trade. But when he came to look into the servicing side and the efficiency of second-hand models he found a completely different state of affairs. The apparatus provided for use during servicing is of a type that can give a misleading picture of deterioration in the biologically active part of the spectrum. The author has not found it possible to comment on the apparatus of other manufacturers than the one who holds a virtual monopoly in ultra-violet lamps for therapeutic purposes. For example, the type commonly known as the cold quartz ultra-violet lamp does emit the biologically active rays, but its usual output in comparison with the new electronic mercury vapour tubes is relatively poor. He has designed, with the help of Mr. E. J. Bowen, F.R.S., of the Nuffield Physical Chemistry Laboratory, Oxford, an easily operated, robust, portable testing apparatus, which takes into consideration all the necessary medical desiderata, and it has been checked over a long period against high-precision apparatus.

The lessons to be learned from Elliott's paper are therefore that all therapeutic ultra-violet lamps should be serviced at regular intervals and that the testing should be carried out only with apparatus approved by an impartial body such as the National Physical Laboratory. It behoves us, therefore, to ensure that deterioration of such apparatus is not mistaken for clinical inefficiency.

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[1] *New Engl. J. Med.*, 1945, **232**, 755.
[2] *Lancet*, 1943, **2**, 5.

LESSONS OF WARTIME EXPERIENCE

[From a Correspondent]

Those of us who have served as medical officers in tropical theatres of war may at times have envied our brethren in Europe the superior facilities for work which they enjoyed. But to the physician at least medicine in the Tropics offers interest, variety, and an insight into the large-scale problems which can hardly be obtained elsewhere. It is a mistake to think of tropical medicine as being exclusively concerned with "tropical" diseases. These there are in plenty, but as well as, not instead of, the more familiar illnesses of temperate climates. There is danger, now that the war has ended so abruptly, lest we shut the door on the experiences of the past, forgetting alike failures and successes in a pleasant glow of self-congratulation. It will be a pity if we do not try to profit by what we have learned, for the problems are far from solved.

The lesson which was perhaps most firmly driven home was the real meaning of hygiene and sanitation. The British Armies operating in the Middle East, Africa, India, and S.E.A.C. were for the most part surrounded by populations at a very low standard of Western culture. In all these theatres some, and in many of them the greater part, of the troops for which British medical officers were responsible were recruited from Asiatic or African races. The average British officer or soldier can be very unreceptive of the elementary principles of hygiene, but at least he has been accustomed to good health standards at home. Many of the Asiatic and African troops have never known any such standards, while at some points measures of Western hygiene conflict with their social or religious prejudices.

Particularly in S.E.A.C. it was obvious that merely to treat disease was not enough. The problem was one of prevention. Though there is nothing new in this—it is a principle that has been reiterated over and over again by Army authorities and appears in every manual—it was by no means effectively applied. The figures published for 1943–4—roughly, 300,000 sick and 40,000 battle casualties—tell their own story. If the figures for 1944–5 are published they will probably show a marked improvement, at least in the figures for sickness. If this is so we should attribute the improvement to the vigorous application of three measures—the use of suppressive mepacrine against malaria, the use in forward areas of sulphaguanidine against dysentery, and the general use of D.D.T. against flies. There was, however, no new knowledge available in 1944–5 that was lacking in 1943–4. All that did happen was that supplies were at length made available to the theatre which probably needed them most sorely from the start, and that vigorous efforts were made by administrators to obey their own rules.

Scrub Typhus and Amoebic Dysentery

Neither mepacrine, sulphaguanidine, nor D.D.T., however, is likely to affect the two medical problems which, after malaria and bacillary dysentery, are the most serious—scrub typhus and amoebic dysentery. For an effective weapon against scrub typhus we have had to wait for the fruits of new knowledge in the shape of an effective vaccine. Sulphaguanidine has no counterpart in the treatment of amoebic infections and, despite the proved value of emetine in the acute stages in visceral amoebiasis, cure is uncertain, relapse frequent, and disability may be prolonged. But amoebic dysentery is preventable. Complete preventive measures, of course, were impossible for a division cutting its way along the valleys leading to the Chindwin, but an enormous gain would have been a diminution in the number of cases arising on the lines of communication, which picked off officers and men before ever they reached the fighting zone, or while they were travelling to or from leave and rest areas, or indeed in these areas themselves. The physician may be excused a little bitterness as he realized that the real answer to the crowded dysentery ward was not the drugs which were often in short supply, but properly fly-proofed latrines, clean and fly-proofed cookhouses, cooks trained and disciplined in hygiene, and control of railway stations and such restaurants as were accessible to the troops. An appeal to the D.A.D.H. usually found a man even more frustrated and harassed than the physician. Shortage of supplies, lack of trained personnel, and the impossibility of getting the sappers to do the work with the materials and labour at their disposal largely stultified his efforts. Such shortages, naturally, affected other things besides cookhouses and latrines. One hospital, working at capacity for nine months, had no ablutions for patients. The well was sunk and the pipes laid, but no pump was available.

Problems of Nutrition

Medical officers in the European theatres have had the opportunity, no doubt, of observing malnutrition in many different aspects. In the Middle East it was rare among the troops, although classical scurvy, pellagra, and xerophthalmia were seen in a camp of Libyan prisoners. In S.E.A.C., however, several manifestations of malnutrition appeared. It is arguable that some diet scales were inadequate, but everyone knows that all the items laid down on the scale do not always reach all the troops, and when supply is by air, as so often it was, it is inevitable that shortages and maladjustments should occur. Anorexia, sore tongue, diarrhoea (not that of sprue), and anaemia were common among many British troops evacuated while, and immediately after, Kohima and Imphal were besieged. Nutritional macrocytic anaemia was seen in African and Indian troops. Here again there was no lack of knowledge—the relevant biochemical facts were known and taught well before the war—but there were failures of supply, accentuated in the case of Indians by dietary customs which are only slowly breaking down. One could not help feeling at times that the official mind was beset by the fallacious belief that a diet approximating that to which the sepoy or the askari was accustomed at home was suitable for him under severe campaigning conditions. A moment's thought will dispel such a view. In very many cases he suffers at home from definite malnutrition, for which he pays with a heavy morbidity and mortality, while his output of work, mental or physical, is low. On active service he is expected to put forth the most severe physical efforts and to perform quite unaccustomed mental feats. For example, East Africans with only quite elementary education were turned into signallers, gunners, drivers, and quite good nursing orderlies. The question should be, not to how many calories and to how much protein have these people been accustomed, but how much do they need to do what we require of them?

Materials for Prevention

The Fourteenth once called itself the "Forgotten Army." That its members were forgotten by their friends was never true. That it received little publicity was true but immaterial. That it was starved of supplies of all kinds, including medical supplies, was a truth for which it had to pay a heavy price. It was short, too, of certain categories of soldiers. At one level there were far too few men capable of supervising the constructional work necessary to make proper hygiene possible, with the result that civilian contract labour of a most unsatisfactory type was employed. At a much higher level there were officers with large administrative responsibilities who had insufficient grasp of the problems involved and lacked the drive required to overcome the obstacles of formalism and vested interest standing in the way of improvement. That improvement behind the fighting zone was possible was shown by the comparatively high standard of hygiene achieved by the many fighting units operating under far worse conditions but under vigorous and able commanders.

Meanwhile the problems have not been conjured away by VJ-Day. Troops will inevitably remain in India and in S.E.A.C. for some time, and it is no less desirable to keep them out of hospital now than when fighting was still in progress. Once a man is admitted to hospital, treatment is surprisingly good in view of the difficulties. The chief problem is to prevent him from becoming a hospital case. It is not more hospitals or more medical officers that are required. The latter will remain impotent and frustrated in the face of conditions which they are powerless to alter. In fact, given more transport and some efficient clerical assistance (at present it takes an hour's hard writing to discharge ten patients from hospital) many medical officers could be released. What is required is a better supply of timber, wire gauze, water pipes, and all the material needed to construct hygienic camps, together with the necessary labour. Above all, there are needed in non-medical senior administrative officers a realization of the magnitude of the problem and a determination to solve it. There is a wider problem still. The majority of the world's population lives at appallingly low hygienic levels. Many thousands of them, Africans and Indians in particular, have given to Britain loyal and devoted service for the past five years. Many have died in battle, many more have suffered severe sickness. Distress is world-wide, but these people have a special claim on us. It is true that their economic advancement is essential to any great improvement in health. Besides economic advancement, however, there is needed what medicine alone can give—a real awareness of, and interest in, their problems and an effort, through medical education, to create on the spot the necessary medical services.

EUROPEAN HEALTH PROBLEMS

THE WORK OF U.N.R.R.A.

A meeting of the Royal Sanitary Institute on Dec. 5 was addressed by Dr. ANDREW TOPPING, Director of Health, European Region, United Nations Relief and Rehabilitation Administration. After giving some account of the early troubles of U.N.R.R.A. and defending it from uninformed criticisms, Dr. Topping gave a brief outline of the nutritional position in each country.

Possibility of Famine

The probability of serious malnutrition and the possibility of famine, Dr. Topping said, were the most disturbing features of the European situation. There was reasonable hope that after-war pestilence would, for the first time in history, be averted, but only food in its widest sense would avert starvation. Food reserves were meagre or non-existent, almost everywhere and transport and fuel for transport in short supply. He entered one caveat, however. It was human nature for each country to picture its plight in the grimmest colours, and one must look askance at reports from any country unless checked by impartial observation. In U.N.R.R.A. they were fortunate to have Dr. Sydenstricker, of Georgia, a nutritional expert of world-wide reputation and an extremely sensible man, who went to Paris in January of this year, where he had facilities for examining adults in factories and children in schools in the poorest quarters, and his report was that there was no evidence of serious malnutrition among them and that they could go on for at least six months under the same conditions. That was at variance with the stories current at the time. Again, quite a number of countries disdained staple articles of diet which we in this country had had to put up with during the war—margarine, for example, and soya flour.

Alone of the countries overrun by Germany, Denmark had a fair prospect of adequate diet from her own resources. In Belgium the position was reasonably good, thanks to the strong measures of successive Governments and the fact that the country was small and had seaports. The Dutch people before the war were probably the best nourished in Europe, but just previous to liberation they had a severe starvation period, and it would take them some time to recover nutritional health. Norway was worse off than Holland, for it had very little agricultural land; its fishing fleet, however, had got going again. In France the official rations continued low, with less than 10 g. of animal protein daily for each person. In Italy much rickets was reported among children of poor families, but nutrition in Italy had always been on a low level.

The situation in Greece was most serious, though not nearly so bad as in 1941, when people were actually dying in the streets and nearly all the children had famine oedema. The chief difficulty was in bringing together the producing and the consuming areas; some communities were isolated. In Yugoslavia the situation was very much as in Greece, but the people were extremely self-reliant. The worst nutritional conditions were going to arise in Germany and Austria, where in some cities the present system of food distribution would not suffice to protect the population against the gradual danger of starvation. In Berlin and the Saar the present diet for the normal consumer was 1,000–1,200 calories a day. In the Saar the children were reported to be listless, pot-bellied, and markedly under weight. In the Ruhr the situation was rather better. Germany had an extremely fine agriculture, and the fertility and tidiness of the fields struck him in the early autumn, but the slave labour had now been taken away, the *Wehrmacht* had not returned to the land, and it had been laid down that the Germans must live this winter on a scale very near famine level while the food they produced had to feed the armies of occupation and displaced persons. There was no justification for the sob-stuff that "these wicked Germans are faring better than ourselves."

The Epidemic Situation

Dr. Topping next turned to the epidemic situation, repeating the statement made the previous week by Dr. George Stuart, head of the Epidemiological Intelligence Department of U.N.R.R.A., and recorded in the *Journal* of Dec. 8 (p. 809). The typhus position, he said, was the surprise of epidemiology. Typhus and starvation were concomitants of war, but while there was going to be starvation there was not going to be typhus. In October, 1943, at Naples, for the first time in the history of a typhus epidemic, it stopped suddenly before the seasonal stage at which it would ordinarily decline. This was due to D.D.T. on a large scale and the searching out of contacts and segregation of cases. In Bosnia, one of Europe's notorious epidemic foci, the American Typhus Commission had done extremely good work. Plague was causing some worry in the Mediterranean littoral. In Taranto there had been 26 cases with 12 deaths. The authorities in the Dalmatian and Greek ports were on the look-out for any extension. Typhoid fever on the Continent ordinarily ran a milder form than in Britain, but with the smashing up of water supplies a severe epidemic had occurred in Berlin, though the latest information was that it was under control. Diphtheria was the chief epidemic disease of the war, and in Germany the incidence was rising. Of a large influenza epidemic there was no sign. Tuberculosis had increased in every country, and most markedly in Greece. A mass miniature radiography examination of 500 cadets, ordinarily a healthy group of the population, revealed evidence of active or quiescent infection to nearly 20 times the extent that would be expected in this country.

Finally Dr. Topping paid a tribute to the action of local authorities in Great Britain in releasing men from their public health departments to serve in Europe. U.N.R.R.A. had 379 doctors and 435 nurses in Germany to-day. It also used, of course, so far as possible, the doctors of the different countries themselves. The Germans, when they brought in their slave labour, were careful to bring doctors with it, and so in every assemblage of displaced persons there was a reasonable number of trained or half-trained medical or nursing personnel. He made it clear that U.N.R.R.A. was not operating among the Germans in Germany, nor was it operating at present—though a demand was expected—in Austria. But it was responsible for the hard core of displaced persons, numbering some one and a half millions.

L.C.C. NURSING RECRUITMENT

The London County Council, the largest hospital authority in the English-speaking world, requires immediately 2,500 nurses and 1,600 domestic workers for its hospital service. Lord Latham, the leader of the Council, stated at a meeting at County Hall that the Council welcomed very warmly the new hospital codes recently issued under the aegis of the Minister of Health, the Secretary of State for Scotland, and the Minister of Labour. The codes were already in operation, he said, in the 87 hospitals of the L.C.C.

A recruiting centre for nurses and hospital domestic workers has been opened at County Hall. Representative staff councils are already operating in some of the hospitals, and will soon be set up generally to ensure the free expression of the views of the staffs on matters affecting working efficiency, and general well-being and comfort. Lord Latham claimed that the L.C.C. had been a pioneer in respect of many of the new proposals, notably in the employment of women orderlies to relieve the nursing staff of domestic work.

At the same meeting Mr. Reginald Stamp, chairman of the Hospitals and Medical Services Committee, mentioned that the nurses have separate room accommodation in the nurses' homes, and that notwithstanding the prevailing shortage a 96-hour fortnight is in operation in all but four of the hospitals. It is increasingly the policy to permit the nurses to live out when they wish, and it is hoped that the General Nursing Council will consider whether student nurses, at present required to live in hospital, may not live at home while in hospital employment. The L.C.C. employs 500 male nurses, and men demobilized from the Forces are said to be joining this service in a steady flow. About 150 part-time women nurses are engaged, and the hospitals are doing what they can to enable this class of worker to carry out her hospital service while discharging her domestic obligations. The question was asked as to when the Rushcliffe salary scales would come into force, and the reply was given that this was imminent, and that the latest date would be April 1, 1946. It may be added that the L.C.C. hospitals accommodate about a quarter of a million in-patients a year; 50,000 operations are performed annually; 20,000 births—37% of the whole of the births in London—take place in Council hospitals and institutions; and the number of out-patients approaches one million.

LONDON COUNCIL OF SOCIAL SERVICE

The report of the London Council of Social Service for the year 1944–5 has been published from 7, Bavley Street, Bedford Square, W.C.1. It reviews the work up to the close of hostilities in Europe and outlines plans for the period of transition to peace. The report welcomes the increase of social provision by the State, which, it says, is "in tune with the spirit of the age," but it claims that statutory services need the initiative and enthusiasm of the citizen and voluntary groups, and sets out as a primary purpose of the Council the promotion of partnership at all levels between the public services and the voluntary agencies.

Surveying the everyday work of local councils of social service, the London Council's report pays tribute to their adaptability, resource, and skill in meeting the many emergencies of war, but stresses the need for an effort to rid some councils for an "odd-job mentality," and to enable them to become real centres for local study, planning, and co-operative social action. The London Council itself is rapidly developing into a centre of information and advice for individuals and organizations concerned in the promotion of community centres. The Council is convinced of the potential value of community associations and centres, but thinks that the working out in practice of a policy for their general provision will need careful guidance.

On problems relating to the welfare of old people, the Council has contact with work in 41 boroughs, of which 21 have old people's welfare committees. These committees are regularly supplied with literature relating to old people's homes, welfare schemes, and clubs, and have the advisory services of the London Council at their disposal. The Council is in touch with 47 communal restaurants managed by voluntary bodies; 25 of these restaurants extended their services during the past year to assist men working on bomb damage repairs.

The London Council, in association with the Charity Organization Society, supervises the work of the citizens' advice bureaux in Greater London. From 1940 to the close of the European war more than one and a half million inquiries were dealt with at advice bureaux working under the Council. In the last year the number was 343.801. The report pays tribute to the men and women who came from the Provinces to help in London bureaux during the worst of the flying-bomb attacks, at which time the bureaux worked at full stretch.

PORT HEALTH SAFEGUARDS

While the International Sanitary Conventions are principally concerned with what are known as the "Convention" diseases—namely, plague, cholera, yellow fever, typhus, and smallpox—the new Convention of 1944, with an eye to the circumstances of the immediate post-war period, requires Governments to inform U.N.R.R.A. of outbreaks in their territories of other infectious disease which might constitute a menace as between different countries. It is difficult to foresee whether any epidemic disease, not being one of the "Convention" diseases) might occur in this country in proportions menacing to other countries, and the prospects of such an occurrence may be remote, but the Minister of Health has thought it well to include in the draft Port Health Amendment Regulations, 1945, a provision which would enable preventive measures to be taken in an infected port against the spread of the disease to other countries. Where the port medical officer of health finds a person to be a contact of one of the "Convention" diseases he can at present place the contact under "surveillance," by which is meant that the contact proceeds to his home or other place of destination, but that during the period of possible incubation the local M.O.H. can make inquiries as to his state of health and, if necessary, medically examine him. The new Convention allows Governments, if they think fit, to require a contact who is under surveillance himself to report periodically to the local M.O.H. In the amended Regulations the Minister has not seen his way to introduce the latter system as a measure of general application, but power is reserved by which such a requirement could be imposed at a particular port or ports with the Minister's authority. The new Convention permits of isolation as an alternative to surveillance in the case of unprotected smallpox contacts from an infected ship. A restricted provision for this is made in the draft Regulations where the port medical officer considers that there is an exceptionally serious risk of smallpox being introduced.

The regulations (and the corresponding ones for Scotland) do not involve any basic change in the general procedure of port health authorities. Vessels arriving from foreign ports, however, will have to complete a revised form of declaration of health. New provisions also affect vessels that have called at one or more United Kingdom ports. The wartime ban on the transmission by wireless of health conditions on board incoming ships has been lifted by the Admiralty, and this will help port health authorities to make prompt arrangements for preventing the spread of ship-borne infections.

Nova et Vetera

BENJAMIN RUSH, 1745–1813

"Medicine is my wife and science my mistress"

The Sydenham of America; the American Fothergill; the American Hippocrates; the patron saint of American psychiatry; the hero-physician of the Philadelphia plague; the most distinguished physician America has produced; the great patriot whose signature follows that of Benjamin Franklin on the Declaration of Independence; treasurer of the U.S. Mint; founder of the American Anti-Slavery Society—these are some of the many confused and almost legendary associations which crowd upon the commemorative mind on the two-hundredth birthday (Dec. 24) of this dynamic and picturesque personality. Each association is like a frame, large enough to hold a separate painting of the man, each a record of giant energy and often of true greatness.

The same apostolic vehemence which animated his politics dictated Rush's medical and social crusades. He raised his voice against the evils of strong drink, advocating establishments for the cure of alcoholism, urged penal reforms, and sponsored advanced education for women. He loved to tread untrodden paths, for he saw far in advance of his age. But the permanence of his fame rests essentially on his medical achievements.

A keen and accurate observer and an inveterate note-taker, Rush was one of the first to emphasize the association between infected teeth and arthritis. His descriptions of focal sepsis and of cholera infantum are among the classic texts of medicine. His excursions into psychiatry have won him the affectionate title "Father of American Psychiatry," even though his classification and theories of mental diseases, and many of his therapeutic measures, have long since grown obsolete. He gave the first comprehensive course in psychiatry in America, and his *Medical Inquiries and Observations upon the Diseases of the Mind,* published the year before his death, was the first American textbook on that subject. He stressed the value of occupational therapy, hydrotherapy, and music, and was a pioneer in the humane treatment of mental patients. Rush was one of the most ardent bleeders in the history of medicine, and ironically his death is alleged to have been hastened by injudicious bleeding. Like many men of genius he was a victim of tuberculosis.

It is difficult to come to grips with Rush's unadulterated personality, since this was compounded of so many conflicting and incongruous elements: religious zeal, culture, charm, intolerance, stubbornness, tactlessness, aggressiveness, conceit. An individualist always, he made admirers, friends, and enemies with equal ease. An elegant and forceful speaker with a beautiful voice, a magnetic teacher, and a felicitous writer delighting in classical allusions and entertaining anecdotes, like Sir James Paget he had so disciplined himself that in the buzz of household noises he could read or write with perfect concentration. Naturally dignified in appearance, with a long thin face, high forehead, aquiline nose, firm mouth, and piercing eyes beneath heavy brows, Rush dressed with fastidious care and elegance. W. R. B.

Reports of Societies

SENSE AND SENSIBILITY IN THE TREATMENT OF CANCER

In the Section of Surgery of the Royal Society of Medicine on Dec. 5 Mr. ERNEST FINCH delivered his presidential address, which, with apologies to the shade of Jane Austen, he entitled "'Sense and Sensibility' in the Treatment of the Cancer Patient," following upon Sir Alfred Webb-Johnson's Bradshaw lecture in November, 1940, which was entitled "Pride and Prejudice."

Mr. Finch began by saying that, with the exception of cardiovascular disease, cancer was the chief cause of death in this country, the Dominions, and the United States. In England and Wales in 1941 there were 68,974 deaths from cancer, 61,814 of them being from carcinoma. Every year 7,000 women died of breast cancer. After outlining the provisions of the Cancer Act, 1939, which had passed into legislation almost unnoticed during the preoccupations of these years, he drew attention to some figures published by the Ministry of Health in 1939 showing that in a sample of 3,303 cases, 2,420 (73%) had gone untreated. It was estimated that for every proved case of cancer there were five or six sufferers. Patients were not diagnosed early enough and the treatment given—the first treatment being all-important—was not always adequate. The cancer patient should receive treatment only from physicians, surgeons, and specialists of the required degree of training and experience. Not sufficient use was made of past experience, and experiences were not pooled as they should be. One statistical inquiry had shown that between 80 and 90% of five-year cures of the disease was obtained if treatment was afforded in the early stage. The need was for a regional centralized organization. Methods of standardizing treatment by dividing cancer into various stages had proved unsuccessful; each case must be individually studied. The treatment should be assessed by the surgeon, physician, radiotherapist, and pathologist on a consultative basis, with the biochemist and biophysicist ready to afford any necessary assistance. The co-operation of the patient and his friends must also be obtained and maintained to the end. This was the ideal which he had termed "sense and sensibility."

Enlightenment of the Community

Education both of the community and of the medical profession, Mr. Finch continued, was necessary. Here he referred to the methods of propaganda and education employed in the United States and in some of the Dominions. The objection had been made to some of the public advertisements and leaflets that they were likely to create cancer-dreading neurasthenics, but figures which he showed suggested that they had been effective. One apparent result was that an increasing number of people sought the help of the diagnostic clinics on a slight suspicion of something abnormal, instead of only when the disease had reached a more advanced stage. Thus in Georgia in 1937 the proportion of those visiting the clinics who were found to have a definite malignant disease was 81.2% whereas in 1942, after these methods had begun to operate, the proportion was only 59.5%. It was claimed that in the United States as a result of the education of the community the average period of delay by the patient in consulting the doctor after noticing the first symptom had been reduced from 6.5 months in 1936 to 5.3 months in 1936-9, 4.6 months in 1939-41, and 3.2 months in 1941-4. The delay between consulting the doctor and visiting the clinic was diminishing, and as for the third frequent period of delay, that between visiting the clinic and starting treatment, 66% of the patients now began treatment within one week, and within four weeks 90% had started treatment. So far as he was aware there was only one effort of this kind made by a public health authority in this country—a leaflet by the medical officer of health for Nottingham. It was important in all such efforts not only to give information but to sustain morale. The recital of serious facts must be accompanied by hope and encouragement.

The education of the profession was also important. The student left his school with a definite picture of the final stage of cancer and a list of innocent conditions which might simulate cancer. Was it any wonder that he applied his knowledge to reassuring his patients and giving them confidence that no cancer was present? The practitioner saw relatively few cases and had little opportunity of improving his knowledge. When he saw a lump in the breast, with no fixity, no retraction of the nipple, and no palpable lymphatic nodes in the axilla his training led him to think and say that it was chronic mastitis or some relatively innocent condition. The textbooks, Mr. Finch thought, might be revised and stress early symptoms rather than late. Each case merited individual study, and they should not talk of "treating cancer" but of treating the cancer patient. The practitioner must be made an integral part of any scheme and be kept informed of the results obtained.

He then sketched plans for a system of regional and co-operating centres. The staff of such centres should be large enough to enable them to have leisure for that clear discernment and contemplation which was necessary in this field. There were at present only two main methods of treating cancer—namely, surgery and radiotherapy, though biotherapy loomed on the horizon, and it seemed likely that endocrinology would play an increasingly important part. In the regional and co-operating centres the surgeon, the radiologist, and the pathologist would meet. The regional central headquarters would, if possible, be based on a university, and towards the periphery of its area there would be the co-operation centres, each serving a population of perhaps a quarter of a million, and between these there would be surgical centres. Standards of competence were necessary for dealing with cancer, and only the profession itself could define them; by frank discussion it might reach unanimity. A pooling of experience and the dissemination of the results of research among all concerned were also essential.

PREGNANCY IN A UTERUS BICORNIS

At a meeting of the North of England Obstetrical and Gynaecological Society, which was held in Manchester on Nov. 19, Dr. R. M. CORBET reported a case of pregnancy in a uterus bicornis bicollis, the type described by Munro Kerr as "pseudo-didelphys." The patient, aged 21, first went to hospital because of dyspareunia and sterility. Examination showed a vertical midline vaginal septum reaching from the vault to within a short distance of the introitus. The right vagina was larger than the left. Two uterine bodies could be palpated bimanually, and at the top of the right vagina there was a cervix, but lack of dilatation prevented adequate examination of the left vagina. Removal of the septum and salpingorrhaphy were recommended, but the patient did not return to the hospital until she was pregnant. This occurred in the right horn. She was admitted to hospital with cramp-like pains and bled three weeks before she was due; the same night a decidual cast was expelled from the non-pregnant horn; no contractions of the pregnant horn could be felt. She was discharged, but ten days later was readmitted in labour and in five hours gave birth to a living female child of 5¼ lb. There was no obstruction by the non-pregnant horn or post-partum haemorrhage, most common complications of this condition. This case showed that the horns of a uterus "pseudo-didelphys" could act independently, and suggested that the onset of labour could not entirely be due to a change in the hormone balance.

The annual meeting of the Midland Tuberculosis Group was held in Birmingham on Nov. 24, when 20 members were present. It was decided that meetings should be held bi-monthly on Saturdays at 3.15 p.m. and that invitations should be sent widely in order to extend the basis of the Group. Drs. J. E. Geddes and S. Deaner were elected president and secretary respectively.

The second meeting of the Italian Society of Tropical Medicine and Hygiene will be held in Asmara early in 1946, with the aim of letting Eritrean doctors, veterinarians, and biologists make contact with their colleagues of neighbouring countries and discuss scientific matters. The meeting will last 4 or 5 days. All Italian and foreign colleagues are invited.

Correspondence

Tropical Medicine

SIR,—In his presidential address to the Royal Society of Tropical Medicine and Hygiene, as reported in the *Journal* of Dec. 1 (p. 774), Dr. C. M. Wenyon has rightly expressed great concern about the provision of facilities for dealing with tropical diseases and the teaching of tropical medicine in the future. He suggests that the re-establishment in London of a tropical medical centre "would restore the position formerly held by this country in the field of tropical medicine, would be a monument to the many pioneers who devoted themselves to the study of tropical diseases, and would be a centre of tropical medical activity worthy of the British Empire."

We believe that Dr. Wenyon has understated the case. The time has come for the development of a scheme of national and imperial conception which would envisage the establishment of tropical medical centres not only in London but wherever they are most urgently needed and can be maintained. One of the most immediate needs in this country is adequate accommodation for sick persons coming from the Tropics. The establishment of a tropical medical centre in London would not, in our view, solve the problem. While, unhappily, the facilities for dealing with tropical diseases in London have declined during the war, as stated by Dr. Wenyon, those in Liverpool have been considerably expanded and continue to flourish vigorously. Since the outbreak of war the staff of the Liverpool School of Tropical Medicine have treated over 5,000 in-patient and 12,000 out-patient cases of tropical disease, and concurrently have engaged in an active research and teaching programme.

Personal experience in dealing with such large numbers of patients has taught us that a disadvantage of their concentration in a single centre—i.e., that in Liverpool—has been the enormous area (virtually the whole country) that has had to be served. We are convinced that centralization of such clinical facilities in Liverpool, in London, or in any other single locality in peacetime would be impracticable and not in the best interests of the patients. Dr. Wenyon's plea for the establishment in London of a tropical medical centre as the means of forwarding the best interests and the fame of British tropical medical activity does not, therefore, go far enough. The vitally important matter of providing proper accommodation for cases of tropical diseases in this country must not be settled without taking into consideration such matters as the localization of mercantile and tropical interests in Britain. Such interests are centred mainly about the great ports, and in this respect Liverpool, which is the terminus and home of a very considerable volume of traffic and of trade with the Tropics, shares with other ports the importance of London. Tropical medicine is at present taught in both Liverpool and Edinburgh, as well as London, and we consider that when hospital medical centres are developed in Britain they should be built up in the first instance about these schools, so that each could play its part in the advancement of tropical medicine and the training of personnel for the Colonial and other medical services and for the staffing of the Colonial universities proposed in the Asquith report.

An imperial scheme for the furtherance of tropical medicine in all its bearings—the treatment of cases in this country, planning and teaching with a view to the treatment of indigenous peoples, fundamental research, etc.—can only be truly representative and worthy of our national responsibilities and opportunities if it takes the above facts into account.—We are, etc.,

A. R. D. ADAMS. R. M. GORDON.
T. H. DAVEY. E. M. LOURIE.
B. G. MAEGRAITH.

School of Tropical Medicine,
Liverpool.

Medical Future of the Colonies

SIR,—Much credit is due for your objective and well-informed leading article on the medical future of the Colonies (Nov. 17, p. 693). It would be a pity if what ought to serve to open the eyes of the Mother Country to the physical conditions of colonial peoples should, in the event, merely arouse sectarian feelings, as seems to be the case in the correspondence columns of the Dec. 1 issue (p. 781).

I am myself a West African. I have just returned from a five-months tour of British West Africa under the auspices of the Colonial Office and as the guest of the West African Governments, in the course of which I covered pretty thoroughly as much of the four Colonies as could be done by ship, ferry, rail, aeroplane, and motor car. Everywhere I paid particular attention to health conditions and medical facilities.

No one who has the courage to face the facts will deny that the statements contained in your leader are correct, and, what is perhaps more to the point, balanced. Least of all is there any disposition in Government circles to shirk the issue. The responsible officials are alive to the situation and need encouragement. The fact is that the problems are immense and extremely complex, embracing as they do not only the provision of hospitals and medical personnel, but agricultural, economic, educational, and political considerations. I am afraid your statement in the last paragraph that "these reforms are suggested only for European medical officers" reveals a fundamental weakness in what is otherwise a useful presentation of suggestions widely accepted. No one who knows the Colonies to-day openly admits to a dichotomy as between European and non-European medical officers. In fact, of course, in West Africa the Colonial Medical Service is restricted to Europeans, and Africans, when there are vacancies, are appointed as medical officers special to each Colony. But this is a state of things against which so much determined and continued protest has been made that a commission has been appointed to inquire into the whole range of conditions of service of Africans and Europeans in the entire Civil Service, including the medical departments. Personally I shall be extremely surprised if the service is not unified as a result. The health problems of the Colonial Empire cannot properly be tackled by Britain *for* the Colonies. This is not only impracticable but cuts against British political philosophy. It can only be done by the Colonies *with* the sympathetic assistance of Britain.

The number of doctors needed to staff anything approaching a well-run service is so high that it cannot possibly be met by doctors recruited from Britain, especially in view of the needs of the British people. On the other hand, although for about eighty years West Africans have been coming to Europe to qualify in medicine (a great-uncle of mine did this at Oxford in the 1870's), yet it costs about £2,000 for each one to spend the necessary six or seven years in training in this country for the purpose. The result is that in all British West Africa to-day (population of 25 millions) there are some 200 African and 200 European doctors, all with British qualifications and on the *Register* of the General Medical Council.

Obviously two steps are urgently necessary—namely, to produce a large number of properly trained general practitioners in the near future to man the Government medical stations, and, at the same time, to train a minority of consultants in Europe. Steps are being taken in both these directions. The Gold Coast for about five years has been giving a small number of free medical scholarships tenable in England, while there are about eighty other private medical students from the other three Colonies at present in England distributed in the various medical schools. Within the next two or three years it is proposed to establish a West African University at Ibadan in Nigeria, at which, among other things, a complete medical training recognized by the G.M.C. and leading to the degrees of London University will be provided.

Specialists will have to be trained in Europe, however, not only for the consultant section of the service but also to provide part at least of the teaching personnel of the university. The present suggestion of the Asquith Commission is for the staff from professors down to be sent out from Britain on special terms. This will meet a great need, serve to maintain a high standard, and also to retain contact with the progressive traditions of Britain. At the same time there are a number of African youth of both sexes in this country who for some years have been undertaking, at their own expense, extensive postgraduate training and qualification in medicine, surgery, midwifery and gynaecology, child health, psychological medicine, ophthalmology, physiology, and anatomy, and responsible opinion naturally expects that they will be given opportunity to serve their country in senior posts.—I am, etc.,

Newcastle-upon-Tyne. R. B. WELLESLEY COLE.

"Geomedicine"

Sir,—As a practitioner living in a subtropical country I read with the greatest interest Dr. Macdonald Critchley's Croonian Lectures on "Problems of Naval Warfare under Climatic Extremes" published in the *Journals* of Aug. 4, 11, and 18. The author is certainly right in his assumption that hot climate is not the sole cause of the manifold symptoms described as "tropical neurosis." Two questions as posed by him require elucidation: (1) whether the same psychiatric features occur in tropical civilians whose homes and families are on the spot; and (2) whether meteorological and clinical fluctuations run parallel. Now from my experience in Palestine I would not hesitate to answer the first question in the negative and the second in the affirmative.

This country represents perhaps the biggest laboratory for studies concerning adaptation of white people to new climatic and environmental conditions. Palestine is situated in the warm temperate ("subtropical") zone and has many climatic and geographical peculiarities—e.g., hot and humid inland valleys, dry and arid plateaux, hills of 3,000 ft., and a unique depression of 1,200 ft. under sea level. It has furthermore an immigrant population of about half a million, born and brought up in Europe, who have to live and to do hard manual work under climatic and social conditions (changing from urban life and mercantile or professional occupations to farming, fruit-growing, fishing, factory work, etc.) to which they are entirely unused. It is obvious that individuals living for a specified period in tropical or subtropical regions as civil servants or soldiers, without the comfort of home and family life, without any liking for the country and the job they are doing, are apt to develop nostalgic reactions and suffer from neuroses. The same does not apply to settlers, who come to a new country of their own will, desirous to begin a new life and to make the most of it. They will probably suffer sometimes from heat or moisture or from dry desert winds, but not from psychic disturbances. A central Academy of Geomedicine or Climatology as suggested by Dr. Critchley, "wherein all research—medical and scientific—could be undertaken," may prove a most important instrument for studying the problems of settlement of the white races in colonial territories of the Empire and the Dominions situated in hot zones. These problems are certainly vital, not only for the British Empire, but for other countries—including mine—which are dealing with immigrants of European origin.—I am, etc.,

J. Seide,
Medical Superintendent.

Rothschild Hospital, Haifa.

Losses of Polish Medicine

Sir,—In connexion with the appeal for medical books for Poland published in the *Journal* of Nov. 10 (p. 676) by the Polish Medical Association in Great Britain, I should be very grateful to you if you could publish the following official information which has just reached me from Dr. Stanislas Konopka, Director of the Department of Science and Publications of the Ministry of Health in Warsaw. This information concerns the material and cultural losses suffered by Polish medicine during the war years.

"The war twice fought on Polish territory and the occupation of Poland during the years 1939–45 brought destruction to every field of cultural and economic life. The cultural losses must be placed first in importance because in the majority of cases the losses are irretrievable, considering the losses of museum collections, archives, and libraries. According to provisional estimate, as far as Polish medicine is concerned, Poland has been deprived of 70% of the equipment of scientific institutes, laboratories, clinics, and hospitals; in Warsaw the buildings too have been destroyed. Eighty per cent. of the medical libraries and museum collections in Warsaw have been destroyed or burnt.

"Before the war the main sources from which Polish doctors derived their professional and scientific knowledge were the university libraries and the special medical libraries. To the greatest Polish libraries belonged the Library of the Warsaw Medical Association, founded in 1820, which contained 67,000 books and medical papers, among them valuable prints from the sixteenth to eighteenth centuries. The second, although much larger library, founded in 1921, was the library of the Military Medical Training Centre. This library was a most active one; it comprised 115,000 volumes, was lending books all over Poland, and possessed a department of bibliography, sending on request bibliographies from every field of medicine and publishing Polish medical bibliography. The annual turnover was fifty to sixty thousand books. Besides these two libraries there existed many smaller ones, such as the library of the Chirurgical Society, Gynaecological Society, Society of Hygiene, etc., and libraries of university clinics and institutes. Of all these libraries only the ruins remain to-day. In Cracow and in one or two other provincial centres the libraries have been partially saved. In Warsaw, however, only the libraries of the ophthalmic, paediatric, and gynaecological clinics have been, to some extent, preserved. Altogether Warsaw lost irretrievably, mainly through fire, twenty-one medical libraries comprising over 550,000 volumes. There is no trace left of the rich museum of the history of medicine. It possessed over 16,000 items, such as old medical instruments, medals, paintings, and valuable collections of old medical documents, manuscripts, and prints.

"Many of the Polish publications, even of the most recent date, have perished, and they will be considered as rare books. During the fighting in Warsaw all the publishing firms and their stocks were lost. This loss is all the more painful as Warsaw was the main publishing centre of medical and scientific books. Only a few private libraries belonging to medical men remain.

"This great dearth of Polish medical books has been increased through the German order, published in 1939, forbidding the publication of any Polish books or papers, including all medical books. The Germans, as is well known, also closed all universities. The German doctor for the City of Warsaw, Dr. Schrempf, published an order—*die wissenschaftliche Arbeit wird streng gestraft*. The Germans saw that this order was strictly enforced by imprisoning many Polish doctors and scientists or putting them into concentration camps from which only 10% came back. The losses in medical personnel will be realized by comparing the number of doctors practising before the war in Poland—14,000—with the number of doctors registered at present—6,800.

"Before the war there were appearing 75 to 82 medical periodicals and journals; practically all the stocks of these have been destroyed. During the war their publication was forbidden and, needless to say, Poland was deprived of access to all foreign medical publications. The only professional medical paper which was appearing in Cracow during the German occupation, and published in Polish, was a paper giving information about the new German sanitary orders and regulations.

"In spite of all the persecutions and destruction brought about by the occupation and fighting the Polish doctors have not given in to despair. Scientific institutes, laboratories, and libraries are being rebuilt and organized. Medical schools in Warsaw, Cracow, Posnan, Lublin, Lodz, and Wroclaw have once more started to function. A new medical school in Gdansk has been established. Through the initiative of the Ministry of Health the main medical library has been restarted and a net of medical libraries in other Polish towns. The publication of medical books has revived. In Warsaw the medical Institute of Science and Publications has been opened. Its main purpose is the printing of medical books and textbooks. Polish medicine, which is well known through the names of Sniadecki, Dietl, Neusser, Bieganski, Mikulicz-Radecki, Babinski, Cybulski, Popielski, Dogiel, Danysz, Nencki, Szymonowicz, Teichman, Curie-Sklodowska, and others, wants to take part again in the progress of medical science. Without, however, the re-establishment of ties with Anglo-Saxon scientists and writings as well as with other nations—French, Russian, Scandinavian—it is impossible to start further work.

"Polish medical men and scientists appeal to their colleagues abroad for help in the re-equipment of libraries with books and periodicals. To facilitate and co-ordinate the help given medical committees for scientific help for Poland have been set up in New York, Moscow, Paris, Stockholm, and Zürich. In London the work is centred in the Polish Medical Association."

—I am., etc.,

Imperial Cancer Research Fund,
Mill Hill, N.W.7.

Leon Dmochowski.

Glandular Fever and Infectious Mononucleosis

Sir,—Dr. T. S. Eimerl (Nov. 24, p. 743) is somewhat hard on Dr. Gerald Slot and Major F. D. Hart in his criticisms of their article on glandular fever with neutropenia. Dr. F. Muller has already pointed out (Nov. 17, p. 702) that the occurrence of neutropenia has long been recognized, and, indeed, it is by no means uncommon in cases clinically severe. But Slot and Hart were over-seas, we believe, at the time and had only limited access to the literature.

Dr. Eimerl is surprisingly astray on his principal point. He states: "The two terms"—namely, infectious mononucleosis and glandular fever—"are by no means synonymous and should not be used in that manner." They are, in fact, used strictly synonymously. When Sprunt and Evans published their cases of infectious mononucleosis in 1920 they were unaware that there was any connexion with Pfeiffer's *drusenfieber*. When we published our cases in this country a few weeks later (*B.M.J.*, 1921, **1**, 100) it was as a feature of glandular fever. When the proofs of our article were in our hands we read the communication of Sprunt and Evans for the first time, and could only insert an indication that we believed it referred to the same entity. The result has been that in America the term "infectious mononucleosis" is used invariably and solely, while in Britain both terms are in use as synonyms, glandular fever being more commonly but not invariably employed. On the Continent "glandular fever" is often applied to the disease in children and "infectious mononucleosis" to the disease in adolescents and adults, but the identity of the two forms is accepted. Anyone who reads the literature under the impression that glandular fever and infectious mononucleosis are different conditions will arrive at an unfortunate state of confusion.—We are, etc.,

London, W.1.
HENRY TIDY.
E. B. MORLEY.

Anaesthetic Risks

SIR,—We have read the letter of Dr. E. Falkner Hill (Nov. 24, p. 746) and feel that his assertions are unjustifiably sweeping. He compares alcohol with ether and chloroform and argues that general anaesthesia is undesirable because changes in the cerebral cells can be demonstrated in chronic alcoholics. We might perhaps define a chronic alcoholic as one who drinks to excess more or less daily over a number of years. On the other hand it must be extraordinarily rare for a patient to have more than a score of general anaesthetics throughout a lifetime.

For our part, having due regard purely to the after-effects, we would prefer a skilfully given general anaesthetic rather than suffer the "hang-over" associated with alcoholic over-indulgence. Perhaps the greatest advance in anaesthesia is that, having more drugs at our disposal—such as the short-acting barbiturates, cyclopropane, N_2O, etc.—we are able to administer anaesthesia with minimal after-effects. It is rare to find patients complaining of headache, nausea, and vomiting following the use of the above-mentioned drugs. On the other hand these symptoms appear to be common if we study the condition of those who fail to temper enthusiasm with discretion where alcohol is concerned.

Dr. Falkner Hill also states: "Anaesthesia is generally supposed to be due to a process of suboxidation" and that "the anaesthetic, like Horatius, holds the bridge between the outside of the cell and the inside." Admittedly this is the generally accepted theory, but it may be, however, that cell activity is diminished to such an extent that the O_2 requirements are extremely small. If the latter view is accepted there is only a relative suboxidation due to the diminished requirements of the cell, and as such is surely unlikely to cause any cell damage.—We are, etc.,

Mount Vernon Hospital,
Northwood.
D. C. DEVITT.
M. V. H. DENTON.

Acute Yellow Atrophy after Trilene Anaesthesia

SIR,—I have been most interested in Major K. N. A. Herdman's report (Nov. 17, p. 689), and the subsequent letters by Drs. Philip Ayre and Clifford Wilson (Dec. 1, p. 784). Dr. Ayre attempts to incriminate pentothal by quoting Adriani (*The Pharmacology of Anaesthetic Drugs*, 1942) and Langton Hewer's *Recent Advances in Anaesthesia* (p. 128). On referring to the latter I find that Langton Hewer refers to "Reynolds, C., *et al.*, *Anesth. & Analges.*, 1938, Nov.–Dec., p. 357" and "Vaizey, J. M., *Brit. J. Anaesth.*, 1938, Jan., p. 55" in his reference to the toxic effects of pentothal on the liver. These reports were published when pentothal anaesthesia was in its infancy, and a great deal of research and clinical investigation has been carried out since then, and later work tends to prove that pentothal does not produce any liver damage.

Kenneth Heard of Toronto writes in *Anesthesiology* (Sept., 1944, **5**, 450): "Damage to the liver would seem to be one danger signal, since it is apparently accepted that pentothal is broken down, at least to a certain degree, in that organ. Clinically, we have *not* found that to be the case"; and further: "We have seen no post-operative complications which appeared attributable to the pentothal, even in deeply jaundiced patients." R. Charles Adams in *Intravenous Anaesthesia* (1944, p. 474) writes: "It appears to be doubtful that the intravenous administration of a thiobarbiturate, such as pentothal sodium, for anaesthetic purposes, causes any appreciable damage to the liver or increases damage already present." Later experiments still are quoted by Masson and Beland in *Anesthesiology* (Sept., 1945, **6**, 490). They class pentothal among the barbiturates that are "possibly detoxicated in all the tissues of the body but not to any great extent in liver or kidney."

From my own experience and from the above quotations I do not think the 0.8 g. of pentothal given in Major Herdman's case could have caused the liver damage and that some other cause should be sought. Dr. Wilson's idea of homologous serum jaundice seems a very possible explanation if plasma or serum had been administered. My main concern in this letter is to exonerate pentothal from being considered a possible cause of the liver damage.—I am, etc.,

Cardiff.
A. HUGH MUSGROVE.

Spinal Analgesia

SIR,—I read with much interest the article by Mr. W. A. Fairclough (Dec. 8, p. 801) concerning sixth nerve paresis as a complication of spinal analgesia. I have advocated and given spinal analgesics in suitable cases for many years, and stressed their value in a Hunterian Lecture in 1929 (*Lancet*, **1**, 375). I have notes of three cases of ocular palsies and one of permanent incontinence of urine which afflicted a man with an inoperable carcinoma of the rectum. At that time I used concentrated solutions of various kinds, and I note that spinal percaine 1/200 was used in the ten cases reported by Mr. Fairclough.

For the past five years or so I have only injected intrathecally spinal percaine 1/1,500, and have had no ill effects. The solution is of a lighter specific gravity than that of the cerebrospinal fluid, so the patient is tilted with the head downwards, which also assists in counteracting shock. Fourteen c.cm. is adequate and safe for upper abdominal operations, 8 or 10 c.cm. for appendicectomy or a hernia, and 3 c.cm. for an infant's intussusception. I am of the opinion that a dilute solution suffuses along the dural sheath more readily than does a concentrated preparation, and is less likely to be absorbed rapidly with toxic effects or to cause complications by over-action on a single spinal nerve or localized area of the spinal cord.—I am, etc.,

London, W.1.
R. J. MCNEILL LOVE.

SIR,—May I add to Mr. W. A. Fairclough's ten cases of abducens paralysis following spinal anaesthesia (Dec. 8, p. 801) three other cases originating in the same way which I came across in the last few years.

The first was of a man who had suffered from enuresis and impotence since having a cystoscopy under a spinal analgesic. He was certainly not a neurotic type and I believe his complaint was genuine. Next came a patient with the story that he had never been able to pass a decent motion since being operated on for piles. I expected to find a stricture, but instead discovered that he had a lax sphincter and a ballooned rectum, on which straining produced no effect. "Had he been put to sleep or . . . ?" "No, he had had a needle in the back." The last patient gave a similar history, and volunteered the information that he had to use a finger to get any evacuation at all. The findings were the same as in the previous case.

Unfortunately I had no means of knowing what drug was used or how it was administered, but I have no reason to suppose that there was any departure from routine. And this makes the matter more serious than it might otherwise be, though it was serious enough already in all conscience that three young men should be so disabled. We can guard against introducing infection into the spinal canal or damaging the intervertebral disks with the tip of our needle, but how can we avoid sequelae which we do not often know about, much less understand?

I have heard of similar cases from colleagues and believe them to be not uncommon. Common or not, they deserve ventilation.—I am, etc.,

London, W.1.
STEPHEN POWER.

Spinal Analgesia in Operative Obstetrics

SIR,—The value of Dr. Louis Resnick's article on spinal analgesia in operative obstetrics (Nov. 24, p. 722) would have been enhanced had he indicated that this technique was the optimum procedure in each individual case of his series. The safety factor is of prime consideration in the choice of any anaesthetic technique, and it is recognized that the choice of spinal analgesia is justified on this score in many cases.

If, however, the article in question be interpreted as an invitation to obstetricians to discard other anaesthetic agents in preference to spinal block, further convincing argument is necessary. If it merely seeks to demonstrate what can be done by spinal analgesia one must thank the author for his efforts and extend one's thanks to those patients who might have been better served by other means but who furnished the material for the demonstration.—I am, etc.,

Salisbury. A. D. H. SIMPSON.

Crooke-Mellgren Cells

SIR,—I note in the *Medical Annual* for 1945 (Wright, Bristol) that, under the section on the pituitary gland, Langdon-Brown and Simpson describe the changes in the basophil cell of the pituitary gland in Cushing's syndrome as the "basophilism changes of Crooke and Mellgren." The changes which they ascribe to Mellgren (1942) were demonstrated in detail by me at a meeting of the Pathological Society at Glasgow in 1941 and frequently mentioned by me in correspondence with other pathologists, including Crooke and Russell. Publication was delayed until I had devised special methods for reproducing photographically the abnormality ascribed to Mellgren. My manuscript was submitted in 1942 and published in 1944 (*J. Endocrinol.*, 1944, **3**, 323), the delay being caused by difficulties in securing colour printing in wartime. The date of submission is recorded in the journal.

I am writing this in the interest of accuracy and because the description of the abnormalities which the writers ascribe to Mellgren was claimed (rightly) by me as original observations in my M.D. thesis (Glasgow University, 1944) and at the Manchester meeting of the Pathological Society in 1943, where I demonstrated the special staining techniques. I have not referred to Mellgren in any of my written work or demonstration as his contribution was unknown to me. It is unfortunate that the writers do not state what Mellgren interpreted the changes as representing, for this is the crux of the problem and is dealt with extensively in my papers.

A somewhat similar situation through wartime difficulties of publishing arose in connexion with alloxan diabetes. By the time the paper from Glasgow was published announcing the production of islet necrosis with alloxan, Glasgow workers had completed the examination of diabetic rats and rabbits up to sixty days' duration, and colleagues had demonstrated similar effects of alloxan on the mouse and dog. Nevertheless the production of diabetics with alloxan first appeared by the hand of American workers, and the claim of the originators was somewhat obscured by references to an earlier work on alloxan by an American chemist who had injected alloxan into animals and studied their blood-sugar curves. While the true facts are generally known in such cases by scientific workers, the medical reviewer is sometimes more concerned with chronological order of publication than with the well-documented and illustrated publications of more worthy contributors. This is especially so on the other side of the Atlantic, where the reviewer's data are often obtained from collected summaries rather than from the original papers. —I am, etc.,

N. G. B. McLETCHIE, Major,
Bangalore, India. Evacuation and Distribution Staff Officer.

Galvanic Stimulation of Denervated Muscle

SIR,—The letter of Prof. H. J. Seddon and his co-workers (Nov. 24, p. 745) with its additional reasoning as to the value of galvanism in the treatment of denervated muscle will be read with great interest.

My doubts on this subject arose during the observation of an assemblage of peripheral nerve lesions in which galvanism was employed in the treatment of denervated muscle. Progress was estimated by the method of Tinel, by the elicitation of formication on percussion over the lower limit of the advancing axons. By serial observations at monthly intervals a fairly accurate estimation of the rate of regeneration could thus be obtained. It so happened that one of these patients, in whom regular gradual regeneration was taking place, sustained a fracture of another limb, and was absent from the treatment of his nerve lesion for a number of weeks. On his return examination by Tinel's method showed the unexpected result that the rate of regeneration had been considerably more rapid during the absence of galvanic stimulation. In several other cases the treatment was interrupted by some extraneous circumstance, and in every instance the records showed an acceleration of the rate of recovery during the absence of galvanism. It should be said that these observations were not planned for the purpose, but were due to chance events during the course of treatment; and also that the records appeared to show that galvanism did not prevent regeneration, but slowed down its rate; and also that there was no evidence that the final result was impaired. Though in no way conclusive, these results appear to merit further consideration.

To give a further instance, in facial paralysis an extremely slow and gradual process of recovery sometimes persists for a considerable period. In several of such cases the effect of stopping galvanic treatment has been tried, and in each such case there has been an apparent acceleration of the rate of recovery, as judged by ordinary clinical examination, the quantitative estimation by Tinel's method not being here available.

In the endeavour to find a hypothetical explanation of these results the different stages must be taken into account. During the re-establishment of the motor end-plates by the delicate terminations of nerve fibres, the katabolic changes induced by powerful and repeated galvanic contractions may well be detrimental; there is here a contrast with the natural process of recovery, in which the gradual increase in the strength of the voluntary contractions is proportioned to the stage of regeneration, the neuromuscular mechanism being thus nursed into recovery. At an earlier stage, when the nerve fibres at a higher level are undergoing regeneration, vigorous galvanic stimulation may exercise an unfavourable influence owing to the repeated movements and disturbance of tendons and muscles in the neighbourhood of the nerve trunk. Finally, long-continued galvanism may cause pain and redness of the skin, and it is believed to cause ionization of deeper tissues; this long-continued irritation may well be inimical to a slow and difficult reparative process. Here arises the question of contractures. It is generally agreed that under ordinary circumstances denervated muscle does not undergo contracture; on the contrary, it tends to elongate (Volkmann's ischaemic contracture is in a different category, and the so-called secondary contracture in facial paralysis is in reality a semi-voluntary contraction of muscles which have partly or wholly regained voluntary power). Though not in accordance with the general experience, Dr. R. E. M. Bowden (Oct. 13, p. 487) states that contracture may occur in paralysed muscle, either early or late in the course of denervation, and gives directions for its prevention. Presumably these cases had been treated by the exceptionally intensive galvanism recommended by Prof. Seddon, and the changes thus set up in the muscle had led to contracture. Further information would here be of interest.

Great interest attaches to Prof. Seddon's exact analysis of problems which usually receive only clinical study, and it may well be hoped that his researches will throw light on the more general aspects of nerve regeneration in addition to those concerning the muscles.—I am, etc.,

Sheffield. R. G. ABERCROMBIE.

Midwife's Responsibility in Placenta Praevia

SIR,—Should the midwife make a vaginal examination in cases of placenta praevia? The treatment of placenta praevia has passed through many different phases: version and extraction, total detachment of the placenta, artificial rupture of the membranes, bipolar version, vaginal packing, metreurysis, Caesarean section, Willett's forceps. Nowadays hospital treatment of all such cases is advocated. It is now almost axiomatic that no vaginal examination should be made before the patient is admitted to hospital. In hospital vaginal examination is performed only after all preparations have been made for any treatment which may be required, either by the vaginal or abdominal route. Such is common medical teaching.

In skilled hands, with suitable use of blood transfusion, maternal results may be good and not vary much, irrespective of the method employed. This is not so with foetal results. It is now clear that when active measures are necessary the best foetal results are obtained either by artificial rupture of the membranes alone or by Caesarean section. In order still further to reduce the foetal mortality it is now suggested, in the report of a meeting of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine (Dec. 1, p. 779), that the patient need not necessarily receive active treatment on the first haemorrhage, and a period of expectancy is advocated to lessen the incidence of prematurity.

Where team work is required it is important for all members of the team to be adequately and suitably instructed in what is required of them. It is my submission that there is a note of uncertainty in the midwife's instruction. As she frequently sees the patient first hers is a great responsibility. Should she make a vaginal examination? Generally speaking she should not, and is so instructed. If the patient is bleeding when she arrives what is she to do? Her textbooks even advocate her rupturing the membranes if the patient is bleeding and if she cannot get a doctor. Should she not be told to empty the urinary bladder by catheter, apply abdominal pads and binder, keep the patient warm and give a sedative; that if she does nothing more *the bleeding will stop*? The patient can have a transfusion when medical help is eventually obtained, after which she can be removed to hospital.

Some examiners at the Central Midwives Board examinations expect candidates to say that *they* (the candidates) would rupture the membranes themselves if the patient continued to bleed and if the doctor summoned failed to arrive. By attempting to do this, however, the midwife is likely merely to provoke an increase of haemorrhage. A midwife "snowed up," and likely to remain so for a week, in a cottage with a bleeding patient might be forced to undertake active treatment herself. But such circumstances are rare, and they should not be allowed to obscure the plan of action to be followed in more usual circumstances.

Not only are pupil midwives perplexed as to how they should answer their examiners, but the sister tutors too are in doubt about the best instruction to give them. Those pupil midwives will retain their uncertainty even when they pass their examination. When they meet antepartum haemorrhage in real practice they will still be uncertain how to act. Now their uncertainty will constitute a maternal danger. In new and laudable efforts to improve the foetal mortality let us not overlook this standing maternal danger.

Are pupil midwives in their training schools ever allowed under supervision to rupture the membranes in cases of placenta praevia? I doubt it. Why, then, tell them to do by themselves out of hospital what they are not allowed to do in hospital even under expert supervision?—I am, etc.,

North Middlesex County
Hospital, N.18.
ANTHONY W. PURDIE.

Treatment of Varicose Ulcers

SIR,—Dr. R. K. Brooks's letter (Dec. 8, p. 816) on the above subject advocates the application of certain creams and ointments to chronic varicose ulcers. He claims good results on a "fair number of cases." I suggest that the pathology of the complaint is ignored, and that the only placebo he offers to the gravitational causation of varicose ulceration is to tell his patients to elevate the limbs for a couple of hours every day. I claim that if his treatment is followed the varicose ulcer patient will be with us for yet another generation. It matters not what medicament is plastered on to a varicose ulcer: the cause must be treated. Failure to treat this cause means constant recurrences of ulceration.

All cases of varicose ulceration require compression treatment. This may be obtained in various ways, and if Dr. Brooks does not like the "elastoplast" technique there are many others. The two-way-stretch bandage is valuable for most cases, but there are many other types. All cases of ulceration need surgical treatment to the incompetent superficial venous circulation, provided the deep veins are in good condition.

If Dr. Brooks were to attend a clinic dealing with vast numbers of varicose ulcers I feel sure he would appreciate my anxiety lest his views were to be adopted. Dickson Wright has done the profession untold good in preaching the true pathology of the gravitational ulcer, which, with proper treatment, can be made a rarity instead of a weighty economic problem.—I am, etc.,

London, W.1.
R. R. FOOTE.

SIR,—Having read Dr. R. K. Brooks's letter on his methods of treating what appears to be no more than a complication of hypostasis, I find no mention of varicose veins, which could hardly be absent in a limb with varicose ulcers. It is my opinion, based on my own cases and on the follow-up of a considerable number of others treated elsewhere on similar principles, that ulcers due to varicose veins will invariably clear up if the cause is effectively dealt with, even without local treatment or elevating the leg. Dr. Muldavin (Dec. 8, p. 816) describes very clearly the principles of treatment to which I refer. Treatment on these lines would seem to offer not only a more rapid cure but one which is usually permanent.

While local treatment may be effective in clearing up ulcers and eczema in the elevated leg, surely this is produced by the diminished hypostasis, due to the position of the limb rather than to any substances applied locally. Ulcers invariably recur when the patient resumes his former existence, spending more time in the erect position. One not uncommon exception to this is the occurrence of a coincident phlebitis, which gives a longer temporary cure but relapses when the tributaries become dilated and incompetent, or the original vein becomes recanalized.

Cure may also be obtained by applying to the limb pressure sufficient to render the veins harmless by flattening—i.e., "elastoplast." Relapse may be avoided by the continuance of pressure —i.e., crêpe bandage. The advantages of pressure treatment over postural in patients who are too old for surgical measures are that it is ambulatory throughout and does not require postures which are liable to embarrass the senile cardiovascular system.—I am, etc.,

Hayle.
P. L. RENOUF.

Artificial Pneumothorax Refill

SIR,—As an "old hand" at artificial pneumothorax I well recall the methods employed in 1918—namely, the anxiety about knowing the pressure within the thorax, the giving of a local analgesic, and the slow running in of the gas. Over a quarter of a century ago Parry Morgan had devised an apparatus whereby the mean pressure could be known the whole time gas was running. This apparatus we gave up in 1920. Fifteen or sixteen years ago there was marketed the Peter Edwards pneumothorax needle and stopcock, which cover all the suggestions made in letters. As to a local analgesic, this has been given up for twenty-five years because people prefer both their induction and the refills without it.

I would like to register my disapproval of the method suggested for refills by most of your correspondents. It is my opinion that to push the needle straight forward without stopping is not good practice. At a refill one should learn to sense the pleura, and in order to do this digital pressure in the intercostal area is desirable, and a firm pressure with the needle, note that one is through skin, through the other layers, and "sense" the pleura. By doing this one is so much happier at an induction because one knows when the pleura is encountered. There does not appear to be any reason for knowing the mean pressure as the air is going in. A rough rule would be to run in—at as high a pressure as one's apparatus will permit and as quickly as one likes—half of the quantity of air taken at the last refill. Take the reading and continue until the pressures are at their optimum.—I am, etc.,

Cheshire Joint Sanatorium,
Market Drayton.
PETER W. EDWARDS.

SIR,—We have followed the correspondence on this subject with much interest and many misgivings. It appears to us that there are but two considerations—that the operation should be safe and that it should be as nearly painless as possible. The greatest danger is undoubtedly that of producing air embolism, an occurrence best prevented by using a type of apparatus that allows a manometric reading to be obtained throughout the instillation of air. Incidentally, if the Lillingston-Pearson machine is used a swing may be obtained during the whole procedure if the manometer is left in the circuit. Thus the use of so cumbrous a needle as that described by Dr. Alastair Allan (Nov. 3, p. 607) or of the elaborate feat of digital dexterity practised by Dr. W. H. Tattersall (Dec. 1, p. 783) may be avoided. Before leaving this aspect of the subject we would utter a word of warning against the manœuvre described by Dr. Paton Philip (Dec. 8, p. 821). While it is admittedly easy to insert the refill needle accurately into the pleural cavity during expiration, with the lung deflated, the dangers of lung puncture and of embolism return with full force as the lung re-expands during inspiration towards the point of the needle, especially if this is of the fine, sharp Morland pattern—a type that we never use.

We are in complete agreement with those of your correspondents who oppose the use of a local analgesic—a practice which very seldom contributes to the patient's comfort yet always adds to his hazards. The chances of sepsis, admittedly small in this connexion but nevertheless present on every occasion when the body surface is punctured, are doubled when two needles have to be introduced. As Dalgleish (Dec. 8, p. 821) has pointed out, there is no guarantee that the refill needle will penetrate to exactly the same depth in exactly the same place as the needle for the analgesic; thus the latter cannot usefully assist in the prevention of air embolism. Furthermore, the use of novocain introduces a new source of risk, since definite, though rare, cases of novocain poisoning have been recorded; a recent fatal example is described by Andosca and Foley (*Amer. Rev. Tuberc.*, Sept., 1945, p. 221).

Concerning the problem of pleural shock, we are of the opinion that no such clinical entity exists. This vexed question has been debated *ad nauseam* in the literature of artificial pneumothorax. For the latest discussion on the subject the reader is referred to the paper by Andosca and Foley, quoted above. Even if there were such a condition it is hard to see how its occurrence could be prevented by the use of a local analgesic, for the needle, itself as liable as the refill needle to produce shock, must penetrate the parietal pleura before that membrane can become fully anaesthetized.—We are, etc.,

B. G. RIGDEN.
PHILIP STEEN.

Red Cross Sanatorium of Scotland,
Tor-na-Dee.

SIR,—During six months, from February to July, 1945, as house-physician at the Brompton Hospital, I did more than four thousand artificial pneumothorax refills. The great majority of the patients at Brompton—certainly more than 90%—prefer not to have a local analgesic; and this is true also at the Chest Clinic at Hammersmith Hospital, where I now work.

Most of your correspondents agree on this point, and they say that providing the needle is sharp and a rapid plunge is made there are few complaints. If there is an adequate pleural space then this technique is safe; but if the artificial pneumothorax is shallow then I believe a local analgesic should be used so that the needle may be slowly and carefully introduced. Otherwise there is a danger of puncturing the lung, and this may be followed by air embolism—an event which one should strive to avoid, however rare it may be. The other indication for giving a local analgesic is—as Dr. H. P. Fernandes points out (Dec. 8, p. 822)—when the patient asks for it. If it makes him feel any happier, then I think he should have it.—I am, etc.,

RAYMOND WILLIAMS.

Chest Clinic, British Postgraduate Medical
School, London, W.12.

SIR,—Dr. C. F. Hawkins is not alone in his belief that local analgesia is unnecessary before giving an artificial pneumothorax refill. I have known several leading physicians who practise an almost identical technique to that described, using the Morland needle. I, myself, and most of my contemporary colleagues used this technique for hundreds of refills at a famous chest hospital. It was usually found that novocain was not required after the fourth or fifth refill. The procedure was always explained to the patient beforehand. It is important to use the same place for refills so far as possible, as this area undoubtedly becomes less sensitive. If, for any reason, it is necessary to change the point of entry I always use novocain on the first occasion.

"Refill patients" become more attached to one particular doctor than any other class of patient I have come across. It is important that this relationship should be fostered in the early stages of the induction of an artificial pneumothorax; the change-over from the use of novocain to doing it without it is then readily accepted. Every patient I have questioned in an out-patient refill clinic was horrified at the suggestion of using novocain for the refills. With novocain there is not only the slight discomfort of the injection but also a more irritating itching two hours later as the numbness wears off.

I agree with Dr. Hawkins that complications are no more frequent in an established A.P. when local analgesia is disregarded.—I am, etc.,

P. McA. ELDER,
Fl. Lieut.

Bletchley, Bucks.

SIR,—I thoroughly agree with the opinion of Dr. C. F. Hawkins in his letter (Nov. 24, p. 742) in every detail. One occasionally meets a patient who is hypersensitive or of a nervous temperament, but even in such cases I find that the use of a local analgesic for a refill after an adequate pleural space is obtained only adds to the patient's discomfort. I use a Morland needle and have been fortunate enough not to have experienced a case of pleural shock so far. Such cases appear to be rare. Like Dr. Hawkins, I shall indeed be grateful to have the views of others.—I am, etc.,

G. M. MAYBERRY.

West Ham Sanatorium,
Dagenham.

Treatment of Early Syphilis: A Warning

SIR,—As far back as Nov. 11, 1939 (p. 974), I suggested in your columns a reliable scheme for the treatment of early acute syphilis. A similar scheme, with or without penicillin, has been used to date for many Service and civilian cases. Penicillin has now taken an important part in the treatment of venereal diseases. It rightly holds the first position as a therapeutic agent for the treatment of gonorrhoea. Gonococcal relapses or failures do occur, but, generally speaking, the results are very good.

I wish, however, to register a strong word of warning against any present tendency to depend on penicillin alone for the treatment of acute early syphilis. The tendency to shorten treatment can be carried too far. We do not want to see cardiovascular and neuro syphilitics turning up at the V.D. clinics some years hence. I can produce definite evidence of failures or relapses in early syphilitics treated by penicillin alone. No doubt other senior venereologists could do likewise. Penicillin alone may cure some cases, but so did a few injections of "606" 27 years ago. Ask any British venereologist what treatment he would prefer himself if he had a chancre or a secondary syphilitic rash. The answer, I think, in most cases would be penicillin *plus* at least one course of ten twice-weekly injections of neoarsphenamine and bismuth. He would also desire blood tests (Wassermann and Kahn tests) and a C.S.F. examination up to three years from the date of infection.

We have now a wonderful opportunity to reduce the incidence of venereal disease in this country. Let us do it thoroughly. Educate the public on the dangers of venereal diseases and, above all, give adequate treatment and tests of cure.—I am, etc.,

C. HAMILTON-WILKIE,
Director of V.D. Services.

Leicester.

Tobacco Smoking and Health

SIR,—In connexion with the recent correspondence on tobacco smoking may I remind your readers of some facts. Stomatitis and pharyngitis (with their associated spitting and hawking) are characteristic of heavy smokers. Cancer, buccal and bronchial, is much more common in men than in women and in smokers than in non-smokers. Bronchus carcinoma becomes more common as the consumption of tobacco increases. I have under my care at present a lady with extensive buccal leukoplakia and a large epithelioma inside the cheek. She has smoked heavily, has been edentulous for years, has not drunk spirits, nor had syphilis.

Tobacco distillate is a tar rich in aromatic substances with polycyclic benzene nuclei, belonging to the same class as those extracted from coal-tar and proved to be carcinogenic. Tobacco tar has high carcinogenic properties (up to 100%) in experimental animals. It is easy to produce epithelioma on the ears of rabbits by painting them with tobacco distillate (Prof. Roffo, "Krebserzeugende Einheit der verschiedenen Tabakteere," *Dtsch. med. Wschr.*, June 16, 1939, **65**, No. 24). The chronic inflammation which can so easily be seen in the mouth and throat of heavy smokers no doubt extends into the trachea and the bronchi, as shown by the experience of anaesthetists who find that heavy smokers are difficult to anaesthetize because of the irritability of and mucus in the respiratory passages, and that pulmonary complications after anaesthesia, from slight cough to pneumonia and atelectasis, are chiefly found in heavy smokers (see Lundy's book on anaesthesia).

Now for prophylaxis. When our children are growing up we should warn them: (1) That tobacco does harm. (2) That they cannot take at face value the statements of smokers about smoking, because many smokers, physicians or laymen, are drug addicts and have lost the power of giving an objective, unbiased opinion about their own habit. The smoker wishes to continue the use of tobacco without appearing a fool or a drug addict. His self-esteem therefore demands that he close his mind to any suggestions that tobacco may be harmful or that it is a drug. (3) That advertisements are designed by clever men to trap young people into taking a drug, that many so trapped will never be able to give up the habit, and that the object of the advertisement is the financial gain of the advertiser regardless of the welfare of the victim. The mechanism of the trap is to show from all points of vantage, day after day, year in and year out, the use of tobacco by types of people who are admired, emulated, and envied by children and adolescents. For the boys the hook is baited by the fine manly picture of an explorer, or soldier in some far-flung outpost of Empire, or of a sailor or sportsman. For the girl the hook is baited by the picture of a beautiful woman, superbly dressed and smoking her cigarette with the utmost poise. To be "smart" is an inducement held out to both boys and girls. The obvious cumulative effect is insidiously and subconsciously to fix in an immature mind the suggestion that if the victim would only adopt the actions and habits of the magnificent being in the advertisement then he would come more nearly to resemble that creature.

If we forewarn and educate our children in this way we will have done our best to preserve them from at least one disease, with its many complications.—I am, etc.,

Sydney. V. J. KINSELLA.

Nylon for Buried Sutures

SIR,—Shortly after reading Mr. Herbert Haxton's article (Jan. 6, 1945, p. 12) on nylon for buried sutures I began using it for all parietal sutures. I can therefore look back on its use for some eleven months, and can make some observations that may be of interest.

My method of tying knots is to hold the long end taut while tying both halves of a reef-knot with the short end in the left hand. Haxton's method of changing hands for the locking half-knot thus did not come easily to me, nor have I used it. I have made up for this by tying four or five half-knots in my habitual manner using both halves of the reef-knot alternately. The resulting knot, unwieldy in catgut as it would be, is quite unobtrusive in fine nylon, and does not slip.

It struck me that there could not be any objection to the use of nylon for the uterus in Caesarean section, but that the more bulky knot occasioned by the use of heavier-grade suture might give rise to peritoneal irritation. This has not been borne out clinically. In common with all abdominal cases, Caesareans are more comfortable *ab initio* than those in which catgut has been used. Hernias are notably more comfortable, and the rehabilitation of all goes on practically without prompting, and with very little need for instruction. In such a short time I have not had occasion to reopen any of my cases, but I have no doubt that Haxton's observation on the lack of tissue reaction is, in fact, the case.

While accepting all that catgut manufacturers say about improvements in their art, I cannot rid my mind of the uncertainty in the lasting qualities of catgut in the presence of tissue digestion, and the feeling of security in the use of nylon is very comforting. I doubt if I shall ever change from it.—I am, etc.,

Dorchester. T. RUSSELL STEVENS.

Pasteurization of Milk

SIR,—I am afraid Dr. Ronald Clarke (Nov. 10, p. 666) has missed the main point of my letter, which should be regarded as a whole. The point I was deploring was the tendency of many doctors to regard good health from a very materialistic and mechanistic point of view. They seem to have divorced it entirely from that mysterious force we call Life, and think of it only in terms of the presence or absence of disease germs, so that all that is necessary for perfect health is to inject some laboratory substance under the skin, or pasteurize our food (however dirty or non-nutritious), and immediately good health is had by all. It is this wrong emphasis which I consider is a serious factor in much of the preventable ill-health of to-day. The general public is led to believe that there are no such things as natural laws of health, and that they can live as unhygienically as they wish and remain in good health if they carry out the short-cuts of inoculation and pasteurization.

It is quite obvious if we look around us that a high degree of immunity against all infections—including tuberculosis—can be obtained by regularly carrying out certain simple matters of hygiene in regard to exercise, fresh air, dietetics, etc., and in adopting a right mental attitude to the adventure of life. These are the things which bring about what has been called "positive health," and should always be stressed when we are trying to cure or prevent disease, whatever our method of treatment.

If now in the question of our milk supply we regard pasteurization as the *final* word in its preparation, we encourage laziness and dirty habits in our dairy workers and overlook the importance of good health in our cattle. Dr. Clarke says "pasteurized sewage is at least sterile, and is probably preferable to tuberculin-tested milk with typhoid bacilli," thus overlooking the fact that sterilized sewage has no food value, and will contain many poisonous substances not conducive to health, even though it may be free from disease germs. Milk, on the other hand, which has come from robust cows and has been handled with scrupulous cleanliness at all stages will not contain typhoid bacilli and will not need pasteurizing; moreover, it will have a very high nutritional value.—I am, etc.,

Slough, Bucks. H. TUDOR EDMUNDS.

National Research into Tuberculosis

SIR,—Dr. George Luntz's letter (Dec. 1, p. 781) raised an issue which no worker in the field of tuberculosis can ignore. It is time indeed that we made a proper appraisal of our present methods of treatment as they can be applied to the sufferer from the most prevalent manifestation—pulmonary tuberculosis. This disease is so treacherous that one never feels secure when giving a prognosis; perhaps one only remembers the unfortunate cases; but they occur much too frequently. The majority of cases that enter sanatoria are not suitable for any form of collapse therapy, and of those cases that are how many benefit from it? Now that these methods of treatment are coming under critical review it is being increasingly realized that they are over-used and, to a great extent, overrated.

If the gloomy side of the picture has been over-emphasized here, it has been done to point the moral—the answer to the problem of tuberculosis has not yet been discovered. Now that we have entered the era of specific treatment with chemotherapeutic substances our hope is that such a substance exists which can be used to cure tuberculosis. No effort or expense should be spared in the attempt at its discovery and we should tolerate no delay. It is a prime responsibility of the medical profession and the Government, in meeting this national problem, to set up a special research unit with this object in view. As Dr. Luntz remarks, the reward will be the gratitude of all mankind.—I am, etc.,

London, N.W.3. S. M. HILTON.

Physical Therapy in Mental Disorder

SIR,—It is now two years ago that you published two letters from me, and many letters from others, on the subject of the new physical methods of treatment of mental disorder, especially electrically induced fits. In these two years a very large number of people have been treated by induced fits: to some harm has been done and some have been "cured." The fact remains, in my opinion, that these forms of therapy have disadvantages, the most serious of which is that false theories of mental disorder are built up round wrong interpretations of the mechanism of these "cures." The medical profession should be reminded from time to time that these treatments are pure "shot-in-the-dark" affairs, and no theory of their action, even when they seem to work, is accepted even by the psychiatrists.

The great example of this bad result of building on other than scientific foundations is provided by the treatment of mind disorder by operation on the brain. In good faith members of our profession are cutting brains about, dividing the associating fibres between the frontal lobes, devising other ways of using their brilliant team work and surgical technique. Yet enough is already known of mental disorder for it to be said that no mentally ill person can ever be made well by operation on a normal brain. In fact, it must be an important part of every leucotomy treatment to see that if the patient gets well enough to go out and do his shopping and go to the cinema he does not also regain the right to vote, or take an active part in the arrangement of our affairs. He is permanently maimed.

I realize that the correct procedure is for us to speed up research into the psychology of insanity and so to provide a scientific basis for mental hospital work, but in the meantime are we to see our countryside littered with "cured" mental hospital patients with permanently deformed brains? And what happens if these physical therapy methods spread to the treatment of criminals? What guarantee have we that a Bunyan in prison will be allowed to keep his brain intact and his imagination free, or, to take a more ordinary case, that a political prisoner should be allowed to maintain his political convictions and his brain.

A new habeas corpus is needed now, a "habeas cerebrum," and very quickly. At any rate I should be grateful if your journal could once again make it possible for it to be said that there is one doctor who thinks the new physical therapy of mental disorder is sociologically dangerous, and that surgical interference with the brain in mental disorders is absolutely never justified.—I am, etc.,

London W.1. D. W. WINNICOTT.

Future of Venereology

SIR,—This is the age of planning, and we as a profession have been duly warned that our future activities will soon be subject to a control which we can only hope will be wise and paternal. The intervening period while our masters are making their plans is a period of difficulty for many young men who are returning from the Services either without a settled appointment or with an appointment which is not in keeping with their added years and experience. In many special subjects these young men are able to bridge the gap and support themselves by temporary registrarships or by research scholarships.

For my own subject—venereology—there is no such provision. Although figures are not yet available, it would probably be conceded generally that, taking all theatres of war, the venereal diseases were the major health problem of the armed Forces of the Crown. It is certain that in some places the problem assumed such proportions that the situation was saved only by heroic energy and improvisation. Many young men of high quality have had much experience in this subject and are continuing to take a deep interest. Some of them have already returned to civil life, and they are inquiring about the possibility of continuing their specialized work. In almost every case the answer has to be discouraging. There are no prospects; nothing is known of plans.

How is one to advise these men? Who are the planners and what is the substance of their plans for the future of venereology? Is it possible that there are no plans, or do the planners share the prevailing illusion that penicillin has provided the answer to all our problems in this respect? It is important that we should know. These young men must live, and if their ability and experience are to be used action must be taken now and not in three or six months' time. By that time the best of them will have made other arrangements. The alternative is to allow this vitally important subject to remain, what it has so often been, the perquisite of the elderly, the unprogressive, and the unimaginative, who practise their obscure routine in some forgotten basement.—I am, etc.,

A. J. KING.

Scalenus Anticus Syndrome

SIR,—As an observer only, I have been impressed by the number of patients suffering from this distressing and disabling condition who have been treated in the Orthopaedic Department of the Luton and Dunstable Hospital and have been cured by a simple operation. The condition does not appear to be well known; many of the patients have been in misery for a considerable time and have attended hospitals, and even neurological units, without benefit.

Briefly, the symptoms resemble those of a cervical rib, starting with brachial pain, accompanied by tingling and numbness in the hand, and associated with pain behind the shoulder. A typical case is as follows: (1) There are the symptoms of a progressive "idiopathic" brachial neuritis. (2) The patient is young to middle-aged. (3) In right-handed people only the right arm is affected. (4) The sufferer has been doing some extra or unaccustomed manual work. (5) There is no neuritis, fibrositis, or arthritis elsewhere. (6) The condition is not affected by administration of vitamin B_1, and is made worse by the usual massage and electrical treatment. (7) Frequently the patient has been diagnosed as neurotic, hysterical, malingering, etc. Radiological examination shows no bony abnormality such as cervical rib, osteo-arthritis of cervical spine, etc. So far as possible foci such as diseased teeth, tonsils, or sinuses have been excluded.

I am informed that the injection of a local anaesthetic into the scalenus anticus muscle quickly relieves the pain and confirms the diagnosis. The operation is simple and consists in cutting the scalenus anticus muscle and cleaning the fibrous connective tissue from the cords of the brachial plexus. I believe that in about 95% of cases relief is obtained very rapidly, and that this is complete, except that some patients still complain of the pain behind the shoulder.—I am, etc.,

Luton, Beds. HUBERT O'MEARA.

Staffing of County Hospitals

SIR,—The Council of the Association of Anaesthetists of Great Britain and Ireland is disturbed to find the following statement made by Dr. H. M. Macaulay in his article on "The Staffing of County Hospitals" published in the *Lancet* for Dec. 1 (p. 717):

> "The department of anaesthetics will be staffed, on the same principle, by an experienced senior anaesthetist holding a diploma, a less experienced chief assistant also holding a diploma, as well as resident and house anaesthetists. On the grounds that anaesthetics is a limited speciality, the salary scale is put somewhat lower than that for a general physician or surgeon, and it is recommended that senior anaesthetists should receive £1,000, rising to £1,400, or in cases of exceptional achievement to £1,600. Chief assistants will receive £650, rising to £850, resident anaesthetists £400, and house anaesthetists £250 yearly."

This practice of differentiation between the various specialties is now rather out of date. No such differentiation has been made in the Navy, Army, Air Force, or E.M.S. during the war, and it is presumed that there will be none in the proposed National Health Service. In chap. 4, para. 62, p. 92, the Goodenough Report on Medical Schools deprecates any difference in the rates of pay of various specialists and consultants in regard to their employment as teachers. If this recommendation holds good in the case of teaching, it must surely do so for clinical work, for the same difficulty in getting good men to enter for a poorly paid post will arise. It is common knowledge that the Standing Committee of the three Royal Colleges has established certain criteria for the recognition of consultants. Consultant anaesthetists are proposing to adopt these criteria and will expect in future the same reward as a specialist in any other branch of medicine.

The Council is at a loss to understand what Dr. Macaulay means by a "limited speciality" and would refer him to the annual reports of the Section of Anaesthesiology of the Mayo Clinic in the United States, which show that the limits of the specialty commonly known as "Anaesthetics" in this country are always extending.—We are, etc.,

A. D. MARSTON,
President.
W. ALEXANDER LOW,
Hon. Secretary.

Association of Anaesthetists,
45, Lincoln's Inn Fields, W.C.2.

Buying and Selling Practices

SIR,—This whole question should be reconsidered and discussed from every point of view. There are basic reasons for deprecating the sale of practices altogether. A practitioner presumably charges and obtains a just price for his services to his patients. On giving up practice it is his duty to provide continuity of treatment for his actual and potential patients. Does this justify him in demanding a large capital sum from the successor he has selected, over and above the just price he has received for past services? To many minds this is an unhandsome proceeding which cannot but lead to grave abuse.

Canvassing is forbidden us as members of an honourable profession, though canvassing is universal in the capitalist society in which we practise. To sell to the highest bidder is normal commercial ethics. Is it good enough for our profession? If a practice can be sold the temptation to sell to the highest bidder is inevitable, irrespective of the good of one's patients, which is supposed to determine medical ethics, and inevitable also is the boosting of the proposed buyer, than which there can be no more effective form of canvassing. The effect of selling practices is to make boom periods still more "booming" and to cause "slumps" to "slump" still further. A prospective seller is always tempted to wait for the former and artificially inflate his practice as much as possible while the going is good. The sale of practices encourages the technique and methods of the practitioner who believes and preaches that the best doctor is he who charges the highest fees and makes the most visits. Many a beginner or newcomer finds too late that he has bought the bad-will of patients increasingly resentful, who are only waiting for the seller to go to "make a change," and that he faces a time of slump with a boom debt.

If, however, the whole status of the medical practitioner as hitherto understood in Christendom is to be altered other considerations come in. Hitherto the patient and doctor have both been principals in the business of diagnosis and treatment, and no third person has the right to intervene. But if the doctor is to be a conditioned agent of the politicians and the civil servants, vetting according to the plans of these gentry a conditioned worker, this is so alien a notion to Western civilization and to what the profession has hitherto understood that practitioners may justly press for reasonable compensation from the politicians for loss of income.—I am, etc.,

London, N.16. E. H. STRANGE.

SIR,—According to the latest Ministerial pronouncement the buying and selling of medical practices is to be abolished by legislation. A schedule of the capital values invested in, or represented by, the different practices will be a necessary preliminary to any measure of compensation to individual practitioners. In any such valuation it is to be hoped that consideration will be given to the position of those doctors—notably in London and the East Coast towns—whose practices largely disappeared as a result of war risks and incidental conditions. Their patients migrated, either voluntarily or under official pressure, and went to swell the practices of colleagues in other parts of the country. The doctors found other employment, mostly in one of the Services, and have so far had little or no chance to resuscitate their pre-war practices and re-establish their "capital value." In these cases, at least, it would seem equitable to make a valuation based on the 1939 earnings, as shown by certified accounts or income-tax returns.—I am, etc.,

"THANET."

The Bristol Council for Rehabilitation has appointed the following officers: Chairman, Mr. A. G. Thompson; Vice-Chairman, Mr. F. R. Imison; Joint Hon. Secretaries, Mr. P. Hanks (secretary, Winford Orthopaedic Hospital) and Mr. John Dodd (hon. secretary, Bristol and District Divisional Hospitals Council). Reference was made at a meeting of the committee to the reluctance of disabled people in Bristol and district to register under the Disabled Persons (Employment) Act. The Council hopes that disabled persons (including those who may think their long-standing disabilities preclude any possibility of their getting employment) will realize that it is to their advantage to register under the Act.

Obituary

LEWIS CAMPBELL BRUCE, *M.C.*, M.D., F.R.C.P.Ed.

The death of Lewis Campbell Bruce on Dec. 3 in his 79th year severs almost the last link with the supreme period of Scottish psychiatry in the closing years of the last century and the early ones of this. There were giants in the land in those days, and it is strange to reflect that Bruce was regarded by many of them not only with respect as an original thinker and worker, but also, and even chiefly, as a dangerous innovator and something of a revolutionary.

He qualified at Edinburgh in 1894 and had an Army career as his goal, but had the great misfortune, in those days of few vacancies and severe tests, to fail to gain entrance either to the R.A.M.C. or to the I.M.S. He turned his attention to psychiatry, and joined the staff of Morningside under Sir Thomas Clouston. There he developed that combination of clear scientific thinking with intense energy and enthusiasm which characterized his whole life. In 1899 he was appointed medical superintendent of the 400-bed Perth District Mental Hospital at Murthly in succession to Prof. G. M. Robertson, who had been appointed to Larbert. Six or seven years later he suffered the crowning disappointment of his career when, to the general surprise, Robertson, and not he, was appointed to succeed Clouston at Morningside. As it happened this apparent setback was the proverbial blessing in disguise, for Bruce, with all his brilliancy, would have been miserable in the post. He was rather embittered for a time, and one or two further opportunities of promotion were practically thrown away by him, apparently by his offhand manner, but perhaps because he was already realizing that he was the ideal man for Murthly and Murthly was the ideal place for him. Into that small country hospital beside the River Tay he threw all his abilities and energies, and for 35 years made it a model of efficient and enlightened administration, a place of humane and skilful psychiatric treatment, and a source from which proceeded first-rate scientific work. He established and equipped a small laboratory which was his constant joy and pride. He trained members of his staff to do the work of laboratory technicians, prepare media, look after the animals for experiment, and so forth, and was one of the first medical superintendents, if not indeed the very first, to put out his own original work from the hospital of which he was in charge.

It was Bruce who introduced the thyroid treatment of the insane. He was an enthusiast on vaccine therapy, and one of his chief lines of research was on blood changes in the manic-depressive psychosis—the subject he chose for his Maudsley Lecture in London in 1935. His scientific work never received all the recognition it deserved, partly because of the advances in knowledge and change in outlook during the last twenty years, and partly no doubt because he worked in isolation, and not in association and collaboration with others. But the memorable thing about his work is not its value and results so much as the amazing pertinacity and skill with which it was carried out in a tiny laboratory, often with improvised or home-made instruments and apparatus, without the stimulus of colleagues, and in the teeth of obstruction and misunderstanding from an uninformed hospital committee.

Bruce was a devotee of scientific method and clear thinking, and his other ruling passion was the open air and every form of outdoor life and activity. He had one assistant medical officer, and, as a rule, liked a change every eighteen months or so. Fortunate indeed were the men who had a period at Murthly as their introduction to psychiatry. The first practical result with most of them was the completion of an M.D. thesis, more often than not up to gold medal standard. Bruce was forthright and outspoken to a very great degree. He was often the reverse of tactful, was matter-of-fact and unsentimental; he not merely could not suffer fools gladly, he could not suffer them at all. Doubtless, especially in his earlier days, he antagonized those who did not know him, and very few people whom he disliked remained in ignorance of the fact; but a short acquaintance made it clear that his impulsive ways and his sometimes caustic words were expressions of a loathing of cant or affectation and a flaming scorn of anything mean or insincere. He had no use for "sobstuff" and a bitter contempt for the shirker, but his kindness to anyone who was sick or in trouble and his understanding and toleration of human frailties and lapses were unbounded. His administration was strict, and his discipline may have seemed stern and even harsh at times to outsiders, but few, if any, medical superintendents can have been held in such affection by their medical and nursing staff as he. No one who worked for him could fail to realize that he was a man with whom fair play was a passion, and to whom one could safely confide one's inmost secrets and deepest troubles.

Bruce's mental and physical energy were alike amazing. The day's routine at Murthly, with its altogether delightful mixture of work and play, both at full pressure and express speed, may perhaps seem a little old-fashioned to modern neuropsychiatrists, but it was a uniquely pleasant and beneficial experience to the succession of assistants who enjoyed it year after year, until, as he characteristically remarked, the time came when they became more trouble to train than they were worth, and he carried on the work of the hospital single-handed. After the outbreak of war in 1914 he gave his committee no peace until he obtained their permission to join the Forces. He went to Gallipoli at the age of almost 50, acquitted himself gallantly, and was awarded the Military Cross. On his return he ran Murthly as a war hospital for a year or two, and then settled down again, with characteristic lack of fuss, to civilian life.

Bruce was a born teacher, concentrating on the physical aspect of mental disease. He had no use for psychopathology, nor did it interest him. As a clinician, however, he was in the first rank. He had many friends in the medical faculty of Edinburgh University, and made a point of keeping in touch through them with every development in clinical medicine and biochemistry. Above all he insisted upon the great principle that it is impossible to understand the psychoses, or even to talk sense about the psychoses, unless one has lived among psychotic patients. Slovenly work or muddled thinking he abhorred, and few people would willingly risk his displeasure twice. On the other hand, few indeed of those who ever worked for Bruce left his service without feelings of gratitude and affection, and none without feelings of respect. To have made himself generally recognized during so many years in that small country hospital as one of the keenest scientific minds, and certainly the most vivid personality, in Scottish psychiatry was a supreme achievement. He retired in 1936 and carried on his country pursuits near Lockerbie in Dumfriesshire, where the local people, once they appreciated that here was a man whose knowledge of country life was unsurpassed, made him very welcome. The old impulsiveness and irascibility had become mellowed, but the clear-thinking brain was alert to the very end, and his interest in every psychiatric development was as keen as ever.

H. Y.

G. ARBOUR STEPHENS, M.D.

Dr. George Arbour Stephens of Swansea, who died suddenly on Dec. 1, was of Huguenot descent through his father, was born on the other side of the Loughor, at Carmarthen, in 1870, and went to school there, afterwards going on to University College, Aberystwyth. In 1888 he took the B.Sc. of London University, with honours in zoology, and entered for his medical training at University College Hospital, London, qualifying M.B., B.S. in 1892, with first-class honours in materia medica and honours in medicine. In the following year he took his M.D. Settling in Swansea, he remained there for the whole of his professional life. In later years he specialized as a cardiologist and also in industrial medicine. He was consulting cardiologist to the Welsh National Memorial Association and to Carmarthen County Council and consulting physician to the Cardigan and District Memorial Hospital and to Llandovery and Clydach cottage hospitals. He took an outstanding part in the initiation of infant welfare work in Swansea, was co-founder of the first Mothers and Babies Welfare in Wales, and a pioneer of mothercraft classes for schoolgirls and of the institution of school meals. His position as a surgeon under the Factory Act gave him long experience of some Swansea industries, and he carried out some research in this field. He was a past-president of the Swansea Medical Society.

Arbour Stephens took a considerable part in the public life of his town and of the Principality. For 13 years he was a member of the board of guardians and for some time chairman of the Glamorgan joint poor-law committee for the feeble-minded. For 18 years he was a member of the town council, latterly an alderman, and for 9 years chairman of the education committee. He represented the Swansea municipality on the governing body of the University College; the college had been intended only for science courses, but on his advocacy it was widened to include the full arts faculty. Recently he had advocated a veterinary college for Wales. His principal medical writings were on the prevention and relief of heart diseases and on the heart and spleen in health and disease. He also wrote on archaeology and folklore. He first joined the British Medical Association in 1901. He married in 1922 Mary Williams, D.Litt., professor of modern languages, Swansea University College.

F. H. K. K. writes:

The sudden death of George Arbour Stephens deprives the profession of a dignified, cultured figure whose wide interests covered a very large field not only in his own profession but also in the field of local government and particularly in education. Settling in general practice in Swansea he soon built up a reputation for originality of outlook, and he had no hesitation in discarding any orthodox views if they did not come up to his own high standards of scientific truth. Later he specialized in cardiology and industrial medicine, and the almost total disappearance of cases of lead poisoning among the spelter workers whom he regularly examined and on whose welfare he wisely advised is perhaps the greatest monument to his life's work. He served on the Swansea Board of Guardians for many years and for 18 years served on the Swansea town council, many of which years were spent as chairman of the education committee. He was on the governing body of the University College of Swansea and of the National Library of Wales and also the Welsh National Museum. His ideas were prolific and many of them in advance of his time, and the non-acceptance of some of them left him scornful of his fellows. Nevertheless those who knew him best and those who had received at his hands help, advice, and comfort when in distress will remember him as a dignified, wise, and generous-hearted colleague and a fine useful citizen.

H. M. MORAN, Ch.M., F.R.C.S.Ed., F.R.A.C.S.

Herbert Michael Moran, born of Irish parentage on April 26, 1885, died at Cambridge on Nov. 20. He graduated at Sydney in 1907, and after resident appointments toured Great Britain in 1908 as captain and "guardian angel" of the first visiting Australian rugby football team. When the team returned to Australia "Paddy" Moran remained behind in England and continued his postgraduate studies, taking his F.R.C.S.Ed. He became extremely interested in radium and the development of radium therapy both in England and on the Continent, as well as in America. In order that he might utilize the knowledge and experience he had gained in this field he took back to Sydney with him several thousand pounds' worth of the (then) new radium needles. Until his retirement in 1935 he held the appointment of cancer specialist at Prince Henry's Hospital, consultant at the Royal Prince Alfred and the North Shore Hospitals, surgeon at the St. Vincent's and Lewisham Hospital; and lecturer in radiotherapy at Sydney University. During 1934 he gave a series of lectures in the treatment of cancer by radium to the medical profession in New Zealand, at the instance of the New Zealand branch of the British Empire Cancer Campaign. In 1935, although a surgeon, he was president of the Section of Radiology and Radiotherapeutics of the B.M.A. Annual Meeting held at Melbourne.

During the first world war he served in the R.A.M.C., and rejoined it in 1939, retiring as lieut.-colonel in 1945. His deep interest in human nature, together with his shrewd sound judgment, amply fitted him for the position of president of the Eastern Command standing medical boards, which he held for the last years of his life. His interests were not only in medicine and sport but also in foreign languages and literature, and his achievements in these fields were notable. Having initiated the teaching of Italian language and literature he became in 1934 acting president of the Foreign Language Association, Sydney; a member of the French society, "Amitiés"; and a life member of the Dante Alighieri Society. The Paul Bosell medal for Italian language and literature was awarded him, and his work in encouraging the study of languages was recognized by the conferment of Knight Commander of the Order of the Crown of Italy and Chevalier in the Order of St. Maurice and St. Lazarus. In 1934 he founded the Sydney branch of the Guild of St. Luke and St. Damian, Sydney. His autobiography, *Viewless Winds*, was published in 1939; *Beyond the Hills Lies China*, a narrative, in 1945. The continuation of his autobiography, *In My Fashion*, will be published in 1946. He was a life member of the New South Wales Rugby Union as well as Australian representative on the English Rugby Council. This interest in sport characterized his whole life. His dash and verve and leadership, coupled with his scholastic ability, endeared him to many. He died as he had lived, a sportsman to the end.

C. F. E.

MARGARET BALFOUR, C.B.E., M.D.

Miss C. L. Houlton, M.D., F.R.C.O.G., Secretary, Medical Missions, S.P.G., writes:

The news of the death of Dr. Margaret Balfour will be received with great regret by all medical women in this country and in India. Dr. Balfour had a most distinguished and varied career in India. She will long be remembered for the great service she gave to Indian women in the provision of medical relief, especially to those prevented by purdah restrictions from being attended by medical men.

Dr. Balfour first went to India in 1892, and until her retirement in 1924 devoted herself unsparingly in the advancement of medical services for the women and children of India. She was intensely interested in all problems relating to maternal and child welfare, and especially in research connected with anaemias of pregnancy and osteomalacia. Her stimulating personality enabled her to arouse enthusiasm in all those with whom she worked. Nothing daunted her, nothing discouraged her, and she never lost her keenness. Dr. Balfour's outstanding achievements were connected with the Countess of Dufferin's Fund. This Fund was formed in 1885 by Lady Dufferin to bring medical aid by women to the women of India, and undoubtedly carried out a great piece of humanitarian work; but after Lady Dufferin's departure from India the activities of the association gradually decreased and its reputation fell. The position of medical women serving in the association was most unsatisfactory and caused great discontent in the profession. Representations by medical women were made to the Government of India and to the Secretary of State for India which finally resulted in the foundation of the Women's Indian Medical Service in 1914. After a delay of two years Dr. Balfour was appointed joint secretary of the Countess of Dufferin's Fund and chief medical officer of the Women's Medical Service. The duties of the secretary included administration of the Women's Medical Service—that is, the inspection of the personnel, the selection of applicants in India, the arrangements of appointments, transfers, etc. They included also the secretaryship of the Funds of which the Viceroy's wife was president—the Countess of Dufferin's Fund, of which the income was spent in grants to hospitals, and the Victoria Memorial Scholarship Fund, used for assisting in the training of indigenous dias; and later the Lady Chelmsford All-India League for Maternity and Child Welfare was added to the other duties. New lines of activity suited to Indian conditions were to be thought out and organized in the Dufferin office, and Dr. Balfour's initiative and energy were responsible for working out schemes on preventive medicine, especially relating to the problem of childbirth and child welfare. She was largely responsible for the initiation of the "Health School" in Delhi for the training of health visitors and maternity supervisors, and also for the first Maternity and Child Welfare Exhibition held in Delhi in 1920. The organizing work of the exhibition was done in the Dufferin office, and involved an immense amount of labour on the part of Dr. Balfour. Looking back it is clear the exhibition was a remarkable effort and one which had an immense effect in stimulating people to take up child welfare work in India.

Dr. **GEORGE A. MAXWELL HENDRY**, who has died at the early age of 33, studied medicine at Aberdeen University. As a student he suffered a prolonged interruption of his work due to a serious illness. He faced this setback bravely, however, and graduated M.B., Ch.B. in 1941, having reason to hope that his recovery might be permanent. After qualifying he entered general practice as an assistant in Aberdeen and latterly in Beauly. He became a member of the B.M.A. Early this year, wishing to qualify for a higher degree, he took up work at the Southern General Hospital, Edinburgh. Those who knew Hendry most intimately, writes a colleague, speak of him as a tireless worker. Clinical findings had to be checked over and over again before Hendry was satisfied, and he would spend hours on a difficult or puzzling case. Essentially a worrier, he was ever solicitous of his patients' well-being, while many a time his Scottish humour helped to make the rough places smooth. Perhaps it was because he had faced trouble in his own life that he was enabled to be extraordinarily gentle and kind in the presence of sickness or bereavement. In hospital Hendry was never far away from the bedside, or the microscope, or the laboratory, and this capacity for hard work and thoroughness spread infectiously to the medical students under his wing. His case notes remain as an example of all that case notes should be—concise, exhaustive, accurate. It was a shock to his friends when a recrudescence of his former illness occurred. He had to face the dreary prospect of prolonged invalidism; and for a time it seemed that he might do well. The suddenness of his final passing on Nov. 29 was as unexpected as it was tragic. Dr. Hendry was the only surviving son of Dr. and Mrs. G. F. J. Hendry of Voe, Shetland. Prof. L. J. Davis sends the following appreciation: Although G. A. M. Hendry had been qualified longer than most hospital residents on first appointment, and had been away from hospital work for some years, he was one of the most satisfactory house-physicians it has been my good fortune to encounter. His enthusiasm for his work was unbounded and his conscientiousness outstanding. Although he had acquired a sound knowledge of medicine, his approach to clinical problems was always attended by a thoughtful humility and a desire to learn all that careful observation and untiring inquiry could teach. He had, furthermore, a very pleasant personality, being popular alike with patients, students, and staff. His tragic death at the early age of 33 removes a very promising member of the profession, and one of a type that can ill be spared.

The death of Dr. **ROBERT GORDON** at the age of 82 occurred on Nov. 13 at his residence at Beaconsfield, Bucks, where he had lived in retirement for twenty years. Graduating M.B., C.M. at Edinburgh in 1885, he proceeded to the M.D. degree in 1899, and thereafter practised in Sheffield until his retirement in 1925. He was representative of the Sheffield Division of the B.M.A. from 1909 to 1913, a member of the Division executive committee from 1904 to 1914, and vice-president of the Section of Diseases of Children on the occasion of the Association's Annual Meeting at Sheffield in 1908. During the war of 1914–18 he was appointed visiting physician to the Wharncliffe War Hospital, and afterwards became one of the examining medical officers to the Ministry of Pensions as a neurologist. Dr. Gordon enjoyed the affectionate regard of many friends; and at Beaconsfield after his retirement he soon became an active member of the community. He was a member of the local urban district council for some years, and his sound judgment and kindly interest in the welfare of others continued until his death. He will be greatly missed by all who were privileged to know him.

JAMES CHARLES BUCKLEY, M.D., died at Southfields, Bramcote, Notts, on Nov. 18 in his 77th year. Until four days previously he had been in active practice, and one remembers him once saying he hoped he would meet his end just in this fashion. After graduating at Manchester University and holding various house appointments, Buckley engaged in general practice in Nottingham. His interests were attracted to venereology, and by 1914 this specialty made up about half of his practice. When in the R.A.M.C. his work was confined to venereology, and in 1917 he was released for the purpose of starting the Nottingham Clinic. Under his direction the clinic was organized and expanded until it became one of the most important of provincial treatment centres. He was also in charge of clinics at Mansfield and (for a time) at Newark, and carried on a large private practice. Although he retired from the Nottingham Clinic in 1938 his activities were not greatly reduced, and he actually opened a new centre recently at Worksop. Those who have worked with Buckley will always remember his great store of energy and excellent organizing abilities. Good-tempered and kindly, he did not suffer fools gladly, and this combination enabled him to run a large clinic with the minimum of friction. He played an important part in the growth of venereology as a specialty, and although he did not write many articles his influence was felt in the committee room as a sound and practical planner who was really able to make things work. In his spare time Buckley bred racing pigeons, and secured many successes, notably in long-distance races from San Sebastian. During the last two wars the pigeons were used for military purposes. He was president of the National Flying Club for many years. He is survived by a son and daughter.—A. D. F.

Dr. **THOMAS AUBREY**, born in 1876, died suddenly and peacefully on Nov. 23 of heart failure. He had an attack of coronary thrombosis three years ago; after a few months he resumed his full activities in a very busy practice. The eldest son of Thomas Aubrey, F.R.C.V.S., of Bath, he was educated at Berkhamsted, Bristol University, where he had a brilliant career as a medical student, and St. Bartholomew's; he obtained the Conjoint diplomas in 1899 and the M.B.Lond. in 1902. He practised at Isleham, Cambs, and Bridgwater before settling at Bitton, Glos, in 1905. He was district medical officer for Bitton, Kelston, and North Stoke, and medical officer to Mangotsfield and Warmley Joint Isolation Hospital, and for many years M.O.H., Warmley Rural District Council. He had also been surgeon to the Post Office, casualty officer, Bristol General Hospital, clinical assistant, Brompton Chest Hospital, and junior clinical assistant, Golden Square Throat Hospital. He married in 1900 Mia Isabel Castle, by whom he had one daughter, who died in the influenza epidemic of 1918, and one son, acting wing commander, medical, who lost his life on active service in North Africa in 1943. Mr. Beardmore writes: "It is almost impossible to overestimate the esteem and affection in which Dr. Aubrey was held by the people of Bitton and district, the scene of his labours for the last forty years. He was so much more than their doctor—he was their counsellor and intimate personal friend, and on the autumn day on which he was laid to rest the social and industrial life of the district was stilled, the church was full, the path to the grave was lined, and in the village the children from the school and the workmen from the mill stood with bare heads to pay their silent homage to one of the ablest and best-loved men of his generation and station." Dr. D. I. Jones writes: "His was a dynamic personality. An intensive application to practical work every minute of the day and every day of the week, up to his last living day, did not prevent his being up to date in all details of modern knowledge and technique, and *au fait* with affairs, local and general, of everyday life. His practical knowledge of illness, of its treatment, and of folk great and small with whom he dealt daily, was phenomenal."

Dr. **Ernest William Shaw Hughes** died in retirement at his home in Pinner, Middlesex, on Nov. 23. He was born in 1870, eldest son of the Rev. T. A. A. Hughes, Vicar of Shelf, near Halifax, and was educated at Bradford Grammar School and the Leeds Medical School. After qualifying M.R.C.S., L.R.C.P. in 1893 he was for a short time assistant to Dr. Hector at Drighlington, near Leeds, and then set up in practice in 1896 at Lee Mount, Halifax, and continued there until he retired in 1929. Dr. Hughes was a very active member of the local Division of the B.M.A., which he joined in 1901, and held office as chairman and secretary on several occasions. He was also for many years a member of the Halifax Panel Committee. A pioneer motorist, he used a motor cycle in his practice before the end of the last century, and was a founder-member of the Halifax Automobile Club. During the war of 1914–18 he held a temporary commission for a year in the R.A.M.C. and saw service in Malta and in a hospital ship serving the Salonika front. He died after a short illness, and leaves a widow and one son, Dr. F. L. A. Hughes, who is in practice at Malton, Yorkshire.

Dr. **Ernest Alsager Parsons**, who died in Birmingham on Nov. 23, aged 77, was the third son of C. W. Parsons, of Austrey, Warwickshire. Educated at Appleby Magna Grammar School, and apprenticed to a Coventry pharmacist, he later took up an appointment in Rome. Returning to England in 1893, he studied medicine at Mason's College, Birmingham, and Westminster Hospital, and on qualifying M.R.C.S., L.R.C.P. in 1899 entered the service of the Telegraph Construction and Maintenance Company, and served as medical officer on a ship laying cable to St. Helena. He offered his services in the South African War, and joined Sir Frederick Carrington's Rhodesia Field Force. After the war he became senior medical officer to the Beira and Mashonaland Railway Company, an appointment he held until 1907. In 1908 he was employed as one of the medical officers on Sir John Aird's works in connexion with the Assuan Dam extension, in which capacity his command of the Italian language was valuable on account of the large amount of Italian labour engaged. Unfortunately his health broke down and he had to return to this country. On his recovery he joined the staff of Queen's Hospital, Birmingham, eventually becoming the senior resident medical officer. After the 1914–18 war he served as a member of the local Pensions Board. For the last twenty years he had been in private practice in Birmingham.

The death of Dr. **Thomas William Naylor Barlow**, O.B.E., of Wallasey, at the age of 77, deprives his profession of a man with a long and honourable record. He was M.R.C.S., L.R.C.P., D.P.H. of Cambridge, F.R.S. of Edinburgh, and a barrister-at-law. He retired from his post as medical officer of health at Wallasey in March, 1934. He was president of the Society of Medical Officers of Health 1923–4, and was for many years a very active and popular member of that society. He was a member of the Public Health Committee, and several subcommittees, of the B.M.A. from 1923 to 1931. He was a member of the Committee on Medical Aspects of Abortion 1934–6, and represented his Division at the A.R.M. in 1926 and in 1939. He was secretary of the Section of State Medicine and Industrial Diseases at the Annual Meeting at Liverpool in 1912, and vice-president of the Section of Public Medicine at Bath in 1925. In his later years he suffered greatly from rheumatoid arthritis and was thus prevented from taking an active part in medical affairs. Though unknown to many of the present generation, he will be well remembered by his contemporaries as an able medical officer of health, a genial companion, and as a man always willing and able to co-operate with his fellows in other branches of the profession.

The following appreciation of the late Dr. **Henry Ernest Rutherford**, of Larne, Co. Antrim, who died on Nov. 30, has been received from a colleague: By Dr. Rutherford's death Larne and district have lost an outstanding personality. One had only to know his qualifications to appreciate the fact that he was a man of many parts. As a graduate of arts, law, and medicine, he held a unique position among the medical men of Ulster. His outstanding characteristic was the keen interest he took in the welfare of his fellow men, an interest which he maintained until the end. A cultured man and a great reader, he had a sense of humour which made him take a kindly view of the failings of humanity.

The Services

Col. A. H. Harty, C.I.E., V.H.S., I.M.S., has been appointed Honorary Physician to the King in succession to Major-Gen. W. C. Paton, C.I.E., M.C., I.M.S.(ret.).

The following appointments, awards, and mentions in dispatches have been announced for distinguished service during the war in Europe:

C.B.E. (Military Division).—Surg. Capt. J. F. Ainley, R.N. (ret.).

O.B.E. (Military Division).—Surg. Cmdr. J. V. Dockray, R.N.V.R. (ret.).

D.S.C.—Temp. Surg. Lieuts. P. M. Kerr and H. R. Shepherd, R.N.V.R.

Mentioned in Dispatches.—Acting Surg. Cmdr. C. Ommanney-Davis, R.N. (ret.); Temp. Acting Surg. Lieut.-Cmdrs. H. O. Paton, J. F. Ryan, and J. K. G. Way, and Temp. Surg. Lieuts. G. A. Findlay and G. K. H. Hodgkin, R.N.V.R.

CASUALTIES IN THE MEDICAL SERVICES

Died.—Col. Sidney John Liddon Lindeman, O.B.E., M.C., R.A.M.C.

Previously reported prisoner of war, now believed to have been lost in Japanese transport in Oct., 1942.—Capt. Bernard Henry Mooring-Aldridge, R.A.M.C.

Universities and Colleges

UNIVERSITY OF CAMBRIDGE

V. B. Wigglesworth, M.D., F.R.S., of Gonville and Caius College, has been appointed Reader in Entomology. Dr. Wigglesworth is at present Reader in Medical Entomology at the London School of Hygiene and Tropical Medicine, and Director of the Agricultural Research Council Unit on Insect Physiology.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH

At the annual meeting of the College, held on Dec. 6, Prof. David Murray Lyon was elected President, and Dr. W. D. D. Small, Prof. L. S. P. Davidson, Drs. J. D. S. Cameron, H. L. Wallace, and I. G. W. Hill, and Prof. D. K. Henderson were elected to form the Council for the ensuing year. Dr. Small was nominated Vice-President.

ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW

Dr. Robert A. McCance, F.R.C.P., will deliver the Dr. James Finlayson Memorial Lecture in the hall of the Royal Faculty of Physicians and Surgeons, 242, St. Vincent Street, Glasgow, on Wednesday, Jan. 9, at 4 p.m. The title of the lecture is "Bread."

Medical News

University College, Southampton, has been holding this week, in conjunction with the British Council, a leave course on "Britain To-day and To-morrow," for members of the Dominions, United States, and Polish Forces, at South Hill, Gleneyre Road, Bassett, Southampton. To-day (Friday, Dec. 21), at 11.45 a.m., Dr. W. P. Cargill lectures on "The Health of Britain."

A general course for demobilized general practitioners has been arranged to begin on Monday, Dec. 31, at Bristol University. It will last a fortnight. The detailed programme has not yet been drawn up, but the course will be essentially clinical. Particular emphasis will be laid on paediatrics and maternity. Other subjects to be included are mental deficiency, public health with fevers, and pulmonary diseases, including tuberculosis. Accommodation will be provided at a University Hall of Residence (Wills' Hall) at a charge of 15s. per day plus 10% for gratuities.

The French Academy of Medicine has elected Sir Alexander Fleming an Associate Member in recognition of his services to medicine by the discovery of penicillin. He shared the honour of election with, among others, Sir Henry Dale, Prof. E. D. Adrian, and Prof. C. H. Best (Toronto); and Sir Wilson Jameson has been elected a Foreign Correspondent of the Academy.

Dr. W. S. C. Copeman has been elected chairman of the Council of the Chartered Society of Physiotherapy in succession to Sir Herbert L. Eason, who has resigned.

As the result of recommendations made by a joint committee of the British Institute of Radiology and the Faculty of Radiologists, the Faculty is setting up an Information Bureau at 45, Lincoln's Inn Fields, London, W.C.2 (Chancery 6965) to assist officers who have served as radiologists in H.M. Forces in obtaining information regarding further training and appointments vacant. The Faculty therefore invites inquiries from such radiologists and is prepared to receive particulars from hospitals requiring radiological staff.

The Ministry of Health states that it has now been agreed by the Service Departments that they will accept liability for the cost of sanatorium treatment of members of the Forces, for the period of such treatment preceding the date of discharge from the Forces, on the same basis as applies between a sanatorium authority and the Ministry of Pensions with regard to the cost of treatment after discharge.

Dr. Robert Noel McKinstry, Medical Officer of Health, Jersey, and Dr. Angelo Nelson Symons, Health Officer, States of Guernsey, have been appointed O.B.E. (Civil Division) for services rendered during the enemy occupation of the Channel Islands.

Dr. Colin Fraser Brockington, at present county medical officer of health for Warwickshire, has been appointed county medical officer for the West Riding of Yorkshire.

Dr. Robert Courrier, professor at the Collège de France and member of the Académie de Médecine, has been elected a member of the Académie des Sciences.

Lord Nuffield, already a munificent benefactor of Worcester College, Oxford, has presented a further sum of £10,000 for the endowment of scholarships for medical students.

EPIDEMIOLOGICAL NOTES

Discussion of Table

In *England and Wales* there was a rise in the incidence of infectious diseases. The largest increases were acute pneumonia 167, whooping-cough 152, measles 48, diphtheria 22; while the only fall was scarlet fever 32.

The only local rise of any size in the incidence of acute pneumonia was Yorks West Riding 76; slightly more than half the total cases notified in this county were recorded in Sheffield C.B. The largest rises in diphtheria were Suffolk 13, Durham 16, Yorks West Riding 12, Essex 11.

The whooping-cough increase was fairly general, and the only rise of note was Essex 31. The increase in measles was contributed by only a few counties; the largest rises were Norfolk 37, and Lancashire 24.

A fresh outbreak of dysentery was reported from Berkshire, Abingdon R.D. 22 cases. The other large returns were Lancashire 40, Surrey 34, Essex 24, London 21, Gloucestershire 19, Glamorganshire 14.

In *Scotland* infectious diseases were more prevalent during the week. The rises included acute primary pneumonia 57, measles 28, scarlet fever 30, dysentery 18, diphtheria 15. The largest rise in diphtheria was that for the city of Glasgow 26. The chief centres of dysentery were Glasgow 26, Renfrew County 16, and Edinburgh 12.

In *Eire* the outbreak of measles in Dublin C.B. showed a further increase; 160 cases were notified during the week. There were 48 cases of diarrhoea and enteritis notified, this disease having been at a practically constant level during the past five weeks.

In *Northern Ireland* a decrease of 11 in the total for scarlet fever was the only change of note in the trends of infectious diseases.

The Health of Bengal, 1941

The birth rate during the year was 31.9 per thousand, and was 5.3% below the rate for 1940. The death rate was 23.7 per thousand, and was 6.6% higher than that of the previous year. The simultaneous deterioration of birth and death rates is a rare event; the last two occasions were 1918 and 1938. Excluding "other classes" the Muslims had the highest birth rate (32.1) and the highest death rate (24.6). Infant mortality was 156 per thousand live births, compared with 159 in the previous year. A general increase was recorded in epidemic diseases. The chief causes of death were malaria 388,381 deaths (32.8% of the total deaths recorded), cholera 61,879, smallpox 13,250, kara-azar 16,349, and dysentery and diarrhoea 51,529.

Week Ending December 8

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,779, whooping-cough 1,225, diphtheria 574, measles 611, acute pneumonia 744, cerebrospinal fever 41, acute poliomyelitis 28, dysentery 242, and typhoid 5.

No. 48

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended Dec. 1.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1945					1944 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever	45	1	17	5	1	39	2	25	1	—
Deaths		—	2				—	2		
Diphtheria	676	33	221	89	18	637	19	173	122	20
Deaths	10	—	—	5	—	13	—	6	—	—
Dysentery	231	21	68	—	—	381	29	85	—	2
Deaths				—	—				—	—
Encephalitis lethargica, acute	2	—	—	—	—	1	—	—	—	—
Deaths		—					—			
Erysipelas			56	17	9			56	11	2
Deaths		—					—			
Infective enteritis or diarrhoea under 2 years				48					17	
Deaths	39	2	14	9	—	31	5	8	19	1
Measles*	501	43	109	168	—	7,810	84	297	36	273
Deaths	—	—	1	1	—	10	—	—	—	—
Ophthalmia neonatorum	64	5	9	—	—	64	4	15	1	—
Deaths										
Paratyphoid fever	6	—	3 (B)	—	—	3	—	2 (B)	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenzal†	746	41	5	2	7	761	27	10	3	4
Deaths (from influenza)	30	7	1	1	—	27	1	5	—	—
Pneumonia, primary			238	44				284	16	
Deaths		33		12	4		—		13	13
Polio-encephalitis, acute	5	—				—	—			
Deaths		—					—			
Poliomyelitis, acute	20	1	—	1	—	10	—	3	1	—
Deaths		—					—			
Puerperal fever		4	21		—		5	12		—
Deaths										
Puerperal pyrexia‡	142	7	12	1	—	134	9	14	1	2
Deaths		1					—			
Relapsing fever	—	—			—	—	—			—
Deaths										
Scarlet fever	1,879	163	314	17	42	2,279	71	343	47	71
Deaths	2	—	—	—	—	1	—	—	—	—
Smallpox	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Typhoid fever	12	1	1	5	1	7	1	2	10	1
Deaths	—	—	—	—	—	—	—	—	—	—
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Whooping-cough*	1,384	79	42	41	3	1,474	49	130	33	9
Deaths	9	—	2	2	—	9	1	4	2	1
Deaths (0–1 year)	344	38	54	36	10	343	36	62	43	17
Infant mortality rate (per 1,000 live births)										
Deaths (excluding stillbirths)	4,703	739	613	199	107	4,743	782	636	220	139
Annual death rate (per 1,000 persons living)			13·9	12·8	§			14·6	14·3	§
Live births	6,561	895	808	370	217	6,685	611	853	322	255
Annual rate per 1,000 persons living			16·2	23·9	§			17·3	20·9	§
Stillbirths	209	20	29			220	18	29		
Rate per 1,000 total births (including stillborn)			35					33		

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

‡ Includes puerperal fever for England and Wales and Eire.

§ Owing to movements of population, birth and death rates for Northern Ireland are still not available.

Letters, Notes, and Answers

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: *Aitiology Westcent, London.* ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated.

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ANY QUESTIONS?

Nodule at Site of A.P.T. Injection

Q.—*What is the cause of the small nodule which often appears at the site of A.P.T. injection? Has its size any relation to the degree of immunity that may be expected?*

A.—The difference between alum-precipitated and other toxoids is that alum precipitation renders toxoid much more insoluble. It is therefore more slowly absorbed and hence can be given in more concentrated form; this is the reason for its greater efficacy. The nodule referred to is a depot of the material itself, with a surrounding area of leucocytic infiltration. Neither the intensity of the initial inflammatory reaction nor the size of the nodule persisting thereafter bears any relation to the degree of immunity produced. Sensitiveness to this product, which determines the degree of local reaction produced by it, has no connexion whatever with immunity. This reaction is usually slight in children, who tend to be highly susceptible, and often much more severe in adults, who in general have a higher degree of partial immunity.

Treatment of Syphilis

Q.—*A man contracted syphilis at the age of 16, was treated, and thought himself cured. Symptoms recurred when he was 22, and he had "mercurial treatment." Now at 47 he has an ulcer on the border of the tongue, with a small yellow slough in the centre. A specialist agrees that it does not look carcinomatous, but will take a section for microscopical examination. The Wassermann is positive (1 in 4 dilution). I have prescribed pot. iod. 20 grains daily (and will increase to 40 grains in three weeks), and an injection of oil-soluble bismuth weekly. Would metallic bismuth suspended in glucose be better? Would a trivalent intravenous arsenic injection make his liver a mass of fibrous tissue?*

A.—It appears probable that the lesion is a gumma, but a biopsy should be carried out to exclude malignant disease. Oil-soluble bismuth is normally used when a rapid therapeutic effect is desired, a suspension of the metal when a slow prolonged effect is the object; in this case the latter preparation seems preferable. The suggestion that "a trivalent intravenous arsenic injection" might "make his liver a mass of fibrous tissue" is absurd. This would only happen if he developed (infectious) hepatitis, which can almost certainly be avoided by employing a strictly aseptic technique. At first neoarsphenamine should be given intravenously, in weekly doses, of 0.6 g., concurrently with the bismuth, a careful watch being kept for toxic effects; later, bismuth may be used alone. If the ulcer proves malignant, antisyphilitic treatment should be carried out as soon as the patient has recovered from any operation; it would be as well to have the cerebrospinal fluid examined, and if asymptomatic neurosyphilis is present treatment should be modified accordingly.

Weight of Enlarged Prostates

Q.—*What is the average weight of prostates removed for adenomatous enlargement? What is the weight of the heaviest one that has been removed?*

A.—The average weight is 1½ to 3 oz., and 6 oz. is a large one. So far as the writer knows, 18½ oz. is the heaviest ever removed.

Tuberculin-tested Milk

Q.—*If the producer of tuberculin-tested milk bottles it and delivers it himself, is he free from the obligation to state on the bottle or the seal that it is tuberculin-tested milk?*

A.—If a vendor of tuberculin-tested milk sells it specifically under this designation it must be labelled according to the Order, whether he produces the milk himself or not. If he bottles it on the farm he is entitled to add the term "(Certified)" to the designation "Tuberculin-tested Milk." There is, however, no obligation on any vendor to label milk as tuberculin-tested merely because it is from a tuberculin-tested herd and because he is licensed to sell milk under the designation, so long as he sells it as milk without any designation and demands no extra price for it.

Sudeck's Arthritis

Q.—*What is the aetiology, particularly in relation to injury, of Sudeck's arthritis or atrophy of hand and other bones?*

A.—It was in 1900 (*Arch. klin. Chir.*, **62**, 147) that Sudeck published his original paper on the dystrophy of bones of the extremities which might follow injury; since then there have been many studies of the subject, including another excellent article by Sudeck himself in 1938 in the same journal (*Arch. klin. Chir.*, **191**, 710).

The condition usually follows minor injuries or sprains. The symptoms are persistent burning pain, oedema of the subcutaneous and periarticular tissues, and redness of the skin, followed later by shrinking of the oedematous parts, stiffness of the joints, and atrophy of the bones of the affected extremity. The pathology is not fully understood. The condition has been termed acute reflex bone atrophy, on the assumption that the vasodilatation which is responsible for the bone absorption and atrophy is due to a nervous reflex originating at the site of injury. This view would appear to be confirmed by the testimony of many who have shown that the pain may be abolished, or at least greatly diminished, and the later crippling effects largely prevented, by section of the sympathetic supply above the site of the lesion. There are difficulties in the way of accepting this view. Stimulation of the proximal end of a peripheral nerve usually leads to vasoconstriction, and section of the sympathetic should cause vasodilatation—a condition which already exists in Sudeck's disease and in the somewhat similar condition causalgia. Lewis showed that in causalgia the redness, heat, and tenderness were due to the local effect of substances liberated peripherally, and some observers consider that a similar mechanism may be responsible for the vasodilatation in Sudeck's atrophy. The matter is still in need of further research to determine the correct pathology.

It is important to make an early diagnosis if disability is to be prevented. When there continues to be complaint of persistent burning pain and one observes periarticular oedema in a case of sprain, contusion, or wound, which is not septic and has been properly immobilized, one must always bear in mind the possibility of reflex bone atrophy. The pain may be relieved or abolished, and the possibility of bone absorption and atrophy diminished, by section of the sympathetic above the lesion, by means of local infiltration, paravertebral injection, periarterial sympathectomy, or by ganglionectomy.

Soapless Shampoos

Q.—*Many of my patients wash their hair with soapless shampoos. What is soapless shampoo, and is it harmless?*

A.—Soapless shampoos consist of sulphonated oils and sulphonated higher fatty alcohols. They are harmless on a healthy scalp.

Signs of Virginity

Q.—*What are the signs of virginity in a girl under 15 years? What would be the changes after one, and after several, connexions?*

A.—The signs of virginity in a girl under 15 are an intact hymen and apposition of the labia majora. Although an intact hymen is the main indication of virginity it is not proof of it, because occasionally intercourse can take place without rupture. Proof of intercourse rests on the demonstration of spermatozoa in the vagina, usually accompanied in first intercourse by rupture of the hymen. When the hymenal tear has healed no just opinion can be given as to the number of times connexion has occurred, but in the woman habituated to intercourse over a number of years the labia majora will not remain in apposition and the introitus tends to gape. One is not justified in certifying that intercourse has taken place from the observation of a healed rupture of the hymen alone.

Thought and the Electro-encephalogram

Q.—*In a recent Brains Trust Dr. Julian Huxley implied that the electro-encephalogram provided evidence that thinking was accompanied by a mechanical process in the nervous system. Is this so?*

A.—No, it is not, but if "physical" were substituted for "mechanical" the statement might possibly be defended. No one would doubt that thought is associated with electrical changes in the brain, but there are no "mechanical" concomitants of these changes. Even so, the electro-encephalogram gives little or no evidence about the processes involved in thought. There is the negative observation that many of the electrical oscillations observed in the E.E.G. cease during periods of attention or thought, but this is probably unrelated to the electrical activity upon which the transmission of impulses subserving thought depend. There are also the abnormal rhythms which are associated with abnormal thought and behaviour, as in epileptics and psychopaths, but here again no evidence is provided upon the nature of thinking. The E.E.G., in fact, gives a record of a crude end-result of the living activity of brain cells, but there is no evidence that the changes in any way reflect brain function.

The "Highly Strung" Child

Q.—*How should one manage and treat a "highly strung" 4-year-old?*

A.—At 4 years old troubles of many kinds are normal concomitants of development. The anxiety of good parents, who blame themselves when their children are difficult, often raises tension in the home to a point unbearable to both sides, and a statement by the doctor that at this age emotional upsets are as much to be expected as was teething at an earlier stage will often bring much relief to father and mother, and through them to the children. Freedom from anxiety in the adults, insight into the causes of strain in the child, together with love, toleration, and supporting control, form the basis of good home management. At the age of 4 a child is working out his relationships with parents, siblings, and outsiders; he is experiencing a healthy rivalry with the adult world, while increasingly conscious and impatient of his own limitations. He is greedy both for power and for protecting love, and is haunted by fantasies in which through gaining power he becomes dangerous and so provokes anger in the parents whose love is vital to him. Such a "normal" conflict is painful, especially if exacerbated by such traumata as illness, separation from the mother, etc. Many naughtinesses, feeding difficulties, tempers, and disorders of habit may represent the question, "Do you love me even if I am horrid?" while the harsh self-criticism, felt though not verbally expressible in early childhood, makes it hard to accept reassurance till many times repeated in word and act. A clever mother can do much by encouraging independence combined with protectiveness towards herself, and by tranquilly accepting boasts. The small boy in *When We were Very Young* who warned his mother, "You must never go down to the end of the town unless you go down with ME," was solving his problem in this way, and asking her admiration of him as protective male. At this age, when boys become defiantly masculine, fathers can help to allay conflicts by inviting partnership in various activities, as can mothers with little girls, whose developing maternal instincts and love towards the father will otherwise arouse the anxiety associated with rivalry and guilt.

Play is an important factor in mental health. Large toys, such as wooden engines and trucks, a set of bricks, sand and water, and other material for imaginative play are valuable, as are simple constructional toys that develop skills and provide satisfaction through achievement. A highly strung hyperactive child is often afraid of his own aggressive impulses, and so finds comfort in external control of a gentle kind. If he is unhappy, showing physical symptoms that appear psychogenic, or if his difficulties are inappropriate to his developmental stage, it is likely that he needs child-guidance treatment. As a first-aid measure, however, it is sometimes worth trying phenobarbitone, gr. 1/8 to 1/2, morning and evening, which may provide sufficient mental relief to enable a child to work through his problems with the aid of improved management at home.

Symptomatic Treatment of Cough

Q.—*What is the symptomatic treatment of cough in cases of pneumonia?*

A.—Cough in pneumonia requires treatment: (1) if the cough is unproductive and interfering with the patient's comfort or rest; (2) when the cough is productive but the sputum is so viscid that the cough exhausts the patient without adequate result.

When the cough is not productive it is useless and should be damped down. The milder degrees are best dealt with by the use of a codeine linctus containing, e.g., codeine phosphate (gr. 1/16 to gr. 1/8), every four hours. For the more severe types linctus heroin. (gr. 1/32 to gr. 1/8) should be used sufficiently often to produce the required result. Often the unproductive cough requires treatment not so much in itself as because of the pain it causes; in these cases the pain rather than the cough should be treated.

When the cough is productive warm alkaline draughts (sod. chlor. and sod. bicarb. āā gr. 15 in 2 oz. of warm water, four-hourly) are most useful. With these a mixture of old matured tinct. camph. co. and oxymel of squill āā gr. 30 should be given. This has been proved to have an expectorant action as well as making the cough less frequent. In some of these cases there is an element of spasm, and small doses of pot. iod. and stramonium are of value.

Diet in Chronic Interstitial Nephritis

Q.—*Please describe the modern dietetic treatment for chronic interstitial nephritis, with raised blood pressure and oedema of the eyelids in the morning.*

A.—The chief aim of modern dietetic treatment is to maintain nutrition without making unnecessary demands on kidneys which are diminished in function as well as structure. The principles of the diet are as follows: (1) Abundant fluids to satisfy thirst and to maintain the beneficial polyuria. (2) Enough food to provide an energy value of 2,000 calories, unless obesity indicates a reducing diet. (3) Enough protein to prevent depletion of body proteins. About 70 g. daily should be enough unless there is heavy albuminuria, when protein intake should be increased. (4) Enough milk, fruit, and vegetables, which produce an alkaline ash, to oppose the common retention of predominantly acid protein end-products. When obtainable, two pints of milk daily form a good foundation for this diet, providing 40 g. of protein yet contributing to the alkaline ash balance. Details of the reaction of ashed food products are given in M.R.C. Special Report Series No. 235, 1940, by R. A. McCance and E. M. Widdowson. (5) Salt according to the patient's taste unless there is good reason to differ from him. If there is a tendency for oedema to occur, as in this case, surplus salt should be avoided and no salt added to the food apart from the normal amount used in cooking. Salt depletion is a grave danger in chronic interstitial nephritis because it may promote dehydration and unmask uraemia.

Tuberculosis and Diabetes

Q.—*Is there any evidence that a high blood sugar is harmful in the absence of ketosis in pulmonary tuberculosis complicating diabetes mellitus? Many young diabetics remain well on an uncontrolled diet with insulin; the urine is sugar-free in the mornings but hyperglycaemia and glycosuria occur after meals without ketonuria, as judged by the sensitive nitroprusside test; symptoms of diabetes are absent and weight is maintained. Is the non-restricted diet with insulin, allowing hyperglycaemia and glycosuria without ketonuria, permissible in the diabetic case of pulmonary tuberculosis?*

A.—This question raises two problems:

(1) Does a high blood sugar render patients more liable to develop other diseases? It is believed that this is the case, but the proof is not conclusive. Diabetes is always considered one of the causes of sciatica, but sciatica is rarely seen in patients whose blood sugar is reasonably well controlled with insulin. Boils and carbuncles are believed to be more common in the untreated diabetic, but it is difficult to be certain on this point. Tuberculosis is a well-known complication of diabetes, and a careful watch for this must be kept on all patients whether the blood sugar is well or badly controlled, though the impression is gained that it is commoner in the latter.

(2) Does a high blood sugar tend to make the progress of another disease more rapid? The answer in this case can be more definite, for there is no doubt that a disease like tuberculosis of the lungs will progress more rapidly if the diabetes is uncontrolled. This is true of all skin conditions, and of all septic and gangrenous conditions, and every effort should be made to control the diabetes. It may not be possible to abolish the glycosuria entirely if the diabetes is difficult to control, and the fear of hypoglycaemic attacks is, I suspect, the reason for the question being asked. Hypoglycaemia may be due to two main causes. (*a*) The improvement in the lung disease may cause a diminished demand for insulin. This decrease is a good sign, since it shows that the lung disease is being better controlled. The care of a patient in a hypoglycaemic attack is simple, should be easily provided in a sanatorium, and should not, therefore, be feared in any way. It can cause difficulties only when patients do not recognize the early symptoms and have severe and unexpected attacks. These patients are fortunately few in number and in them glycosuria must be allowed, but it is a pity to allow glycosuria (even without ketosis) in all types of patients because of the fear of hypoglycaemia. (*b*) Attacks of hypoglycaemia may be due to errors in diet. It is most important that the diet should be supervised by a trained dietitian. This will ensure throughout the sanatorium a diet which is varied and well chosen. The diabetics will get a diet in which the carbohydrates are reasonably constant and well varied. The exact amount of carbohydrate which each patient needs must be discovered, whether it be 150 g. at a time when the appetite is poor, or 300 g. or more when the condition is improving. Sufficient insulin must be given to control the glycosuria so far as possible. If this can be achieved the patient will have the best chance of recovering from his lung disease, and surely the best is what he should be given, even at the expense of some extra trouble.

INCOME TAX

Amount of Refund Due

V. M. states that in the year to April 5, 1945, he earned £241 "pay" and had £39 tax deducted therefrom, and in the year to April 5, 1946, he will have earned £426 and have had £127 tax deducted. What refunds will he be entitled to claim?

⁂ On the facts stated—£14 for 1944–5, and £60 for 1945–6. These amounts will be increased if he has a claim to an allowance for the expense of a uniform.

Cost of Postgraduate Course

D. H. is in general practice and is taking a postgraduate course Can he deduct the expense in calculating his professional profits?

⁂ We are not aware of a specific judicial decision on this point and, as D. H. suggests, there may be some variation in practice as between one locality and another. Assuming that an expense of so personal a nature is not barred the principle involved seems to be that an expense incurred to *maintain* an existing standard of knowledge is a permissible deduction, but not an expense incurred to *improve* that standard. Obvious analogies are supplied by the application of the same fundamental distinction between "revenue" and "capital" expenditure to such expenses as the replacement of a car or the maintenance of the medical library. (If D. H. had been assessed under Schedule E the answer to his inquiry would almost certainly have been in the negative.)

Replacement of Car

W. K. finds it necessary to replace a ten-year-old car by a new one costing £400. What deduction can he claim?

⁂ (*a*) If he has not claimed and been allowed in the past a deduction for depreciation of the old car W. K. can claim to deduct as an expense the cost of replacement. That cost will be £400 less the amount (if any) received for the old car. (*b*) If he has been allowed depreciation, he cannot claim the cost of renewal, but can claim to deduct as an expense the excess of the cost of the old car over the total allowances for depreciation, and can also claim depreciation on the cost of the new car.

Sickness Insurance Benefit

"DELTA" inquires whether an annual amount payable under a sickness policy is liable to income tax.

⁂ We are not aware of any specific judicial decision on this point, but we understand that such sums are not liable to tax unless there are some special features bringing the payments into the scope of the tax.

Payment in Lieu of Board and Lodging

P. L. was engaged as an assistant at a salary of £425 per annum, it being understood that board and lodging would be provided. The employer was, however, unable to find accommodation in his own house and paid P. L. an additional £4 4s. a week in lieu thereof. Is this £4 4s. liable to tax?

⁂ Yes. The original agreement appears to have been replaced by the later one under which P. L. agreed to receive the £4 4s. weekly in cash, and that amount is "income" liable to tax.

LETTERS, NOTES, ETC.

Permanent Holiday Camps for Children?

Miss E. FRANCIS-MOSS (c/o 61, Oaklands Road, Cricklewood, N.W.2) writes: Evacuation of the city children to the country improved the health of the children immensely, and those who have returned to London since VE-Day were bonny, plump, well-developed children, who had learned to love the country, its open spaces and fresh air. Now they play in the streets and on bombed property, and fling bricks at each other for the sake of something to do. Is all the benefit that these children have gained through evacuation and country life to be thus lost, and are they to go back to the same low standards of health and development from which we took them? What use are all our educational plans and advantages if the individuals who should benefit cannot do so, owing to tiredness and listlessness due to a low standard of health? Cannot we arrange that the long summer vacation may be utilized with advantage, and that every city child has at least a month in the country? There are many Service camps and hostels all over the country at the present time which could be utilized for the scheme. Men and women of wide experience and ability would be needed to supervise the camps and to give helpful advice to the various personnel. Retired teachers would do this admirably. Students from our colleges and universities would probably volunteer to supervise the children and their activities, and students from the domestic science departments of our universities might manage the domestic part with the help of local employees, and would themselves gain much good experience. The W.V.S. would probably also help in the scheme. The scheme might mean a small increase in the rates, but surely it would be worth a little expense to see our children healthy and happy. In the long run it would be a gain, for the more spent in the prevention of sickness the less spent in the curing of it. I shall be pleased to receive any criticisms and remarks readers may wish to make.

Knyveton's "Diary of a Surgeon"

Major SAUL JARCHO, M.C., A.U.S., writes from the Office of the Surgeon General, Washington: The question of the authenticity of Knyveton's *Diary of a Surgeon in the Year 1751–2* was raised anew by one of your correspondents (April 21, 1945) and drew interesting replies from Prof. Miles Phillips and Dr. J. F. Blackett (May 19). May I take the liberty of calling attention to certain linguistic anachronisms which definitely establish the spuriousness of the *Diary*. These were noticed in the *New York Times Book Review*, Dec. 12, 1937: ". . . the author speaks of 'passers by,' whereas the eighteenth century would almost certainly have said 'passengers.' Other lapses are 'jungle,' which did not enter the language till 1776, 'pugilist' (1790), 'riddled' (1849), 'realistic' (1856), and 'intrigued,' which in the signification of 'interested' was first used in 1905."

Liver Extracts

Mr. W. B. EMERY writes from Glaxo Laboratories: I have only just seen in your issue of Oct. 6 a reply given under the heading of "Any Questions?" to a query about the use of liver extracts in aplastic anaemia or essential thrombocytopenia. First, you stated that refined extracts were more reliable than crude, due to greater care in clinical testing. We have already referred in some detail in a recent paper published in the *Journal* (Jan. 20, 1945, p. 75) to the differences between crude and refined extracts, and have indicated there that our crude extract is expected to pass the same rigid criteria of potency which are applied to our refined extract. In fact, every batch of both extracts is subjected to at least one and in many cases two or three separate clinical tests, albeit at different dose levels, consistent with the fact that refined liver extracts will produce satisfactory responses in much smaller dosage than crude liver extracts. Next, you stated that intensive liver treatment in a case of refractory pernicious anaemia would formerly have implied 4 c.cm. of refined liver extract every day. I think you would find on inquiry that the vast majority of doctors in this country would almost certainly not use a refined liver extract for *intensive* therapy, but that a crude extract would normally be used. This is probably chiefly a matter of prejudice, persisting from the time when refined extracts tended to be rather untrustworthy. In either case I would contend that a dose of 2 c.cm. of a *refined* liver extract every alternate day would be ample for any intensive course of treatment, and, with many extracts at present available, including our own, even this would be grossly excessive. The use of larger amounts would merely be a waste of liver. The statement that the injections would be supplemented to-day by oral proteolysed liver extract seems to be based only on the comparatively few cases recently reported by Davidson and his colleagues. So far as I am aware there is no evidence that oral therapy with dried stomach would not achieve the same results. I would also point out that oral therapy of any kind is very much more costly and wasteful of liver than parenteral therapy, which should certainly be tried in the first place.

Destruction of Adult Schistosomes in Man

Dr. F. GORDON CAWSTON writes from Durban: Evidence of the death of the male schistosomes through applying a course of antimony injections containing less than 0.75 g. of the metal, as first used by Dr. J. B. Christopherson in 1917, is far from conclusive. Without confirmatory signs the complement-fixation test is of no more value than a record of the eosinophils during and subsequent to treatment, and investigations are needed to show how far these apply to each sex. Before a line of treatment can rightly be enforced on native labourers such evidence of successful cure is desirable lest the dislodgment of the worms in the blood stream may result in obscure pathological conditions. A Transvaal district surgeon has raised the question how far it is best to leave patients untreated where a thorough course cannot be assured, and I have sometimes hesitated to do more than keep severe cystitis under control in little Indian girls of only a few months of age whose mothers relied on a badly infested pool for their water supply, thus hoping for the development of a natural immunity in due course. Microbic invasion spreading up from the bladder, especially following gonorrhoea and instrumental treatment before the parasites are dead, is the cause of most of the trouble in the ureter and kidneys, where, although ova are not uncommon as they are in the appendix, the adult worms seldom if ever occur.

Podophyllin for Warts

Capt. G. W. CSONKA, R.A.M.C., writes: In your "Any Questions?" column (Oct. 27, p. 592) a 25% suspension of podophyllin in mineral oil is recommended for the treatment of soft warts. I have had some experience with this method when treating condylomata acuminata, and was soon forced to modify it due to the frequency and sometimes severity of the chemical balanitis which followed. First I used 5% podophyllin powder in tannic acid, as advised by Major H. Haber, R.A.M.C., and had no reactions; the effect on the warts was definitely less strong. I now use 10% podophyllin in liquid paraffin, and tell the patient to wash the area in four hours. All but two cases responded gratifyingly to the first application, and the failures lost their warts after a second application. It is essential, however, even with this modified treatment, to clear any coexisting balanitis prior to the attack on the warts.

Correction

Dr. J. E. BANNEN writes: In my letter (Nov. 10, p. 665) on "Sequelae of Emphysematous Lung" I did not make myself clear on the differential diagnostic test between pneumoperitoneum and retroperitoneal gas. This should read: In pneumoperitoneum the gaseous sites move to the uppermost limiting parts when the patient is changed from the vertical to the lateral decubitus, but retroperitoneal gas remains fixed in its loose areolar space.

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MEDICINE AND THE STATE

WITH SPECIAL REFERENCE TO THE EMERGENCY MEDICAL SERVICE*

BY

The Right Hon. **WALTER ELLIOT**, *M.C.*, D.Sc., F.R.C.P., F.R.S.

The State—the organized community—finds itself always interfering more and more with the individual in two things, education and medicine—the development of the mind and the care of the body. The doctor and the teacher are two figures over whose appointment, qualifications, and conduct the community continually demands a certain control. As the community increases in power the balance of this control requires the most careful scrutiny. In its control over the teacher the community—which is to say the official—has now gone to very great lengths. Its control is not yet complete. It is not yet, for instance, a punishable offence to send a child to any place of instruction distant more than a certain number of yards from its doors, or to give it a course of instruction other than that prescribed by the State. But the trend of administration is certainly in that direction. We have seen Glasgow Town Council attempt to prohibit any children being sent to Glasgow High School except those who happen to live around its doors, even though the parents might be willing to compensate authority for this slight disturbance of routine. That is, of course, the direct contrary of the principle of individual choice which has so far had at least lip-service paid to it in the case of medicine. It seems unlikely that this principle will be allowed to survive in one sphere if it is destroyed in another, and it is well worth the while of the profession of medicine to look from time to time over the wall to see what is being done to its sister art, the profession of teaching.

I think most of us here believe that the all-powerful authority of the State, convenient though it might be to wield for us as individuals, is too crushing and deforming a power to be used to govern those delicate reactions of mind and body on which the practice and the progress of the medical art depend. Medicine is, and must always remain, a more experimental, a more dubious art than that of teaching. The status of the pupil (an ancient, an honourable, and a well-understood status) is almost literally child's play compared with the status of the patient. The status of the pupil derives generally from the relations of adults with the immature. The status of the patient must regulate the relations of an adult with an adult. To entrust an adult with authority over another adult, authority of such a sweeping nature as that of a doctor, is always a very risky thing to do. That authority may, for instance, at quite an early stage (say in delirium), involve actual physical restraint. In the case of lunacy—and that is, after all, only a matter of the signature of two men or even of one man—it may turn into imprisonment for life. For the community to organize and systematize this power into a single solid, compulsorily united front would seem a great peril to the individual. Doctors do not desire this power. It is proffered to them and at times stridently thrust before them by the State. From time to time, however, such organization and such combination are inevitable, as in time of war. The motto of those working in such an emergency, considering the consolidation of such power, should always be less rather than more, and temporary rather than permanent.

Formation of the E.M.S.

It is interesting to look at one recent experience and see how the State, required by force of circumstances to carry out a great unification of the medical services of this country, proceeded. I refer to the Emergency Medical Service, particularly in its hospital aspects, during the war.

I should like first of all to direct your attention to its title. The title focused and riveted attention, and was intended to do so, upon the very fact that these measures were emergency measures to deal with an emergency situation. The next thing to note is that the scheme was brought into being along empirical lines, not proceeding on any preconceived abstract theory, but dealing with the situations as they occurred. So far as I know, each of us responsible for its inception tried first in our approach to envisage the problem and then to find an appropriate solution. This differed from what seems to be the motto at present—namely, to produce a solution and then to go about to find a problem which it will fit.

The Emergency Medical Service arose out of the approaching danger of war, and more particularly out of the danger of war in the air with its necessary consequence of large numbers of casualties within our own shores. It was considered likely by the Service authorities that very large numbers of casualties might arise, and would certainly have to be prepared for, in the earliest days, or even hours, of such a war.

The first solution tried was through the local authorities. The first Government Act was the Air Raid Precautions Act of 1937. This placed upon the local authorities the responsibility for framing air-raid precautions schemes, including casualty services. In 1938 it became clear that adequate hospital provision simply could not be made on such a basis. For one thing, local government boundaries were often completely inappropriate. It was therefore laid down by the Government that the Minister of Health in England, and the Secretary of State for Scotland, should be responsible for providing an Emergency Hospital Service. Early in 1939 the administration of the related first-aid, and ambulance, services was transferred from the Home Office to the Ministry of Health. I was at the time Minister of Health and therefore saw more of the English end; and as the weight of attack fell chiefly on the southern half of our island, and more particularly upon the Home Counties and the London area, I shall use several illustrations drawn from the South.

Our scheme was, fundamentally, to expand the existing hospital system to the utmost, and in particular to secure the co-operation of local authorities and voluntary organizations to the greatest possible extent, looking only to the most efficient solution of the problem, and not to preconceived ideas as to how this should be brought about.

The first step obviously was a survey of the existing accommodation, with careful attention to possibilities of expansion. (I say " obviously "; but it had not in fact previously been done.) All the ordinary hospitals, and in addition mental hospitals, public assistance institutions, sanatoria, etc., were surveyed. In all about half a million " hospital " beds were brought under review.

The next step was to obtain the co-operation—and I stress the word *co-operation*—of local authorities and voluntary organizations, both in placing accommodation at the disposal of the Government and in expanding accommodation where it was desired. The supply of medical personnel was tackled with the co-operation of the British Medical Association, and steps were taken to establish an auxiliary nursing service. Emergency pathological and blood transfusion services were also arranged for with the assistance of the Medical Research Council. All this was done in advance of statutory authority, and it was fortunate that this was so. The position was later regularized by the Civil Defence Act; but this was not passed till July, 1939, while the war, as you will remember, came in September. Lacking the steam-roller of the statute, we really did have to proceed by agreement. This meant good will. The Emergency Hospital Service was provided for by Part VII of the Civil Defence Act. The transfer of first-aid posts and similar services was left to arrangement between Ministers under Section 1 (3). In view of the shortness of time available it will be seen that it was wise not to embark upon previous discussions as to abstract principles. Up till that time—till the passing of Section 50, to be exact—the Minister had no power in actual fact to do all the things he was doing—to acquire land, buildings, and equipment, and, a more ticklish business, to enter into agreements with local authorities and voluntary hospitals. But about 70 to 80% of the hospitals, municipal and voluntary, came within the scheme.

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* Address to the Edinburgh Royal Medical Society, Nov. 23, 1945.

A Difficult Problem

What was the actual problem? It was very briefly this: that the Air Ministry informed us that the liability was an air assault on a scale of 25,000 casualties per 24 hours—going on, night after night, for ten days and nights on end, or possibly more. They considered that provision would have to be made for some 300,000 bed cases in Great Britain—apart from the killed and hopelessly injured. This enormous casualty list had to be regarded as an immediate liability from the very earliest hours of the war. It was clear that this altogether transcended any ordinary scale of battle casualties which we had ever known or prepared for; it was, for instance, two or three times as great as the whole fighting strength of the British Expeditionary Force.

The first decision taken, therefore, was to mobilize on the civil side and not on the military; and this, as will appear, involved mobilizing on the voluntary organizations rather than on the State. We had to postpone, for instance, the call-up of medical and nursing personnel from civil to military hospitals, which had been till then a cardinal feature of war mobilization. To meet this liability the achievement was considerable. In the first week of Sept., 1939, 190,000 beds were available to receive casualties. This was found a useful working figure, though rather excessive. At March 31, 1944, there were in E.M.S. hospitals in England and Wales about 40,000 beds vacant, ready to receive; 51,000 beds could have been cleared and 24,000 more staffed quickly if necessary. This gives a total of 115,000 beds to which longer-term reserves could have been added.

The scheme provided for 100,000 beds to be obtained from the 500,000 previously reviewed, for 100,000 to be obtained by setting up additional beds in existing institutions, and for 40,000 beds to be provided in new hutted hospitals, mostly as annexes of existing institutions. To make these beds usable for classes of cases not previously treated—e.g., surgical cases—a process of up-grading was set on foot: provision of operating theatres, *x*-ray rooms, improved sanitation, and so on. This up-grading was paid for in the case of the local authorities largely by the Exchequer, and in the case of the voluntary hospitals wholly by the Exchequer. Such expenditure had of course to be approved by the Department. Protection against bombs was also carried out. All this involved Exchequer payments of something between two and three million pounds—I think you will agree, a very moderate sum.

The hutted hospitals, although mainly in the grounds of existing institutions, cost some four million pounds for the first 37,000 beds. About another 20,000 were later provided —10,000 civil and 10,000 military. All this was considered by the Select Committee on National Expenditure reporting in 1941. They said that after visiting a number of these hutted hospitals they were impressed by the standards of construction and equipment which have been secured at so low a cost, and that "the Ministry and the Department of Health for Scotland are to be congratulated on an achievement which might well be studied by local authorities." They found that the average cost per bed of hutted hospitals built as independent units was £250, of those built as annexes £100. The cost per bed of a hospital built on peacetime standards was of the order of £1,000.

The Emergency Medical Service was staffed in the year ending March 31, 1941, by 1,737 doctors employed whole-time and 564 paid on a part-time basis. In addition 4,584 doctors were enrolled on a sessional basis. In that year—March, 1940, to March, 1941—the total expenditure of the Ministry of Health on the Emergency Medical Service, the Emergency Hospital Scheme, and allied measures to deal with casualties and disease was estimated at £15,703,000. This excludes first-aid posts and A.R.P. street ambulances. Again I think it may be said that this extensive organization was not only on the whole smoothly put through but was remarkably inexpensive. How, then, was its administration carried on?

Administration of the E.M.S.

Certain points are worth noting. I have mentioned the staffing of the scheme. The proposals for an Emergency Medical Service were worked out in the spring and summer of 1939, after long discussions with the Central Emergency Committee of the British Medical Association (which became during the war the Central Medical War Committee). The salaries of whole-time officers corresponded roughly to the rates for officers in the R.A.M.C. The basic grade of a "Medical Officer" corresponded to that of "Captain"; the grade of a Specialist to that of "Major," with corresponding rates on higher levels. The junior grade of "House Officer" carried a salary below that of a Lieutenant, R.A.M.C. It was not considered justifiable to pay at so high a rate for junior officers of this class.

The Group Officers (the Deans or members of the consulting staffs of the teaching hospitals) were organizing lists of practitioners when war broke out. Practically all the practitioners on the Group Officers' lists reported for duty whether they had received a formal letter or not. In the circumstances of the possible 300,000 casualties previously mentioned their services were all accepted. But this led to the enrolment of 2,156 practitioners. All these were subject to the rules attaching to temporary officers of a Government Department. It will be recalled what trouble had then to be taken almost immediately to get out of this whole-time State Medical Service when the emergency did not materialize, and to transform it into something permitting of private practice.

The nursing personnel was also expanded under a Central Emergency Committee for the Nursing Profession. A register was compiled of those who would be willing to serve in an emergency. In August, before the war, the register covered 10,000 trained nurses, 4,000 assistant nurses, and 55,000 auxiliaries (14,000 trained). By 1940 the numbers were 15,000 trained nurses, 6,500 assistant nurses, and 100,000 auxiliaries (26,000 trained). This figure includes 12,000 members of the St. John Ambulance Brigade and the British Red Cross Society who had already received training from those bodies. The cost of enrolling, registering, training, and equipping 100,000 members of the Civil Nursing Reserve was reckoned at £250,000 over 2½ years. This, of course, does not include the wages paid to members once they were called up.

The organization of this extensive scheme turned very largely on voluntary bodies. It was a regional organization, and the two official figures in each region were the Medical Officer of Health and the Group Officer. These worked under a Hospital Officer, who was a medical officer of the Ministry and whose task was to supervise the expansion of the hospital system and to control the movements of casualties and the operation of the scheme under war conditions. The Group Officer—the key of the whole structure—was the Dean or other member of the consulting staffs of the teaching hospitals in the region.

Organization on the voluntary institutions reached its peak point in the most threatened area—namely, that of London. For the purpose of the Emergency Hospital Scheme a special hospital administration was necessary, for which neither the London County Council organization nor the London Borough organizations were found appropriate. The object was to bring into a single working scheme a large number of hospitals of very diverse character and to secure a degree of co-operation between them which had never existed in peacetime. All this was to be operated under battle conditions—conditions of which no one had had the least experience and which it was impossible even approximately to predict. No one, for instance, could forecast the reactions of the civil population under such conditions.

In these circumstances we built a great part of the whole scheme upon the professional authority, the prestige, and the administrative competence of the heads, nursing and medical, of the great voluntary teaching hospitals; and we were not disappointed.

The actual physical area of the London Region comprised about a quarter of the population, and was, of course, in much the most heavily threatened position. The London Region, a great circular area, was divided into ten triangular slices or sectors, as it might be slices of cake. Each slice or sector except one had at its tip one of the voluntary teaching hospitals. Each Sector was in charge of a Group Officer, who was a distinguished physician or surgeon on the staff of that hospital. He was responsible, under the Director of Emergency Medical Services, London and Home Counties, for the treatment and movement of all cases coming within the Emergency Hospital Scheme. He administered the staff, the doctors, and the nurses of all hospitals within the scheme. He advised on questions of up-grading, and of approving annexes to the sector hospitals. On him lay the duty of co-operating with the adjoining Sectors and with the adjoining Region or Regions.

He was assisted in the discharge of these duties by two medical officers who might act as his deputy. He had also two matrons and two lay officers. One in each pair represented the voluntary hospitals; one in each pair represented the municipal hospitals. In the smallest of the Sectors there was only one representative in each of the three grades just mentioned. This economy was secured by dispensing with the municipal representatives. Each Sector had in addition a "bureau officer" and a subordinate staff varying from 15 to 21.

It is fair to say that in 1941 the Select Committee on National Expenditure, some of whose comments have already been referred to, considered that in view, among other things, of the difference in size of the Sectors—the smallest containing 3,000 emergency beds and the largest some 11,500—some reorganization should be undertaken. They also felt that the Sectors had worked too much as independent units, although they recognized the object of the appointment of the Director and his two assistants to co-ordinate the work of the Group Officers. They considered, however, that the organization should be still further co-ordinated and centralized. But it is worth while to put on record their opinion of the Civil Defence Services which they were reviewing, and in which the Emergency Hospital Services were included. They said: "They have been put to the test of experience. Their need has been proved, their efficiency has been demonstrated; their courage has won the admiration of the world. Such criticisms as we [the subcommittee] offer are solely directed to obtaining the greatest economy compatible with efficiency." It is significant, and it has perhaps scarcely received sufficient attention, that these tributes are paid to an organization, in the case of the hospitals, in which the teaching chiefs and the voluntary hospital matrons, previously untried in these great administrative tasks, were asked to play, and did play, so large a part. The latest tribute was paid no longer ago than Sept. 7 of this year by the *Times*, which said: "With all its faults the emergency hospital scheme was an outstanding success; it came through the severest tests with fine efficiency."

In so vast a preparation many mistakes were inevitably made, and from these, also, useful lessons may be learnt. One which impressed itself most strongly upon me was the danger of over-attention to, or misinterpretation of, central direction. The case of the tuberculosis hospitals was one of these. The direction was given to clear beds at the onset of the emergency—a direction familiar to those of us who have ever, in forward areas, awaited with apprehension the opening of a battle. The directive words were: "To send home all patients no longer urgently in need of hospital treatment." It was intended that these words should apply only to those whose health would not be prejudiced by relinquishing hospital treatment, and also who had accommodation to go to at home. In the event, many cases were cleared whose health was, in fact, not able to stand discharge from hospital and whose accommodation at home was quite insufficient. Similar cases will be in the recollection of many. Much effort was needed to restore the position.

In practice it may be said that the scheme worked flexibly. When the anticipated air raids did not occur the hospitals were again receiving the ordinary sick in the winter of 1939–40. After Dunkirk large numbers of casualties were received on the south-east coast, and the London scheme was tested in reverse, since the movement of cases was towards London and not away from it. Later on in that year the full weight of air attack fell upon London and the southern areas. It was dealt with. Later, a wide extension of the classes of cases admitted took place, and these included civil defence workers, transferred war-workers, transferred sick, and evacuees.

In 1940–1 some £3,000,000 (£2,913,900) was spent on provision and maintenance of additional hospital accommodation, and some 7½ million pounds (£7,671,500) on payments in respect of reserved hospital beds. From Sept. 22 to Dec. 29 (one quarter) £1,200,311 was paid on account for "reserved" beds empty (53,000, declining to 24,000) and £87,268 for occupied beds (3,000, declining to 2,500).

Post-war Hospital Policy

On Oct. 9, 1941, the Minister of Health indicated in the House of Commons the general principles on which the Government proposed to base post-war hospital policy. These were *(a)* that there should be a comprehensive hospital service providing for each treatment appropriate to his need; *(b)* that the duty of providing such a service should be laid on the major local authorities in close co-operation with the voluntary bodies; and *(c)* that the service should be designed by reference to areas substantially larger than those of individual local authorities. These were the main conclusions, though there was an important proviso that special State aid for teaching hospitals, probably in the shape of increased educational grants, must be contemplated.

The whole hospital question, so far as Scotland was concerned, was reviewed in 1942 and 1943 by the Hetherington Committee (Jan., 1942, to Aug., 1943). The position in Scotland differed somewhat from that in England because our native caution had produced a hospital situation pre-war in which our hospitals were better endowed but fewer proportionately than those in England, so that as part of the preparations for war seven new hospitals providing some 7,000 beds had to be built. This figure for peacetime standards, said the committee, would be scaled down to about 5,000.

The Hetherington Committee came to the conclusion that these hospitals presently administered directly by the Department of Health should be transferred to local health authorities, though not necessarily to the authority in whose area any particular hospital was situated. They did not wish to exclude the transfer of a hospital to a voluntary body or to a combination of a voluntary body with a local authority. The committee's views on administration—in particular on finance, which is the keystone of administration—were of much interest. The main body of the committee suggested either a subvention from the local authorities or a direct Exchequer grant. In either case the distribution of the grant should be under committees appointed not by the local authorities but by the Secretary of State. The chairman, Sir Hector Hetherington, suggested a straight grant of State assistance, payable on a formula to every voluntary hospital which would accept the responsibility of providing an efficient and economically administered service as part of a general scheme. The general view of the whole committee was that there should be as little interference with the voluntary hospitals, either in their administration or in their finance, as was possible, particularly by local authorities.

The story may be brought up to date by the decision of the Government, announced in September of this year, to seek power to carry on interim arrangements while the "run-off" of the special war responsibilities continues.

The number of beds reserved for E.M.S. cases in England and Wales has fallen from 187,000 in Jan., 1941, to 63,000 to-day. This has meant a corresponding limitation in the income of the voluntary hospitals. The present decision is to make Exchequer grants from next April "to such voluntary hospitals as establish their need for such assistance in order to maintain proper services."

It is remarkable that those two lines of investigation—one purely practical and empirical carried out over years on a vast scale, and the other a theoretical review carried out by a distinguished committee—should converge on this point of the excellence of the work of the voluntary organizations and the desirability of leaving it alone as much as possible. Their work is excellent, not merely in the quality of the medical service given, but in the quality of the administrative talent available. I have already pointed out that in the most critical region of all, that of London, the solution which worked over a great part of the field was not to put the voluntary hospitals under the local authorities, but to put the local authorities under the hospitals. The fact is, that administrative talent of a high quality is developed under the very decentralized conditions of the voluntary hospitals to an extent inevitably greater than that reached in the highly centralized large municipal administrations. This seems particularly true in the case of the matrons.

The conclusion from all this seems to be that if the State leaves the self-governing institutions of medicine to do the actual work so far as is possible, making that work financially possible so far as the State deems it necessary, the State will secure the best efficiency of service and the best economy in finance. In addition it will develop opportunities for training talents which are useful in time of peace and invaluable in time of war.

Some Further Considerations

The omens, however, are not entirely favourable. An arrangement in the field of education, similar to one of those which have been suggested in the field of health, has existed in England for many years. I refer to the direct-grant schools. A direct-grant school is one which gets a grant direct from the Board of Education and is not under the local education authority. But the Minister for Education in England last month showed a very north-windy attitude towards this solution. The tolerance for which this country has been distinguished in the past, its power of putting up with apparent incompatibilities, seems to be weakening. It is obviously a disadvantage to us all that this should be so. It is especially a danger in the case of the highly organized communities of which we form part. Unless communities can tolerate in their bosom—tolerate and indeed welcome—the same sort of differences that exist inevitably between individuals, the community is in for a very poor time.

This is above all things true in the relation between Medicine and the State. Personally, I read all the antivivisection and antivaccinationist literature I can get hold of. I do my utmost to practise a robust disbelief in remedies and theories, new and old. I still remember with reverence the teaching of that excellent professor Ralph Stockman, whose first query in observing any case was: "What will happen if we do nothing?" and who once electrified his class by the query: "How does a tiger treat a case of blood-poisoning?" "Do not laugh, gentlemen," he said: "it is a very serious business for the tiger. He lies perfectly still and drinks cold water." I even read the medical opinions of Mr. Bernard Shaw, deeply as I disagree with most of them. But to-day we find Mr. Bernard Shaw and the other iconoclasts supporting a line of thought which certainly will pay little enough respect to his highly individualistic ideas on the subject of medicine, any more than it will to his ideas on a proper system of education.

Well, there is nothing for it but to maintain the position that exceptions, contradictions, and anomalies are part of the make-up of man's mind, as of man's body. A system of medicine which does not recognize and admit these facts is a system of medicine which does not correspond to the facts. But it is paradoxical that the position of the layman in medicine—for, after all, the position of the voluntary hospital, with its lay Board of Governors, is the position of the layman—will have to be contended for, against so much opposition, by medical men themselves.

THE RELATION BETWEEN CONGENITAL OBLITERATION OF THE BILE DUCTS AND ICTERUS GRAVIS NEONATORUM

BY

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AND

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Icterus gravis neonatorum and congenital obliteration of the bile ducts are two conditions which cause jaundice in the new-born. Most textbooks of diseases of children imply that the differential diagnosis between these two diseases is comparatively straightforward and that they bear no relationship to one another. In 1943, however, Lightwood described three cases of icterus gravis in which the onset of the jaundice was delayed and which, when it once appeared, lasted an inordinate time—for 3½ weeks, 11 weeks, and 3 months respectively. The child in whom the jaundice lasted 3 months ultimately died, and at necropsy the liver showed plugging of the canaliculi with masses of bile and an accompanying hepatic fibrosis which amounted to biliary cirrhosis. Clinically these children had shown persistent acholia and the picture of an obstructive type of jaundice simulating congenital obliteration of the bile ducts. Lightwood questioned whether the plugging of the canaliculi and ducts with bile thrombi in icterus gravis might not be followed in some cases by organization of the thrombi. This would presumably lead to fibrosis of intra- and extra-hepatic ducts so as to produce finally a type of lesion which, seen at necropsy, might well be diagnosed as congenital obliteration of the bile ducts. During the past three years we have encountered several cases of haemolytic disease of the newborn in which there have been either clinical signs simulating congenital obliteration of the bile ducts or a history of this condition in other members of the family (see Table), and which illustrate the association that obtains between these two conditions.

Types of Biliary Obstruction associated with Icterus Gravis

It would seem that the biliary obstruction in children with icterus gravis may take one of two forms: (A) blockage of one of the larger bile ducts with inspissated bile, or (B) conversion of the bile ducts into a fibrous cord.

Examples of Type A.—The child of family Hi (see Table) was at first diagnosed as a case of congenital obliteration of the bile ducts, but because of the deaths of the previous siblings and the presence of some degree of anaemia (R.B.C. 4,180,000 per c.mm. 15 days after birth) Rh investigations were made. Rh incompatibility was found to be present, but despite a blood transfusion the jaundice persisted. A laparotomy was performed for biliary obstruction at the age of 7 weeks, and an obstructing mass of inspissated bile was dislodged from the lower end of the common bile duct by gentle manipulation. Gentle pressure upon the gall-bladder showed the biliary tree now to be patent, and the abdomen was closed. After this operation the jaundice disappeared, bile appeared in the stools, and the child made a complete recovery. The child of family Ha. was admitted to hospital at the age of 6 weeks with severe anaemia, jaundice, and clay-coloured stools. A blood transfusion to correct the anaemia was succeeded by the disappearance of jaundice and the presence of bile in the stools. It is probable that a similar obstructing mass had become dislodged spontaneously after the blood transfusion.

Two almost exactly similar cases have been described by Davidsohn (1945), and Ladd (1935) cites that in 5 of 15 babies upon whom he operated for congenital obliteration of the bile ducts a similar inspissated mass was the causative factor. Rh investigations were in keeping with the diagnosis of haemolytic disease in Davidsohn's cases, and it seems likely that those described by Ladd originated as cases of icterus gravis but that the clinical features of haemolytic disease passed later into those of congenital obliteration.

Examples of Type B.—The other type of biliary obstruction associated with icterus gravis—namely, replacement of all or part of the extrahepatic duct system by a fibrous cord—is illustrated by the child of family G. E. in our series and by the second child of family M. Pasachoff (1935) also has described a negro child with icterus gravis who died at 7 days with erythroblastosis foetalis and congenital fibrous obliteration of the common duct.

Mechanism

It has been suggested by Hawksley and Lightwood (1934) that the probable mechanism of obstruction of the bile ducts by plugs of bile in cases of haemolytic disease is that the bile produced by the liver is very viscid and tends to stick in the intra- and extra-hepatic ducts. We have noticed, however, in 11 cases of icterus gravis studied histologically that the plugging of canaliculi by bile thrombi is commonly associated with evidence of hepatic cell damage—a severe and significant degree of cloudy swelling, or fatty infiltration, or actual cell necrosis. In the damaged liver of infective hepatitis there is marked stagnation of bile in the fine intralobular canaliculi just outside the areas of maximal necrosis, which would suggest that a similar obstruction by necrotic and damaged cells is largely responsible for the production of the biliary thrombi in icterus gravis. Once these thrombi have formed they may aggregate to produce an obstructing mass in the extrahepatic bile ducts, the final effect being to add an obstructive element to the jaundice caused by the haemolysis.

Details of the Cases

Family	Pregnancy	Date	Clinical Features	Necropsy Findings	Rh Investigations		
					Father	Child	Mother
G. E.	1	1941	Normal; alive and well		Positive	Positive	Negative
	2	1942	Jaundice 1st day; bile in urine. Died aged 2 days	Erythroblastosis. Marked erythropoiesis liver and spleen. Fibrous obliteration of common bile duct. Kernicterus		Not examined	No Rh antibodies demonstrable 3 years after birth of affected child
M.	1	1939	Normal; alive and well		Positive	Positive	Negative. Rh antibodies in mother's blood 3rd and 4th pregnancies
	2	1940	Jaundice 1st day; bile in urine; clay-coloured stools. Cholecystogastrostomy performed for fibrous occlusion of common duct. Recovery			,,	
	3	1943	Jaundice 2nd day. Died 4th day	Erythropoiesis. Bile plugs in small ducts and canaliculi. Kernicterus		,,	
	4	1944	Jaundice 2nd day. Died 3rd day	Slight erythropoiesis. Cloudy swelling of liver cells. Kernicterus		,,	
L.	1	1933	Full-term. Died neonatal asphyxia		Positive	Not examined	Negative. Rh antibodies in mother's blood at 6th pregnancy
	2	1935	Neonatal jaundice, but recovered without treatment; alive and well			Positive	
	3	1936	Miscarriage at 3 months			Not examined	
	4	1938	Jaundice. Died 10th day	Congenital obliteration of common bile duct		,,	
	5	1943	Miscarriage at 3 months			,,	
	6	1945	Jaundice 1st day. Hb 89% at 48 hours. Biphasic van den Bergh. Bile in urine. Recovery after transfusions			Positive	
Ha.	1–5		First 2 children normal; next 3 jaundiced but recovered without transfusion		Positive	Not examined	Negative. Rh antibodies present in mother's blood at 6th pregnancy
	6	1945	Increasing jaundice from shortly after birth. Admitted to hospital at 6th week. Anaemic; clay-coloured stools; bile appeared in stools after blood transfusion. Recovery			Positive	
Hi.	1–3	1941 1942	Three premature children Died shortly after birth		Positive	Not examined	Negative. Rh antibodies present at 4th pregnancy
	4	1944	Jaundice 2nd day. Bile in urine; no bile in stools. Van den Bergh—direct positive. Operation at 7 weeks for biliary obstruction. Inspissated mass dislodged from common duct. Recovery			Positive	

Occasionally an additional factor is present in significant damage to the bile-duct epithelium, as described by Wanstrom (1933). The biliary epithelial cells become swollen, thus tending to aggravate the condition, and desquamated epithelial debris lying free in the lumen of the bile ducts may further add to the obstruction. We have seen a similar biliary damage in one instance.

In some cases of icterus gravis of long standing biliary stasis may occur, producing a picture of hepatic cirrhosis very similar to that of congenital obliteration. This is the type of case described by Lightwood in 1943.

It is open to speculation whether the complete fibrosis of the common duct found in case G. E. of our series can be attributed to organization of a plug of inspissated bile similar to that found in other cases. The child died when only 2 days old, and it is our belief that although the hepatic cell damage occurs *in utero* in cases of icterus gravis and is probably due to an Rh antigen–antibody reaction occurring on the cells themselves, yet the biliary thrombi do not appear until extra-uterine life. It is rare for cases of icterus gravis to be jaundiced at the moment of birth; usually clinical icterus does not become apparent for some hours after. This absence of jaundice at the time of delivery is probably accounted for by the fact that while the child is in the uterus it is not called upon to excrete its own bilirubin but this is excreted by its mother, as postulated by Hampson in 1929. Once the child has to lead a separate existence, however, its liver damage becomes manifest and the events previously described take place.

If this be so, then there would be no time for biliary thrombi to have caused the fibrosis found in a 2-day-old child, and this particular instance cannot be satisfactorily explained on that hypothesis. There seems to be some other factor that requires explanation. Buchan and Comrie (1909), in one of the earliest anatomical studies in icterus gravis, described obstruction of the lower end of the common duct and of the ampulla of Vater in two of their five cases. This obstruction was due to swollen biliary epithelium beneath which was an infiltration by inflammatory cells. McGibbon (1912) has described a similar case, and these may represent a connecting stage between the two forms of bile-duct obstruction in icterus gravis.

The question may be raised as to the frequency with which other congenital abnormalities may be associated with haemolytic disease of the newborn, thus suggesting that this latter type of congenital obliteration may be caused by some general genetic incompatibility rather than be the result of an Rh antigen–antibody reaction occurring *in utero*. In a series of 44 cases studied clinically or at necropsy we have seen no associated congenital abnormalities other than those of the bile ducts, and Harrison and Meacock (1945) found no evidence of Rh-incompatibility in a group of 25 infants with such major congenital abnormalities as anencephaly, hare-lip, etc.

We do not suggest, of course, that all cases of congenital obliteration of the bile duct are associated with erythroblastosis foetalis; those cases of congenital obstruction with anomalous development of the biliary tract or with other malformation such as transposition of the viscera are almost surely developmental. However, the fact that some of them appear to be associated with icterus gravis is of practical importance. It cannot be too strongly stressed that any family showing a history of congenital obliteration should be examined for evidence of rhesus-incompatibility. Only in this way can preparations be made to anticipate haemolytic disease occurring in any subsequent child.

Since obstructive jaundice from plugging of the bile ducts with inspissated bile does occur in some instances, we have recently started the practice of massage over the gall-bladder region, twice daily, in cases of icterus gravis as a prophylactic measure in the hope of avoiding impaction. This we accomplish by inserting the tips of the fingers gently but firmly under the right costal margin, with the child in a sitting position, and allowing it to cry or breathe out forcibly against them. It is hoped that by this method either an actual or a reflex contraction of the gall-bladder will help to maintain a flow of bile through the common bile duct and hence withdraw bile from the intrahepatic canaliculi.

Summary

Evidence is adduced which suggests that certain cases of so-called "congenital" obliteration of the bile ducts occur as sequelae of icterus gravis neonatorum. Various mechanisms are suggested to account for the obstructive element in this disease, and the importance of recognizing this feature of haemolytic disease is stressed.

We wish to express our thanks to Prof. T. F. Hewer for his advice and help in this work and for providing material from one of his cases, which appears in this series. We also wish to acknowledge our gratitude to Dr. Beryl Corner and Dr. F. W. Lewis for material from two cases, and to Mr. S. A. Edwards and Mr. R. Polding for technical assistance.

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THE Rh FACTOR AND BLOOD TRANSFUSION

OBSERVATIONS ON A GROUP OF Rh-NEGATIVE INDIVIDUALS TRANSFUSED WITH Rh-POSITIVE BLOOD

BY

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This paper is concerned with Rh studies on 138 wounded American soldiers transfused with whole blood at the 163rd (U.S.) General Hospital. Of this group 18 were found to be Rh-negative; these cases were investigated for the presence of Rh antibodies and also in regard to the survival of Rh-positive cells in the circulation of Rh-negative individuals.

Methods and Materials

The techniques for Rh testing and for the detection of Rh antibodies were carried out according to the methods described by Taylor, Race, Prior, and Ikin (1942). The test for blocking antibody was that of Wiener (1944). Some of the Rh-testing serum was obtained from the Army Medical School, Washington, D.C., but the greater part of this work was carried out with potent human anti-Rh sera made available through the kindness of Dr. R. R. Race and the late Dr. G. L. Taylor, of the Galton Laboratory Serum Unit, Department of Pathology, Cambridge.

The great majority of the patients had severe wounds of the limbs which necessitated relatively long periods of hospital treatment, and all but a few cases were available for repeated Rh tests. All except one patient (Case 5) had received Group O blood in advanced medical units before admission. Records of these transfusions were meagre, and consisted usually of a note on the amount of blood and the date administered. Nearly all the blood used for transfusions at this hospital was obtained from the Blood Bank of the Department of Pathology, University of Cambridge, and the Regional Transfusion Service (British) in Cambridge. In this blood, glucose–disodium citrate mixture was used as the preservative, and the blood was not stored longer than two weeks before administration.

In the forward medical units of the U.S. Army the blood used was supplied through the European Theatre of Operations Blood Bank. Some of this blood came from the U.S., preserved in Alsever's solution; the blood drawn in the European theatre from U.S. Army personnel was preserved in a citric acid–sodium citrate–glucose mixture.

Results of Studies

Of the 138 patients studied, 18 (13%) were Rh-negative. These Rh-negative cases may be considered in three groups.

Group I

The patients in this group were given known Rh-positive blood at this hospital. The observations on these 6 cases (Nos. 1 to 6) furnish the most important data in this investigation.

Case 1.—Owing to retained Rh-positive cells from a transfusion 30 days previously, the patient was considered to be Rh-positive. He was given 1,700 c.cm. of Group A Rh-positive blood, but two weeks after the last transfusions the Rh test was only moderately positive and there were many unagglutinated cells. On the 23rd day following the last transfusion very few Rh-positive cells were found, and a test on the 29th day showed a complete absence of Rh-positive cells. A febrile reaction occurred during the second transfusion at this hospital, but no evidence of haemolysis was observed in the urine or plasma. Since subsequent transfusions with the same type of blood gave no difficulty, it was assumed that this reaction was pyrogenic in nature. Tests for blocking and agglutinating antibodies were negative.

Case 2.—This patient showed no retained Rh-positive cells 41 days after a transfusion of known Group A Rh-positive blood. Since no tests were carried out at an earlier date it is not possible to say how much more rapidly the Rh-positive cells were eliminated from his circulation.

Case 3.—In this case the Rh test was weakly positive one month after 1,500 c.cm. of blood had been given in France. Transfused with 500 c.cm. of a known Group A Rh-positive blood, 8 days later there were but a few Rh-positive cells left, and 16 days after the transfusion no Rh-positive cells were detectable.

Case 4.—Owing to a transfusion 12 days before admission this patient was thought to be Rh-positive. He was transfused with 500 c.cm. of Group A Rh-positive blood; the Rh test 34 days later revealed no Rh-positive red cells. As in Case 2, earlier testing might have demonstrated more rapid elimination of Rh-positive red cells.

Case 5.—No transfusions were given previous to admission. He was found to be Rh-negative, but nevertheless was given 500 c.cm. of Group O Rh-positive blood. Three days later only a few scattered Rh-positive cell clumps were found, and on the 4th day after transfusion no Rh-positive cells could be detected. This case is of special interest in that no prior transfusion had been given, so that previous iso-immunization seems to have played no part in this phenomenon.

Case 6.—In an advanced unit two days before admission this patient had received 500 c.cm. of Rh-positive blood. The Rh test showed visible agglutination and he was given 1,000 c.cm. of Group A Rh-positive blood. After three transfusions the haematocrit reading did not rise to the expected level, and in preparation for further transfusions it was noted that the Rh test gave less marked agglutination than before and that at least half of the red cells were unagglutinated. During the following month a total of 3,000 c.cm. of Group A Rh-negative blood was given. The patient had no untoward reactions and there was no evidence of haemolysis in his plasma or urine after any of the transfusions. Within 10 days the bulk of the Rh-positive cells were eliminated, but small clumps of Rh_1 and Rh_2 cells persisted. The patient was completely negative, being of the genotype rhrh.* Repeated tests for blocking and agglutinating antibodies were entirely negative until 53 days after the last Rh-positive transfusion. On this occasion the patient's serum was tested by Diamond's (Diamond and Abelson, 1945) technique. A drop of oxalated whole blood, Group O Rh-positive, was placed on a slide and a small drop of the patient's serum was mixed with it and allowed to stand at room temperature. Within five minutes a marked agglutination was visible on the slide. This finding was checked with the usual tube agglutination technique, and visible agglutination in dilutions of 1:2 with microscopical clumping at 1:4 could be demonstrated. No blocking antibody was found. Diamond's test, employed eight days before in this case, was negative.

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* The Rh typing was carried out by Dr. R. R. Race.

Group II

This group of 4 patients (Cases 7 to 10) had received blood before admission, but Rh tests showed them to be negative although clumps of Rh-positive blood had been given.

In Case 7 a considerable number of Rh-positive cells were retained for 47 days; by the 54th day most were gone, and all Rh-positive cells had disappeared within 60 days of transfusion. In Case 8 a similar situation was found, with complete loss of Rh-positive cells within 58 days. In Case 9 Rh-positive cells disappeared within 28 days.

Case 10 did not, unfortunately, remain under observation very long. This patient had had 2,250 c.cm. of blood before admission. With the last transfusion, a note on the chart stated that owing to chills, fever, and urticaria the transfusion was stopped. On admission to this hospital 10 days later there was no icterus or impairment of renal function. The nature of this reaction was not established. Practically all Rh-positive cells had been eliminated and only a very few small Rh-positive cell clumps could be found 10 days after the last transfusion.

Group III

In the 8 cases comprising this group the Rh type of blood given before admission was not known, and since no Rh-positive cells were retained the findings were incomplete. Statistically the chances greatly favour Rh-positive blood having been administered to these patients, but owing to lack of data no conclusions are warranted in this group.

Discussion

The survival of transfused red blood cells is influenced by a number of factors. The age of the blood, the preserving solution, and conditions of storage are obviously important considerations. In this study the cases in Group I were given blood preserved in a disodium citrate–glucose solution*; the blood was kept at 4° C., and no blood stored over 14 days was used. On two occasions fresh whole blood in citrate solution was given to cases in Group I.

The blood used in transfusions before arrival at this hospital was stored under less favourable conditions. It is possible that some of this blood preserved in Alsever's solution, or in glucose–citrate mixture, would survive for 60 days under proper conditions. However, with varying temperatures and the considerable handling necessitated by conditions in advanced medical installations, serious impairment in the ability of such stored blood to survive for normal periods must be admitted. Also, in contrast to studies of cell survival in normal controls (Callendar, Powell, and Witts, 1945), the recipients in all the cases under consideration were seriously wounded men. All had received sulphonamides and penicillin; many had some degree of sepsis. Obviously such complicating factors would not enhance the survival of transfused red blood cells. Therefore the rapid elimination of transfused red cells in certain cases in Group II and Group III might be attributed to non-specific factors rather than a phenomenon related to Rh or any other antigen–antibody mechanism.

However, the blood administered at this Hospital to the cases in Group I was preserved and stored in a manner similar to blood which, in recent transfusion studies, survived satisfactorily for 60 days or more (Loutit, Mollison, and Young, 1943). For this reason observations on the survival of this blood are of considerable interest. In Cases 1, 2, 3, and 4 the transfused red cells were eliminated rapidly and the previous transfusions may have had a sensitizing effect in spite of the fact that no antibodies were detected.

Case 5 had been given plasma but no blood before admission to this hospital. Within 3 days following a transfusion of 500 c.cm. of Group O Rh-positive blood he had eliminated all Rh-positive cells. No reaction or evidence of haemolysis had developed. Dacie and Mollison (1943) observed a similar rapid elimination of Rh-positive cells in an Rh-negative recipient during experiments on the survival of transfused red cells. They also noted this phenomenon in Rh-positive individuals, and Mollison (personal communication) is of the opinion that certain recipients have a peculiar ability, unrelated to iso-immunization, of eliminating transfused red cells.

In this group of Rh-negative cases repeated attempts were made to detect antibodies for the Rh factor. However, in only one case (No. 6) were antibodies discovered. In this patient, 53 days after the last Rh-positive blood was given, good anti-Rh agglutinins were found. If repeated observations had been carried out over a longer period of time antibodies for the Rh factor might have been discovered in other cases. Almost at the end of these investigations the important work of Diamond became available (Diamond and Abelson, 1945). Diamond found that even weakly agglutinating anti-Rh sera and sera containing blocking antibodies, when mixed on a slide with concentrated Rh-positive red-cell suspensions, gave a rapid and definite macroscopic agglutination. At the time only 3 Rh-negative cases remained in the hospital, but one of these (Case 6) gave a markedly positive reaction by Diamond's method.

In addition to detectable antibodies there are other more occult factors concerned in the destruction of Rh-positive cells in Rh-negative recipients. Wiener (1945) has pointed out that the biologic test will at times reveal a haemolytic process in a sensitized individual which cannot be demonstrated by *in vitro* tests. It is quite probable that other as yet unrecognized humoral products of sensitization may be discovered. Furthermore, it is not unreasonable to suspect that the haemoclastic process may be activated by a combination of both humoral and reticulo-endothelial sensitization. This aspect of the problem needs further investigation.

From a practical standpoint, in advanced medical units in wartime the problem of Rh-incompatibility must be disregarded. In general hospitals and other fixed installations a blood bank with available Rh-negative blood should be maintained. All Rh-negative patients should receive Rh-negative blood; this is especially important if blood has been previously given or if there is a possibility that multiple transfusions will be necessary. Diamond, in an excellent review on the clinical aspects of the Rh factor, points out the danger of iso-immunization by repeated blood transfusions, especially in the treatment of war wounds. In Rh-negative patients given Rh-positive blood difficulty may be encountered in deciding whether the patient is actually Rh-positive or not. In this series of cases the first serum available was of low potency,† so that weak and moderately positive tests on retained Rh-positive cells resulted in cases being classified as Rh-positive. With strong anti-Rh serum typical pictures of good clumps of Rh-positive cells surrounded by unagglutinated Rh-negative cells will usually indicate the true situation. In cases with retained Rh-positive cells further and more serious sensitization should be avoided by the administration of only Rh-negative blood if more transfusions are necessary.

Aside from the possibility of immediate or remote reactions, the evidence in the cases described above indicates that the transfusion of Rh-positive blood to Rh-negative individuals is inefficient because of the rapid elimination of the transfused red cells in many cases.

Summary and Conclusions

In a series of wounded soldiers investigated after transfusion of whole blood there was evidence of abnormally rapid elimination of transfused Rh-positive red cells from the circulation of some Rh-negative recipients.

While demonstrable antibodies were found in only one case, it is quite possible that iso-immunization and latent sensitization occurred in others of this group.

The mechanism of rapid loss of Rh-positive red cells from Rh-negative recipients is obscure. Various extrinsic factors may have influenced this phenomenon in certain cases in this series, or some as yet undetected antibody may play a part in this haemolytic process. The possibility that an activated reticulo-endothelial system (or other cellular agency) may be involved in the rapid elimination of Rh-positive cells deserves further study.

From the practical standpoint, Rh-negative individuals should be transfused with Rh-negative blood. While Rh iso-immunization may present few serious immediate reactions, any possibility of Rh sensitization should be avoided.

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† This serum could not be refrigerated in transit, and lost its potency.

I am grateful for the unfailing kindness, assistance, and advice of Dr. R. R. Race and the late Dr. G. L. Taylor, of the Galton Laboratory, Serum Unit, Department of Pathology, Cambridge University. Thanks are due also to the members of the staff and the laboratory personnel of the 163rd (U.S.) General Hospital for their co-operation and help in this study.

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ASYMPTOMATIC KALA-AZAR IN SOLDIERS FROM OVER-SEAS

BY

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The object of this note is to draw attention to the ease with which kala-azar may be overlooked in patients who make no spontaneous complaints. Two cases are described; both occurred in British troops who had served on the Mediterranean littoral. The first patient was seen in Italy and the second in England 20 months after his return from North Africa. Both, when pressed, admitted minor symptoms of several months' duration: these they had considered too trivial to warrant attendance on sick parade.

Classical kala-azar presents usually as a high swinging pyrexia, with periods of remission, and with marked toxaemia and sweating during the pyrexial periods. In both the cases reported here the fever was either slight or trivial, and toxaemia was absent.

Case I

Pte. H., aged 20. This man served in North Africa from Nov., 1942, to Nov., 1943. His disease probably originated in North Africa, for on arrival in Italy in Nov., 1942, he was stationed in the dock areas of Salerno and Naples, where kala-azar is not likely to be encountered. In May, 1944, he was ordered to report sick by his section sergeant, and was admitted to hospital. On direct questioning he admitted to a slow onset of general malaise, loss of weight, lassitude, and easy fatigability for the past 5 months. During this time he had continued to discharge his normal duties.

On examination he was thin and anaemic; and was found to be running an intermittent low-grade pyrexia up to 99° F. There were no abnormal signs in the heart or the lungs. The spleen was soft, was very difficult to feel, and was enlarged to three or four fingerbreadths below the costal margin. He was seen by several medical officers and specialists, who expressed doubt as to the splenic enlargement owing to its extreme softness and the absence of a definite edge. It was not until three or four weeks after his admission that the spleen was unreservedly accepted as being enlarged. The liver was normal in size. On the basis of the presenting clinical findings, and in the absence of a definite splenic enlargement, he was at first thought to be suffering from pulmonary tuberculosis; this was excluded by radiography.

The results of investigations were as follows. Many malaria films were negative. May 13: R.B.C., 3,120,000 per c.mm.; Hb, 59%; W.B.C., 4,850 per c.mm. (polymorphs 34%, lymphocytes 53%, monocytes 9%, eosinophils 4%); B.S.R., 58 mm. in 1 hour. May 26: W.B.C., 2,160 per c.mm. (polymorphs 24%, monocytes 5%, lymphocytes 70%, eosinophils 1%). Formol-gel test, negative. June 9: At this point the splenic enlargement was accepted as genuine, and in view of the marked leucopenia and granulopenia a marrow puncture was performed. Leishman-Donovan bodies were found in moderate numbers in the bone marrow. An inguinal gland was punctured but showed no parasites in the stained film.

The patient was treated with stilbamidine (diamidinostilbene), and made a slow but uneventful recovery.

Case II

Gnr. B., aged 25. This soldier served in North Africa from Jan., 1943, to Jan., 1944, when he was invalided to the United Kingdom with a severe attack of diphtheritic polyneuritis. He recovered completely and was returned to duty, remaining in England until the onset of his present illness. In Sept., 1944, he was admitted to hospital with an anxiety state following the flying-bomb attacks, and says that he was given a full physical examination at this time. After his return to duty he continued his work for nearly a year, and in Sept., 1945, came up for routine medical examination before demobilization. He was found to have a very large spleen and was admitted to hospital for investigation.

On admission on Sept. 23 he made no spontaneous complaints, but on direct questioning admitted to some dyspnoea on exertion for about 12 months, and had noticed that his belly had been increasing in size for about 9 months. He was unaware of any pyrexia, but had had occasional shivering attacks. He did not believe that he had become thinner. He denied ever having suffered from malaria.

On examination he was pale and thin. His complexion was sallow, and there was a slight brownish pigmentation of the anterior axillary folds. His temperature chart showed a nightly rise to 100°, with an occasional double crisis during a 24-hour period. There was a mild tachycardia, the pulse rate varying between 90 and 100. Sweating was not marked. The tongue was clean and moist. The chest showed dullness and diminished air entry at the left base owing to the enormous size of his spleen, but the lungs and heart were otherwise clear. The abdomen was tense and showed on its surface a number of dilated veins. The spleen extended well below the umbilicus and just crossed the midline. It was hard but not tender. The liver was almost certainly enlarged to two to three fingerbreadths below the costal margin, but it was covered with a resonant layer of colon, and neither an edge could be felt nor dullness to percussion be demonstrated. The lymph glands were normal in size and consistency.

Investigations resulted as follows: R.B.C., 3,120,000 per c.mm.; Hb, 55%; W.B.C., 1,400 per c.mm. (polymorphs 38%, monocytes 5%, lymphocytes 57%). Marrow puncture showed many Leishman-Donovan bodies. Ring forms of *Plasmodium vivax* were also seen. Gland puncture: Leishman-Donovan bodies were also easily found in smears made from the juice extracted by puncture from an apparently normal inguinal lymph gland. Formol-gel test, strongly positive.

The patient is at present being treated with stilbamidine.

Discussion

Though a rare complaint in British troops even on the shores of the Mediterranean, where the disease is endemic, kala-azar will certainly be seen for a time in England in troops who have returned from over-seas. In such persons it is not likely to occur very commonly, but it may well compare with the rarer blood diseases in frequency of appearance. If the mind of the physician is not attuned to the possibility of its appearance kala-azar may well be wrongly labelled and treatment withheld, with serious results.

The differential diagnosis in the slightly atypical forms recorded here should not be difficult. At first sight they may resemble pleurisy with effusion or phthisis. When the spleen is found, chronic malaria offers itself as an obvious diagnosis. When blood films are negative the chronic leukaemias come into question. The characteristic leucopenia may then suggest an "aleukaemic phase" in a myelocytic leukaemia, or perhaps some disease allied to the ill-defined Banti syndromes and splenic anaemias. In such cases sternal-marrow films are almost certain to be made; but the diagnosis may be missed even then, for the Leishman-Donovan bodies may be overlooked if the pathologist is not on the watch for them and has not been specially briefed by the clinician. They are often scanty in the bone marrow and may require a long search. If the bone-marrow films are negative it is always worth while to examine the juice obtained from the inguinal glands by puncture with a hypodermic needle. This should be done even if the glands are normal in size.

Summary

Two well-advanced cases of kala-azar with only slight fever and toxaemia are described.

The differential diagnosis, in relation to practical medicine in England, has been very briefly discussed.

It is stressed that further cases will occasionally be seen. A special watch should be kept for them.

S. Ben-Asher (*Ann. intern. Med.*, 1945, **23**, 431) records the case of a woman, aged 43, with mitral stenosis and auricular fibrillation in which an embolus in the right kidney resulted in rise of the arterial pressure. The blood pressure returned to normal with the disappearance of symptoms of renal infarction.

FOUR CASES OF RUSSELL'S VIPER BITE

BY

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Rarely has one a chance to see a number of snake-bite cases over a short period. These four cases were selected from 12 which occurred within a fortnight, in the same locality in Central Burma at the beginning of the Monsoon, the time when Russell's viper is known to be most active. The distribution of this snake is over India, Burma, Malaya, and the Dutch East Indies; and as its bite is curable if promptly treated, these cases have considerable topical interest.

Treatment Adopted

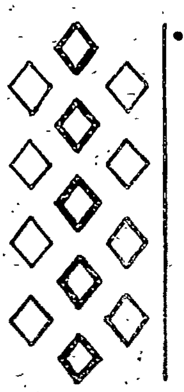
The 12 cases were treated according to a routine. If not already in place, a tight tourniquet was quickly applied to the limb above the bite. Antivenene was administered intravenously at once. Most authorities agree that it should be given in large doses—as much as 30 c.cm. initially, followed by 10 c.cm. hourly up to a total of 80 or 100 c.cm.

The patient is next anaesthetized with pentothal, and an incision at least 3 in. long made, if practicable, in the line of the bite. It was carried down to, but not through, the deep fascia, unless there was evidence that this structure had been penetrated. The incision was made for the purpose of diagnosis and of treatment. In each of the four cases of Russell's viper bite the typical purple-to-black discoloration was present. These cases were then treated drastically by venesection from the affected limb and by retaining a venous tourniquet for as long as 18 hours. By releasing the tight tourniquet regularly, intermittent venesection was achieved. If necessary the patient was transfused with whole blood. The only method of saving life is by preventing the venom from reaching the general circulation. Antivenene alone does not save life.

The other eight cases of this series all showed definite punctures. In three the snakes were available, and were identified as almost certainly non-poisonous. However, each patient was incised at once: some showed no reaction at all; others, clear oedema only. As a safeguard a venous tourniquet was retained some hours and antivenene was administered. No case showed any generalized reaction.

Description

In each of the four cases of this series the snake was identified beyond doubt as a Russell's viper. The largest was sent to the district laboratory for confirmation. This snake was 4 ft. 6 in. in length, and fully 2½ in. in diameter from the "shoulder to the vent," where it rapidly tapered. The Russell's viper is identified by the triple row of diamonds, coloured black to dark brown, down the back. The centre row is the most strongly marked. The dorsal scales are small and equal in size; the ventral scales go right across the belly. In the upper jaw are the two backward-curving fangs in the "canine" position. In the large specimens the fangs are 3/4 in. long. It is of interest that a small Russell's viper 2 ft. 6 in. long, and no thicker than a thumb, caused severe symptoms in one case.



Case I

An Indian pioneer, aged 30, bitten at 12.30 a.m. on May 18, 1945, by a Russell's viper 4 ft. long. No notes on field card except that he was given 10 c.cm. of antivenene soon after the bite. The case was first seen by the surgeon at 9 a.m. the same day. The whole of the right forearm was tensely swollen and tender; on the anterior surface of the wrist two punctures were surrounded by a dark discoloured zone. Pitting oedema extended for some inches above the elbow. Pulse 100; volume fair. A tight tourniquet was applied to the upper arm. 10 c.cm. of antivenene (conc.) was given I.V., and repeated twice at half-hourly intervals. Pentothal at 10 a.m. Multiple incisions on anterior surface of forearm, releasing great tension. Subcutaneous tissues at wrist were black and not bleeding; at elbow, purple and bleeding only slightly. Deep fascia was incised—muscle of normal colour and not under tension. A venous tight tourniquet was retained for six hours thereafter. At 2 p.m., pulse 140, barely perceptible at wrist, but B.P. 140/80. At 8 p.m., pulse 150–160; pulseless at wrist; vomiting. I.V. glucose-saline given (10 c.cm. antivenene to pint)—3 pints in 7 hours. At 11 p.m., mentally clear; sat up spontaneously; no pulse at wrist; swelling had spread to pectoral region. The patient died at 5 a.m. next day. He was mentally clear to the last. No necropsy.

Case II

A British gunner, aged 25, was bitten just after midnight of May 19, 1945, by a Russell's viper 4 ft. 6 in. long. A tight tourniquet was applied to the upper arm within a few minutes; two 1/4-in. incisions were made through the bites. 10 c.cm. antivenene (conc.) given I.V. Admitted to surgical ward at 1 a.m. Very tender round site of bite on the left thenar eminence. Swelling extended 2 in. upwards from punctures, which were 3/4 in. apart. A vein on the dorsum of the wrist felt quite firm, as if thrombosed. Pulse 100; patient was alarmed, as the snake was "as thick as your wrist." 10 c.cm. antivenene (conc.) given I.V., and repeated 1/2-hourly for 4 more doses. 1.30 a.m.:—Pentothal; 3-in.-long incisions made through each puncture. Subcutaneous tissues and muscles of thenar eminence found to be black to a depth of 3/4 in. Dorsum of wrist incised and the vein opened, but bled freely when tourniquet was maintained at venous pressure. Venesection 1/2 pint from this vein. Later it was found that this blood, and also the blood from the opposite arm (taken for cross-matching), did not clot even after 10 hours. It sedimented like citrated blood; the supernatant plasma showed very slight haemolysis in the lower part. A tight tourniquet (Esmarch's) was then applied at the elbow and released for 5 minutes every half-hour. As a venous tight rubber tourniquet below this was never released intermittent venesection was achieved. The venous tourniquet was retained for 18 hours. At 11 a.m. the patient was moderately exsanguinated. Pulse 120; volume satisfactory. One pint of Group O (IV) blood was transfused, followed by I.V. saline drip (10 c.cm. conc. antivenene to pint), 2 pints in 5 hours, followed by a second pint of blood. 10 p.m.:—Severe oedema of forearm below tourniquet; no spread of discoloration; both tourniquets removed; pulse 100; condition satisfactory; 20 c.cm. antivenene given I.V.

May 21.—Condition improving; oedema of forearm subsiding; no signs of general absorption of venom.

May 22.—Pentothal. The three gaping wounds were found to be very clean; they were sutured. Parenteral penicillin given for 5 days.

May 30.—Sutures removed; 2 wounds had healed 100%, one 90%. Severe general debility, in excess of that expected from his anaemia. Though a robust and very well built man, he was unable to walk.

June 1.—Felt better; sat up; hand and finger movements full range. Evacuated to base; long convalescence recommended.

Case III

Indian sepoy, aged 35, bitten at 1 a.m. on May 26, 1945, by a Russell's viper 2 ft. 6 in. long. No notes on card. Brought to surgical unit at 8 a.m. Two punctures present on anterior surface of right ankle. Oedema of whole right foot and ankle. 10 a.m.:—Pentothal. Incision 4 in. long through punctures. Tissue 1/2 in. by 1/2 in. at site of punctures was black, with clear oedema round. Venous tight tourniquet retained 18 hours. This caused mild venesection. 10 c.cm. antivenene (conc.) given I.V., and every hour for 4 hours. *May 27:*—No evidence of general absorption of venom. Quick recovery occurred. Presumably little venom had been injected. The incisions healed in 14 days.

Case IV

Indian tailor (military), aged 25, bitten at 6 a.m. on May 26, 1945, by a Russell's viper 2 ft. 6 in. long. Admitted to surgical unit at 10 p.m. Two punctures seen 3 in. below elbow; tender; forearm and hand oedematous. He walked to hospital. 11 p.m.:—Pentothal. Incision through the punctures. Two small black areas seen, surrounded by oedematous subcutaneous tissues. 10 c.cm. conc. antivenene given I.V., and repeated 3 times hourly. Venous tourniquet applied above elbow; slow venesection occurred.

May 27.—Condition deteriorating; pulse 120, barely perceptible at wrist, but B.P. normal (sounds very faint). Mentally clear; restless; vomiting. Venous tourniquet retained 24 hours, but he did not appear exsanguinated. 12 noon:—Two pints whole blood transfused, followed by I.V. drip, with antivenene 10 c.cm. to pint. Pulse improved slightly; urine contained albuminous clots.

May 28.—Pulse 120; poor volume. Abdomen distended; meteorism; vomiting; diarrhoea. The condition resembled paralytic ileus. I.V. saline continued. Continuous gastric suction started; green fluid aspirated.

May 29.—Pulse 110. Abdomen still tumid and resonant. I.V. saline and antivenene continued; gastric suction.

May 30.—Chest: moist sounds; abdomen rather less distended. Saline and suction discontinued. Later no vomiting; drinking well. Pulse now improved.

May 31.—Chest clear; asking for food. Recovery. Incision healed in 10 days.

Points of Interest

The most striking points are: (1) The bites are tender from the first; the swelling spreads steadily. (2) On incision at the site of puncture the subcutaneous tissues are black, due to extravasated and altered blood and later to necrosis. In the fatal case this discoloration spread the full length of the forearm. (3) In two cases the pulse steadily deteriorated. After 12 to 24 hours it was almost imperceptible, yet repeated B.P. readings were normal.

A colleague told me of two fatal cases of Russell's viper bite which occurred in the same area. The patients were bitten on the neck and thorax respectively. In these and in Case I it was noticed that (*a*) the swelling spread steadily and widely; tissues round the punctures became discoloured. (*b*) Patients remained conscious to the last, though the wrist pulse had been imperceptible for many hours. (*c*) Death occurred in 30 to 36 hours.

Three features appear difficult to explain: (i) In Case II a vein which appeared to be thrombosed 1 hour after the bite was found half an hour later to bleed freely. (ii) The blood in Case II did not clot; yet, therapeutically, snake venom is used to aid clotting. (iii) A condition in Case IV resembling paralytic ileus.

Acton and Knowles (1921), however, state that Russell's viper venom contains three active principles—thrombase, haemorrhagin, and an unspecified proteolytic ferment. *Thrombase*, if injected into a vein, as is common in small animals, causes rapid thrombosis and death. In man this is rare. The presence of thrombase in the subcutaneous tissues causes local necrosis. *Haemorrhagin* produces lysis of the cells of the capillary walls; hence the local extravasation at the puncture sites, as seen in each of the four cases presented. This extravasation accounts for the oozing of blood from the punctures—said to be a diagnostic feature. If haemorrhagin reaches the general circulation it may cause widespread petechial haemorrhages in such organs as brain, kidneys, stomach, intestine, or lungs. Thus signs consisting of fits, depression, and paralysis of vital centres, albuminuria, haematemesis, and haemoptysis occur. Haemorrhages into the wall of the gut account for the symptoms resembling paralytic ileus in Case IV. The damage to the kidneys may account for the maintained blood pressure in two cases in spite of very poor wrist pulse, and also the large albuminous clots in the urine.

Acton and Knowles also state that the early thrombi caused by thrombase are later dissolved by the proteolytic ferment. They do not specify the agent, but say that it is known that thrombi disappear, as in Case II. This agent, acting on the fibrinogen, prevents clotting of systemic blood, as observed in Case II. Calmette (1908), the first to prepare antivenene, stresses the proteolytic action of viper venom.

Treatment

Many cases of Russell's viper bite are amenable to treatment if it is applied early enough; whereas bites of cobra and krait are very rapidly fatal. Hamilton Fairley (1934) advises immediate ligation, free incision, local venesection, and mechanical suction. Local injection of gold chloride and potassium permanganate causes necrosis, and the value of these substances is doubtful. Amputation he considers unjustifiable for Russell's viper bite (as do Acton and Knowles). In this connexion it is interesting that Himalayan tribesmen immediately cut off a digit if it is bitten by a snake. Fairley casts doubt on the efficacy of antivenene, as it is unlikely that the specific antivenene for the snake concerned is available; its potency may well have expired; and there are valueless brands on the market. Stitt (1942) recommends a total dosage of 100 to 300 c.cm. I.V. or I.M.

Transfusion of whole blood is necessary if much is lost by venesection. I cannot find any reference to the prolonged use of a venous tourniquet, but it seemed to be of value in my cases.

Summary

Four cases of Russell's viper bite are presented. The known properties of the venom are discussed.

The diagnostic symptoms and signs are: persistent pain and tenderness, oozing from the punctures, spreading swelling, and on incision a "red-currant jelly" appearance.

Modern ideas on treatment are summarized.

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BLINDNESS FOLLOWING HAEMATEMESIS

BY

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Though long recognized, blindness following haematemesis is rare enough to warrant publication of a further example. Gowers (1904) discussed this complication at length and reviewed the literature to that date. More recently Whiting (1929) described three cases, and Rugg-Gunn (1937–8) reported the case of a man of 47 who, after a severe haematemesis, became completely and permanently blind. Rugg-Gunn also cited a case in which the blindness was not permanent. Bamford and Barber (1940) reported the case of a man of 46 who had two haematemeses at an interval of three days; a gradual contraction of the fields of vision five days after the first bleeding heralded the development of complete and permanent blindness of both eyes. Robertson (1941) described the development of sudden and complete loss of vision in the left eye on the third day after a haematemesis; next morning there was only a glimmer of vision in the right eye. Permanent and complete blindness resulted.

There is no agreement on the pathogenesis, and the retinal appearances differ from case to case. The time and mode of onset vary, as do the degree and duration of blindness. Chevallereau (1903) stated that the blindness is more often bilateral. Fries, quoted by Gowers (1904), found that it was bilateral in 90% of cases and that the time of onset varied, 26% losing their vision at once, 19% within 12 hours, 33% between 12 hours and 18 days, and 22% thereafter. The defect of vision may be a diminution of central vision, paracentral scotomata, sector field defects, or concentric contraction of the fields of vision, while in other cases there is sudden and complete loss of sight. Once vision is lost it appears to be permanent in most instances. Coyon *et al.* (1927) stated that the condition is invariably followed by complete optic atrophy. Sweet (1903), however, recorded a case in which there was slight improvement. One of Whiting's cases showed very slight recovery, and Rugg-Gunn reported recovery where the blindness had been originally complete.

The fundal appearance varies from case to case. In his case Gowers found the disk atrophied and greyish white, the arteries narrowed, and the veins small. There was some new tissue around the vessels in the disk. He stated, however, that the ophthalmoscopic appearances in other recorded cases varied from slight to intense inflammatory change; in the more intense cases there was neuroretinitis with haemorrhages. Rugg-Gunn's case showed papilloedema of both disks and narrowing of the retinal arteries. Whiting noted pallor of the disks with blurring of the edges, small patches of exudate, but no haemorrhages.

Case Report

The case here described, that of a coal-miner aged 53, was admitted to hospital on Aug. 18, 1945, and gave the following history.

During the preceding three weeks he had suffered from lassitude, anorexia, and occasional dull epigastric pain after food. Prior to this he had experienced no digestive upset, but had occasionally seen a streak of blood in the motion. This slight bleeding he had attributed to haemorrhoids. His sight had always been good and he was not subject to headaches. On Aug. 12 he had noticed a trace of blood in his motion. On the 13th, while resting at home in a chair, he suddenly collapsed and lost consciousness for some 10 minutes. On recovering from the faint he vomited a "considerable quantity" of bright-red blood—probably more than a pint. Soon afterwards he passed a tarry motion which was followed by another haematemesis. On the evening of Aug. 15 he felt fairly comfortable and managed to glance through a newspaper. On the morning of Aug. 16 he woke to find that he was totally blind in the left eye and appreciated only hand movements with the right eye. Within a further 15 minutes the right eye also was totally blind. There was no further haemorrhage.

On admission to hospital he was completely blind in both eyes. His mental condition was clear. There was marked pallor of the skin and mucous membranes. Pulse was 80 a minute, regular, and of fair volume. There was no thickening of the radial vessels. B.P. was 135/80 and Hess's test was negative. Haemoglobin (Sahli) was 25%. There was some tenderness in the right hypochondrium but no rigidity. The liver and spleen were not enlarged. The eye-movements were full. Ophthalmoscopic examination showed disks which were hyperaemic and somewhat swollen (2D). The disk-margins were ill defined, the arteries markedly constricted, and the veins dilated. There was no nipping of veins. Two streaky haemorrhages were seen in the right fundus near the disk margin at 2 o'clock and 7 o'clock. A similar haemorrhage was noted at 3 o'clock near the disk margin in the left eye. No exudates were observed. The pupils were widely dilated, circular, and fixed. The spinal reflexes were sluggish. The cerebrospinal fluid was under 200 mm. pressure; there was no blood present and no cellular increase.

1¾ pints of Group O blood was administered by intravenous drip, and iron was given in full doses. Three days after admission the haemoglobin had risen to 46%. Red cells numbered 2,290,000/c.mm., white cells 3,800/c.mm., platelets 200,000/c.mm. There was anisocytosis and poikilocytosis of the red cells, and the differential white count was within normal limits. The blood urea was 29 mg./100 c.cm. Twelve days after admission the haemoglobin was 70%, 27 days after 85%, and 31 days after 89%. *X*-ray examination by barium meal 34 days after admission showed a deformity of the duodenal cap.

The patient was discharged after 38 days feeling well, with a good appetite, and without pain. He was still completely blind in both eyes. The pupils were central, circular, equal, and of moderate size, but did not react to light. There was now obvious optic atrophy, the haemorrhages had disappeared, and the arteries were still narrowed.

Discussion

Various theories have been advanced to account for the blindness. Samelsohn, quoted by Gowers (1904), considered that the nervous connexion between stomach and corpora quadrigemina afforded the best explanation, it having been noted that the disease or injury of the corpora could give rise to haematemesis. Goerlitz (1920) examined an eye pathologically 10 days after the onset of blindness following haematemesis; the main changes found were an intense oedema of the disks and oedema of the retina, these changes resembling those found in intoxication amblyopia such as is caused by methyl alcohol. Whiting (1929) favours the hypothesis that toxaemia renders the ganglion cells more sensitive to blood deprivation and that sudden death of the ganglion cells and their fibres is responsible. Fisher (1929) suggested that exudation of fluid in the nerve sheaths might be responsible. Wolff, quoted by Rugg-Gunn (1937-8), suggested that diminished oxygen supply might lead to spasm of the arterial walls and so be the cause of the blindness.

In the present case one of the most striking features was the marked contraction of the retinal arteries. And whereas a raised blood urea might have been expected the level was unusually low—viz., 29 mg./100 c.cm. Whether this low urea level is of any significance is open to discussion.

Summary

The literature on blindness following gastro-intestinal haemorrhage is briefly reviewed.

Details of a case showing this rare complication are given.

The present case gave a history of having had small repeated blood losses, possibly from haemorrhoids, before the haematemesis.

There was marked contraction of the retinal arteries.

By a wider appreciation of the existence of this unusual complication of haemorrhage and adoption of routine inspection of the fundi for early changes this catastrophe might be avoided. A blood transfusion, given early, may halt these changes and be a sight-saving measure. Once vision has gone there is little likelihood of response to any form of treatment.

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Medical Memoranda

Anaesthesia and Blood Transfusion in 14 Cases of Traumatic Aneurysm

Anaesthesia and blood transfusion for cases of aneurysm present problems to be met with only in peacetime when working in conjunction with a surgeon doing blood-vessel surgery. This military hospital has had 14 cases of aneurysm over a period of 16 weeks. The literature available reveals very little on this subject. The cases, being battle casualties, presented the text-book description of a traumatic false aneurysm, with the exception of the so-called varicose arteriovenous type. When removal of this particular type was attempted it was found to have so many ramifications that blood loss was liable to be tremendous.

All the subjects were brought to the operating theatre in good condition, the average length of time between injury and operation being approximately 4 weeks, giving the opportunity for pre-operative blood transfusions if necessary. No case was operated on until the blood pressure was within normal limits. The premedication used was morphine 1/4 gr. with hyoscine 1/100 gr., while the anaesthetic in 8 of the 14 cases was pentothal 0.5 g., N_2O, vinesthene, and oxygen, and usually but not always ether in conjunction with a (home-made) CO_2 absorber. The remaining cases were given pentothal 0.3 g. and ether through an Oxford vaporizer with the addition of oxygen. Care was always taken to give a liberal quantity of oxygen, particularly when the transfusion could not keep pace with the blood loss. The sites of the aneurysm were carotid, subclavian, brachial, popliteal, and femoral—this warranting the use of intratracheal intubation in the first four types. The average length of time of all operations was just over three hours.

It was found that planning and preparation for a sudden and tremendous loss of blood were needed in all cases, for it could never be determined beforehand which case more than another was likely to have a severe haemorrhage. Before starting any of the operations the local blood bank was asked to supply 5 pints of fresh blood ready for immediate use. As soon as the anaesthetic had reached the third stage and before beginning the operation a needle was inserted and a slow drip started. If there was only the small blood loss to be expected at any operation the transfusion was allowed to drip at 60 a minute, but the transfusion, in any minor or major loss, was ready for immediate use as a stream, even under positive pressure. In two of the cases the loss was so great that a second transfusion had to be set up in order to maintain blood volume. As more experience was gained it was decided to try autotransfusions, but in the latter cases there was no justification for the attempt. Team-work was absolutely essential—as, for example, in two cases when the supply of blood was exhausted, donors having to be called for and bled.

There were 2 deaths. The first of these occurred in a case of popliteal aneurysm four hours after operation, when the patient had recovered consciousness. The blood loss had not been heavy, and had been replaced with one pint of the same group. Unfortunately there was no necropsy. It was thought that death was due to pulmonary embolism. The second death, in a case of subclavian aneurysm, occurred on the table, after 1¾ hours' operating time, from a sudden uncontrollable haemorrhage with which no transfusion could have kept pace. Up to the time of this incident the condition of the patient had been quite satisfactory.

The following successful extreme case indicates the difficulty of the surgeon and the anaesthetist, and shows not only the amount of blood a man can lose, and have replaced, but also the amount he may need if a favourable result is to be obtained.

ILLUSTRATIVE CASE

On the morning of Aug. 14, 1944, Major F. was operated on for a femoral aneurysm of the arteriovenous type. After 3½ hours' operating the procedure was stopped at the request of the anaesthetist in spite of the fact that the haemorrhage was not under control. The wound was packed. The patient had been given 4¼ pints of blood and half a pint of plasma. The same day, 8 hours later, his condition having improved, he was again taken to the theatre, and this time 9½ pints of blood were given with half a pint of plasma. The operation was again stopped at the request of the anaesthetist, after 4½ hours. The wound was still bleeding, and was packed as before. Five days later he was returned to the theatre, and this time the operation was successfully concluded after 4 hours and 40 minutes, the patient having received 8 pints of blood and half a pint of plasma. The plasma was used only to tide over the intervals between the obtaining of whole blood. The total operation time was 12 hours 40 minutes, while the total of transfused material was

21¼ pints of blood and 1¼ pints of plasma, given over a period of 6 days. One is tempted to ask if this is a record for the amount of blood given over such a short period. The anaesthetic used was pentothal 0.5 g., N_2O, and oxygen, with an absorber. The patient's condition 10 weeks after operation can be regarded as satisfactory. In the first two operations both Groups A (II) and O (IV) were used in about the proportion of 2 to 1, while in the last operation A only was given.

The patient's blood picture at the present time shows the following: R.B.C., 4,200,000; Hb, 71% (Sahli); W.B.C., 6,800 (polymorphs 59%, lymphocytes 28%, monocytes 12%, eosinophils 1%).

COMMENT

Anaesthesia for cases of aneurysm presents no unusual difficulties, but a liberal quantity of oxygen is indicated, particularly when the blood loss is heavy. Planning and preparation for a large blood loss in these cases was always necessary. Transfusion was given to all cases in order to be immediately ready for any emergency. In two cases two transfusions were set up at the same time in the one patient. With all precautions a transfusion may not be able to keep pace with blood loss.

I wish to thank Col. J. Bruce, consulting surgeon, for permission to publish this article.

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Major, R.A.M.C.; Recognized Specialist in Anaesthetics.

Local Penicillin in Purulent Pericarditis

The following case of acute purulent pericarditis was treated by direct infusion of penicillin in Ringer's solution after surgical drainage. Two complications—pleural effusion and infection of an inadequately removed rib cartilage—arose during treatment.

CASE REPORT

The patient is a full Samoan, aged 29, and a local resident. He was admitted on Dec. 16, 1944, with fever, pains in the head and chest for 5 days, a cough for 7 days, and an abscess on the left leg for 7 days. The abscess had been discharging for 2 days before admission. His previous history was a pleural effusion, for which he had been treated in hospital 7 years ago. The diagnosis was toxaemia secondary to the abscess of the leg. A bacteriaemia was suspected, but no growth occurred after 5 days' incubation.

On the night of admission his temperature rose from 103.8° to 105°, but dropped the following day to 100°, thereafter fluctuating between 102° and 99° until the second day after operation. His white cell count was 12,650. He was given 2 g. of sulphapyridine on admission and 1 g. six-hourly for three days. At this time sulphadiazine was substituted, and he received a course of 33 g. in 9 days. The response was poor, and he was given 6 g. of sulphathiazole in two days without any benefit. Two weeks after admission his white cell count had risen to 18,100 and the blood cultures were still negative.

20th Day.—A pericardial rub was audible and fine rales were heard in the bases of both lungs. Intravenous penicillin was started (225,000 units in 48 hours); the temperature, pulse, and clinical condition remained unchanged.

28th Day.—Red cells, 3,600,000; Hb, 76%; C.I., 1.05. White cells, 9,800 (polymorphs 62%, lymphocytes 24%). The apex beat was now in the midaxillary line and the right border was 2 in. beyond the right sternal border at the 5th intercostal space. The neck veins were prominent, and the patient was in great respiratory distress.

32nd Day.—I was called in consultation. At this time his precordial dullness was continuous on the left from the 2nd interspace in the midclavicular line to the midaxillary line at the 6th space. The right border was at the midclavicular line in the 6th space. Heart sounds were not audible. Breath sounds were absent in the left lower chest, and coarse rales were heard throughout the remaining areas of the chest. The pericardium was aspirated through the 5th intercostal space, 30 c.cm. of blood-stained semipurulent fluid being removed. Vision was almost absent in the left eye and blurred in the right. In preparation for surgical intervention a blood examination was made, with the following results: Group O; red cells, 4,400,000; Hb, 87%; C.I., 0.98; while cells, 5,200 (polymorphs 66%, lymphocytes 18%); Schilling, left shift 3:1; sedimentation rate, 41 mm. in 1st hour; bleeding time, 3 min.; coagulation time, 4 min.; total serum protein, 7% (albumin 4.6%, globulin 2.1%); mean corpuscular haemoglobin concentration, 48%; culture sterile after 7 days' incubation.

35th Day.—I performed a pericardiotomy, using local analgesia, through a linear incision centred over the 5th and 6th rib cartilages. Two inches of the rib cartilages was removed. The intercostal bundles were incised in the line of the incision and sutured to the deep fascia. Two tie sutures were inserted into the pericardium and the incision made between. There was an immediate burst of effusion, projected 12 ft. Using the tie sutures to open and shut the incision, gradual decompression was effected. Two and a half pints of effusion was expressed by heart action. The tie sutures were then united to the skin to ensure patency. 20 c.cm. of penicillin (1,000 units per c.cm. in Ringer's) was instilled into the sac with a Dakin syringe, and a vaselined gauze dressing laid on the wound. The blood pressure at the start of the operation was 94/54: no appreciable change occurred during the operation. 500 c.cm. of whole blood was given during the procedure, followed by 1 litre of 5% glucose-saline at 36 drops a minute. B.P. readings were taken at 15-minute intervals for the next 8 hours, being uncertain of the origin of the blood in the effusion. The maximum reading was 138/80, and the minimum 94/50; after 6 hours it became constant at 108/62. The pulse during this time was a maximum of 134 and a minimum of 100 a minute. The effusion gave a heavy culture of pure *Staph. aureus*, sensitive to penicillin *in vitro* (38 mm. zone of inhibition).

Conspicuous relief of cardiac and respiratory distress was apparent 4 hours after operation. Twice-daily dressings were done, 10 c.cm. of the same concentration of penicillin being instilled each time, for five days.

2nd Post-operative Day.—Sulphadiazine was begun because of our limited supply of penicillin, a course of 24 g. being given in 13 days. From this time onwards the temperature fluctuated between 97 and 98.8° until March 18.

8th Post-operative Day.—B.P., 102/68; pulse, 90; respiration rate, 22. The apex beat was 4½ in. from the midline in the 5th intercostal space, all heart sounds clearly audible but still faint; moist sounds were heard in the pericardium. Blood examination showed: Red cells, 4,800,000; Hb, 90%; C.I., 0.92; sedimentation rate, 21 mm.; white cells, 6,500 (polymorphs 53%, lymphocytes 38%); Schilling, right shift 8:11.

By the 17th post-operative day the sinus had closed spontaneously, but some discomfort was felt. The sinus was opened, releasing about 30 c.cm. of penicillin-stained serous fluid with no active units. On the 19th post-operative day 10 c.cm. of similar fluid was aspirated: a guinea-pig test revealed nothing pathological. By the 21st post-operative day (Feb. 10) the precordial sinus had closed, and the patient progressed satisfactorily until the 45th post-operative day (March 5), when the wound became tender. On the 50th post-operative day (March 10) it broke down, and a semi-purulent discharge began. Four days later 1 pint of fluid, similar to that previously evacuated, was removed. Some pain and embarrassment were felt and aspiration was discontinued. On March 21 (61st post-operative day) gentle curettage was performed. On April 16 the patient was discharged to the out-patient department with a draining sinus. Two weeks later he was readmitted for removal of an infected cartilaginous tip of the 5th rib. By May 22 the wound had healed and the patient was discharged. The heart was then within normal limits and the chest clear and resonant throughout; B.P. 112/78. Eyes: both fundi clear; fields normal; left eye 6/12, right eye 6/18, Snellen.

There is as yet no clinical evidence of any pericardial adhesions, which will perhaps be found later, and I anticipate the follow-up with interest. The normal base-line temperature of Samoans is 97° F.

Apia, Western Samoa. MARSHALL M. GOWLAND, M.D., C.M.

A Very Large Granulosa-cell Tumour of the Ovary

The following case is of interest because of the unusually large size of the tumour.

CASE HISTORY

The patient, a woman of the Hausa tribe of Northern Nigeria, aged 35, was first seen in Sept., 1944, when she complained of gross enlargement of the abdomen. Two years and ten months previously she began to suffer from continuous uterine bleeding, with the passage of clots of blood. This lasted for ten months, and was followed by complete amenorrhoea for the two years up to the date of examination. The enlargement of the abdomen began two years ago and gradually increased throughout this time. Menstruation was normal before the onset of the condition. The patient was married at about 14 years of age (as is the practice of the Hausa people), and had three live children, the last 16 years old, and a miscarriage ten years ago. Since then she has had no further pregnancy.

On examination the patient was seen to be a thin woman with an abdomen larger than the average full-term pregnancy. The swelling was not uniform, but was more prominent in the hypogastrium and left iliac fossa. Per vaginam the lower pole of the tumour was felt through the posterior fornix. The position of the uterus could not be properly defined.

On Sept. 8, 1944, laparotomy was performed under open ether anaesthesia. The tumour was found to arise from the right ovary, and had a well-defined pedicle. Numerous omental adhesions were divided, the pedicle ligated and divided, and the tumour removed. The uterus was of normal size; the left ovary was atrophied as in a patient after the menopause. The abdomen was closed and the patient was given glucose-saline per rectum. Her recovery was straightforward. The tumour was found to weigh 20 lb. The greater part of it was solid—in some places necrotic. There was a cystic part about 6 in. across. Portions from the solid part of the tumour and from the wall of the cyst were examined microscopically by Dr. G. W. St. C. Ramsay, acting senior pathologist at the Medical Research Institute, Yaba, Nigeria, and he reported as follows.

"The specimen is a granulosa-cell tumour of the ovary. In the cystic part the tumour assumes a papillary form; elsewhere it is composed of solid masses of polyhedral cells with vesicular nuclei divided up by strands of rather hyaline connective tissue. The size of the tumour may possibly be a record. Ewing quotes one case weighing 10½ lb., or just about half the weight of this specimen."

The patient was seen again about three months after the operation and was then in good health.

I am greatly indebted to Dr. Ramsay for his report and for photomicrographs he prepared from the sections of the tumour.

H. A. KELSEY, M.B., B.S.,
In charge of the Church Missionary Society Hospital.
Zaria, Northern Nigeria.

Reviews

MEDICAL USES OF SOAP

Medical Uses of Soap: A Symposium. Edited by Morris Fishbein. (Pp. 182; illustrated. 18s.) London: J. B. Lippincott Company. 1945.

The skin is subjected to the action of soap more often than to that of any other definite chemical substance, and it is rather surprising, in view of its importance in cutaneous hygiene, that no authoritative publication on the medical uses of soap has hitherto appeared. The present volume will fill a gap. What is soap? If it is to be defined as a chemical compound, soap is any salt of those fatty acids that contain eight or more carbon atoms; but many of these salts do not possess the detergent qualities which characterize soap in the mind of the man in the street. On the other hand, there have lately been developed a number of substances which resemble soap in their detergent action but which do not conform to the chemical definition set out above. They are known as "surface active" agents. Among them are sulphated oils and sulphated alcohols and esters—these have been only recently introduced into commerce, but are becoming serious rivals of the orthodox chemical soaps. They have an importance in medicine, for, as is well known, many skins are sensitive to ordinary soap, and the new detergents do not irritate the skin in the same way that soap irritates it because they are non-alkaline, though of course they may irritate the skin in some other way. Up to now very few reports have been published of dermatosis resulting from their use. It appears, therefore, that these detergents have advantages for patients with very sensitive skins.

It is a curious thing to remember that soap as we know it is quite a modern invention. Although the word "soap" has been known since classical times, it seems that the Latin word *sapo* from which the modern English word is derived was not a detergent at all but something rather in the nature of a scent or perhaps a deodorant. The soaps made from the alkaline salts of the fatty acids (of which oleic acid, stearic acid, and palmitic acid are still the most generally used varieties) are a comparatively modern invention, and their commercial manufacture dates from the early days of the nineteenth century, while the marvellous developments and infinite specialization of different kinds of soap to suit special needs have been chiefly evolved during the last seventy or eighty years.

In the volume before us all the points of contact between medicine and the soap industry are thoroughly dealt with. There is a good summary of soap technology and the effects of soap on the normal skin and the diseased skin, of the evils that may result from its injudicious or excessive use, and of its contraindications. There are two sections which may be particularly commended to the study of dermatologists: one is on the effects of soap on the hair, and the other is on soap for shaving. Much of the article on "Soap for Shaving," by Dr. Hollander, is interesting because it supplies scientific reasons for everyday practice. It has long been known that thorough lathering of the face greatly facilitates shaving, and Dr. Hollander describes experiments which show that soap solution actually softens the hair to such an extent that, whereas dry hair is hardly stretchable at all, full saturation with water allows it to be stretched by as much as 50% of its original length. In accordance with current practice among those who shave—that is, practically the whole adult male population of civilized countries—his experiments also show that hot water and soap solution gives the best results. In one point only does he differ from the opinions of most people who practise the art of shaving, and that is when he says that a "dull" razor causes less trauma to the skin than a very sharp one; and that is a surprising conclusion. There is one precaution which he might have mentioned in dealing with tender skins, and that is the advisability of going not more than once over the surface to be shaved and dispensing with a really close shave, which can only be obtained by going over twice.

It is not possible to give an abstract of this interesting book within the limits of a short review, but we do recommend it cordially, not only to the medical and nursing professions at large, but also to trichologists and practitioners of the cosmetic arts. There are numerous apposite and well-reproduced illustrations.

BEVERIDGE REPORT AND WHITE PAPER

Britain's Way to Social Security. By François Lafitte. (Pp. 110. 6s.) London: Pilot Press. 1945.

The Beveridge literature continues to grow, and any contribution to it which deals with it from a fresh point of view can be welcomed. This book is by a firm believer in the Beveridge plan, and he has thought it useful to make an objective comparison of the Beveridge report with the modifications of the White Paper.

The main part of the book seems to have been written before the General Election. The author is, however, not disturbed by the new developments, because he believes that the electors wanted "social security" whichever side won. He does not hesitate to say sometimes that the proposals of the White Paper are better than those of the report, but believes that those of the White Paper are, generally speaking, less favourable to the citizen than the original ones. The value of the book is greatly enhanced by a section which gives a concise and very clear story of the inception and reception of the report, preceded by the record of the forty years of social welfare which have led to a general belief that people should be saved from the necessity of applying for charity, either private or public. He gives reasons for thinking that we can afford social security. He estimates that, at the most, the country is being asked to set aside an additional part of the national income which will amount, roughly, to the goods and services produced by a half-day's work every three weeks. This estimate should be modified favourably because the new benefits will reduce private spending on doctors' bills, funeral expenses, dentists, etc. He quotes an authority who estimates that if all taxes were suitably adjusted an income tax of 5s. 10d. would fulfil the national needs, as against a pre-war tax of 5s. 6d.

Where the White Paper suggests lower benefits than the Beveridge report he says that this would simply result in more applications for public assistance, and any social security plan worth the name should greatly reduce the need for public assistance. If the State wishes to encourage parenthood it must materially increase the maternity benefits and children's allowances, which he pleads should not be subject to income tax. He comes to the conclusion that there can be no excuse for delaying the introduction of the full plan later than two years after D-Day.

In the only mention of the medical service (on page 106) Mr. Lafitte says that the working of the whole system "would be seriously clogged unless the most vigorous action was taken to build a far better system of health and medical services available to every citizen without fee . . . a system which tolerated no class distinctions . . . and provided for the most rapid extension of hospital, specialist, and medico-social services, and for the raising of general practice to a new level of well-equipped competence by the development of Health Centres." He accuses the late Minister of Health of abandoning many of the most hopeful advances promised in the White Paper "rather than quarrel openly with an obstructionist section of the medical profession, the voluntary hospitals, and the local authorities who thought private trading in medical care, separatism, or parochial prestige more important than the public health." Mr. Lafitte does not attempt to expand this. If he tried to do so, judging from the well-balanced nature of the rest of his book, he would probably have found that the "obstructionist section of the medical profession" could show a pretty good case that in looking after the interests of the profession it had not abandoned its plea for a complete medical service for all who need it, which it had vainly pressed on the attention of the Government years before Sir William Beveridge came on the scene.

APPLIED PHYSIOLOGY

Applied Physiology. By Samson Wright, M.D., F.R.C.P. Eighth edition. Oxford Medical Publications. (Pp. 944; illustrated. 30s.) London: Oxford University Press. 1945.

Prof. Samson Wright is to be congratulated on having produced an eighth edition of his *Applied Physiology* and on having kept it below 1,000 pages. The labour and compression this has required are illustrated by the fact that the *Annual Review of Physiology* for the year 1945 alone comprises 774 pages. "Samson Wright" has become an institution, not merely because it is a good examination textbook, but also because it really is useful to the practising clinician who wishes to understand the mechanism of a particular symptom or disorder. If a criticism may be ventured about so popular a book at this late date, it is as follows: Prof. Samson Wright, like others who discuss the physiological interpretation of symptoms, tells us a great deal about the body in health and in advanced organic disease, but very little about the physiology of the everyday ailments of mankind. The commonest illnesses to-day are upper respiratory infections, rheumatism, and neurosis; but the words nose, joint, and neurosis do not appear in the index of this book. More space is given to the ductless glands than to the whole of the alimentary tract, and in consequence useful conceptions such as the peristaltic gradient and the reverse peristalsis syndrome are not mentioned. Clinical teachers are constantly being urged to tell the student about common diseases and about social medicine, and if their teaching is to have a physiological background the applied physiologist must interest himself more in the common disturbances of the environment and the common diseases.

Notes on Books

Recent Advances in the Chemistry and Biology of Sea Water, by Dr. H. W. HARVEY, summarizes the results of the more recent acquisitions of knowledge relating to the constituents of sea water, with special reference to the nutrition of marine growths. The introductory chapter enumerates the agencies by which the dissolved constituents of sea water are transported, and describes the manner in which these agencies operate. Then follow nine chapters detailing chiefly the findings from the examinations made of the constituents of sea water at different places and at different depths, and the variation of these constituents with varying geographical conditions. Apart from the main constituents of sea water there are elements present in minute traces, some thirty of which have been examined as to their amount. Many of these so-called trace elements exercise a vital function in marine growths. The book contains a valuable discussion of the carbon dioxide system in its relation to alkalinity under different conditions of pressure and other variables. It describes the comparative utilization of nitrogen and phosphorus by plant organisms, and the changes due to bacteria under the influence of light and darkness. These and many other results of research derived from the oceans and from the narrow seas render the book unique and invaluable to all who are concerned with any section of marine biology. The bibliographic references are as exhaustive as they can be made, and give to the book a key position in the literature on the subject. It is published at 10s. 6d. by the Cambridge University Press.

Atmospheric Pollution in Leicester: A Scientific Survey is published for the Department of Scientific and Industrial Research at 3s. by H.M. Stationery Office. During the last twenty-five years a large amount of information has been collected about atmospheric pollution at a few fixed points in each of a number of large towns. This information has been of use in many ways, particularly in indicating whether, over a period of years, the air is generally becoming cleaner or more polluted. But until the observations described in this report were made no one could say with any certainty what were equivalent positions for the measuring instruments or what sort of variations in pollution were to be expected over comparatively short distances within a town. The results at Leicester show that atmospheric turbulence, by carrying down clean air from above and carrying up smoke-laden air from street level, is the most important agent in preventing the accumulation of dirt in the air of our towns and cities. In a short preface the Atmospheric Pollution Research Committee of the Department pays tribute to the way in which Dr. A. R. Meetham and his two assistants carried out this research. The work of the Leicester survey, though partly theoretical, is already having practical consequences.

By the courtesy of the American Library in London we are presented with a copy of a *Symposium on Neuropsychiatric Diseases* reprinted from the *Medical Clinics of North America*, Chicago number (Philadelphia and London: W. B. Saunders Company). This is an unusually interesting collection of papers covering many of the chief subjects of interest to present-day neurologists and psychiatrists. Among the neurological papers are useful discussions on the Guillain-Barré syndrome, the diagnosis and surgical treatment of peripheral nerve injuries, chordotomy for intractable pain, protrusion of the intervertebral disk, and an admirable review of the management of myasthenia gravis including a note on the employment of thymectomy. A paper on periarteritis nodosa suggests that this very interesting disease may be rather more common than hitherto supposed, and that it should always be kept in mind in face of an illness presenting multiple symptomatology, including involvement of the nervous system both central and peripheral. Psychiatric papers deal with the modern concept of schizophrenia, electric shock therapy, insomnia, and the relation of insanity to crime. Other papers on the uses and abuses of quinidine, pernicious anaemia, and the rational endocrine therapy of menstrual disorders will repay study.

Preparations and Appliances

A SUPPORT FOR ANAESTHETIC TUBING

Dr. O. R. Tisdall, honorary anaesthetist, Harrow Hospital, writes:

The corrugated tubes of the Coxeter-Mushin apparatus exert a considerable pull on the face-piece. As it is essential to maintain an air-tight fit in absorption technique, it is evident that this pull should be eliminated if possible.

The apparatus illustrated is practically a retort-stand modified for its purpose, and consists of a clamp which can be fixed to any edge of the operating table, an upright arm, and a horizontal bar which can be revolved to any desired angle and moved to any height. On this is a bar which can be revolved as required, each bar being fixed by a milled-head screw. On the second bar are fixed two clips to carry the tubing. In practice it is found that this will allow of almost any adjustment, and will carry nearly all the weight of the tubing.

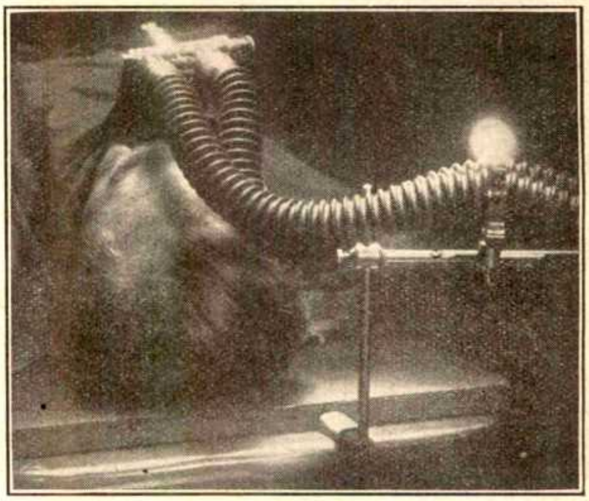

FIG. 1

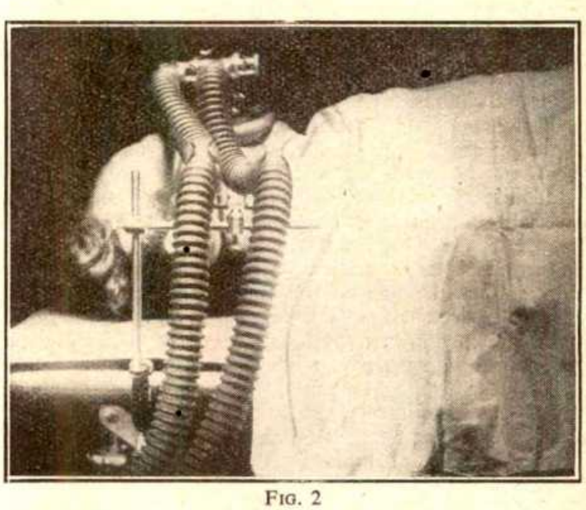

FIG. 2

The model has been kindly made for me by Mr. Dean, of Harrow School Science Laboratories, who is prepared to make a similar model to fit any table.

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ELECTROMYOGRAPHY

Severe and sometimes permanent disability results from a peripheral nerve injury, often quite out of proportion to the amount of tissue damaged. Such injuries are particularly noticeable in war, and thus much attention has been given in the last few years to the solution of some of the theoretical and practical problems related to them. Cajal,[1] and more recently Young[2] and Bowden and Gutmann,[3] have shown clearly that the very nature of nerve regeneration is such that complete functional recovery never occurs after total interruption of a nerve. Thus, since recovery from a peripheral nerve interruption must always, in varying degree, fall short of perfection, it is imperative that the exact extent of the lesion should be determined without delay and rational treatment carried out at the optimum time.

Many "diagnostic aids" are already used in connexion with peripheral nerve injuries. The sweating test developed by Guttmann[4] gives valuable information about the functional activity of vasomotor nerve fibres. These fibres, incidentally, travel to their destination in company with the cutaneous nerves, and are therefore involved in any lesion of these nerves. The test can thus give indirect information as to the functional activity of the cutaneous nerves, and is particularly valuable because it is an objective test and does not depend on subjective sensations. Testing the "electrical reactions" of muscles, introduced by Erb,[5] is another useful aid when dealing with motor nerves, but this test depends upon induced activity by external stimuli, and cannot be applied satisfactorily in the case of single "deep" muscles. There have certainly been improvements in technique recently. For instance, Ritchie[6] has devised a stimulator for the routine determination of strength–duration–excitability curves of normal, denervated, and reinnervated muscles, based on the classical galvanic-faradic test. Precise assessment is made possible by stimulating the muscle with a condenser discharge of known voltage, duration, and frequency, these being variable and inconstant with a faradic current. A progressive improvement of excitability is demonstrated during reinnervation, the improvement appearing a short time before the earliest signs of recovery can be detected clinically. This test is a great improvement on previous ones of this nature, but it cannot be used to detect minimal degrees of denervation; and the accurate assessment of denervation or reinnervation in "deep" muscles is still difficult, and in many cases impossible.

The possible value in diagnosis of recording the spontaneous electrical activity of muscles as a whole by means of electrodes either fixed to the overlying skin or inserted directly into the muscles was first reported by Adrian.[7] The work of Denny-Brown and Pennybacker[8] on the electrical activity of denervated muscles was the next notable advance, but it was Weddell and his co-workers[9] [10] who, after extensive investigations of the electrical activity of normal, denervated, and reinnervated muscle, made possible the use of electromyography as a straightforward clinical test. Electromyography is fundamentally different from the electrical reaction test, for it records spontaneous activity as opposed to activity induced by external stimulation. The principles involved are simple, but to understand them one must have a clear idea of the nerve–muscle complex. This is fractionated functionally, not to the ultimate limit of individual muscle fibres but to groups of muscle fibres innervated by one motor neurone, the so-called motor unit. Each of these motor units when activated gives rise to an electrical response which has well-defined properties. However, when the nerve–muscle complex is disorganized by denervation, the muscle fibres which previously contracted in groups now contract individually, and can be seen as scattered intermittent contractions of isolated fibres—a phenomenon termed fibrillation (not to be confused with fasciculation). The electrical activity of these muscle fibres contracting independently of each other can be sharply distinguished from that produced by motor-unit activity. The apparatus for detecting the electrical activity of muscle is robust, simple to use clinically, and all-mains driven. It consists of a co-axial needle electrode connected to an amplifier, a loud-speaker, and a cathode-ray oscilloscope. The latter is employed solely for making permanent records, the differences in frequency and form of action potentials being more easily distinguished by the ear than by the eye. The apparatus also includes a device for passing stimuli down the electrode to the point from which recordings are being made: thus the position of the point of the needle can be determined precisely by observing which muscle contracts.

With the aid of the electromyogram the following general facts have been established. No electrical activity can be recorded from voluntary muscle which is completely relaxed. Motor-unit action potentials appear in response to voluntary or reflex contraction, and on insertion of the electrode into the normally innervated muscle (mechanical stimulation). The sounds evoked from the loud-speaker by these action potentials are rather low-pitched, producing a distinct "plop." In sharp contrast, denervated voluntary muscles give rise to repetitive action potentials provided the muscles are at approximately blood temperature. These repetitive fibrillation action potentials are of two types: those evoked by insertion of the needle electrode due to mechanical stimulation, and those which repeat rhythmically. The latter evoke a characteristic sharp click from the loud-speaker, and the repetitive quality is very noticeable. The time-course of fibrillation activity in man has been found to be longer than in experimental animals. Thus, in the limb muscles the onset is from the sixteenth to the eighteenth day, in the facial muscles from the twelfth to the fourteenth day, and in the sacrospinalis muscles from the tenth to the twelfth day. Such action potentials can be obtained from denervated muscles as late as eighteen years from the date of injury. They can also be obtained from partially denervated muscles. The difference in time-course has been proved experimentally to depend upon a metabolic factor. Another important point which should receive emphasis is that in denervated muscles which have received adequate physiotherapy, as judged clinically, fibrillation is vigorous, whereas in untreated denervated muscles fibrillation is feeble; and in fact on occasions no *spontaneous* fibrillation action potentials can be obtained before warming the limb. In cases of reversible ischaemic block, as in Bell's palsy, motor-unit action potentials are always obtained on insertion of the electrode, and it is usual to find a few repetitive motor-unit action potentials which may or may not be under voluntary control. Fibrillation action potentials, however, are absent or very few in number. Action potentials from reinnervated muscles are characteristic and usually highly polyphasic, particularly when reinnervation follows suture of an interrupted nerve.

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[1] *Degeneration and Regeneration of the Nervous System*, Oxford University Press, 1928, London.

[2] *Physiol. Rev.*, 1942, **22**, 318.

[3] *Brain*, 1944, **67**, 273.

[4] *J. Neurol. Psychiat.*, 1940, **3**, 197.

[5] *Dtsch. Arch. klin. Med.*, 1868; **4**, 535.

[6] *Brain*, 1944, **67**, 314.

[7] *Lancet*, 1925, **1**, 1229 and 1282.

[8] *Brain*, 1938, **61**, 311.

[9] *Lancet*, 1943, **1**, 236.

[10] *Brain*, 1944, **67**, 178.

Electromyography, therefore, can be used in addition to the familiar electrical reactions. It has a number of advantages, among which is the detection of minimal degrees of lower motor neurone denervation. In addition, it is possible to record the electrical activity in denervated muscles, such as those of the larynx, in which the study of electrical reactions is out of the question, and it is of some interest to note that in a case labelled "recurrent laryngeal palsy of unknown aetiology" the diagnosis of arthritis of the crico-arytenoid joint was established by recording action potentials. Weddell and his colleagues do not suggest that electromyography should replace the determination of the electrical reactions by stimulation, but that electromyography is a more delicate method for gauging damage to the lower motor neurone, and is therefore valuable for the accurate assessment of peripheral nerve injuries and in the early stages of diseases affecting the lower motor neurone. Moreover, the detection of fibrillation action potentials is a positive proof of denervation, which is not possible to obtain with other methods. In a section on muscle tone in relation to motor-unit activity as determined with co-axial needle electrodes Weddell and his colleagues confirm that in a completely relaxed muscle no electrical activity can be recorded by the apparatus employed, and suggest that there is no close relation between muscle tone "determined by the resistance experienced when a limb is moved or displaced passively" and the *motor-unit* activity within a muscle. It is true that co-axial needle electrodes are not ideal for the assessment of "muscle tone"; these workers have themselves proved that their useful recording range is limited to a centimetre or so of muscle surrounding the needle-point, and that the fascial sheath of a muscle insulates the electrode from the electrical activity of surrounding muscles. Nevertheless, they are in general agreement with the findings of Hoefer,[11] using surface electrodes, and it seems certain they are correct in their statement.

Weddell and his colleagues give numerous case records illustrating the use of electromyography in many neurological affections—such as facial nerve paralysis, intrinsic laryngeal muscle paralysis, spinal cord injuries and diseases, and sciatica. They have also shown that in the early stages of "motor neurone" disease the electromyographic picture of repetitive motor-unit action potentials uninfluenced by voluntary contraction differs only in degree from that induced by prostigmin in normal muscle. In both cases the action potentials have been proved to originate at the myoneural junction. Repetitive motor-unit action potentials of a similar type, though in minimal numbers, are seen in slowly progressive peripheral nerve lesions resulting from ischaemia. They also appear in so-called "rheumatic nodules." In the latter the pain and spasm are abolished by infiltration of a local analgesic. As a result of these observations it is probable that there is a stage in the course of degeneration of a peripheral motor neurone at which the threshold at the myoneural junction becomes greatly decreased, so that spontaneous contractions occur. This suggests that spontaneous impulses may arise from sensory receptors in cases of slowly progressive degeneration of sensory nerves, though at the moment there is no proof of this. To summarize, it seems clear that electromyography can now be considered as a useful "clinical aid," and that in the field of academic and clinical research it has yet a part to play.

MASS OBSERVATION AND THE BIRTH RATE

The Advertising Service Guild report on Britain and her birth rate[12] is a document which medical men should read carefully, even those who are not very much interested in the dangers of "race suicide." Because of the general interest of the undertaking we shall speak first of the method. The investigators seek to discover what people think or believe about social problems; in the particular case what they think or believe about rearing families, what they themselves mean to do under present conditions, what they would do if conditions changed. We do not intend to overload this article with figures, but, to give some notion of the scope, we mention that of the women interviewed 222 had had a secondary and 565 only an elementary education, that 317 had been married not more than five years, 132 five to ten years, and 288 more than ten years. For the most part the study relates to London.

It is obvious that the value of the results depends on (1) the number of observations, and (2) the skill of the interviewers. When the skill of the interviewer is great then only (1) is involved, and the ordinary tests of statistical "significance" apply; but if the interviewer is unskilful an arithmetical test may greatly understate the precision of his finding. In the "classical" scheme of dice-throwing or drawing counters from a bag the variance *npq* assumes that the experimenter correctly records the number of pips on the dice or the colours of the counters; if owing to bad light or fatigue he is liable to make mistakes the variance will be larger, even if his errors of observation are uncorrelated and random—namely, if, on the average of many trials, he does find *np* for the mean value. We do not know how "Mass Observation" chooses and standardizes its interviewers, but we have no reason to doubt that a suitable technique has been developed. There is, however, one point to be mentioned. Examiners can be standardized by asking them to mark independently the same script, and we know that, even with experienced examiners, the variation is sometimes disconcerting. But at least the script does not change, though the mood of the examiner does, as re-markings sometimes show. But when the scripts are human beings interviewed at different times and in different moods there may be variation; if A's results differ from B's "significantly" it does not inevitably follow that A is the better (or worse) interviewer.

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[11] *Arch. Neurol. Psychiat.*, Chicago, 1941, 46, 947.

[12] *Britain and Her Birth-Rate.* Published for the Advertising Service Guild by John Murray, 1945, price 21s.

We pass to the results of the inquiry. In the first place it is clear that the "population" of which this selection is typical is not replacing itself, and almost equally clear that if the aspirations of the wives were fulfilled it still would not replace itself. There is no need to go into arithmetical detail, because what is called the factual inquiry will be carried out on a much larger scale by official or semi-official bodies. It is also made probable that the birth rate among badly educated and ill-informed people is higher than among the better-educated. The authors write:

> "Is the sad truth to-day that children are distributed in inverse ratio to knowledge and the ability and desire to assimilate facts? Have we to rely on the improvident and the wishful-thinking for the perpetuation of the race? The question marks must remain. But it is difficult to find any other interpretation which fits all the contradictions which this survey brings to light. The people who are having most children are mainly the people who care least how many children they have, or, at best, are least capable of finding and using means of preventing them. There is no reason to suppose that legislation will alter this pattern fundamentally. It may well accentuate present trends. If it is desirable to perpetuate the 'don't knows' and the 'don't cares' and the 'can't thinks' while the others gradually become extinct, well and good. Let's get ahead with numbers, and to hell with eugenics.
>
> "But if we want quality as well as quantity, then the aim must be to stimulate the desire for more children where the desire and ability to limit families is most firmly established. Minds are made up most firmly at present where legislative possibilities are least likely to provide a stimulus. Babies bought on the cheap—or even at cost price—will come primarily from those to whom a little extra means a lot, whether they are bought for cash, goods, services, gardens, crèches, or living space. If legislation can appreciably raise the birth rate by itself, it seems likely to raise it most where it is already highest."

Some older readers of this vivid passage will murmur—"Karl Pearson." His style was vivid, if in a slightly different way. Some younger readers will whole-heartedly accept the last sentence of the first paragraph. It is a matter of ideology. An editorial article should be impartial, but, being written by a human being, an unconscious ideological bias is hard to escape. We think that a majority of scientifically educated persons now believe that both Galton and Pearson underestimated the importance of social and familial tradition, as well as other environmental factors, in the production of effective ability in families; we are sure most men believe that an immense amount of ability in the "lower classes" has been stifled by unfavourable environment and that, here particularly, Karl Pearson rather than Galton over-emphasized Nature, perhaps made a false antithesis of Nature and nurture. A favourite analogy of his—that no grindstone can put a fine edge on poor-quality steel—is not really illuminating. But perhaps a majority of biologists still think that Nature (in the Pearsonian sense) is a fundamentally important factor of racial progress, or deterioration, so the passage quoted above merits study.

It would be foolish to pretend that the results of this inquiry give any basis for optimism. This, however, can be said: that few of those interviewed seem to expect the rapid building of a New Jerusalem, so that a sense of frustration may be less widespread than in the years following 1918, particularly as there are no indications of a mirage.

ROLE OF ALLERGY IN DELAYED WOUND-HEALING

The war has stimulated much research into the biological processes involved in tissue repair, particularly into the causes of delayed healing of wounds. The importance of a high protein diet after the initial katabolic phase is now well recognized, and has lately been stressed again in two reviews by Cuthbertson,[1] [2] to whom we are indebted for much of our knowledge of the role of protein and amino-acids in wound repair. Hunt[3] and Bourne[4] have shown that a diet poor in ascorbic acid results in deficient formation of collagen, with lack of tensile strength in skin wounds; and hypovitaminosis C may without doubt be a considerable factor in the delayed healing of wounds. In a small percentage of abdominal wounds actual disruption occurs, and although in most cases the cause may be fairly ascribed to faulty surgical technique, increased abdominal tension, or gross sepsis, there remain a number of instances where none of these factors appears to operate, and in which the protein and vitamin-C levels are well maintained; nevertheless the wound breaks down or heals poorly. To explain this group of cases allergy to catgut has from time to time been put forward as a possible causative factor, and many experimental studies have been made, hitherto with conflicting results.

The subject has been lately reinvestigated in America by Hopps,[5] who shows that, while hypersensitivity to catgut can be produced in rabbits and guinea-pigs, a large amount of this substance must be used over a long period to achieve it: for example, while 700 mg. of powdered catgut administered over one and a half months failed to stimulate the production of humoral antibodies to it, 1,700 mg. given over a six-months period was able to do so. As the latter amount represents a 915-cm. length of size No. 0 plain catgut, it is obvious that the production of a state of allergy requires much perseverance. Furthermore, Hopps found that there was no appreciable difference between normal rabbits and rabbits sensitized to catgut in the rate of dissolution or digestion of catgut during the critical period of healing of wounds, and that catgut-sutured wounds in sensitized rabbits showed no tendency to disruption or delayed healing. These negative findings he attributes to the relative insolubility of catgut sutures, and suggests that in cases where accelerated solution of sutures leads to disruption of wounds some cause other than allergy (e.g., an inflammatory exudate) must be looked for.

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[1] *Brit. med. Bull.*, 1944, **2**, 207.
[2] Ibid., 1945, **3**, 96.
[3] *Brit. J. Surg.*, 1941, **28**, 436.
[4] *Lancet*, 1944, **1**, 688.
[5] *Arch. Surg.*, 1944, **48**, 438.

Having dismissed sensitivity to catgut as a significant factor in wound-disruption, Hopps postulates a local antigen–antibody reaction within the tissues of the healing wound to explain delayed healing and disruption in cases in which no other obvious cause is in evidence. To confirm this hypothesis he made laparotomy wounds in normal rabbits and in rabbits sensitized to horse serum or crystalline egg albumen. After operation the majority of the sensitized animals were given specific antigen intravenously, the remainder receiving foreign protein other than that to which they had been rendered hypersensitive, while the normal animals received either of the two proteins used in the experiment; by the use of this double control any non-specific effect of the introduction of foreign protein could be determined.

The results were quite striking. Twelve (50%) of the sensitized rabbits receiving specific antigen died of anaphylactic shock. All except one of the remainder of this group exhibited some disturbance of healing, varying from frank separation of the wound layers to local induration, oedema, hyperaemia, and sero-sanguineous exudation. Of the control animals only two showed slight separation of the skin layer over a portion of the wound, and neither in these nor in the other controls was there any significant degree of oedema, hyperaemia, or sero-sanguineous discharge. In the histological examination of biopsy specimens taken from the wounds nine days after operation it was observed that in the case of the sensitized animals which had received specific antigen the reticulum was finer and sparser and there was much less collagen than was found in control animals. But the most significant difference was in the types of "inflammatory" cells present, the ratio of macrophages to fibroblasts being considerably greater in the former group of animals; in some fields directly in the line of incision not a single fibroblast could be seen, though macrophages were abundant. Hopps considers that this failure of the macrophages to mature into fibroblasts is sufficient to account for the structural weakness and consequent disruption of the wounds. But what accounts for the failure of maturation? He suggests that, just as there is concentration of vital dyes at the site of acute "inflammatory" processes, so protein substances (in this case the specific antigens) are actively concentrated in the area of the operation wound, and the local macrophages are stimulated to produce antibodies. "Apparently the incentive to remain macrophages and form antibodies is stronger than the incentive to mature into fibroblasts and form collagen as a process of the healing of wounds."

Hopps admits that the clinical significance of this mechanism is probably not great, but suggests that it may occur when an abdominal operation is done in the face of a well-localized pre-existing infection (e.g., a pelvic abscess), where the patient may be assumed to have a high degree of sensitivity to the specific infectious agent. In such cases operative manipulation of the localized lesion may result in the forcing of bacterial products through the protective granulation tissue into the general circulation; these antigens then concentrate at the site of the operation wound, and stimulate the local macrophages to manufacture antibodies, thus causing delayed fibroplasia and disruption of the wound. Hopps emphasizes the need for thorough reinforcement of such abdominal wounds with non-absorbable sutures and abdominal binders to maintain their mechanical strength longer than is usually necessary.

PASTEURIZATION OF MILK IN ADELAIDE

At a time when profound dissatisfaction is being expressed by medical men in this country over the failure of the Government to realize the hopes raised by Lord Woolton three years ago it is comforting to know that we are not alone in our endeavours to obtain a cleaner and safer milk supply. In an address delivered before the South Australian Division of the Australian Society of Dairy Technology early in this year Dr. A. R. Southwood,[1] chairman of the Central Board of Health of South Australia, makes it clear that the quality of the milk supply in Adelaide, as in other large towns, leaves much to be desired. Dr. Southwood wastes no time in invective: he goes straight to the problem of how to put things right. In his "fourteen points for a peacetime plan" he outlines a series of proposals which, if adopted, would go a long way towards putting milk on the same satisfactory footing in Adelaide as water and meat. He believes—and with this belief we heartily agree—that the milk problem must be treated as a whole. To ensure this he proposes the establishment in each city of a board of control called the Metropolitan Milk Board. This would consist of a chairman, two representatives of "consumers," two "industry" representatives, and one representative of each of the Departments of Health and of Agriculture. The function of the Board would be to exercise complete control over the four major branches of milk supply: production, transport, treatment, and distribution. The Board would insist on the regular veterinary inspection and tuberculin-testing of all cows supplying milk to the city; on proper cleansing and sterilization of utensils on the farm, and on adequate cooling of the milk; on control of the health of the dairymen handling the milk; on the provision of special vehicles to ensure that the milk is kept below 50° F. during transit; on compulsory pasteurization under thoroughly supervised conditions; on the filling of the milk into sterilized bottles with mechanically fitted caps; on the distribution in vehicles designed to keep it cold; on the use of a methylene-blue test for controlling the bacterial cleanliness of the milk before pasteurization, and of a phosphatase test to control the adequacy of the heat treatment; and on the general education of farm and dairy personnel in the hygienic production and care of milk. The South Australian programme is not idealistic, though it would need some modification before being applied to this country. The creation of an independent body to control all stages of milk production, transport, processing, and distribution is an amplification of the proposal for a Permanent Milk Commission put forward by the Milk Reorganization Commission in its 1936 report.[2] The Government has never accepted this suggestion, with the result that these different stages have come more or less under the control of separate bodies, and that no one body is interested in "seeing the milk through" from start to finish.

The health authorities now have little say in the cleanliness of the milk coming into our large towns and cities; this is very largely the business of the Ministry of Agriculture. In spite of the active prosecution during the last three years of a national milk-testing scheme organized by the Ministry it is probably true to say that the bacterial cleanliness of the milk is no higher now than when the scheme came into operation, and is lower than it was before the war. In consequence the large processing firms, which are anxious for their own credit to provide the public with high-quality pasteurized milk, are having to accept milk of such a low standard of bacterial cleanliness that it is no longer possible for them to ensure a good keeping quality for their product.

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[1] *Med. J. Austral.*, 1945, 1, 454: "Safe Milk for a City. Fourteen Points for a Peacetime Plan." Inaugural address before the South Australian Division of the Australian Society of Dairy Technology, at Adelaide, Jan. 25, 1945.

[2] *Milk.* Report of Reorganization Commission for Great Britain. Min. Agriculture and Fisheries, Economic Series, 1936, No. 44. H.M.S.O., London.

We hope that the new Minister of Health, in his search for a solution of the milk problem, may consider the proposal to appoint one representative body to supervise all aspects of the milk supply, so that this important constituent of our dietary shall be no longer left to the multiple hazards to which it is now exposed.

COLD AGGLUTININS

The presence of cold agglutinins in the serum of cases of primary atypical pneumonia was first reported by Maxwell Finland and his colleagues at the Boston City Hospital in 1943. Their detection was originally due to anomalous findings in attempting to ascertain the blood group of two such patients who developed a haemolytic anaemia. Finland and his colleagues have now published a series of papers[1] describing a systematic study of this phenomenon. The test can be carried out with either plasma or serum from the patient, falling dilutions of which are mixed with an equal volume of a 2% suspension of washed Group O red cells. The tubes are refrigerated overnight, and read after inversion to loosen the deposit of cells. Agglutination varies from a single cohesive mass to fine granularity. Warming to 37° C. for 2 hours completely disperses this form of agglutination.

This test was applied in 211 cases of primary atypical pneumonia, of which the great majority were found to have high cold agglutinin titres, usually over 1 in 80 and sometimes as high as 1 in 2,560 or even more. Repeated tests showed that the agglutinin usually appeared during the second week of the disease. The maximum titre was reached about the beginning of the third week, after which the level fell rather less steeply than it had risen. The test was also performed in 858 other patients suffering from a great variety of conditions: of these, 809 had no significant titre of cold agglutinin, and only 9 had a high one. Three of the 9 were suffering from pneumonia of bacterial origin, 1 from influenza, 1 from tuberculous pleural effusion, and 4 from haemolytic anaemia. The test is therefore rarely positive in conditions other than primary atypical pneumonia, and a high degree of reliance can be placed on it as a diagnostic aid. Other diseases in which positive results have been observed are unlikely to cause confusion: they are trypanosomiasis and tropical eosinophilia.

In their exhaustive study of this reaction from both the technical and the theoretical standpoints the authors have exactly defined its mechanism and significance so far as this is possible without actually identifying the substance responsible. There is a possibility that it is not an agglutinin, but a virus, the reaction corresponding to the Hirst phenomenon—the agglutination of red cells by influenza virus. Its comparative instability tallies with such a hypothesis. On the other hand the fact that most of these sera also agglutinated to a high titre two strains of indifferent streptococci isolated from the lung and sputum of cases of primary atypical pneumonia points rather to an antibody. The association of cold agglutinin with haemolytic anaemia has a peculiar interest of its own. Four out of 7 cases of haemolytic anaemia of various types without pneumonia had high cold agglutinin titres, and 11 of the 211 cases of primary atypical pneumonia developed a haemolytic anaemia; indeed it was in grouping the bloods of 2 of these patients before transfusion that the reaction was discovered. It is quite clear that the agent causing cold agglutination has no haemolytic action, but the possibility is discussed that agglutination in the circulation, taking place perhaps in a chilled peripheral area, may predispose mechanically to lysis. Until this interesting subject is further clarified the test for cold agglutinin might well be employed in obscure cases of haemolytic anaemia as well as in suspected cases of primary atypical pneumonia.

THE SUPPLY OF MIDWIVES

The roll of midwives for England and Wales contains the names of just over 70,000 women, but the number who stated their intention to practise in 1945 is 16,374. This number is an increase on the last four years, and was exceeded only during 1937–40. There are now 2,096 more practising midwives than there were twenty years ago, and the number practising compared with the total number on the roll has gone up in those years by nearly 1%. Of the practising midwives only four now remain who were enrolled as having been in bona-fide practice before the passing of the Midwives Act, 1902, and less than 10% of those now practising were enrolled before 1920. About two-thirds of the midwives are aged between 27 and 47, and only 5.3% are under 27. The register of pupils shows a slight drop for the year. Down to 1935 the number of penal removals from the roll on charges of malpractice, negligence, or misconduct nearly always reached double figures in the year, but of late it has been no more than four, and last year it was only one.

The Central Midwives Board has now approved 97 institutions for the giving of instruction prescribed in the rule on the administration of nitrous oxide and air by midwives, and 2,675 midwives are known to be qualified to give gas-and-air analgesia. The Board has raised again with the Royal College of Obstetricians and Gynaecologists the possibility of amending that part of the rule which requires the presence of a second person at the time of administration, and in the light of a report from the College the Board has been able to amend the rule—a step which it thinks should help to increase the use made of gas-and-air analgesia. Local supervising authorities have been circularized to the effect that a midwife should not administer any drugs of the sulphonamide group except on the specific instructions of a medical practitioner. The Board has agreed to consider sympathetically applications for entry to the midwife-teachers' examination from midwives who gained their post-certificate experience in the Colonies. This has been done on representations from the Rushcliffe Committee on the Training of Nurses in the Colonies. The Board is anxious to do all in its power to help in the improvement of colonial midwifery services.

The Board's report, which is in summary form for reasons of war economy, and relates to the year ended March 31 last, pays tribute to the war service of midwives. "Although they are not to receive any official recognition, not even Defence Medals . . . almost unsung and unhonoured, they perform a public service of prime importance with a devotion which is an example to all."

THE HALF-YEARLY INDEXES

The half-yearly indexes to Vol. I of the *Journal* and the *Supplement* for 1945 have been printed. They will, however, not be issued with all copies of the *Journal* but only to those readers who ask for them. Any member or subscriber who wishes to have one or both of the indexes can obtain what he wants, post free, by sending a postcard notifying his desire to the Accountant, B.M.A. House, Tavistock Square, London, W.C.1. Those wishing to receive the indexes regularly as published should intimate this.

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[1] *J. clin. Invest.*, 1945, **24**, 451.

Nova et Vetera

THE EARLY JEWISH CONTRIBUTION TO MEDICINE

The Jews and Medicine: Essays. By Harry Friedenwald, M.D., D.Sc., Professor Emeritus of Ophthalmology in the University of Maryland. Vols. I and II. (Pp. 817; illustrated. $7.50.) Baltimore: The Johns Hopkins Press.

Dr. Harry Friedenwald is one of the most-respected medical men in America. He graduated from Johns Hopkins more than sixty years ago, worked at ophthalmology in Berlin and Vienna, and was long professor of that subject in the University of Maryland. He has attained the highest distinction in his department and served as President of the American Ophthalmological Society. His leisure has always been devoted to historical studies. His generosity with his services, as with the books from his great library, has known no bound. "Such men as Friedenwald," said his friend Osler, "are the true salt of the earth." These volumes contain reprints of 42 articles by him on the relation of the Jewish people to medicine. They are a memorial of which the Johns Hopkins Institute of the History of Medicine is rightly proud.

During the last hundred years, as in several other periods of history, Jews have taken a large share in the development of medicine. For this there are historic, economic, and social reasons. A record of the medical achievements of Jews might be interesting, but this is not Dr. Friedenwald's objective. He is less interested in distinguished Jewish physicians than in their influence as carriers of civilization. Jewish or Hebraic civilization varied in value at different periods. On its investigation Dr. Friedenwald has spent a lifetime. A life's work cannot be reviewed in a short article, but it may be useful to summarize the early Jewish contribution to medicine, mentioning typical figures on whom Dr. Friedenwald has something new to say. The reader must turn to his volumes for detailed reference.

(*a*) *The Biblical and Talmudic period* of Hebrew medicine to about the sixth century A.D. has been comprehensively treated by Preuss. No one is likely to add much to his classical work. The contribution of this period is to have laid the foundation of social and personal hygiene.

(*b*) *Dark Age Hebrew medical literature* is nearly as scanty as Latin. For Hebrew, however, this age begins later and ends earlier. The earliest Hebrew medical text is probably that of Asaph of the seventh (?) century. He had Greek sources and exhibits what is perhaps an elaborated Hippocratic oath. More interesting for cultural contacts is Donnolo (*c.* 913–*c.* 983), a South Italian who wrote in a very peculiar Hebrew dialect. His medical work is the first to show Byzantine, Latin, and Arabic influence. It may thus be said to typify the legend of the school of Salerno as the combined product of the "four masters"—a Latin, a Greek, an Arab, and a Jew.

(*c*) *Early Arabic Medical Literature.*—One of the first scientific works written in Arabic is that of the Egyptian Jew Mashalla (*c.* 750–820)—Messahalla of the Latins. References to his astronomy constantly crop up in mediaeval Latin medicine, and Chaucer based his treatise on the astrolabe on it. Even in Galileo's time it was still being printed. The first Jewish medical author in Arabic was the centenarian Isaac Israeli (855–955) of Kairouan—Isaac Judaeus of the Latins. He founded a regular school of physicians, both Moslems and Jews. His works, and specially his excellent treatise on fevers, continued in general use in Latin until the 17th century. It is often quoted in Burton's *Anatomy of Melancholy* (1621).

(*d*) *The Early Latin translators from Arabic into Latin* provide the first glimmer of intellectual revival in the West. They were largely concerned with medicine, and all worked with Jewish aid. Constantine (*c.* 1020–87) the "African" was perhaps of Jewish origin and certainly relied on Isaac's school. He worked for the Norman Robert Guiscard in Sicily and Salerno, ending at Monte Cassino, where he turned into Latin many medical works, including Isaac's. These continued to be read for centuries. Stephen of Pisa translated in 1127 at Antioch, with Jewish aid, a standard medical work of the Persian Haly Abbas. The most industrious of the translators was Gerard of Cremona (1114–87), who spent fifty years at Toledo. Assisted by Arabic-speaking Jews he rendered the works of many Jewish authors, including Messahala and Isaac.

(*e*) *Early Judaeo-Arabic contacts with the West* were sporadic. We refer to only two. Pedro Alphonsi (1062–1130), an Arabic-speaking Spanish Jew converted to Christianity, came to England early in the 12th century as physician to Henry I. A Latin version by him of an Arabic work written by himself appeared in 1120 and represents the first impact of Arabian learning on this country. Another Spanish Jewish physician who visited England in the 12th century was the philosopher Rabbi ben Ezra (1092–1167), who was in London in 1158. Several of his works appeared in Latin. He was a most romantic figure and his name has become legendary. See Browning's poem "Rabbi ben Ezra."

(*f*) *The great physicians of the 12th century* wrote exclusively in Arabic. Many were Jews. The most famous is Maimonides (1135–1204) of Cordova—Rabbi Moses of the Latins. He ranks high as a philosopher and deeply influenced St. Thomas Aquinas. From 1165 he was very active as a physician at Cairo and has left a pleasing record of the day-to-day medical life of the time. His contemporary Averroes (1126–98) of Cordova was not a Jew but a heretical Moslem much in contact with Jews. His works, including those on medicine, were translated into Latin, not from Arabic but from Hebrew. The same is true of those of his friend Avenzoar (died at Seville 1162). The works of these men, together with those produced by the Italian translators (see *d*), changed the entire character of Western medicine.

(*g*) *Translators from Arabic into Latin in the 13th century* were numerous. Many, perhaps most, were Jews. They worked chiefly in Sicily, Spain, Provence, and North Italy. A name of romance is Michael the Scot (died *c.* 1235). He learned Arabic in Spain, but Roger Bacon says that he did not know it well but was helped by a Jew named Andrew—perhaps Jacob Anatoli (1194–1256) of Marseilles. Michael did great service in issuing the first Latin version of the biological works of Aristotle. It was probably from a Hebrew text. Farradj ben Salim, a Sicilian, was the first professional translator into Latin of Jewish faith. In 1279 he completed the enormous *Liber continens* of Rhazes of Khorasan (died 932), ablest of the "Arab" physicians, for Charles of Anjou (1220–85). This sovereign of the Sicilies had other Arabic-speaking Jews specially trained in Latin to act as translators. Jewish translators were also active in North Italy. Thus the *Colliget* of Averroes was turned into Latin from Hebrew at Padua in 1275, and the *Theisir* of Avenzoar and the *Hygiene* of Maimonides about 1280 at Venice. An extremely popular book was the drug list known as the *Canones generales* of Mesue, which influenced the modern pharmacopoeias. It was originally composed in Hebrew, and was turned into Latin about 1300. About the same time or a few years earlier a similar Hebraeo-Arabic drug list was turned into Latin; probably at Genoa, under the name of Serapion. Mesue and Serapion were printed very many times.

(*h*) *Mediaeval translations into Hebrew of Arabic works* once existed in great numbers. Spanish Jews spoke Arabic and did not need them, but among the Jews of Provence and Italy such knowledge was rare and by the 13th century was fading. The high reputation of Jewish doctors was based on their access to the "Arabian" medical system. Thus Hebrew versions became ever more needed by them as their Arabic knowledge waned. But the new Greek learning of the 15th and 16th centuries rendered the "Arabian" medical system out of date. Hebrew translations thus became useless. The only one to be printed was the huge Canon of Avicenna (Naples, 1491).

(*j*) *Medical Literature of the Spanish Migration.*—Jews were settled in numbers in Spain before the Christian era. The first literary language of the peninsula, other than Latin, arrived with the Saracens. Educated Spanish Jews came to speak and write Arabic. A very rich and varied Jewish literature arose in Arabic, Hebrew, Catalan, and Castilian. The Inquisition and the expulsion of the Jews from Spain in 1492 struck a blow at the Jewish people from which it has probably never recovered. The Spanish Jewish emigrants, however, supplied numbers of distinguished physicians to various parts of Europe for generations. The classic figure of the emigration is Spinoza. In medicine there are, for example, Amatus, whose case-lists are among the earliest of their kind since Hippocrates; Astruc, the syphilographer and founder of Biblical criticism; Brudo, learned in Greek medicine, who visited England; Rodrigo de Castro, who wrote the first scientific gynaecology; Rodrigo de Fonseca, professor of medicine at Pisa in the time of Galileo; Jacob Mantino, a papal physician who played a part in Henry VIII's efforts to divorce Katherine of Aragon; Fernandez Mendes, the first Jewish Fellow of the Royal College of Physicians; Montalto, physician to Marie de Medici; Nostradamus, the "prophet"; Garcia da Orta, the botanist; Pereira, the pharmacologist; Saporta, name of a whole lineage of physicians at Montpellier; Vecinho, adviser of Columbus. And evidence is accumulating that Columbus himself belonged to the stratum of "Marranos" or descendants of forcibly converted Jews.

(*k*) *The Modern Stratum.*—Jewish literature has endured for some 3,500 years. Perhaps its least-esteemed period is from the early 16th to the later 18th century A.D. Apart from the Marranos and their descendants, Jews became unimportant in medicine until the 19th century. But with the liberal movement which followed the French Revolution they began to play a steadily increasing part in medicine. Thus, for example, in Germany the Jews, who formed one per hundred of the population, provided about one in five of the important medical investigators. But this modern contribution has been in no sense "Jewish medicine." It is part of the great "liberal" movement in every other aspect of which Jews have shared. Will the substantial obliteration of Jewish intellectuals in Central Europe and the rise of anti-Semitism elsewhere produce the same prolonged spiritual depression of the Jewish people as did the persecutions of the 15th and 16th centuries? Time alone can show. But the reviewer is inclined to believe that Dr. Friedenwald will have few successors for many generations.

THE FIRST TREATISE ON RICKETS

Three hundred years ago, on Oct. 18, 1645, a medical student aged 26 read at Leyden for the degree of M.D. a thesis entitled *De morbo puerili Anglorum quem patrio idiomate indigenae vocant "The Rickets."* Published in Leyden the same year, this deserves an honoured place among the classics of medicine, being the first printed account of rickets and antedating Glisson's *De Rachitide* by five years. For succinctness and accuracy Daniel Whistler's clinical description could hardly be improved upon (Leonard Findlay). He mentions the softness of the bones, the large head, the narrow chest, the prominent sternum, the swelling of the costo-chondral junctions and of the epiphyses at the wrists, and the distended abdomen. Though his pathology is steeped in speculation, he had boldly shaken off the chains of the humoral theories. Never at any time pretending to have discovered a new disease, he contented himself with introducing a new and unforgivably hideous name—"Paedosplanchnosteocases." Uneasy over the priority of his description being overlooked, Whistler had his thesis reprinted in London shortly before his death, in 1684, from "malignant fever with peripneumony."

A picturesque personality of distinguished charm, to which both Pepys and Evelyn testified, and of facetious wit in which Oliver Cromwell delighted, Whistler was a good physician but a poor poet. According to Munk he took advantage of his position as President to defraud the Royal College of Physicians, though it is not recorded in what precise manner or to what extent. One likes to speculate to what strangely beautiful language the author of *Hydriotaphia* might have been moved by the contemplation of so ironic a fate which immortalized the doubtful aberration of a great clinician, while scattering the poppy of neglect over his masterpiece.

W. R. B.

A correspondent of the *Times* has reported that at a meeting of the Swedish Linné Society, held in the Linnaean Museum at Uppsala, Hr. Anders Grape, chief librarian at Uppsala University, announced the discovery of Linnaeus's manuscript on his contribution to the Swedish Pharmacopoeia, known as the *Materia Medica.* It had been regarded as lost. Those present were given the opportunity of convincing themselves of the genuineness of the document, which was passed round and scrutinized. It is now incorporated in the Linnaeus collections at Uppsala.

Medico-Legal

THE CASE OF A "COCKTAIL TONIC"

A novel kind of prosecution under the Food and Drugs Act, 1938, was heard by justices at Newport Pagnell (Bucks) on Nov. 22, when Vinecta Products, Ltd., of Dewsbury, were summoned for giving a misleading label with a drug described as a "cocktail tonic (non-alcoholic)." The label contained also the words "palatable and invigorating"; and the following formula:

	%
Inf. gent. co.	1·11
Tinct. aurant. aq.	0·084
Ferri et ammon. cit.	0·52
Acid. citric.	0·25
Acid. tart.	0·34
Chlorof.	0·31
Flavouring	q.s.

A half wineglass three times a day was recommended as suitable for children and adults, to be taken before meals.

For the prosecution it was admitted that the formula was accurate, but it was contended that the mixture could not properly be described as a tonic or as invigorating, by reason of the extremely small proportions of gentian and of iron and ammonium citrate, which provided doses smaller than the minimum *B.P.* doses. The county analyst stated that the mixture was essentially coloured and flavoured chloroform water, and that chloroform had no tonic properties. It was also argued that the use of the word "cocktail," however qualified by the phrase "non-alcoholic," was misleading to the ordinary purchaser.

Counsel for the defence, Mr. R. A. Robinson, called two medical practitioners and a "man in the street" as witnesses. The latter stated that when feeling run down he had taken the tonic regularly for several weeks and it had improved his health notably. The medical witnesses refuted the suggestion that the mixture could have no tonic effect, and pointed out that proprietary articles and "tonic water," sold to all and sundry across the counters of grocers' and pharmacists' shops, should not, and did not usually, contain what might be called normal medicinal doses of their ingredients. In this connexion the composition of such preparations as Kruschen salts, Clark's blood mixture, and phospherine were referred to, and it was pointed out that quite small doses of iron and ammonium citrate were to be found in vinum ferri citratis (*B.P. Codex*) and in various stock mixtures described in many hospital formularies, especially those used at children's hospitals, and in the Admiralty's handbook of prescriptions for the Royal Navy. It was stated in the witness-box that the chloroform in the cocktail tonic caused a sensation of warmth in the stomach, and one medical witness added that he considered the public analyst's observation, to the effect that the cocktail tonic was essentially chloroform water, to be a spiteful comment.

The magistrates on retiring to consider their decision accepted counsel's suggestion that they should taste the preparation. On their return they announced that the summons was dismissed.

The *Manchester Guardian* on Oct. 18 gave a brief report of a civil action heard at Carlisle Assizes, the defendant being a temporarily registered medical practitioner, Herman Augapfel, M.D.Vienna. A six-year-old girl and her father claimed against Dr. Augapfel for the accidental scalding of her left hand in a Whitehaven surgery, with results described by the judge as disastrous. The defendant was attending to the girl's septic finger when by mistake he plunged her hand into boiling water without first testing the heat of the water. Evidence was given that the child was intended for a musical career, but would not now be able to become a pianist. Regret at the accident was expressed on behalf of Dr. Augapfel. The judge said that from many points of view the girl's hand was worthless. She was awarded £1,500 damages, and her father, who sued in respect of consequential loss to him, was awarded £55, in each case with costs.

C. P. Stevick (*N. Carolina med. J.*, 1945, **6**, 369) states that pertussis immunization of children before the age of 1 year is now required by State Law in North Carolina. The disease is now the third, or probably the second, leading cause of death among the reported communicable diseases in this State. On the basis of morbidity and mortality figures, immunization of children after the age of 6 months would probably result in a reduction of pertussis deaths within the next five years.

KING EDWARD'S HOSPITAL FUND

At a meeting of the General Council of King Edward's Hospital Fund for London, held on Dec. 13, Lord Wigram took the chair in the absence of the President, H.R.H. the Duke of Gloucester. Lord Wigram reported that it had been found possible, without trenching on reserves, to return to the pre-war figure of £300,000 for distribution in annual grants to hospitals.

"The pressure on hospital beds is exceptionally heavy," Lord Wigram said, "and we are doing all we can to encourage and assist the hospitals to overcome the many difficulties with which they are confronted in re-establishing services on a pre-war scale. It is known that the Government is contemplating far-reaching proposals with regard to the hospital services. The voluntary hospitals have a great contribution to make to the future hospital service of the country. We recognize the need to supplement their resources with support from public funds, and to weld the whole hospital service into something more of a system than it is to-day. The new proposals, however, must be such as to encourage and not to stifle voluntary initiative. Real freedom in planning and spending is essential, and is compatible with support from official sources. What is urgently needed is a central hospital board working through regional bodies entrusted with ample funds to build up and sustain all existing hospitals of good repute. These bodies would have a full knowledge of the local conditions, and their influence would be very great. Regional bodies, if properly constituted, could gradually develop a hospital service which would preserve a large measure of independence and variety in the individual hospitals. The Fund has already submitted to the Ministry a statement of principles outlining its views on a future hospital service. We also prepared and issued, a few months ago, a much more detailed report, entitled *Post-war Problems*, in which many of the questions that must arise have been discussed at length."

Income and Expenditure

Sir Edward Peacock said that the income for the year had been well maintained. Subscriptions and donations stood at £39,000. Legacies amounted to £122,600, and income from investments to £208,000. In addition £75,000 had been received from the Nuffield Trust for the Special Areas. After deducting expenses the net total came to £426,000 for 1945, compared with £335,600 for 1944. The ordinary distribution had been restored to £300,000, whereas in 1942, 1943, and 1944 it was reduced to £280,000, in order to provide some reserve for the heavy requirements of the hospitals after the war. It seemed that the total income would show a satisfactory balance for the year of over £116,000. There was so far no evidence of any falling off in receipts, despite recent rumours in the press. The voluntary contributions to hospitals were something that should be guarded in every possible way. No mere Government subsidy could take their place, for they represented the devoted efforts of millions of people to help the community.

Sir Ernest Pooley, chairman of the Distribution Committee, presented the report of the committee and the schedules containing the list of grants to hospitals and convalescent homes amounting to £300,000, and these were adopted. A report moved by Lord Donoughmore providing for a series of bursaries in hospital administration was approved. It had been suggested that the Fund might take action to help to fill the gap created by the war by training younger men and women of ability as hospital administrators. The bursaries were to be for a period of twelve months, renewable for a further period of six months, and were of the value of £600 per annum. It was proposed to provide twelve, tenable at some of the larger voluntary hospitals.

The Standard of Hospital Services

Lord Horder referred to the stimulating account from the chair of the recent activities of the Fund in several directions. There could be no question that the King's Fund was carrying out the objective laid down by Act of Parliament. The wording was significant; the Fund was empowered to apply its moneys for the support, benefit, or extension of some or any of the hospitals of London, and to do all such things as might be conducive thereto. He spoke as one who had watched the administration of the hospitals for many years with deep interest, and he took the view that the more the King's Fund could do to maintain and raise the standards of hospital services the better for all concerned. Here were a number of hospitals which were accepted by the public as efficient, and the good work they were doing was the result of slow evolution assisted very greatly by the work of the King's Fund. He held that it would be a very foolish Minister of State who would hope to set up new and alternative machinery for a hospital service, whether in London or the Provinces, to replace the existing institutions. The Minister of Health was known to be a forceful person, and Lord Horder was optimistic that he would also reveal statesmanlike qualities, of which the chief was forbearance.

THE HEALTH OF BIRMINGHAM

New low records in mortality tables are shown in the report of the Medical Officer of Health for Birmingham (Dr. H. P. Newsholme) for 1944. The death rate (11.2) is below any previous war-year figure; in 1940 the rate was 14.3. The infant mortality rate for the first time fell below that for England and Wales as a whole, being 42 for 1,000 live births compared with 46 for the whole country, while the maternal mortality rate fell sharply to 0.95, which is only about half of what it was during the earlier war years. The incidence of notifiable diseases, with the principal exception of tuberculosis, was well below the average of the previous ten years. Diphtheria fell markedly, and the type was less severe, the case mortality falling to 2.7% compared with about 14% during the first twenty years of this century. The disquieting thing is the further increase, though a small one, in the incidence of pulmonary tuberculosis. The notification rate to the 1,000 population was 1.20, equal to the average figure for the years 1931–5, since when it fell, in 1939, to 0.82. The death rate (0.70) is slightly down, and in fact is comparable with the previous lowest rate recorded in 1938; but while this low rate, in view of the progressive increase in notifications during the war, may reflect a welcome tendency to start treatment at an earlier stage, it is feared that the wartime impetus to the incidence of tuberculous pulmonary disease is likely to determine a fresh rise in the death rate.

Mass Radiography: An Analysis

The mass radiography service was introduced into Birmingham in October, 1944, and by March of this year 13,692 people had been examined. Those who are referred from the mass radiography department with a tentative diagnosis of pulmonary tuberculosis are examined at the antituberculosis centre after a reference to, and a brief clinical statement from, their doctor. It is stated that this "has enabled the practitioner to obtain knowledge of all cases detected within his practice with a suspicious large film, and the clinical statement obtained from the practitioner has been of advantage to the tuberculosis medical officers." The programme of the scheme deals, in the order stated, with the following groups: employees in two large factories with well-organized medical departments; university students; employees in two departments of the local authority; school-leavers; civil servants; employees of a large warehouse; and re-examination of selected age groups from those originally examined in the first two factories. Of the 13,700 miniature films taken, 1,401 suggested some abnormality and large films were made; the abnormality was shown in 538 of the large films, but in 165 cases it was judged to be of no clinical significance, and of the 367 cases which went on for clinical examination, 168 were referred for further investigation. Of these 168 (1.2% of the number originally examined) 35 were found to require no treatment, 71 were supervised from the antituberculosis centre, 39 were sanatorium cases, 20 were referred to general practitioner or to a tuberculosis officer outside Birmingham, and 3 failed to attend. The number of cases of active pulmonary tuberculosis detected was 50, or 0.36% of those initially examined. It is considered from an analysis of the results that in Birmingham there are some 2,700 undetected cases of active pulmonary tuberculosis and 800 individuals are voiding tubercle bacilli in their sputum unknown to their doctor or to themselves. The estimated total number of examinations is 60,000 a year.

MEDICAL RESEARCH IN SOUTH AFRICA

The South African Institute for Medical Research, Johannesburg, continues its active work in a variety of fields under the directorship of Dr. E. H. Cluver, who holds also the post of professor of preventive medicine in the University of the Witwatersrand. Close co-operation between the Institute and the University is maintained; three other senior members of the staff are heads of departments at the Medical School with the rank of professor.

The annual report for 1944 is published from P.O. Box 1038, Johannesburg. The personnel of the staff comprised 187 Europeans and 162 Africans. Several scientific societies held meetings at the Institute during the year, when demonstrations were given of some of the work being carried on in the laboratories. The South African Medical Corps Establishment continued to operate under Dr. Cluver in his capacity as director of pathology to the Union Defence Force. One section of the report is devoted to this war work, which included the manufacture of crude penicillin filtrate for external wounds and skin diseases at a time when the supply of pure penicillin even for military purposes was still strictly rationed. Another section describes briefly research on a number of diseases carried out during the year. In the biochemistry department Dr. F. W. Fox, in conjunction with Prof. J. Irving of Capetown University, pursued his studies of bread-nutritional matters. The Institute's routine diagnostic work, research resulting therefrom, and the adoption after trial of improved laboratory aids to diagnosis were supervised by the deputy director, Dr. George Buchanan. Apart from the routine laboratory investigation of more than 340,000 specimens the medical officers gave attention to 3,000 patients referred by medical practitioners for various tests and examinations at the Institute. Post-mortem examinations carried out at the Johannesburg General Hospital numbered 793, and, in addition to these, 82 necropsies were performed at the Institute's mortuary. During the year 829 pairs of lungs were examined on behalf of the Miners' Phthisis Medical Bureau. Big demands were again made on the serum department because of war requirements of the Union and Allied Governments. Large quantities of stock and autogenous vaccines were produced during the year. The report ends with notes from the Port Elizabeth and Bloemfontein Branches, and a list of publications.

STAFFING OF MAUDSLEY HOSPITAL

A report on the organization of the medical staff of Maudsley Hospital in relation to post-war developments has been made to the London County Council.

When it is again in full use Maudsley will have accommodation for 290 in-patients, including 30 beds for children, and a new block with 60 beds which was originally intended for private patients. There are also a large and growing out-patients department, clinics at three hospitals in the north and east of London, and observation ward work at one hospital in the south. The medical staff also act as consultants in psychiatry to certain general hospitals. Apart from the positions of medical superintendent and director of clinical psychiatry, the pre-war fixed staff of the hospital consisted of three part-time consultant psychiatrists, one first assistant medical officer, six part-time medical officers, six second assistant medical officers, and four other assistants. The L.C.C. proposals for the post-war medical establishment provide for the equivalent of 28½ whole-time units as against 16½ units before the war. For the positions of physician, paediatric physician, senior physician in psychotherapy, and assistant clinical director a fixed salary of £1,000 a year is proposed. The scale of salary suggested for the assistant physicians is £700–£800, with an allowance of £50 to the officer acting as deputy medical superintendent; for the senior registrar £625–£700; for the junior registrar £470–£570, plus £50 for any holder of a diploma or degree in psychological medicine; and for house-physicians £250. The position of psychotherapist, a part-time appointment, will carry a remuneration of £300 for five sessions of three hours each for 48 weeks a year.

It is pointed out that one of the functions of the Maudsley Hospital is to train teachers of psychiatry for the medical schools, and that it is clear that, quite apart from the ordinary requirements of the psychiatric treatment given at the hospital, the medical establishment must include a sufficiency of staff of the right quality to provide undergraduate and postgraduate education at a high level. The report of the Mental Hospitals Committee of the Council states that the suggestion of a fixed salary of £1,000 for the six positions of physician, paediatric physician, and senior physician in psychotherapy "is based on the expectation that there will be a flow of whole-time workers to higher positions elsewhere."

Reports of Societies

DISCUSSION ON D.D.T.

A discussion on D.D.T. (dichloro-diphenyl-trichlorethane) was held in the Section of Experimental Medicine of the Royal Society of Medicine on Dec. 11. Dr. E. N. ALLOTT, and afterwards Dr. GEORGE GRAHAM, occupied the chair.

Toxic Effects

Prof. G. R. CAMERON spoke of the risks likely to be encountered in the production and use of the new insecticide—the risk to the skin from spraying or splashing, the risk by inhalation of mists or smokes, and the risk of contamination of food or water by accidental mixture with the compound. The powder form, he said, was only to a slight extent soluble in water, and very difficult for the skin to absorb, but the risk was very much greater with oily solutions or suspensions, which were absorbed quite easily through the skin and mucous membrane. In rats and guinea-pigs a single dose of D.D.T. was relatively non-toxic as a powder, but in oily form, mixed with liquid paraffin, anything between 150 and 800 mg. per kg. body weight was fatal for the rat, and between 400 and 1,000 mg. for the guinea-pig. For these animals D.D.T.—in these heavy doses—was two or three times as toxic as aspirin. If D.D.T. in a bland fluid like paraffin were injected subcutaneously, large quantities could be used without ill effects. Single doses, therefore, had no great toxicity, but it was another story with repeated doses of oily solutions. In small animals about one-fourth or one-fifth of the fatal single dose, when repeatedly administered, gave rise to symptoms and ultimately caused death. Of the mediums for oily suspensions, olive oil seemed to be the most fatal.

As for the risk to man, certain experiments were made with 58 soldiers who volunteered to wear undergarments heavily impregnated—1%, weight for weight—with D.D.T. Each of these men had had exposed to his body something like 70 or 80 g. of D.D.T., and had worn these garments for from four to six weeks. Nothing happened to give rise to anxiety. The men who carried out the impregnation of the garments and were exposed to quite heavy concentrations of D.D.T. in kerosene also suffered no harm, except for a slight dermatitis in some of them, which quickly disappeared. Two or three of these men also showed a significant rise in blood calcium. The conclusion drawn was that contact with D.D.T. in the form of a slightly moistened powder need give rise to no concern. Some experiments had been made with the object of finding out what happened when wound surfaces were exposed to D.D.T. powder. In wound surfaces in animals there appeared to be no difference in the healing of those which had been covered with the powder and those which had not.

The symptoms of D.D.T. poisoning, after a very heavy single dose in animals, were cold skin, diarrhoea, and characteristic nerve signs, sensitiveness to stimuli of all kinds, weakness of muscles, and, in the last stage, tremor. Death occurred from respiratory failure within 24 or 48 hours. The animal might recover, if the experiment had not gone beyond a certain stage, on the complete washing away of the D.D.T. No characteristic lesion was found in the central nervous system. With small repeated doses the animal began eventually to lose weight and develop complete anorexia; nervous and muscular signs came and went, hypersensitiveness was also present, and death came in a quiet fashion from exhaustion. A leucocytosis became pronounced as the animal began to deteriorate. In conclusion Prof. Cameron said that in man no ill effects were to be apprehended with D.D.T. powders or sprays when the substance was used in low concentration (not above 1%). Care must be taken in handling concentrates, and any of the substance which got on the skin should be washed off with soap and water as soon as possible. People working with these concentrates for any length of time should wear gloves and other protective garments, and when spraying should use respirators.

Experience in the Field

Dr. H. D. CHALKE said that when Naples was occupied in October, 1943, the city was in a terrible condition. It was overcrowded, large numbers of people were living in caves, and no soap was available. The Neapolitans, including the members of the medical profession, were in a state of apathy and despair. Epidemics, particularly typhoid, were feared. A typhoid epidemic did not arise, but typhus cases began to be reported. The Rockefeller Foundation team arrived early in December and immediately started mechanical dusting with the American powder M.Y.L. Only towards the end of the period was D.D.T. used. It was the American idea of mechanical dusting with power sprays which, he believed, had most to do with the sudden stoppage of what bade fair to be a considerable outbreak of typhus by an early week in January, 1944. The cases reported weekly got up to 300, but the following week they came down to half that number. By early March it was evident that the outbreak was petering out. The defeat of the typhus epidemic in Naples (there were about 1,800 cases) was not entirely due to the use of D.D.T., but to the mechanical means of dusting insecticide powders, whereby a large number of people could be disinfested without being undressed. At the same time he must not be taken as saying that D.D.T. did not play an important part. As soon as sufficient supplies were obtained it was realized what an enormously valuable weapon it was.

D.D.T., he thought, was an insecticide for masses of people who were not under discipline. In the Army a bathing and cleansing routine was possible, but with D.D.T. it did not matter that the people were unwashed or congregated in shelters —in fact, it was an advantage that they did not change their clothing once a week; the insecticide powder was thereby assured of longer contact. The lesson for the British Army was that infestation could be controlled without the cumbersome steam disinfestors, and the hygiene section could be released for more purely hygienic and sanitary duties. The infestation rate in 1944 was just about half what it had been in 1943. Impregnated shirts were issued to the Army on a large scale, but no toxic effects were recorded. With 5% D.D.T. in kerosene it became quite a simple matter to control the bed bug. A point to bear in mind in using D.D.T. spray was to have a coarse spray: not coarse enough to be wasteful, but giving so near an approach to a liquid that what was ejected remained on the walls of a room and did not all settle on the floor.

An outbreak of plague at Algiers at about the same time was also dealt with successfully by D.D.T. Early in 1944 it was realized that D.D.T. had enormous possibilities in malaria control; 2 to 5% solutions of D.D.T. in kerosene were found to have a most remarkable and persistent effect on the mosquito. Spraying from the air was employed over a width of 115 yards and a length of 700 yards on each flight; in the southern part of the Po Valley, which was terribly infested, mosquitoes and flies became almost non-existent.

It was assumed from the beginning that D.D.T. solutions in kerosene were toxic, and the operators were issued with protective clothing. Two cases of poisoning were reported, but more likely they were cases of heat-stroke, and they quickly passed off. D.D.T. was undoubtedly the most remarkable insecticide yet produced. It had been one of the most potent factors in winning the war in Italy, for in spite of the large incidence of malaria in the civil population the Army remained relatively free.

Major K. R. HILL described a fatal case, of which a full account was given in the *Journal* of Dec. 15 (p. 845). Dr. R. A. M. CASE discussed experiments undertaken at the Royal Naval Physiological Laboratory and described at length in the same issue (p. 842).

Dermatitis from Impregnated Clothing

Lieut.-Col. HILLIER, speaking for the dermatological service in the B.L.A., said that the B.L.A. was the first Force to go overseas with impregnated shirts. They went to France in June, and by September a great number of cases of dermatitis had occurred, undoubtedly associated with the shirts. Cases were now being seen in Germany at the rate of 300 or 400 a month, so that there must have been several thousand cases. A number of tests were carried out and the results were practically all negative. The dermatitis affected particularly the areas where the shirt was pressed against the skin. The skin was almost invariably purpuric. He was quite sure that it was not due to D.D.T. as such. It was considered whether it might be due to some alteration in the D.D.T., perhaps in the washing process, but all investigations had failed to convict D.D.T. directly. The striking fact was that this extraordinary rash was something new to the B.L.A., it did not appear elsewhere, and the B.L.A. was the one Force which had gone out with impregnated shirts. Another interesting point was that the men went over to France in remarkably clean condition. The incidence of lousiness was only 1 per 1,000 a month, and that of scabies about the same. This state of affairs continued so long as they were in Normandy, but on moving into Belgium and Holland, with greater contact with the civilian population, the incidence of trouble due to *Pediculus pubis* rose by eight or ten times, though that due to *Pediculus corporis* remained absolutely steady. D.D.T. unfortunately had no effect on scabies at all.

It was agreed to pass on to the Council of the Section a recommendation that, in view of the fact that D.D.T. can be purchased from any chemist, legislation should be sought governing the nature of the product and that it should be stated on the label what percentage of D.D.T. was contained, the nature of the solvent, and accurate directions for use.

HORMONE THERAPY OF CANCER

The present position of hormone therapy in the treatment of cancer was the subject of a discussion in the Medical Society of London on Dec. 10, Sir JAMES WALTON presiding.

Work on the Oestrogens

Prof. E. C. DODDS said that it had been claimed for every endocrine organ at one period or another that it was capable of producing a substance which would effect a cure or amelioration of cancer, but he thought it could be said that the whole of these claims remained unverified save only in respect of the oestrogens and, possibly—he used the word "possibly" advisedly—the androgens. The prostate had been recognized for 50 or 60 years to be under control of the testes, and it had been thought that removal of the testes might affect prostatic enlargement beneficially. Nothing very much happened until the experimental work of Huggins, professor of surgery in the University of Chicago, who had shown that the prostate could be controlled by hormonal influence. Huggins started his investigations on the clinical aspect of carcinoma of the prostate with the knowledge that acid phosphatase was a measure of prostatic activity, and that such activity could be increased by injecting androgens and decreased by injecting oestrogens. If a patient with carcinoma of the prostate and bony metastases were castrated there was shown to be a diminution of prostatic activity due to the withdrawal of the androgens secreted by the testes—a result shown biochemically by an ultimate fall in acid phosphatase, and clinically by a considerable improvement in the patient, with diminution of local obstructive symptoms and secondary symptoms due to pressure.

What was meant by the term "oestrogens"? It had been known from time immemorial that the ovary was associated with the cyclical activity of the female, and therefore it was natural that biochemists should try to obtain an extract from the ovary with a view to reproducing these cyclical changes. By 1930 the structure of the natural oestrogens was determined. These were substances which were capable of reproducing the greater part of the female sex hormone. It was unfortunate that they had to be injected either subcutaneously or intramuscularly—given by mouth they were almost inactive.

Synthesis of Stilboestrol

In his own laboratory, Prof. Dodds continued, after some eight years' work, three substances were found which were now in use in clinical medicine. Of these synthetic oestrogens the best known was stilboestrol, which was used in the treatment of gynaecological and obstetrical disorders and in carcinoma of the prostate. These synthetic oestrogens were very cheap and simple to make, were not controlled by any patent restrictions, and were active when given by mouth. The dosage in each case must be determined empirically. If a patient did not respond to a relatively high dose, increasing the dosage would not effect an improvement. Any toxicity was due entirely to the oestrogenic nature of these compounds and in no way associated with their molecular structure. Stilboestrol was possibly the most active of them oestrogenically, and therefore the most liable to cause toxic reactions. The nausea was comparable with the nausea of pregnancy which occurred when the female organ was suddenly flooded with oestrogen. The action of these substances might be on the anterior lobe of the pituitary, producing a castration effect; on the testes directly, inhibiting the secretion of testosterone; or in some unknown manner on the cancer process. Personally he doubted the first two hypotheses, and he was inclined to think that the substance acted directly on the cancer process. It was reported that in America there were on record patients who had improved greatly after castration, and had then gone downhill, but had afterwards responded to stilboestrol. If that was so it indicated that there was a possibility of production of androgens from the suprarenals.

Had stilboestrol any value in other forms of cancer? Its administration in carcinoma of the prostate was the result of careful laboratory work, not haphazard experiment, but among the results recorded in cancer of other sites the only definite outcome was that stilboestrol did appear to have a statistically significant effect on a small proportion of cases of carcinoma of the breast. The Radiology Section of the Royal Society of Medicine carried out an inquiry on this point two or three years ago, from which it appeared that something like 5% of these cases had benefited or had been affected in some way. The real point of the whole work was that for the first time a substance had been produced which, when administered by mouth, had an effect on one form of cancer.

Clinical Aspects of Oestrogen Therapy

Mr. TERENCE MILLIN reviewed 200 personal cases of cancer of the prostate. His conclusion was that oestrogen therapy as now administered would not cure prostatic carcinoma, but it would stave off the evil day. In about 90% of cases the primary growth dwindled and softened to such a degree that at a subsequent examination it was difficult to find. In discussing malignant cases it was out of the question to talk of cure under three years. There was no evidence in his experience that castration—meaning the sponging out of the parenchymatous tissue of the testes—was superior to oestrogen therapy. Where oestrogen failed, castration would very rarely help. The problem was whether to begin oestrogen therapy as soon as cancer of the prostate was diagnosed or suspected or to wait until urgent symptoms developed. Mr. Millin's discussion on this point led to the conclusion that orchidectomy should precede oestrogen if used at all, and the latter should be withheld until the benefits, if any, derived from castration had ceased. His usual dosage was 6 mg. of stilboestrol daily for three or four weeks, then 3 mg. as a maintenance dose. Acid phosphatase estimations he had not found of any great value. As to the toxic manifestations of oestrogen, oedema of the lower limbs could be very distressing; other disadvantages were nausea and loss of sex urge. One patient, aged 71, found oestrogen treatment distasteful from this last point of view and went to his local practitioner, who gave him testosterone, but the prompt return of his symptoms caused him to surrender his libido willingly!

Mr. E. W. RICHES agreed that an immediate good response was to be expected in 90% of prostatic cases treated with oestrogen. He had gone through the records of 20 cases in which oestrogen therapy was started between two and three years ago: 13 were still alive; 5 deaths were due to carcinoma, 1 to pneumonia, and 1 to cardiac failure. The period of survival varied from two years to two months (this last the pneumonia case). Of the 13 alive, one had lived for three years; he had had a massive recurrence after prostatectomy, and started oestrogen therapy nearly three years ago. He had now no clinical signs of the disease, his acid phosphatase remained normal, whereas it was originally raised, and he was perfectly well. Another survivor had had an endoscopic resection four and a half years ago and a course of *x*-ray treatment afterwards; he had been given stilboestrol for eighteen months now and remained well. Of the 20 patients 6 were treated with *x* rays as well as stilboestrol, and of these 6, 4 had died, 3 of them with metastases. Of the 7 patients who had died, 6 had metastases at the time of starting stilboestrol treatment; and of the 13 who were alive, only 4 had metastases. It appeared that the presence of metastases at the time of starting treatment was of vital importance in prognosis. Stilboestrol alone would not prevent the development of metastases. He had had two cases which started with no evidence of metastases, but developed it in the course of treatment, one of them after having been treated for seven months. One patient, bedridden and looking moribund, went back to his work and lived for two years after oestrogen treatment, eventually dying from metastases. In his view acid phosphatase was a valuable means of estimation. It might not always be raised in these cases, but if it was raised it was strong evidence that the patient had metastases. It was more reliable as an index of prognosis. If it went down and stayed down it showed that the patient was responding, and it gave a good indication of the right maintenance dose. If the drug began to fail, the phosphatase rose, and the rise was unaffected however much the drug was increased.

Mr. Riches deplored the indiscriminate giving of stilboestrol in prostatic cases. Many patients with benign prostatic affections were told to try stilboestrol, and this "queered the pitch" from a diagnostic point of view and masked a possible malignancy. The really hard carcinoma of the prostate was easily diagnosed, but in many early cases this was a most difficult diagnosis to make, and could be made certainly only by endoscopic resection and biopsy. If these patients were then taking stilboestrol the help given by the raised acid phosphatase was lost. For dosage he liked to start with 1 mg. three times a day and work up to 15 mg. a day, reducing it when the acid phosphatase came down. He agreed with Mr. Millin that masterly inactivity was a good policy in some early cases, but it was rather a difficult one when they knew that they had a drug which would exert so beneficial an effect in so large a proportion of cases.

Confusing Effects in Hormone Therapy

Dr. S. L. SIMPSON took the view that the oestrogen acted by producing a physiological castration and, more directly, by in some way inactivating the effect of the androgens. Recounting certain work on the endocrines generally and cancer, he admitted that it was confusing and sometimes conflicting, but as it had been shown with stilboestrol in carcinoma of the prostate that recurrences and relapses were still forthcoming, such adverse results with other hormones did not negative the possibility of their beneficial action under the right conditions. If endocrines in one set of circumstances appeared to produce neoplasms and in another set of circumstances caused them to regress and disappear, so did *x* rays and radium. Dr. WILLIAMS, as a laboratory worker, dissented from Prof. Dodds's view that the action of oestrogens was directly on the cancer process; in his opinion it was on the pituitary.

Mr. OGIER WARD referred to the work done on radio-activated elements and asked whether it would be possible to activate stilboestrol in such a way. It would then be possible to determine where the stilboestrol went in carcinoma of the prostate and whether it was distributed all over the body or concentrated in certain tissues. Mr. DICKSON WRIGHT asked whether the giving of stilboestrol early in carcinoma delayed dissemination to the skeleton. It seemed that such dissemination was the fatal part of the disease. He had tried stilboestrol in two cases of seminoma without any good result.

Prof. DODDS, replying to a question as to the relative value of intravenous and oral administration of stilboestrol, said that he could see no evidence why stilboestrol should not be given by mouth. There was ample evidence that it was absorbed completely and acted quickly. To carry out Mr. Ogier Ward's suggestion of radio-activating stilboestrol would involve a most formidable procedure, but, notwithstanding this, it was one of the important things which should be done.

LUPUS VULGARIS TREATED WITH CALCIFEROL

At two recent meetings of the Section of Dermatology of the Royal Society of Medicine Dr. G. B. DOWLING and Dr. E. W. PROSSER THOMAS demonstrated some cases of lupus vulgaris treated with near-toxic doses of calciferol. They started this treatment in 1943 at St. Thomas's Hospital. These cases were shown because of the startling response to the oral administration of calciferol. These workers now have records of 38 lupus patients who are being treated exclusively with calciferol or are under observation after cessation of treatment. A small number of these have been treated in the past with *x* rays, and in them it has not been possible to assess results. In the rest there has been demonstrable improvement in all, a marked regression in the majority, and in about a dozen cases a total disappearance of the lupus. One patient was treated in 1943 and early in 1944; treatment was stopped eighteen months ago and cure apparently has been complete. A report will appear in the December issue of the *Proceedings of the Royal Society of Medicine*, and a further account in a later issue.

The Chelsea Clinical Society held a successful reopening dinner at the South Kensington Hotel on Dec. 11. The President, Dr. Desmond MacManus, paid compliments to the secretaries and treasurer for managing to arrange such a reunion in these difficult times, and welcomed the large number of old members present. He paid tribute to the many who had died or fallen on active service since his installation as president in 1939. Referring to the present unsatisfactory and unknown status of medical practice he said that the Minister of Health should be called upon to "put the cards on the table." Sir Ernest Rock Carling then delivered an extremely interesting survey of Soviet medicine as a result of his experiences in Russia during the war.

Correspondence

Hospital Service Plan

SIR,—One of the many difficulties with which doctors, and in particular general practitioners, are faced from time to time is that of assessing a patient's capacity to pay for treatment by consultants and specialists. Should a patient be recommended for free hospital treatment, including the gratuitous service of the consultants and specialists who will render it?

Many patients themselves find difficulty in deciding whether they should seek to enter the general wards of a hospital or whether their financial position really enables them to follow the course they prefer and to obtain treatment under private or semi-private conditions, and sometimes they are not as helpful as they might be in indicating the true position. These difficulties would to a large extent be solved if the Hospital Service Plan, established some three years ago under the auspices of King Edward's Hospital Fund, were more widely known. Its object is to enable the public by insurance arrangements to make provision for hospital pay-ward and nursing-home expenses, including fees for medical, surgical, and other services incidental to in-patient treatment.

We believe that doctors in the London area could help themselves and their professional colleagues by making more widely known the provisions of this excellent plan. Literature is available from the offices at 10, Old Jewry, E.C.2 (Clerkenwell 7261-2), and any inquiry at that address will be welcome.—We are, etc.,

HUGH LETT,
W. RUSSELL BRAIN,
Medical Members, Council of Management,
The London Association for Hospital Services Limited.
10, Old Jewry, E.C.2.

The Proposed National Health Service

SIR,—Perhaps you will allow me to comment on Principle III, by far the most essential requirement in the excellent statement issued by the Negotiating Committee. "III. The citizen should be free to choose his or her family doctor, to choose, in addition, in consultation with his family doctor, the hospital at which he should be treated, and free to decide whether he avails himself of the public service or obtains independently the medical service he needs."

Mr. Willink, then Minister of Health, in his opening speech in the House (March 16, 1944) answering a direct question from myself, admitted that the power of directing the newly qualified doctor to the public service for an unspecified period of years was "with exceptions" reserved by the proposals of the White Paper. As you point out in your leader (*Journal*, Dec. 15, p. 851) the present Minister's prohibition of the sale of practices is obviously dictated by the Government's intention to "direct medical labour." Principle III, as it appears in the statement, has, I submit, the disadvantage of being ambiguous, more particularly as regards the "freedom" of obtaining medical attention independently of the State medical service. Unless it is made perfectly clear that the patient who wishes to choose his own doctor and pay for his services will not at the same time be obliged to contribute the compulsory levy exacted under the National Insurance Bill, the "freedom" which Principle III demands is illusory.

Repeated efforts have been made in Parliament (and have failed) to obtain some official estimate of the approximate amount which will be payable under the compulsory levy cited. The Minister's statement in the debate (March, 1944) revealed that the direct insurance contribution was only a quarter of the cost of the services to be provided; the remaining three-quarters was to be furnished in equal quotas from rates and taxes, respectively. The ultimate exaction has been computed by independent experts as reaching a total of something like 12s. to 16s. per week, progressively increasing with the lapse of years.

The effect of this economic compulsion was discerned and openly admitted by one of the clearest thinkers on the Socialist front bench; Mr. Pethick-Lawrence, as he then was, described the middle-class man as taking the position: "I do not want to send my children to the elementary school, but to a special school where they will get better education. I do not want to go to the panel doctor, but I will have a special doctor and pay his fees, because I think I will get better attention," and he rejoiced in the conviction that this will no longer be possible. He pointed out (*Hansard*, April 25, 1945) that the middle classes, which have hitherto "disdained the public services for themselves in health and for their children in health and education," will be compelled by economic pressure to abandon these practices, so uncomfortably hindering the achievement of a "one-class society," which is the goal of the doctrinaire Socialist. It is interesting in this connexion to note that that pillar of his party, the Foreign Secretary, has been wise enough to take his own doctor with him to Moscow!

Another consideration which, in my submission, still further nullifies the effect of Principle III as worded is the probability, if not the certainty, that the enforcement of a health service covering a 100% population must eventually force the independent doctor out of practice—a consummation explicitly foreseen by Sir William Beveridge, who must be accepted as the "onlie begetter" of the White Paper. I submit, Sir, that under these proposals the citizen, while ostensibly free to choose an independent doctor, will be unable to pay both the compulsory levy and private fees, and eventually there will be no independent doctor whom he can choose.—I am, etc.,

House of Commons. E. GRAHAM-LITTLE.

SIR,—With the bulk of the Dec. 15 leader most of us no doubt will be in agreement: on one point, however, many of us disagree. I suggest that a clear distinction be drawn between Ministerial direction of the young doctor to practise in a particular locality—to be fought with determination—and a prohibition from doing so on the grounds that the region is adequately supplied already, which I suggest is fair and reasonable. In normal peacetime conditions there were towns with more doctors than were really necessary, and to pretend otherwise is humbug. If, as seems probable, we are to stand up to a Government with the majority of the present one, let us be sure of our ground, bearing in mind that for a long time now we have had a "bad Press" except from the organs of the extreme Right.—I am, etc.,

Crowborough. ARTHUR G. WINTER.

"A Fundamental Principle"

SIR,—I do not wish to debate the other clauses in the pronouncement on "fundamental principles" which appears in the front page of the *Journal* of Dec. 15, and with parts of which I am in close agreement. Clause VI, however, cannot be allowed to pass without comment. It states: "Doctors should, like other workers, be free to choose the form, place, and type of work they prefer without Government or other direction."

I can see no other interpretation of this than that the Negotiating Committee desires that the oldest of our social services shall claim the right to perpetuate a state of affairs in which the under-privileged and under-doctored sections of the community must remain inadequately served. The present unfair distribution of medical skill and man-power is well known. It is the duty of the Government in the modern State to ensure that the people have, as nearly as possible, equal opportunities in matters relating to their health and the treatment of their sickness. There is no other answer to the problem of distribution than some measure of direction.

The medical profession can justly claim for its members that conditions of work and service should be the best possible, wherever and for whatever period they are appointed to serve, but (when the two do not coincide) the people's need must surely come before the doctor's wish.—I am, etc.,

Oxford. JOHN A. RYLE.

⁎⁎ With all respect to Prof. Ryle, we cannot agree that a solution to the problem is to be found by removing doctors from a place well supplied with them to a place not so well supplied. The remedy is to increase the number of doctors, and one way of doing this is to make medicine an attractive profession to follow.—ED., *B.M.J.*

Surgical Catgut

SIR,—There has been much correspondence about the defective qualities of British surgical catgut. There has been and there may be still catgut of British manufacture of poor quality, but this state of affairs also applies to surgical catgut produced in all other countries, including America. Some years ago Prof. Bulloch showed there was at least one catgut produced in this country which was above reproach as regards sterility and tensile strength. Dr. Clock of New York, from whom I have a personal communication, has shown from the most exhaustive researches that every country produces infected catgut as well as sterile catgut.

In fairness to the home product I for one would like to state that I have both, before and during the war, used "London Hospital" catgut to my and to the patients' entire satisfaction, and I consider that it compares very favourably with the best catgut produced by any American firm.—I am, etc.,

Hove, Sussex. G. W. BERESFORD.

SIR,—I have refrained so far from taking part in the controversy aroused by the letter from my old friend, Mr. John Hosford (Nov. 10, p. 668), because his criticisms of British surgical catgut dealt with variations in the tensile strength and gauge for which standards are not prescribed in the Therapeutic Substances Regulations which are administered by the Ministry of Health as licensing authority. However, in your issue of Dec. 1 (p. 784) Mr. H. J. McCurrich brings other charges against catgut manufactured by British firms, and these charges do concern the Regulations I have mentioned, and with which I have been intimately connected since 1928. I made a special study of the manufacture of surgical catgut preparatory to the addition of this substance to the Schedule to the Therapeutic Substances Act in 1930, and I have inspected its manufacture not only by all the licensees in this country but in many factories abroad who used to import their catgut here before the war. I am therefore in a position to contradict several statements made by Mr. McCurrich.

(1) He says that sterility varies tremendously. All batches of catgut are tested for sterility by, or on behalf of, the manufacturers before issue by duly qualified persons approved by this Ministry, and from time to time an independent "sweep" is made by us.

(2) He says he believes that the raw material for making catgut in this country is all imported. This is quite untrue. Probably the best "casings" in the world come from Scotland, and this country actually exports raw catgut abroad.

(3) He makes the general statement that "most of the chromicizing is unreliable." Though, as I have said, this quality is not standardized under the T.S.A., yet I have every reason to doubt this statement, and in any case I am surprised to hear that Mr. McCurrich is in a position to obtain data to support such a sweeping statement.

The other points have, I think, mostly been dealt with by your other correspondents, but in conclusion I would suggest that it is most deplorable that British surgeons should, on insufficient evidence, attack a British industry which I have found to be most progressive and co-operative and which I have every reason to believe has established a fine reputation in the world at large.—I am, etc.,

Ministry of Health, W.1. WELDON DALRYMPLE-CHAMPNEYS.

SIR,—Mr. J. Hosford's letter (Nov. 10, p. 668), by challenging the manufacturers of British catgut to turn out a uniform product, will do good to a point. It will stimulate them to work in accurate conformity with the American standards and sizes of catgut, which they have recently adopted. I have no doubt that before the market can be inundated by our Allies' sutures, our manufacturers will be offering us a ligature, smooth or rough, hard or soft, black or white, according to individual surgeons' wishes.

Mr. Hosford is right when he mentions the variability of catgut at present, but we have to remember that hospitals carry large stocks of catgut, and that it takes a long time for the new products in all sizes to appear at the operating table. Some sizes are consumed quicker than others, and therefore these will appear to be the same as other grades in the older batches. For instance, at one hospital they still have Davis and Geck's atraumatic needles; at others they have one maker's curved atraumatic and another manufacturer's straight atraumatic, and another maker's chromic and another firm's non-chromic. In the war years hospitals have had to take what was available. The feeling of exasperation caused is obvious. The makers have had to make do with short, inexperienced staffs and with material difficulties. It is necessary, therefore, before damning British catgut wholesale to look all round the situation. We must decline the temptation to develop an attitude of rejecting British catgut and demanding the American product as the only dependable catgut. In point of fact, the position is only a facet of the universal difficulties that the upheaval of the war has made.

Time, persistence, and encouragement will correct the situation. I am sure that the British genius for precision and production of a superlative product will show in our catgut as in other departments of our national industry.—I am, etc.,

London, W.1. HAROLD DODD.

Surgery in West Africa

SIR,—I read with great interest Mr. J. K. Willson-Pepper's impressions of surgery in West Africa (Dec. 8, p. 812), having myself served for two years as surgical specialist to a military hospital in Freetown during the war. I agree emphatically with his views on the unsatisfactory results which are obtained with the closed-plaster treatment of infected compound fractures in the Tropics, and also with his views on the healing of surgically inflicted wounds. With regard to the latter, however, the reluctance which has existed to do "clean cold operations" on Europeans in hot climates is very understandable, since infection, if it does occur, is generally fulminating in type. In the only case of my own in which this complication arose (a saphenous vein ligation) the infection responded rapidly to sulphonamide therapy; but had the case occurred in the pre-sulphonamide era the situation might have become extremely serious. I feel, in fact, that it is only since the introduction of these drugs that non-urgent surgery upon Europeans has become justifiable in the Tropics.

I do not agree with Mr. Willson-Pepper's condemnation of occlusive dressings for clean surgical wounds. I always used a small gauze dressing firmly sealed in place with "elastoplast." This did not, in my experience, lead to any "sogginess" from retained moisture, and was a valuable safeguard against post-operative contamination.

Finally, I do not think a surgeon proceeding to the Tropics can be too strongly warned of the possibility of encountering patients suffering from two major conditions at the same time. A case of retention of urine due to enlarged prostate in a merchant seaman who developed cerebral malaria, a case of acute appendicitis with fulminating pulmonary tuberculosis, and another patient with acute appendicitis who was found also to have an amoebic abscess of the liver were three striking examples of this state of affairs in my short experience of tropical surgery.—I am, etc.,

Winchester. CUTHBERT ROBERTS.

Treatment of Varicose Ulcers

SIR,—I read Dr. Brooks's letter (Dec. 8, p. 816) with some alarm. I cannot but think that his suggestions are retrogressive. I had the privilege of learning the treatment of varicose ulcers under Mr. Dickson Wright when the "elastoplast" technique was introduced. There are three fundamentals in the treatment of a varicose ulcer: first the injection of the sentinel vein; secondly, the removal of oedema: without this, healing cannot occur; thirdly, any pressure applied for this purpose must be graduated from the foot upwards. Healing need not take months; our average rate of healing was one square centimetre per week, and an ulcer of sixteen square centimetres is a very considerable ulcer. In many of the ulcers we had to deal with the bone was actually exposed in the ulcer floor.

As regards leaving the bandage on, I saw one woman with an extensive ulcer of about eighteen square centimetres and applied an elastic adhesive bandage. She was on a barge and I did not see her for six months. When she returned, admittedly the bandage, my original application, was sodden and offensive—very offensive—but when removed there was no sign of the ulcer. I think the treatment suggested by your correspondent must refer to very small ulcers. I would like to point out to anyone following his example that the use of sulphonamides as suggested is dangerous.

In conclusion, how many people can find the two hours required to elevate the limbs? I think the "elastoplast" technique is not yet to be replaced.—I am, etc.,

Eccleshall, Staffs. C. GLYNNE OWEN.

SIR,—After reading Dr. R. K. Brooks's interesting letter I cannot help feeling that too little credit has been given to the elastic adhesive bandage, and that the main physical elements in the treatment have been rather side-tracked in favour of the healing action of certain chemical substances. I tried to treat varicose ulcers considerably prior to the elastoplast era, making use of various local applications, supporting strapping, etc., with the poorest possible results, though it was clearly recognized that, if the patients had been able to rest in bed with the load taken off the saphena venous system, steady healing usually occurred, the nature of the dressing, so long as it was suitable for the surgical condition, not making much difference.

The cure of these ulcers is much facilitated by two main factors of vital importance—namely: (1) rest of the ulcerated surface by the most infrequent interference; (2) support of the saphena venous system either by rest in bed or by support from without by suitable bandaging. The practical application is as follows.

Rest in Bed.—Here the load is taken off the venous system, and if the ulcer is very large and foul this method may be a necessity. The nature of the dressing is not of primary importance. Eusol is suitable, especially if the ulcer is very foul; flavine may be substituted, and tulle gras, preferably made up with sulphathiazole 5%, has the advantage that the dressing need not be so frequently changed. The healing of the ulcer under the plaster case mentioned by Dr. Brooks is a good example of the working of this principle, together with non-interference and rest of the ulcerated surface, though, by inference, he appears to have been surprised at the result, if the remark in brackets, "taking a tremendous risk," is intended seriously.

Elastic Adhesive Bandages.—Both healing principles are in action in this method, which is the one of choice in the treatment of ulcers of moderate size and in those which have decreased to a manageable size by rest in bed. The most suitable cases are those in which the affected area has not become adherent to the tibial periosteum. The bandaging must, however, be very carefully carried out, and in the case of several apparent failures which have come under my notice there were obvious faults in technique. The ulcer and surrounding skin should first be cleaned up, not too severely, with soap and water, dried, swabbed with industrial alcohol followed by methylated ether. The ulcer is then covered completely with a single strip of the bandage of suitable width. This should extend well above the ulcer, and can be taken round the instep as a stirrup and a short distance up the other side of the leg. Absence of "rucking" and close adherence to the surface are vital, the object being to protect the ulcer from direct contact with the turns of bandage. The bandage is then applied from the roots of the toes upwards in firm even turns, the greatest care being taken to prevent any rucking, since this is liable to cause abrasions or sometimes even ulceration on its own account. As much as possible of the parts adjoining the heel should be covered, as can be done by the use of a simple figure-of-eight bandage, and the turns should be taken as high up the leg as possible—at any rate considerably above the upper limit of the ulcer. For a large leg a 3-inch bandage should be used; for a small one a 2½-inch should suffice. It is of importance that the bandage should be in good condition and easy to unwind during application. If it is old or has been kept in a warm place the coils become irregularly adherent so that the combined efforts of surgeon, patient, and any attendant may be necessary to assist in the unwinding, and this is pretty sure to result in adherent puckers and creases, and application with even pressure is impossible.

When the bandage is applied the patient can be encouraged to carry on his usual work; no rest with legs elevated during the day is really necessary, and there are no dressings to worry him. The first bandage can be kept on for a week. Even in cases where there has previously been free discharge this is usually so much reduced that very little, or even none at all, will have soaked through by the end of this period, and any pain which may have been present usually passes off, sometimes with dramatic suddenness. Even if the soiled part of the bandage becomes offensive—an occurrence which I have found very uncommon, though there may be a certain sourness—its removal should not be too hastily considered so long as the patient's health is good and pain not increasing. When the bandage is cut off it will usually be found that the ulcer is smaller, with a good broad pale-blue healing edge; the surrounding skin may be a little sodden with discharge, but this does not appear to do any harm. The ulcer and skin are cleaned and a second bandage applied which, under favourable circumstances, can be kept on for a fortnight or more, the process being repeated until the ulcer is healed. On an average three bandages suffice.

One of the criteria of success is the relief of pain, which, as stated above, may be rapid. If, however, the pain increases the bandage is best removed. Under these circumstances a trial may be made of a "viscopaste" bandage, but I have had little success with this either in such cases or where it was applied in the first instance.

In some cases, apart from the failures mentioned above, the patient may be intolerent or even fearful of "tight bandaging" of his leg, and if he cannot go to bed other methods become necessary. This is the domain of Dr. Brooks, and I look forward to the trial of some of the methods he has evolved. I have had the best results in such cases with sulphanilamide tulle, a good crêpe bandage, firmly applied with the patient's leg elevated, being an essential part of the treatment. The appropriate treatment of the veins has to be considered either after the healing of the ulcer or else as part of its management, but this is beyond the scope of this letter.—I am, etc.,

Rustington, Sussex. W. E. WALLER.

SIR,—The treatment of varicose ulcers has interested me for some time, since, as a student, I saw at the clinics old ladies' legs stuck up horizontally and every known antiseptic applied to them. I have recently been interested in a method that I got from Dr. Eastman Sheehan, who used it for old infected burns of the limbs. I coagulate the surface of the ulcer with silver nitrate pencil and then with a scalpel cut off the coagulated area. This, I believe, removes all the infection from the base of the ulcer, and on several occasions when I have swabbed the base after excision it has been sterile or almost so. I then apply a Thiersch graft from the medial aspect of the thigh, cut up into small pieces the size of postage stamps. This is covered by flavine wool and a crêpe bandage.

I have not yet done enough cases to write up a series, but the six or seven I have treated, which were of an extremely chronic nature, have all responded admirably and healed within a month.—I am, etc.,

Beverley Emergency Hospital, Yorks.
R. CROSBIE WALSH,
R.S.O., Orthopaedic Department.

Morphine as a Prophylactic for Ileus

SIR,—As one who has taken a close clinical interest in the action of morphine in this condition I think it necessary to make some reply to the letter of Prof. J. H. Burn (Dec. 8, p. 817). The statement made that "surely there is no justification for the use of morphine as a prophylactic against ileus" is not tenable either on the work of those he quotes or on clinical experience. The experimental work quoted mainly appeared after I wrote on the action of morphine in peritonitis (*Brit. J. Surg.*, 1932, **19**, 634), and what I knew of it spurred me to further observation. To me it was obvious that the findings when an intestine, divorced from sympathetic grip, came under morphine influence were quite different from those when that same grip was there. Intrinsically it is perhaps not different, but the clinical results differ in almost exactly the same degree as action of the ileus-ridden bowel differs from the unfettered action of a normal bowel. It is this situation that awaits laboratory verification. Once you have intrinsic and extrinsic influences interlinked in a single active syndrome the clinical results of various drugs appear to run contrary to expectation. It is surely less than half a truth to say that the action of a drug in one situation must be identically the same in a different one. My own belief in morphine, not as a specific but as an almost essential adjunct in the treatment of ileus, remains unshaken.—I am, etc.,

The Royal Infirmary, Dundee. JOHN J. ROBB.

Shock and Open Ether

SIR,—In Memorandum 9/1943 of the Department of Health for Scotland, Feb. 2, 1943, on "Anaesthesia for the Shocked Patient," we read: "The use of ether on an open mask and of Clover's apparatus is undesirable." This was the opinion of the Anaesthetics Subcommittee of the M.R.C. Committee on Traumatic Shock.

Some of us, possibly a minority, are of the opinion that open ether is the method of choice in these cases. Our view has been strengthened by the fact that open ether canot now be condemned as presenting to the patient a cold vapour for inhalation (*vide* "General Anaesthesia and the Temperature of Inhaled Gases," *Journal*, Nov. 10, p. 646). What, then, are its objectionable features? The toxicity of ether is stressed as one of these, but this is not peculiar to the open method of administration. This method, moreover, offers excellent facilities for that constant and accurate observation of the patient which is so essential if he is to receive the minimum dose of the toxin. The ocular reflexes afford an accurate guide to the depth of the anaesthesia. Close-fitting face-pieces with various types of harness, modified gas-masks, and many other contraptions now in use effectually deprive the administrator of these facilities. Their use may, indeed, cause a considerable disturbance of the intraocular tension. Drs. Ina and J. G. C. Brittain (March 31, p. 442) describe thirteen cases of unilateral hypotony following anaesthesia in a series of three hundred cases, the aetiological factor being the pressure exerted by the rim of a badly adjusted face-mask. The danger of causing harm to the cornea in eliciting this sensitive reflex is mentioned in every textbook. I have tested the sensitivity of the cornea and demonstrated the method of doing so many thousands of times and have not once heard of harm resulting therefrom. A light uniform open-ether anaesthesia with a sensitive cornea suffices for practically all operations on the extremities. When abdominal muscular relaxation is required the corneal reflex is lost and the size of the pupil then becomes a reliable guide. No form of premedication interferes with the paralytic dilatation of the pupil associated with a profound and dangerous depth of anaesthesia.

Open ether interferes less than any other method with the normal composition of the gases in the pulmonary alveoli. When indicated, extra oxygen and/or carbon dioxide, picking up a little ether vapour from an ether bottle, can be easily delivered into the mixture of air-and-ether vapour inhaled by the patient. The anaesthesia can be lightened or deepened easily and quickly and immediate advantage taken of periods free from surgical stimuli.

If nitrous oxide is administered with more than 20% oxygen it has no anaesthetic effect. Why use it as a vehicle for the ether vapour when the patient's condition is demanding more oxygen? If gas, oxygen, and ether vapour are being administered and the resulting anaesthesia is without cyanosis and yet deep enough to obtain abdominal relaxation, let the administrator shut off the gas and turn on the corresponding extra litres of oxygen. The anaesthesia does not become lighter.

The closed-circuit method leads to a definite change in the composition of the alveolar gases, and we do not know that this is free from harm. I am quite willing to breathe for an hour through a mask such as is used for open ether. Would the advocate of the closed-circuit method as readily submit himself to a similar experiment? So far as I know this has never been done, but the experience might be of some value. The surgeon appreciates the reduction in amplitude of the respiratory excursions when the closed circuit is used. Shock, however, is associated with a falling-off of the venous return to the right side of the heart, and an efficient venous return is dependent upon the movements of respiration.

The Anaesthetics Subcommittee had no easy task in formulating their recommendations regarding anaesthesia for the shocked patient. One agrees with them that "almost equally good results are obtained by experts using widely different agents and methods," but I am not alone in regretting their condemnation of open ether. As for chloroform, the majority in Scotland at least would definitely not agree with the committee's opinion that "in the hands of an expert chloroform may be satisfactory."—I am, etc.,

Dundee. ARTHUR MILLS.

Spinal Analgesia in Operative Obstetrics

SIR,—Dr. Louis Resnick's article (Nov. 24, p. 722) prompts me to add a little of our experience at University College Hospital.

A very small series of Caesarean sections has been carried out under epidural or extradural analgesia in selected cases. This method produces operative conditions similar to those given by a spinal, with less risk to mother and child, but it is undoubtedly more time-consuming and requires a careful technique. The solution used is 40 to 45 c.cm. of 1 in 600 nupercaine in half-normal saline, and this is slowly injected between L 2 and L 3 into the epidural space, with rigid adherence to all technical precautions. It takes 20 minutes to produce analgesia to D 10. Many patients showed no fall in B.P., and in those who did it was readily controlled by ephedrine 1/2 gr. I.V. and 1/2 gr. I.M., since the fall is not as rapid or precipitous as with a spinal.

There are fewer unpleasant post-operative sequelae with epidural analgesia as compared with spinals; in fact we have had none except vomiting, which has been almost negligible. The main advantages of epidural analgesia over spinal are: (1) Fall in B.P. is not so great or so sudden, and in some patients no drop occurs. (2) No loss of motor power occurs, so that the patients can immediately move about in bed. There is no intercostal paralysis. (3) Prolonged freedom from pain post-operatively, lasting up to 12 hours, diminishes the amount of drugs required. (4) The subarachnoid space is not entered, thereby excluding the liability to headache and damage to the cord. Since the epidural space ends at the foramen magnum the higher centres cannot be reached by the analgesic solution.

However, our experience has indicated that patients with extreme hyper- or hypo-tension and acute cardiac disease did in some instances show rather severe falls in B.P., and though these always proved controllable we feel it is taking too great a risk in such cases to employ this form of analgesia. It has, however, proved ideal in other conditions where general anaesthesia is contraindicated.

A paper describing this method in detail is to be published in the January number of the *British Journal of Anaesthetics*.—I am, etc.,

University College Hospital, W.C.1. DOREEN M. E. CRANCH.

SIR,—While spinal analgesia in obstetrics has some theoretical disadvantages expressed by some of your correspondents, its use in fact leads one to think that the dangers have been exaggerated. There are, on the other hand, some definite practical advantages of the method.

I have now used a low spinal analgesic in 50 cases of vaginal manipulation, chiefly for forceps delivery. The solution used is "planocaine" 0.75 g. accompanied by ephedrine 0.05 g. Seat analgesia only is the aim, and the patient can often assist to put her feet in the lithotomy straps. In two cases, both of highly excitable women, the analgesia (or rather sedation) was not sufficient and was supplemented by gas-and-oxygen and by a few drops of chloroform respectively. In one case only the woman complained of a headache badly enough to have it reported to me. In one there was transient paresis of the left external rectus muscle attributed to the analgesic. Otherwise the series has been without incident so far as the analgesic was concerned. In no case has the post-partum loss exceeded 20 oz.

Many women have expressed their appreciation of being, so to speak, present at the birth of their children. It seems an important point not to deprive a woman of her due physiological experience more than is necessary for her comfort. There are several small technical advantages to the operator; for instance, the question of whether to repair the perineum before delivering the placenta for the sake of not prolonging the anaesthetic does not arise. Also the nursing staff appear to appreciate the speed and lack of fuss of the proceeding. The greatest disadvantage of the method seems to be its unsuitability for domiciliary midwifery.

I should like to express my thanks to Dr. Resnick for giving a lead in this interesting and, I am sure, valuable procedure.—I am, etc.,

Hertford. B. J. CLYMO.

Sulphonamide Therapy by the Midwife

SIR,—I believe it is becoming a common practice when suturing a perineum to apply sulphanilamide powder. To omit to do so is to leave room for self-reproach in the odd case which becomes complicated by sepsis, so that I, for one, always use it. I find that if I apply the powder immediately before the operation the field tends to be obscured, while to apply it after the operation savours of black magic. Being unable to answer immediately a recent call to a torn perineum, I sent some powder for the midwife to apply, and when I came to do the repair an hour later I found that the interval was a great advantage. This leads me to the view that it would be a good idea for the midwife to carry the powder and to apply it as soon as labour is ended, so that an interval between its application and the repair operation could be assured. I had thought of suggesting this to the local authority here, but I read that the Central Midwives Board has circularized local supervising authorities to the effect that it considers that drugs of the sulphonamide group should not be administered by a midwife except on specific instructions of a medical practitioner.

It would be interesting to hear the views of others on this question. Is my suggestion a sound one? Would this use of sulphanilamide be "administering" within the meaning of the C.M.B.'s present ruling? A C.M.B. ruling to ensure that midwives did not believe the powder could replace suturing would, of course, be necessary.—I am, etc.,

West Bromwich. D. SAKLATVALA.

The Flour in the Bread

SIR,—In the article "Whose Loaf?" (Dec. 15, p. 853) you advocate the use of bread made from flour in which natural products are retained in the process of milling; and you seek to reinforce your argument by telling us that "for approximately 6,000 years man's taste was not offended by the whole wheat grain." This is undoubtedly true, but it certainly does not follow that man's taste is not offended by the very different bread we get now. Man's tastes change, although, admittedly, they can revert to their earlier state; but I, for one, should mourn the passing of the croissants and brioches so admirably prepared by the French, whose state of nutrition in the days of peace was, I imagine, at least as good as that of the inhabitants of the Nile Valley.

If we as doctors are to be consistent in our demand for freedom we must at least give to our patients, who are the general public, the right to choose whether to have brown bread, white bread, or the present dun-coloured product. Force, whether physical or legislative, is not one of the weapons of medicine. —I am, etc.,

London, W.1. A. PINEY.

⁂ We advocated not force but propaganda, a word with several shades of meaning but in this instance implying education. The public is, after all, protected by legislation against the adulteration of food, and we hope it will in time be protected against infected milk, however much it might prefer to have the milk straight from the cow.—ED., *B.M.J.*

The Westergren E.S.R. Technique

SIR,—The letter of Drs. D. G. McIntosh and D. M. Keay (Oct. 27, p. 584) had the superficial appearance of being very comprehensive; it is rather reminiscent of the letters to which it refers—those that were in the *Journal* following Della Vida's article in 1942—and like those letters it touches on too many factors not fully enough. They quote experiments performed in Westergren type tubes, comparing the one-hour reading obtained with the same blood diluted with 1/5 its volume of 3.8% sodium citrate and with Paul and Heller's oxalate mixture. If curves are constructed by plotting five-minute readings of the falling cells it will be seen that the citrated blood usually starts sedimenting before the oxalated sample; then the oxalated blood overtakes and passes the citrated, only to be passed by the citrated blood when packing of the cells sets in. The one-hour reading can occur in any part of these curves, thus explaining their variable results.

Dr. James Kelman (Dec. 8, p. 823) suggests that so long as one method of E.S.R. test is used the results are comparable; while I am thankful to read his balanced letter I must disagree with that statement. He misses the point of Drs. McIntosh and Keay's letter, which damns all E.S.R. determinations for failing to show up early signs of activity in tuberculous subjects. Workers like Dr. V. Cotton-Cornwall (Nov. 24, p. 742) will find that the Westergren readings of 10, and just below, will be missing cases with active tuberculous processes; some of these readings are bound to be occurring in slightly active but plethoric cases, and the Westergren technique, making no allowance for plethora, misses slight (but definite) increases in rate in these cases. Later, someone may again condemn the sedimentation test generally, because Dr. Cotton-Cornwall's Westergren technique fails to show these cases, which can otherwise be proved to be active; the Westergren technique has no definable normal limits.

The E.S.R. test is one that the pathologists will continue to be asked to perform. I consider that the technique employed must be one that eliminates the effects of temperature and other controllable physical factors, and be one that is not too time-consuming. My mathematically minded friends assure me that the Rourke and Ernstene type of test is the best method in which the whole blood is employed, but neither I nor any of my small staff can afford the time necessary to take five-minute readings. I employ the Wintrobe technique, correcting by Whitby and Hyne's graph, and I use a standard temperature of 20° C. obtained by employing the holders that Messrs. Willen Bros. are making for me. If one does not correct out the varying corpuscular volume this test measures both the degree of tissue destruction and the corpuscular volume, and there is no way to sort out the effect of one factor from the other. It is rather like saying, "I have two coins," in answer to the question, "How much money have you?"; whereas a simple examination of the coins will give a more exact answer to the question. I have read three of Mr. R. B. Whittington's papers, and while I admire his work I find that it is not applicable in an understaffed laboratory, and I cannot foresee his technique being employed widely outside very large centres. I have not read the latest of his papers, to which he makes reference (Nov. 24, p. 741), but perhaps he has made the technique easier to use.

When I examined the references given in Drs. McIntosh and Keay's letter I was left with the impression that the authors had not recently referred to the papers they quoted. Many of the authors do not give the method they employed in carrying out the E.S.R.; and I am grateful to those authors from whom, on inquiry, I have now learnt the method they used. The summary shows that Young; Edwards *et al.*; Clive; Kahan and Close; Robinson; Abeles and Pinner, and Hilliard all employed the Westergren or a Westergren type of test; Obermer employs even stranger methods, as he thinks a tube in his waistcoat pocket will stay vertical and that it will be at a uniform temperature of 37° C. I have not traced Braeuning's paper; reference to four of Stiehm's articles gives no indication of the E.S.R. method he employs, and unfortunately Dr. Kayne is dead, so I cannot trace the technique he employed. The high percentage of incorrect reference in McIntosh and Keay's letter may be a reflection of the value to be placed on it. Their correction came too late to save my time and that of the librarians at the R.S.M., who helped me to find the correct journals. If their references can be so carelessly collected, then their technique may be equally careless.

Thus we find that the scathing remarks of Drs. McIntosh and Keay are really condemning the Westergren technique. This has served the useful purpose of popularizing the test, which is now proved to be outmoded and needs replacement by a more refined method, and I would suggest the Wintrobe technique.—I am, etc.,

B. ROGERS,
Shotley Bridge, Durham. Area Laboratory Pathologist.

The E.S.R.: "Fourteen Points"

SIR,—The crucial sentence in the letter of Drs. D. G. McIntosh and D. M. Keay (Oct. 27, p. 584) would seem to be: "Dunlop and Dick, using a 200-mm. Westergren tube . . . regard as abnormal any reading greater than 5 mm. for the one-hour reading." A year ago, being somewhat confused as to the method of B.S.R. (why not call it "blood" instead of "erythrocyte"?) estimation, I called personally at a well-known London hospital and also at a big provincial one. Both laboratories seemed slightly vague as to their methods and differed a good deal, but I learned something from each. I heard one distinguished physician state positively that the correct method was to take up to 200 mm. of blood-citrate and estimate the fall from that height, while his house-physician insisted that 100 mm. was the right amount, and a laboratory assistant who was called in did not appear to agree with either. It is obvious that the higher the column of blood the greater will be the amount of clear serum to be read off. If you take a column 100 yards high the normal fall will be about 4 yards, whereas if 100 mm. be taken it will be 4 mm. If

Dunlop and Dick used 200 mm. and found that up to 5 mm. was normal, then if they had taken 100 mm. they would have found that up to 2½ mm. was normal. The procedure should be strictly standardized and fixed for the benefit of both the G.P. and consultant, so that each, all over the country, should know exactly what the other means.

The glass B.S.R. tubes supplied by instrument makers are usually graduated in millimetres up to 200, the upper 100 of which are redundant and not wanted. A set of three of these tubes can be obtained from Messrs. Down Bros. mounted upright on a stand, each tube being firmly clipped at the top by a metal clip and resting as to the lower end on a depression hollowed in a rubber cork. The background of the wooden stand is white to facilitate visibility. A fine white line should be painted with oil paint round the tube at the level of the 100-mm. mark. Having got so far may I suggest to the busy, and probably tired, G.P. who is inquisitive about, for instance, an early case of Tb., acute rheumatism, or rheumatoid arthritis, that the following procedure, though lengthy in description, may be carried out with a minimum of expenditure of energy and, excluding the hour allotted later to sedimentation, in under five minutes.

1. Draw up 1 c.cm. of 3.8% solution of sodium citrate into his eccentric-nozzled intravenous syringe (or 1/2 c.cm. if he is going to use only 2 c.cm. of blood), and squirt it into the small glass phial supplied by the B.S.R.-set makers with the tubes.
2. Twist something elastic, such as a stomach-pump tube or an old piece of cycle inner tube, round the patient's arm above the elbow, give it a couple of turns, and get the patient to hold the knot thus formed with his other hand.
3. Ask the patient to bend and stretch the arm and fingers to engorge the median basilic (or median cubital, as it is now called) vein.
4. Clean up the vein with ether or spirit, insert the needle, which need not be as big as an intravenous needle, into the vein and withdraw 4 c.cm. (or 2 c.cm. if only 1/2 c.cm. of sodium citrate is being used) of blood.
5. Tell the patient to let go the knot, and swab the puncture with ether-soaked wool after withdrawing the needle.
6. Expel the blood into the phial containing the sodium citrate.
7. You now have your citrated blood safe in your car or at home, but the estimation must be done within 2 hours; if not, some pathologists say that the reading is not accurate. Method:
8. Wet the top of the hollowed rubber cork on which the tube is to stand. If this is not done the blood will run out of the tube at the bottom.
9. Suck up the blood-citrate mixture somewhere above the white line on the tube.
10. Wet a finger of the left hand and set the tube upright on it, thus firmly sealing the bottom end.
11. Wet a finger of the right hand and seal the top end of the tube. If these wettings are not done the blood will run out and you will have to start all over again, as the cut ends of the glass tubes as sold are often jagged and inclined to let in air.
12. Holding the tube upright slightly slacken the apposition of the fingers at both ends to allow gradual air entry and twist the tube with a rotary motion, allowing blood to escape over the lower finger till the column is about 1 mm. above the white line. The top finger being once more firmly applied, the removal of the bottom one means that gravity takes care of the remaining 1 mm. and brings the blood level with the white line. The usual directions to "hold up the tube with the right hand only and release the top finger till the blood reaches the required level" resulted in the blood shooting down to far below the white line, so that I had to start again.
13. Place the tube in the rack, firmly pressing the lower end on to the cavity in the wet cork and clipping the top with the metal clip provided.
14. Note the time, and read off the serum level in exactly one hour, or get someone else to do it and write it down.—I am, etc.,

Stowmarket. H. S. Gaskell.

Stethoscope versus X Rays

Sir,—If there has to be a choice between the stethoscope and *x* rays the latter will always be chosen as giving the greater percentage of definite results in chest diseases. The relative value of each instrument is always discussed in relation to pulmonary tuberculosis, because we know now that there are many cases of this disease which have neither symptoms nor signs for a great part of their course. This does not necessarily mean, however, that the stethoscope is obsolete and that examination with this instrument is only a gesture. Pulmonary tuberculosis is still a formidable disease, and in dealing with it every aid is required. We should not voluntarily discard something which, in some cases, gives us more information than *x* rays. Reliance on radiological appearances alone does lead to cases of pulmonary tuberculosis being regarded as quiescent, when stethoscopic and sputum examinations show such a view to be erroneous, and early breaking down of a lesion can often be heard before radiological signs appear, unless tomograms are resorted to. Used with a knowledge of its limitations the stethoscope can be a valuable aid and is easier to carry than an *x*-ray machine.—I am, etc.,

Penmaenmawr. R. Grenville-Mathers.

Radiology and Pyloric Stenosis

Sir,—With approaching 25 years' radiological experience I have seen many cases of juvenile hypertrophic stenosis. Oesophageal spasm in adults is sufficiently common that, when oesophageal cases are referred to me as a matter of routine, I ask that the patient be put under the influence of atropine or belladonna before he attends for examination, to eliminate spastic cases. The following case, recently examined, of a pyloric spasm which for some hours caused practically complete pyloric stenosis is, however, new to me and may be of general interest, besides proving the necessity for systematic timed serial films.

The patient, aged 56 years, had no abdominal history generally, but in 1940 and 1941 had single attacks of oesophageal spasm and inability to swallow, in each case rapidly cured by medicine (apparently an antispasmodic). There was no other abdominal history until seven weeks before my examination, when there were several attacks of vomiting, retching, no pain even of mild type, but slight jaundice. She was referred to me as most probably a case of carcinoma of the stomach.

On giving the meal, which was taken without undue difficulty, there was practically complete pyloric stenosis as commonly found with pyloric ulcer of long standing or carcinoma of perhaps short history. There was no tenderness to palpation. According to routine, however, and fortunately, the meal was followed through, and at one and at two hours after the meal examinations still showed practically complete stenosis. At four hours after the meal it had commenced to pass into the colon, but was still much delayed. At six hours after the meal the stomach and duodenum had practically emptied in normal time. Had the examination been terminated at any time up to two hours after the meal the diagnosis would have been complete pyloric stenosis, with preference, by the palpation characteristics, short history, etc., to neoplasm rather than benign ulcer as the cause. Had the examination been so curtailed operation would probably have been performed with a negative finding.

I have never experienced a similar case, though as a routine the patient is always examined at 6 and usually 24 hours. Probably this routine procedure is the reason why I have never had my report of complete stenosis questioned after operation, though the "probability" diagnosis between benign and neoplastic cause has been found defective.—I am, etc.,

Forest Gate, E.7. Bernard Leggett.

Surface-marking the Lower Border of the Liver

Sir,—I was very much surprised to learn that the following method has been in general use in Poland and among the Russians for many years without, apparently, finding a place in the clinical teaching at home. Its very great precision and ease and lack of dubiety would certainly seem to recommend it for such a place. It is an auscultatory method, and for those to whom it is new, like myself, it is as follows.

The chest-piece of the stethoscope is placed on the epigastrium over the left lobe of the liver, high up in the intercostal angle. The tip of the left index finger is now, from any point on the right costal margin, brought down vertically over the abdominal wall with a light stroking movement of the skin. While the finger is being applied over the organ a loud rubbing noise is very clearly heard. Once the edge is reached the very abrupt and deathly silence leaves no doubt in the matter. Repetition from different points along the costal margin downwards will pin-point the lower border to within a few millimetres.

To one who very often tends to be "baffled" by a soft and flabby organ and a thick layer of adipose tissue the ease and accuracy of the method come as a revelation and a relief. My thanks are due to Dr. Szyfman, of Lodz, at present working in P.W.X. hospitals in Germany, who introduced it to me.—I am, etc.,

B.A.O.R.
R. P. GILLESPIE,
Capt., R.A.M.C.

National Research into Tuberculosis

SIR,—I want to endorse the appeal by Dr. George Luntz (Dec. 1, p. 781) for national research into tuberculosis. This is to-day urgently needed, with special reference to prevention and control as soon as infection by the tubercle bacillus is found to have occurred. To make a real fresh start in any national effort to control tuberculosis the Ministry of Health should at once make it a penal offence for anyone to sell or give away to any person for human consumption milk containing living germs of tuberculosis. This step would prevent cases of surgical tuberculosis of bovine origin. By this one step the Ministry would save many thousands of children from suffering from very often permanent deformity, with ill-health and pain, and, in many cases, ending in death.

In 1943 there were probably some 1,200 deaths due to bovine infection. In the same year some 14,000 new cases of non-pulmonary tuberculosis were notified, and it is also probable that of that number some 4,000 were due to bovine infection. The Ministry should ask the Medical Research Council at once to determine to what the natural resistance to infection by the tubercle bacillus is due, and how this resistance can be built up in those individuals who lack it and so solve this problem of immunity as regards tuberculosis. Work has been carried out by the Americans on the liability to infection, and in the *Journal* there is that statement that children at Papworth are growing up free from clinical tuberculosis even where the danger of massive infection is potentially present. As it was stated in the *Lancet* of Oct. 20 (p. 498), "Our knowledge of pulmonary tuberculosis is fragmentary."—I am, etc.,

Horsham. SYDNEY GORDON TIPPETT.

Temperature and Descent of the Testis

SIR,—Dr. W. N. Leak, in his comments (Nov. 17, p. 704) on my article on descent of the testis in relation to temperature raises the question of method of descent. This I had not considered.

Up to the last fifteen years most observers supported the view that the process of migration was due to a combination of two factors—increased intra-abdominal pressure consequent upon the enclosure of the intestines in the abdomen and traction by the gubernaculum. The attachment of the testicle to the scrotal wall in the newborn infant is very slight (Hunter, R. H.., *Brit. J. Surg.*, 1927, **14**, 125), and even if it were firmly attached the scrotum would surely be pulled up to the testicle rather than the latter down to it, if contraction occurred.

Halban, J. (*Z. Geburtsh. Gynäk.*, 1904, **53**, 191) described the swelling and turgidity of the scrotum and labia which occurs in newborn infants, and attributed this to a then hypothetical secretion of the placenta. The arguments were convincing, but the active principles involved were not made clear until the female sex hormones were demonstrated in the blood and placenta of pregnant women by Frank, R. I., and Golderberger, M. A. (*Amer. J. Obstet. Gynec.*, 1926, **12**, 585), and the presence of an anterior-lobe-like substance was demonstrated by Aschheim, S., and Zondek, B. (*Klin. Wschr.*, 1928, **7**, 1404). Barry, D. T. (*J. Anat. Lond.*, 1910, **44**, 137) observed that the rete testis in embryos had a better relative blood supply than the rest of the testis. He also noted that its size and vascularity were increased in animals which mature quickly, such as ruminants, when compared with the more slowly developing colt.

Schapiro, B. (*Dtsch. med. Wschr.*, 1930, **56**, 1605), reported that scrotal migration had occurred in a number of cases of undescended testis treated with gonadotrophic extract of pregnancy urine, and since then a large number of authors have contributed series of successful cases. Engle, E. T. (*Endocrinology*, 1932, **16**, 506) published the results of experiments on the macacus monkey in which the testis passes through the internal abdominal ring at birth, but does not pass from the inguinal canal to the scrotum until puberty. He fed the monkeys with extracts of anterior pituitary gland and the water-soluble factor of pregnancy urine over a period of three to four weeks. After 10 to 14 days the testis increased in size and mobility, and the scrotum became turgid and larger. The scrotal changes were only slight after the pituitary extract, but were quite marked after the extract from the urine. In 8 out of 10 monkeys complete descent occurred, and at the end of the experiment each testis had doubled its weight. In a castrated monkey fed on extract of urine no changes occurred in the scrotum.

Burrow, H. (*Brit. J. Surg.*, 1933, **21**, 507), in the course of an experiment to estimate the carcinogenic factor of oestrin, noted that a large percentage of mice which had been painted with it developed scrotal herniae, apparently due to a relaxation of the inguinal muscles.

The sequence of events in the descent of the testis would therefore appear to be as follows. At the seventh month of pregnancy, oestrogenic hormones are present in large amount in the blood of the mother and probably also in that of the foetus. A relaxation, due to these hormones, occurs at the internal abdominal ring and the testis passes from the abdomen into the inguinal canal. The latter has already been formed by the gubernaculum, activity in which appears to begin about the third month. It may be that intra-abdominal pressure plays some part in the outward migration of the testis. The continuing action of the female hormones stimulates the interstitial cells of the testis, especially at the rete, and the organ increases in size. The internal secretion of the testis acts on the scrotum, causing it to become turgid and larger. Possibly as the result of muscular action of the inguinal canal, whereby a milking effect is produced on the ovoid testicular body, it passes along the canal, and shortly before birth reaches the scrotum.

The descent, therefore, is almost entirely due to hormonal influence. The role of the gubernaculum is passive, although it has played the important part of a pathfinder.—I am, etc.,

London, W.1. A. W. BADENOCH.

The "Stamping" of the Guards

SIR,—The correspondence in your columns on this subject began with a letter from Mr. Ian D. Kitchin (July 14, p. 64) on march fractures. He is mainly concerned with treatment, and we are not told whether any of his cases came from the Brigade of Guards. Is there any evidence that this condition is commoner in guardsmen, who are taught to bring their feet down smartly, than in other soldiers, who are not so taught? Deliberate "stamping," incidentally, was officially abolished years ago. I spent two years as R.M.O. to two battalions of the Grenadier Guards, and a further two years in two field ambulances which received the sick and injured from brigades including Guards and infantry of the line. I saw a few cases of march fracture in all regiments, and noted no connexion with drill parades. They were inclined to follow periods of intensive training. It would be interesting to know the incidence of this condition in Guards' and other battalions; such a comparison could be made from information in the possession of A.D.sM.S. of divisions including a Guards brigade. Even assuming that some such cases were precipitated by "stamping," I would agree with Major E. Grey Turner that the moral effect of the superb drill of the Guards on ceremonial occasions warrants a training involving a small amount of risk. I have seen the morale of whole towns in France, North Africa, and Italy enormously improved after witnessing such a parade. Their drill was one of the highlights of the military tattoo at Trieste last September. Would Dr. J. W. Perrott stop soldiers boxing or playing football? Far more casualties are caused by such sports. What about battle-training? Justified when training for war, of course. The ceremonial drill of the Guards has its place in peace as well as in war.

The functions of an R.M.O. include the advising of the commanding officer on matters relating to the health and morale of the battalion. I have found commanding officers and brigadiers of the Brigade of Guards very much alive to medical matters, and my advice has always been considered. "Pedes Plani Dolentesque" (Sept. 8, p. 333) has found that our advice cannot always be taken. I do not see that suggestions of ineptitude or weakness of R.M.O.s are well founded.—I am, etc.,

Wimbledon.
W. H. VALENTINE.
Late Lieut.-Col., R.A.M.C.

⁂ This correspondence is now closed.—ED., *B.M.J.*

Obituary

SIR E. FARQUHAR BUZZARD, Bt., K.C.V.O., LL.D., D.M., F.R.C.P.

Sir Farquhar Buzzard, who died on Dec. 17, was born in London on Dec. 20, 1871, the son of Thomas Buzzard, consulting physician to the National Hospital, Queen Square. Thomas Buzzard's distinction in neurology probably influenced the choice of a career by his eldest son. The other two sons, Sir Farquhar's brothers, made the Army their profession, again following their father, who had served in the Crimean War, being attached to the Turkish headquarters, and had been present at the siege of Sevastopol.

[Lafayette, Ltd.

As a boy of 14 Edward Farquhar Buzzard entered Charterhouse School, where he was science exhibitioner, and remained there for five years, leaving in 1890 for Oxford (Magdalen), the university to which he was to return thirty years later as regius professor. After four years at Oxford he took his clinical training at St. Thomas's Hospital, and qualified in 1898. In the following year he became M.R.C.P., and in 1902 proceeded D.M. Oxon. Shortly afterwards he became assistant physician to the Royal Free Hospital, an appointment which was followed by that of full physician and lecturer in medical pathology. He was also for eleven years assistant physician to the Belgrave Hospital for Children. In 1905 his association with his father's old hospital at Queen Square began with his appointment as out-patient physician, a post he held until 1922. In 1906 he was elected F.R.C.P., and in 1910 he was appointed to the visiting staff of St. Thomas's, and there remained until he retired at the age of 60, when he became consulting physician. In 1910 also he became consulting physician to the Queen Alexandra Military Hospital, Millbank, and the Royal Hospital for Incurables. By this time he had become widely known as a leading neurologist and had a large consulting practice in Harley Street. During the war of 1914–18 he was consultant to the London Command, with the rank of colonel, A.M.S.

In 1928 he succeeded Sir Archibald Garrod as Regius Professor of Medicine at the University of Oxford. During his tenure of the chair he became, in 1936, President of the British Medical Association. This was the fourth occasion in the rather more than one hundred years of the Association's existence that it had had as its president the regius professor. His address in the Sheldonian Theatre on the occasion of the Oxford Meeting of the Association will be long remembered, not only for its eloquence and its forward look, but for its sequel. One of his auditors was Lord Nuffield, who shortly afterwards, in order to give reality to what Sir Farquhar could only sketch as a dream, announced a benefaction of about one and a quarter million pounds for the establishment of a medical research school at Oxford. In the organization of this endownment Sir Farquhar Buzzard took a leading part, and although he had reached the age limit for regius professors, his term was extended until the age of 71 on account of his intimate concern with the detailed working out of Lord Nuffield's plans and intentions. He also became closely identified with the Nuffield Trust, set up to promote regionalization among provincial hospitals, and he was chairman of its Medical Advisory Council. He was also honorary physician to the Radcliffe Infirmary, and took a conspicuous part in the hospital as well as the academic affairs of Oxford.

During his term as President of the B.M.A. and before and after it he interested himself actively in Association matters, and the Association benefited greatly from his experience and wisdom and from his willingness to address meetings in many parts of the country, expounding policies which the Association desired to further. Especially noteworthy was his evidence, given in a personal capacity, before the select committee of the House of Lords on the Bill for the registration of osteopaths, a measure which he regarded as a menace to the prestige of medicine. His cogent and uncompromising testimony against the practice of the unqualified osteopath occupied, with the cross-examination, the greater part of two days. The promoters of the measure saw in him one of their most formidable opponents.

He was for long closely associated with the Royal College of Physicians. In 1906 he was Goulstonian Lecturer, taking as his subject acute infective and toxic conditions of the nervous system. As one of the Censors he took a prominent part in the Harvey Tercentenary Celebrations at the College, and he was the Harveian Orator for the year 1941. From 1932 to 1937 he was one of the Physicians-in-Ordinary to the King, becoming, at the beginning of the reign of George VI, a Physician-Extraordinary. He represented for many years on the General Medical Council the Medical Faculty of the University of Oxford.

Sir Farquhar Buzzard was able to unite with deep learning in his own subject the gift of clear exposition, which made him an excellent teacher. He could employ also the graceful speech demanded of public occasions. A noteworthy example was his delivery of the eleventh Earl Grey Memorial Lecture at Newcastle-upon-Tyne in 1939, when he spoke on neurology and its outlook and managed in the compass of an hour to embrace the history of neurology from the time of the Greeks down to Hughlings Jackson, Horsley, and Sherrington.

His own literary output was considerable, but was mostly in the form of contributions to textbooks. One work, in which he collaborated with Dr. J. G. Greenfield, was *The Pathology of the Nervous System*. He edited, with prefaces, Athanassio-Benisty's *Clinical Forms of Nerve Lesions* and *Treatment and Repair of Nerve Lesions*, which were published in the form of military medical manuals in 1918; also in like manner Babinski and Froment's *Hysteria or Pithiatism*. He wrote the section on diseases of the nervous system in Burney Yeo's *Manual of Medical Treatment*, and the similar articles in Allbutt's *System of Medicine*, Osler's *Modern Medicine*, French's *Index of Differential Diagnosis*, Latham and English's *System of Treatment*, and the *Encyclopaedia Medica*. He also contributed much to the medical journals.

Many honours came his way. He was made a Knight of the Victorian Order in 1927, and a Baronet in 1929. He held the honorary degrees of LL.D. of Belfast and of Manitoba. In 1940 he was awarded the Osler Memorial Medal as one outstandingly inheriting the Osler tradition.

In his early days he excelled at sports. In the mid-'nineties he was a member of the Oxford University Association Football XI and of the Old Carthusian XI, winners of the Amateur Cup in 1894 and 1897, and of the London Senior Cup for three years running. Some of his own mishaps on the football field, with ensuing temporary amnesia, furnished him with personal illustrations for his neurological lectures. In later life, at his country home at Godalming, he entered with zest into many outdoor pursuits, including shooting, fishing, and golf.

In 1899 he married Miss Mary Bliss, and they had two sons and three daughters. His elder son, who succeeds to the baronetcy, is a captain in the Royal Navy. His younger son is a medical man, Dr. E. M. Buzzard, who has been serving in the R.N.V.R. One of his daughters married Dr. H. Gardiner-Hill, physician to St. Thomas's Hospital.

Sir ARTHUR MACNALTY writes:

I have known four Regius Professors of Medicine of Oxford—Sir John Burdon-Sanderson, Sir William Osler, Sir Archibald Garrod, and Sir Farquhar Buzzard. They were all eminent men in their profession, but the fourth, whose passing we lament to-day, was perhaps the man of the widest interests in life. He worked hard and he played hard. His early laurels were won in Association football, and his devotion to the game interfered with his success in the Schools. He was an all-round athlete, and up to the war held his own in tennis tournaments. He loved every form of sport, and it was noted that the Regius Professor could never be found at Oxford when the Grand National was being run.

Cradled in neurology, Buzzard surpassed his distinguished father in extending knowledge of the subject. I first got to know him well when encephalitis lethargica made its appearance. He asked me to see cases of the disease with him, invited me to medical discussions about it, and I got much insight into his profound knowledge of neurological disease and his gift for differential diagnosis. When he was asked to take the professorship at Oxford, at first he hesitated. I had some small part in effecting the compromise by which he continued to do consulting work in London. But the pressure of university duties at length made this impossible, and the sacrifice was the less in that by now Buzzard had discovered his great talent as an administrator. His many interests, his kindly personality, and especially his forthright speech and integrity made him *persona grata* with heads of houses, dons, medical colleagues, and undergraduates. Sometimes he was misjudged, sometimes his enthusiasm led him into error. These were small spots on the sun of his character. Above all, he served medicine and the Oxford Medical School wholeheartedly. It is well known that he had much to do with the founding of the Nuffield Professorships, nor should his work for the Nuffield Hospital Trust, which involved arduous journeys and conferences all over the British Isles, be forgotten. Lord Nuffield found in Buzzard a friend, a physician, and a helpful adviser in his munificent endowments to medicine.

As Buzzard grew older he retained his receptivity for new ideas. To several Oxford men the foundation of the Chair of Social Medicine in the University was a cherished hope. When I first discussed this with the Regius he was not in favour of the plan. I returned to the charge and drew up memoranda for him. In the end he was convinced, and it was through his support that the Chair and Institute of Social Medicine came into being. Nay, more, his study of the subject reorientated his views towards medicine generally; and his later papers and addresses emphasize the importance of the study of preventive medicine and environmental conditions in undergraduate and postgraduate medical education. In retirement he welcomed and helped his successor, Prof. Arthur Ellis, and he kept his interests in Oxford affairs.

Now he has gone from us. No longer can a friend wander into his rooms at Christ Church to be greeted by a genial growl as he pushes his tobacco pouch across to one. No longer can one hear the slow deliberate voice telling some amusing story or voicing plans for the National Health Service. He enjoyed life, sport, the open air, pictures, and people. He maintained the great traditions of the Oxford Medical School by strengthening its importance and influence. A loyal son of Oxford: he would have desired no better epitaph.

A. B. DANBY, F.R.C.S.Ed., F.R.C.O.G.

Mr. A. B. Danby, late of Edgbaston, Birmingham, died on Dec. 9 at Kidderminster. He was senior honorary gynaecological surgeon to the Birmingham United Hospital (Queen Elizabeth Hospital Unit), honorary obstetric surgeon to the Birmingham Maternity Hospital, and lecturer on clinical obstetrics and gynaecology and examiner in the same subjects at the University of Birmingham.

Alfred Beuthin Danby was born at Wellington, N.Z., in 1888, the son of Arthur S. Danby, and was educated at the public school in that city and at the University of New Zealand. Coming to this country to join Guy's Hospital Medical School he qualified in 1913. At Guy's he distinguished himself on the football field and was a member for three years of the XV, and served before the war of 1914–18 as house-surgeon, resident obstetrician, and out-patient officer. He held a commission as surgeon lieutenant, R.N., for four years, was present at the Dardanelles, and served with the Grand Fleet. On returning to civil life Danby became resident surgical officer at the General Hospital, Birmingham, and was elected to the visiting staff in 1921, as assistant gynaecologist. He joined the B.M.A. in 1919, was for a time honorary secretary of the Midland Medical Society, and later president of the Midland Obstetrical Society; he had also been a member of the Council of the Gynaecological Section of the Royal Society of Medicine. In addition to his main clinical posts in Birmingham Danby was visiting gynaecologist to the Mental Hospital there and an examiner for the Central Midwives Board. He held the F.R.C.S.Ed. diploma, and was elected a Fellow of the Royal College of Obstetricians and Gynaecologists in 1935. A number of papers by him appeared in the *Journal of Obstetrics and Gynaecology.*

Dr. Edmund H. L. Wigram, of Oxford, recently demobilized from the R.A.M.C., died on Dec. 2 at Bangor Infirmary from injuries received when he fell while climbing Idwal Slabs, Tryfan Mountain, North Wales. Dr. Wigram, who was only 34 years of age, took part in the main expedition under Mr. Hugh Ruttledge which tried to climb Mount Everest in 1936 but was defeated by bad weather. He studied for the profession at Cambridge and St. Thomas's Hospital, took the Conjoint diplomas in 1937 and the M.B., B.Ch. degrees a year later, and after serving as obstetric house-physician at St. Thomas's became in turn house-physician and house-surgeon at the Radcliffe Infirmary, Oxford.

Dr. H. H. McClelland died at Ballymoney, Co. Antrim, on Oct. 5, at the age of 52. He had been at work as usual in the local dispensary during the morning and retired to rest when he came home, as he was not feeling well; a short time later he died in his sleep. Hugh Harper McClelland graduated M.B. at Queen's University, Belfast, just before the outbreak of the 1914–18 war and joined the R.A.M.C. shortly after. He served with the 2nd Battalion of the Cheshire Regiment in Salonika, Transcaucasia, and Turkey. In 1920 he was appointed medical officer for Ballymoney Dispensary District; he had already built up a successful practice in this district. He was appointed M.O.H. for Ballymoney Urban District in 1926, and for the past twenty years was deputy coroner for North Antrim. Dr. McClelland was a great friend of the poor people in his district, and was very well liked by all classes. He was an extremely popular member of the North-East Ulster Division of the B.M.A., and his cheery personality made him a great favourite with his colleagues. He took a keen interest in the welfare of the ex-Servicemen and was always willing to help them in any way he could. He was president of the local branch of the British Legion. He is survived by his wife, two sons, and a daughter. His elder son, Major R. McClelland, R.A.M.C., is serving in India, his second son is still at school, and his daughter assisted her father as secretary.

News has reached this country of the death on Oct. 3 at Leopoldville, Belgian Congo, of Miss Frances Margaret Harper, M.B., Ch.B., one of the early women graduates of the University of Edinburgh. Born in Edinburgh in 1876, she graduated in 1903, and took the D.P.H. of Cambridge in 1904 and the D.T.M. of the English Conjoint Board in 1913. In her youth she had studied the violin at Milan, but later made medicine her career, and after qualifying held the posts of M.O.H. at St. Helens and at Stoke-on-Trent, and house-surgeon at the West End branch of the Glasgow Maternity Hospital. During the last war Dr. Harper was attached to the No. 3 Malta Company of the R.A.M.C., and later served as medical officer with the English Mission to Czechoslovakia. For nearly a quarter of a century she worked as medical missionary in the district of Lake Leopold II in Central Africa, at first attached to Baptist missions, but for the past twelve years at Lediba, on the banks of the River Kasai, where she established a private hospital. Living a lonely life in the bush she devoted herself to the care of sick natives. Her work was recognized by diplomas from the University of Paris and the Belgian Colonial Ministry.

A correspondent sends the following memoir supplementing the brief notice published on Oct. 27. Dr. D. Johnston Jones was the son of Dr. David Jones, of Everton, near Liverpool, who enjoyed a large and good-class practice for forty years, until 1893, when he retired to Brighton, where he died on May 20, 1903. The *British Medical Journal* described him as "the very type of the trusted family practitioner" and as "a man endowed with a most kindly heart and with admirable common sense, so that no wonder that his patients respected and confided in him." David Johnston Jones, who was educated at Edinburgh University, University College, London, and in Paris, took his M.B., C.M. of Edinburgh in 1877 and his M.D. in 1879, and the M.R.C.S.Eng. in 1877. He was house-surgeon in Liverpool Royal Infirmary, and assistant medical officer and pathologist at Somerset County Asylum, assistant medical officer and pathologist at Gloucester County Asylum, and subsequently became senior assistant medical officer in Kent County Asylum at Maidstone. On March 3, 1890, he was appointed senior medical officer at the London County Asylum for mental and nervous diseases at Banstead, Surrey, where he worked under the late Dr. T. Claye Shaw and with Dr. Hubert Bond, who was a junior medical officer then. On Oct. 1, 1901, Dr. Johnston Jones was appointed medical superintendent of Banstead Asylum. The late Sir Hubert Bond, when Senior Commissioner of the Board of Control, stated that Dr. David Johnston Jones used to devote half his salary at Banstead for the benefit of the staff and the patients, and that he was so devoted to his professional work and the patients that he made a practice of visiting every day all the 2,000 patients under his control. He retired from Banstead on July 25, 1910, and went to live at Worthing to take care of his widowed mother, to whom he was devoted. She died there in 1913. After her death Dr. D. Johnston Jones went to live in different places, but finally built himself the house of "Adwy" in Vicarage Avenue, Llandudno, where after a long illness he died, a good friend and a charming personality to the last. He was buried on Sept. 26 near his brother, the late Col. John Matthews Jones, A.D.M.S., R.A.M.C., in the churchyard of St. Tudno's Church, near the Great Orme.

The late Dr. E. Gilbert Bark, emergency medical officer for Wallasey from 1938 onwards, studied medicine in Birmingham, and took the M.B.Lond. degree, with honours in medicine, in 1901, and the B.S. in 1902. After graduating he was for a time prosector in the Anatomical Department of Mason College and house-surgeon at Queen's Hospital, Birmingham. Settling in practice at Wallasey Dr. Bark became honorary medical officer to the Victoria Central Hospital, and, in the words of a colleague, his sound knowledge and great kindliness combined to make him a fine practitioner of medicine, a notable citizen, and a trusted leader of the medical profession in the borough. During the war years he was chairman of the Wallasey Division of the B.M.A. (which he had joined in 1907) and of the Local Medical War Committee. In the latter capacity he gave valuable service, his ripe experience, quick insight, and sound judgment making him an excellent chairman of a body which often had to take difficult and invidious decisions. Striking evidence of the esteem and affection in which he was held in Merseyside was provided by the large congregation assembled in Liverpool Cathedral for a memorial service conducted by the Dean. Dr. Bark was a former president of the Liverpool Medical Institution, and in memory of that fact the lesson was read by Mr. Robert Kennon, this year's president. The Dean in his address said that there was no person so important in the life of to-day as the family doctor, and Wirral could imagine no family doctor more perfectly fitting the ideal than he whom they remembered that day.

Medical Notes in Parliament

Shortage of Doctors and the "Call-up"

Capt. Chetwynd on Nov. 29 asked whether the Minister of Health knew of the shortage of house-surgeons in hospitals in the North-East. He asked Mr. Bevan to take all possible steps to remedy this, including securing the deferment of newly qualified doctors from military service. Mr. Bevan replied that he was aware that hospitals in many parts of the country were short of resident officers. Newly qualified doctors were already allowed six or twelve months' deferment of military service, which could be extended in special circumstances.

Mr. Leslie asked the Minister of Health if he would arrange that doctors with a large practice in mining areas would not be deprived of their assistant doctors when called up for military service until a substitute doctor could be obtained. Mr. Bevan replied that it was open to the Central Medical War Committee to defer the recruitment to the Forces of a general practitioner's assistant in any area where there were special circumstances justifying such deferment. The committee, in consultation with the Local Medical War Committee, gave careful consideration to the needs of the civilian population in all such cases.

Motor Cars for Doctors

Mr. Barnes on Dec. 10 told Mr. Touche that the long delay experienced by doctors in obtaining new motor cars essential for their work was due to the comparatively small number of new cars so far produced. The Minister of War Transport had issued licences at a rate to cover anticipated production, and high priority had been given to doctors. On a rough estimate he had granted some 3,500 licences to doctors out of the total of 14,000 licences granted. Some 500 applications from doctors were outstanding.

Release from the Forces

On Dec. 13 Col. Stoddart-Scott asked what were the principles upon which had been based the acceleration of the release of medical officers from the Forces under Class A to relieve the inadequacy of the medical services for the civilian population; how many doctors would be demobilized under existing arrangements by Jan. 1, 1946, under A and B; and how many would be demobilized from the Services during the first six months of 1946. In reply Mr. Bevan said that in accelerating the release of medical officers from the Forces the aim had been to reduce the ratio of doctors to serving personnel to about 2 per 1,000. He could not give the exact number who would be released by Jan. 1 next, but it was expected to be at least 5,000. He regretted that he could not give a total to June, 1946. He was satisfied that considerable acceleration would be achieved.

Alien Doctors

Mr. Ede, replying on Dec. 13 to Major Symonds, said alien doctors on the permanent *Medical Register* required permission to take a new appointment only if their stay here was subject to conditions requiring them to apply to the Home Office for such permission. The supervision of the work undertaken by alien doctors who were only temporarily registered has been entrusted to the Central Medical War Committee.

Early Recognition of Cancer

Mr. Hastings asked Mr. Bevan on Dec. 13 whether, in view of the fact that there were about 70,000 deaths annually from cancer and that a large proportion of these patients only obtain specialist treatment when too late, he would provide lectures for general practitioners on the early recognition of this disease. Mr. Bevan said Mr. Hastings's object could perhaps be best attained by encouraging early and frequent consultation between general practitioners and specialists in the work of diagnosis and treatment. Organized arrangements for this purpose were now being developed under the Cancer Act, 1939, so far as present circumstances permitted. Mr. Hastings said that where the lectures he advocated had been instituted they had been appreciated and well attended by general practitioners. Mr. Bevan said he would direct the attention of the relevant authorities to that comment.

Col. Stoddart-Scott suggested that Mr. Bevan should take steps to instruct the public in the early symptoms of cancer. Mr. Bevan, "speaking on the impulse of the moment," thought that would be extremely dangerous.

Report on Mental Nursing

Mr. Bevan stated on Dec. 13 that he and Miss Wilkinson had received from the Earl of Athlone the report of the Subcommittee on Mental Nursing and the Nursing of the Mentally Defective which was appointed by the Athlone Interdepartmental Committee on Nursing Services. The report, which would be published before the House rose for the recess, was a most valuable survey of the whole field falling within the subcommittee's scope. He proposed to obtain without delay the views of the various interested bodies regarding the recommendation, many of which would require legislation.

Formula of Penicillin

Mr. John Lewis inquired on Dec. 13 by whom penicillin had been synthesized and what was the structural formula. Mr. Herbert Morrison said a practical process for synthesizing penicillin had not yet been evolved. He understood that the British workers associated with the Medical Research Council and their American collaborators proposed to publish available information at an early date regarding the structural formula.

Research into Pneumoconiosis.—On Dec. 7 the Workmen's Compensation (Pneumoconiosis) Bill passed through committee without amendment. Its third reading was then proposed. On this Mr. Somerville Hastings said the Bill would teach something of the natural history of the disease. By extending the period of observation on former miners who, during the war, had been engaged on war service or war industry, the Bill would enable information to be obtained about the disease which had not been known before. Mr. Lindgren said research had been extended but had not been developed to the extent Mr. James Griffiths desired, mainly because of the shortage of experts. The Ministry of National Insurance would be glad to use the opportunities of research which this small Bill gave. The Bill was read a third time.

Notes in Brief

There are approximately 4,000 public vaccinators in England and Wales, practically all of whom are doctors in general practice. The number of vaccination officers is not readily ascertainable: they are generally local government officers engaged in other duties also. There are no inspectors charged with the duty of inspecting vaccination marks. The staff of the Government Lymph Establishment numbers 25.

At the end of 1944 there were thirteen full-time medical inspectors and 1,862 examining surgeons appointed under the Factories Act. In addition there were known to be approximately 180 doctors exercising full-time medical supervision and 890 exercising regular part-time supervision in factories. During the past year there has been no substantial change in these numbers.

Mr. Ivor Thomas announced on Dec. 5 that the Air Ministry Flying Personnel Committee has made intensive studies, both under laboratory conditions and in the field, of the effect on aircrew fatigue of long range and altitude flying and a constant change from one climatic condition to another.

From Jan. 1, 1940, when the Various Industries (Silicosis) Compensation Scheme was extended to cover workmen employed underground in slate mines, up to Sept. 30, 1945, the total number of workmen in North Wales slate mines certified by the Silicosis Medical Board to be suffering from silicosis or silicosis accompanied by tuberculosis was 103. There were 8 in 1940, 5 in 1941, 17 in 1942, 12 in 1943, 26 in 1944, and 35 up to Sept. 30, 1945.

At present persons who enter Malaya are required to take precautions against infection by means of inoculation and vaccination. Mr. Lawson states that there is a serious shortage of hospital facilities and medical staff and that it is necessary to prevent avoidable additions to the tasks of the military administration. These include the prevention and control of disease. Mr. Lawson also states that comprehensive and detailed instructions have been issued on the medical examination of prisoners of war from the Far East.

Universities and Colleges

UNIVERSITY OF CAMBRIDGE

The following candidates have been approved at the examination indicated:

FINAL M.B.—*Part I (Surgery, Midwifery, and Gynaecology):* A. V. Adams, D. M. C. Ainscow, D. J. ap Simon, C. M. Attwood, J. G. Benstead, E. M. M. Besterman, D. A. L. Bowen, D. K. Briggs, J. A. Bulleid, J. W. Coleman, D. M. T. Cones, D. J. Crockett, T. M. Cullingworth, P. S. Davis, J. R. B. Dixey, R. D. Eastham, A. C. Elithorn, A. M. Elliott, P. A. Emerson, J. B. D. Evans, H. S. Eyre, A. S. Falconer, J. B. Frost, J. Gloster, R. E. Gruchy, L. Haas, P. S. Hall, P. M. R. Hemphill, P. F. C. Jackson, K. E. Jefferson, A. G. Jessiman, I. S. M. Jones, J. W. Ker, J. G. Kilner, G. L. Leathart, J. D. Lever, R. H. G. Lyne-Pirkis, A. D. R. MacAuslan, J. McFie, I. K. R. McMillan, H. G. Mather, S. R. Mawson, P. A. Merton, R. I. Milne, J. J. Morland K. S. Murray, I. M. Ormerod, J. V. Owen, I. M. Ramsden, J. W. T. Redfearn, J. F. F. Rooney, O. C. A. Scott, J. G. Selwyn, D. Seymour, R. E. Sidebotham, D. R. Smith, J. S. Swallow, C. E. D. Taylor, A. D. Thomson, H. W. Trusted, S. Vakil, W. van't Hoff, D. R. Wallace-Jones, L. G. R. Wand, J. C. Ward, I. W. Whimster, H. Whitmore. *Women:* R. S. J. Baker, J. E. G. Brieger, J. Chivers, F. M. Fountain, J. F. Grant, M. Hobson, P. A. Howard, E. G. Howe, G. M. Hunt, C. M. E. Jones, H. M. J. Lawn, B. M. Leach, S. M. McNeile, Mrs. A. M. P. Pantin, A. M. Senior-Tolson, A. M. Sibly, G. C. Thompson, A. S. Willis.

UNIVERSITY OF LONDON

The following candidates have been approved at the examination indicated:

POSTGRADUATE DIPLOMA IN PSYCHOLOGICAL MEDICINE.—*B. G. C. Ackner, *G. A. W. Angus. *Part A:* T. Freeman, A. P. Micallef, J. M. Tanner.

* With Mental Diseases (Psychiatry)

UNIVERSITY OF MANCHESTER

At a meeting of the University Council, held on Dec. 14, Robert Platt, M.D., F.R.C.P., was appointed full-time Professor of Medicine in the University.

The Medical Students' Representative Council has established a Wood Jones Foundation Lecture to mark the esteem in which Prof. F. Wood Jones, F.R.S., F.R.C.S., has been held by the student body during his tenure of the Chair of Anatomy in the Manchester Medical School. He is leaving the city to take the Sir William J. Collins Chair of Comparative Anatomy at the Royal College of Surgeons of England, and he himself gave the first lecture of the series on Dec. 11 in the University Chemistry Theatre at Manchester.

The following candidates have been approved at the examinations indicated:

FINAL M.B., CH.B.—*†Mary Goodyear, *†J. E. Morris, R. L. Armistead, F. M. Benton, J. B. Brooks, K. Burchill, G. H. Burgess, P. J. Burke, G. L. Cantrell, G. R. Carr, Elsie M. Dakin, Jean B. Fletcher, Nora Harnden, P. W. Harvey, J. A. Jamieson, Elizabeth Jenkins, H. A. Koretz, T. K. J. Leese, J. D. Lumsden, B. Marsden, Jessie Million, Margaret W. Oliver, Margaret Rhodes, F. N. Valdez, W. M. Whittaker. *Part I (Forensic Medicine and Hygiene and Preventive Medicine):* J. C. T. Archer, S. F. Gilbert, Christine M. Hope, J. B. Howard, D. P. Howarh, D. P. Keirby, Theresa P. Lee, O. R. W. Sejrup, H. Simpson, J. H. M. Thomas, C. H. Thompson, H. W. Wyile.

* Awarded second-class honours. † Awarded distinction in medicine.

UNIVERSITY OF EDINBURGH

A graduation ceremonial was held on Dec. 14, when the following degrees and diplomas were conferred:

M.D.—J. H. M'Intyre, [3] O. A. S. Marais, [2] Lieut. J. F. O. Mitchell, R.A.M.C., R. J. E. Paterson, [3] Major J. F. Riley, R.A.M.C., [1] A. E. Ritchie, [2] I. M. Scott, [1] Sheila P. V. Sherlock, [3] L. M. Thompson, [3] Major W. S. Watson, R.A.M.C.

CH.M.—I. A. G. L. Dick.

M.B., CH.B.—J. C. S. Adams, B. A. Cookson, F. E. Cull, A. Douglas, S. C. Dryden, K. D. Foggitt, May L. Gilbert, R. E. Glenn, W. H. Graham, K. A. R. Henry, W. R. Johnson, I. J. M. Lumsden, J. R. M'Callum, D. L. Mackay, Margaret M. Macpherson, Eileen M. Munn, T. M. Ness, T. H. Park, D. F. Robertson, D. J. Rodger, Daphne G. D. T. Smedberg.

DIPLOMA IN MEDICAL RADIOLOGY.—A. A. N. Bain, J. R. Condon, E. F. Ridley.

[1] Awarded gold medal for thesis. [2] Commended for thesis. [3] *In absentia.*

ROYAL COLLEGE OF SURGEONS OF ENGLAND

The Moynihan Lecture will be delivered by Mynheer Willem Noordenbos, Hon. F.R.C.S., professor of surgery in the University of Amsterdam, at the College (Lincoln's Inn Fields, W.C.) on Wednesday, Jan. 9, 1946, at 5 p.m. His subject is "The Choice of Oblique and Transverse Incisions in Abdominal Surgery." The lecture is open to medical practitioners and advanced students.

Prof. and Mrs. Noordenbos will be present at the College monthly subscription dinner at 7 p.m. on Jan. 9, and Fellows and Members and their wives may like to take the opportunity of meeting them. If so, they should notify the secretary of the College at least a week in advance.

Other lectures to be delivered at the College are as follows: Jan. 3, Arris and Gale Lecture by Mr. Norman Capener, Physiological Rest: The Orthopaedic Principle; Jan. 10, Hunterian Lecture by Prof. Ivor Lewis, The Surgical Treatment of Carcinoma of the Oesophagus, with Special Reference to a New Operation for Growths of the Middle Third; Jan. 17, Hunterian Lecture by Prof. P. W. Clarkson, The Treatment of Face and Jaw Casualties in the British Army; Jan. 24, Hunterian Lecture by Prof. C. H. Gray, Sciatica; Jan. 31, Hunterian Lecture by Prof. S. H. Wass, The Odontomes and Other Affections of the Jaws: Their Pathology, Diagnosis, and Treatment. All the lectures begin at 5 p.m.

FACULTY OF RADIOLOGISTS

The following candidates have satisfied the Fellowship Board at the examination for the Fellowship of the Faculty: *Radiodiagnosis:* H. R. Holmes, M.D., D.M.R.E., A. S. Johnstone, M.D., F.R.C.S.Ed., D.M.R.E., J. H. Smitham, M.B., B.S., D.M.R.E. *Radiotherapy:* M. Halberstaedter, M.B., B.S., D.M.R.E.

The Services

Surg. Capt. (Acting Surg. Rear-Admiral) C. E. Greeson, R.N., has been appointed C.B. (Military Division) for distinguished service throughout the war in Europe.

Temp. Surg. Lieut. A. P. B. Waind, R.N.V.R., has been mentioned in dispatches for good service and devotion to duty shown during the defence of Calais in May, 1940.

Capts. A. Barber, J. F. Pantridge, and T. B. Smiley, R.A.M.C., have been awarded the M.C. in recognition of gallant and distinguished services in Malaya in 1942.

The Efficiency Decoration of the Territorial Army has been conferred upon the following officers: Majors (Temp. Lieut.-Cols.) A. Dyce Davidson, R. K. Hanlin, and H. B. Trumper; and Majors C. F. Critchley, J. C. McFarland, and J. R. Wright, R.A.M.C.

The following appointments and awards have been announced in recognition of gallant and distinguished services in Italy:

C.B.E. (Military Division).—Brig. (Temp.) G. S. Parkinson, Brig. (Local) E. R. Boland, O.B.E., R.A.M.C., and Brig. (Acting) G. P. Kidd, M.C., late R.A.M.C.

O.B.E. (Military Division).—Cols. (Acting) A. C. Turner and W. R. Martine, M.B.E., T.D.; Cols. (Temp.) W. A. D. Drummond, R. E. Rees, M.C., T.D., J. T. Robinson, T. B. H. Tabuteau, and T. Young; Lieut.-Cols. R. Coyte and A. L. Crockford, D.S.O., M.C., T.D.; Lieut.-Cols. (Temp.) T. F. Briggs, J. J. M. Brown, F. A. Donnolly, F. J. Fowler, R. H. Hunt, J. D. P. Macpherson, J. G. McCrie, G. W. Molyneux, T. T. P. Murphy, O. A. Savage, D. Thomson, and P. H. Wood, R.A.M.C. Col. (Acting) D. Bhatia, Col. (Temp.) D. H. Waldron, and Lieut.-Col. (Temp.) A. M. Mackenzie, I.A.M.C.

M.B.E. (Military Division).—Lieut.-Col. (Acting) I. B. Pirie; Major J. C. Wishart; Majors (Temp.) H. Bridges, W. A. Carey, P. W. Clarkson, H. J. Croghan, E. A. Fiddian, K. B. Gibson, J. Gillang, A. F. W. Hall, H. D. Hunter, A. R. Kennedy, S. E. Large, J. Littlejohn, J. D. Miller, W. Storrar, R. I. Mitchell, W. F. Nicholson, G. A. G. Peterkin, and D. J. D. Torrens; Major (Acting) D. McV. Morrison; Capts. J. Comyn, F. J. Gillingham, J. Scobbie, and A. S. Smith; Lieut. J. Noble, R.A.M.C. Major (Temp.) H. M. Archibald, I.A.M.C.

D.S.O.—Lieut.-Col. (Temp.) R. B. Wright, O.B.E., R.A.M.C., and Lieut.-Col. (Temp.) W. Laurie, I.A.M.C.

M.C.—Capts. J. A. L. Cooper, W. A. Dewar, A. M. Gwynn, and J. S. Walters; Capt. (Temp.) N. J. Craig, R.A.M.C. Capts. K. C. Ganapathy, J. R. Pereira, K. M. Rao, and R. R. Rao, I.A.M.C.

DEATHS IN THE SERVICES

Major-Gen. DONALD CLEWER, C.B., Colonel Commandant of the Army Dental Corps and formerly Director of the Army Dental Service, died in hospital on Dec. 11. He received his professional training at Guy's Hospital, and qualified L.D.S., R.C.S. in 1914. In 1940 he was the first officer of the Army Dental Corps to reach the rank of major-general. In recognition of his outstanding service he was created C.B. in 1942.

No. 49

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended Dec. 8.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1945					1944 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever	41	1	11	—	4	44	4	24	—	2
Deaths		1	—				—	1		
Diphtheria	574	43	181	76	24	613	21	148	128	21
Deaths	7	—	3	1	—	10	—	1	—	—
Dysentery*	242	36	50	1	—	254	24	78	5	—
Deaths				—	—				—	—
Encephalitis lethargica, acute	1	1	—	—	—	4	—	—	—	—
Deaths		—					—			
Erysipelas			51	7	2			43	12	3
Deaths		—					—			
Infective enteritis or diarrhoea under 2 years				41					27	
Deaths	36	6	7	17	2	35	4	5	9	2
Measles*	611	33	103	188	1	8,906	12	413	13	264
Deaths	—	—	—	1	—	13	—	—	—	—
Ophthalmia neonatorum	54	4	8	—	—	61	3	18	1	—
Deaths										
Paratyphoid fever	—	—	—	—	—	—	—	1 (B)	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenzal†	744	56	11	4	3	715	29	7	2	8
Deaths (from influenza)	35	6	1	1	—	20	1	1	—	—
Pneumonia, primary			268	13				356	23	
Deaths		41		13	11		20		12	7
Polio-encephalitis, acute	5	—				—	—			
Deaths		—					—			
Poliomyelitis, acute	28	1	—	5	—	5	2	1	1	—
Deaths		—	—				—			
Puerperal fever		2	17		—		4	9		—
Deaths										
Puerperal pyrexia‡	116	16	12	1	1	138	13	10	1	—
Deaths		1					—			
Relapsing fever	1	—			—	—	—			—
Deaths										
Scarlet fever	1,779	144	280	26	55	2,005	58	287	31	65
Deaths	1	—	—	—	1	2	—	—	—	—
Smallpox	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Typhoid fever	5	1	1	1	—	2	1	2	5	—
Deaths	—	—	—	—	—	—	—	—	—	—
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Whooping-cough*	1,225	102	65	25	10	1,465	39	144	55	10
Deaths	6	2	1	—	1	14	—	1	—	—
Deaths (0–1 year)	349	44	44	39	13	349	40	72	23	19
Infant mortality rate (per 1,000 live births)										
Deaths (excluding stillbirths)	4,865	734	639	217	116	4,521	663	595	217	120
Annual death rate (per 1,000 persons living)			14·5	14·0	§			13·7	14·1	§
Live births	6,630	890	853	351	244	6,762	617	932	332	276
Annual rate per 1,000 persons living			17·1	22·6	§			19·0	21·5	§
Stillbirths	202	32	27			197	19	29		
Rate per 1,000 total births (including stillborn)			31					30		

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* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

‡ Includes puerperal fever for England and Wales and Eire.

§ Owing to movements of population, birth and death rates for Northern Ireland are still not available.

EPIDEMIOLOGICAL NOTES

Discussion of Table

In *England and Wales* a further increase in measles, 110 more cases, was recorded, while scarlet fever, whooping-cough, and diphtheria went down by 100, 159, and 102 respectively.

The decrease in scarlet fever was due to a slight fall in most parts of the country, no area showing any large change in incidence. The fall in diphtheria was mainly contributed by the north—Lancashire had 39 fewer cases, Yorks West Riding 19 fewer, and Northumberland 15 fewer; in the southern part of the country there was a slight rise.

The largest variations in the local trends of whooping-cough were decreases in Staffordshire 32, Lancashire 30, and Essex 25, and an increase in London 23. Two counties were mainly responsible for the rise in measles—Lancashire and Pembrokeshire, with increases of 56 and 27.

No fresh outbreak of dysentery occurred during the week, the increase of 11 being due to rises in existing outbreaks. The largest returns were: Lancashire 44, London 36, Warwickshire 21, Berkshire 17, Glamorganshire 16, Essex 12, Surrey 10, Middlesex 10.

In *Scotland* the incidence of acute primary pneumonia was higher by 30 cases, while decreases were recorded for diphtheria 40, scarlet fever 34, and dysentery 18. Contrary to the general trend, a slight increase in dysentery occurred in Glasgow, where 30 of the 50 cases were notified.

In *Eire* the notifications of diphtheria fell by 13, and whooping-cough by 16, but there were 20 more cases of measles. A small decline was reported in the notifications of diarrhoea and enteritis; the 41 cases is the lowest total since the beginning of August.

Quarterly Returns for Eire

The birth rate during the third quarter was 22.9 per thousand, being 1.3 above the September quarter of the preceding year. The infant mortality was 58 per thousand registered births, and 5 below the corresponding figure for the third quarter of 1944. The general death rate was 11.9 per thousand, this rate being 0.1 and 0.2 below the rates for 1944 and 1943, but from 0.3 to 0.5 above that for 1940–2. Deaths from pulmonary tuberculosis numbered 654, and from other forms of tuberculosis 204; these were 53 and 22, respectively, in excess of the third quarter of 1944. Of the 403 deaths from the principal epidemic diseases, 330 were attributed to diarrhoea and enteritis under 2 years, 34 to diphtheria, and 21 to whooping-cough.

Week Ending December 15

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,753, whooping-cough 1,195, diphtheria 575, measles 619, acute pneumonia 969, cerebrospinal fever 44, acute poliomyelitis 10, dysentery 313, typhoid 6.

On Dec. 17 representatives of 48 local authorities and others co-operating with the Department of Scientific and Industrial Research in the study of atmospheric pollution met officers of the Department in conference at the County Hall, Westminster, under the chairmanship of Dr. J. A. Gillison of the L.C.C. In a message to the conference Mr. Herbert Morrison (Lord President of the Council) stressed the importance of collaboration between local authorities and D.S.I.R. in maintaining records of pollution up and down the country, and added, "We cannot have a clean Britain on the ground with perpetually dirty skies above." The conference learnt with satisfaction that 30 additional recording instruments had been brought into use during the year and that a number of authorities had started to take observations for the first time. It recorded the view that "it is only by maintaining continuous records at a large number of sites and by statistical treatment of the data so obtained that exact knowledge can be acquired of the amount and the trends of pollution. This knowledge is to-day more important than ever when so many replanning schemes are under consideration." Dr. G. M. B. Dobson, F.R.S., said that the standardization of measurement, the co-ordinating of local observations, and fundamental research on problems of atmospheric pollution previously carried out on the advice of the Atmospheric Pollution Research Committee would in future form part of the work of the Department's Fuel Research Station, where it would be effectively linked with practical work already in hand there aiming at the prevention of pollution.

Medical News

The London Women's Parliament will hold its sixth session on Sunday, Jan. 6, at B.M.A. House, Tavistock Square, W.C. The subject is the rebuilding of family life, and it will bring together women from all walks of life—factory workers, doctors, nurses, teachers, trade unionists, housewives and mothers, welfare workers, and representatives of local authorities.

The British Social Hygiene Council (Tavistock House North, Tavistock Square, London, W.C.1) and the Town and Country Planning Association (28, King Street, Covent Garden, London, W.C.2) have organized a conference on the needs and problems of the family, to be held on Thursday, Jan. 24, and Friday, Jan. 25, 1946, at B.M.A. House, Tavistock Square, London, W.C.1. The object of the conference is to throw light upon the questions which are involved in the present changing pattern of family life, with the problems of population to which it gives rise. The convenors consider that the outstanding practical family problem is the need for sufficient family houses of high space standard and equipment, properly placed in relation to work-places and to all necessary social and educational services; but other practical problems will also receive attention. The Rt. Hon. Lord Pakenham will open the proceedings on Thursday morning at 10.45. Speakers during the two days will include Mr. R. F. Harrod (on population trends), Dr. Greenwood Wilson (on health services and the family), Miss E. Halton and Mr. R. Weatherall (housing and education), Prof. F. A. E. Crew, Dr. David Mace, and the Rev. Gilbert Russell (biological and psychological aspects), and Mr. F. J. Osborn (planning for the family in the community). Local authorities wishing to send delegates to the conference will receive permission from the Ministry of Health for the expenses of two delegates. Tickets may be obtained from their own association by members at 5s., or from the offices of either association by non-members at 10s.

The annual general meeting of the Medical Society of the L.C.C. Service will be held at County Hall, Westminster Bridge, S.E., on Wednesday, Jan. 9, at 4.30 p.m., when Sir Allen Daley will deliver his presidential address.

The headquarters office of the Medical Research Council, which has been housed during the war in the London School of Hygiene and Tropical Medicine, will reopen at 38, Old Queen Street, Westminister, S.W.1 (Telephone Whitehall 4884), on Dec. 31. The director of the Public Health Laboratory Service is included in the move.

It was announced on Dec. 19 at a special meeting of the Court of Governors of St. George's Hospital that a suitable site has been found for the new buildings of the hospital when it moves from Hyde Park Corner. The proposed site (approximately 30 acres) forms part of the Springfield Mental Hospital at Tooting. The report of the House Committee, outlining a scheme for a general hospital of 850 to 1,000 beds, complete with a medical school and facilities for research and for training student nurses, was presented by Sir Malcolm Trustram Eve and approved by the Court. Sir Walter Monckton was elected chairman of the hospital in succession to Lord Greville.

In January an American medical journal, *Blood: the Journal of Hematology*, will be published bi-monthly by Grune and Stratton Inc., 381, Fourth Avenue, New York 16, N.Y., U.S.A. The editor-in-chief is Dr. William Dameshek of Boston. He will be supported by five associate editors; and also by Dr. George R. Minot as consulting editor. The annual subscription to the journal is $7.50 for subscribers outside the United States. Messrs. H. K. Lewis and Co., Ltd., are distributors of the journal in this country.

Rearrangements of interdepartmental machinery have now been completed for the transfer of responsibility from the Board of Trade to the Ministry of Supply in the field of engineering. The headquarters organization concerned is the Engineering Industries Division, Ministry of Supply, I.C. House, Millbank, S.W.1. The transfer of Board of Trade responsibilities in this respect covers scientific instruments and laboratory apparatus, surgical and hospital instruments and equipment, photographic and optical equipment and accessories therefor.

Sir Henry Dale, O.M., President of the Royal Society 1940–5, will retire from his position as Fullerian Professor in the Royal Institution and Director of the Davy-Faraday Research Laboratory on Sept. 30, 1946.

The National Institute for the Blind in its annual report says that blind physiotherapists are to-day busier than ever before. In the last year of the war the blind staff at the Eichholz Clinic in London gave 11,866 treatments, while senior students working under supervision at the N.I.B. evening clinic gave 12,587 treatments. The school of massage has now changed its name to the school of physiotherapy.

Letters, Notes, and Answers

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: *Aitiology Westcent, London*. ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated.

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B.M.A. SCOTTISH OFFICE: 7, Drumsheugh Gardens, Edinburgh.

ANY QUESTIONS?

Benzyl Benzoate for Scabies

Q.—*What are the advantages and disadvantages of benzyl benzoate? A patient of mine was told six months ago that he had scabies, and that he should rub in benzyl benzoate. This he foolishly did for six months, and now when he goes to bed he suffers with intense irritation. Could this irritation be due to the benzyl benzoate? What is your opinion on the use of tetmosol soap?*

A.—Benzyl benzoate in 25% concentration was standardized, as a wartime measure, as the most convenient remedy for scabies. Two applications only are required, given on consecutive days, the whole body below the neck being covered by the emulsion. Disinfection of contact garments and bedding is recommended, although some experts consider this unnecessary. Contacts also require treatment, even if they appear free from skin disease. The patient who has rubbed in benzyl benzoate for six months must have a remarkably tough skin, and can count himself extremely fortunate to be no worse than itchy. Applications of a mild boric-zinc ointment, avoiding baths, ought to restore the skin to normal in time. Tetmosol soap is valuable as a stopgap when organized treatment is not available—for example, in liberated territory.

Renal Tuberculosis

Q.—*A man aged 50 had a tuberculous kidney removed several months ago. He now suffers from increased frequency of micturition, night and day, dysuria, and severe spasms of perineal pain. Alkalis and belladonna temporarily relieve his dysuria. I would appreciate any suggestions for the alleviation of his symptoms. His general condition is excellent.*

A.—It is impossible to answer this question, for no information is given as to the condition of the remaining kidney. Is it completely healthy? If it is tuberculous, then no improvement in the symptoms can be expected. Presumably the health of the opposite kidney was established before nephrectomy; if so, the symptoms are likely to result from a failure to remove the whole of the ureter on the affected side, so that existing disease there maintains the bladder inflammation. The operation of residual ureterectomy may be expected to produce a cure.

Intramuscular Injection of Liver

Q.—*Apart from pernicious anaemia, what are the indications for the intramuscular injection of liver extract? Is liver extract a good tonic? What are the indications? Is it justifiable to give injections of liver extract without examination of the blood?*

A.—It is difficult to explain the action of tonics on pharmacological grounds. The choice of materials is influenced by ideas rather than by experiment, and in our own time we have seen arsenic, quinine, and the hypophosphites decline in favour and give place to the vitamins and liver extract. There is evidence that certain substances, such as nicotinic acid and acid sodium phosphate, may increase the output of energy in health, but this effect is at best slight. The prescription of a tonic implies that the patient is mildly ill, in a physical or mental way, and usually that the appetite is impaired; it is conceivable that liver extract might stimulate appetite under these condtions. As a general rule, however, tonics seem to be made by analogy—because quinine reinvigorates the patient with malaria, it will relieve debility from other causes—and they act mainly by suggestion. Suggestion is especially powerful when the material is given by injection. The ritual of asepsis and the pain of injection combine to influence the patient, and the relief which female patients claim from injections of drugs often has a transparent sexual tinge. It is not unusual for patients to develop an addiction for injections of drugs so inactive that one must conclude that the addiction is to the injection and not to the drug. The whole topic of parenteral therapy is controversial, and it is enough to say that it may easily degenerate into conscious or unconscious quackery, as has happened in a number of Oriental countries. Liver extract may be a good tonic in certain hands, but there is no evidence that in a controlled trial it would prove superior to injections of normal saline solution.

It should be noted that in accordance with Ministry of Health regulations, which have been issued on account of the present shortage, liver extract may be given by mouth only in pernicious anaemia and related megalocytic anaemias, such as sprue and nutritional macrocytic anaemia. In what follows it is assumed that liver extract is given by injection.

Liver extract is a good source of the B vitamins. Some of the constituents, such as folic acid, have been isolated only recently, and there may be others still to be discovered. This group of vitamins has a complex and extensive action on the gastro-intestinal tract, and injection of liver extract has been particularly recommended in ulcerative colitis, in which deficiency of vitamins may develop. Liver extract is also of value in leucopenia, and perhaps because of this action it may counteract the depression produced by *x*-ray therapy. It has been recommended for the treatment of cirrhosis of the liver, particularly when ascites is present. It seems probable that when liver extract excites a therapeutic effect in conditions other than the megalocytic anaemias, it does so by virtue of elements of the vitamin-B complex and not the haemopoietic principle. In such conditions it would be justifiable to inject liver extract without examination of the blood. It is, nevertheless, desirable to examine the blood before embarking on so elaborate a treatment, if only to emphasize the fact that too much should not be expected of liver therapy in conditions other than pernicious anaemia.

Posture in Heart Disease

Q.—*Recent experimental work seems to show that in the normal heart cardiac output is greater in the supine than in the erect position. Is this having any influence on modern teaching with regard to the posture recommended in cases in which the chief requirement is a reduction of the work of the heart?*

A.—In heart failure reduction of the work of the heart by physical rest is always the prime consideration; but, as heart failure interferes with breathing and the patient finds that this is most easily done when he sits up, it is usual, in fact necessary, for a sitting posture to be maintained, so that by this means benefit in breathing and lessening of the work of the heart are achieved at the same time. In cardiac rheumatism in children it is probably easier to keep them quiet, and so to reduce the pulse rate, if they are compelled to lie down. In these cases, of course, heart failure is not necessarily present, but when complications such as pericarditis and its associated pulmonary changes are present it is then necessary for the patient to be kept well propped up.

Inheritance of Werdnig-Hoffman Disease

Q.—*A couple with no trace of consanguinity had a son, in 1941, who died at five months of progressive spinal muscular atrophy. Another son died in 1943, again at the age of five months, of the same complaint. There is no family history of any neurological disorder. What are the chances of a third pregnancy ending similarly?*

A.—Progressive spinal muscular atrophy (Werdnig-Hoffman disease) is recessive, and the chances of the next child having it are one in four. The fact that the first two children died of it does not affect the chances any more than the fact that a tossed coin landed head up twice will affect the probability that a third toss would give a different result.

Cure of Syphilis

Q.—*If syphilis is diagnosed at the stage of the primary chancre, can the patient be guaranteed a cure? Would you outline briefly the accepted modern method of treating syphilis, and state whether there is unequivocal evidence that such treatment, if carried out thoroughly, does in fact cure the condition.*

A.—Much depends on whether treatment is initiated before the serum reactions have become positive. In sero-negative primary syphilis *adequately treated* there is at least a 95% chance of cure; in the sero-positive stage it is somewhat lower. Approximately 25 g. of neoarsphenamine and 10 g. of bismuth metal, given over a period of about a year, will bring about cure in the majority of cases of early syphilis, provided that treatment is administered regularly and that the patient does not exhibit intolerance to the drugs. The earlier treatment is started, the greater the probability of cure. Recently penicillin, in a total dosage of about 2,400,000 Oxford units, has given remarkable results, but some arsenic and bismuth should be given as well—say twelve injections of each—to be on the safe side; it is too early as yet to say whether permanent cure will result. It is assumed that by "cure" is meant negative serum reactions and absence of signs and symptoms over a period of many years.

INCOME TAX

Future Sale of Car

M. C. proposes to buy a new car for, say, £400. He points out that in two years' time it may have to be sold at a normal price much lower than present prices would suggest, and asks whether in the event of its being then sold for, say, £100, he would receive the full amount of his loss as a deduction for income-tax purposes.

*** Yes. The deduction can then be claimed as a "balancing allowance" under Section 17 of the Income Tax Act, 1945—provided that that Act comes into force as from April 6, 1946, the date specified in the Finance Bill now before Parliament.

Free Residence

C. H. contemplates accepting employment on terms that he receives £700 and in addition occupies rent free a furnished house belonging to his employer. He inquires as to the position generally, and asks what expenses he can claim.

*** The gross amount of liable income will be £700; the benefit of free residence will not be taxable as he will (presumably) have no right to let the furnished house. Expenses can be claimed to the extent that they are incurred "wholly, exclusively, and necessarily in the performance of the duties of the office." For example, the cost of running a car can be claimed—subject to a reasonable deduction from the total cost in respect of private use—but the monthly instalments paid for the purchase of a car are "capital" payments and cannot be claimed for income-tax purposes. As patients are not seen at the residence there is little if anything that can be claimed for the cost of having someone on the premises to attend to callers, telephone messages, etc.

Travelling Expenses

A. L. is an R.M.O. whose duties as such comprise treatment of out-patients in a near-by town. This involves travelling 56 miles a week; no travelling expenses are borne by the hospital authority. Can he claim an allowance for such expenses?

*** Yes. This is apparently a case in which the duties of a single employment have to be exercised in two places, and the cost of travelling between them is necessarily incurred in performing the duties of that office or employment. Train fares would be allowable. If a car is used the amount to be claimed is a reasonable proportion of the running costs, including insurance, licence, etc. The usual basis of estimation is the mileages of the personal and professional use respectively.

Payment in Lieu of Residence

G. H. has accepted an appointment at a salary plus £100 in lieu of residence, and asks whether the £100 is liable to income tax?

*** Yes, it is liable. The practice as to lodging and provision allowances in the Forces—i.e., to regard such allowances as not being taxable—does not extend to civilian allowances of a similar nature. Judicial dicta on the point are such as to render hopeless an appeal based on the law as it stands. The fact that the recipient of the allowance may be maintaining his family elsewhere does not affect the question.

Acquisition of an Additional Practice

J. H. has owned practice A for many years, and purchased practice B as from April 1, 1944. The net profits of the two practices for the year to April 5, 1945, were respectively £282 and £326, and a combined assessment has been made for 1945–6 (on the normal previous year's basis) of £608. In addition an assessment has also been made for 1944–5 on the amount earned in that year from practice B. Is this correct?

*** Yes. The operation of the previous basis is apt to be confusing unless it is borne in mind that it applies not to the income of the individual but to the source of the income. In the first year of ownership of the source there is no "previous year" and the income is assessable on the basis of the current year. Thus in 1944–5 J. H. had two sources of income, A and B; his earnings from the old source (A) were chargeable to tax on the *previous* year's basis, but the income from the new source (B) is liable on the *current* year's basis. When the second year arrives both sources are chargeable on the previous year's basis, and the amount of the first year's profits of the new practice accordingly appears twice in the assessments. But the tax on that amount is paid for different years. Appearances notwithstanding, there is no true double assessment; J. H. had the income from both sources for 1944–5, and equitably tax is due on the combined amounts for that year as well as for 1945–6.

LETTERS, NOTES, ETC.

A Case for Diagnosis

Fl.-Lieut. G. A. POWELL-TUCK writes: When stationed near Karachi, N.W. India, the following case presented signs which to me were unique and interesting, and I hope that some reader will be able to suggest the diagnosis. On Dec. 24, 1944, an officer obviously very concerned showed me the front of his right forearm. One inch above the wrist and on the flexor aspect there was an inflammatory area the size of a five-shilling piece, and in the centre of it a tiny perforation the size of a pinhead. The interesting point was that from the small perforation exuded a blue colouring matter identical with that which is produced when an indelible pencil has been moistened with water. The history given was that the officer while drying himself after taking an improvised "bath" had been bitten by something. He was treated for mild shock while a thorough search was made in his quarters for spiders, scorpions, etc., but without success. Hot saline fomentations were applied every four hours for 48 hours, and he was kept under observation each succeeding day for five days. As the condition remained unaltered bacteriological investigation was carried out at the nearest hospital. This was negative. A few days later he was admitted for further observation, and discharged at the end of a week with the entire forearm encased in plaster-of-Paris. The case was removed on Feb. 9, 1945. The perforation had healed and there was no evidence of inflammation, but the blue colour, though less distinct, persisted. It was the general opinion that the condition had been self-inflicted, but later it was proved beyond doubt that this was not so, because the same condition arose on two subsequent occasions in two other officers. In each of these instances the same colour was seen but without the inflammation or central perforation.

Treatment of Warts

Mr. G. R. EMBY (chemist, Natal, S. Africa) writes: In connexion with a question under the heading "Multiple Warts" (Aug. 25, p. 271), may I recall a reference which may be of some assistance. I refer to an article, "'Tips' (for G.P.s only)," by Dr. J. F. Haegert, which appeared in the *South African Medical Journal* (1942, **16**, 38). The tip as regards warts is the consumption of 1/2 pint of lime-water daily for one week. Incidentally syrup is used a great deal in South Africa for external application to warts on cattle. Might not doses of calcium saccharate, perhaps with vitamin D, be of some help in the treatment of warts on humans?

Morphine Prophylaxis of Paralytic Ileus

Dr. H. L. MACKINTOSH (Troon) writes: The writer of the article on prophylaxis of paralytic ileus by administration of morphine (Oct. 20, p. 528) may be interested to know that in Dr. Clarke's (homoeopathic) *Dictionary of Materia Medica* ileus is given as one of the indications for the use of opium in homoeopathic dosage. One of its indications is given as: "Peristaltic action entirely suspended; even reversed peristalsis with faecal vomiting." Undoubtedly they are dealing here with the Arndt-Schulz law on poisons, which says that substances which in large doses kill the cell, in smaller doses inhibit its action, and in smaller doses still actually stimulate. And also what may in one person be sufficient to inhibit in another merely stimulates. Who has not seen labour pains in a tired patient roused to violent activity by a small dose of morphine when the intention was to procure rest and sleep; or the patient who is thoroughly roused by a dose of morphine given to procure sleep?

Longevity

Mr. ALFRED TILLING writes: With reference to the query put by Prof. Major Greenwood in his letter (Nov. 3, p. 624) as to the "impossibility or improbability" of a human being living to the age of Methuselah, a recently published autobiography by an English peer gives an account of a speech made by another well-known nobleman on the occasion of his golden wedding. He said: "I must tell you that I experienced rather a shock the other day. In the course of my researches connected with a fixed Easter and calendar reform I was rather surprised and horrified to find that I was two years older than Methuselah. He apparently belongs to an era when lunar months were counted years. So instead of living 969 years, Methuselah was only 79 when he was cut off. Abraham and Isaac, who lived in an era when about 5 months went to the year, were only 72 and 74." Most Bible students would agree with the foregoing. Only people with a certain amount of scientific knowledge, and with the art of writing, would be able to record "birthdays." With people of primitive culture there was, and is, no time measure other than the moon and the seasons. The meaning of "season" or "year" varies in different parts of the world if based on husbandry or agriculture. In a territory where there are "the former and the latter rains" there may be said to be a "six-months year," and the "time-rules" of the days of the patriarchs of Genesis differ materially from our present calendar. A two-shilling booklet entitled *The Genesis Mosaic*, by Cullen Young (issued by the Religious Education Press, Wallington, Surrey), deals with the subject and is well worth reading.

Dr. P. B. CRONE (Norwich) writes: The problem of the possibility of surviving to 150 years discussed by Prof. Major Greenwood (Nov. 3, p. 624) may be looked at from a slightly different angle. Taking q_x to be constant at 0.5 for ages over 90, more than 5×10^{17} persons of 90 years would need to be observed to make the chances even of at least one of them attaining the age of 150 years. To accumulate such a number with a birth rate of 30 and a world population of 2×10^9 would require 3×10^{11} years, assuming that 1 in 40 infants lives to 90 years. The number of survivors at ages over 90 might be given by the formula:

$$\text{Survivors} = q^n \times P$$

where q = probability of dying in one year, n = years over 90, and P = survivors 90 years old. But it is unlikely that sufficient annuitants can be collected to distinguish between this formula and

$$\text{Survivors} = \left(q^n - \frac{n}{60} q^{60}\right) P$$

unless considerable numbers could be observed at ages over 140, or indeed a single person survived to 150 years. Yet this second formula, though not appreciably affecting survival at ages up to 140, would imply that it was impossible to reach 150 years.

Corn in Egypt

Dr. LOWELL WEBB writes: The annotation "Whose Loaf?" (Dec. 15, p. 853) states that the first civilization was made possible because "wheat grew naturally in the Nile Valley." Surely this is incorrect? Wheat never grew wild in Africa, but it did in South-West Asia, especially Mesopotamia, Syria, and Palestine. It was barley which grew naturally on the banks of the Nile in Upper Egypt—a grain which matures early, needs less water than any of the other cereals, and is suited to a rainless country dependent upon river inundation for its water supply: the oldest food—and drink—of the human race. Wild wheat, as emmer, was probably imported into Egypt from Palestine, and later the superior type of bread-wheat, but it took about seven hundred years for it to supplant the original barley. Presumably the "Battle of the Loaf" was not unknown in those days. It is interesting to recall that it was from Palestine—the cradle of the wild cereals—that the historic party of ten brethren was forced to set out, in a time of famine, to search for the product of their own homeland—"Corn, in Egypt."

Fat Atrophy and Insulin Injections

Dr. E. S. FENNELL (London, W.) writes: Further to the answer on fat atrophy and insulin injections (Nov. 3, p. 633) I would suggest, in addition to giving the injections at different sites, giving the needle a more or less perpendicular direction and injecting the insulin below the fatty layer. This seems to be the only possible escape from the fat atrophy which follows these injections in those people who are sensitive to them.

Sale of U.S. Government Publications

History was made at a brief and modest meeting held on Nov. 20 at His Majesty's Stationery Office, Kingsway, London, under the chairmanship of Sir Norman Scorgie, Controller of the Stationery Office and King's Printer. The American Ambassador, Mr. John G. Winant, officially inaugurated the sale of American Government documents in England, a service which he described as unprecedented between nations, enabling any person in the United Kingdom to order any publications of the United States Government Printing Office through his local bookseller. Subscriptions to U.S. official periodicals (including several in the fields of medicine and public health) will also be accepted at York House for supply direct from the United States. In this connexion we remind readers that Mr. A. B. Toth, on leave from the Library of Congress, has been appointed acting director of the American Library, 1, Grosvenor Square, W. (library hours 9–7, except Saturdays, 9–1), being also attached to the Embassy as publications officer, representing the Federal Libraries, including the Army Medical Library, in Washington, with a view to facilitating exchange of publications between corresponding institutions. Mr. Toth is likely to be in London for a year at least.

Corrigendum

The report in the *Journal* of Dec. 8 (p. 814) refers, with the exception of the first three lines, to the Bristol Hospitals Fund, and should have been so headed; its membership exceeds 58,000. The Bristol Hospitals Provident Fund, a scheme for assisting persons of moderate means to meet the cost of illness, was inaugurated in March of this year and already has a membership of nearly 2,000.

SUPPLEMENT TO THE
BRITISH MEDICAL JOURNAL

LONDON SATURDAY JUNE 30 1945

MEDICAL CANDIDATES FOR PARLIAMENT

The following, so far as can be ascertained, is a list of the 30 medical men and 3 medical women who are standing at the General Election. The names of those who were members of the last Parliament are indicated by an asterisk. It is not possible in all cases to give the age of the candidates, but the year of their qualification affords some guidance, and this has been inserted, in parentheses, in the few appended biographical notes.

Reginald F. B. Bennett, Woolwich E., Conservative.

(1937). Surg. Lieut.-Cmdr., R.N.V.R. Formerly demonstrator of anatomy at Oxford, later assistant medical officer, Maharaja and State of Rajpipla.

L. Graham Brown, Luton, Liberal National.

(1915). Born in Brisbane. Served throughout 1914–18 war. Now surgeon, Ear, Nose, and Throat Department, Charing Cross Hospital; and president, Section of Otology, Royal Society of Medicine. Early prowess in athletics; captain, England Rugby XV.

Leonard F. Browne, Penrith and Cockermouth, Labour.

(1909). Served in R.A.M.C. as specialist in psychological medicine. Physician, Tavistock Clinic. Closely associated from beginning with Toc H.

Louis Comyns, Silvertown, Labour.

(1932). Received medical training in Scotland. Practises in East London.

***James Douglas Cooke**, Hammersmith S., Conservative.

(1902). Received medical training in Australia, and held appointment in Melbourne Hospital. Served in R.A.M.C. in France in first European war. Formerly practised at Stanmore, now retired. Member, Middlesex County Council. Represented Hammersmith S. in Parliament since 1931. Knighted in recent honours list.

*Rt. Hon. **Walter E. Elliot**, Kelvingrove, Conservative.

(1913). Was Minister of Health 1938–40, and had previously been Secretary of State for Scotland and Minister of Agriculture. Served first European war; gaining *M.C.* and bar. Has represented his Glasgow division since 1924.

G. A. D. Gordon, Richmond, Liberal.

(1931). Major, R.A.M.C.

*Sir **Ernest Graham-Little**, London University, Independent.

(1892). Consulting physician, Skin Department, St. Mary's Hospital. Member of Senate, University of London, since 1906, and of Court since 1929. Represented the University in Parliament since 1924.

***Leslie Haden Guest**, Islington N., Labour.

(1909). Served in South African and first European wars (*M.C.*). Has travelled much as a member of inquiry commissions and in other capacities. Founder of Anglo-French Committee of Red Cross and Order of St. John. Formerly member for Southwark N., and has represented Islington N. since 1937.

Bernard Guyster, Leyton W., Liberal.

(1926). General practitioner in Leyton. Member, Essex County Council and Insurance Committee.

Somerville Hastings, Barking, Labour.

(1902). For many years surgeon-in-charge, Ear, Nose, and Throat Department, Middlesex Hospital. Lately chairman of London County Council and previously chairman of its Hospitals and Medical Services Committee. Has been president, Section of Otology, Royal Society of Medicine. Formerly represented Reading in Parliament. A leading figure in the Socialist Medical Association.

Joseph John Hayward, Abertillery, National.

(1942). Surg. Cmdr., R.N.V.R. Formerly house-surgeon, obstetrical and gynaecological unit, and junior resident anaesthetist, Cardiff Royal Infirmary.

Charles Hill, Cambridge University, Independent.

(1927). Secretary, British Medical Association, since January, 1944, previously Deputy Secretary. Vice-president and formerly chairman, Central Council for Health Education. Member, Minister of Health's Medical Advisory Committee and Minister of Labour's Industrial Health Advisory Committee. Formerly deputy M.O.H., Oxford. Well-known broadcaster.

Elizabeth Jacobs, St. Marylebone, Labour.

(1925). Practising in West London. Formerly clinical assistant, Elizabeth Garrett Anderson Hospital.

Santo Wayburn Jeger, St. Pancras S.E., Labour.

(1923). Practises in North London and has taken a prominent part in local government in Shoreditch; chairman of Public Health Committee.

Eric Frederick St. John Lyburn, Tonbridge, Independent.

(1930). Practises at Tunbridge Wells. Active member, East Sussex Medico-Chirurgical Society.

***Robert Douglas MacIntyre**, Motherwell, Scottish Nationalist.

(1938). Practises in Edinburgh. Entered Parliament after recent by-election.

Guy Chandler Milner, Orpington, Independent.

(1926). Practises in the Orpington and Sidcup area of Kent. Lecturer and examiner, British Red Cross. Medical officer to several insurance companies.

***H. B. Morgan**, Rochdale, Labour.

(1909). War service 1914–19. Advisory medical officer, Union of Post Office Workers, and adviser and consulting specialist, industrial diseases, Trades Union Congress. Member B.M.A. Council and has served on many headquarters committees. Member for Rochdale since 1940; previously sat for Camberwell N.W.

*Sir **Henry Morris-Jones**, Denbigh, Liberal National.

(1906). For more than 20 years a general practitioner at Colwyn Bay. Former chairman of the local B.M.A. Division. M.P. for Denbigh since 1931. Former Junior Lord of the Treasury and Government Whip.

David Stark Murray, Richmond, Labour.

(1925). Pathologist, Kingston Laboratory E.M.S., and honorary pathologist, Royal Hospital, Richmond, and associated hospitals. Prominent in Socialist Medical Association. Editor, *Today and Tomorrow*.

***Basil H. H. Neven-Spence**, Orkney and Shetland, Conservative.

(1911). Served much abroad, in Egypt and the Sudan and in Palestine. Formerly specialist physician, Aldershot Command. Retired 1927. M.P. for Orkney and Shetland since 1935.

*Sir **John Boyd Orr**, F.R.S., Scottish Universities, Independent.

(1912). Director, Rowett Institute, Aberdeen, and Imperial Bureau of Animal Nutrition. Chairman of B.M.A. Charter for Health Committee. Joint Editor *Nutrition Abstracts and Reviews*. Author of works, including *The National Food Supply* and *Food, Health, and Income*. Member of several Government Committees. Entered Parliament at recent by-election.

William Bernard Joseph Pemberton, Bermondsey W., Liberal National.

(1920). Received medical training and held early appointments in Dublin. Now practises in Bermondsey. Public vaccinator in that borough. Now candidate for the seat from which Dr. Alfred Salter (Labour) has retired.

Samuel Segal, Preston, Labour.

(1927). Squad. Ldr., R.A.F. Formerly on junior staff of Westminster Hospital.

Dorothy Anderton Sharpe, Chelsea, Common Wealth.

(1930). Assistant gynaecological surgeon, Elizabeth Garrett Anderson Hospital, and assistant obstetrical surgeon, Royal Free.

R. Scott Stevenson, Fife W., Liberal National.

(1912). Served during the war as otologist to a military hospital, major, R.A.M.C. Surgeon, Metropolitan Ear, Nose, and Throat Hospital; consulting laryngologist L.C.C. Hospitals. Formerly Joint Editor *Practitioner*. Has served on B.M.A. Council and many headquarters committees.

Malcolm Stoddart-Scott, Pudsey and Otley, Conservative.

(1926). Educated at the University of Leeds. Col., A.M.S.(T.), A.D.M.S., 48th Division, Territorial Decoration. Assistant medical officer, V.D., Department, General Infirmary at Leeds.

Barnett Stross, Hanley, Labour.

(1925). General practitioner, Stoke-on-Trent. Medical adviser, Pottery Workers Society and North Staffordshire Miners Federation.

***Edith Clara Summerskill**, Fulham W. Labour.

(1924). Medical director, Birth Contro Clinic, West Fulham. M.P. since 1938 Prominent member of Socialist Medica Association.

Halliday Sutherland, Scottish Universities Labour.

(1906). Ex-president, Tuberculosis Society Author, *Pulmonary Tuberculosis in General Practice* and several other works including two volumes of autobiography

Stephen J. L. Taylor, Barnet, Labour.

(1934). Head of Home Intelligence Ministry of Information. Neuropsychiatric specialist. Formerly hon. secretary Osler Club, and assistant editor, *Lancet*.

***William Stanley Russell Thomas** Southampton, Liberal National.

(1919). Barrister-at-law, Lincoln's Inn Formerly assistant medical officer. Wes Riding Asylum, Wakefield. M.P. fo Southampton since 1940.

HEALTH POLICY OF LABOUR AND LIBERAL PARTIES

In his "Appeal to the People" last week-end Mr. C. R. Attlee made no specific reference to health services, but reaffirmed his Party's acceptance of the principles and policy set out in its declaration of policy entitled *Let Us Face the Future*, published earlier this year. This declaration contained the following under the heading "Health of the Nation and its Children":

> "By good food and good homes much avoidable ill-health can be prevented. In addition the best health services should be available for all. Money must no longer be the passport to the best treatment.
>
> In the new National Health Service there should be health centres where the people may get the best that modern science can offer, more and better hospitals, and proper conditions for our doctors and nurses. More research is required into the causes of disease and the ways to prevent and cure it.
>
> Labour will work specially for the care of Britain's mothers and their children—children's allowances and school medical and feeding services, better maternity and child welfare services. A healthy family life must be fully ensured and parenthood must not be penalized if the population of Britain is to be prevented from dwindling."

The Liberal Party, in its 20-point manifesto to electors, sets out its views on health in the following terms:

> "People cannot be happy unless they are healthy. The Liberal aim is a social policy which will help to conquer disease by prevention as well as cure, through good housing, improved nutrition, the lifting of strains and worries caused by fear of unemployment, and through intensified medical research. The Liberal Party's detailed proposals for improved health services would leave patients free to choose their doctor, for the general practitioner is an invaluable asset in our social life."

POSTGRADUATE EDUCATION OF SERVICE MEDICAL OFFICERS

The Department of Health for Scotland announces the following addresses to which medical officers on release from the Services should apply for information and advice about postgraduate facilities in Scotland:

St. Andrews: Prof. Tulloch, Dean of the Faculty of Medicine, Medical School, Dundee. Tel. No. Dundee 3686.

Aberdeen: Prof. R. S. Aitken, Department of Medicine, Foresterhill, Aberdeen. Tel. No. Aberdeen 6060.

Edinburgh: Prof. Sydney Smith, Dean of the Faculty of Medicine, University New Buildings, Edinburgh, 8. Tel. No. Edinburgh 41001. (Also acting as central office for Scotland.)

Glasgow: Prof. J. Hendry, Department of Obstetrics and Gynaecology, The University, Glasgow. Tel. No. Glasgow Western 3991.

The corresponding addresses for England and Wales were published on June 23, p. 125.

HEARD AT HEADQUARTERS

Increased Litigiousness

Are patients becoming more litigious? It appeared so from the analysis given by the treasurer, Mr. W. M. Mollison, at the annual meeting of the London and Counties Medical Protection Society the other day. Last year the legal costs in defence of members were equivalent to 4s. 11d. per member, an increase of one shilling on the year before, and adverse costs and damages 6s. 4d. per member, an increase of 2s. 8d. These figures fluctuate from year to year, and one big case may make a great deal of difference, but they gave point to the terse counsel which the new president of the society, Sir Ernest Rock Carling, gave to the members.

One thing on which he insisted was that directly a case appears, so to speak, above the horizon the society should be informed. Many matters are referred to local solicitors before the society is consulted, and however well intentioned the solicitors may be, the subsequent action by the society may be prejudiced. He also deprecated settlements against the society's advice, saying that their experience was that such settlements were just as likely to prejudice a man's practice as an unsuccessful defence. Another point made by Sir Ernest was that if a practitioner saw occasion to vary the treatment he had proposed or discovered that he had made a mistake, he should frankly explain his action or his mistake to the relatives at once. Many actions, he said, would have been avoided if a simple explanation had been given at once. One thing brought out in the experience of the defence societies is that the practitioner of the greatest competence and skill, who takes the utmost care over his cases, is by no means exempt from peril. In two cases which the London and Counties has recently defended, and which cost it a great deal of money, Sir Ernest said that nothing but sympathy could be felt for the practitioners concerned, for the same misfortune might have happened to any one of themselves.

"The Family Doctor"

A "short," in film language, depicting the work of the family doctor, has lately been completed by Everyman Films, Limited, by arrangement with the Public Relations Committee of the B.M.A. It was shown to some members in the small theatre at the Ministry of Information on the day after the recent meeting of Council. It is restrained and dignified in its presentation, and both script and picture have been prepared with care so as to avoid the possibility that mischievous persons might hold it up to ridicule.

The question whether the film will be generally shown rests with the cinematograph trade houses, which determine how the greater part of the British public shall be entertained and instructed. The trade has, however, shown that it appreciates that in addition to its ordinary million-fold clientele, who would be faithful to their weekly pictures in any event, there is another world of infrequent cinemagoers who are attracted by serious and purposeful films. The welcome given to such films as that on the work of Madame Curie, and the earlier one depicting the achievements of Pasteur, shows that there is a public for such presentations. "The Family Doctor" is not as ambitious as these, but it is a sympathetic depiction, and an accurate one, not overlaid with sentiment, but really informing.

"Volims"

We live under the tyranny of initials, encouraged now more than ever by Army usage. Such monstrosities as U.N.R.R.A. and N.A.L.G.O. are pretty well understood, but what is V.O.L.I.M.S.? A booklet is before me, the product of the Volims Committee, and it deals with a plan for a regional consultant and specialist medical service based on university medical centres. "Volims" turns out to be a word made up from the arbitrarily selected initials in the phrase "Voluntary hospitals Of London which are Independent of undergraduate Medical Schools." But whether the name be happy or not, the plan propounded is one well worth studying. It proposes that the country be divided into university regions, and that there shall be one or more university medical centres in each region based on a central hospital. The university centre is to be the pivot for clinical units in all departments of preventive and curative medicine, but there is also to be a co-ordinator of research and a clinical co-ordination department. There are many other proposals much too big to be dismissed in a paragraph, but there is also a scheme, with which the name of Mr. H. E. Griffiths is associated, for a whole-time industrial medical service centred on the university. This is to be under the control of a director of industrial medicine and to comprise a team of industrial medical officers (and nurses) to be responsible for the supervision of the industrial health of the community. The director of industrial medicine, in collaboration with the dean of the medical school, would also be responsible for the teaching of industrial medicine. The address of the Volims Committee is 28, Portland Place, London, W.1.

Publicizing Local Government

A very interesting report by the Nalgo (National Association of Local Government Officers) Reconstruction Committee has come into my hands. It is full of ideas for making the proceedings of local authorities, including public health committees, of more general interest. It urges the appointment of public relations officers and the holding of press conferences. It is often complained that local authorities transact their important business in committees, and matters come before the council in public only for the rubber stamp. Nalgo does not exactly suggest that committee meetings should be open to the Press—it would not be advisable, for example, to have open meetings at which the claims of officers for promotion were discussed—but it does recommend that the minutes should be available for the Press, and that such minutes should be phrased with the Press and public in view.

In this connexion the practice of the L.C.C. seems to be admirable. The agenda of the council meeting contains reports of committees so extensive and complete that the Press has no difficulty in constructing a "story." Another suggestion is that more use should be made of the cinematograph film, both to inspire civic patriotism and to inform the public of the services available.

Correspondence

Medical Demobilization

SIR,—I am at present on a month's leave from over-seas, and have just received the Central Medical War Committee's circular letter, D. 11, of May, 1945.

I have been away from England for over three years; during these years I have worked nearly as hard as I would have in civilian life; the work has been interesting and, I think, useful (in this respect I have been luckier than some of my colleagues). Now, however, after taking three months to reach England for my leave I have before me the prospect of a return to my Army duties for a few more months before I *should* be demobilized or before I am posted to U.K. under the "Python" scheme. In other words, I, like thousands of others, am facing an immediate future of comparative idleness in the performance of duties which could well be carried out by a man twenty years my senior. Not unnaturally this becomes increasingly irksome when the local population of the district in which I practised for two years before the war is crying out for more doctors, and when my practice is, inevitably after so many years' absence, disintegrating before my eyes.

I do not write this letter, however, for any personal reasons. I merely mention my own circumstances so that, multiplied thousands of times, they may serve to impress upon the committee in particular and non-Service doctors in general that a tide has been reached in the affairs of Service medical personnel which, if not taken now, must lead very shortly to extreme financial misfortune and general discontent.

Doctors in the Services, and especially those over-seas, have had the subject of demobilization very much in mind in the last six months or more. We have wondered what was being done on our behalf to make this as speedy as possible; what arrangements were being made to replace us (if necessary) and to help us with the post-war training which we so sorely need. We are not unreasonable or unduly impatient, and we are content to carry on with our Service duties, however unnecessary and irksome they may appear to us (and most of them could be quite adequately performed by third-year medical students in four hours' work a day, or by non-medical administrative officers), providing we are assured that arrangements for our demobilization are well in hand, adequate, and just.

Regrettably I must confess that, so far as I am concerned at any rate, the committee's letter has given us no such assurance. On the contrary, six years after mobilization and one month after the cessation of hostilities in Europe, we are given no concrete and established policy, no facts or figures relating to the mobilization of our colleagues in civilian life, and no final answers to the questions with which we are most concerned. In their stead we have intentions and promises with regard to mobilization and demobilization, and apologies for the inadequacy of the present postgraduate training scheme. In other words, we still would seem to be in the stage of words and not deeds. I do not wish to be unfair to the committee, whose work on our behalf has been and is appreciated; may I, therefore, give some detailed reasons for the views which I have expressed above.

First, about demobilization: one of the main queries of Service personnel has been, "Does the Government's scheme for the reallocation of man-power apply also to doctors?" The committee gives no answer. One may presume that it does not, for the committee *believes* that if the scheme could be made to apply to doctors we would ask no more than that. Such an assumption is, I think, correct, but surely after six years we have a right to expect more than the belief in a possibility.

Next we ask the committee, "Since demobilization under Scheme 'A' is not expected to be as satisfactory or prompt for medical officers as for those employed in other branches of the Services, what alternative or additional measures are suggested?" This question is answered, for we are told that the key to the problem lies in the recruitment of civilian doctors. Hopefully we look for evidence of action in this respect, and we find that this, too, is in the "intention" stage.

May we be forgiven if we find it difficult to let this matter rest? Doctors in the Services consist in the main of young men recruited from hospitals immediately after qualification, a restricted period "on the house," or a year or two in general practice, together with the younger consultants and those who were training for a specialist career. Almost without exception these men have given what are usually considered to be the best and most important years of their lives to the Services in return for a mere pittance of a salary compared with what they would have earned had they not joined up; in addition they have seen their practices dwindling sadly and their clinical knowledge and experience neglected; some have been permanently disabled and others have given their lives. These do not ask for the sympathy of the committee or to be told that the difficulties and hardships they have suffered are well known, but they have the right to compare their lot unfavourably with that of their colleagues who have remained in civilian life. These latter may have been carrying "almost intolerable burdens" and been "worked to death" (in the words of the committee), but they have also (not in the words of the committee) lived their lives with their wives and families and in their own homes, earned salaries in excess of their peacetime incomes, and maintained or increased their practices (one hesitates to say that this latter has been at the expense of their Service colleagues, but the well-intentioned B.M.A. Protection of Practices Scheme seems, almost inevitably after so many years, to have had disappointing results). In addition, there are those among them who did not join the Services because of "local requirements," which, being interpreted, means that some of their colleagues, of like age or younger, joined up before them.

The committee is right when it assumes that we have never expected equal sacrifices for all; it is now for the committee to prove that we are wrong in our assumption that the sacrifices have been to date, and will be in the future under present arrangements, mainly one-sided. It is our contention that young (or once young) medical officers who now spend idle hours in static units or in the military administration of occupied territories, whose practices are "dwindling sadly" in their absence (a mild term, one feels), whose clinical experience has been seriously yet unavoidably neglected, and whose families and homes know them only as strangers, should be replaced by their colleagues in civilian life under, say, 45 years of age. These latter are more suited for the sedentary employment now offered by the Services, and should be prepared to spend a few months away from their practices and their families. The committee may rest assured that Service doctors are only too willing and anxious to bear the intolerable burdens of civilian practice and know that their only chance of survival lies in working themselves to death after demobilization.

No civilian doctor and no Service medical officer is irreplaceable; let each, therefore, replace the other. This, then, is our next question to the committee: "How many civilian doctors have *already* been mobilized as replacements for Service medical officers? What action (in detail) is being taken to obtain these replacements, and is the selection being made purely on the advice of committees composed of local practitioners and consultants? Why does the committee 'intend' to call up these practitioners: has it not had time to put its intentions into practical effect?"

So much for mobilization and demobilization. I would refer now to a further problem to which the committee does not give a satisfactory answer—the general dissatisfaction felt by Service medical officers at the conditions attached to demobilization under Class "B." Is it not grossly unjust that doctors released from the Services at the request of local committees and because of local needs should be expected to sacrifice the leave with pay which is their due? I refer here especially to those with oversea service who, in addition to the eight-weeks normal grant of leave on demobilization under Class "A," receive one day's leave for every month of service abroad—few would take the leave but many would be grateful for the pay when settling into their practices again or starting on a post-war career.

The committee appears to accept this exploitation as a necessary evil; is action already being taken to modify or remove this injustice?

On the subject of postgraduate training one can only join with the committee in deploring the inadequacy of the two-weeks "refresher" course offered to Class 2 medical officers. Most of us reckoned that the first three months after demobilization would have to be set aside for postgraduate training (we owe it to our patients and the Government owes it to us), and it is only fair to suggest that the cost of such a course should be borne by the Government. Presumably, if such a course is persisted in under present arrangements the cost, as usual, will have to be borne by the individual. The idea of giving up two days a week from one's practice is, of course, laughable. The salary offered to Class 1 medical officers (who are now six or more years older than when they enlisted) will drive many of them into practice without any postgraduate training; few with families and homes to maintain will be able to afford such a course under post-war conditions.

Finally, those over-seas and thousands of miles from their practices would feel more satisfaction if the local requirements for doctors were assessed and applications for demobilization judged in the first place by committees consisting not only of local practitioners and consultants but also, in part, of medical or non-medical officers from outside the district. Similarly, one would like to be assured that the Services are represented on the Central Medical War Committee (and I do not mean only by specialists in uniform).

and that it is not entirely civilian in its representation.

I have given my views as frankly as I am able; they have been modified or extended as a result of conversations I have had with all classes of medical officers during my long journey home. If I have been guilty of under- or over-statement or of any serious omissions I hope that my Service colleagues will correct me without delay (and in this respect I fully realize that I have glossed over the consultant's point of view, and he may be the worst sufferer of us all). I would repeat that we are grateful for the Central Medical War Committee's efforts on our behalf, and are not unmindful of the difficulties it has had to overcome and with which it is still faced. I hope we shall not be considered guilty of ingratitude or impatience if, in desperation at this stage in the war, we ask for results and not promises, just treatment and not apologies.

If, in fact, this letter appears to be petulant or over-critical in its nature, may it please be regarded as a direct result of the perturbation and dismay aroused in a "foreigner" by the contemplation of an immediate future represented by mere hopes and intentions as outlined by the Central Medical War Committee's letter under discussion.—I am, etc.,

RONALD GIBSON,
Lieut.-Col., R.A.M.C.

*** The Secretary of the Central Medical War Committee writes: The Central Medical War Committee is still awaiting complete information as to the medical officers in the earlier release groups whose release will or will not depend on replacement. It is necessary to know which officers will be returning, with or without replacement, to the various localities and which have elected to serve for a further period. As this information is received the committee will carry out with the least possible delay the intentions stated in its recent circular. Meantime, the recruitment of younger practitioners, including men of graded specialist status in B1 hospital posts, is proceeding continuously.

As regards sacrifice of benefits when an officer is released out of turn, the committee is advised that it is not possible to alter, in the special case of medical officers, a policy which affects members of the Services generally. Often a man will gain by earlier release, and in no case will a man be released out of turn without his consent. As the circular explained, the salary in Class 1 of the postgraduate scheme will be supplemented when necessary by a grant under the Further Education and Training Scheme. There should be no question of a released officer with family commitments being unable to take advantage of the scheme through lack of means.

The C.M.W.C. is necessarily a civilian committee, and the only Service representatives are members of the staffs of the Service Departments, who attend as observers. Serving soldiers take no part in the recruitment of non-medical personnel. It is not clear why there should be a different rule in the case of doctors; nor what advantage would be gained at this stage by altering the composition of Local Medical War Committees.

Demobilization of Final-year Students

SIR,—When called up a year ago I was a final-year medical student at a London hospital, within ten months of qualification. My progress was considered by my tutors to be satisfactory and promising. I was nevertheless called up, the reason being that I had been de-reserved *two years* previously for failure to pass one of my examinations within the prescribed time-limit. I was, however, successful in this examination at the next attempt.

The present shortage of doctors in the country is apparently causing concern to the medical profession. Would it not, therefore, appear to be sound policy to release final-year students under Class "B" and so enable them to qualify and, if necessary, return to the Forces in their true and more useful capacity in about twelve months' time? I myself am no longer of medical category A1, and there is, therefore, no job in the Army for me which could give greater service to the country than that of completing my qualification as a doctor.

There must be a considerable number of fairly advanced students in the Forces, most of whom will not obtain their release under Class "A" arrangements for at least another year, or perhaps two. By that time the majority will have decided that the difficulties of returning to study are too great after so long an enforced abstinence therefrom, and will be lost to the ranks of the profession for ever.—I am, etc.,

"INFANTRY PRIVATE."

H.M. Forces Appointments

ARMY

Lieut.-Col. H. A. Sandiford, M.C., from R.A.M.C., to be Col.

ROYAL ARMY MEDICAL CORPS

Major (War Subs. Lieut.-Col.) T. F. M. Woods to be Lieut.-Col.

Capt. G. W. D. Reeves has retired on account of disability, and has been granted the honorary rank of Major.

REGULAR ARMY RESERVE OF OFFICERS

Major-Gen. FitzG. G. Fitzgerald, C.B., D.S.O., late R.A.M.C., having attained the age limit of liability to recall, has ceased to belong to the Reserve of Officers.

SUPPLEMENTARY RESERVE OF OFFICERS: ROYAL ARMY MEDICAL CORPS

War Subs. Capt. A. L. Thorburn has relinquished his commission on account of disability, and has been granted the honorary rank of Major.

TERRITORIAL ARMY

ROYAL ARMY MEDICAL CORPS

War Subs. Majors J. B. Morrison, T.D., S. P. Wilson, C. H. Johnson, and R. H. B. McCrae to be Majors.

Capts. N. B. Benjafield and J. S. Lyle have relinquished their commissions on account of disability, and have been granted the honorary rank of Major.

War Subs. Capt. E. J. Richardson has relinquished his commission on account of disability, and has been granted the honorary rank of Capt.

TERRITORIAL ARMY RESERVE OF OFFICERS:

ROYAL ARMY MEDICAL CORPS

Lieut.-Col. T. E. A. Carr, T.D., has relinquished his commission on account of disability, and has been granted the honorary rank of Lieut.-Col.

LAND FORCES: EMERGENCY COMMISSIONS

ROYAL ARMY MEDICAL CORPS

War Subs. Major I. M. Orr, O.B.E., has relinquished his commission on account of disability, and has been granted the honorary rank of Lieut.-Col. (Substituted for the notification in a *Supplement* to the *London Gazette* dated April 27.)

War Subs. Capts. M. G. Langdon, N. Cowley, and P. Tytler have relinquished their commissions on account of disability, and have been granted the honorary rank of Capt.

WOMEN'S FORCES

EMPLOYED WITH THE R.A.M.C.

Lieut. (Mrs.) F. Frenkiel has relinquished her commission.

(Miss) Lilian M. Witter and (Miss) Elizabeth H. Williams to be M.O.s, and have been granted commissions in the rank of Lieut.

BRITISH MEDICAL ASSOCIATION

Election of Council of B.M.A.

The following is the result of the election of members of Council by those Groups where there were contests:

Group C (Isle of Man, Lancashire and Cheshire):

F. M. Rose (Preston) ..	316	
R. L. Newell (Cheadle) ..	473	Elected
D. R. Owen (Chester) ..	278	
S. Laurie Smith (Blackpool)	110	
R. Kennon (Liverpool) ..	352	Elected
No. of voting papers issued	2,754	
No. returned	850	
Spoiled papers	4	

Group L (Southern, Surrey):

C. N. Binney (Walton-on-the-Hill)	280	
N. E. Waterfield (Little Bookham)	281	Elected
No. of voting papers issued	1,528	
No. returned	561	
Spoiled papers	3	

CHARLES HILL,
Secretary.

Branch and Division Meetings to be Held

EDINBURGH AND SOUTH-EAST OF SCOTLAND BRANCH.—At Broomieknowe Golf Club House, Wednesday, July 4, 5 p.m. Annual meeting. Preceded by a golf competition for the Guthrie Trophy and the President's prizes in the morning and afternoon, and a visit to Dalhousie Castle and Newbattle Abbey (party assembling at 2 p.m.). Lunch and tea provided by reservation with the Hon. Secretary, Dr. C. R. D. Leeds, 1, Moray Place, Edinburgh.

MACCLESFIELD AND EAST CHESHIRE DIVISION.—At West Park Hospital, Macclesfield, Sunday, July 1, 11.30 a.m. Agenda: Report of Representative to Special Representative Meeting and Instructions to Representatives.

WILLESDEN DIVISION.—At Willesden General Hospital, Harlesden Road, N.W., Sunday, July 1, 11 a.m. Annual meeting. Agenda: Consideration of Annual Report of Council, etc.

POSTGRADUATE NEWS

The Fellowship of Medicine announces: (1) Primary F.R.C.S. course: lecture-demonstrations in anatomy, physiology, pathology, and bacteriology: Mon., Wed., and Fri., 6 p.m. to 8.15 p.m., Aug. 13 to Oct. 12. (2) Week-end course in obstetrics and gynaecology at South London Hospital for Women, all-day, Sat. and Sun., July 14 and 15. (3) Week-end course in medicine and surgery, Hampstead General Hospital, all-day, Sat. and Sun., July 21 and 22.

DIARY OF SOCIETIES AND LECTURES

ROYAL SOCIETY OF MEDICINE.—*Tues.*, 2 p.m. Annual meeting of the Society.

BIRTHS, MARRIAGES, & DEATHS

The charge for an insertion under this head is 10s. 6d. *for* 18 *words or less. Extra words* 3s. 6d. *for each six or less. Payment should be forwarded with the notice, authenticated by the name and permanent address of the sender, and should reach the Advertisement Manager not later than first post Monday morning.*

BIRTH

BERGH.—On June 15, 1945, at Elmsleigh, Staines, to Molly, wife of Dr. Henry Bergh, a daughter.

MARRIAGES

HANRATTY—BELTON.—On May 26, 1945, James Francis Hanratty, Surg. Lieut., R.N.V.R., to Irene Mary Belton, Q.A.R.N.N.S./R.

HUTT—CHAPPEL.—On June 8, 1945, at St. Martin-in-the-Fields, London, Fl. Lieut. Charles Hutt, M.B., B.Chir., R.A.F.V.R., of Bournemouth, to Jill Chappel, B.M., B.Ch., of Oxford.

MUGGOCH—MARSDEN.—On May 12, 1945, at Ibadan, Nigeria, Lieut. J. Wilson Muggoch, R.A.M.C., of Heriot, Midlothian, to Betty Marsden, of Shepton Mallet, Somerset.

RAEBURN—MARTIN.—At Malone Presbyterian Church, Belfast, on June 7, 1945, Major Cecil Ian Raeburn, R.A.M.C., nephew of Mrs. MacElwee, 3, Alexandra Place, Arbroath, Angus, to Joan Mabel, daughter of Mr. and Mrs. Ernest Martin, Ulster Bank House, Londonderry.

DEATH

CLARKE.—On June 18, 1945, at 1, Makepiece Avenue, Highgate, N., Dr. Leo F. Clarke, after a short illness.

NOTICE—Applications for vacancies advertised should, except where otherwise specified, state name, address, age, nationality, qualifications, and be accompanied by copies of three recent testimonials with short statement of experience and appointments held. Unless closing date is stated applications should be sent at once.

R—Male, W—Women practitioners, liable to military service under the National Service Acts.
B1—Whole-time appointments, usually resident within the senior establishment—e.g., Registrar, R.S.O., etc.
A—Whole-time resident house appointments open to practitioners without previous experience.
B2—Whole-time house appointments not within the senior establishment, usually resident, and usually held by practitioners with six months' experience.

APPOINTMENTS

INDIAN MEDICAL SERVICE. Recruitment of WOMEN MEDICAL OFFICERS.—The Government of India are prepared to recruit a limited number of women medical officers for service with the Indian Medical Service for the duration of the war. Applicants must be British subjects, of not more than 45 years of age, and those selected will be appointed in the rank of Lieutenants. Antedate of seniority may be granted up to a maximum period of 6½ years in respect of resident hospital appointments, higher qualifications, and/or professional experience. The antedate will count for pay and promotion, but, in the case of candidates recruited in this country, higher rank will not be assumed until the date of disembarkation in India. On termination of service, a minimum gratuity is guaranteed to those officers who complete one year of service, viz., Rs. 2,000 to officers whose registrable medical qualification is dated before January 1, 1940, and Rs. 1,000 to those who qualified after that date, plus one month's pay for each further completed year of Army Service. Further particulars regarding rates of pay, etc., may be obtained from the Medical Adviser, India Office, London, S.W.1, or from the Secretary, Military Department, India Office, to whom all inquiries should be addressed.

SOUTHERN RHODESIA. GOVERNMENT HEALTH OFFICER.—Applications are invited from registered male medical practitioners holding the D.P.H. or a registrable degree in State Medicine, for appointment as additional Government Health Officer in the Public Health Department of Southern Rhodesia. Experience in tropical medicine or tropical hygiene or the possession of a diploma in either of these subjects is desirable. The duties appertaining to the appointment consist of administration of the Public Health Act and other public health legislation throughout the Colony, investigation of health conditions of the population, promotion of schemes for preventing disease and augmenting health, advising and assisting local authorities in public health matters, supervising the work of a large staff of European Sanitary Inspectors, the preparation of reports and statistics relative to public health, and health education. Applicants should preferably not be over 40 years of age. The successful applicant will be stationed either in Salisbury or in one of the larger centres where health conditions and educational facilities are eminently suitable for the family of a married man. The duties of the post will incur a certain amount of travelling from time to time, the cost of which will be paid by the Government, and subsistence will be paid during the officer's absence from his station in accordance with Civil Service Regulations. The salary will be on the scale £1,000 per annum, rising by £50 per annum to £1,250 per annum, and will commence from the date of assumption of duty in Southern Rhodesia. Leave and pension conditions are in accordance with Civil Service Regulations. The successful applicant will be required to pass a medical examination in London before his appointment is confirmed, and to serve a probationary period of two years' service before being admitted to the Fixed Establishment. A free steamship passage to Cape Town and first-class railway ticket thence to Southern Rhodesia will be provided. Canvassing directly or indirectly will disqualify applicants. Applications should reach the office of the High Commissioner for Southern Rhodesia, Rhodesia House, 429, Strand, London, W.C.2 (from whom further particulars and application forms may be obtained), not later than July 7, 1945.

ADMINISTRATIVE COUNTY OF ESSEX.—The County Council invite applications for the engagement of a TEMPORARY PART-TIME PAEDIATRICIAN. The successful applicant must be prepared to work in any part of the County as required and, in particular, to undertake consultations in connexion with: (a) the County Council's Maternity and Child Welfare Services generally; (b) the County Council's School Medical Services; (c) the treatment of all sick children in County Council Hospitals, as required; (d) urgent and acute cases of illness amongst children in regard to whom general practitioners desire advice. Remuneration at the rate of £750 a year, together with war bonus as decided by the Council from time to time, will be paid for this engagement, in respect of which first-class railway fares will be reimbursed, or a motor-car allowance, based on the County scale, will be granted. Additional information concerning duties to be undertaken can be obtained from the County Medical Officer of Health, County Hall, Chelmsford. Applications containing full information as to the applicant's position in relation to military service should be addressed to me in envelopes endorsed "Consultant Paediatrician." Canvassing, directly or indirectly, is forbidden. This advertisement is published with the approval of the Minister of Health. —John E. Lightburn, Clerk of the County Council, County Hall, Chelmsford.

ADMINISTRATIVE COUNTY OF ESSEX. MEDICAL STAFF.—The County Council invite applications for the following appointments at the Oldchurch County Hospital, Romford.

(i) TEMPORARY RESIDENT CASUALTY OFFICER (B1), with some surgical experience. Salary £350 by £25 to £450 a year, plus residential emoluments valued at £160 a year and war bonus. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R and W practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C.

(ii) TWO TEMPORARY RESIDENT JUNIOR ASSISTANT MEDICAL OFFICERS (B2). Salary in each case £200 a year plus residential emoluments valued at £160 a year. R and W practitioners now holding A posts may apply. If held by an R or a W practitioner the appointment will be limited to six months, otherwise it will be for a period of one year.

Details of duties can be obtained from the Medical Superintendent of the Hospital.

All applications should be addressed to Mr. G. E. Pegram, Administrative Offices, Laurie Square, Romford.—John E. Lightburn, Clerk of the County Council, County Hall, Chelmsford.

ADMINISTRATIVE COUNTY OF ESSEX. RELIEF WHOLE-TIME TUBERCULOSIS OFFICER.—The County Council invite applications from registered medical practitioners to undertake holiday duty for their whole-time Tuberculosis Officers during a total period of not more than five months. Applicants should be capable of interpreting x-ray films of the chest and be able to give artificial pneumothorax refills. Inclusive remuneration at a rate of £750 a year will be paid for this engagement, in respect of which first-class railway fares will be reimbursed or a motor-car allowance, based on the County scale, will be granted. Candidates already in whole-time public health employment not eligible for engagement. Canvassing, directly or indirectly, is forbidden. This advertisement is published with the approval of the Minister of Health.—John E. Lightburn, Clerk of the County Council, County Hall, Chelmsford.

STATES OF JERSEY, General Hospital.—Applications are invited from duly qualified and registered medical practitioners, including practitioners within three months of qualification, for the appointments of TWO JUNIOR ASSISTANT RESIDENT MEDICAL OFFICERS in the General Hospital, Jersey. Appointment will be for six months in the first instance, but is renewable. Salary £250 per annum, with full board, lodging, and laundry. There are other emoluments for certificates under the local Social Assurance, amounting to £50 per annum. One practitioner will be expected to do surgical duties, the other medical. Taxation on the island is much lower than in England. Applications to be forwarded to R. N. McKinstry, Medical Officer of Health, Public Health Office, Royal Square, St. Helier, Jersey, C.I.

COUNTY BOROUGH OF SOUTHEND-ON-SEA.—Applications are invited from registered medical practitioners, male and female, including R and W practitioners who now hold A posts, for the appointment of RESIDENT ASSISTANT MEDICAL OFFICER, Grade II (B2), at the Southend Municipal Hospital, Rochford, Essex. Previous experience in the administration of anaesthetics is desirable. The salary is at the rate of £325 per annum, with full residential emoluments, plus war bonus. The person appointed will be liable to pay superannuation contributions if the provisions of the Local Government Officers' Superannuation Acts are applicable. To R and W practitioners the appointment will be limited to six months, otherwise one year, and subject to one month's notice on either side. Post becomes vacant August 1, 1945. Application forms, obtainable from the Medical Superintendent, Southend Municipal Hospital, Rochford, Essex, should be returned as soon as possible.—H. J. Worwood, Town Clerk, Town Clerk's Office, Southend-on-Sea.

COUNTY BOROUGH OF ROCHDALE. Municipal General Hospital, Birch Hill (475 beds).—Applications are invited from registered medical practitioners, male and female, for the appointmen of two JUNIOR RESIDENT MEDICAL OFFICERS (A). Practitioners within three months of qualification and liable under the National Service Acs may apply, when appointment will be for six months, otherwise not exceeding one year. One post will be mainly midwifery and gynaecology, and the other mainly medical. Salary at the rate of £225-£275 per annum, plus war bonus of approximately £30 per annum, with full residential emoluments. Application forms may be obtained from the Medical Officer of Health, Public Health Offices, Baillie Street, Rochdale, and must be returned to him as soon as possible.—Harry Bann, Town Clerk.

CITY OF BIRMINGHAM. Dudley Road Hospital. (An acute general hospital with 1,100 beds). TWO JUNIOR MEDICAL OFFICERS (A).—Applications are invited from registered medical practitioners, male or female, for two appointments as Junior Medical Officers (A) (either House Surgeons or House Physicians), including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, the appointments will be for periods of six months, otherwise they will be for periods of twelve months. The salary will be at the rate of £200 per annum, plus residential emoluments. Applications should be addressed to the Medical Officer of Health, Public Health Department, Birmingham, 3, to reach him not later than July 10, 1945.

CITY OF BIRMINGHAM. Selly Oak Hospital. (An acute general hospital with some 520 beds, with an Infirmary of 650 beds attached). TWO JUNIOR MEDICAL OFFICERS (A).—Applications are invited from registered medical practitioners, male or female, for two appointments as Junior Medical Officers (A) (either House Surgeons or House Physicians), including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, the appointments will be for periods of six months, otherwise they will be for periods of twelve months. The salary will be at the rate of £200 per annum, plus residential emoluments. Applications should be addressed to the Medical Officer of Health, Public Health Department, Birmingham, 3, to reach him not later than July 10, 1945.

CITY AND COUNTY OF NEWCASTLE-UPON-TYNE. Newcastle General Hospital (900 beds).—Applications are invited from registered medical practitioners, male and female, for the appointments of 2 HOUSE PHYSICIANS (A) and 2 HOUSE SURGEONS (A), to become vacant at the beginning of July. The appointments will be for a period of six months. Salary at the rate of £150 per annum, with full residential emoluments and cost-of-living bonus. Practitioners within three months of qualification and liable under the National Service Acts may apply. Applications to be forwarded to the Medical Officer of Health, Town Hall, Newcastle-upon-Tyne, 1.

CITY OF MANCHESTER. Crumpsall Hospital (1,400 beds) (Recognized under the regulations for the F.R.C.S.). RESIDENT ASSISTANT MEDICAL OFFICER (A).—Applications are invited from registered medical men for the above-mentioned appointment, which will become vacant on August 21, 1945, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, the appointment will be for a period of six months, otherwise it will be for a period of twelve months. The duties of the post are mainly medical. The basic salary for the appointment is £200 per annum, with board, residence, and laundry in addition, subject to the Manchester Corporation conditions of service. A temporary cost-of-living wages addition amounting at present to £60 per annum, is payable in addition to the salary stated. Applications are to be addressed to the Medical Superintendent, Crumpsall Hospital, Crumpsall, Manchester, 8, at once. Canvassing in any form, oral or written, direct or indirect, is prohibited.—Philip B. Dingle, Town Clerk, Town Hall, Manchester, 2.

CITY OF STOKE-ON-TRENT. CITY GENERAL HOSPITAL. ASSISTANT RESIDENT MEDICAL OFFICER (B2).—Applications are invited from registered medical practitioners (single, male or female), including R and W practitioners who now hold A posts, for the appointment of Assistant Resident Medical Officer (B2), at the City General Hospital, Stoke-on-Trent. If offered to an R or W practitioner the appointment will be limited to a period of six months, otherwise will be for a period of one year. The salary is at the rate of £250 per annum, plus bonus, with full residential emoluments. The Hospital, which is an Emergency Hospital, has approximately 1,200 beds, and there is excellent scope for medical, surgical, and obstetrical work.—Applications endorsed "Medical Officer, City General Hospital," to be sent to the undersigned immediately.—Harry Taylor, Town Clerk.

CITY AND COUNTY OF NEWCASTLE-UPON-TYNE. Shotley Bridge Emergency Hospital (900 beds).—Applications are invited from registered medical practitioners, male and female, for the appointments (two) of HOUSE SURGEON (A), now vacant. The appointments will be for a period of six months. Salary at the rate of £200 per annum, with full residential emoluments and cost-of-living bonus. Practitioners within three months of qualification and liable under the National Service Acts may apply. Applications to be forwarded to the Medical Officer of Health, Town Hall, Newcastle-upon-Tyne, 1.

IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page 11

CITY OF CARLISLE.—City General and Fusehill Emergency Hospitals, Carlisle. (100 civilian beds, 240 E.M.S. and reserve beds).—Applications are invited for the following appointment: JUNIOR RESIDENT MEDICAL OFFICER (A), to assist in care of civilian beds and for duty in surgical wards of adjacent E.M.S. hospital. Practitioners within three months of qualification who are liable for service under National Service Acts may apply. Appointment will be for a period of six months, from August 1, 1945. Salary £200 per annum, with full residential emoluments. Applications should be sent to the Acting Medical Officer of Health, 22, Fisher Street, Carlisle, as early as possible.

COUNTY BOROUGH OF WARRINGTON. Warrington General Hospital (340 beds). RESIDENT MEDICAL OFFICER.—Applications are invited from registered medical practitioners for the post of Resident Medical Officer (B2), including R and W practitioners who now hold A posts. If held by an R or W practitioner the appointment will be limited to six months, otherwise it will not exceed one year. Salary £225 per annum, together with board, residence, and laundry. There are two other medical officers in residence; good opportunity for experience in midwifery, medicine, and surgery. Applications to be sent forthwith to the undersigned.—Stuart F. Allison, Medical Officer of Health, Health Dept., Sankey Street, Warrington.

CITY OF MANCHESTER. Public Health Department. Booth Hall General Hospital for Children (760 beds). TEMPORARY VISITING CONSULTANT SURGEON (PART-TIME).—The Public Health Committee invites applications for the above-mentioned appointment at the Booth Hall General Hospital for sick children, Blackley, Manchester, 9. It does not carry with it right of entry into the Corporation Superannuation Fund. The remuneration will be £250 per annum. Two normal sessions at the hospital will be required each week with emergency sessions in addition, as required. Forms of application and copies of a memorandum on the terms and conditions of the appointment may be obtained from the Medical Officer of Health, Hospitals Administration Section, G.P.O. Box 399, Town Hall, Manchester, 2, by whom applications must be received at once. Canvassing in any form, oral or written, direct or indirect, is prohibited.—Philip B. Dingle, Town Clerk, Town Hall, Manchester, 2.

COUNTY OF DENBIGH. Wrexham Emergency Hospital (350 beds, excluding annexes).—Applications are invited from registered medical practitioners for the appointment of a HOUSE SURGEON (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months, otherwise it will be for a period not exceeding one year. Salary is at the rate of £200 per annum, plus cost-of-living bonus, together with the usual residential emoluments. Applications to Dr. H. Arwel Thomas, County Medical Officer of Health, 40, Well Street, Ruthin, Denbighshire.

COUNTY BOROUGH OF BRIGHTON. Municipal Hospital Services. RESIDENT ASSISTANT MEDICAL OFFICER (B2).—Applications are invited for the above appointment from registered medical practitioners, male or female, including R and W practitioners who now hold A posts. If held by an R or a W practitioner the appointment will be limited to six months, otherwise will be for a period not exceeding one year. Experience in obstetrics and general surgical work would be considered an advantage. Salary £300 per annum, together with residential allowances, valued for the purposes of superannuation at £150 per annum and cost-of-living bonus. Further details and forms of application may be obtained from the undersigned.—Stanley J. Firth, Medical Director, Municipal Hospital, Elm Grove, Brighton, 7.

COUNTY COUNCIL OF THE WEST RIDING OF YORKSHIRE, County and Emergency Hospital, Otley (296 beds).—Applications are invited for the post of TEMPORARY RESIDENT ASSISTANT MEDICAL OFFICER (B1) at the County and Emergency Hospital, Otley. Preference will be given to candidates who have had good surgical experience. Salary £50 per annum, together with the usual residential allowances. Suitably qualified R and W practitioners now holding B1 appointments and rejected by the R.A.M.C. may apply. Applications should be sent to the County Medical Officer, County Hall, Wakefield, immediately.—Bernard Kenyon, Clerk of the County Council, County Hall, Wakefield.

CITY OF SALFORD. Hope Hospital. TEMPORARY VISITING PHYSICIAN(S) for Consultant Sessions.—Applications for the above-mentioned post are invited from suitably qualified and experienced medical practitioners, who are able to conduct one, two, or three sessions per week. The appointment is temporary in the first instance and remuneration will be at the rate of £2 12s. 6d. per session for a maximum of three sessions per week. Applications should be forwarded to the Medical Officer of Health, 143, Regent Road, Salford, 5, not later than September 1, 1945, which date has been fixed in order to allow time for applications to be received from members of H.M. Forces.—H. H. Tomson, Town Clerk.

COUNTY COUNCIL HOSPITAL, Hereford (476 beds).—Applications are invited from registered medical practitioners for the post of SENIOR ASSISTANT MEDICAL OFFICER (B1) of the above hospital. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R and W practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Preference will be given to applicants who have had both clinical experience and experience in hospital administration. Commencing salary £550 per annum (plus cost-of-living bonus applicable to temporary appointments, at present £36 8s. per annum) plus full residential emoluments. Applications should be sent to the Medical Superintendent, County Council Hospital, Hereford, forthwith, mentioning the names and addresses of two or more persons to whom reference may be made.

COUNTY COUNCIL OF DURHAM. Holywood Hall Sanatorium, Wolsingham (183 beds.).—A LOCUM TENENS is required for the post of ASSISTANT RESIDENT MEDICAL OFFICER at the above Sanatorium. Salary, to be fixed in accordance with qualifications and experience, will be at the rate of 10 to 12 guineas per week, payable monthly, with board, residence, and laundry in addition. Candidates must have held hospital and sanatorium appointments, and have had practical experience in the diagnosis and treatment of tuberculosis. Practical experience in radiology is also required. The appointment will be subject to the regulations for the time being of the County Council relative to the payment of salary in the case of sickness, and will be terminable by one calendar month's notice on either side. Applications as soon as possible to the County Medical Officer of Health, Shire Hall, Durham.—J. K. Hope, Clerk of the County Council, Shire Hall, Durham.

CITY OF MANCHESTER.—Monsall Hospital for Infectious Diseases (600 beds). JUNIOR RESIDENT ASSISTANT MEDICAL OFFICER (A).—Applications are invited from registered medical practitioners, male or female, for the above-mentioned appointment, which is vacant now, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts the appointment will be for a period of six months, otherwise it will be for a period of twelve months. The duties of the post are mainly medical. The basic salary for the appointment is £250 per annum, with board, residence, and laundry in addition, subject to the Manchester Corporation conditions of service. A temporary cost-of-living wages addition is payable in addition to the salary stated. Applications are to be addressed to the Medical Superintendent, Monsall Hospital, Newton Heath, Manchester, 10, and must be received by him at once. Canvassing in any form, oral or written, direct or indirect, is prohibited.—Philip B. Dingle, Town Clerk, Town Hall, Manchester, 2.

COUNTY BOROUGH OF WEST HARTLEPOOL. Public Assistance Committee. Howbeck Infirmary and Emergency Medical Services Hospital (350 beds).—The Public Assistance Committee invite applications from registered male or female medical practitioners for the appointment of ASSISTANT MEDICAL OFFICER (resident) (B1). Salary will commence at £350 per annum, and will rise by annual increments of £25 to a maximum of £450 per annum, together with usual residential emoluments valued for superannuation purposes at £125 per annum. Suitably qualified R or W practitioners holding B2 appointments are invited to apply. Applications from R or W practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. The successful candidate will be required to devote his or her whole time to the service of the Corporation and to carry out the instructions of the Medical Superintendent. Applications should be received by the Public Assistance Officer, Avenue Road, West Hartlepool, as soon as possible.—E. J. Waggott, Town Clerk, Town Clerk's Office, West Hartlepool.

COUNTY BOROUGH OF BLACKBURN.—Applications are invited from registered medical practitioners, male or female, for the post of RESIDENT JUNIOR ASSISTANT MEDICAL OFFICER (A) at Queen's Park Hospital and Institution, Blackburn, at a salary of £250 per annum, plus cost-of-living bonus, together with board, apartments, and attendance. Practitioners within three months of qualification who are liable for service under the National Service Acts may apply, when appointment will be for a period of six months, otherwise the appointment will be limited to a term not exceeding one year. Further particulars may be obtained from the Public Assistance Officer, Cardwell Place, Blackburn, to whom applications must be sent.—Chas. S. Robinson, Town Clerk.

DORSET COUNTY HOSPITAL, Dorchester, Dorset. (Voluntary hospital, 100 beds.)—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (A), vacant on August 26 next. Salary is at the rate of £200 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for six months.—C. H. Spence, Secretary.

COUNTY BOROUGH OF WEST HAM. Whipps Cross Hospital. TEMPORARY RESIDENT ASSISTANT MEDICAL OFFICER.—Applications are invited from registered medical (male or female) practitioners for the post of Temporary Resident Assistant Medical Officer (B1) at Whipps Cross Hospital, Leytonstone, E.11. Suitably qualified R and W practitioners holding B2 appointments may apply. R and W practitioners holding B1 appointments cannot apply unless they have been rejected by the R.A.M.C. Salary for the post is £350 per annum, rising by annual increments of £25 to a maximum of £450 per annum, plus a temporary war bonus, with apartments, board, and laundry, valued for superannuation purposes at £100 per annum. The salary is inclusive, and all fees received from whatever source must be paid to the Council. Candidates must be fully qualified registered medical practitioners, and should have held a previous resident hospital appointment. Preference will be given to candidates with practical experience of surgical operations, and the person appointed must give his or her whole time to the service of the Council, and will be required, should the occasion arise, to act in any of the Council's other institutions. The appointment will be subject to the Council's Regulations as made from time to time regarding holidays, sick pay, etc., and the successful candidate will be required to pass a medical examination. Forms upon which application must be made can be obtained from Dr. E. Ashworth Underwood, Medical Officer of Health, 223-225, Romford Road, West Ham, E.7, on receipt of a stamped addressed envelope, and returned to him not later than July 9, 1945. Canvassing members of the Council is prohibited and will disqualify.—Charles E. Cranfield, Town Clerk, Town Hall, West Ham, E.15.

CITY OF BATH. St. Martin's Hospital (800 beds).—Applications are invited from registered medical practitioners for appointment as (1) RESIDENT MEDICAL OFFICER (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. This appointment will not exceed one year, and if held by a practitioner liable under the Acts will be for a period of six months. Salary £200 per annum, with board, residence, laundry, and cost-of-living bonus. (2) RESIDENT MEDICAL OFFICER (B2). Registered medical practitioners, including R and W practitioners who now hold A posts, are invited to apply. If held by an R or a W practitioner, the appointment will be limited to six months, otherwise will be for a period not exceeding one year. Commencing salary £250 per annum. Applicants should be specially interested in and have had experience of maternity work. About half the beds are in the E.M.S. Hospital, and there is excellent scope for medical and surgical work. Both posts are suitable for either man or woman. Applications to the Medical Officer of Health, Sawclose, Bath.

EAST SUSSEX COUNTY COUNCIL. Southlands Hospital, Shoreham-by-Sea, Nr. Brighton.—Applications are invited from fully qualified male or female registered medical practitioners for the appointment of TEMPORARY RESIDENT OBSTETRIC MEDICAL OFFICER (B1), vacant immediately. Salary within the range of £500 to £700 per annum, according to qualifications and experience, with emoluments valued at £90 p.a. Preference will be given to candidates with the M.R.C.O.G. (£700 will be paid to holders of this qualification). The duties of the post include the care of the maternity wards of 40 beds and the ante-natal and post-natal clinics. Candidates with experience in operative surgery, particularly gynaecology, preferred, as there are opportunities for the latter. The hospital (519 beds) is a general hospital under the administration of the East Sussex County Council and graded 1A in the Emergency Medical Scheme. Suitably qualified R and W practitioners holding B2 appointments, also those holding B1 and rejected by the R.A.M.C., may apply. Applications should be made on a form obtainable from the Medical Superintendent, Southlands Hospital, Shoreham-by-Sea, and must be returned to him, together with copies of three recent testimonials.—H. S. Martin, Clerk of the County Council, County Hall, Lewes.

HERTFORD COUNTY HOSPITAL (173 beds, plus E.M.S. beds).—Applications are invited from registered medical practitioners, male, for the appointment of HOUSE SURGEON (A), vacant now, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary £150 per annum, with full residential emoluments. Applications to be forwarded to Percy G. Brooks, House Governor.

LINCOLN COUNTY HOSPITAL. (Voluntary hospital, 200 beds.)—Applications are invited from registered medical practitioners for the appointment of SENIOR HOUSE SURGEON (B1), vacant August 1, 1945. Applicants should have held house appointments and had surgical experience. Salary is at the rate of £325 per annum. Suitably qualified R practitioners holding B2 appointments, also those holding B1 and rejected by the R.A.M.C. may apply. Applications should be sent to Arthur Moore, Secretary-Superintendent.

IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page 11

EAST RIDING COUNTY COUNCIL. Driffield Emergency Hospital (324 beds).—Applications are invited from registered medical practitioners for the appointment of SENIOR HOUSE SURGEON (B1), vacant immediately. The hospital provides experience in general surgery. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R and W practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary from £350 per annum, according to qualifications and experience, together with full residential emoluments. Applications to reach the undersigned not later than Wednesday, July 4, 1945.—T. Stephenson, Clerk of the Council, County Hall, Beverley.

HERTFORDSHIRE COUNTY COUNCIL. Wellhouse Hospital, Barnet. RESIDENT SURGICAL OFFICER (B1).—Applications are invited from registered medical practitioners for the appointment of a Resident Surgical Officer (B1), to become vacant on July 6, 1945. Applicants should have held house appointments, and had experience in general surgery and some special experience in orthopaedics. Preference will be given to candidates holding Diploma of F.R.C.S. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £500 per annum, plus emoluments or living-out allowance. The officer will be appointed to the E.M.S. staff in the first instance, but he should be prepared to transfer to the County staff if invited.—Elton Longmore, Clerk of the County Council, County Hall, Hertford.

LONDON COUNTY COUNCIL.—Applications are invited from registered medical practitioners for inclusion in a panel for filling vacancies for TEMPORARY PART-TIME ASSISTANT MEDICAL OFFICERS for school medical inspection. The rate of pay is 30s. a session of 2½ hours, together with appropriate cost-of-living addition. Experience of medical examination of children is desirable. Employment will depend upon the requirements of the work. All medical practitioners who were officially employed by the Council on this work before the war, but have been so employed during the war in London schools, should apply if they wish to be considered for reinstatement on the panel of part-time school medical officers. Application form (stamped addressed envelope necessary) from the Medical Officer of Health (S.D.5), County Hall, Westminster Bridge, S.E.1. Canvassing disqualifies.

MIDDLESEX COUNTY COUNCIL. LOCUM TENENS MEDICAL OFFICER (B1) at SHENLEY MENTAL HOSPITAL, St. Albans (man or woman) required for long or short term. Experience in psychiatry preferable but not essential. Facilities for out-patient clinic experience and tuition. Salary £10 10s. per week and emoluments consisting of full residential facilities. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Applications to the Medical Superintendent.—C. W. Radcliffe, Clerk of County Council.

AMENDED CLOSING DATE

MIDDLESEX COUNTY COUNCIL.—ASSISTANT MEDICAL OFFICER (B1, RESIDENT), for surgical duties required at CENTRAL MIDDLESEX COUNTY HOSPITAL, Park Royal, N.W.10.—Applications are invited from registered medical practitioners who have held house appointments (including R and W practitioners holding B2 posts). Experience in neurosurgery desirable. R and W practitioners holding B1 posts ineligible unless rejected by the R.A.M.C. Salary £400 by £25 to £475 per annum, board, lodging, and laundry. War bonus (now £60 per annum, proportion only in cash). Appointment in first instance for one year; medical examination. Whole-time duties such as Council may require under general supervision of Medical Director. Post now vacant. Application to the undersigned. Application forms not provded. Closing date July 7, 1945.—C. W. Radcliffe, Clerk of the County Council. Middlesex Guildhall, Westminster, S.W.1.

SURREY COUNTY COUNCIL. Botley's Park War Hospital, near Chertsey, Surrey.—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE OFFICER (A) at the above hospital, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months, otherwise it will be for a period not exceeding one year. Salary is at the rate of £120 p.a., plus full residential emoluments. Apply to the Medical Superintendent.

WESTMORLAND COUNTY HOSPITAL, Kendal (82 beds).—Applications are invited from registered medical practitioners (unmarried) for the appointment of HOUSE SURGEON (B2), vacant now. Salary £300 per annum, with board, residence, and laundry. R and W practitioners who now hold A posts may apply, when appointment will be limited to, six months, otherwise may be extended. Applications should be sent without delay to J. M. Somervell, Hon. Secretary.

SALOP COUNTY COUNCIL HOSPITAL, Cross Houses, near Shrewsbury.—Applications are invited from registered medical practitioners for the appointment of a RESIDENT MEDICAL OFFICER (A), including practitioners within three months of qualification who are liable to service under the National Service Acts (women applicants preferred). If held by a practitioner who is liable under these Acts, appointment will be for a period of six months, otherwise it will be for a period, in the first instance, of one year. Salary is in accordance with the scale recommended in the Askwith Report for Whole-time Public Health Medical Officers (£350, by annual increments of £25 to £450). Forms of application can be obtained from the County Medical Officer, College Hill, Shrewsbury, to whom they should be returned, accompanied by copies of three recent testimonials, as soon as possible.—G. C. Godber, Clerk of the Council, Shirehall, Shrewsbury.

ASHINGTON HOSPITAL, Ashington, Northumberland. TWO HOUSE SURGEONS (A).—Applications are invited from registered medical practitioners for the appointment of two House Surgeons (A), vacant July 7, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by practitioners who are liable under these Acts, the appointments will be for a period of six months. Salary is at the rate of £100 per annum, with full residential emoluments. Applications to be made to the undersigned. — A. Anderson Bonar, F.R.C.S.Ed., Medical Superintendent.

THE BIRMINGHAM AND MIDLAND HOSPITAL FOR WOMEN.—Applications are invited from registered medical practitioners, male and female, including R and W practitioners who now hold A posts, for the appointment of HOUSE SURGEON (B2). The appointment is for six months, vacant now. Salary is at the rate of £100 per annum, with full residential emoluments. Applications to be sent immediately to Bernard Sylvester, House Governor.

THE BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN (usually known as The Children's Hospital).—Applications are invited for the posts of RESIDENT MEDICAL OFFICERS (two) (B2) from registered medical practitioners, including R practitioners who now hold A posts. The appointments will be for a period of six months, part of which will be spent at Eastern House E.M.S. Children's Hospital, Weston-super-Mare. Salary according to experience with a minimum of £125 per annum. Duties to commence September 1, 1945. Applications to be sent to the undersigned not later than July 21.—Reginald C. Thomas, F.C.I.S., Secretary.

THE BOLINGBROKE HOSPITAL, Wandsworth Common, S.W.11.—Applications are invited from registered medical practitioners for the posts of (1) HOUSE SURGEON (A), and (2) HOUSE PHYSICIAN AND CASUALTY OFFICER (A). The normal period of the appointments is six months. Salary is at the rate of £120 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply. Applications to the undersigned as soon as possible.—W. S. Randolph Biss, Secretary-Superintendent.

BIRMINGHAM ACCIDENT HOSPITAL AND REHABILITATION CENTRE, Bath Row, Birmingham, 15. HOUSE SURGEON (A).—Applications are invited from registered medical practitioners, male and female, for the appointment of a House Surgeon (A), now vacant, including practitioners within three months of qualification who are liable to service under the National Service Acts. Appointment will be for six months. Salary is at the rate of £150 per annum with full residential emoluments.—A. A. MacIver, Secretary.

BIRMINGHAM ACCIDENT HOSPITAL AND REHABILITATION CENTRE. HOUSE SURGEON (B2).—Applications are invited from registered medical practitioners, male and female, for the appointment of House Surgeon (B2), to become vacant on July 6, including R and W practitioners who now hold A posts. The appointment will be for six months. The salary is at the rate of £150 per annum, with full residential emoluments.—A. A. MacIver, Secretary.

BIRMINGHAM ACCIDENT HOSPITAL AND REHABILITATION CENTRE, Bath Row, Birmingham, 15. HOUSE SURGEON (B2) for the Medical Research Council Burns Unit.—Applications are invited from registered medical practitioners, male and female, for the appointment of House Surgeon (B2), now vacant, including R and W practitioners who now hold A posts. The appointment will be for six months. The salary is at the rate of £150 per annum, with full residential emoluments.—A. A. MacIver, Secretary.

BURY INFIRMARY, Lancs. (159 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (A), which post will become vacant shortly, including practitioners within three months of qualification who are liable for service under the National Service Acts. If held by a practitioner who is liable under the National Service Acts the appointment will be for six months, otherwise renewable. Salary is at the rate of £200 per annum, with full residential emoluments. Applications to the undersigned immediately.—H. Wilkinson, Superintendent.

BOLINGBROKE HOSPITAL, Wandsworth Common, S.W.11. RESIDENT SURGICAL OFFICER (B1).—Applications are invited from registered medical practitioners, male, for the appointment of Resident Surgical Officer (B1), to become vacant on August 1, 1945. Applicants should have held house appointments and had surgical experience. Preference will be given to candidates holding Diploma of F.R.C.S. Suitably qualified R and W practitioners holding B2 appointments and also R and W practitioners holding B1 appointments and rejected by the R.A.M.C. may apply. The salary will be on a scale between £350 and £550 per annum, according to qualifications and experience. Applications as soon as possible to W S. Randolph Biss, Secretary-Superintendent.

BIRMINGHAM UNITED HOSPITAL. The General Hospital. The Queen Elizabeth Hospital. (Also incorporating the Queen's Hospital, 1840-1941). The Queen Elizabeth Hospital.—Applications are invited from registered medical practitioners, male or female, for the appointment of RESIDENT ANAESTHETIST (B2) for six months from July 14. R and W practitioners now holding B2 posts may apply. Salary £100 to £120 per annum, according to experience, with full residential emoluments. Applications should be sent to the undersigned.—G. Hurford, House Governor, Queen Elizabeth Hospital, Secretary, Birmingham United Hospital, The Queen Elizabeth Hospital, Birmingham, 15.

BLACKBURN AND EAST LANCASHIRE ROYAL INFIRMARY (248 beds, 5 residents). HOUSE SURGEON (A).—Applications are invited from registered medical practitioners, male and female, for the appointment of House Surgeon (A), now vacant, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary is at the rate of £175 per annum, with full residential emoluments Applications to the undersigned.—T. Dewhurst, General Superintendent and Secretary.

BURY INFIRMARY, Lancs. (159 beds).—Applications are invited from registered medical practitioners for the appointment of RESIDENT SURGICAL OFFICER (B1), shortly to become vacant. Applicants should have held house appointments and had surgical experience. Preference will be given to candidates holding diploma of F.R.C.S. Salary is at the rate of £400 per annum, with full residential emoluments. Suitably qualified R and W practitioners holding B2 appointments, also R practitioners holding B1 and rejected by the R.A.M.C. may apply. Applications as soon as possible to H. Wilkinson, Superintendent.

CLAYTON HOSPITAL, Wakefield. (191 beds).—Applications are invited for the appointment of CASUALTY OFFICER (A) from registered medical practitioners, including those within three months of qualification and liable under the National Service Acts. The appointment is for six months. Salary £150 per annum, with full residential emoluments. Applications to be sent as soon as possible to W Read, Superintendent-Secretary

CHORLEY AND DISTRICT HOSPITAL, Lancs. (100 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (B2), vacant early in July. Salary is at the rate of £200 per annum, with full residential emoluments. R and W practitioners who now hold A posts may apply, when the appointment will be limited to six months. Applications to be addressed to the Secretary-Supt.

COVENTRY AND WARWICKSHIRE HOSPITAL. HOUSE SURGEON (B2) for General Surgical Duties.—Applications are invited from registered medical practitioners, male and female, for the appointment of House Surgeon (B2) for general surgical duties, including R and W practitioners who now hold A posts. The appointment, which is for six months, is vacant now. Salary at the rate of £170 per annum, together with full residential emoluments. Applications should be sent to the undersigned immediately.—S. Cecil Hill, House Governor and Secretary.

CHESTERFIELD AND NORTH DERBYSHIRE ROYAL HOSPITAL (beds, hospital, 289; annexe, 108).—Applications are invited from registered medical practitioners for the following appointments: HOUSE PHYSICIAN (A), vacant July 9. HOUSE SURGEON (A), vacant now. The appointments will be held for a period of six months. Salary for each post £225 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply. Applications should be sent to the House Governor and Secretary as soon as possible.

CONNAUGHT HOSPITAL, London, E.17 (118 beds). HOUSE SURGEON (B2).—Applications are invited from registered medical practitioners, male and female, for the appointment of House Surgeon, now vacant, including R and W practitioners who now hold A posts. If held by an R or W practitioner the appointment will be limited to six months. The post is suitable for applicants wishing to sit for the Fellowship Examination. Salary at the rate of £200 per annum, plus full residential emoluments. Applications to be sent to the undersigned as soon as possible.—R. Halton Harrison, General Secretary.

IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page 11

CHESTER ROYAL INFIRMARY (225 beds, normal.—Applications are invited from registered medical practitioners, male and female, for the two following vacant appointments: RESIDENT ANAESTHETIST (A); GENERAL HOUSE SURGEON (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, or otherwise, the appointment will be for a period of six months. The latter appointment is approved in connexion with the M.S. (London University) and the F.R.C.S. examinations. Salary is at the rate of £175 per annum, with full residential emoluments. Applications should be sent to the Secretary immediately.

CONNAUGHT HOSPITAL, Walthamstow, London, E17. CASUALTY OFFICER (A).—Applications are invited from registered medical practitioners, male and female, for the appointment of Casualty Officer, to become vacant on August 13, 1945, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, the appointment will be for a period of six months. Salary at the rate of £120 per annum, with full residential emoluments. Applications to be sent as soon as possible to R. Halton Harrison, General Secretary.

DERBYSHIRE HOSPITAL FOR SICK CHILDREN (84 beds). HOUSE SURGEON (A).—Applications are invited from registered lady medical practitioners for the appointment of a HOUSE SURGEON, to become vacant on August 1, 1945, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts appointment will be for a period of six months. Salary £130 per annum. The hospital is recognized by the Conjoint Board for the purposes of the Diploma in Child Health.—Arthur N. Whiston, Secretary, 42, St. Mary's Gate, Derby.

DARLINGTON MEMORIAL HOSPITAL (200 beds).—Applications are invited from registered medical practitioners, male, for the following appointment, CASUALTY AND ORTHOPAEDIC HOUSE SURGEON (B2), vacant now, including R and W practitioners who now hold A posts. If held by an R or a W practitioner the appointment will be limited to six months, otherwise with option for a further period of six months. Salary at the rate of £175 per annum, with full residential emoluments. Applications to be sent as soon as possible to Secretary-Superintendent, Memorial Hospital, Darlington.

EAST SUFFOLK AND IPSWICH HOSPITAL (400 beds, 8 residents).—Applications are invited from registered medical practitioners for the post of HOUSE SURGEON TO A GENERAL SURGEON (A), vacant immediately. Practitioners within three months of qualification who are liable for service under the National Service Acts may apply. Appointment will be for six months. Salary is at the rate of £175 per annum, with full residential emoluments.—Arthur Griffiths, Secretary, The Hospital, Ipswich.

GLASGOW ROYAL INFIRMARY.—Applications are invited from registered medical practitioners for the post of RESIDENT MEDICAL OFFICER (B1) (full-time) at Canniesburn Auxiliary Hospital. Applicants with previous hospital resident experience preferred. Salary £200 per annum, with board, lodging, and laundry. Suitably qualified R and W practitioners holding B2 or B1 appointments are invited to apply, but they must have obtained the sanction of the Scottish Central Medical War Committee to their application. Particulars as to duties, etc., may be obtained from the Superintendent, Glasgow Royal Infirmary, 84, Castle Street, Glasgow, C.4. Applications, with three names for reference, to be lodged with the undersigned not later than July 7, 1945. No canvassing.—R. Morrison Smith, C.A., F.H.A., Secretary and Cashier, Glasgow Royal Infirmary, Office, 135, Buchanan Street, Glasgow, C.1.

GENERAL HOSPITAL, Nottingham. (Main hospital, 429 beds; E.M.S., 202 beds; Cedars Branch, 110 beds).—PART-TIME SURGICAL REGISTRAR required (non-resident). Salary £600 per annum. Successful applicant will be allowed to undertake work at other hospitals, to be arranged with approval of Board of Management. Good opportunity for keen man and preference will be given to applicants with Fellowship degree. Further details can be obtained from the undersigned.—Henry M. Stanley, House Governor and Secretary.

HUDDERSFIELD ROYAL INFIRMARY (321 beds).—CASUALTY OFFICER (B2) required, to commence July 31. R and W practitioners who now hold A posts may apply. If held by an R or W practitioner appointment will be limited to six months. Salary at the rate of £200, with full residential emoluments.

HOUSE SURGEON (A) required, to commence August 10. Practitioners within three months of qualification who are liable to service under the National Service Acts may apply. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary at the rate of £150, with full residential emoluments.

Applications for each post to be sent to the undersigned as soon as possible.—H. J. Johnson, General Superintendent and Secretary.

GRIMSBY AND DISTRICT GENERAL HOSPITAL (237 beds.)—Applications are invited from registered medical practitioners, male and female, for the following appointment: HOUSE PHYSICIAN (A). Salary is at the rate of £175 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for six months. Vacant now. Applications to the Secretary-Superintendent.

GREAT YARMOUTH GENERAL HOSPITAL.—Applications are invited from registered medical practitioners (male) for the appointment of TWO HOUSE SURGEONS (A), now vacant. Salary £200 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months. Applications to be sent immediately to the undersigned.—John S. Egerton, Secretary.

HAMPSTEAD GENERAL HOSPITAL, The Green, Haverstock Hill, N.W.3.—Applications are invited from medical practitioners, male and female, being ineligible for military service, for the office of TEMPORARY HONORARY ANAESTHETIST, the office to be held on a temporary basis at the pleasure of the Council of Management. Applications stating experience in anaesthesia to be sent to the undersigned immediately.—By order of the Council of Management, Kenneth A. F. Miles, House Governor.

HULL ROYAL INFIRMARY.—Applications are invited for the following posts, vacant now: SECOND HOUSE SURGEON (B2) (Recognized for F.R.C.S.), and ORTHOPAEDIC HOUSE SURGEON. 2 posts. Suitably qualified R and W practitioners who now hold A posts may apply. If held by R and W practitioners the appointments will be limited to six months. CASUALTY OFFICER (A). Practitioners within three months of qualification who are liable to service under the National Service Acts may apply, when appointment will be for a period of six months. Salary for each of the above three posts £200 per annum, with full residential emoluments. Applications to R. J. Carless, House Governor

HALIFAX GENERAL HOSPITAL (A1, 400 beds). RESIDENT MEDICAL OFFICER (A).—Applications are invited from registered medical practitioners, male and female, for the above appointment, including practitioners within three months of qualification who are liable to service under the National Service Acts, when the appointment will be limited to six months, otherwise it will be for a period not exceeding one year. Salary is at the rate of £150 per annum, commencing July 1 or as soon afterwards as possible. Applications should be sent as soon as possible to the Medical Superintendent.—(Signed) H. I. Deitch.

HULL ROYAL INFIRMARY.—Applications are invited for the post of TEMPORARY HONORARY ASSISTANT OPHTHALMIC SURGEON. Candidates will be required to give evidence of six months' duty at an ophthalmic hospital or dispensary, or an ophthalmic department at a general hospital or dispensary. The successful candidate will be restricted to ophthalmic practice in the hospital. Applications should be addressed to the Chairman of the Managing Committee and should reach the Hospital by July 13.—R. J. Carless, House Governor.

KING GEORGE HOSPITAL, Ilford.—Applications are invited from registered medical practitioners, male and female, for the appointment of a HOUSE SURGEON (A), to become vacant on August 1, 1945, including practitioners within three months of qualification who are liable to service under the National Service Acts. The appointment will be for a period of six months. Salary is at the rate of £120 per annum, with full residential emoluments. Applications with testimonials should be sent to the undersigned as soon as possible.—G. Austin Hepworth, Secretary and Superintendent.

KING EDWARD VII HOSPITAL, Windsor.—Applications are invited from registered medical practitioners, male and female, for the appointments of a CASUALTY HOUSE SURGEON (A) and a HOUSE SURGEON (A), now vacant, including practitioners within three months of qualification who are liable for service under the National Service Acts. If held by a practitioner who is liable under these Acts appointment will be for a period of six months. Salary is at the rate of £150 per annum, with full residential emoluments. Applications to the Secretary as soon as possible.

KENT AND CANTERBURY HOSPITAL, Canterbury. (191 beds and 75 E.M.S. beds).—Applications are invited from male registered medical practitioners for the appointment of HOUSE SURGEON (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by practitioners who are now liable under these Acts, appointment will be held for a period of six months. The salary is £160 per annum, with full residential emoluments. Applications should be sent immediately to the Superintendent and Secretary.

LOWESTOFT AND NORTH SUFFOLK HOSPITAL (100 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (A), vacant immediately. Salary is at the rate of £200 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when the appointment will be for six months. Applications should be sent to the Honorary Medical Superintendent.

LEIGH INFIRMARY, Lancs. General hospital (102 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of a HOUSE SURGEON (A), vacant immediately, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months, otherwise it will be for a period of twelve months. Salary is at the rate of £200 per annum, with full residential emoluments. Applications from friendly alien practitioners are also invited. Applications to be addressed to F. M. Evison (Miss), Acting Secretary.

MANCHESTER ROYAL EYE HOSPITAL.—Applications are invited from registered medical practitioners, male and female, for the appointment of a HOUSE SURGEON (A). Salary at the rate of £120 per annum, with full residential emoluments Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months. Applications should be sent to the undersigned.—H. R. North, General Superintendent

MANSFIELD AND DISTRICT GENERAL HOSPITAL, Mansfield, Notts (186, plus 40 E.M.S., beds)—Applications are invited from registered medical practitioners for the appointment of RESIDENT HOUSE SURGEON (A), now vacant. Salary £220 p.a., with full residential emoluments. Practitioners within three months of qualification and liab under the National Service Acts may apply, when the appointment will be for a period of six months.—Applications should be sent at once to K. L. Ward, Secretary

MERTHYR GENERAL HOSPITAL (115 beds).—Applications are invited from registered medical practitioners for the appointment of a RESIDENT HOUSE SURGEON, male or female (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. The appointment will be for a period of six months. Salary at the rate of £200 per annum, with board and lodging.—Applications to the Secretary, Merthyr General Hospital, Merthyr Tydfil

MAIDENHEAD HOSPITAL, Berks. Physiotherapy Department.—Applications are invited for the post of HON. PHYSICIAN in charge of the Physiotherapy Department, which is being reorganized and enlarged, with full understanding of the importance of this work. Applications should be addressed to the Superintendent-Secretary.

MURRAY ROYAL MENTAL HOSPITAL AND GILGAL HOSPITAL, Perth.—DEPUTY PHYSICIAN-SUPERINTENDENT required shortly. B1 post, salary £450-£550 according to experience Married quarters available. Preference to man with experience in Services. Applications from others rejected by R.A.M.C. considered.

Also vacancy for JUNIOR (TEMPORARY M.O. (A), male or female. Salary £350 per annum. R or W practitioners who have been qualified more than three months must have obtained the sanction of the Scottish Central Medical War Committee to their application. If held by and R or W practitioner appointment will be for six months.

Applications with full particulars to Physician Superintendent.

NORFOLK AND NORWICH HOSPITAL.—Applications are invited from registered medical practitioners for the appointment of ORTHOPAEDIC HOUSE SURGEON (A). Salary is at the rate of £170 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months.—Applications to be addressed to Frank Inch, House Governor and Secretary.

NEW SUSSEX HOSPITAL FOR WOMEN, Windlesham Road, Brighton.—Applications are invited from registered medical women, possessing the necessary higher qualification, for the following posts HON. GYNAECOLOGIST; HON. ASSISTANT PHYSICIAN.—Applications from candidates at present serving in the Forces are invited. Applications to be sent in by Monday, July 9, to Mr. P. F Spooner, Secretary.

NEW SUSSEX HOSPITAL FOR WOMEN, Windlesham Road, Brighton.—Applications are invited from registered medical women for the posts of HON. CLINICAL ASSISTANTS to the Out-patient Department as follows: Surgical, Tuesday evenings Gynaecological, Thursday afternoons. Applications to be sent in by Monday, July 9, to Mr. P. F Spooner, Secretary.

IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page 11

NORTH CAMBRIDGESHIRE HOSPITAL, Wisbech.—Applications are invited from registered medical practitioners, including practitioners within three months of qualification who are liable to service under the National Service Acts, for appointment of HOUSE SURGEON (A), vacant August 1, 1945. Appointment will be for a period of six months Salary £200-£250, with full residential emoluments. Applications should be sent to the Secretary.

NOTTINGHAM GENERAL HOSPITAL (712 beds, including E.M.S. beds).—Applications are invited from registered medical practitioners, male and female, including practitioners within three months of qualification who are liable to service under the National Service Acts, for the appointment of a RESIDENT CASUALTY OFFICER (A) for the above hospital. Duties to commence about August 10. If held by a practitioner who is liable under these Acts appointment will be for a period of six months. Salary at the rate of £200 per annum, with full residential emoluments. Applications to be sent to the undersigned.—Henry M. Stanley, House Governor and Secretary.

NATIONAL COMMITTEE FOR THE TRAINING OF TEACHERS.—The Committee invite applications for the post of MEDICAL OFFICER AND LECTURER ON HYGIENE (man), at the Aberdeen Training Centre. Candidates must be registered medical practitioners and possess a Diploma of Public Health. Duties will begin on October 1, 1945. Salary £725 with war bonus. (The National Committee's salary scales are at present being revised). Three copies of letter of application, with three copies of three recent testimonials, to be sent to the Director of Studies, Training Centre, St. Andrew Street, Aberdeen, at once. In addition to testimonials, candidates should give in their letter of application the names of three persons to whom reference can be made. Fuller particulars regarding the post, and statement of duties, can be had from the undersigned.—William McClelland, Executive Officer, 140, Princes Street, Edinburgh.

OLDHAM ROYAL INFIRMARY (203 beds). HOUSE SURGEON (A).—Applications are invited from registered medical practitioners, male and female for the appointment of House Surgeon (A), now vacant. Practitioners within three months of qualification and liable under the National Service Acts may apply, and the appointment will be for a period of six months. The salary is at the rate of £175 per annuum, with full residential emoluments. Applications to be submitted to the undersigned.—F. W. Barnett, General Superintendent and Secretary.

NATIONAL HOSPITAL FOR NERVOUS DISEASES, Queen Square, London, W.C.1.—The Board of Management invite applications for the post of TEMPORARY SURGEON from Fellows of the Royal College of Surgeons of England. Applications should be sent to the undersigned, from whom further information may be obtained.—H. Ewart Mitchell, Secretary.

PRESTON ROYAL INFIRMARY.—Applications are invited from male and female registered medical practitioners for the following appointments, including practitioners within three months of qualification liable under National Service Acts. If held by practitioners liable under these Acts appointment will be for six months: HOUSE SURGEON (A). Recognized for F.R.C.S. Examination by R.C.S. HOUSE SURGEON to Ophthalmic and Aural Departments (A). Special wards and clinics. Duties under specialist surgeons. Salary in each case £150 per annum, with usual residential emoluments. Applications to the Superintendent.

PRESTON ROYAL INFIRMARY: RESIDENT ORTHOPAEDIC OFFICER (B1).—The Board of Management invite applications for the above appointment. Suitably qualified R practitioners now holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary at the rate of £250 per annum, with the usual residential allowances. Applications to be sent as soon as possible to J. Gibson, Superintendent and Sec.

ROYAL SHEFFIELD INFIRMARY AND HOSPITAL.—Applications are invited from registered medical practitioners for the appointment of NON-RESIDENT CLINICAL ASSISTANT (B1) to the Orthopaedic Department of the Royal Hospital, Sheffield. Applicants should have had experience in this particular branch. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary and emoluments are in the region of £500 per annum, plus present war bonus of £57 4s. Applications to Percy N. Glass, B.Sc., General Superintendent, Royal Hospital, Sheffield.

ROYAL UNITED HOSPITAL, Bath. HOUSE SURGEON (General Surgery).—Applications are invited for the above A appointment. Salary at the rate of £150 per annum, board, residence, etc. Practitioners within three months of qualification who are liable to service under the National Service Acts may apply, when appointment will be for a period of six months. Applications to be addressed to the undersigned at once.—J. Lawrence Mears, Secretary-Superintendent.

ROYAL UNITED HOSPITAL, Bath. ORTHOPAEDIC AND FRACTURE HOUSE SURGEON (B1).—Applications are invited for the above appointment from registered medical practitioners, including R and W practitioners who now hold B2 posts Applications from R and W practitioners who now hold B1 posts cannot be considered unless they have been rejected by the R.A.M.C Salary £250 per annum, with board-residence and laundry Applications to be addressed at once to the undersigned.—J. Lawrence Mears, Secretary-Superintendent.

ROCHDALE INFIRMARY, Lancs. (110 beds)—The Board of Management invite applications from registered medical practitioners, male and female, for the following appointment, vacant shortly: HOUSE PHYSICIAN (A). Duties include work in the Ophthalmic, Aural, and Gynaecological Departments, as well as medical clinic, and affords excellent opportunity for experience. Salary is at the rate of £200 per annum, with full residential emoluments. The successful candidate must be a member of a Medical Defence Society. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months. Applications to W. Wynne, Superintendent-Secretary.

ROYAL CORNWALL INFIRMARY (151 beds, 5 residential).—Applications are invited from registered practitioners, male or female, for the appointment of RESIDENT ANAESTHETIST (B2). The hospital is recognized for the Diploma in Anaesthetics. Salary is at the rate of £200 p.a., with full residential emoluments. R and W practitioners holding A posts may also apply, when appointment will be limited to six months. Applications should be addressed to the Secretary

ROYAL SALOP INFIRMARY, Shrewsbury. HOUSE PHYSICIAN (A).—Applications are invited from registered medical practitioners, male and female, for the appointment of House Physician (A), to become vacant immediately, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months otherwise it will be for a period of six months. Salary is at the rate of £160 per annum, with full residential emoluments. J. P. Mallett, Secretary-Superintendent, Board Room

ROYAL HALIFAX INFIRMARY (283 beds, resident staff 5).—Applications are invited from registered medical practitioners, male, for the following posts: FIRST HOUSE SURGEON (B2), vacant July 19, 1945. Salary £225 per annum. R and W practitioners who now hold A posts may apply, when appointment will be limited to six months. SECOND HOUSE SURGEON (A), now vacant. Salary £175 per annum. Practitioners within three months of qualification who are liable to service under the National Service Acts may apply, when appointment will be for a period of six months.—A. Midgley, Secretary.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.1.—Applications are invited from registered medical practitioners for the appointment of RESIDENT SURGICAL REGISTRAR (B1). Applicants must not be more than 10 years qualified. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £350-£550 per annum. Duties to commence August 1, 1945. Applications should be sent to the undersigned on or before July 7.—Richard T. Bartley, Secretary.

ROYAL DEVON AND EXETER HOSPITAL, Exeter. (538 beds, 6 resident medical staff employed.)—Applications are invited from registered medical practitioners for the appointment of RESIDENT SURGICAL OFFICER (B1), becoming vacant on August 1. Applicants should have held house appointments and had surgical experience. Preference will be given to candidates holding Diploma of F.R.C.S. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £270, with full residential emoluments. Applications should reach the undersigned on or before July 14 next.

Applications are also invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (B2), general surgery and orthopaedic, to become vacant on August 1, including R and W practitioners who now hold A posts. If held by an R or W practitioner the appointment will be limited to six months. Salary is at the rate of £180 per annum, with full residential emoluments.

Applications are also invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A), to become vacant on August 1, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary is at the rate of £180 per annum, with full residential emoluments.

Applications for the above posts should reach the undersigned on or before July 21 next.—L. Parkhouse, Secretary and Manager.

ROYAL SHEFFIELD INFIRMARY AND HOSPITAL. Royal Infirmary, Sheffield, 6.—Applications are invited from registered medical practitioners, male and female, for the appointment of RESIDENT MEDICAL OFFICER (B1) for Annexe at Buxton, tenable in the first instance for six months. Applicants should have held house appointments and had surgical experience. Salary £250 per annum, or according to experience. Suitably qualified R and W practitioners holding B2 appointments, also R practitioners holding B1 appointments and rejected by the R.A.M C. may apply. Applications to be sent forthwith to Percy N Glass, General Superintendent, The Royal Infirmary, Sheffield.

SCARBOROUGH HOSPITAL, Yorkshire (normally 140 beds)—Applications are invited from female registered medical practitioners for the post of HOUSE SURGEON (A). The appointment is for six months, commencing August 1, 1945, and the salary is at the rate of £175 p.a., with board, residence, laundry, etc Practitioners within three months of qualification and liable under the National Service Acts may also apply. Applications to be sent immediately to the Secretary.

STOCKTON AND THORNABY HOSPITAL, Stockton-on-Tees. (135 beds, 3 residents). TWO HOUSE PHYSICIANS ALTERNATING CASUALTY OFFICERS (A).—Applications are invited from registered medical practitioners for the above posts, now vacant, including practitioners within three months of qualification who are liable for service under the National Service Acts, when appointments will be for a period of six months. Salary £150 per annum, with full residential emoluments. Applications should be sent to the undersigned as soon as possible.—J. Wilkinson, Secretary-Superintendent.

ST. ALBANS AND MID-HERTS HOSPITAL, St. Albans, Herts (75 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of ASSISTANT RESIDENT MEDICAL OFFICER (A), vacant in July. Salary at the rate of £150 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months.—Applications should be sent to P. R. Battison, Secretary.

ST. BARTHOLOMEW'S HOSPITAL, Rochester (201 beds). HOUSE SURGEON (B2).—Applications are invited for above post, now vacant (to include duties of House Surgeon to Ophthalmic Department), from registered medical practitioners who now hold A posts, when the appointment will be for six months. Salary £150 per annum, with full residential emoluments (plus E.M.S. grant, at present approximately £50 per annum). Applications to be forwarded to the Superintendent-Secretary as soon as possible.

THE STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—Applications are invited from registered medical practitioners, male and female, for the appointment of a HOUSE PHYSICIAN (A). Salary £196 per annum, with board-residence. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when appointment will be for six months. Applications to be forwarded to the undersigned.—A. E. Collins, Secretary.

THE BOLTON ROYAL INFIRMARY (270 beds, resident medical staff 6).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A), vacant now, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary £175 per annum, with full residential emoluments Applications to be forwarded to the undersigned—Joseph Griffith, Superintendent-Secretary.

THE ROYAL GWENT HOSPITAL, Newport, Mon. (255 beds, 30 E.M.S. beds.) SECOND HOUSE SURGEON (A), vacant July 29, 1945, salary at the rate of £175 per annum. THIRD HOUSE SURGEON (A), vacant July 20, 1945, salary at the rate of £175 per annum.—Applications are invited for these appointments, including practitioners within three months of qualification liable to service under the National Service Acts. If held by a practitioner liable under these Acts, appointment will be for a period of six months. The salary is as stated in each case, with full residential emoluments. Applications should be sent to the undersigned immediately.—Alan Ruddle, Secretary-Superintendent.

THE BURSLEM HAYWOOD AND TUNSTALL WAR MEMORIAL HOSPITAL, High Lane, Tunstall, Stoke-on-Trent. HOUSE PHYSICIAN (A).—Applications are invited from registered medical practitioners, male and female, for the appointment immediately of a House Physician (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts the appointment will be for a period of six months. Salary is at the rate of £1'5 per annum, with full residential emoluments.—C. E. Lowndes, Secretary.

(Continued on page 18)

CHARGES FOR CLASSIFIED ADVERTISEMENTS

For full list please see June 9, p. 14.

APPOINTMENTS—Hospitals and Public Health, commence at page 11

NOTICES

ROYAL COLLEGE OF SURGEONS OF ENGLAND. MONTHLY DINNERS.—Monthly subscription dinners are held in the College for Fellows and Members of the College and Members of the Specialist Associations linked with the College through the Joint Secretariat; each may bring a guest. The dinners are held on the evening on the Wednesday preceding the second Thursday of the month, but there will be no dinner in August or September. Thus the next two dinners will be on Wednesday, July 11, and Wednesday, October 10 There is an inclusive charge of one guinea for each dinner. Applications will be dealt with in the order in which they are received and must reach the Secretary of the College in Lincoln's Inn Fields W.C.2., at lest one week before the date of the dinner, accompanied by the remittance.—Kennedy Cassels, Secretary.

UNIVERSITY AND INDUSTRIAL APPOINTMENTS

THE UNIVERSITY OF SHEFFIELD.—Applications are invited for the newly-established full-time CHAIR OF MEDICINE in the University. The Professor will arrange all lectures, classes and demonstrations in the Department of Medicine, he will advise the Faculty of Medicine upon the co-ordination of teaching in subjects which properly come within the province of Medicine as distinct from Surgery and Obstetrics, and will be expected to prosecute and foster research in the Department of Medicine. During his tenure of the Chair the Professor will be given, by the Court of Management of the Royal Sheffield Infirmary and Hospital, the status of Honorary Physician and will be provided with in-patient, out-patient and laboratory facilities in the hospital. Salary £2,000 a year with Superannuation provision under the Federated Superannuation Scheme for Universities. Under this the Professor will contribute 5% of his salary and a further 10% of the salary will be *added* by the University, the whole 15% being applied in accordance with the terms of the Scheme. Any fees for such consulting work as is allowed will be paid over to the University. A candidate must be a graduate in Medicine and either a Fellow or a Member of the Royal College of Physicians of London. He must have held a responsible clinical appointment in a teaching hospital and must produce evidence of his capacity to carry out and to direct clinical research. It is desired that the successful candidate begin his duties on January 1, 1946, or as soon as possible thereafter. Applications (six copies) with testimonials and the names of referees should be sent to the undersigned, from whom further particulars may be obtained. In order to allow time for candidates now abroad or in H.M. Forces to apply, the last date for receipt of applications has been fixed at *October 1, 1945.* A referee who is abroad may send a confidential report direct to the Registrar without waiting for an enquiry from the University.—A. W. Chapman, Registrar.

UNIVERSITY OF DURHAM, King's College Newcastle-upon-Tyne.—Applications are invited for the joint post of LECTURER IN CHEMICAL PATHOLOGY in the Department of Pathology, Medical School, King's College, and Assistant Chemical Pathologist to the Royal Victoria Infirmary, Newcastle-upon-Tyne. Candidates must have had special experience in Chemical Pathology. Preference will be given to applicants with a medical qualification. In addition to assisting in teaching and the biochemical work of the hospital the person appointed will be expected to undertake research for which opportunities and facilities are provided. Commencing salary £600 per annum. The appointment will be from October 1, 1945, or other such near date as may be arranged. Further particulars as to duties should be obtained from the Professor of Pathology. Ten copies of applications, accompanied by the names of not more than three referees, should be submitted to the undersigned on or before Saturday, July 7, 1945.—G. R Hanson, Registrar of King's College.

UNIVERSITY OF LONDON.—The Senate invite applications for the CHAIR OF SURGERY, tenable at the British Postgraduate Medical School (salary not less than £2,500). Applications must be received not later than January 1, 1946, by the Academic Registrar, University of London, Richmond College, Richmond, Surrey, from whom further particulars should be obtained.

UNIVERSITY OF LONDON KING'S COLLEGE. REVISION COURSES in ANATOMY and PHYSIOLOGY will be held during AUGUST and SEPTEMBER, commencing on Monday, August 20, 1945. Fee for each subject £3 3s. Applications for admission or for further details should be addressed to the Dean of the Medical Faculty, King's College, Strand, W.C.2.

OXYGENAIRE, LTD., of 8, Duke Street, Wigmore Street, London, W.1, have VACANCIES for the following personnel in connexion with their post-war expansion schemes both in Great Britain and abroad: Commercial manager, travelling inspectors, oxygen tent operators. Applicants must possess medical knowledge and be familiar with hospital routine, of good appearance and education.—All applications to be in writing addressed to the Staff Manager, enclosing copies only of credentials. Preference will be given to applicants who have served with the forces or carried out useful war work

EDUCATIONAL

F.R.C.S.(EDIN.)

POSTAL AND ORAL COURSES continued as usual. Full details.—H. C. Orrin, F.R.C.S., Surgeons' Hall, Edinburgh.

L.M.S.S.A. FINAL EXAMINATIONS. Surgery, July 9, Aug. 13, Oct. 8. Medicine, Pathology, July 16, Aug. 20, Oct. 15. Midwifery, July 17, Aug. 21, Oct. 16.—For particulars apply Registrar, Apothecaries Hall, Black Friars Lane, E.C.4.

MEDICINE AND SURGERY WEEK-END COURSE: For general practitioners. Saturday and Sunday, July 21 and 22, at Hampstead General Hospital, N.W.3.—Apply Fellowship of Postgraduate Medicine, 1, Wimpole Street, London, W.1. Langham 4266.

PRIMARY F.R.C.S. COURSE: Lecture-demonstrations in Anatomy, Physiology, Pathology, and Bacteriology, on Mondays, Wednesdays, and Fridays, 6.0 p.m to 8.15 p.m., August 13 to October 15.—Apply Fellowship of Postgraduate Medicine, 1, Wimpole Street, London, W.1. Langham 4266.

POSTGRADUATE STUDY. Instruction is arranged in medical, surgical, and special subjects, as circumstances permit. Information and advice obtainable from the Fellowship of Postgraduate Medicine, 1, Wimpole St., London, W.1. Langham 4266.

UNIVERSITY OF LONDON. APPOINTMENT OF EXAMINERS IN FACULTY OF MEDICINE. —The Senate invite applications for Examinerships in the following subjects of Degree Examinations in the Faculty of Medicine in 1946:

Staff Examiners in Forensic Medicine (1); Hygiene (for M.B., B.S., 1; for M.D., 1); Medicine (1); Neurology (1); Obstetrics and Gynaecology (3); Pathology (1); Psychological Medicine (1); Surgery (1); and Therapeutics (1).

Associate Examiners in Medicine (1); Obstetrics and Gynaecology (2); and Surgery (2).

Applications must be received not later than September 1, 1945, by the Principal, University of London, c/o Richmond College, Richmond, Surrey, from whom further particulars and forms of application may be obtained.

ASSISTANTSHIPS VACANT

WANTED, IMMEDIATELY, TEMPORARY ASSISTANT, mixed town and country practice, N.E. Hants. Three practitioners, one in Services, one retiring through ill-health.—Box 9188, B.M.J.

WANTED, OUTDOOR ASSISTANT, male or female, country practice in Midlands, £750 per annum, driver essential, car provided or allowance. —Box 9560, B.M.J.

WANTED, immediately, indoor and outdoor ASSISTANTS for town and country practices with and without view to partnership, also Locums, good salaries offered, state full particulars.—British Medical Bureau, 33, Cross Street, Manchester, 2.

WANTED, MALE ASSISTANT in August in private and panel practice in Leicester, dispenser kept, car and accommodation available, good salary, according to experience.—Box 9569, B.M.J.

WANTED, ASSISTANT, preferably with view partnership, good-class practice, Central Scotland, car and house provided, salary by arrangement, male and ex-Service essential, willing wait demobilization suitable man.—Box 9032, B.M.J.

WANTED for old-established mixed general practice, border town Lancs. and Yorks., a LADY ASSISTANT, with VIEW to partnership if desired.—Box 9155, B.M.J.

WANTED, INDOOR MALE ASSISTANT for country practice in North Midlands, experience not essential, salary £600 with use of car or allowance. —Box 9167, B.M.J.

WANTED, ASSISTANT for branch surgery in a pleasant district of South Wales, near seaside town with good hospital facilities, unfurnished house and car provided, salary by arrangement.—Box 9178, B.M.J.

WANTED, SEPT. 1, ASSISTANT, early partnership with two doctors, mixed practice, South Yorks., details and interview to suitable applicants.—Box 9181, B.M.J.

WANTED, ASSISTANT, pleasant semi-industrial practice, West Riding, car allowance, salary according experience, also locum anytime —Apply full particulars, Dr. Lawson, Linden House, Hipperholme, Yorks.

WANTED, AT ONCE, INDOOR ASSISTANT for town in South Wales, £600 per annum, all found.—Box 9177, B.M.J.

ASSISTANT, with or without VIEW, wanted July 15, Ilford area, £700 p.a., £50 car allowance, small unfurnished (rent free) house, must own car.—Box 9557, B.M.J.

ASSISTANT REQUIRED, country practice, Suffolk, live in, wife not objected to.—Box 9184, B.M.J.

ASSISTANT, male or female, to elderly partner of firm, Cambridge, must be experienced and able drive car.—Box 9186, B.M.J.

ASSISTANT, MALE, OUTDOOR, £750 p a., car provided.—Dr Wilson, Wisbech.

ASSISTANT, MALE, young Scottish Protestant preferred, view to partnership, good-class practice, Cornwall.—Box 7803, B.M.J.

LADY DOCTOR required as ASSISTANT in the Pathological Laboratory, Redhill, salary £400 per annum.—Apply Dr. Chamberlain, St. Margaret's, Cavendish Road, Redhill, Surrey.

ASSISTANTSHIPS WANTED

ASSISTANTSHIP REQUIRED by experienced British practitioner (exempt).—Box 9173, B.M.J.

ASSISTANTSHIP REQUIRED with VIEW, married, 34, M.B. Cantab., 5½ years R.A.M.C., release group 17, furnished house essential, previous G.P. experience.—Box 9166, B.M.J.

ASSISTANTSHIP, WITH VIEW, or salaried PARTNERSHIP, Scottish graduate, ex-Services, fit, married, hospital, general practice experience, car and furnished house essential.—Box 8005, B.M.J.

EXPERIENCED G.P., keen midder man, requires ASSISTANTSHIP, with DEFINITE VIEW early partnership or sucession, married, own car, preferably London or seaside, house essential.—Box 9056, B.M.J.

M.B., Ch.B., married, age 35, now awaiting discharge Army, requires ASSISTANTSHIP, England, furnished accommodation essential, educational facilities desirable.—Box 9555, B.M.J.

WOMAN DOCTOR, well experienced hospital and general practice requires ASSISTANTSHIP in South of England.—Box 8018, B.M.J.

LOCUMS

WANTED, experienced MALE LOCUM from August 18 to September 4, for good-class practice, Gosforth, Newcastle-upon-Tyne, good remuneration, indoor, car provided.—Box 9162, B.M.J.

WANTED, experienced SURGEON with F.R.C.S. to undertake large consulting surgical practice in seaside resort during illness of principal.—Box 9566, B.M.J.

WANTED, PART-TIME DOCTOR, live in London, would suit postgraduate.—Box 9153, B.M.J

WANTED, LOCUM, August 11-25, work light, terms £14 14s. per week, less £4 4s. hospitality if required —Dr. Creswell, Milborne Port, Sherborne, Dorset

WANTED, LOCUM, August 8-31, dispenser kept —Dr. P. G. Levick, Bungay, Suffolk.

WANTED, DURATION LOCUM, Cheshire town, £600 p.a., indoor, car, cottage hospital, private and panel practice.—Box 9172, B.M.J.

WANTED, LOCUM, 8 to 12 weeks, prospects permanency, live out, dispenser kept, partnership practice, S.W city, suburban and rural districts.—Box 9174, B M.J.

WANTED, LOCUM, either sex, for partnership in general practice, able to drive car, previous experience desirable, from mid-July to mid-September preferably, but actual dates subject to arrangement. —Dr. J. W. Hope Simpson, 7, Marlborough Gate, St. Albans. Tel. 272.

WANTED, LOCUM (WOMAN) to replace assistant during August, country practice in Bucks, work light, principal remains.—Box 9183, B.M.J.

WANTED, LOCUM TENENS (A) for a month, resident from June 30, at the Haslemere and District Hospital, Surrey, salary at £8 8s. per week.—Apply Secretary, Haslemere and District Hospital, Haslemere.

WANTED, EXPERIENCED LOCUM for 5 weeks, from August 3, own car preferred, not essential, salary by arrangement.—Box 9179, B.M.J.

WANTED, LOCUM for three weeks in October, compact general practice near Newcastle-upon-Tyne, must be reliable, experienced and recommended, car driver, all found, 17 gns. weekly.—Box 9033, B.M.J.

BOURNEMOUTH DOCTOR desires LOCUM work, short periods, light country practice, hospitality wife essential, own car by arrangement.—Box 9561, B.M.J.

DEVON, CORNWALL, DORSET.—Young doctor offers PART-TIME ASSISTANCE, ten days August, for holiday hospitality for self and wife.—Box 9570, B.M.J.

DEVON-CORNWALL border, wanted experienced LOCUM, August 14 to 31, dispensing, compact area, little midwifery, own car if preferred.—Write full particulars; Box 9031, B.M.J.

LOCUM WANTED, fortnight September, indoor, to run quiet rural practice near lakes, car provided.—Langton-Lockton, Orton, Westmorland, via Penrith.

LOCUM WANTED for July, man or woman, South Cheshire district, no midwifery, ability to drive not essential, state full particulars in reply.—Box 9057, B.M.J.

LOCUM (WOMAN) WANTED for one month after mid-July, Yorkshire, not in sole charge, car driver.—Box 9562

LOCUM REQUIRED, male or female, for July and August.—Applications to Dr. B M. Hegarty, 30 Woodland Avenue, Luton, Beds.

LOCUM URGENTLY REQUIRED for whole of August, car provided, dispenser employed.—Dr Lewis, Hoyland Common, Barnsley.

LOCUM WANTED, British, male or female, first fortnight August, general practice, car provided, state particulars.—Dr. James Schofield, Gairloch, Bare, Morecambe, Lancs.

LOCUM TO TAKE CHARGE of good general practice, salary by arrangement according to experience, Huddersfield district.—Box 9159, B.M.J.

WOMAN DOCTOR available for LOCUM, July 30-August 15, preferably seaside resort, hospitality for son (9½), and mother requested, no midwifery.—Box 9185, B.M.J.

PARTNERSHIPS

WANTED, PARTNERSHIP (after prelim. assistantship) or PRACTICE in Bath, by M.B., Ch.B., age 43.—Box 9182, B.M.J.

WANTED, PARTNER OR ASSISTANT, with VIEW, either sex, to take place of woman partner returning home overseas, practice south of Manchester, 3 partners.—Box 9156, B.M.J.

EX-SERVICE DOCTOR, 27 years, married, London trained, British, requires SHORT ASSISTANTSHIP with definite VIEW to PARTNERSHIP in Southern, South-Eastern, or Home Counties.—Box 8037, B.M.J

FOR SALE, 1/2 SHARE woman's practice, Surrey, average 2 years £4,000, premium 2 years' purchase, good house.—Box 9058, B.M.J.

PARTNER REQUIRED, in good mixed practice, North England, excellent hospital, with appointment for man with higher medical qualifications. Service man with early demobilization welcomed.—Box 7811, B.M.J.

PARTNER WANTED by October, in old-established practice, 20 miles from London, share for sale at 1½ years' purchase, house available, excellent schools and all hospital conveniences, suit G.P. specialist.—Box 7886, B M J.

PARTNERSHIP IN WOMAN'S PRACTICE for sale in pleasant residential North-West Coast town, last year's receipts £4,000 including £800 panel and £200 income from appointments, ground floor flat with garden and garage to rent, good district, premium terms for negotiation.—Box 9164, B.M.J.

PARTNER REQUIRED, OWING to death of one partner, in mixed practice in West Riding town, up to one-half share for sale at 2 years' purchase, panel over 3,000, gross receipts over £4,000 p.a. for last few years (audited), house and surgery, with good sized garden for sale to incoming partner.—Box 9170, B.M.J.

PARTNERSHIP FOR SALE in semi-rural area of West Riding, share worth £1,450, at two years' purchase, house for sale.—Box 9002, B.M.J

SCOTTISH East Coast city.—PARTNER wanted, share worth £1,300, good panel and appointments, preliminary assistantship if desired.—Box 9564, B.M.J.

THIRD PARTNER WANTED, old-established dispensing practice, efficient dispenser-secretary, attractive Surrey suburb, modern central surgery, gross receipts, £6,500, share offered, 1/4, or by agreement, 2 years' purchase, some experience, general practice, obstetrics, desirable.—Box 7887, B.M.J.

MEDICAL POSTS

CONJOINT and DENTAL ex-R.A.M.C., keen administrator, organizer, used to control of large staff, experienced lecturer and writer, advocate Positive Health, preferring Social Medicine, requires POSITION OF RESPONSIBILITY where energy, ability, and clinical acumen appreciated.—Replies in strict confidence to Box 9568, B.M.J.

G.P., 12 YEARS own practice, 36 years, healthy, energetic, retiring general practice next year or two, WILLING REPRESENT any first-class surgical instrument makers or bona-fide drug firm. Interview could be arranged while on holiday July 14-21.—Box 9152, B.M.J.

REQUIRED ASSISTANT PSYCHIATRIST in high-class nursing home in the West Country, excellent salary and good prospects for well-qualified man.—Apply Dr. Waterhouse, Nynehead Court Clinic, Wellington, Somerset.

PRACTICES

WANTED, SMALL PRACTICE up to £1,000 p.a., on coast, South, South-West or West.—Box 9180, B.M.J.

WANTED, by lady doctor, small PRACTICE in England or Scotland, preferably country, near good schools for boy of 8 years and girl of 10, pleasant house and garden essential.—Box 9552, B.M.J.

DEATH VACANCY: COUNTRY PRACTICE in the Home Counties in delightful district, including Georgian house and garden in excellent repair, inclusive price £7,200.—Box 8034, B.M.J.

WANTED, by woman doctor, industrial PRACTICE, in or near Newcastle-upon-Tyne, panel about 1,500, capital available.—Box 8015, B.M.J.

FOR SALE, MIXED PRACTICE (panel 780), taking over £1,000, excluding appointments, in pleasant country township in South Durham, very good modern house and ½ acre garden, practice 2 years' purchase, introduction considered —Box 9034, B.M.J.

EX-SERVICE DOCTOR, 27 years, married, London trained, British, requires PRACTICE in Southern, South-Eastern, or Home Counties.—Box 8036, B.M.J.

FOR SALE, old-established sound PRACTICE, Lancs, 2,000 panel, gross income over £2,000, exceptionally good and up-to-date house.—Box 7786, B.M.J.

FOR SALE, old-established good mixed country PRACTICE in delightful part of Southern England, doing approx. £2,000, panel 800, appointment £100, good house with all modern conveniences and redecorated, to purchase, introduction to suit purchaser.—Box 9161, B.M.J.

FOR SALE, mixed CASH PRACTICE, 5 miles from Manchester, average receipts £1,500, panel 1,886=£903, C.A. audit, premium £2,100 payable out of income in 5 yearly instalments, detached well-built 4-bedroomed house in own grounds, with garage, heated greenhouse, and up-to-date surgery and waiting-rooms, all completely furnished, for sale at valuation, owner going East.—Reply Box 9567, B.M.J.

FOR IMMEDIATE DISPOSAL, well-established medical PRACTICE in west country town in Scotland, average receipts £2,250, panel 1,870, 1½ years' purchase, excellent modernized house with well-stocked garden, garage accommodation and two cars, modern lock-up surgery, hospital appointment, present owner specializing. For further particulars apply Crawford, Herron & Cameron, 257, West George Street, Glasgow.

GENERAL PANEL PRACTICE for sale through ill-health, near Oxford Circus, residence with consulting-room in maisonette adjoining Harley Street. —Box 9573, B.M.J.

LIVERPOOL, DEATH VACANCY, old-established middle and working-class PRACTICE, panel approx. 2,500 units, house to rent.—For further particulars, write Box 9553, B.M.J.

M.D., B.Sc., aged 46, now in India, expecting early demobilization, wishes APPOINTMENT, PRACTICE or PARTNERSHIP.—Box 9565, B.M.J.

MEDICAL PRACTICE, private and panel, about 20 miles from Glasgow, income £1,800 p.a., substantial panel list, good house also for sale, terms moderate.—For further particulars apply Crawford, Herron & Cameron, Solicitors, 257, West George Street, Glasgow.

MEDICAL PRACTICE for sale, Yorkshire, £2,500 gross, 1,700 panel patients (increasing), house to rent or purchase.—Box 7755, B.M J.

MEDICAL PRACTICE for sale, Co. Durham, gross income over £5,000 panel over 1,250 patients, two good houses, excellent opening for two men.—Box 7831, B.M J.

NORTH LANCS country town, old-established good-class medical PRACTICE for sale, gross receipts over £2,000, including panel of 1,000 units, good house and attractive garden sale or rent.—Box 9163, B.M.J.

NUCLEUS, with commodious flat and surgery, new L.C.C. estate, growing rapidly, only now accepting panel, easy terms, fixtures, furnishings, letters only. —57, Union Grove, S.W.8.

OLD-ESTABLISHED COUNTRY PRACTICE for sale, one hour from London, or South-East Coast, panel £600, appointments £440, with private practice, total £2,000 annual income, delightful house, freehold (2/3 reception, 4 bedrooms, etc.), walled garden, lawns, quiet and private, surgery on premises, separate entrance, £9,000 house and practice, banker's reference required.—Box 9572, B.M.J.

OLD-ESTAB. PRACTICE for sale, East Lancs. town, panel 1,930, good private practice, average £2,300, modern house and surgery for sale, premium 1½ years.—Box 9158, B.M.J.

OLD-ESTABLISHED PRACTICE, near West Riding town, panel 1,375, income £1,500, new house, large garden, central heating, garage (heated).—Box 9165, B M.J.

SALE, OLD-ESTABLISHED private and panel PRACTICE, now doing £630, detached leasehold house, garden, accept £1,250 for both, S.E. district —Box 9049, B.M.J.

SALE, well-equipped private and panel PRACTICE, good house, Midland industrial city, owner retiring, reasonable price.—Box 9563, B.M.J.

WELL-ESTABLISHED PRACTICE for sale in university town, compact panel over 2,400 (3-year pre-war average) and over 2,000 war period, increasing as forces return, modern house on lease, with tennis lawn, garage and separate surgery entrance, appointment over £200 likely to continue, reliable paying private practice with scope, also good open choice Public Assistance work in three adjacent housing estates, suitable for young ex-Service practitioner.—Box 9160, B M.J.

DIETETIC, DISPENSING, TYPING, SECRETARIAL, RECEPTION, ETC.

None of the vacancies for women advertised in these columns relates to a woman between the ages of 18 *and* 40 *inclusive, unless she is exempted from the provisions of the Control of Engagement Order,* 1945, *or the vacancy is for employment excepted from the provisions of that Order.*

WANTED, DISPENSER-BOOKKEEPER, permanent.—Dr. D. Cameron, 125, Newmarket Road, Cambridge.

WANTED, DISPENSER in pleasant country district 30 miles London, well-equipped, easily-run surgeries, good lodgings found.—Box 9176, B.M.J.

WANTED, LADY DISPENSER-SECRETARY for practice in Richmond, Surrey. Full particulars, apply Box 9187, B.M.J.

WANTED, LADY DISPENSER-BOOKKEEPER in July.—Full particulars to Dr. Dean, Spilsby, Lincs.

DISPENSER BOOKKEEPER required for country practice in North Midlands, 4½ to 5 gns. weekly.—Box 9168, B.M.J.

DISPENSER-BOOKKEEPER REQUIRED, permanent post.—Apply, stating experience and salary expected, to Dr. Button, Rye, Sussex.

EX-NAVAL SISTER desires POST, doctor's surgery or consulting rooms, where ingenuity and capability may be used, could part furnish home, own nursing home blitzed, any suggestions considered. Box 9157, B.M.J.

EXPERIENCED MEDICAL SECRETARY requires post with doctor, preferably West End, drives a car, would consider temporary work.—Box 9574, B.M.J.

LOCUM DISPENSER REQUIRED for three weeks during summer, Nottinghamshire, salary 5 gns. per week and travelling expenses.—Box 9175, B.M.J.

MIDDLESEX COUNTY COUNCIL. SHENLEY MENTAL HOSPITAL, near St. Albans. TEMPORARY ASSISTANT DISPENSER (male or female) required to assist pharmacist. Must hold Apothecaries Hall Certificate or the Preliminary Scientific Examination of the Pharmaceutical Society. Salary (including war bonus) £230 per annum. Residential facilities available in hospital, for which present charge is £92 per annum. Application to be made to the Medical Superintendent.—C. W. Radcliffe, Clerk to the County Council.

RECEPTIONIST, exempt, languages French, Russian, and German, seeks POSITION.—Write Mrs. Hodson, D.65, Du Cane Court, Balham, S.W.17.

SECRETARY RECEPTIONIST, 40, exempt, wishes position, country or coast town resident, willing undertake light household duties, free September.—Box 1361, Wm. Porteous & Co., Glasgow.

W.A.A.F. OFFICER, 6 years' service, married, requires post as RECEPTIONIST-SECRETARY to consultant, Central London area, capable typist, no shorthand, available after July 20, 1945.—Box 9171, B M.J.

MISCELLANEOUS

WANTED, MICROSCOPE SLIDES illustrating all types of nephritis, preferably with short notes, must be first-class material.—Send on approval and state price to Dr. Gillies, Selby, Yorkshire.

EDISWAN SHOCK THERAPY APPARATUS FOR SALE, as new, very little used, £45 or near offer.—Apply J. Plowman, 2, Devonshire Place, W.1.

FOR SALE, MERCURY VAPOUR ARC LAMP for ultra-violet light therapy, by Kelvin, Bottomley and Baird, with converter for use with 250 volt a.c., offers invited.—Clerk, Beeston and Stapleford U.D C. Town Hall, Beeston, Nottingham.

INSTRUMENTS (surgical, second-hand), including sphygmomanometer, ophthalmoscope, scalpels, etc. —Box 9594, B.M.J.

MICROSCOPE FOR SALE (Baker), 2 objectives, 1/6 and 1/4 Zeiss lenses, condenser and diaphragm, in mahogany case £25.—Box 9169, B.M.J.

PORTABLE *X*-RAY, Victor F3, as new, £200 with accessories, also Philips Metallix Junior PORTABLE, mobile stand, perfect order, offers.—Box 9556, B.M.J.

X-RAY APPARATUS FOR SALE, unrectified, hand-tilting table, Bucky, overhauled by makers recently, cheap.—Box 9558, B.M.J.

WANTED TO PURCHASE.—Cameras, enlargers, and all photographic apparatus, exposure meters, tripods, etc., microscopes, cine cameras, and projectors. Prompt cash and high prices offered.—Wallace Heaton, Ltd., 127, New Bond Street, London, W.1.

MEDICAL PHOTOGRAPHS and drawings for illustration, records, etc.—Write for particulars, Eric O. Sonntag, 159, Bickenhall Mansions, Baker Street, London, W.1. WELbeck 8860

STRAWSON'S OPEN-AIR REVOLVING SHELTERS (against doctor's certificate) for tubercular and other medical cases. Stamp for List B.M.J. 45. —G. F. Strawson & Son, Horley, Surrey.

MOTOR CARS

FOR SALE, 1938 ARMSTRONG SIDDELEY 25 h.p. (short chassis) dark blue SALOON, leather upholstery, driven only by owner, new batteries, mileage under 17,000, splendid condition, what offers?—Write Box Z.F. 383, Deacons, 5, St. Mary Axe, London, E.C.3.

£2,000 PAID for recent ROLLS or Rolls Bentley (privately owned), also small Austin 12 required.—Write Col. O'Donovan, 24, Charmadene Road, Worthing.

NURSING HOMES

FOR SALE, modern fully equipped 6-bedroomed MATERNITY HOME, h. and c. wash basins each room, West Coast, adjacent to sea, audited accounts, bookings until December, view by appointment.—Box 9554, B.M.J.

NURSING HOME, fully equipped, about 50 miles London. £3,000.—Write only in first instance, S. & M., 25, Great James Street, W.C.1.

HOUSES, CONSULTING ROOMS

CONSULTING physician requires part-time share of ground-floor CONSULTING-ROOM (otherwise lift) in W.1 or near district.—Box 9151, B.M.J

LARGE UNFURNISHED ROOM, parquet floor, use of kitchen, bathroom, 30s., furnished room 37s., small garage 5s. a week, doctor's house.—R. Campbell, 1, Danby Street, Peckham, S.E.15.

TO BE SOLD, LLANNERCH PARK, ST. ASAPH, a well-known MANSION HOUSE situated amidst beautiful scenery in the Vale of Clwyd, North Wales Most suitable for a medical institution, accommodation for at least 80, excellent walled garden, bathing pool, tennis lawns, etc., main water and main electricity, centrally heated, 8 miles from well-known seaside resort, station 1 mile, excellent bus service. Order to view by permit only.—Apply, R. E. Birch, Estate Office, Coed Bedw, Abergele.

APPOINTMENTS

(*Continued from page* 15)

THE ROYAL VICTORIA AND WEST HANTS HOSPITAL, Bournemouth.—Applications are invited from registered medical practitioners, male or female, for the following appointment: HOUSE SURGEON (A), available mid-July. Salary £175 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply. The appointment will be for a period of six months.—Gordon M. Saul, Secretary.

TYNEMOUTH VICTORIA JUBILEE INFIRMARY. HOUSE SURGEONS (A).—Applications are invited from registered medical practitioners (male) for the appointment of two House Surgeons (A), which are now vacant, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary is at the rate of £200 per annum, with full residential emoluments. Applications should be sent to the undersigned as soon as possible.—Chas. Rowell, Secretary, Hawkey's Lane, North Shields, Northumberland.

THE ROYAL HOSPITAL, Wolverhampton. (Incorporated under Royal Charter.)—Applications are invited from registered medical practitioners for the appointment of a HOUSE SURGEON (A), vacant July 12, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary is at the rate of £100 per annum, with full residential emoluments.

Applications are also invited from registered medical practitioners, male, for the appointment of CASUALTY OFFICER (B2), vacant August 6, including R practitioners who hold A posts. If held by an R practitioner, the appointment will be limited to six months. Salary is at the rate of £150 per annum, with full residential emoluments.—W. Cockburn, House Governor.

THE HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—The Hospital for Sick Children, Country Branch Hospital, Tadworth, Surrey (110 beds). Required at an early date an ASSISTANT RESIDENT MEDICAL OFFICER (B1). Salary £350 per annum, with full residential emoluments. R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Further particulars, and forms of application, which must be returned at once, are obtainable from the undersigned.—H. F. Rutherford, Secretary.

THE GUEST HOSPITAL, Dudley. (The Resident Staff consists of a Resident Surgical Officer and three House Surgeons).—Applications are invited from registered medical practitioners, male and female, for the appointment of CASUALTY HOUSE SURGEON (A), now vacant, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts appointment will be for a period of six months. Salary is at the rate of £200 per annum, with full residential emoluments.

Applications are invited from registered medical practitioners, male and female, for the appointment of two HOUSE SURGEONS (B2), now vacant, including R and W practitioners who now hold A posts. If held by an R or a W practitioner the appointment will be limited to six months. Salary is at the rate of £200 per annum, with full residential emoluments.—H. Raymond Hurst, House Governor and Secretary.

THE PRINCE OF WALES'S HOSPITAL, Plymouth.—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (A) with gynaecological work, for duty at the Lockyer Street Section, now vacant, including practitioners within three months of qualification who are liable to service under the National Service Acts If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary is at the rate of £175 per annum, with full residential emoluments.—Arthur R. Cash, General Superintendent, Head Office, Greenbank Road, Plymouth.

WEST LONDON HOSPITAL, Hammersmith, W.6. JUNIOR CASUALTY OFFICER AND HOUSE PHYSICIAN TO CHILDREN'S DEPARTMENT (A) and HOUSE SURGEON (A).—Applications are invited for the above two appointments, to become vacant on August 1, 1945, from registered medical practitioners, male and female, including practitioners within three months of qualification who are liable to service under the National Service Acts. The appointments will be for periods of six months and may be terminated by one month's notice on either side. Salary at the rate of £100 a year with the usual residential emoluments. Applications should reach me not later than Friday, July 6, 1945.—H. A. Madge, Secretary.

THE PRINCE OF WALES'S HOSPITAL, Plymouth.—Applications are invited from registered medical practitioners, male and female, for the appointment of SENIOR HOUSE SURGEON (B2), for duty at the Devonport Section, vacant July 12, including R and W practitioners who now hold A posts. If held by an R or a W practitioner, the appointment will be limited to six months. Salary is at the rate of £200 per annum, with full residential emoluments.—Arthur R. Cash, General Superintendent, Head Office, Greenbank Road, Plymouth

THE ELIZABETH GARRETT ANDERSON HOSPITAL, Euston Road, N.W.1.—Applications are invited from fully qualified medical women for the honorary post of TEMPORARY ASSISTANT GYNAECOLOGICAL SURGEON. Duties to commence as soon as possible. Further particulars of the post can be obtained from the Secretary, to whom applications, with copies of testimonials, should be sent by July 31.

VICTORIA HOSPITAL, Burnley (183 beds).—Applications are invited from registered medical practitioners for the appointment of TWO HOUSE SURGEONS (A). Salary at the rate of £150 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when appointment will be for a period of six months. Applications should be sent to the undersigned.—J E. Wheatcroft, Secretary.

VICTORIA HOSPITAL, Blackpool. (Normal complement 200 beds; war-time complement 500 beds).—Applications are invited from registered medical practitioners, male, for the appointment of, HOUSE SURGEON (B2), Eye, Ear, Nose, and Throat Departments, and Surgical Unit No. 1, vacant immediately, including R practitioners who now hold A posts. The appointment is for a period of six months, and the salary is at the rate of £200 per annum, with full residential emoluments. Applications should be sent to the under-mentioned immediately.—Walter R. Smith, General Supt.

VICTORIA HOSPITAL, Deal. HON. OPHTHALMIC SURGEON.—Applications are invited for the post of Hon. Ophthalmic Surgeon. Applications, with copies of not more than three testimonials, should be sent to the Secretary, Victoria Hospital, Deal, by July 8.

THE WILLESDEN GENERAL HOSPITAL, Harlesden Road, N.W.10.—Applications are invited from registered medical practitioners for the following resident appointments vacant August 1: HOUSE SURGEON (A) and HOUSE PHYSICIAN (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. Salary at the rate of £130 per annum, plus full residential emoluments. The appointments will be for a period of six months. Applications should be sent to the undersigned immediately.—J. N. Drake, Secretary.

WILSON HOSPITAL, Mitcham (98 beds).—Applications are invited for the post of HONORARY CONSULTING PHYSICIAN. The duties include a weekly out-patient session. Further details may be obtained from the Chairman, Medical Committee, Wilson Hospital, Cranmer Road, Mitcham, to whom applications should be sent

WEMBLEY HOSPITAL, Wembley, Middlesex.—Applications are invited from registered medical practitioners, including practitioners within three months of qualification and liable for service under the National Service Acts, for the post of HOUSE PHYSICIAN and CASUALTY OFFICER (A), vacant August 1, 1945, for a period of six months. Salary £175 per annum, with full residential emoluments.—P. E. Windo.

WHITEHAVEN AND WEST CUMBERLAND HOSPITAL (Voluntary General Hospital of 90 beds, plus 50 E.M.S. beds, with Maternity Unit. Outpatient and Casualty Departments and Modern Fracture Clinic and Rehabilitation Centre). RESIDENT SURGICAL OFFICER (B2).—Applications are invited from registered medical practitioners including R and W practitioners who now hold A posts, for the appointment of Resident Surgical Officer (B2). The appointment will be for a period of six months commencing July 1, 1945, at a salary of £300 p.a., with full residential emoluments.—T W. Lymer, Secretary-Superintendent.

WORCESTER ROYAL INFIRMARY.—Applications are invited for the position of HOUSE PHYSICIAN (B2), vacant now. The salary will be at the rate of £200 a year, with full residential emoluments. R and W practitioners who now hold A posts may apply, when appointment will be limited to six months. Applications should be addressed to the undersigned.—Harold Wigg, Acting Superintendent-Secretary.

WALSALL GENERAL HOSPITAL (181 beds).—Applications are invited from registered medical practitioners, male and female, for the post of HOUSE SURGEON (A), at a salary of £150 a year. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months. Salary is at the rate specified above, with full residential emoluments. Applications should be forwarded immediately to W. H. Harper, Honorary House Governor.

WEYMOUTH AND DISTRICT HOSPITAL, Melcombe Avenue, Weymouth, Dorset.—Applications are invited from registered medical practitioners for appointment of HOUSE SURGEON (B2). The appointment will be open to male and female candidates, and will be for six months at a salary of £200 p. a., with full residential emoluments. R and W practitioners holding A posts may also apply. Applications to be addressed forthwith to the Secretary and Superintendent of the Hospital.

WEST NORFOLK AND KING'S LYNN GENERAL HOSPITAL. RESIDENT HOUSE PHYSICIAN (B2).—Applications are invited from registered medical practitioners, male and female, for the appointment of a House Physician (B2), now vacant, including R and W practitioners who now hold A posts. The appointment will be for a period of six months. Salary is at the rate of £200 per annum, with full residential emoluments The appointed applicant will have charge of medical and ophthalmic beds and act as resident anaesthetist.

RESIDENT HOUSE SURGEON (B2).—Applications are invited for the post of House Surgeon (B2), now vacant, including R and W practitioners who hold A posts. If held by an R or W practitioner the appointment will be limited to six months. The salary is at the rate of £200 per annum, with full residential emoluments. Duties will include charge of surgical beds, casualty department, and called upon to give anaesthetics in the absence of the honorary anaesthetists.

Applications for each post should reach the undersigned as soon as possible.—Joseph E. Searjeant, F.C.C.S., House Governor and Secretary, General Hospital, King's Lynn.

WEST LONDON HOSPITAL, Hammersmith, W.6—Applications are invited for the post of MEDICAL REGISTRAR (B1). The person appointed will be enrolled in the Emergency Medical Service and the rate of salary (payable by the Ministry of Health) will be according to experience, but will not be less than £350 per annum. The post will become vacant on July 31. Suitably qualified R practitioners holding B2 appointments are invited to apply immediately. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Selected candidates will be notified as to attendance for interview.—H. A. Madge, Secretary.

WEST LONDON HOSPITAL, Hammersmith, W 6 SENIOR CASUALTY OFFICER (B2).—Applications are invited for the above appointment, to become vacant on August 1, 1945, from registered medical practitioners, male and female, including R and W practitioners who now hold A posts. The appointment will be for a period of six months and may be terminated by one month's notice on either side. Salary according to experience, but not less than £100 a year with the usual residential emoluments. Applications should reach me not later than Friday, July 6, 1945.—H. A. Madge, Secretary.

UPTON EMERGENCY HOSPITAL, Chester HOUSE SURGEON (B2).—Applications are invited from registered medical practitioners, male and female, for the appointment of House Surgeon (B2), including R and W practitioners who now hold A posts. If held by an R or a W practitioner the appointment will be limited to six months, otherwise it will be for a period not exceeding one year. The salary is at the rate of £200 per annum, with full residential emoluments Applications should be addressed to the Medical Superintendent, Upton Emergency Hospital, Chester.

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SUPPLEMENT TO THE

BRITISH MEDICAL JOURNAL

LONDON SATURDAY JULY 7 1945

HEARD AT HEADQUARTERS

Home Rule for Scotland

At the Special Representative Meeting which was held in London at the beginning of May it was agreed that motions and amendments on the agenda relating to proposals for the National Health Service in Scotland should be referred for consideration by a Special Representative Meeting to be held in Edinburgh. It is well understood, and indeed stated in the White Paper, that for geographical and local government reasons the general administrative structure of the service cannot be exactly the same in Scotland as in England and Wales.

The Special Representative Meeting in Edinburgh took place on June 28 and lasted all day. It was attended by representatives of all the Scottish Divisions and by members of the Scottish Committee of the Association, while from headquarters came the President of the Association (Mr. Souttar), the Chairman of Council (Dr. Dain), the Chairman of the Representative Body (Dr. Peter Macdonald), and the Secretary (Dr. Hill). With Dr. J. B. Miller in the chair and Dr. Wilkie Millar, as chairman of the Scottish Committee, guiding the business, the ground was adequately covered in a very short time.

The same requirements as to publication, imposed from above, apply to the Scottish meeting as to the London one, though all members of the medical profession in Scotland are to be informed of the decisions of the meeting. But it can be said that the question which aroused the chief discussion was whether the idea of a Central Medical Board should in Scotland be retained or dropped. The feeling of the meeting was strongly in favour of a Central Medical Board for Scotland, subject, however, to satisfactory negotiations on its appointment and constitution and on the powers it will possess.

Scottish Debate

One feature of the Scottish meeting—no doubt the idea of Dr. Craig, the Scottish Secretary—was to have a very large chart illustrating the structure of the administration proposed and the interrelation of the various boards, councils, committees, and services. It proved very useful during the day, and speakers by pointing to it saved themselves and their hearers a number of words.

It is interesting to an Englishman to hear Scottish debate. It is quite wrong to suppose Scottish speaking to be prosy and dull. Some of the representatives had a flair for picturesque expressions. One of them, for example, in talking about the method of appointment to some governing bodies, said that there must be no "barnacle-ism"—a useful word even if not in the dictionary. Another, speaking of the arrangement whereby the Secretary of State might make appointments to a body which already had its quota of professional representatives, said that the Minister would be "able to load the pack with an unspecified number of 'jokers.'" Perhaps it was not an unintentional mixture of metaphors when another declared that somebody had "let the cat out of the bag and it had proved to be a mailed fist"!

One Scottish representative let himself go over the popular notion of health centres—he thought American films had something to do with it. "They visualize marble palaces, with chromium-plated fittings and platinum-blonde receptionists." Some such idea, perhaps not quite so grandiose, does really obtain among well-educated people; at a big health conference which I attended next day in London one speaker welcomed the health centre as meaning the end of independent practice. No doctor, said this lady, should in these days practise by himself; he should be a member of a team. Many loose ideas are current on the subject of the health centre, which all goes to show how well advised the B.M.A. was in insisting that, before the health centre idea was established, alternative types should be the subject of experiment in agreement with the local medical profession.

Standards of Remuneration

The Spens Committee is devoting its two-day meeting next week to considering the evidence, written and oral, of the B.M.A. On the first day it will interrogate the witnesses on the general aspects of the Association's written evidence, and on the following day hear witnesses speaking on the special aspects of practice in different areas. The principal witnesses who have been nominated to present the memorandum of evidence are Dr. Guy Dain (Chairman of Council), Dr. E. A. Gregg, Dr. S. Wand, Dr. I. D. Grant, and Dr. Charles Hill. In addition ten others have been invited to give evidence from different areas—completely built-up or industrial areas, completely rural areas, Welsh valleys, the Highlands and Islands of Scotland, mixed areas mostly urban, and mixed areas mostly rural, as well as special cases of general practice. As for this last, as the witness chosen is a Bournemouth doctor, it may be taken to mean practice in a community in which there are an unusual number of invalids and people seeking health.

The memorandum of evidence is as yet, of course, a private document. The Insurance Acts Committee and the General Practice Committee have been meeting this week in joint session to consider it in draft. It looks a very ably constructed document, and is supported by a dozen tables of figures, the result of careful work at headquarters and at the periphery extending over months.

Contract of Service

A Division recently asked whether: (1) the insurance doctor's contract of service is with the local insurance committee absolutely or with the Ministry through the agency of the committee, and (2) whether any contract in reality exists between the doctor and the insured patient.

The questions were submitted to the B.M.A.'s solicitors, whose lengthy reply was laid before the Insurance Acts Committee this week. There are possible pitfalls in summarizing a legal explanation, because it is subject to various qualifications, but in general the view of the solicitors is this. On the first question, the contract is clearly with the committee itself in each individual case. On the second question, in law there is always a contract as well as a Common Law duty between a patient and his doctor, the contract being that in consideration of the patient's entrusting himself to the doctor the latter will exercise reasonable care and skill. The solicitors are unable to see that the position goes any further than that in the case of the insured person. After all, the insured person is in his turn a contractor with the insurance committee, and if the service he receives falls short of the medical treatment promised under the Acts and regulations his duty is to complain to the committee, who will investigate the matter. There is no other direct contract existing between the doctor and the insured patient, so it follows that except for negligence—that is, failure to exercise reasonable care and skill—an insured person has no right of action through the courts against a medical man for alleged breach of contract. For example, he would have no right of action if a doctor did not adhere to his surgery hours, or, save on the issue of negligence, failed to visit or carry out other terms and conditions of his contract with the committee.

Medical Attendance on School-children

It is worth while putting on record that Mr. Butler's successor at the Ministry of Education, Mr. Richard Law, has endorsed his predecessor's undertakings concerning the school medical service. When it was represented to Mr. Butler that even where developments were possible they should at present take the form of a greater use of existing services, instead of new departures likely to prejudice future developments in connexion with the health service as a whole, he agreed generally with that view. Mr. Law stated in the House just before the dissolution that the fact that the National Health Service was not yet in being, together with the medical man-power situation, made it difficult to lay down lines of development for the school medical service for the immediate future, and he added—to quote his words from Hansard: "I mean, however, to fulfil the pledge my predecessor gave to the House, and, while encouraging urgent developments in those clinic and hospital services which have always been the mainstay of the school medical treatment service, I shall not, for example, approve any proposals which would lead to the setting up by local education authorities of a general medical-practitioner service."

Correspondence

Physiotherapists and the Board of Registration of Medical Auxiliaries

SIR,—The Board of Registration of Medical Auxiliaries welcomes the letter in the *Supplement* of June 9 (p. 107) from the chairman of the council of the Chartered Society of Physiotherapy in which he expresses the opinion that State registration of physiotherapists is practically certain to come before long, for the Board has for some time been advocating the State registration of all medical auxiliaries. The Board is also glad to have a statement of the reasons why the Society seceded from the Board, for, though the Society was one of the foundation members of the Board, it seceded without any previous discussion with the Board and without giving any reason for its withdrawal.

To us the reasons given seem very inadequate to justify such a serious step. When we recall that the Chartered Society has always been autonomous, and that the Board is an independent registering and co-ordinating body which has no power or wish to interfere with the autonomy of its constituent bodies, the argument about minority representation cannot be deemed valid. Nor is the remark about one-portal entry apposite if it be remembered that the Board has consistently maintained the one-portal system of entry. Moreover we think it ought to be counted an advantage for all medical auxiliaries, including physiotherapists, to be registered by the one Board, for in this way better co-ordination is likely to be achieved. If the Chartered Society considers that physiotherapists should not be classed with other medical auxiliaries there would be serious ground for alarm. There is one reason not mentioned in the letter which ought to be added. Objection has been raised to the fact that the constitution of the Board ensures that its medical members have a majority; this was regarded as an essential feature by the British Medical Association and the other foundation bodies, including the Chartered Society. It was this objection which gave rise to the genuine disquietude in the mind of the Board as to the future relationship between the medical profession and the Chartered Society. The Board did not need the chairman of the Society's assurance to know that under its present distinguished leadership there could not be the slightest danger, but in future times and under other leaders it would need a bold man to say that an attempt at a greater and more harmful independence might not be sought.

In the final paragraph of the letter the claim of the Chartered Society for independence is compared with that of the medical profession. The Society makes a greater claim. There are many examining and qualifying bodies for the medical profession, each of whom keeps a complete register of its graduates and holders of diplomas, but none can legally practise until registered by a body which is independent of each of the examining bodies —i.e., the General Medical Council. The Chartered Society at present claims the privilege of conducting its own qualifying examination and keeping the official register of those who are duly qualified. We consider that this position has inherent and real dangers which can only be guarded against either by statutory registration or by the aid of some voluntary external registering body such as the Board itself.

In the opinion of the Board the Chartered Society has not acted wisely in severing its connexion. The Board was formed to carry out the policy of the British Medical Association—a policy which should provide a guide to the medical profession and others—and the decision of the Council published in the Annual Report of Council (*Supplement*, May 12, p. 79) makes it clear that this policy still has its support. The Board can only hope that even now the Chartered Society may see its way to reverse its decision.—I am, etc.,

V. ZACHARY COPE,
President,
Board of Registration of Medical Auxiliaries.

Medical Demobilization

SIR,—Of recent months your correspondence columns have carried many letters from Service medical officers complaining about gratuities or contrasting their lot (sometimes unjustly) with that of medical men still at home. But now a much graver threat looms over Service medical men. It is that the present release scheme, based on age plus service, will not apply to R.A.M.C. officers. Admittedly this has not yet been stated officially, but signs are not lacking that such a move is in fact intended. What other conclusion indeed can be drawn from a statement that all those above release group 17 are to be considered eligible for Far East service?

That medical personnel in abundance are required for this last phase of the war cannot be doubted. But the prospect of perhaps another two years in the Army spent on the other side of the world, ambitions for the future and memories of home alike becoming fainter, is not calculated to raise morale or enhance enthusiasm. A clear statement of intention backed by something more concrete than mere "exigencies of the Service" is needed.—I am, etc.,

C.M.F. "B.P.C."

*** The Secretary of the Central Medical War Committee states that the Committee is assured by the War Office that the release scheme *is* being applied to R.A.M.C. officers. The fact that an officer in an age-service group above 17 is posted now to the Far East to replace an officer in a lower group does not mean that he will be unable to obtain release in his turn. —ED., *B.M.J.*

SIR,—Much ill temper and misunderstanding have been recently in your columns about medical demobilization, and in particular about interchange between the E.M.S. and the Forces. I do not wish to enter into this latter controversy, because I have no idea of the number, if any, of fit doctors who are evading military service. Since, however, call-up is in the hands of the Central Medical War Committee "evade" is not strictly applicable. While I have little doubt there are a few who manage to represent themselves as essential and actively attempt to avoid service, I do not think the number can be sufficient to make any appreciable difference to the rate of release of doctors.

This controversy is obscuring a more important aspect of release of doctors. In a circular letter the C.M.W.C. states that "requirements of the Forces for the war in the Far East will be such as to make impossible a reduction in strength of the medical branches proportionate to the reduction in strength of other branches." I do not expect that release of doctors will follow release of other personnel group for group, but I do expect that it will be in proportion to the total number of releases. Mr. Bevin has stated that the aim is for 750,000 to be released by Christmas, 1945. Then this number no longer requires the attention of Service doctors, but will require the attention of civilian doctors. Clearly, then, the number of doctors needed by the Forces to look after 750,000 should be released at the same time. I believe the Forces have approximately one doctor to every 500 personnel. Then 1,500 medical officers should also be released by Christmas, 1945.

I am aware that call-up for the Forces is to continue up to the age of 25 or 27, but so also is the call-up of newly qualified doctors. It has been estimated that this source provides about 1,200 doctors a year fit for military service—say 600 by Christmas, 1945. This number is sufficient for 300,000 troops, which I think is more than the annual call-up of age groups up to 25. In other words, there is room for a further release of medical officers on the basis of call-up of newly qualified doctors. The total number released in these ways would be at least between 1,500 and 2,000, which is quite a considerable number of doctors when used in more economical ways in civil life, where at present, I believe, there is only one doctor to about 3,000.

Without making any allowance for direct exchanges between Service and civil medicine—and the C.M.W.C. states on future recruitment policy, "No class of practitioner will escape our attention" —there is abundant reason why a considerable number of medical officers should be released between now and Christmas, 1945. I consider it is the duty of the C.M.W.C. to urge in the strongest possible terms on both Government and Service Departments the need for release of medical officers at least in the proportion outlined in this letter.—I am, etc.,

G. O. RICHARDSON,
Squad. Ldr., R.A.F.V.R.

SIR,—I have read with considerable interest the recent correspondence in the *Supplement* on the subject of medical demobilization. I feel that many doctors in the Services are quite unable to reconcile the remarks of the Secretary of the Central Medical War Committee with the information they receive from the "higher formations" of the Service to which they belong. Within the last ten days I have been informed that my Command Headquarters consider there is little prospect of medical officers in release groups higher than 10 being released within two years!

If the Central Medical War Committee considers that "it will rarely be necessary for medical officers to be retained beyond the dates of release of their age-service groups" (*Supplement*, June 23) is it not high time that this information was imparted to the appropriate Service authorities in order that the present confusion may be avoided, and that it may be possible for those of us who have now been in the Services for four or five years to make some plans for the future and enable us to give our sadly overworked partners and colleagues in civilian practice some indication of when they may anticipate our return?—I am, etc.,

"SQUADRON LEADER, R.A.F."

*** The Secretary of the C.M.W.C. writes: The letter I sent on behalf of the Central Medical War Committee to all serving practitioners was prepared with the knowledge and approval of the Service authorities. The Central Medical War Committee is doing, and will do, its utmost to see that the terms of this letter are put into effect.

The Special Representative Meeting

SIR,—The report of the Special Representative Meeting held on May 3 and 4 has surprised and shocked me, since I think the proceedings of the meeting were a betrayal of both the nation and the medical profession. Since the Minister of Health has asked that his proposals should be regarded as confidential I shall not, of course, divulge any of them. But I consider that the proceedings of the meeting were a betrayal because the proposals discussed were very different from those suggested by the White Paper, which both Houses of Parliament considered broadly satisfactory when they were openly discussed, and equally different from the proposals which received a majority of votes in the answers to the questionary sent out by the B.M.A.

The request for secrecy, having come from the Minister of Health, cannot be blamed on the B.M.A. But I am astounded that any body of fair-minded intelligent men should think it proper to discuss secretly a matter that affects every inhabitant of the United Kingdom, especially at a time when, if these proposals were public, citizens would have an opportunity of letting their votes record their opinion. The Minister no doubt has his reasons for insisting that these discussions should be confidential; as he has not given his reasons we cannot know whether they are good or bad. But one effect of this secrecy is obvious; the General Election will be over before the proposals are made public, and the electorate will, therefore, be deprived of any say whatever in a matter in which it is vitally concerned. The B.M.A., in lending itself to—nay, in assisting in—such an utterly undemocratic procedure, is laying itself open to the well-deserved reprobation of the general public. I, for one, flatly disbelieve that such proceedings as those of the Special Representative Meeting were truly representative of the medical profession, which is, after all, mainly composed of honest-minded citizens.—I am, etc.,

Hampstead. M. W. GEFFEN.

The Parable of the Fire-station

SIR,—The limitations of a captive's correspondence compel me to be brief. Two countries were at war with the same enemy whose practice was to drop incendiary bombs on their towns and villages, so that fires were widespread and frequent. In the first country there were fire-stations to deal with these; also wardens in the towns and villages. Taking counsel how to improve matters, everyone agreed that what was needed was bigger and better fire-stations. The difficulty was that there were two kinds in operation, called the municipal and voluntary, and some thought the former better and others the latter, because it was manned by volunteers (many of whom possessed blunt hatchets). However, an earnest fellow propounded an ingenious (not ingenuous) compromise plan for reconciling the conflicting interests. This was put into practice, and many of the volunteers joined the new municipal fire-stations which sprang up as a result of the compromise. Obviously, the wardens were not much use, because they had not the necessary apparatus. Some were retained, however, to telephone to the fire-stations. There were many dramatic fire-fights and a good deal of heroism to compensate for the damage done.

The second country also had fire-stations and wardens. They, however, concluded that, as the fires invariably started in the houses, the best thing to do was to have plenty of wardens, well trained in putting out fires quickly. These were well paid out of the common purse, so that the people could have their services whenever necessary; they taught the people how to deal with fires themselves and also how to protect their houses, so that they did not catch fire at all. Fire-stations were also retained, but it was decided that the proper thing to do was not to *reconcile* particular interests but to *subordinate* them to the general interest, so the fire-stations were strategically disposed and nationally maintained. The result was considerably less heroism, but also considerably fewer fires, and the people thought it was a good arrangement.—I am, etc.,

Aberdeen. EDWARD WALKER.

*** Dr. Walker's letter has been "delayed in the post" for nearly 3½ years. He wrote it in a German P.O.W. camp in Poland early in 1942, but the German authorities did not forward it, presumably because they suspected some deep-seated and hostile meaning hidden in Dr. Walker's parable.—ED., *B.M.J.*

Social Insurance and Certification

SIR,—Your correspondent Dr. Lennox Johnston (*Supplement*, June 2, p. 102) assumes the lack of impartial certification, and describes an indulgence of certification, or, more properly, a laxity of certification, which, under the terms of the Essential Works Order, would appear to be a polite way of describing the activities of a fifth columnist. It is surely evident that such activities would not transform themselves into the impartiality desired under the Beveridge plan, but would merely transfer themselves to the guise of a "quisling" status, which, incidentally, would not harm the financial working of the plan in any way. Hence the rope round the neck in the terms of a fixed salary, and hence the objection of aspiring to dangle at the end of the noose by other members of the profession who attain impartiality while acting as free agents.—I am, etc.,

Tipton, Staffs. L. H. EUNSON.

Replacement of Service M.O.s

SIR,—Most serving officers would, I feel sure, welcome an assurance that the fitness for service of medical practitioners mobilized to replace them will be, or is being, assessed by an impartial medical board and not on the basis of private medical certificates. In addition, those who are not fit for service in the East might be called up to relieve medical officers in the United Kingdom and Europe.—I am, etc.,

R.A.F.V.R., 1940.

*** We are informed that recruits are invariably examined by medical boards. There is already a surplus of medical officers in low medical categories, and such officers are being posted for duty in Europe.—ED., *B.M.J.*

Secret Diplomacy

SIR,—Medical planning is in the air. But it is surely undesirable that small groups founded for scientific purposes, and by no means fully representative of the practitioners in the subjects concerned, should put forward national schemes for the future organization and administration of their professional work, and that such schemes should be sent secretly to a Minister of the Crown at present engaged in negotiations with accredited representatives of the whole medical profession. Yet this is what is happening, in one instance at least—that of the Medical Society for the Study of Venereal Diseases. Apart from the question of the propriety of such lobbying of a lay Minister, the decision to do so under secret cover is obviously based on fear of opposition to the scheme from within the medical profession itself, and in the hope of influencing the mind and future actions of the Minister concerned by what would appear to be authoritative and unopposed proposals.

It is not the democratic way to try to make a case without an open forum. And it is to be hoped that the Minister will reject all such approaches.—I am, etc.,

London, W.1. B. BUCKLEY SHARP.

Shall we Nationalize Medicine?

SIR,—Having regard to the general approval which the profession has allowed its representatives to express of: (1) the White Paper and/or its modifications and their implications; and (2) the 100% issue; and in view of: (3) the expressed determination of so many politicians, even those of diverse shades of opinion, to have a National Health Service for political reasons; and (4) the disunity of the profession itself, with its tendency to lose itself in a fog of non-material side issues, its lack of foresight, and its pathetic trustfulness; can any good purpose be served by continuing the farce of discussing what appears to be an inevitability? Or is this regarded as a sort of safety valve?

Will the true story of the negotiations behind the negotiations ever be told?—I am, etc.,

Brookwood, Surrey. H. M. STANLEY TURNER.

Sight-testing Opticians

SIR,—I have been surprised to find that Mr. Preston's letter (*Supplement*, April 28, p. 72) has not been followed by others. It is high time this matter received forceful attention. What would be the reaction of the general practitioner if he found the chemist "testing" his patient's lungs with a stethoscope to decide whether he had diseased lungs or just required a bottle of medicine? Or carrying out a cystoscopy to find out whether there was a papilloma or nothing that would not react favourably to backache pills?

Many a chemist, after years of wishing to do these things, has had the courage to go to the front door and obtain a medical degree. As Mr. Preston says, it is open to any optician to do the same thing. But the insolence of the latter is unbounded. He talks of his profession, of his patients, and of his surgery. He even describes himself as "eye specialist." I reported a specific case of the latter to the General Medical Council recently, and the Registrar referred the report to the Medical Defence Union for investigation. Sir, cannot something be done to put a stop to all this quackery?—I am, etc.,

Liverpool. DAVID RANKINE.

The Experiments in Health Centres

SIR,—The proposed National Health Service intends that health centre experiments be conducted in various areas before the final decision to accept or exclude this feature of the service. No indication has been given as to how or where these experimental centres are to be tried out, whether the doctors in the selected areas are to be invited to take part either as full-time or part-time members, and if they are unwilling so to do whether it is proposed to introduce outsiders into the centres to the detriment of the existing doctors.

If the doctors in the selected areas do agree to accept service, what arrangement is to be made about their existing practices? Will they be taken over with the immediate payment of compensation, and if not, what is proposed? If the health centres prove not to be a success, what is the effect likely to be on the practices concerned?

An authoritative statement on these as well as on other points arising out of this question is surely indicated.—I am, etc.,

London, N.22. S. CHAPLIN.

MEDICAL WAR RELIEF FUND

SIXTY-NINTH LIST

Amount previously acknowledged £57,510 3s. 1d. and £100 3½% Conversion Stock and £40 3% Defence Bonds.

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Amount previously acknowledged £216 14s. 6d.

Cheques, payable to the Medical War Relief Fund, should be sent to the Hon. Treasurer of the Fund, British Medical Association House, Tavistock Square, London, W.C.1.

Dr. C. L. BATTESON

For some time now it has not been possible to refer to the London Local Medical and Panel Committee without at once calling to mind the name of Dr. C. L. Batteson, its medical secretary. This is hardly surprising, as it will be 21 years in October since he first became the committee's secretary, after having been a member from July, 1919. In the ordinary course of events Dr. Batteson would have retired about the time of the outbreak of war, but at the request of the committee he consented to remain, and has been at his post throughout all these difficult years. He is, however, retiring this coming September, and the committee feels that insurance doctors in London—and some beyond—will wish to show their appreciation of his unfailing service and devotion to their interests by contributing to a fund which has been opened for the purpose. It is hoped to build the fund up so that it worthily represents their regard for him as well as for the work with which he has so completely identified himself. Contributions, which are asked for as early as possible, should be sent to the Treasurer, Batteson Testimonial Fund, London Panel Committee, Tavistock House, W.C.1, the cheques being made payable to the Fund.

H.M. Forces Appointments

ROYAL NAVY

Surg. Lieut. F. B. B. Weston to be Surg. Lieut.-Cmdr.

ARMY

Col. W. Frier, late R.A.M.C., having attained the age for retirement, is retained on the active list, supernumerary.

TERRITORIAL ARMY

ROYAL ARMY MEDICAL CORPS

War Subs. Major E. C. Murphy to be Major.
War Subs. Capt. R. Lyons to be Capt.

LAND FORCES: EMERGENCY COMMISSIONS

ROYAL ARMY MEDICAL CORPS

War Subs. Capts. W. Dodd and G. J. Ahern have relinquished their commissions on account of disability, and have been granted the honorary rank of Major.

War Subs. Capts. H. B. A. Ratcliffe-Densham, E. L. Ives, and A. H. Lafone have relinquished their commissions on account of disability, and have been granted the honorary rank of Capt.

To be Lieuts.: R. F. Alexander, M. Barry, S. Bayne, J. L. Broadbent, E. Burke, G. F. Cassie, P. R. R. Clarke, A. C. Cobban, T. Debney, T. Donovan, G. K. Emsley, G. G. Ferguson, R. Lindop, J. McKenzie, K. C. McKeown, I. D. Michie, R. M. Milne, C. N. Minto, R. Moore, M. B. O'Sullivan, C. R. Palmer, J. A. Paterson, L. A. Quirk, E. T. Radford, F. P. Raper, J. Roche, F. G. Smiddy, R. Spink, A. W. Thomson, E. Troensegaard-Hansen, D. E. Walker, D. I. Williams, T. N. V. Potts, P. V. Pritchard, and J. E. Sleigh.

WOMEN'S FORCES

EMPLOYED WITH THE R.A.M.C.

The following M.O.s have been granted commissions in the rank of Lieut.: Kathleen M. Fox, Ursula M. Kirk, and Patience E. Barclay.

ROYAL AIR FORCE

Gp. Capt. Sir John McIntyre, K.B.E., C.B., M.C., has reverted to the retired list, resuming the rank of Air Vice-Marshal.

Flying Officer H. A. N. Hamersley has ceased to be seconded to the Royal Hampshire County Hospital.

RESERVE OF AIR FORCE OFFICERS

Squad. Ldr. J. E. Dalton has relinquished his commission on appointment to the R.C.A.F.

Squad. Ldrs. (Temp.) J. P. F. Whelan and S. Paul have been granted the rank of War Subs. Squad. Ldr.

ROYAL AIR FORCE VOLUNTEER RESERVE

Squad. Ldr. (Temp.) F. G. Mundell has been granted the rank of War Subs. Squad. Ldr.

Fl. Lieut. (Temp. Squad. Ldr.) D. Skinner has relinquished his commission on account of medical unfitness for Air Force service, retaining the rank of Wing Cmdr.

Fl. Lieuts. (Temp. Squad. Ldrs.) D. D. Morrell, O.B.E., S. L. W. Erskine, and P. B. Atkinson have relinquished their commissions, retaining the rank of Squad. Ldr.

Fl. Lieut. W. N. Maclay has been granted, the rank of War Subs. Squad. Ldr.

Fl. Lieut. D. S. Napier has resigned his commission, retaining the rank of Squad. Ldr.

Fl. Lieut. F. A. Thompson has relinquished his commission on account of medical unfitness for Air Force service, retaining his rank.

Fl. Lieut. I. D. Gebbie and Flying Officer (Temp. Fl. Lieut.) P. C. S. Unwin have relinquished their commissions on appointment to the R.N.Z.A.F.

D. S. Cadman to be Fl. Lieut. (Emergency).

Flying Officers W. F. Buchanan, D. D. H. Craig, H. H. Firth, S. S. Rose, and E. A. Waldron to be War Subs. Fl. Lieuts.

To be Flying Officers (Emergency): H. O. C. Gammeltoft, J. D. G. Turner, and W. L. Burrowes

WOMEN'S FORCES

EMPLOYED WITH THE MEDICAL BRANCH OF THE R.A.F.

Flying Officers A. E. D. Cathcart, M. K. Murray, and E. D. L. Simpson to be War Subs. Fl. Lieuts.

INDIAN MEDICAL SERVICE

Lieut.-Col. R. C. Phelps has retired.
Major C. K. Lakshmanan to be Lieut.-Col.

BRITISH MEDICAL ASSOCIATION

Areas of Aldershot and Basingstoke, and Winchester Divisions

Notice is hereby given by the Council of the Association to all concerned that it is proposed to transfer the Civil Parish of St. Mary Bourne from the area of the Aldershot and Basingstoke Division to the area of the Winchester Division.

Any member affected by this proposal and objecting thereto is requested to write to the Secretary of the Association by July 21, 1945, stating the objection and the ground therefor.

CHARLES HILL,
July 7, 1945. *Secretary.*

Branch and Division Meetings to be Held

DORSET DIVISION.—At Old Shire Hall, High West Street, Dorchester, Sun., July 8, 2.45 p.m., Meeting. Agenda: Discussion of Annual Report of Council, etc. Dr. F. S. Cooksey: Rehabilitation. All medical men in the area of the Division are invited.

RECONDITIONED EX-SERVICE CARS

The B.M.A. is informed that as new cars are now being made available to doctors, who receive a very high priority in the scheme of allotment by licence, the Minister of War Transport considers that he can no longer give special preference to them in the supply of reconditioned ex-Service cars. At present there are very few reconditioned cars, and many special cases have also to be considered—including those of nurses in rural areas—in which the funds available to support essential work are limited. The matter is being kept under review and will be adjusted in any future change of circumstances.

POSTGRADUATE NEWS

The Fellowship of Medicine announces: (1) Primary F.R.C.S. course: lecture-demonstrations in physiology, pathology, and bacteriology, Mon., Wed., and Fri., 6 p.m. to 8.15 p.m., Aug. 13 to Oct. 12. (2) Week-end course in medicine and surgery, at Hampstead General Hospital, all-day, Sat. and Sun., July 21 and 22.

WEEKLY POSTGRADUATE DIARY

FELLOWSHIP OF MEDICINE, 1, Wimpole Street, W.—*South London Hospital for Women:* all-day, Sat. and Sun., July 14 and 15, Week-end course in obstetrics and gynaecology.

DIARY OF SOCIETIES AND LECTURES

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.—*Mon.*, 4 p.m., Clinical meeting at St. George's Hospital; 5 p.m., Discussion of cases.

BIRTHS, MARRIAGES, & DEATHS

The charge for an insertion under this head is 10s. 6d. *for* 18 *words or less. Extra words* 3s. 6d *for each six or less. Payment should be forwarded with the notice, authenticated by the name and permanent address of the sender, and should reach the Advertisement Manager not later than first post Monday morning.*

BIRTHS

HILL.—On June 29, 1945, at the Red House Hospital, Harpenden, to Marion, wife of Charles Hill, M.D., a son.

SINCLAIR.—On June 13, 1945, at Beverley, to Nancy (*née* Steward), wife of Dr. Stuart A. Sinclair, a daughter.

WALLACE.—On June 9, 1945, at Simla, to Doris Barbara Wallace, F.R.C.S. (*neé* Brown), the wife of Major R. J. Wallace, a daughter.

DEATH

JOHNSTON.—Gerald Herbert, late of Brooke House Clapton, London, died at Paarl, Cape Province S.A., on May 27, 1945, aged 76 years.

There will shortly be published an advertisement for a Scottish Secretary of th British Medical Association to succeed Dr Robert Craig, who has reached the age o retirement. A considerable period will b allowed for the sending in of application so as to enable practitioners serving in th Forces, wherever they may be, to apply.

SUPPLEMENT TO THE

BRITISH MEDICAL JOURNAL

LONDON SATURDAY JULY 14 1945

HEARD AT HEADQUARTERS

Range of Professional Income

Doctors have the reputation of not being good business men, but any stranger who looked in at the joint meeting of the Insurance Acts and General Practice Committees of the B.M.A. the other day would have found it difficult to sustain that allegation. The meeting was considering the memorandum which is being presented to the Spens Committee, which, it will be remembered, is concerned with the range of total professional income of a doctor in any publicly organized service of general medical practice. For two and a half hours there was a hard-headed business discussion. Members were evidently anxious not to overweight the case with claims which might easily be attacked, and at the same time they sought to allow for every factor that can reasonably be brought forward in determining what may be the financial status of the general practitioner for a generation or more.

I understand the memorandum is not to be published yet, and in this slight comment no figures will be cited. The Association has had the advantage of the advice of Dr. Bradford Hill, Reader in Epidemiology and Vital Statistics at London University, as to the steps it should take to secure information concerning the range of income of general practitioners during the three years immediately before the war. That income, of course, as is generally agreed, was at too low a level, especially the part of it which came from National Health Insurance. The capitation fee award in 1937 gave great dissatisfaction, and—it is old history now—the Association was about to seek a revision, even within two or three years of the award, when the war broke out. The figures which have now been obtained suggest that not only was the award based on a gross underestimate of the itemized service given by insurance practitioners and of the proportion of practice expenses to income, but the figures which the Association put forward at that time were also themselves an underestimate in both respects.

The method now adopted has been to determine what the pre-war range of income should have been and then to scale it up so as to represent a proper range of income in the post-war years. There are, of course, many unpredictable factors. Who can tell what the cost of living will be or the value of money? Who can say how practice costs will rise after the war, and what ratio they will bear to gross income? One thing which must be—and has been—taken into account is not only the high cost of medical education, which often mortgages the early years of practice, but also the relatively late age at which a member of the medical profession becomes an earner. The greatest number of doctors qualify at the age of 24, rather fewer at 23, and rather fewer again at 25, but qualification does not mean the beginning of properly remunerated work. An interval of one year, sometimes two, in many cases longer, may separate qualification from entry into general practice. Another consideration is the demands upon the doctor's energy. Not for him the stipulated hours, nor the long vacations which teachers, the Civil Service, and the members of the legal profession enjoy. And then again, in deciding ranges of incomes some allowance must be made for the reward of ability out of the common and of exceptional industry. All these things and many others have been taken into account in the evidence tendered to the Spens Committee, but the evidence so far prepared is not expected to be the last word. It is hoped that the Association will have an opportunity again, after other evidence has been given, of clinching certain arguments and perhaps of answering others which may have been brought forward in a contrary sense.

Speech Therapists

A few weeks ago attention was drawn to the first annual conference of the College of Speech Therapists and to the growing importance of this particular branch of medical auxiliary work. A further instance of its importance is to be found in the reference to duly qualified speech therapists in the new draft regulations published by the Ministry of Education. Under these regulations education authorities are required to provide various types of special treatment for school-children, and it is laid down that for a child suffering from speech defect, other than an aphasic child, special training and treatment by a qualified speech therapist shall be provided. One of the difficulties is that, for some time at any rate, there will not be enough duly qualified speech therapists to undertake this service. The Board of Registration of Medical Auxiliaries, at B.M.A. House, has just published a new register of speech therapists which will help, but it shows what blanks there are. There are no speech therapists at all in the counties of Cornwall, Cumberland, Dorset, Hereford, Huntingdon, Rutland, and Wiltshire, and only one each in Berkshire, Leicestershire, Lincolnshire, Norfolk, Shropshire, Somerset, Suffolk, and Westmorland. On the other hand, Surrey has 12, and the district known as London, W.1, has 12 also.

A Question of Grouping

One of the apparently insoluble problems is to get a really satisfactory grouping of Panel Committees for representation on the Insurance Acts Committee. The late Sir Henry Brackenbury, when he was chairman of the committee, tried his hand at constructing a plan of equitable grouping, Dr. Dain did the same, and now the task has fallen on the present chairman of the committee, Dr. Gregg. The attempt has been to compromise between a territorial basis and a basis of medical populations, and it cannot be done. All sorts of anomalies are opened up. The matter has arisen again in connexion with what is known as Group J. This includes areas as far apart as Buckinghamshire and Bristol, yet the total number of insurance doctors included is very little different from that in Group L, which is more or less territorially compact, consisting of the counties of Cornwall, Devon, and Somerset, with one practitioner in the Isles of Scilly. Bristol is pressing its application for a new grouping which would consist, along with Bristol, of the counties of Gloucester and Somerset, and would give the West Country better representation.

Refraction Work

Mr. John Foster, of Leeds, who presented the Oxford Ophthalmological Congress last week with a review of 9,000 out-patient cases coming to the eye department, said that 21% of them proved to be purely refraction cases, and these occupied 75% of the time of the department. Mr. Foster assailed what he called the "ophthalmic myth of the twentieth century"—"that correct glasses preserve, and incorrect glasses damage, the sight; that the majority of headaches have an ocular cause; and that work under artificial light necessarily strains the eyes." But in view of the fact that a National Medical Service may be in the offing, and of the number of doctors (including ophthalmologists) needed to run it, he thought the excessive amount of refraction work required to be undertaken by eye departments should be seriously considered. Another speaker at the Congress, Mr. Heckford, asked why so many ophthalmic surgeons did give glasses. One could understand the sight-testing opticians saying that those who came to them must have glasses, but why should the surgeon surrender so easily to the demand of the patient, spoken or unspoken, for glasses? Often some friendly advice would be far better. He pleaded with the ophthalmologist to be "more of a doctor and less of a mechanic."

Consultation

This story was vouched for at the Oxford Ophthalmological Congress. To the eye department of the hospital in a great Northern town came a patient with the following note: "To Eye Department, — ? General Practitioner." The patient was examined and nothing was found to be wrong with his eyes, and the following note was returned: "To General Practitioner, — ! Eye Department."

BRITISH MEDICAL ASSOCIATION

ANNUAL REPRESENTATIVE MEETING, 1945

The Annual Representative Meeting of the British Medical Association will be held at B.M.A. House, Tavistock Square, London, W.C.1, on Tuesday, July 24, and succeeding days.

MOTIONS BY DIVISIONS AND BRANCHES

PRELIMINARY

Board of Registration of Medical Auxiliaries

Motion by EXETER: That, with reference to paragraph 7 of the Annual Report of Council, the Government be pressed to establish proper bodies for the regulation of standards of entry to, and registration of members of, medical auxiliaries' organizations.

Public Relations

Motion by WESTMINSTER AND HOLBORN: That the meeting considers the work of the public relations adviser should be pressed with more vigour in view of the unsympathetic attitude of the Press.

Negotiating Committee

Motion by TYNESIDE: That no further discussions on Government health services be made by the A.R.M. until the Spens Committee's report on the financial aspect of the services is available.

Motion by DENBIGH AND FLINT: That the custom of buying and selling practices cannot be retained in any comprehensive health service without prejudice to the interest of the profession and the public, and that this meeting favours abolition of the custom at the outset, provided that agreement can be reached not only regarding compensation but regarding security of tenure of existing practices within an administrative structure and under terms of service acceptable to the profession.

Motion by EAST NORFOLK: That the national medical service should not be started until sufficient medical personnel are available to run it.

Motion by EAST NORFOLK: That, in order to ensure executive power for the professions concerned in working the proposed health service, the possibility of its control and administration by a separate corporate body be given reconsideration as a matter of urgency.

Motion by EAST HERTS: That the Council be requested to consider every possible means of instituting collaboration between the Association and all medical bodies producing reports concerning the National Health Service before such reports are published.

Motion by PERTH: That in any National Health Service the right to opt out should be retained, and any patient taking advantage of this right should be entitled to the refund of a proportion of his contributions.

Motion by NEWCASTLE-UPON-TYNE: That in the opinion of this meeting the B.M.A. be urged to expedite the findings of the Spens Committee so that its conclusions are before the medical profession before it decides to take part in the proposed new health service.

Motion by KENSINGTON: That inadequate opportunity is being given to medical practitioners serving with H.M. Forces to express their views on the future medical services.

GENERAL PRACTICE

Certification

Motion by SHROPSHIRE AND MID-WALES: That this meeting is of the opinion that there should be no payment for certificates by the patient or employer, but that in the future planning payment for all certificates should be included in the capitation fee.

Motion by EAST HERTS: That the question of certification in general should be reviewed at the earliest possible moment; and that the use of one certificate—either a modification of the existing N.H.I. certificate or the present Ministry of Labour one, E.D. 652—should suffice for visual demonstration to minor authorities. It should be stated clearly on such a certificate that the fee involved should be reimbursed by the authority requiring the certificate.

Motion by WESTMINSTER AND HOLBORN: That in view of the fact that the Ministry of Pensions has agreed with the B.M.A. that a fee of 5s. shall be payable by the Ministry for the completion of the form issued by them concerning the previous medical history of an applicant for a pension, such form shall state that this fee is so payable, and give the name of the officer of the Ministry to whom application should be made if the fee is not duly paid.

Capitation Fee for Ex-regular Firemen

Amendment by BRIGHTON: That, with reference to paragraph 14 of the Council's Report, this arrangement be not ratified, on the grounds that it is an unsatisfactory method of payment as it involves the principle of unlimited liability to service on the part of the doctor with limited liability of payment by the employing party.

Election of Direct Representatives on the G.M.C.

Motion by HENDON: That, with reference to paragraph 20 of the Annual Report of Council, the Representative Body is firmly of the opinion that the time is now ripe for the Council to press for the amendment of the Medical Acts to secure an increased and an adequate representation of the profession by direct representatives.

Post-war Financial Aid

Motion by HENDON: That, while welcoming the Report of the Council on a scheme to enable doctors without capital to purchase and establish themselves in a civilian practice on their demobilization, the Representative Body is nevertheless of the opinion that special arrangements should be made to inform medical officers of the facilities that the Association is able to sponsor and to interview and advise demobilized officers on the various professional and business difficulties peculiar to the acquisition of a civilian practice.

Motion by WEST SUFFOLK: That, with reference to paragraph 12 of the Annual Report of the Council, the Association considers the creation of a fund to be used for the guarantee of loans to medical men wishing to purchase practices and thus enable them to borrow at a lower rate of interest than would otherwise be possible.

Motion by WEST SUFFOLK: That an appeal be made to all medical men throughout the country for generous payments to the Medical War Relief Fund in order to enable that fund to assist young medical men returning from service and wishing to start in practice.

Doctors' Cars

Motion by WESTMINSTER AND HOLBORN: That the meeting considers that in view of the price of new cars the supply of second-hand reconditioned cars should be augmented.

NATIONAL HEALTH INSURANCE

Sickness Benefit in Pregnancy

Amendment by CITY OF EDINBURGH: That in paragraph 22 of the Annual Report of Council the words following the word "confinement" in line 9 should be omitted.

PUBLIC HEALTH

Education Act

Motion by DERBY: That school medical reports shall be made available only to the patients' own doctors. Other medical officers requiring school medical reports should first obtain the written consent of the parents or guardians.

Motion by HENDON: That, with reference to paragraphs 25 and 26 of the Annual Report of Council, the Representative Body places on record its grave dissatisfaction with the failure of the late Minister of Education to receive favourably the proposals of the Council of the Association on the inability of the profession to implement at present and for some time to come the operation of Section 48 (3) of the Education Act, 1944, and urges the Council to warn the Government of the need to suspend the operation of this section until agreement has been reached on the terms and conditions applicable to the establishment of a National Health Service.

Milk

Motion by ISLE OF WIGHT: That this A.R.M. is of opinion that steps should be taken *immediately* to ensure that all milk supplied to children at school should be safe milk.

National Maternity Service

Motion by EXETER: That, with reference to paragraph 32 of the Annual Report of Council, those practitioners who have had extensive and lengthy practical experience in midwifery should *ipso facto* be eligible to sit for the diploma in obstetrics and gynaecology without the necessity of having held a resident post in midwifery, and that this suggestion be brought to the notice of the College (R.C.O.G.).

Motion by HENDON: That, with reference to paragraph 32 of the Annual Report of Council, this Representative Body is determined to pledge itself to resist the introduction of any new criteria of qualification in midwifery that would, if officially recognized, deprive any registered medical practitioner of the right to practise midwifery in a national service.

Motion by BUCKS: That all ante-natal examinations should be carried out by the doctor who is eventually responsible at the confinement.

Equal Pay and Cost-of-living Bonus

Motion by PLYMOUTH: That (1) the British Medical Association reaffirms the policy that men and women medical practitioners shall receive equal pay; (2) it shall be understood that this policy shall include cost-of-living bonus; (3) where authorities or other bodies have not paid the same cost-of-living bonus to women as to men they should take immediate steps to rectify the position and the rectification shall be retrospective.

Motion by NEWCASTLE-UPON-TYNE: That in the opinion of this meeting the principle of equal pay and bonus, remuneration and emoluments for men and women should be maintained as the policy of the B.M.A.

Motion by KENSINGTON: That the pensionable age for medical women should be the same as that for medical men.

HOSPITALS

General Practitioner Hospitals

Motion by MID-CHESHIRE: That this meeting welcomes the proposed action of the Council on the preservation and development of small general hospitals staffed by general practitioners, and desires to emphasize the value of these hospitals to the community, especially if adequately equipped with ancillary services.

Part-time Consultants and Specialists

Motion by ISLE OF WIGHT: That this A.R.M. requests Council to inform part-time consultants and specialists on hospital staffs what steps are being taken to safeguard their position and future employment.

Medical, Nursing, and Domestic Staffs

Motion by NORTH-EAST ESSEX: That steps be taken to obtain the release of nursing and medical personnel and the direction, if necessary, of domestic help for the voluntary hospitals and nursing homes to deal with the civilian population.

ORGANIZATION

Scottish Assistant Secretary

Motion by CITY OF EDINBURGH: That the pressure of work in the Scottish Office of the Association is now such as to require the appointment of an assistant secretary, and that such an appointment should now be made.

Regional Secretaries

Motion by LINCOLN: That regional secretaries should be selected only from those who have been in general practice for fifteen years (each year of war service to count as one year of practice); and that they should be under 50 years of age on appointment.

Motion by NEWCASTLE-UPON-TYNE: That in the opinion of this meeting the headquarters of the North-Eastern regional secretary should be in Newcastle-upon-Tyne.

NAVAL AND MILITARY

Postgraduate Study for Demobilized Doctors

Motion by WESTMINSTER AND HOLBORN: That this meeting considers that the present offer to a Service medical officer previously engaged in general practice of 2 weeks' refresher course on demobilization during which time he is offered subsistence allowance and a small sum per week for the provision of a locumtenent is totally inadequate, and that a period of at least 2 months should be allowed, during which time adequate financial arrangements should be provided.

Motion by MID-CHESHIRE: That this meeting considers the Government proposals for postgraduate study for practitioners returning from the Forces are inadequate and should be improved.

Release of Service Practitioners

Motion by BRIGHTON: That in view of the urgent need for medical practitioners in civilian practice pressure should be brought on the Services to release more doctors at an early date.

OTHER MOTIONS

Speaker and Deputy Speaker at Association Conferences

Motion by BIRMINGHAM: That Council be instructed to investigate the desirability of appointing a Speaker and Deputy Speaker in place of the Chairman and Deputy Chairman of the Representative Body to take charge of all conferences held under the aegis of the B.M.A.

Night Calls for Emergency Cases

Motion by KENSINGTON: That, wherever practicable, a night call for emergency cases shall be deemed to be one made between 9 p.m. and 9 a.m.

Supplementary Clothing Coupons

Motion by LINCOLN: That negotiations be opened with the Board of Trade for the provision of supplementary clothing coupons for all doctors in active practice to cover the purchase of such items as operating gowns, surgeons' coats, and overalls.

Representatives at A.R.M.

Motion by READING: That so long as the Annual Representative Meeting is conducted solely through the Chair this Division does not think it worth while sending Representatives to it.

Service men and women during their 56 days' final leave before release from the Forces will be entitled to hospital treatment in the same way as members of the Forces on ordinary leave. Medical benefit (i.e., general practitioner treatment and medicine) will be provided for those who were insured under the National Health Insurance Acts during service from the date they begin final leave instead of the date of discharge or final release as at present. Insurance doctors have been informed that hospital treatment needed by an insured person during final leave will normally be given at the nearest Service or E.M.S. hospital.

Correspondence

Voting at Representative Meetings

SIR,—I have represented my Division at the last two Representative Meetings, and have declined renomination. My reason is that at these meetings, while there is no obstacle to free speech, every possible obstacle is thrown in the way of free speech. The most effective of these obstacles is the freedom allowed to the Chairman of Council not alone to sum up the debate but also to direct the meeting as to how it should vote. The confidence in this distinguished member of the B.M.A. is so great, the esteem in which he is held so high, that the meeting almost invariably follows his directions. The result is that, the voting reflects not so much the opinion of Divisions as the opinion of the Chairman of Council. I venture to suggest that this is not sound.

Even the passing of a motion by a Representative Meeting does not ensure that it will be subsequently pressed with vigour. In December two highly important motions were passed—Nos. 112 and 386 on the agenda. The first expressed the view that, instead of at once introducing a "comprehensive National Health Service," progress should be gradual, by evolution from the present National Health Insurance. The second advocated that legislation for the National Health Service should be entirely separate from that for "social security." The subsequent fate of both motions is obscure. One gathers that they were presented to the Minister and rejected by him. No definite report on them was, to my knowledge, made to the May meeting; no instructions asked for as to whether they should be pressed again to the extent of breaking off of negotiations if they were again not agreed to. One is left, rightly or wrongly, with the conclusion that motions passed by Representative Meetings will not be pressed with determination unless they are in accordance with the policy of B.M.A. Headquarters. This seems to render the proposing of resolutions by Divisions rather a futile procedure.

I have used above the phrase: "breaking off of negotiations." Great use was made of the danger of doing so as a bogy to influence the voting, so much so that one speaker begged the Chairman of Council not to use it again. Yet it is obviously a bogy. The Minister has much more need of us than we of him. We can perfectly well run a comprehensive National Health Service without him; we are doing so at this very moment. He cannot attempt to do the like without our co-operation.

Lastly, there is a regrettable inclination at these meetings to shirk main issues and concentrate on details. One such main issue is how to ensure that any agreement made with us now by the Minister will not subsequently be violated by him with the support of a Parliamentary majority or simply by Regulation. This danger was the subject of a comprehensive motion—No. 219 of the May agenda. It was quietly shelved by being "referred to Council." Yet its importance is manifest.

One is left with the impression that Representative Meetings have very largely lost their original character. They were, one imagines, instituted for the purpose of instructing Headquarters as to the wishes of the profession at large. Their function now seems to be to instruct the profession at large as to the wishes of Headquarters—a curious reversal. It may be that Headquarters know better what is good for us than we do ourselves; it is at least arguable, and they themselves undoubtedly think so. But then let this claim be openly made and all pretence be dropped. Let Headquarters state frankly that they consider their function to be rather to guide us than to accept guidance from us. Then we shall at least know exactly where we are, know that for good or for ill we are being driven slowly but inexorably by our own people into the acceptance of a State-controlled medical service.—I am, etc.,

Andover. J. A. BALCK-FOOTE.

Medical Demobilization

SIR,—It has now been announced that Naval medical officers cannot expect to be released even at the same rate as other Naval officers, all of whom are having to remain mobilized longer than the other Services. Although we comprise a relatively small proportion of Service medical officers this is manifestly a very great hardship to many of us. Not only do we get less clinical work because of the nature of our jobs than most other Service and E.M.S. medical officers, but this is exacting too great a sacrifice after six years of mobilized service.

Can no representation be made that in view of the statement that the Navy has "to bear the brunt of the war in the Pacific" there should be an urgent attempt to release those of us who have completed four years' service? Medical officers who served in the last war would surely agree that this period is quite long enough.—I am, etc.,

J. B. W. HAYWARD,
Surg. Lieut.-Cmdr., R.N.V.R.

⁂ The Secretary of the Central Medical War Committee writes: The Central Medical War Committee is awaiting information from the Government as to the relative rates of release in the three Services. So far as Government policy permits, it will do its utmost, by continued recruitment of civilian doctors, to accelerate release from all the Services. For doctors to be released in their groups at the same time as the Army generally is released in those groups would, of course, mean faster release for doctors than for the Army generally. There is a high proportion of medical officers in the early groups.

SIR,—I am a "general duty officer," and I have read with great care Sir James Grigg's reply to Major C. Taylor on May 29 (*Journal*, June 16, p. 859). There are seven sentences with such a wealth of contradiction within fifteen lines of print that I know not where I stand, nor can I estimate if I have any chance of release from the Army or not. If the editor of the *Journal* has all his A's and B's in their right places, what does the Minister for War mean? When will "age-and-service group" 15 become free men again?—I am, etc.,

"PUZZLED."

⁂ Reference to *Hansard* shows that one of the statements of the Minister was incorrectly reported. Sir James Grigg said: "I think that the need of the civil population for doctors is much more likely to be met under Class A than Class B." The vast majority of releases will be in this class.—ED., *B.M.J.*

SIR,—I received a few days ago the *Journal* for April 14 and observe that Capt. F. Harris, R.A.M.C., asserts in a letter in the *Supplement* (p. 57) that "the great majority [of civilian doctors of military age] . . . would give a great deal to be able to join one of the Services." If there is a medical practitioner willing to exchange places with me, I shall be only too delighted. Capt. Harris must have been extremely lucky in finding that only a minority of us have a grievance. In my experience every emergency commissioned doctor worth his salt as a doctor is dissatisfied with the conditions of service. Only those who admit that clinical medicine has no interest for them express themselves satisfied in the many administrative jobs that the Army offers to the doctor who is not interested in medicine proper.

Another of your correspondents, "Embee," in the same issue appears to imagine that about the only advantage of E.M.S. over uniformed service is that it "permits of what is called 'home life' to a limited degree." He does not appear to realize that in addition the E.M.S. doctor is working with patients and is continually increasing his knowledge in the particular branch of medicine in which he is interested; and he is assured that he will not be sent at 24 hours' notice a 1,000 miles from his home in order to live in draughty bamboo huts or (even worse) fox-holes, for which he has to pay to the Army "rent" at £3 or more a month out of his already meagre pay.

I wish finally to conclude by saying that in my opinion medical demobilization should be speeded up by exchanges between those who have so far escaped service (whatever be the circumstances, justifiable or not) and those who are now in service over-seas; by fixing the maximum number of doctors permitted to be away from real medicine at one time; and finally by legislation forbidding the use of qualified practitioners in the role of glorified clerks.—I am, etc.,

N. N. TERESHCHENKO,
Bombay. Capt., I.M.S.

SIR,—Medical demobilization remains in a highly unsatisfactory state, and in spite of official explanations many of us in the Services are far from being convinced that all that could be done is being done. I wonder if anyone in the E.M.S. can quote the like of the following.

I joined up as a volunteer in September, 1939, since when I have spent six months with the B.E.F. in France, two years and ten months with the M.E.F., and ten months in the B.L.A. Now, while still in the B.L.A., I have been warned for return to the U.K. for onward posting to the Far East. This means that though married, in Group 21, with a total of more than four years' oversea service, I am now faced with a further probable two years abroad, making six in all. I am assured that I shall be demobilized with my group when the time comes, wherever I may be stationed. But—and it is a very big but—as a specialist I do not go out with my group, but only if and when a replacement is available. Past experience has taught me that waiting for a replacement is a long, thankless, and tedious pastime. Indeed, on this occasion we have already received ample evidence that replacements will be few and far between.

It might well be suggested that it is pointless and uneconomical to post anyone to the Far East within a few months of his intended demobilization. But I contend the authorities know perfectly well that in practice it doesn't work out like that, because one simply doesn't return in "just a few months." In all, I have only been able to spend seven weeks with my wife since the outbreak of war. Our 4-months-old baby will be walking and talking before he knows his own father. Is this further social catastrophe really necessary at this stage of the war?

Surely I may be forgiven the scepticism with which I receive the platitudes from official sources and the assurances from my colleagues in the E.M.S. that it is I who am lucky and they who, overworked and both physically and mentally tired, are so much in need of a rest. Were it in my power I would gladly change places with them and shoulder their heavy burdens, thus enabling them to obtain at long last their well-earned rest. I can at least guarantee that they will be well and truly separated from their families, but, alas! I cannot guarantee that it will be quite such a rest. Where there's a will there's a way, and I feel sure replacements could be found. Unfortunately one is left wondering whether the easier task of exploiting those already shackled to their uniforms is not being taken. For obvious reasons I must beg to remain anonymous.—I am, etc.,

"LIFE SENTENCE."

*** The Secretary of the Central Medical War Committee states: The C.M.W.C. is doing everything possible to recruit specialists as substitutes for those who cannot be released without replacement. Its aim is to secure the release of the greatest possible number of medical officers in their turn. The posting of an officer in Group 21 to the Far East at this stage does not justify the conclusion that he will be retained there beyond the date of release for his group.

Guide to B.M.A. Administration

SIR,—I wonder if you would consider publishing, perhaps in the form of a small special supplement to the *Journal*, a short guide to the administration side of the B.M.A.? I suggest that a glossary of terms used, together with a short explanation of the activities they denote, would meet the case.

I have noticed in conversation with younger colleagues that many of them have not the remotest idea of the meaning of phrases like "Annual Representative Meeting," "Negotiating Committee," "Representative Body," "Organization Committee" and so forth, and I must confess that I have found my own knowledge a trifle hazy when I have tried to enlighten them. At a time when (we hope) numbers of medical men will once more be becoming active members, I believe that a brief explanation of the working of the whole B.M.A. organization from Branch to Building Committee would be very welcome.—I am, etc.,

G. N. WOOD,
Major, R.A.M.C.

*** The *B.M.A. Annual Handbook* contains the necessary information. Its publication was suspended at the outbreak of war, but a shortened form is now being prepared for publication at the beginning of the autumn. To bridge the gap it is hoped to publish in the *Supplement* an article dealing with Major Wood's points.

MEDICAL CANDIDATE FOR PARLIAMENT

The name of the candidate below was omitted from the list published in the *Supplement* for June 30:

R. N. TRONCHIN-JAMES, Reading, Liberal. (1942). Fl. Lieut., R.A.F.V.R. Formerly house-physician, Middlesex Hospital. Psychiatrist, E.M.S.

POSTGRADUATE NEWS

The Fellowship of Medicine announces the following course in preparation for the primary F.R.C.S. examination: Lecture-demonstrations in anatomy, physiology, pathology, and bacteriology: Mon., Wed., and Fri., 6 p.m. to 8.15 p.m., Aug. 13 to Oct. 12. Detailed syllabus will be sent on application to the Fellowship of Medicine, 1, Wimpole Street, W.

A series of special Edinburgh Postgraduate Lectures has been arranged, under the auspices of the Honyman Gillespie Trust, to be given in the West Medical Theatre of Edinburgh Royal Infirmary on Thursdays at 4.30 p.m. from July 19 to August 9 (both dates inclusive) and on August 30 and Sept. 13. The lectures are open to all graduates and senior students. Details will be published in the postgraduate diary column of the *Supplement* for the appropriate weeks.

WEEKLY POSTGRADUATE DIARY

FELLOWSHIP OF MEDICINE, 1, Wimpole Street, W.—*Hampstead General Hospital:* all-day, Sat. and Sun., July 21 and 22. Week-end course in medicine and surgery for general practitioners.

EDINBURGH POSTGRADUATE LECTURES.—At West Medical Theatre, Edinburgh Royal Infirmary, *Thurs.*, 4.30 p.m. Prof. J. T. Mackie: Basis of Penicillin Therapy.

DIARY OF SOCIETIES AND LECTURES

ROYAL SOCIETY OF MEDICINE.—*Tues.*, 5 p.m., General meeting of Fellows. *Wed.*, 5 p.m., Section of Proctology.

BIOCHEMICAL SOCIETY.—At School of Medicine, Thoresby Place, Leeds, *Fri.*, 2.30 p.m. Communications.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.—*Mon.*, 8.30 p.m., First Lettsomian Lecture on "The Present Position of Surgery in Haemorrhage from Peptic Ulcer," by Surgeon Rear-Admiral G. Gordon-Taylor; *Wed.*, 8.30 p.m., Second Lettsomian Lecture on "Some Less Usual Causes of Severe Gastro-intestinal Bleeding" by Surgeon Read-Admiral G. Gordon-Taylor.

B.M.A.: Diary of Central Meetings

JULY

24. Tues. **Council**, 11 a.m.

BIRTHS, MARRIAGES, & DEATHS

The charge for an insertion under this head is 10s. 6d. for 18 words or less. Extra words 3s. 6d. for each six or less. Payment should be forwarded with the notice, authenticated by the name and permanent address of the sender, and should reach the Advertisement Manager not later than first post Monday morning.

BIRTHS

CARR.—On July 4, 1945, at Allington House, Ipswich, to Stella M. Carr, M.B., B.S. (*née* Vertigan), wife of Surg. Lieut. R. Colin Carr, R.N.V.R., a son.

ROBERTSON.—On July 5, 1945, in Edinburgh, to Rosemary, wife of Surg. Lieut. P. A. M. Robertson, R.N.V.R., a son.

TAYLOR.—On June 16, 1945, to Capt. and Mrs. Kenneth H. Taylor, the gift of a daughter.

MARRIAGES

DAWSON—ROSS.—On June 28, 1945, at the Parish Church, Lochgilphead, by the Rev. Harry G. Miller, B.D., Capt. James Stewart Dawson, R.A.M.C., elder son of Mr. and Mrs. James Dawson, 123, Weirwood Avenue, Garrowhill, Glasgow, to Alison Hilda, youngest daughter of Dr. and Mrs. Donald Ross, Tigh-na-Linne, Lochgilphead.

FREETH—GOLDING.—On June 20, 1945, at Roundhay, Leeds, Fl. Lieut. H. D. Freeth, M.B, R.A.F.V.R., to Margaret Joan Golding, S.R.N.

SANDY—SHORT.—On June 30, 1945, at Southbourne. Bournemouth, Capt. Frank Sandy, R.A.M.C., to Miss Vera Short, Q.A.I.M.N.S.(R).

DEATHS

COLLS.—On Feb. 15, 1945, at St. Albans, Percy Cooper Colls, M.R.C.P., M.R.C.S., late of Benenden, Cranbrook, Kent.

PANTON.—Suddenly, on July 1, 1945, John Allison Panton, M.D., Ch.M., F.R.C.S., of 36, Hoghton Street, Southport. No letters or flowers, please Cremated at Manchester.

NOTICE—Applications for vacancies advertised should, except where otherwise specified, state name, address, age, nationality, qualifications, and be accompanied by copies of three recent testimonials with short statement of experience and appointments held. Unless closing date is stated applications should be sent at once.

R—Male, W—Women practitioners, liable to military service under the National Service Acts.

B1—Whole-time appointments, usually resident within the senior establishment—e.g., Registrar, R.S.O., etc.

A—Whole-time resident house appointments open to practitioners without previous experience.

B2—Whole-time house appointments not within the senior establishment, usually resident, and usually held by practitioners with six months' experience.

APPOINTMENTS

STATES OF JERSEY, General Hospital.—Applications are invited from duly qualified and registered medical practitioners, including practitioners within three months of qualification, for the appointments of TWO JUNIOR ASSISTANT RESIDENT MEDICAL OFFICERS in the General Hospital, Jersey. Appointment will be for six months in the first instance, but is renewable. Salary £250 per annum, with full board, lodging, and laundry. There are other emoluments for certificates under the local Social Assurance, amounting to £50 per annum. One practitioner will be expected to do surgical duties, the other medical. Taxation on the island is much lower than in England. Applications to be forwarded to R. N. McKinstry, Medical Officer of Health, Public Health Office, Royal Square, St. Helier, Jersey, C.I.

BURGH OF KILMARNOCK. Maternity Hospital. RESIDENT MEDICAL OFFICER (B1).—Applications are invited for the appointment of a Temporary Resident Medical Officer (B1) at the Burgh Maternity Hospital, Kilmarnock. The appointment is open to registered medical practitioners, who must be single and have had experience in obstetrics. Suitably qualified R and W practitioners holding B2 or B1 appointments are invited to apply, but they must have obtained the sanction of the Scottish Medical War Committee to their application. The salary payable will be at the rate of £350 per annum, rising subject to satisfactory service, by annual increments of £25 to a maximum of £450 per annum, plus war bonus and free board, lodging, and laundry. The person appointed will be on the staff of the Medical Officer of Health and will require, in addition to the duties of Resident Medical Officer at the Maternity Hospital, to undertake such other duties as may be assigned to him/her. The appointment will be terminable by two months' notice on either side. Applications, stating when at liberty to commence duty, enclosed in envelopes endorsed "Resident Medical Officer," must be lodged with the Subscriber immediately.—W. L. Walker, Town Clerk, Council Chambers, Kilmarnock.

CITY OF STOKE-ON-TRENT. CITY GENERAL HOSPITAL. ASSISTANT RESIDENT MEDICAL OFFICER (B2).—Applications are invited from registered medical practitioners (single, male or female), including R and W practitioners who now hold A posts, for the appointment of Assistant Resident Medical Officer (B2), at the City General Hospital, Stoke-on-Trent. If offered to an R or W practitioner the appointment will be limited to a period of six months, otherwise will be for a period of one year. The salary is at the rate of £250 per annum, plus bonus, with full residential emoluments. The Hospital, which is an Emergency Hospital, has approximately 1,200 beds, and there is excellent scope for medical, surgical, and obstetrical work.—Applications endorsed "Medical Officer, City General Hospital," to be sent to the undersigned immediately.—Harry Taylor, Town Clerk.

COUNTY BOROUGH OF BIRKENHEAD. Department of the Medical Officer of Health. Birkenhead Municipal Hospital. RESIDENT MEDICAL OFFICER (B2) (Male or Female).—Applications are invited from registered medical practitioners, male or female, for the above post, which is now vacant, including R and W practitioners now holding A posts. If held by R and W practitioners the appointment will be limited to six months, otherwise it will be for a period of twelve months. The duties attached to the post of Resident Medical Officer are mainly medical, and preference will be given to candidates who have had previous postgraduate medical experience in either a municipal or voluntary hospital. The salary is £200 per annum, plus bonus, with full residential emoluments. Applications from alien medical practitioners will be considered. Applications must be on forms to be obtained from Dr. D. Morley Mathieson, Medical Officer of Health, 9, Hamilton Square, Birkenhead, to whom they should be returned as soon as possible after completion.—E. W. Tame, Town Clerk, Town Hall, Birkenhead.

COUNTY BOROUGH OF PRESTON. Sharoe Green Hospital (250 beds): ASSISTANT MEDICAL OFFICER (B1) (Resident or Non-resident).—Applications are invited from fully qualified and registered practitioners for the above appointment. Salary at the rate of £350, rising by annual increments of £25 to £450 per annum, plus war bonus, with full board and residence, valued at £100. Previous experience in midwifery is essential, the duties consisting mainly of obstetrical work (35 maternity beds). Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R and W practitioners now holding B1 posts can not be considered unless they have been rejected by the R.A.M.C. Applications should be sent to the Medical Superintendent, Sharoe Green Hospital, Fulwood, Preston. The successful candidate will be required to contribute to the Council's superannuation scheme.—H. E. Nutter, Town Clerk.

BRITISH MEDICAL ASSOCIATION. SCOTTISH SECRETARY.—The Council of the British Medical Association invites applications from registered medical practitioners, including those serving with H.M. Forces, for the post of Scottish Secretary. The salary will be at the rate of £1,250 a year, rising by annual increments of £50 to £1,750 a year, plus cost-of-living bonus. The Association's superannuation scheme for officials will apply to the post. The successful candidate, who will be expected to take up office on January 1, 1946, or on demobilization, will spend three months at the Association's London Headquarters and three months at the Scottish Office in Edinburgh under the present Scottish Secretary before taking up the full duties of the office in Edinburgh. There is no form of application, and applications, with full particulars of qualification, experience, age, etc., should be sent to the Secretary of the British Medical Association, Tavistock Square, London, W.C.1, arriving not later than November 1, 1945.—Charles Hill, Secretary.

COUNTY COUNCIL OF THE COUNTY OF RENFREW. ASSISTANT MEDICAL OFFICER OF HEALTH.—Applications are invited from qualified medical practitioners for the above appointment. The salary will be at the rate of £500-£700 per annum, by annual increments of £25, together with war bonus at J.I.C. rates (£60 at present). The person appointed will be required to carry out school medical duties and maternity and child welfare duties in the Port of Glasgow and Gourock areas. The post is normally a permanent one, but in accordance with the desire of the Department of Health for Scotland, the appointment will be, in the first place, of a temporary nature. The person appointed will be eligible to apply for the permanent post at a later date. The successful applicant will require to pass a medical examination and to contribute to the County Council's Superannuation Scheme. Suitably qualified R or W practitioners are invited to apply, but they must have obtained the sanction of the Secretary of State and the Scottish Central Medical War Committee to their application. Applications, stating age, which must not exceed 45 years, should be sent to the County Medical Officer, 16, Back Sneddon, Street, Paisley, on or before July 21, 1945.—Canvassing, direct or indirect, will be a disqualification.—Robert Urquhart, County Clerk, County Buildings, Paisley.

COUNTY BOROUGH OF READING. Battle Hospital. (E.M.S., 130 beds; Municipal General, 453 beds). RESIDENT SURGICAL OFFICER (temporary).—Applications are invited from registered medical practitioners for the temporary appointment of Resident Surgical Officer (B1), shortly becoming vacant at the above hospital. Applicants should have held house appointments and had surgical experience. Preference will be given to candidates holding the Diploma of F.R.C.S. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R and W practitioners now holding B1 appointments cannot normally be considered unless the applicants have been rejected by the R.A.M.C. Salary is at the rate of £550 per annum, plus war bonus, plus residential emoluments valued at £100 per annum. The appointment is tenable for one year in the first instance. Forms of application, which may be obtained from the undersigned, should be completed and returned to the Town Clerk, accompanied by copies of three recent testimonials and endorsed "Resident Surgical Officer, Battle Hospital," not later than Monday, July 30.—G. F. Darlow, Town Clerk, Town Hall, Reading.

COUNTY BOROUGH OF PRESTON. Sharoe Green Hospital (250 beds).—Applications are invited from registered medical practitioners, female, for the appointment of JUNIOR RESIDENT MEDICAL OFFICER (A), including W practitioners within three months of qualification. If held by a W practitioner appointment will be for a period of six months, otherwise it will not exceed one year. Salary is at the rate of £200 per annum, with full residential emoluments. Applications should be forwarded to the Medical Superintendent, Sharoe Green Hospital, Fulwood, Preston.

CITY OF LIVERPOOL. Cleaver Sanatorium for Adults, Heswall, Cheshire. RESIDENT ASSISTANT MEDICAL OFFICER (B2).—Applications are invited from registered medical practitioners, male and female, for the above appointment, including R and W practitioners who now hold A posts. If held by an R or a W practitioner the appointment will be limited to six months, otherwise it will be for a period of twelve months. The salary is at the rate of £350 per annum, together with cost-of-living bonus and full residential allowances. All fees received in connexion with the appointment to be handed over to the City Council. Applications, stating whether R practitioners, should be endorsed "Resident Medical Officer" and sent to the undersigned forthwith.—W. H. Baines, Town Clerk, Municipal Buildings, Dale Street, Liverpool, 2.

COUNTY BOROUGH OF SOUTHEND-ON-SEA. Southend Municipal Hospital, Rochford, Essex. RESIDENT HOUSE MEDICAL OFFICER (A).—Applications are invited from registered medical practitioners, male or female, for the appointment of Resident House Medical Officer (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be tenable for a period of six months, otherwise for a period of one year. Salary is at the rate of £200 per annum, with full residential emoluments, valued at £100 per annum, plus cost-of-living bonus. The person appointed will be liable to pay superannuation contributions if the provisions of the Local Government Officers' Superannuation Acts are applicable. The post is now vacant, and applications should be addressed immediately to the Medical Superintendent, Southend Municipal Hospital, Rochford, Essex—H. J. Worwood, Town Clerk, Town Clerk's Office, Southend-on-Sea.

COUNTY BOROUGH OF HALIFAX. The Halifax General Hospital (450 beds).—Applications are invited for the position of MEDICAL OFFICER (B1), male or female. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R and W practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary £450 by £25 to £525, plus £150 if non-resident, with war bonus at present approximately £60 per annum. There are six full-time medical officers, and this is a senior medical appointment. Applications to be addressed to the Medical Superintendent.

COUNTY BOROUGH OF NEWPORT. Social Welfare Committee.—Applications are invited from registered medical practitioners, male or female, for the temporary appointment of JUNIOR RESIDENT MEDICAL OFFICER (A), at the Wooloston House Emergency Hospital, Newport, Mon. Salary £150 per annum, with full residential emoluments. All fees, with the exception of coroners' fees are payable to the Social Welfare Committee. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months, otherwise twelve months. Applications should be sent at once to Tom Kay, Director of Social Welfare, Town Hall, Newport, Mon.

CITY OF BIRMINGHAM. Little Bromwich Infectious Disease Hospital. JUNIOR MEDICAL OFFICER (A).—Applications are invited from registered medical practitioners, male or female, for appointment as Junior Medical Officer (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts the appointment will be for a period of six months, otherwise it will be for twelve months. The salary will be at the rate of £300 per annum, plus residential emoluments. Applications should be addressed to the Medical Officer of Health, Public Health Department, Birmingham, 3, to reach him not later than July 24, 1945.

CITY OF BIRMINGHAM, Romsley Hill Sanatorium (120 beds).—Applications are invited from registered medical practitioners for the post of RESIDENT ASSISTANT MEDICAL OFFICER (B1), male or female. Candidates must have held a resident hospital appointment since qualifying and experience in the diagnosis and treatment of tuberculosis will be a recommendation. The salary is at the rate of £350 per annum, plus residential emoluments, and the appointment is subject to one month's notice on either side. Suitably qualified R and W practitioners holding B2 appointments, also R practitioners holding B1 and rejected by the R.A.M.C., may apply. Applications should be addressed to the Medical Officer of Health, Public Health Department, Congreve Street, Birmingham, 3, not later than July 27, 1945.

CITY OF CHESTER, City Hospital. RESIDENT MEDICAL OFFICER (B2).—Applications are invited from registered medical practitioners for the appointment of Resident Medical Officer (B2) at the above hospital. Salary at the rate of £200 per annum, with full residential emoluments and temporary war bonus. R and W practitioners holding A posts may also apply when appointment will be limited to six months, otherwise will not exceed one year. The appointment will be vacant on September 1, 1945.

JUNIOR RESIDENT MEDICAL OFFICER (A).—Applications are invited from registered medical practitioners for the appointment of Junior Resident Medical Officer (A) at the above hospital. Salary at the rate of £200 per annum, with full residential emoluments and temporary war bonus. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months, otherwise not exceeding one year.

Applications for the above appointments should be sent to the Medical Officer of Health, Town Hall, Chester.

IMPORTANT — All applicants should read the notice about qualifications required, etc., printed at the top of page 9

ADMINISTRATIVE COUNTY OF ESSEX. TEMPORARY ASSISTANT MEDICAL OFFICER FOR OPHTHALMIC WORK.—The County Council invite applications for the above whole-time temporary appointment from registered medical practitioners with special experience in all branches of ophthalmology and preferably holding the Diploma in Ophthalmic Medicine. Remuneration at the rate of £700 a year, rising, subject to satisfactory service, by annual increments of £25 to £800 a year, together with such war bonus as may be decided by the Council from time to time, will be paid for this appointment, in respect of which first-class railway fares will be reimbursed or a motor-car allowance, based on the County scale, will be granted. Candidates already in whole-time public health employment by Local Authorities are not eligible for appointment. Applications (on the prescribed form obtainable from the undersigned), accompanied by copies of not more than three recent testimonials, which will not be returned, should be addressed to me and delivered at the County Hall, Chelmsford, not later than July 28, 1945. Full information should also be given as to the applicant's position in relation to military service. Canvassing, directly or indirectly, is forbidden. This advertisement is published with the approval of the Minister of Health.—John E. Lightburn, Clerk of the County Council, County Hall, Chelmsford.

CITY OF MANCHESTER. Booth Hall General Hospital for Children (760 beds). TEMPORARY DEPUTY MEDICAL SUPERINTENDENT AND RESIDENT MEDICAL OFFICER (B1).—The Public Health Committee invites applications from registered medical practitioners, male or female, for the above-mentioned appointment, which will become vacant on the recruitment into H.M. Forces of the present holder in the near future. Candidates should have wide postgraduate experience in paediatrics and, preferably, hold a higher medical qualification. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners holding B1 appointments cannot be considered unless they have been rejected by the R.A M.C. Basic salary £610 per annum, but further increments of £30 per annum to a maximum of £700 may be granted at the discretion of the Council. Full residential emoluments are additional to the salary stated. A temporary cost-of-living wages addition is also payable, and the present commencing annual cash remuneration is £640 in the case of a male officer and £634 2s. 6d. in the case of a female officer. Full information and forms of application may be obtained from the Medical Officer of Health, Hospitals Administration Section, G.P.O. Box 399, Town Hall, Manchester, 2. Applications for the post must be forwarded to me only, and not to members of the Committee or the Council, not later than July 28, 1945. Canvassing in any form, oral or written, direct or indirect, is prohibited.—Philip B. Dingle, Town Clerk Town Hall, Manchester, 2.

CITY OF PORTSMOUTH Education Committee (School Medical Service).—Applications are invited from medical practitioners of recognized consultant and specialist status, for the undermentioned part-time appointments in the School Medical Department, for which the salaries payable will be at the rate of £2 12s. 6d. per session.

(a) OPHTHALMIC SURGEON. The successful applicant will be required to conduct regular sessions, approximately once weekly during term time at the Central School Clinic, for the examination and treatment of children suffering from diseases of the eye and defective vision, and to inaugurate and supervise a scheme of orthoptic treatment.

(b) CARDIOLOGIST. The successful applicant will be required to conduct regular sessions, probably fortnightly, at the Central School Clinic, for the examination and treatment of children suffering from heart disease, rheumatism and allied diseases.

These appointments will be for an initial period ending March 31, 1947, and thereafter renewable annually.

Application forms, together with further details and conditions of service, may be obtained from and must be returned to, the Chief Education Officer, 1, Western Parade, Southsea, not later than July 27, 1945.—Frederick Sparks, Town Clerk and Clerk to the Education Committee, Municipal Offices, 1, Western Parade, Southsea

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COUNTY OF LINCOLN—PARTS OF LINDSEY. Public Health Department. TEMPORARY ASSISTANT MEDICAL OFFICER OF HEALTH FOR MATERNITY AND CHILD WELFARE (Female). —Applications are invited from fully qualified medical women for the post of Assistant Medical Officer for Maternity and Child Welfare. Before applying, intending applicants already in whole-time employment with local authorities must obtain the permission of their (Principal) Regional Medical Officer. Salary will be £650, rising by two annual increments of £25 to £700 per annum, plus war bonus. The appointment will be terminable upon one month's notice from either side. The person appointed will be required to provide her own car for which a travelling allowance will be paid in accordance with the County Council's Scale. Further particulars of the appointment and forms of application may be obtained from the undersigned, to whom applications together with copies of three recent testimonials should be forwarded to reach him not later than July 28 1945.—W. S. H. Campbell, County Medical Officer of Health, County Offices, Lincoln

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CORPORATION OF GLASGOW. MEDICAL OFFICER OF HEALTH.—Applications are invited for the post of Medical Officer of Health for the City of Glasgow from qualified medical practitioners who are registered in the Medical Register as holders of a Diploma in Sanitary Science, Public Health or State Medicine. The Medical Officer of Health is also Port Medical Officer for the Port of Glasgow. The duties comprise the adminisration of all the statutory health and sanitary services of the Corporation. The post is due to fall vacant at the end of March, 1946, and the new Medical Officer of Health will be expected to take up duty at the beginning of April, 1946, or as soon thereafter as possible. Salary at the rate of £1,500 per annum rising by annual increments of £50 to £2,000 per annum, plus war increase, and with £50 per annum additional for Port duties. The appointment is subject to the provisions of the Corporation's Superannuation Scheme and the successful candidate will be required to pass a medical examination. In orde. to allow time for candidates now abroad or in H.M Forces to apply, the last date for receipt of applications has been fixed at October 1, 1945. Applications should be accompanied by copies of not more than three testimonials or the names of referees.—William Kerr, Town Clerk, City Chambers, Glasgow.

CITY OF LEEDS. Public Health Department. St. James's Hospital. HOUSE SURGEON (B2).—Applications are invited from registered medical practitioners for the post of House Surgeon (B2) for the Plastic and Maxillo-facial Unit at the above Municipal Hospital, including R and W practitioners who now hold A posts. If held by an R or a W practitioner, the appointment will be limited to six months, otherwise it will be for a period of twelve months. The salary is at the rate of £200 per annum, plus a cost-of-living bonus, together with full residential emoluments. Applications endorsed "House Surgeon" to be forwarded to the undersigned.—J. Johnstone Jervis, Medical Officer of Health, Public Health Department (Hospitals Administration Section), 12, Market Buildings, Vicar Lane, Leeds, 1

EAST RIDING COUNTY COUNCIL. Driffield Emergency Hospital.—Applications are invited from registered medical practitioners, male and female, for the appointment of MEDICAL OFFICER (B2) (Surgical duties), vacant immediately, including R and W practitioners who now hold A posts. If held by an R or a W practitioner the appointment will be limited to six months, otherwise it will be for a period not exceeding one year subject to one month's notice on either side. The salary is at the rate of £200 per annum, with full residential emoluments. Applications to be made as soon as possible to the undersigned.—T. Stephenson, Clerk of the Council, County Hall, Beverley.

KENT COUNTY COUNCIL. County Hospital, Dartford (344 beds). TEMPORARY RESIDENT MEDICAL OFFICER (A).—Applications are invited from suitably registered medical practitioners of either sex for the above appointment. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months, otherwise it will be for a period not exceeding one year. The salary is £200 a year, plus a temporary war addition of £29 19s. 7d., with full residential emoluments. Superannuation can be arranged and the successful candidate will be required to pass a medical examination. Applications should be addressed to the County Medical Officer, County Hall, Maidstone, so as to reach him by July 24, 1945.—W. L. Platts, Clerk of the County Council, County Hall, Maidstone.

KENT COUNTY COUNCIL. County Hospital, Farnborough (1,000 beds).—TEMPORARY RESIDENT MEDICAL OFFICER (A).—Applications are invited from suitably registered medical practitioners of either sex for the above appointment. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months, otherwise it will be for a period not exceeding one year. The salary is £200 a year, plus a temporary war addition of £29 19s. 7d., with full residential emoluments. Superannuation can be arranged and the successful candidate will be required to pass a medical examination. Applications should be addressed to the County Medical Officer, County Hall, Maidstone, so as to reach him by July 24, 1945.—W. L. Platts, Clerk of the County Council, County Hall, Maidstone.

NORFOLK COUNTY COUNCIL. Attleborough Emergency Hospital. TEMPORARY RESIDENT MEDICAL OFFICER (B1).—Applications are invited from registered medical practitioners of either sex. Salary £500, rising by £25 to £550 per annum, together with board, residence, and laundry valued at £100 per annum. Preference will be given to applicants reading for the Fellowship. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R and W practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. The practitioner appointed may also be required to do work outside the hospital. Applications should be addressed to the County Medical Officer, 29, Thorpe Road, Norwich, Norfolk.

DERBYSHIRE COUNTY COUNCIL. Bretby Hall Orthopaedic Hospital (147 beds).—Applications are invited from registered medical practitioners, male and female, including R and W practitioners who now hold A posts, for the appointment of TEMPORARY JUNIOR RESIDENT ASSISTANT MEDICAL OFFICER (B2). If held by an R or W practitioner the appointment will be limited to six months, otherwise it may be extended for a longer period. The salary is at the rate of £300 per annum and war bonus, together with full residential emoluments. The successful candidate will be required to devote the whole of his time to the duties of the office. The appointment will be subject to the provisions of the Local Government Superannuation Act, 1937, and the person appointed will be required to pass a medical examination. Application forms may be obtained from the Acting County Medical Officer, County Offices, St. Mary's Gate, Derby, to whom they must be returned, together with copies of not more than three recent testimonials, on or before July 28, 1945.

KINGSTON-UPON-HULL CORPORATION HEALTH DEPARTMENT. Kingston-upon-Hull City Hospitals and Sanatorium.—Applications are invited for the appointment of a TEMPORARY RESIDENT MEDICAL OFFICER (B1) at the above hospital. The appointment is open to registered medical practitioners of either sex, who must be single and have had experience in general hospital work. Possession of the Diploma of Public Health or similar qualification, and previous experience in a fever hospital or sanatorium will be regarded as additional qualifications. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R and W practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. The appointment is for a period of one year and the salary is £350 per annum, together with board, laundry, and residence. The appointmen may be extended for more than one year, in which case the salary, subject to satisfactory service, will be increased by annual increments of £25 to a maximum of £450 per annum, plus increased cost-of-living bonus. Application forms may be obtained from, and should be returned to, the Medical Officer of Health, Guildhall, Kingston-upon-Hull, as early as possible.

LANCASHIRE COUNTY COUNCIL. Wrightington Hospital, near, Wigan.—Applications are invited for JUNIOR MEDICAL OFFICER (B2) at the Wrightington Hospital, containing 370 beds (280 beds for non-pulmonary tuberculosis (adults and children), 20 beds for "combined" pulmonary and non-pulmonary cases and 70 beds for pulmonary cases). The medical staff consists of medical superintendent, three assistants, two consultant orthopaedic surgeons, other visiting surgeons and visiting physician. Excellent facilities for reading for M.D. Salary £300 per annum, plus bonus, together with board, single quarters, and laundry valued at £146. R and W practitioners who now hold A posts may apply, when appointment will be limited to six months, otherwise one year. Forms of application and conditions of appointment from Central Tuberculosis Officer, County Offices, Preston. Mark letters "Wrightington M.O."

LONDON COUNTY COUNCIL. Mental Health Services.—Applications are invited for positions of TEMPORARY ASSISTANT MEDICAL OFFICER (B1). Weekly salary, £7 7s. a week, rising to £8 8s. a week after twelve months' service, with residential emoluments (£9 11s., rising to £10 12s. if non-resident), plus in each case temporary cost-of-living addition. Additional allowances for possession of D.P.M. and for acting in higher capacity. Suitably qualified R and W practitioners holding B2 appointments, also R and W holders of B1 posts rejected by the R.A M.C. may apply. Application forms obtainable from Medical Officer of Health, Mental Health Services (B), West Park Hospital, Epsom, Surrey.

SALOP COUNTY COUNCIL HOSPITAL, Cross Houses, near Shrewsbury.—Applications are invited from registered medical practitioners for the appointment of a RESIDENT MEDICAL OFFICER (A), including practitioners within three months of qualification who are liable to service under the National Service Acts (women applicants preferred). If held by a practitioner who is liable under these Acts, appointment will be for a period of six months, otherwise it will be for a period, in the first instance, of one year. Salary is in accordance with the scale recommended in the Askwith Report for Whole-time Public Health Medical Officers (£350, by annual increments of £25 to £450). Forms of application can be obtained from the County Medical Officer, College Hill, Shrewsbury, to whom they should be returned, accompanied by copies of three recent testimonials, as soon as possible.—G. C. Godber, Clerk of the Council, Shirehall, Shrewsbury.

SALISBURY GENERAL INFIRMARY. Voluntary Hospital (225 beds)—Applications are invited from registered medical practitioners for the appointment of a HOUSE SURGEON (A). Salary at the rate of £150 per annum, with full residential emoluments, Practitioners within three months of qualification and liable under the National Service Acts may also apply, when appointment will be for a period of six months. Applications should be sent to John Williams, Superintendent and Secretary.

IMPORTANT — All applicants should read the notice about qualifications required, étc., printed at the top of page 9

MIDDLESEX COUNTY COUNCIL. DISTRICT MEDICAL OFFICER AND PUBLIC VACCINATOR.—TWO DISTRICT MEDICAL OFFICERS, one for Ealing East Central Medical Relief District, and one for Ealing West Central Medical Relief District. Salary £200 per annum (with, as war-time measure only, payment equivalent to 20% of salary for additional practice expenses) plus cost of expensive drugs, confinement fees, services of medical practitioner to administer anaesthetics for minor operations. Duties in accordance with Public Assistance Order, 1930, of Minister of Health, reside in or alternatively provide surgery in district and in case of absence arrange for services of qualified medical practitioner.

TWO PUBLIC VACCINATORS, one for Ealing East Central Vaccination District, and one for Ealing West Central Vaccination District. Must possess certificate of proficiency in vaccination. Required to enter into a contract with Council in accordance with Vaccination Order, 1930, of Minister of Health. Contract will provide for payment of scale of fees laid down by County Council.

Boundaries of respective medical relief and vaccination districts identical and desirable that appointment of District Medical Officer and Public Vaccinator be held concurrently by the same individual. Medical practitioners should state if they are prepared to accept both appointments. Unestablished, non-pensionable.

Applications to the undersigned by July 28, 1945.—C. W. Radcliffe, "Z," Clerk of the County Council. Middlesex Guildhall, Westminster, S.W.1.

MIDDLESEX COUNTY COUNCIL.—CASUALTY OFFICER (B2) (Resident) required at CENTRAL MIDDLESEX COUNTY HOSPITAL, Park Royal, N.W.10. Applications invited from registered medical practitioners who have held house appointments and had good all-round experience (including R and W practitioners now holding A posts). Salary £350 per annum, plus war bonus. Board, lodging, and laundry. Whole-time duties such as Council may direct under supervision of the Medical Director. Appointment, subject to medical examination and one month's notice is for six months, but may be extended for another six months. Application to Medical Director "Z" of hospital. Application forms not provided. Closing date July 31, 1945.—C. W. Radcliffe, Clerk of the County Council, Middlesex Guildhall, Westminster, S.W.1.

SURREY COUNTY COUNCIL. Epsom County Hospital, Dorking Road, Epsom (450 beds).—Applications are invited from registered medical practitioners for the appointment of ASSISTANT MEDICAL OFFICER (B1). Applicants must have held a house appointment and should preferably have had postgraduate experience in the administration of anaesthetics. Applications from R and W practitioners cannot be considered unless they have been rejected by the R.A.M.C. Commencing salary according to experience on the grade £350 by £25 to £450 per annum, plus residential emoluments valued at £125 per annum. The appointment is temporary, and is subject to one month's notice on either side, and any Local Government Superannuation rights will be preserved. Apply to the Medical Superintendent by July [illegible], 1945.

ANCOATS HOSPITAL, Manchester, 4.—Applications are invited from medical practitioners for the post of REGISTRAR, to assist the Honorary Physician in the Out-patients Clinic on Thursday mornings at 9.30 a.m.

HOUSE SURGEON (General) (A) appointment. Salary £120 per annum, with full residential emoluments. Practitioners within three months of qualification who are liable to service under the National Service Acts may apply when appointment will be for a period of six months.

Applications for each post to the General Superintendent and Secretary.

BLACKBURN AND EAST LANCASHIRE ROYAL INFIRMARY (248 beds). HOUSE PHYSICIAN (A).—Applications are invited from registered medical practitioners, male and female, for the appointment of House Physician (A), to become vacant on August 1, including practitioners within three months of qualification who are liable to service under the National Service Acts, when appointment will be for a period of six months. The House Physician is also attached to the Eye, Ear, Nose, and Throat Department. Salary £175 per annum, with full residential emoluments. Applications should be sent to the undersigned as soon as possible.—T. Dewhurst, General Superintendent and Secretary.

BLACKBURN AND EAST LANCASHIRE ROYAL INFIRMARY (248 beds, 5 residents) HOUSE SURGEON (A).—Applications are invited from registered medical practitioners male and female for the appointment of House Surgeon (A), now vacant, including practitioners within three months of qualification who are liable to service under the National Service Acts If held by a practitioner who is liable under these Acts, appointment will be for a period of six months Salary is at the rate of £175 per annum with full residential emoluments Applications to the undersigned.—T Dewhurst, General Superintendent and Secretary

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BIRMINGHAM ACCIDENT HOSPITAL AND REHABILITATION CENTRE, Bath Row, Birmingham, 13. HOUSE SURGEON (A).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A), now vacant, including practitioners within three months of qualification who are liable to service under the National Service Acts. Appointment will be for six months. Salary is at the rate of £150 per annum, with full residential emoluments.

HOUSE SURGEON (B2).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (B2), now vacant, including R and W practitioners who now hold A posts. The appointment will be for six months. The salary is at the rate of £200 per annum, with full residential emoluments.—A. A. MacIver, Secretary.

BOURNEMOUTH. Royal Victoria and West Hants Hospital (404, including E.M.S., beds).—Applications are invited immediately from registered medical practitioners, male or female, for the following appointments: FOUR HOUSE SURGEONS (A), becoming vacant on following dates: Now, July 24, August 1 and 17. Salary is at the rate of £175 per annum, with full residential emoluments. Certain of these appointments will include work in special departments, including obstetrics, etc. Applications stating whether married or single should be sent to the undersigned immediately. Practitioners within three months of qualification and liable under the National Service Acts may apply. The appointments will be for a period of six months.—Gordon M. Saul, Secretary.

BRISTOL HOMOEOPATHIC HOSPITAL, Bristol, 6.—The Board of Management invite applications for the appointment of RESIDENT MEDICAL OFFICER (B2), to commence duty on September 1, 1945, at a salary of £175 per annum, plus 30 guineas per annum for Hospital Registrar duties, with board, laundry, and accommodation. R and W practitioners now holding A posts may apply, when appointment will be for a period of six months. Opportunity for good surgical and general experience. Applications should be forwarded addressed to the undersigned.—H. Hunter, Lieut.-Col., Sec.

BURY INFIRMARY, Lancashire (159 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (A), which post will become vacant shortly, including practitioners within three months of qualification who are liable for service under the National Service Acts. If held by a practitioner who is liable under these Acts, the appointment will be for six months, otherwise renewable. Salary is at the rate of £200 per annum, with full residential emoluments. Applications to the undersigned immediately.—H. Wilkinson, Supt.

CONNAUGHT HOSPITAL, Walthamstow, London, E.17. CASUALTY OFFICER (A).—Applications are invited from registered medical practitioners, male and female, for the appointment of Casualty Officer (A), to become vacant on August 13, 1945, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, the appointment will be for a period of six months. Salary at the rate of £120 per annum, with full residential emoluments. Applications to be sent as soon as possible to R. Halton Harrison, General Secretary.

CROYDON GENERAL HOSPITAL (A Voluntary Hospital of 200 beds). CLINICAL ASSISTANT.—Applications are invited from registered medical practitioners, male or female, for the position of Clinical Assistant to the Rectal and Urological Department on Fridays from 1.30 p.m. to 5 p.m. Further particulars can be obtained from the undersigned to whom applications should be sent at once.—George A. Paines, House Governor.

CHESTERFIELD AND NORTH DERBYSHIRE ROYAL HOSPITAL. (Beds—Hospital, 289; Annexe, 108.)—Applications are invited from registered medical practitioners for the following appointments: HOUSE PHYSICIAN (A), vacant now. HOUSE SURGEON (A), vacant now. The appointments will be held for a period of six months. Salary for each post £225 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply. Applications should be sent to the House Governor and Secretary as soon as possible.

COVENTRY AND WARWICKSHIRE HOSPITAL.—NON-RESIDENT LOCUM CASUALTY SURGEON (B1) required for holiday duty for three weeks, commencing August 9 next. Salary to suitable candidate at the rate of £700 per annum. Good scope for valuable experience in casualty and minor surgical duties. Applications should be sent to the House Governor, Coventry and Warwickshire Hospital.

CHORLEY AND DISTRICT HOSPITAL, Lancs (100 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (B2), vacant early in July. Salary is at the rate of £300 per annum, with full residential emoluments R and W practitioners who now hold A posts may apply when the appointment will be limited to six months Applications to be addressed to the Secretary-Supt.

CHESTER ROYAL INFIRMARY (225 beds normal).—Applications are invited from registered medical practitioners, male and female, for the two following vacant appointments: RESIDENT ANAESTHETIST (A); GENERAL HOUSE SURGEON (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, or otherwise, the appointment will be for a period of six months. The appointments are approved for the purposes of the D.A. (R.C.P. and S. Eng.), and M.S. (London University), and F.R.C.S. examinations respectively. Salary is at the rate of £175 per annum, with full residential emoluments. Applications should be sent to the Secretary immediately.

COVENTRY AND WARWICKSHIRE HOSPITAL. HOUSE SURGEON (A) for General Surgical Duties.—Applications are invited from registered medical practitioners, male and female, for the above appointment, including practitioners within three months of qualification who are liable to service under the National Service Acts. The appointment, which is for six months, is vacant immediately. Salary at the rate of £170 per annum, with full residential emoluments. Applications should be sent to the undersigned immediately.—S. Cecil Hill, House Governor and Secretary.

CITY LODGE HOSPITAL, Cowbridge Road, Cardiff.—Applications are invited for the appointment of a FOOD SUPERVISOR AND DIETITIAN to the above hospital. Applicants should have experience of large scale catering and must be members of the British Dietetic Association. The appointment is on the Council's permanent staff and the commencing salary will be £400 per annum, plus war bonus (at present 23s. per week). Applications should be forwarded to the Director of Public Assistance, City Hall, Cardiff.

CAMBORNE-REDRUTH MINERS', AND GENERAL HOSPITAL.—Owing to retirement a vacancy occurs for an HONORARY OPHTHALMIC SURGEON. Candidates should be suitably qualified in ophthalmology, preferably possessing the Fellowship of one of the Royal Colleges of Surgeons, and be prepared to engage solely in consulting ophthalmic practice. Applications are also invited from practitioners willing to act as locum tenens. Full particulars may be obtained on application to the undersigned.—J. C. Field, Secretary-Superintendent

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CLAYTON HOSPITAL, Wakefield (191 beds).—LOCUM R.S.O. required for two or for three weeks, August 11 to 25, or August 4 to 25. B2 post. Resident. Salary according to qualifications and experience with a minimum of £10 per week. Applications are to be sent to the undersigned at the hospital as soon as possible.—W. Read, Superintendent and Secretary.

DERBYSHIRE ROYAL INFIRMARY, Derby (Voluntary hospital.) (Total beds 416, plus 115 E.M.S.)—Applications are invited from registered medical practitioners, male and female, for the appointment of CASUALTY OFFICER (A), now vacant. Salary is at the rate of £200 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when appointment will be for a period of six months.

Applications are also invited from registered medical practitioners, male and female, for the appointment of a HOUSE SURGEON (B2). Salary at the rate of £200 per annum, with full residential emoluments. R and W practitioners who now hold A posts may apply, when the appointment will be limited to six months.

Applications are also invited from registered medical practitioners, male and female, for the appointment of GYNAECOLOGICAL HOUSE SURGEON (A), now vacant. Salary is at the rate of £200 per annum, with full residential emoluments Practitioners within three months of qualification and liable under the National Service Acts may also apply, when the appointment will be for a period of six months.

Applications for each post should be sent as soon as possible to Arthur Taylor, Superintendent and Secretary.

DONCASTER ROYAL INFIRMARY.—Applications are invited from registered medical practitioners, male, for the appointment of CASUALTY OFFICER (B2), including R practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months. The salary is at the rate of £175 per annum, with full residential emoluments. This large industrial area offers excellent opportunities for gaining experience Applications should be sent to the undersigned immediately.—R. Lancaster, Secretary-Supt

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DERBYSHIRE HOSPITAL FOR SICK CHILDREN (84 Beds). HOUSE SURGEON (A).—Applications are invited from registered lady medical practitioners for the appointment of House Surgeon, to become vacant on August 1, 1945, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts appointment will be for a period of six months. Salary £130 per annum The hospital is recognized by the Conjoint Board for the purposes of the Diploma in Child Health.—Arthur N. Whiston, Secretary, 42, St. Mary's Gate, Derby.

IMPORTANT — All applicants should read the notice about qualifications required, etc., printed at the top of page 9

DREADNOUGHT SEAMEN'S HOSPITAL, Greenwich.—The Committee of Management of the Seamen's Hospital Society invited applications for the wartime appointment of ASSISTANT RADIOLOGIST from fully qualified medical practitioners holding the D.M.R.E. Two half-day sessions weekly. An honorarium of 50 guineas attaches to the post. The elected candidate will be appointed for twelve months, but will be eligible for re-election. Applications to be sent to the undersigned.—F. A. Lyon, Administrator and Secretary.

DORSET COUNTY HOSPITAL, Dorchester, Dorset. (Voluntary hospital, 100 beds.)—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (A), vacant on August 26 next. Salary is at the rate of £200 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for six months.—C. H. Spence, Secretary.

EAST SUFFOLK AND IPSWICH HOSPITAL (400 beds, 8 residents).—Applications are invited from registered medical practitioners for the post of HOUSE SURGEON TO A GENERAL SURGEON (A), vacant immediately. Practitioners within three months of qualification who are liable for service under the National Service Acts may apply. Appointment will be for six months. Salary is at the rate of £175 per annum, with full residential emoluments.—Arthur Griffiths, Secretary, The Hospital, Ipswich.

ELIZABETH GARRETT ANDERSON HOSPITAL, Euston Road, N.W.1.—The Managing Committee invite applications from qualified medical women for the staff appointment of part-time RADIOLOGIST in charge of the diagnostic work. Duty to begin in September. Honorarium £200 per annum. Applications should be sent to the Secretary by July 31.

EAST HAM MEMORIAL HOSPITAL, Shrewsbury Road, E.7.—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE PHYSICIAN (B2), to become vacant on August 5, including R and W practitioners who now hold A posts. If held by an R or a W practitioner the appointment will be limited to six months. Salary at the rate of £200 per annum, with full residential emoluments.

Applications are also invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON AND CASUALTY OFFICER (A), to become vacant on August 5, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts the appointment will be for a period of six months. Salary at the rate of £120 per annum, with full residential emoluments.

Applications for each post to reach the undersigned by July 25.—Reginald Perry, Secretary-Supt.

ECCLES AND PATRICROFT HOSPITAL, Eccles, Manchester (88 beds).—Applications are invited from registered medical practitioners, male and female, for the post of SENIOR HOUSE SURGEON (B1), now vacant. Suitably qualified R and W practitioners holding B2 posts are invited to apply. Applicants must be interested in obstetrics. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Salary at the rate of £400, plus fees and residential emoluments. Applications should be addressed to the Secretary as above.

GUY'S HOSPITAL MEDICAL SCHOOL.—Applications are invited for the post of ACTING MEDICAL REGISTRAR and MEDICAL TUTOR (B1), to commence duties early in August, from suitably qualified R practitioners holding B2 appointments, R practitioners now holding B1 appointments and rejected by the R.A.M.C. may apply. Applications are also invited from medical officers recently discharged from the Services. Salary according to experience, but not less than £400 per annum. The successful candidate may be enrolled as a whole-time officer in the Emergency Medical Service. Applications to be sent to The Dean, Guy's Hospital Medical School, London Bridge, S.E.1, not later than Monday, July 23.

GENERAL HOSPITAL, Nottingham. (Main hospital, 429 beds; E.M.S., 202 beds; Cedars Branch, 110 beds).—PART-TIME SURGICAL REGISTRAR required (non-resident). Salary £600 per annum. Successful applicant will be allowed to undertake work at other hospitals, to be arranged with approval of Board of Management. Good opportunity for keen man and preference will be given to applicants with Fellowship degree. Further details can be obtained from the undersigned.—Henry M. Stanley, House Governor and Secretary.

GREAT YARMOUTH GENERAL HOSPITAL (92 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of TWO HOUSE SURGEONS (A), now vacant. Salary £250 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months. Applications to be sent immediately to the undersigned.—John S. Egerton, Secretary.

HULL ROYAL INFIRMARY.—Applications are invited for the following posts, vacant now:

SECOND HOUSE SURGEON (B2) (Recognized for F.R.C.S.). Suitably qualified R and W practitioners who now hold A posts may apply. If held by an R or W practitioner the appointment will be limited to six months.

CASUALTY OFFICER (A). Practitioners within three months of qualification who are liable to service under the National Service Acts may apply, when appointment will be for a period of six months. Salary for each of the above posts £200 per annum, with full residential emoluments.

Applications to R. J. Carless, House Governor.

HORTON GENERAL HOSPITAL, Banbury, Oxon (276 beds). (Voluntary and E.M.S.)—Applications are invited from registered medical practitioners, male or female, for the following posts: JUNIOR HOUSE SURGEON (A), salary £150. Vacant now. Practitioners within three months of qualification who are liable to service under the National Service Acts may apply. HOUSE PHYSICIAN (B2). Salary £180. Vacant August 1. R and W practitioners now holding A posts may apply. Appointments are for a period of six months. Application to Richard H. Prescott, Secretary and House Governor

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, London, W.C.1.—There is a vacancy for a RESIDENT ASSISTANT PHYSICIAN (B1). Salary £350 per annum. The appointment will be for six months, but is renewable. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R and W practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Full particulars, with form of application, which must be returned by Friday, July 20, are obtainable from the undersigned.—H. F. Rutherford, Secretary.

HULL ROYAL INFIRMARY.—Applications are invited for the post of TEMPORARY HONORARY ASSISTANT OPHTHALMIC SURGEON from candidates who have had six months' duty at an Ophthalmic Hospital or Dispensary, or an Ophthalmic Department at a general hospital or dispensary. The successful candidate will be restricted to Ophthalmic practice in the hospital. Applications should be addressed to the Chairman of the Managing Committee.—R. J. Carless, House Governor.

HUDDERSFIELD ROYAL INFIRMARY (321 beds).—CASUALTY OFFICER (B2) required, to commence July 31. R and W practitioners who now hold A posts may apply. If held by an R or W practitioner appointment will be limited to six months. Salary at the rate of £200, with full residential emoluments.

HOUSE SURGEON (A) required, to commence August 10. Practitioners within three months of qualification who are liable to service under the National Service Acts may apply. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary at the rate of £150, with full residential emoluments.

Applications for each post to be sent to the undersigned as soon as possible.—H. J. Johnson, General Superintendent and Secretary.

HOVE GENERAL HOSPITAL.—Applications are invited from registered medical practitioners, male or female, for the appointment of RESIDENT MEDICAL OFFICER (B2). Salary at the rate of £200-£250 per annum, according to experience, with full residential emoluments. R and W practitioners who now hold A posts may apply, when appointment will be limited to six months; otherwise may be extended. Applications should reach the undersigned as soon as possible, stating when free. The appointment will date from August 4, 1945.—J. V. Roe, Secretary-Superintendent.

HERTFORD COUNTY HOSPITAL (173 beds, plus E.M.S. beds).—Applications are invited from registered medical practitioners, male, for the appointment of HOUSE SURGEON (A), vacant now, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary £150 per annum, with full residential emoluments. Applications to be forwarded to Percy G. Brooks, House Governor.

INGHAM INFIRMARY, South Shields (180 beds). —Applications are invited from registered medical practitioners, male or female, for the post of HOUSE SURGEON (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. The appointment will be for a period of six months. Salary is at the rate of £175 per annum, with full residential emoluments. Application should be sent to the undersigned.—Henry F. Pitt, House Governor and Secretary.

KENT AND CANTERBURY HOSPITAL, Canterbury (195 beds and 75 E.M.S. beds).—Applications are invited from male registered medical practitioners for the appointment of a HOUSE SURGEON (B2), including R practitioners who now hold A posts. If held by an R practitioner, the appointment will be limited to six months. The salary is £160 per annum, with full residential emoluments. Applications should be sent immediately to the Superintendent and Secretary.

KENT AND SUSSEX HOSPITAL, Tunbridge Wells (506 beds).—Applications are invited from registered medical practitioners, male and female, including R and W practitioners who now hold A posts, for the appointment of RESIDENT HOUSE SURGEON (B2) (Fracture Clinic, Orthopaedic and General Surgery), to become vacant on July 30, 1945. If held by an R or W practitioner this appointment will be limited to six months, otherwise it will be for a period of six to twelve months. This post is recognized by the Council of the Royal College of Surgeons for the purpose of the Final Fellowship Examination. Salary at the rate of £200 per annum, with residential emoluments.—E. A. Wagstaff, Superintendent-Secretary.

KING EDWARD VII HOSPITAL, Windsor.—Applications are invited from registered medical practitioners, male and female, for the appointment of a HOUSE SURGEON AND CASUALTY OFFICER (A), now vacant, including practitioners within three months of qualification, who are liable for service under the National Service Acts. If held by a practitioner who is liable under these Acts appointment will be for a period of six months. Salary is at the rate of £150 per annum, with full residential emoluments. Applications to be sent to the Secretary as soon as possible.

KING EDWARD MEMORIAL HOSPITAL, Ealing.—Applications are invited from registered medical practitioners, including practitioners within three months of qualification and liable under the National Service Acts, for the appointment of HOUSE SURGEON (A) to Special Departments (Orthopaedics, etc.), including Anaesthetics, vacant now. Six months' appointment. Salary at the rate of £150 per annum, with full residential emoluments. Applications should be sent to the undersigned immediately.—R. A. Mickelwright, House Governor.

LANCASTER, ROYAL ALBERT INSTITUTION FOR FEEBLE-MINDED.—Applications are invited from registered medical practitioners for the post of RESIDENT ASSISTANT MEDICAL OFFICER (B1) at the above Institution. R and W practitioners now holding B2 posts may apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Salary £500 a year, with full residential emoluments. LOCUM TENENS (B1), 10 guineas a week, wanted for August and September. Apply in writing as soon as possible to the Medical Superintendent.

LEIGH INFIRMARY, Lancs General hospital (102 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of a HOUSE SURGEON (A), vacant immediately, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months, otherwise it will be for a period of twelve months. Salary is at the rate of £250 per annum, with full residential emoluments.—Applications to be addressed to F. M. Evison (Miss), Acting Secretary.

MERTHYR GENERAL HOSPITAL (115 beds).—Applications are invited from registered medical practitioners for the appointment of a RESIDENT HOUSE SURGEON, male or female (A), including practitioners within three months of qualification who are liable to service under the National Service Acts The appointment will be for a period of six months Salary at the rate of £200 per annum, with board and lodging.—Applications to the Secretary Merthyr General Hospital, Merthyr Tydfil

MANSFIELD AND DISTRICT GENERAL HOSPITAL, Mansfield, Notts (186, plus 40 E.M.S., beds) —Applications are invited from registered medical practitioners for the appointment of RESIDENT HOUSE SURGEON (A), now vacant. Salary £220 p.a. with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months —Applications should be sent at once to K L Ward Secretary

MANCHESTER ROYAL INFIRMARY. TEMPORARY PART-TIME APPOINTMENT OF AN ASSISTANT SURGICAL OFFICER TO THE AURAL DEPARTMENT.—The Board of Management of the Manchester Royal Infirmary invite applications for the above appointment, now vacant. Applicants must be registered and hold a medical and surgical qualification. The appointment (non-resident) is for six months, subject to the provisions of the bye-laws as to notice, etc. Attendance required on Wednesday mornings from 9.0 a.m. to 12 noon, and other times as requested. Salary at the rate of £35 per annum. Applications to be sent to the undersigned.—By Order, F. J. Cable, General Superintendent and Secretary.

MINEHEAD AND WEST SOMERSET HOSPITAL, Minehead, Somerset.—Applications are invited immediately from registered medical practitioners, male and female, for the appointment of RESIDENT HOUSE SURGEON AND ANAESTHETIST (B2), to become vacant on September 1, 1945, including R and W practitioners who now hold A posts. The appointment is for six months. Salary is at the rate of £250 per annum, with full residential emoluments.—Walter J. Chorley, Sec.

IMPORTANT — All applicants should read the notice about qualifications required, etc., printed at the top of page 9

METROPOLITAN HOSPITAL, London, E.8. RESIDENT SURGICAL REGISTRAR (B1).—Applications are invited from registered medical practitioners for the appointment of Resident Surgical Registrar, now vacant. Applicants should have held house appointments and had surgical experience. Preference will be given to candidates holding Diploma of F.R.C.S. Suitably qualified R practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £400 per annum, and the appointment will be for a period of six months. Applications should be sent to the undersigned not later than July 24, 1945.—Frank Jennings, House Governor and Secretary.

METROPOLITAN HOSPITAL, London, E.8. HOUSE SURGEON (B2).—Applications are invited from registered medical practitioners, male, for the appointment of a House Surgeon (B2), to become vacant on August 1, 1945, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary is at the rate of £175 per annum, with full residential emoluments. Applications to the undersigned.—Frank Jennings, House Governor and Secretary.

NEW CROSS HOSPITAL, Wolverhampton. ASSISTANT MEDICAL OFFICER (A).—Applications are invited from registered male medical practitioners for the appointment of Assistant Medical Officer (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months; otherwise it will be for a period not exceeding twelve months. Salary is at the rate of £230 per annum (including bonus), with full residential emoluments. Apply Medical Superintendent.—F. W. Hand, Director of Social Welfare, 183, Stafford Street, Wolverhampton.

NORTH STAFFORDSHIRE ROYAL INFIRMARY, Stoke-on-Trent.—Applications are invited from registered medical practitioners, male and female (including R and W practitioners who now hold A posts) for the following posts: HOUSE SURGEON (B2) to the Gynaecological and Obstetrical Department; RESIDENT ANAESTHETIST (B2). If held by an R or W practitioner the appointment will be limited to six months. Salary is at the rate of £185 per annum, with full residential emoluments. Applications should be forwarded as soon as possible to the House Governor.

NATIONAL HOSPITAL, Queen Square, W.C.1. (For the Relief and Cure of Diseases of the Nervous System, including Paralysis and Epilepsy).—Applications are invited from registered medical practitioners for the appointment of RESIDENT MEDICAL OFFICER (B1), to become vacant September 11, 1945. Applicants should have held house appointments. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £150 per annum. Applications should be forwarded to the undersigned.—H Ewart Mitchell, Secretary.

NORTH CAMBRIDGESHIRE HOSPITAL, Wisbech —Applications are invited from registered medical practitioners, including practitioners within three months of qualification who are liable to service under the National Service Acts, for appointment of HOUSE SURGEON (A), vacant August 1 1945 Appointment will be for a period of six months Salary £200-£250, with full residential emoluments. Applications should be sent to the Secretary

NOTTINGHAM GENERAL HOSPITAL (712 beds, including E.M.S. beds).—Applications are invited from registered medical practitioners, male and female, including practitioners within three months of qualification who are liable to service under the National Service Acts, for the appointment of a RESIDENT CASUALTY OFFICER (A) for the above hospital. Duties to commence about August 10. If held by a practitioner who is liable under these Acts appointment will be for a period of six months. Salary at the rate of £200 per annum, with full residential emoluments. Applications to be sent to the undersigned.—Henry M. Stanley, House Governor and Secretary.

ROCHDALE INFIRMARY, Lancs. (110 beds).—The Board of Management invite applications from registered medical practitioners, male and female, for the following appointment, vacant shortly: HOUSE PHYSICIAN (A). Duties include work in the Ophthalmic, Aural, and Gynaecological Departments, as well as medical clinic, and affords excellent opportunity for experience. Salary is at the rate of £200 per annum, with full residential emoluments. The successful candidate must be a member of a Medical Defence Society. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months. Applications to W. Wynne, Superintendent-Secretary.

NORTH LONSDALE HOSPITAL, Barrow-in-Furness (171 beds).—Applications are invited from registered medical practitioners for the following vacancies available at this hospital: HOUSE SURGEON (A). £200 per annum, with usual emoluments. CASUALTY OFFICER (A). £150 per annum, with usual emoluments. Practitioners within three months of qualification who are liable to service under the National Service Acts may apply, when appointments will be for a period of six months.

RESIDENT SURGICAL OFFICER (B1), now vacant. Applicants should have held house appointments and have had surgical experience. Preference will be given to candidates holding Diploma of F.R.C.S. Salary at the rate of £400 per annum, with full residential emoluments. Suitably qualified R and W practitioners holding B2 appointments and also R practitioners holding B1 appointments and rejected by the R.A.M.C. may apply.

Applications for each post to be sent to W. T. Kellett, Secretary.

OLDHAM ROYAL INFIRMARY (203 beds). HOUSE PHYSICIAN (A).—Applications are invited from registered medical practitioners, male and female, for the post of House Physician (A), which will become vacant on August 1, 1945. The appointment is for a period of six months. Salary is at the rate of £175 per annum. Practitioners within three months of qualification and liable under the National Service Acts may apply. Application should be sent to the undersigned immediately.—F. W. Barnett, General Superintendent and Sec.

PONTYPOOL AND DISTRICT HOSPITAL, Pontypool, Mon.—Applications are invited from registered medical practitioners, male and female, for the appointment of RESIDENT MEDICAL OFFICER (B2), medical and surgical beds, to become vacant on August 8, 1945, including R and W practitioners, who now hold A posts. If held by an R or a W practitioner, the appointment will be limited to six months, otherwise it may be extended for a further period. The salary is at the rate of £250 per annum, with full residential emoluments. Applications should be sent to N. A. Ball, Secretary.

PRINCESS LOUISE KENSINGTON HOSPITAL FOR CHILDREN.—Applications are invited for the post of TEMPORARY HONORARY ANAESTHETIST. Applications with full details of experience in anaesthetics should be sent to the undersigned on or before August 30, 1945. Applications from practitioners serving in H.M. Forces will be welcomed.—Frank Hart, Secretary-Superintendent.

PRESTON ROYAL INFIRMARY. RESIDENT ORTHOPAEDIC OFFICER (B1).—The Board of Management invite applications for the above appointment. Suitably qualified R practitioners now holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary at the rate of £250 per annum, with the usual residential allowances. Applications to be sent as soon as possible to J. Gibson, Superintendent and Sec.

QUEEN MARY'S HOSPITAL FOR THE EAST END, Stratford, London, E.15. CLINICAL ASSISTANT TO THE DERMATOLOGICAL DEPARTMENT.—Applications are invited for the above post, which is tenable for a period of six months, and should be received not later than July 31. The successful candidate will be required to assist the Honorary Dermatologist every Tuesday morning. Further particulars can be obtained from the undersigned.

Applications are also invited for the post of TEMPORARY HONORARY OPHTHALMIC SURGEON to the above hospital. The appointment is of a temporary nature as no permanent appointments are being made until the end of the war. Candidates must be Fellows of a Royal College of Surgeons and be engaged in Consulting Practice as an Ophthalmic Specialist. Further particulars can be obtained from the undersigned and applications must be received not later than August 31.—M. J. Huntley, House Governor and Secretary.

ROYAL VICTORIA INFIRMARY, Newcastle-upon-Tyne. SURGICAL REGISTRAR (B1) (open appointment).—Applications are invited from registered medical practitioners for the appointment of Surgical Registrar to the Royal Victoria Infirmary. Suitably qualified R and W practitioners holding B2 posts may apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Applicants should have held house appointments. The post is suitable for applicants wishing to study for the Fellowship examination. Salary is at the rate of £300 per annum (non-resident). Applications should be sent immediately to the undersigned —A. W. Sanderson, House Governor.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN (Male patients admitted as a war-time measure), Waterloo Road, S.E.1.—Applications are invited from registered medical practitioners for the appointment of RESIDENT SURGICAL OFFICER (B1), vacant on August 1. Salary £300 per annum, with full residential emoluments. Practitioners holding B2 appointments, also those holding B1 and rejected by the R.A.M.C., may apply. Applications should be sent immediately to J H. Teasdale, Secretary.

ROYAL LANCASTER INFIRMARY, Lancaster (311 beds). Hospital recognized by the Royal College of Surgeons (England) for two Senior Posts — Applications are invited from registered medical practitioners, male and female, for the following posts:

SECOND HOUSE SURGEON (B2), Orthopaedic and Casualty. Vacant now. Salary £210 per annum. R and W practitioners holding A posts may apply, when the appointment will be limited to six months, otherwise it may be extended.

HOUSE PHYSICIAN (A). Vacant now Salary £170 per annum. Practitioners within three months of qualification who are liable for service under the National Service Acts may apply. The appointment will be limited to six months. In both cases full residential emoluments are included.

Applications should be sent to the undersigned.—C. H. Grimshaw, Superintendent-Secretary.

ROYAL VICTORIA HOSPITAL, Belfast. HOSPITAL SUPERINTENDENT.—The Board of Management of the Royal Victoria Hospital, Belfast, requires the services of a Medical Superintendent or House Governor. The Royal Victoria Hospital is a voluntary hospital and the principal teaching hospital of the Belfast Medical School, which is one of the largest in the United Kingdom. There are 554 beds in the general wards, a private patients' hospital of 92 beds, and a maternity hospital of 96 beds, together with a large extern department and a small convalescent home. Large extensions of the hospital are contemplated in the immediate future. Previous experience of hospital administration is essential. Salary will be £1,200-£1,750, according to experience, with a free house. Applicants, including those at present serving in H.M. Forces, should forward full particulars to the Honorary Secretary, Royal Victoria Hospital, Belfast.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.1.—Applications are invited from registered medical practitioners for the appointment of RESIDENT MEDICAL OFFICER (B1), to become vacant September 1. Salary is at the rate of £150 per annum. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Applicants must not be more than 10 years qualified. Applications should be sent to the undersigned on or before July 28.—Richard T. Bartley, Secretary.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.1.—Applications are invited from registered medical practitioners for the appointment of RESIDENT MEDICAL REGISTRAR (B1) at Arlesey, Beds. Applicants must not be more than 10 years qualified. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Minimum salary £350 per annum. Duties to commence September 15. Applications should be sent to the undersigned on or before July 28.—Richard T. Bartley, Secretary

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.1.—Applications are invited from registered medical women for the appointment of RESIDENT ANAESTHETIST AND CASUALTY OFFICER (B2), to become vacant on August 1 for a period of six months, including W practitioners who now hold A posts. Salary £200 per annum Applications should be sent to the undersigned on or before July 21.—Richard T. Bartley, Secretary.

ROYAL HAMPSHIRE COUNTY HOSPITAL, Winchester (452 beds)—Applications are invited from registered medical practitioners, men or women, for the appointment of TWO HOUSE SURGEONS (A), one vacant immediately, and one on August 9, 1945, and for ONE HOUSE PHYSICIAN (A), vacant August 7, 1945. Salary is at the rate of £175 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when appointment will be for a period of six months Applications should be sent to D. M. Stanbury, Acting Superintendent and Secretary.

ROYAL NATIONAL ORTHOPAEDIC HOSPITAL, Brockley Hill, Stanmore, Middlesex —Applications are invited for the appointment of RESIDENT SURGICAL OFFICER (B1). Salary £350 per annum, with board, quarters, laundry, etc Suitably qualified R practitioners now holding B2 posts may apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C Duties to commence as soon as possible. Applications should be addressed to the Secretary, 234, Great Portland Street, London, W.1.

ROYAL WEST SUSSEX HOSPITAL, Chichester (314 beds, 200 E.M.S. Resident Staff, R.S.O. R.M.O., C.O. and H.S.)—Applications are invited for the following post C.O. AND H.S. (A), vacant immediately. Practitioners within three months of qualification who are liable to service under the National Service Acts may apply The appointment is for six months. Salary £150 per annum, with full residential emoluments. Applications should be sent to K. H Williams, House Governor and Secretary.

IMPORTANT — All applicants should read the notice about qualifications required, etc., printed at the top of page 9

ROYAL SHEFFIELD INFIRMARY AND HOSPITAL. The Royal Infirmary, Sheffield, 6.—Applications are invited from registered medical practitioners, male and female, for the post of RESIDENT HOUSE OFFICER (A), who may be asked to carry out the duties of House Physician and/or House Surgeon, now vacant, including practitioners within three months of qualification who are liable to service under the National Service Acts If held by a practitioner liable under these Acts appointment will be for a period of six months. Salary is at the rate of £80 per annum, with full residential emoluments, and a bonus of £20 payable at the expiration of six months' satisfactory service. Applications should be sent forthwith to P. N. Glass, General Superintendent, Royal Infirmary, Sheffield, 6.

ROYAL SHEFFIELD INFIRMARY AND HOSPITAL.—The Court of Management invite applications from registered medical practitioners, including practitioners serving in H.M. Forces, for the post of HONORARY SURGEON to the Ear, Nose, and Throat Department. Applicants must be Fellows of the Royal College of Surgeons of England. Applications, giving names of referees, should reach the undersigned not later than October 30. Where the referees are abroad, candidates may arrange for the confidential reports to be sent direct to the undersigned.—P. N. Glass, General Superintendent, Royal Sheffield Infirmary and Hospital, Sheffield, 6.

ROTHERHAM HOSPITAL, Doncaster Gate, Yorkshire. General Voluntary Hospital (150 beds). HOUSE PHYSICIAN (A), salary £225 per annum, with full residential emoluments. Applications are invited from registered medical practitioners, male or female, for the above appointment, which will become vacant on August 1, Practitioners within three months of qualification who are liable to service under the National Service Acts may also apply, when the appointment will be for six months. Applications should be sent at once to the Secretary-Superintendent

SOUTHAMPTON FREE EYE HOSPITAL.—Applications are invited from registered medical practitioners, male and female, for the appointment of a HOUSE SURGEON (A), to become vacant on September 1, 1945, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months, otherwise it will be for a period of six months, which may be renewed by the Committee of Management Salary is at the rate of £200 per annum, or more, according to experience, with full residential emoluments.

ST. MARK'S HOSPITAL FOR CANCER, FISTULA, AND OTHER DISEASES OF THE RECTUM, City Road, London, E.C.1.—Applications are invited for a CLINICAL ASSISTANTSHIP in the Out-patient Department on Friday afternoons. The appointment is for six months in the first instance, and a fee of 3 guineas is payable on appointment. Applications to the Secretary, from whom further particulars may be obtained.

SIR JOHN PRIESTMAN, DURHAM COUNTY AND SUNDERLAND EYE INFIRMARY.—Applications are invited for the post of RESIDENT HOUSE SURGEON (B2), male or female, including R and W practitioners who now hold A posts The Infirmary is recognized by the Royal College of Surgeons as partial course of D.O.M.S. (60 beds.) Salary commencing at £200 per annum, with board, residence, and laundry, rising to £250 per annum after the period of one year. If held by an R or W practitioner appointment will be limited to six months Applications to be deliverd to the Secretary, The Sir John Priestman, Durham County and Sunderland Eye Infirmary, Alexandra Road, Sunderland.

ST. ALBANS AND MID-HERTS HOSPITAL. St. Albans, Herts (75 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of ASSISTANT RESIDENT MEDICAL OFFICER (A), vacant in July Salary at the rate of £150 per annum, with full residential emoluments Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months.—Applications should be sent to P. R. Battison, Secretary

ST. BARTHOLOMEW'S HOSPITAL, Rochester (201 beds).—Applications are invited from registered medical practitioners, male, for the post of CASUALTY OFFICER (A), vacant August 1, 1945 Salary £150 per annum (plus E.M.S grant of approximately £50 per annum), with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when appointment will be for six months. Applications to be forwarded to the Superintendent-Secretary as soon as possible.

SALISBURY GENERAL INFIRMARY (Voluntary Hospital) (225 beds.)—Applications are invited from registered medical practitioners for the appointment of RESIDENT HOUSE PHYSICIAN (B2), vacant now The salary is at the rate of £200 per annum, with full residential emoluments R and W practitioners who now hold A posts may apply, when the appointment will be limited to six months Applications should be sent immediately to John Williams, Superintendent and Secretary.

STOCKTON AND THORNABY HOSPITAL, Stockton-on-Tees (135 beds, 3 residents) TWO HOUSE PHYSICIANS ALTERNATING CASUALTY OFFICERS (A).—Applications are invited from registered medical practitioners for the above posts, now vacant, including practitioners within three months of qualification who are liable for service under the National Service Acts, when appointments will be for a period of six months. Salary £150 per annum, with full residential emoluments Applications should be sent to the undersigned as soon as possible.—J. Wilkinson, Secretary-Superintendent.

SCARBOROUGH HOSPITAL, Yorkshire (normally 140 beds).—Applications are invited from female registered medical practitioners for the post of HOUSE SURGEON (A). The appointment is for six months, commencing August 1, 1945, and the salary is at the rate of £175 p.a. with board, residence, laundry, etc Practitioners within three months of qualification and liable under the National Service Acts may also apply Applications to be sent immediately to the Secretary

SOUTHAMPTON CHILDREN'S HOSPITAL.—Applications are invited from registered medical practitioners, men and women, for the appointment of RESIDENT MEDICAL OFFICER (B2), vacant August 16. Salary is at the rate of £200 per annum, with full residential emoluments. R and W practitioners who now hold A posts may apply, when appointment will be limited to six months. Applications should be sent not later than July 23 to Ella K. Matthews, Secretary.

THE BIRMINGHAM MATERNITY HOSPITAL. (Associated to the Faculty of Medicine of the Birmingham University). HONORARY OBSTETRICIAN.—The Board of Management invites applications for the position of Honorary Obstetrician to fill the vacancy caused by the death of Sir Beckwith Whitehouse, M.S., F.R.C.S. Candidates must be registered medical practitioners and must hold the Fellowship of the Royal College of Surgeons (England) or the Membership of the Royal College of Obstetricians and Gynaecologists. The appointment will be an annual one and the holder will be eligible for reappointment. The post is open to persons at present serving in H.M. Forces. Conditions and terms of appointment together with a list of the members of the Appointing Committee to whom copies of the application should be sent, may be obtained on request from the undersigned. The last day for applications will be December 31, 1945.—Bernard Sylvester, House Governor, Birmingham Maternity Hospital, Loveday Street, Birmingham, 4.

THE BUCHANAN HOSPITAL, St. Leonards-on-Sea (104 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A). Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for six months. Salary £250 per annum, with board, residence, and laundry. Applications to be sent to the undersigned. —H. Aubrey Froggatt, Secretary.

THE BURSLEM HAYWOOD AND TUNSTALL WAR MEMORIAL HOSPITAL, High Lane, Tunstall, Stoke-on-Trent HOUSE PHYSICIAN (A).—Applications are invited from registered medical practitioners, male and female, for the appointment immediately of a House Physician (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts the appointment will be for a period of six months. Salary is at the rate of £175 per annum, with full residential emoluments.—C. E. Lowndes, Secretary.

THE KING EDWARD VII WELSH NATIONAL MEMORIAL ASSOCIATION. Sully Hospital, Sully, Glam. (300 beds, pulmonary tuberculosis; *X*-ray Department, Major Thoracic Unit, etc.).—Applications are invited from registered medical practitioners, male and female, for the appointment of JUNIOR RESIDENT MEDICAL OFFICER (B2) (2 vacancies), including R and W practitioners who now hold A posts. If held by an R or W practitioner, the appointment will be limited to six months, otherwise it will be for a period of one year. Salary at the rate of £200 per annum, with full residential emoluments. Applications to be sent to the undersigned immediately.—N Tattersall, Principal Medical Officer, Memorial Offices Cathays Park, Cardiff.

THE LEICESTER ROYAL INFIRMARY Immediate Vacancies. RESIDENT SURGICAL OFFICER (B1). Salary £250-£350, according to experience. OBSTETRIC HOUSE SURGEON (A). Salary £150 per annum. This vacancy is at the Leicester and Leicestershire Maternity Hospital, Causeway Lane. Appointments carry full residential emoluments and terminate on September 30; 1945 For the B1 post applicants should have held house appointments. Preference will be given to a candidate holding the Diploma of F.R.C.S. Suitably qualified R and W practitioners holding B2 appointments are invited to apply Applications from R practitioners now holding B1 appointments cannot be considered unless refused by the R.A.M.C. For the A post practitioners within three months of qualification and liable under the National Service Acts may apply. Applications forthwith to the House Governor and Secretary

THE CHILDREN'S HOSPITAL (King Edward VII Memorial), Birmingham, 16. RESIDENT SURGICAL OFFICER (B1).—Applications are invited from registered medical practitioners for the appointment of Resident Surgical Officer (B1) Applicants should have held house appointments and had surgical experience. Preference will be given to candidates holding the Diploma of F.R.C.S. The salary is at the rate of £350 per annum, with usual residential emoluments. Suitably qualified R and W practitioners holding B2 appointments and those holding B1 and rejected by the R.A.M.C. may apply — Arnold Tunstall, House Governor.

THE GLASGOW DENTAL HOSPITAL AND SCHOOL.—The Governors invite applications from qualified registered dental surgeons holding a medical qualification for the post of DEAN AND DIRECTOR OF STUDIES. The position is a full-time one: private practice is not permitted. The duties include the conducting of systematic courses in dental surgery and clinical dental surgery Salary £1,500 per annum. In order that those serving in H.M. Forces overseas may have opportunity of applying, applications will be received up to August 31. Applicants, who should be about 45 years of age, should give names of three referees: state approximate date when able to take up duties, if appointed, and address applications to Hourston, Macfarlane & Co., C.A., Secretaries and Treasurers 5, St. Vincent Place, Glasgow, C.1.

THE ROYAL GWENT HOSPITAL, Newport, Mon (255 beds, 30 E.M.S. beds.) SECOND HOUSE SURGEON (A), vacant July 29, 1945, salary at the rate of £175 per annum. THIRD HOUSE SURGEON (A), vacant July 20, 1945, salary at the rate of £175 per annum.—Applications are invited for these appointments, including practitioners within three months of qualification liable to service under the National Service Acts. If held by a practitioner liable under these Acts, appointment will be for a period of six months. The salary is as stated in each case, with full residential emoluments Applications should be sent to the undersigned immediately.—Alan Ruddle, Secretary-Superintendent.

THE PRINCE OF WALES'S GENERAL HOSPITAL, London, N.15 (238 beds). ORTHOPAEDIC HOUSE SURGEON (B1).—Applications are invited from registered medical practitioners, male and female, for the appointment of Orthopaedic House Surgeon (B1), now vacant. Applicants should have held house appointments and had surgical experience. Preference will be given to candidates holding Diploma of F.R.C.S Suitably qualified R practitioners holding B2 posts are invited to apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C Salary at the rate of £350 per annum, with full residential emoluments.—J. C. Burdett, Director and House Governor.

THE PRINCE OF WALES'S HOSPITAL, Plymouth.—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (A) with gynaecological work, for duty at the Lockyer Street Section, now vacant, including practitioners within three months of qualification who are liable to service under the National Service Acts If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary is at the rate of £175 per annum, with full residential emoluments.—Arthur R Cash, General Superintendent, Head Office, Greenbank Road, Plymouth

THE ROYAL HOSPITAL, Wolverhampton (Incorporated under Royal Charter). (310 beds.)—Applications are invited from registered medical practitioners, male, for the appointment of CASUALTY OFFICER (B2), vacant July 25, including R practitioners who hold A posts. If held by an R practitioner, the appointment will be limited to six months. Salary is at the rate of £150 per annum, with full residential emoluments.

Applications are also invited from registered medical practitioners, male or female, for the appointment of RESIDENT ANAESTHETIST (B2), vacant July 21, including R and W practitioners who now hold A posts. If held by an R or a W practitioner the appointment will be limited to six months. Salary is at the rate of £200 per annum, with full residential emoluments.—W. Cockburn, House Governor.

THE ROYAL NORTHERN HOSPITAL, Holloway, N.7.—Applications are invited from registered medical practitioners for the following appointments:

HOUSE SURGEON AND CASUALTY OFFICER (B2), to become vacant on August 1, 1945, for a period of six months. R practitioners who now hold A posts may apply Salary and emoluments approximately £140 per annum, with board, residence, and laundry

HOUSE SURGEON AND CASUALTY OFFICER (A) to become vacant on August 15, for a period of six months. Practitioners within three months of qualification and liable under the National Service Acts may apply. Salary and emoluments approximately £130 per annum, with board, residence and laundry

Applications should be sent to the undersigned not later than July 21, 1945.—Gilbert G. Panter, Secretary

IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page 9

THE ROYAL NATIONAL THROAT, NOSE, AND EAR HOSPITAL, Gray's Inn Road, W.C.1, and Golden Square, W.1. ASSISTANTS IN THE O.P. DEPARTMENTS.—There are vacancies for attendance at the following times: Golden Square, Mondays, 2 p.m.; Tuesdays, 2 p.m.; Fridays, 2 p.m. Gray's Inn Road, Mondays, 2 p.m.; Thursdays, 2 p.m. The appointments, which are honorary ones, afford good opportunities of acquiring an extended knowledge of the specialty as the duties consist of assisting the Honorary Medical Staff in seeing patients. Applications, which may be for periods of three, six or twelve months, should state the day for which application is made and be sent to the undersigned without delay.—John H. Young, Secretary-Superintendent.

THE ROYAL HOSPITAL, Wolverhampton. (Incorporated under Royal Charter).—Applications are invited from registered medical practitioners for the appointment of a HOUSE SURGEON (A), vacant now, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary is at the rate of £100 per annum, with full residential emoluments.—W. Cockburn, House Governor.

THE ROYAL INFIRMARY, Sunderland (312 beds). —Applications are invited from registered medical practitioners, male and female, for the appointment of RESIDENT ORTHOPAEDIC HOUSE SURGEON (B2), to become vacant on August 23, 1945, including R and W practitioners who now hold A posts. If held by an R or W practitioner the appointment will be limited to six months. Salary is at the rate of £250 per annum, with full residential emoluments provided the applicant has had fracture experience.—T. F. W. Mackeown, House Governor and Secretary.

THE BIRMINGHAM AND MIDLAND HOSPITAL FOR WOMEN. HONORARY ANAESTHETIST.—The Board of Management invites applications for the position of Honorary Anaesthetist. Candidates must be registered medical practitioners, preferably possessing the Diploma in Anaesthetics. The appointment will be for one morning session per week, for which an honorarium of 50 guineas per annum is paid, for a period of twelve months. The holder will be eligible for reappointment. Applications should be addressed to the House Governor of the Hospital, Sparkhill, Birmingham, 11, to arrive not later than July 23, 1945.

THE CHILDREN'S HOSPITAL, Sheffield (Inc.) (157 beds).—Applications are invited from registered medical practitioners, male and female, including practitioners within three months of qualification and liable under the National Service Acts, when the appointments will be for a period of six months, for the appointments of HOUSE PHYSICIAN (A), vacant July 26, 1945; HOUSE SURGEON (A), vacant August 16, 1945. Salary in each case at the rate of £100 per annum, including full residential emoluments. Applications should be sent to the undersigned. The successful applicant must be a member of a Medical Defence Society.—T. H. G. Gartland, Superintendent and Secretary.

THE WARWICKSHIRE KING EDWARD VII MEMORIAL SANATORIUM, Hertford Hill, near Warwick (239 beds, pulmonary tuberculosis).—Applications are invited from registered medical women, including W practitioners who now hold A posts, for the post of JUNIOR MEDICAL OFFICER (B2) at the above Sanatorium. If held by a W practitioner, the appointment will be limited to six months, otherwise it will not exceed one year. No previous professional experience necessary. Salary £375 per annum, plus cost-of-living bonus, with full residential emoluments. Applications to be sent to the Medical Superintendent at the Sanatorium by July 25, 1945.—L. Edgar Stephens, Clerk to the Joint Committee, Shire Hall, Warwick.

TYRONE COUNTY HOSPITAL, Omagh. RESIDENT MEDICAL STAFF.—Applications are invited from registered medical practitioners for the appointment of RESIDENT SURGICAL OFFICER. Applicants should have passed at least the first part of the examination for Fellowship of the Royal College of Surgeons, or be possessed of an equivalent qualification. Salary £300 to £500 per annum, according to qualifications and experience, with full residential emoluments.

HOUSE SURGEON required for mid-July. Salary £125 per annum, with full residential emoluments.

Applications should be sent to the Medical Superintendent.

THE RADCLIFFE INFIRMARY, Oxford, invites applications for the post of TEMPORARY NEUROLOGIST. The holder of the appointment will also be attached, in a consulting capacity, to Associated Hospitals in the Oxford area, and he will be expected to teach in the Oxford University Medical School. He will also assist the Ministry of Pensions in connexion with a scheme for the treatment and rehabilitation of Service patients suffering from the effects of head injuries. The total emolument of the post will be £2,000 per annum with superannuation. Private practice for personal gain will not be permitted. The Nuffield Provincial Hospitals' Trust propose to make a grant in support of research and ancillary services in connexion with the scheme. Applicants must be under 50 years of age and preference will be given to those with special experience of head injuries. Applications should reach the undersigned by September 15, 1945, accompanied by the names of referees. Applications by cablegram will be accepted from Service personnel. Further information can be obtained from the Administrator.—A. G. E. Sanctuary, Administrator.

THE ROYAL LIVERPOOL CHILDREN'S HOSPITAL.—Applications for the following appointments, now vacant, are invited from registered medical practitioners, male and female, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Full residential emoluments.

HOUSE SURGEON (A), Liverpool Branch. Salary at the rate of £100 per annum.

RESIDENT SURGICAL OFFICER (A), at the Heswall (Country) Branch. Salary at the rate of £120 per annum.

Applications should be sent to the Secretary, Royal Liverpool Children's Hospital, Myrtle Street, Liverpool, 7, by an early post.

THE STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A). Salary £196 per annum, with board-residence. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when appointment will be for six months. Applications to be forwarded to the undersigned.—A. E. Collins, Secretary.

THE WILLESDEN GENERAL HOSPITAL, Harlesden Road, N.W.10.—Applications are invited from registered medical practitioners for the following resident appointments vacant August 1: HOUSE SURGEON (A) and HOUSE PHYSICIAN (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. Salary at the rate of £130 per annum, plus full residential emoluments. The appointments will be for a period of six months. Applications should be sent to the undersigned immediately.—J. N. Drake, Secretary

THE PRINCE OF WALES'S HOSPITAL, Plymouth.—Applications are invited from registered medical practitioners, male and female, for the appointment of SENIOR HOUSE SURGEON (B2), for duty at the Devonport Section, vacant now, including R and W practitioners who now hold A posts. If held by an R or a W practitioner, the appointment will be limited to six months. Salary is at the rate of £200 per annum, with full residential emoluments.—Arthur R. Cash, General Superintendent, Head Office, Greenbank Road, Plymouth.

VICTORIA HOSPITAL, Burnley (183 beds).—Applications are invited from registered medical practitioners for the appointment of TWO HOUSE SURGEONS (A). Salary at the rate of £150 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when appointment will be for a period of six months. Applications should be sent to the undersigned.—J. E. Wheatcroft, Secretary.

VICTORIA HOSPITAL, Blackpool. (Normal complement, 200 beds; war-time complement, 500 beds.)—Applications are invited from registered medical practitioners, male, for the appointment of HOUSE SURGEON (B2), to the Orthopaedic Department, now vacant, including R practitioners who now hold A posts. The appointment is for a period of six months, and salary is at the rate of £200 per annum, non-resident, but accommodation will be provided outside the hospital. Applications should be sent to the undersigned immediately.—W. R. Smith, General Superintendent.

WEST NORFOLK AND KING'S LYNN GENERAL HOSPITAL. RESIDENT HOUSE PHYSICIAN (B2).—Applications are invited from registered medical practitioners, male and female, for the appointment of a House Physician (B2), now vacant, including R and W practitioners who now hold A posts. The appointment will be for a period of six months. Salary is at the rate of £250 per annum with full residential emoluments. The appointed applicant will have charge of medical and ophthalmic beds and act as resident anaesthetist.

RESIDENT HOUSE SURGEON (B2).—Applications are invited for the post of House Surgeon (B2), now vacant, including R and W practitioners who hold A posts. If held by an R or W practitioner the appointment will be limited to six months. The salary is at the rate of £250 per annum, with full residential emoluments. Duties will include charge of surgical beds, casualty department, and called upon to give anaesthetics in the absence of the honorary anaesthetists.

Applications for each post should reach the undersigned as soon as possible.—Joseph E. Searjeant, F.C.C.S., House Governor and Secretary General Hospital, King's Lynn.

WEST LONDON HOSPITAL, Hammersmith, W.6 —Applications are invited for the post of MEDICAL REGISTRAR (B1). The person appointed will be enrolled in the Emergency Medical Service and the rate of salary (payable by the Ministry of Health) will be according to experience, but will not be less than £350 per annum. The post will become vacant on July 31. Suitably qualified R practitioners holding B2 appointments are invited to apply immediately. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Selected candidates will be notified as to attendance for interview.—H. A. Madge, Secretary.

WALSALL GENERAL HOSPITAL (181 beds).—Applications are invited from registered medical practitioners, male and female, for the post of HOUSE SURGEON (A), at a salary of £150 a year. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months. Salary is at the rate specified above, with full residential emoluments. Applications should be forwarded immediately to W. H. Harper, Honorary House Governor.

WESTMORLAND COUNTY HOSPITAL, Kendal (82 beds).—Applications are invited from registered medical practitioners (unmarried) for the appointment of HOUSE SURGEON (B2), vacant now. Salary £300 per annum, with board, residence, and laundry. R and W practitioners who now hold A posts may apply, when appointment will be limited to six months, otherwise may be extended. Applications should be sent without delay to J. M. Somervell, Hon. Secretary.

WARRINGTON INFIRMARY AND DISPENSARY.—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A), now vacant. Salary is at the rate of £200 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months. Apply immediately to the Superintendent and Secretary.

WEST KENT GENERAL HOSPITAL (Incorporated), Maidstone (150 beds including 45 E.M.S. beds).—Applications are invited from registered medical practitioners, male and female, for the following appointment: CASUALTY OFFICER (B2), now vacant, including R and W practitioners who now hold A posts. The appointment will be limited to six months. Salary at the rate of £200 per annum, with residential emoluments. Applications should reach the undersigned forthwith.—Edward J. Gregg, House Governor and Secretary.

WEMBLEY HOSPITAL, Wembley, Middlesex.—Applications are invited from registered medical practitioners, including practitioners within three months of qualification and liable for service under the National Service Acts, for the post of HOUSE PHYSICIAN and CASUALTY OFFICER (A), vacant August 1, 1945, for a period of six months. Salary £175 per annum, with full residential emoluments.—P. E. Windo.

WREXHAM AND EAST DENBIGHSHIRE WAR MEMORIAL HOSPITAL.—Applications are invited for the post of CLINICAL ASSISTANT to Dr. J. MacD. Holmes in the Medical Department. Honorarium of £100 per annum. The post is a temporary one for a term of one year, but may be renewed for a further period. Applications to Leslie Spencer, Secretary.

Founded 1892. THE LONDON AND COUNTIES Assets exceed £100,000.

MEDICAL PROTECTION SOCIETY

Members receive advice and assistance in all matters affecting the practice of their profession and are afforded COMPLETE INDEMNITY against costs and damages in cases undertaken on their behalf.

Subscription, £1. No entrance fee to those joining within twelve months of registration. Entrance fee, 10/-.

Full Particulars from the Secretary, VICTORY HOUSE, LEICESTER SQUARE, W.C.2. Gerrard 4553 and 4814.

CHARGES FOR CLASSIFIED ADVERTISEMENTS

Circulation 53,000

Advertisements should reach the Advertisement Manager not later than the THURSDAY, ten clear days before publication.

Cancellation cannot be accepted after 10 a.m. MONDAY for current week's issue.

To economize in accounting, postage, and collection, **all advertisements should be paid for at time of order.** Publication will be in the earliest possible issue, but delay is unavoidable in present circumstances.

1. TO MEMBERS OF THE ASSOCIATION the cost of advertisements for Assistants, Dispensers, Locums, Partnerships, *Practices, Secretaries, is ten shillings for 24 words, including name and address When a Box Number is used, it must be reckoned as six of the total number of words in each advertisement.

1s. *extra* should be added for each insertion to cover the Box fee and postage of replies.

Additional words 2s. 6d. for every six, or part. Please mark advertisements clearly, *MEMBER.*

2. To all other (private) advertisers the charge under the headings specified above, para. 1, is 12s. (minimum) for 24 words, including name and address. When a Box Number is used, it must be reckoned as six of the total number of words in each advertisement.

1s. *extra* should be added for each insertion to cover the Box fee and postage of replies.

Additional words 2s. 6d. for every six, or part.

* SALE OF PRACTICE. The name and address of owner and of the firm negotiating the sale must accompany the advertisement. These details are not for publication.

3. Consulting rooms, Dietetic, Duplicating, Hotels, Houses, Miscellaneous, Motor Cars, Typing, the charge is same as para. 2.

Personal, Notices, University and Industrial Appointments, minimum charge is 20s. for 24 words Additional words 5s. for every six or less.

Educational, Hospitals, Public Health Appointments 3s. a line, minimum charge 15s.

Births, Marriages, and Deaths.—The charge for an insertion under this head is 10s. 6d. for 18 words or less. Extra words 3s. 6d. for each six or less Payment should be forwarded with the notice, authenticated by the name and permanent address of the sender, and should reach the Advertisement Manager not later than first post Monday morning

BOX NUMBERS. In no circumstances can the name and address of an advertiser using a Box number be divulged by this office. Separate applications should be written to each, addressed Box——, c/o B.M.J. (address as below). All applications are forwarded to the advertiser in plain closed envelopes.

TRADE ANNOUNCEMENTS. 20s. minimum 24 words. Extra words 5s. for six, or less

Every effort is made to ensure the accuracy of advertisements appearing in the Journal. No recommendation is implied by acceptance, and the British Medical Association reserves the right to refuse or interrupt the insertion of any advertisement

Advertisement Manager, British Medical Journal,
B.M.A House, Tavistock Square, London, W.C.1
Telephone: Euston 2111.
Telegrams: Articulate, Westcent, London.

APPOINTMENTS—Hospitals and Public Health, commence at page 9

PERSONAL

SOLICITOR REQUIRED, under 35, with view to early succession as MANAGER in an old-established high-class professional agency in London, commencing salary £500 p.a.—Box 9902, B.M.J.

NOTICES

APPLICANTS ARE ADVISED not to send original testimonials when replying to advertisements. Copies will answer the purpose quite as well, and in the event of their being lost or mislaid no inconvenience will ensue

THE FACT THAT GOODS made of raw materials in short supply owing to war conditions are advertised in this *Journal* should not be taken as an indication that they are necessarily available for export

UNIVERSITY AND INDUSTRIAL APPOINTMENTS

UNIVERSITY OF ABERDEEN. LECTURESHIPS IN THE DEPARTMENT OF PHYSIOLOGY.—The University Court will shortly proceed to the appointment of two Lecturers in the Department of Physiology, to commence duty on October 1, 1945, or a date to be arranged. One Lecturer will require to have special knowledge of experimental and human physiology, the other to have training and experience in biochemistry. Salary according to qualifications and experience. Scales of salaries are: Grade I, £650 to £800; Grade II, £500 to £650. Persons desirous of being considered for either office are requested to lodge their names with the Secretary to the University immediately. The conditions of appointment and form of application may be obtained from the undersigned.—H. J. Butchart, Secretary, The University, Aberdeen

UNIVERSITY OF LONDON.—The Senate invite applications for the CHAIR OF PHARMACOLOGY, tenable at the College of the Pharmaceutical Society (salary not less than £1,300). Applications must be received not later than first post on July 26, 1945, by the Academic Registrar, University of London, Richmond College, Richmond, Surrey, from whom further particulars should be obtained.

UNIVERSITY OF LONDON. The Senate invite applications for the NUFFIELD CHAIR OF CHILD HEALTH tenable at the Institute of Child Health (salary £2,500). Applications must be received not later than October 1, 1945, by the Academic Registrar, University of London, Richmond College, Richmond, Surrey, from whom further particulars should be obtained

WESTMINSTER HOSPITAL MEDICAL SCHOOL, 17, Horseferry Road, London, S.W.1.—Applications are invited for the post of LECTURER in FORENSIC MEDICINE and TOXICOLOGY. Fee for course of 24 lectures, £37 16s., subject to revision. Copies of three testimonials should be enclosed with the application and sent, not later than July 31, 1945, to the Secretary of the School of Medicine Committee.

EDUCATIONAL

F.R.C.S.(EDIN.)

POSTAL AND ORAL COURSES continued as usual. Full details.—H C. Orrin, F.R.C.S. Surgeons' Hall, Edinburgh

L.M.S.S.A. FINAL EXAMINATIONS. Surgery, Aug. 13, Oct. 8, Nov. 12. Medicine, Pathology, Aug. 20, Oct 15, Nov. 19. Midwifery, Aug. 21, Oct. 16, Nov. 20.—For particulars apply Registrar, Apothecaries Hall, Black Friars Lane, E.C.4.

MEDICAL CORRESPONDENCE COLLEGE, 19, Welbeck Street, London, W.1, provides Coaching for all Medical Examinations: D A., D.P.M., D.O.M.S., D L.O., D.C.H., M.R.C.P., F.R.C.S., M.D thesis, and all qualifying exams. by a staff of highly qualified Tutors, Honoursmen, and Gold Medallists. No interruption of Postal Courses during the war. Complete Guide to Medical Examinations sent free on application. Applicants should state in which qualification they are interested.

MEDICINE AND SURGERY WEEK-END COURSE: For general practitioners. Saturday and Sunday, July 21 and 22, at Hampstead General Hospital, N.W.3.—Apply Fellowship of Postgraduate Medicine, 1, Wimpole Street, London, W.1. Langham 4266.

NORTH-EAST LONDON POSTGRADUATE COLLEGE AND UNDERGRADUATE REVISION WORK. Prince of Wales's General Hospital, N.15.—Particulars from J. Browning Alexander, M.D., F.R.C.P., Dean.

POSTAL COACHING for all Medical Examinations. Some successes from 1901-1944: M.D.Lond., 440; M.B., B.S.Lond., final, 386: M.R.C.S.Eng., primary, 332: F.R.C.S.Eng, final, 262; M.R.C.P. Lond., 365: M.R.C.S., L.R.C.P., final, 815: D.A. (1936-44), 72: F.R.C.S.Edin. and D.R.C.O.G. many successes Assistance with M.D. thesis Special arrangements for medical officers with Forces. Medical prospectus (24 pp.) gratis, along with list of Tutors, etc., on application to the Principal.—University Examination Postal Institution, 17, Red Lion Square, London, W.C.1 Phone: HOLborn 6313.

POSTGRADUATE STUDY. Instruction is arranged in medical, surgical, and special subjects, as circumstances permit Information and advice obtainable from the Fellowship of Postgraduate Medicine, 1, Wimpole St., London, W.1. Langham 4266

PRIMARY F.R.C.S. COURSE: Lecture-demonstrations in Anatomy, Physiology, Pathology and Bacteriology on Mondays, Wednesdays, and Fridays, at 6.0 p.m. to 8.15 p.m., August 13 to October 15.—Apply Fellowship of Postgraduate Medicine, 1, Wimpole Street, London, W.1. Langham 4266.

UNIVERSITY OF LONDON KING'S COLLEGE. REVISION COURSES in ANATOMY and PHYSIOLOGY will be held during AUGUST and SEPTEMBER, commencing on Monday, August 20, 1945. Fee for each subject £3 3s. Applications for admission or for further details should be addressed to the Dean of the Medical Faculty, King's College, Strand, W.C.2.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.
ROYAL COLLEGE OF SURGEONS OF EDINBURGH.
ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

COPIES OF REGULATIONS for the TRIPLE QUALIFICATION (L.R.C.P.Ed., L.R.C.S.Ed., and L.R.F.P. and S.G.), containing Dates of Professional Examinations for the year 1945-1946. Curriculum, etc., may be had on application to the Registrar, Surgeons' Hall, 18, Nicholson Street, Edinburgh, 8, or to the Registrar, 242, St. Vincent Street, Glasgow, C.2.

ROYAL COLLEGE OF OBSTETRICIANS AND GYNAECOLOGISTS, 58, Queen Anne Street, London, W.1. EXAMINATION FOR MEMBERSHIP, January, 1946.—Applications on the prescribed form must reach the College not later than Friday, August 17, 1945. Candidates whose applications are accepted must submit case records, etc., as required by the Regulations, not later than Monday, October 8, 1945. Case records must be accepted before the candidate proceeds to the examination.

ROYAL COLLEGE OF OBSTETRICIANS AND GYNAECOLOGISTS, 58, Queen Anne Street, London, W.1.—The NEXT EXAMINATION for the DIPLOMA (D.R.C.O.G.) will be held on October 2 (written) and October 16 (clinical and viva-voce). Application for entrance to the examination (on the prescribed form obtainable from the Secretary) must be made not later than Tuesday, August 7, 1945. The examination fee is £10 10s. and successful candidates will be required to pay a fee of £5 5s. before being granted the Diploma of the College.

THE BEDFORD PHYSICAL TRAINING COLLEGE, 37, Lansdowne Road, Bedford. Principal, Miss Stansfeld, O.B.E.; Vice-Principal, Miss Petit. Students are trained to become teachers in Gymnastics and Games, and the training, which extends over three years, includes Educational and Medical Gymnastics, Massage, Games, Dancing, and Swimming. Fees: £165 per annum. Two scholarships of £50 and two of £25 are offered annually.—For particulars, apply Secretary.

ASSISTANTSHIPS VACANT

WANTED, SEPTEMBER 1, MALE ASSISTANT, mixed practice, university town, South, salary £700 p.a. and small unfurnished house rent free, own car preferred with allowance.—B.M.B., Tavistock House South, Tavistock Square, W.C.1.

WANTED IMMEDIATELY, ASSISTANT with VIEW, outdoor, male, British, able to drive car, mixed practice 8 miles from South Coast.—Box 9910, B.M.J.

WANTED AT ONCE, ASSISTANT, either sex, to replace serving partner, semi-rural practice Midlands, salary £800 to include car, board, and keep, etc.—Box 9964, B.M.J.

WANTED ASSISTANT in York for large panel and private practice, salary £600 and extras, or by arrangement.—Box 270, B.M.J.

WANTED, ASSISTANT, male or female, for West Highland mainland practice, indoor, all found, able to drive, salary by arrangement.—Box 9893, B.M.J.

WANTED ASSISTANT with early VIEW of partnership in single-handed practice hitherto, preferably indoor at first, payment out of income accepted. West Riding, Yorkshire.—Box 9906, B.M.J.

WANTED, INDOOR ASSISTANT for non-colliery town in South Wales, male or female, salary £600. —Box 9905.

WANTED, ASSISTANT (full-time or part-time), Essex suburb of London, dispenser.—Box 9963, B.M.J.

WANTED, INDOOR ASSISTANT, with or without G.P. experience, for mixed practice in Midlands, no midwifery, dispenser employed.—Box 9904, B.M.J.

WANTED, INDOOR ASSISTANT, male, for country general practice, S.W. England, October 1, usual salary.—Box 9890, B.M.J.

WANTED, INDOOR ASSISTANT, British (married or single), with view to early partnership in a good mixed old-established practice on South Coast, car available.—Box 9962, B.M.J.

WANTED, OUTDOOR UNMARRIED ASSISTANT with VIEW to partnership, should have Fellowship, for mixed general and surgical practice, on Hampshire Coast.—Write Box 9903, B.M.J.

WANTED, ASSISTANT within next six months for good-class mixed practice in Manchester suburb, prospects if suitable, must have hospital experience, secretary-dispenser kept, state details and if experienced in any special branch, also when likely to be free.—Box 9751, B.M.J.

WANTED, OUTDOOR ASSISTANT, male or female, country practice in Midlands, £750 per annum, driver essential, car provided or allowance —Box 9560, B.M.J.

WANTED, ASSISTANT, British, male, Glamorgan, partly furnished house, good salary to experienced man, car allowance if own car.—Box 9715, B.M.J.

WANTED, immediately, indoor and outdoor ASSISTANTS for town and country practices with and without view to partnership, also Locums, good salaries offered, state full particulars.—British Medical Bureau, 33, Cross Street, Manchester, 2.

WANTED for old-established mixed general practice, border town Lancs. and Yorks., a LADY ASSISTANT, with VIEW to partnership if desired.—Box 9155, B.M.J.

ASSISTANT REQUIRED, country practice, Suffolk, live in, wife not objected to.—Box 9184, B.M.J.

ASSISTANT (MALE, BRITISH), with VIEW wanted soon for flourishing N.W. country practice, house available, charming surroundings, salary £750. Box 9909, B.M.J.

ASSISTANT WANTED, soon as possible, with or without VIEW, West Riding industrial town, good salary to a suitable person.—Box 9892, B.M.J.

ASSISTANT, MARRIED, with VIEW to partnership, wanted for West Cumberland, good mixed practice, moderate panel capable of extension, unfurnished house available to rent.—Box 9907, B.M.J.

ASSISTANT, INDOOR, with VIEW to an early partnership, wanted in pleasant N.W town for mixed practice, urban and rural.—Box 9961, B.M.J.

ASSISTANT, EXPERIENCED, WANTED end of September in busy private and panel practice, 30 miles London.—Box 9981, B.M.J.

ASSISTANTSHIP VACANT in country partnership from end September, within 40 miles London (Chilterns).—Box 9960, B.M.J.

LADY DOCTOR requires another, preferably young, as ASSISTANT in good-class pleasant country practice South Devon, really good prospects.—Box 9908, B.M.J.

ASSISTANTSHIPS WANTED

ASSISTANTSHIP, or DURATION LOCUM, required by Scottish lady doctor, aged 27, in rural or seaside practice, experienced G.P. and midwifery, house essential, own car.—Box 9967, B.M.J.

ASSISTANTSHIP WANTED by experienced graduate, own furniture and car, unfurnished house essential.—Box 9915, B.M.J.

LIEUT.-COLONEL R.A.M.C. (6 years' service), M.B.Camb., 1936, aged 34, married, family, expecting demobilization November, keen obstetrics, requires ASSISTANTSHIP with definite VIEW, Southern, South-Western, or Home Counties, good house essential.—Box 9912, B.M.J.

LONDON M.B., 32, married, demobilization September, previous hospital and G.P. experience, reading M.R.C.P., desires PART-TIME ASSISTANTSHIP, 6-12 months (longer by arrangement), within 30 miles of London, car available.—Box 9913, B.M.J.

REQUIRED SEPTEMBER, London, Southern Counties, ASSISTANTSHIP, young M.B., hospital, G.P. experience, driver, flat or outdoor preferred.—Box 9914, B.M.J.

WOMAN DOCTOR, free early September, desires ASSISTANTSHIP with VIEW, coastal area preferred, interview required.—Box 9968, B.M.J.

YOUNG SCOTS M.B., Ch.B., hospital and G.P. experience, desires ASSISTANTSHIP with definite VIEW partnership or succession.—Box 9916, B.M.J.

YOUNG MARRIED DOCTOR, Irish, hospital, general practice experience, L.M. (Rotunda), D.P.H., desires ASSISTANTSHIP, late October, full particulars.—Apply Box 9897, B.M.J.

LOCUMS

WANTED, LOCUM, month of August, either sex, midwifery essential, nice country practice, 12 guineas weekly, all found, car provided.—Box 9702, B.M.J.

WANTED LOCUM, July 19, six weeks, London area, assistant and dispenser employed, easy routine. Box 9920, B.M.J.

WANTED LOCUM, either sex, fortnight late August or first half September, dispenser kept, car provided.—Dr. Inman, Normanton, Yorks.

WANTED, LOCUM for North London practice for months of August, car, dispenser, usual rate.—Box 9982, B.M.J.

WANTED, EXPERIENCED LOCUM for indefinite period from beginning August, large mixed practice, Birmingham, both partners in Services.—Box 9895, B.M.J.

WANTED, LOCUM in exchange for hospitality September 20-October 6, Plymouth area near sea.—For details communicate Box 9703, B.M.J.

WANTED, EXPERIENCED LOCUM for 5 weeks, from August 3, own car preferred, not essential, salary by arrangement.—Box 9179, B.M.J

DURATION LOCUM WANTED, British, for mixed practice Midland town, furnished house, £750 and good car allowance.—Box 9923, B.M.J.

DOCTOR, WILLING DO LOCUM in August, Suffolk coast preferred, house for wife and three children required, own car.—Box 9919, B.M.J.

EXPERIENCED PRACTITIONER will undertake LOCUM first fortnight August, terms to include hospitality for wife and two young children, Lancashire or N. Wales coast.—Box 9969, B.M.J.

EXPERIENCED G.P. DESIRES LOCUM, two to three weeks, late August, N.W. coast, with hospitality for wife and child.—Box 271, B.M.J.

INDIAN DOCTOR, 50, 12 years' experience panel practice, desires LOCUM, two or three weeks August, September, or October, any South or East Coast towns or near, remuneration by arrangement, owns car.—Box 272, B.M.J.

LOCUM HOUSE SURGEON (B2) for one month from August 20, £5 5s a week.—Applications to be addressed to the Secretary, Royal National Orthopaedic Hospital, 234, Great Portland Street, London, W.1.

LOCUM WANTED, either sex, 2-3 weeks, from mid-August, own car preferred.—Dr. Muir, 53, Westcliffe Drive, Blackpool.

LOCUM WANTED for August, sole charge country town practice, 8 miles from South Coast, usual terms.—Box 9911, B.M.J.

LOCUM URGENTLY REQUIRED for whole of August, car provided, dispenser employed.—Dr Lewis, Hoyland Common, Barnsley.

LOCUM TO TAKE CHARGE of good general practice, salary by arrangement according to experience, Huddersfield district.—Box 9159, B.M J

M.D. will act as LOCUM in light practice during August in return for adequate hospitality for family. and travelling expenses, seaside essential, reasonably accessible from London.—Box 9760, B.M.J.

MEDICAL LOCUM wanted immediately for two months, country practice in attractive surroundings in Perthshire, house and car available, suit married man.—Box 9701, B.M.J.

NOTTS COUNTY MENTAL HOSPITAL, Radcliffe-on-Trent.—TEMPORARY ASSISTANT MEDICAL OFFICER (B1) required immediately for eleven weeks. Salary 8 guineas per week, with board, lodging, laundry and attendance. Apply Medical Superintendent.

M.B. FREE TO DO LOCUM 2 weeks early September, coast, North Wales, Devon, or Cornwall preferred.—Box 9917, B.M.J.

NORTHAMPTON GENERAL HOSPITAL (408 beds.).—Applications are invited for a LOCUM RADIO-THERAPIST for a period of a fortnight to a month, sometime during the months of July-August. Salary 20 guineas per week. Applications to Gordon S. Sturtridge.

PART-TIME LOCUM WANTED, Cornwall, 3 miles from coast, for 4 weeks from August 15, hospitality for wife provided, morning work only. own car an advantage, terms to be arranged, suit G.P. wanting a holiday.—Box 9921, B.M.J.

RADIOLOGIST OFFERS to do PART-TIME WORK on 2 or 3 afternoons weekly in private practice in London.—Box 9922, B.M.J.

PARTNERSHIPS

WANTED, PARTNER to replace retiring partner, semi-rural mixed practice in pleasant Midland district, share worth about £2,500 p.a., for sale, purchase out of income if desired, preliminary assistantship desirable.—Box 9965, B.M.J.

WANTED, PARTNER, short preliminary assistantship, mixed practice, S.W. Coast, hospital, half share of £3,000, 2 years' purchase.—Box 9934, B.M.J.

WANTED, BY SURGICAL SPECIALIST, shortly to be demobilized, PARTNERSHIP OR PRACTICE within easy reach of London, with scope for surgery, capital available.—Communicate Box 9976, B.M.J.

EX.-R.A.F. DOCTOR, Cambs. and St. Bart's, desires introduction to future PARTNERSHIP in Kent, Sussex, Surrey or Berks.—Box 9975, B.M.J.

HALF-SHARE for sale in old-established middle-class practice, West London suburb, £5,750 gross (audited), panel 3,800, two years' purchase, exceptional opportunity.—Box 9720, B.M.J.

NORTH WALES COAST, PARTNER WANTED, non-dispensing practice, good house, 1/2 share for sale, good opportunity for energetic young Britisher. —Box 9936, B.M.J.

OPPORTUNITY for suitable man (British nationality) to buy HALF-SHARE (average over £2,000) in old-established practice, Midland manufacturing market town, house (furnished or unfurnished) to let with garden or flat, hospital, prelim. assistantship.—Box 9708, B.M.J.

PARTNERSHIP in well-established medical practice (panel and private), in North-East of Scotland town, for sale, scope for surgery although F.R.C.S. not essential.—Apply Messrs. F. A. Ritson & Co., C.A., 4, Bon-Accord Crescent, Aberdeen.

PARTNERSHIP IN WOMAN'S PRACTICE for sale in pleasant residential North-West Coast town, last year's receipts £4,000 including £800 panel and £200 income from appointments, ground-floor flat with garden and garage to rent, good district, permium terms for negotiation.—Box 9164, B.M.J.

PARTNER REQUIRED, OWING to death of one partner, in mixed practice in West Riding town, up to one-half share for sale at 2 years' purchase, panel over 3,000, gross receipts over £4 000 p.a. for last few years (audited), house and surgery, with good sized garden for sale to incoming partner.—Box 9170, B.M.J.

PARTNER WANTED, OCTOBER 1, in old-established practice 50 miles south of Liverpool, F.R.C.S. preferred, share producing £2,000 at 1½ years' purchase.—Box 9935, B.M.J.

PARTNER OR ASSISTANT WITH VIEW, to replace senior partner, retiring; in rural practice in S.W. Midlands, receipts over £4,000, panel over 2,000, cottage hospital with opportunity for surgery, share for disposal 1/3 to 1/2 at 1½ years' purchase.—Box 273, B.M.J.

PARTNERSHIP about Christmas, old-established, good-class country practice near London share £2,500 gross p.a., 2 years' purchase, excellent house, good hospital in district, G.P. experience essential. —Box 9937, B.M.J.

SCOTTISH East Coast city.—PARTNER wanted, share worth £1,300, good panel and appointments, preliminary assistantship if desired.—Box 9564, B.M.J.

MEDICAL POSTS

DOCTOR DESIRES POST SHIPS'S SURGEON, September or October, congenial position practice or partnership considered London or Bournemouth, interested dermatology, venereology.—Box 9899, B.M.J.

WANTED, TECHNICIAN for medical laboratory, salary according to age and experience.—Apply Laboratories of Pathology & Public Health, Ltd., 6, Harley Street, London, W.1.

ANAESTHETIST, elderly, holder of D.A., willing undertake HOSPITAL AND PRIVATE WORK, including dental, would attend 2-3 days weekly, or consider residence Devon or adjacent counties.—Box 9977, B.M.J.

DOCTOR with missionary experience needed as GENERAL SECRETARY of the Medical Missionary Association, and Warden of its Students Hostel in London. Salary £500 with residence.—Further particulars from Dr. H. M. Churchill, Broxbourne, Herts.

M.D., AGED 44, extensive general practice experience and hospital physician, desires CHANGE from G.P., preferably SALARIED POST—e.g., industrial or insurance, suggestions invited, free January.—Box 9938, B.M.J.

PRACTICES

WANTED, SMALL PRACTICE, or NUCLEUS, on South Coast or Home Counties, by experienced practitioner, age 56, convenient house.—Box 9932, B.M.J.

WANTED, in or near Aberdeen, good-class panel and private PRACTICE OR PARTNERSHIP, £1,500 to £2,000, Aberdeen graduate, experienced.—Box 9898 B.M.J.

WANTED, progressive general PRACTICE in North-West, panel 2,000 or more, gross income about £2,500, full cash payment.—Box 9766, B.M.J.

DEATH VACANCY, Aberdeen, first-class general PRACTICE for disposal, panel over 2,000, increasing, appointments £500, established over 40 years, detached house and garden with garage and consulting rooms in good residential area, surgery and office in industrial area.—Box 9972, B.M.J.

FOR IMMEDIATE DISPOSAL, old-established cash and panel PRACTICE, 2 branch surgeries, Ilford and Barking area, average receipts £2,500, panel 3,200, should increase as Forces return, premium £4,000, detached freehold 5-bedroom house in commanding position, valuable corner site, main road, specially built by vendor 1936, with separate surgery, attractive garden, and garage, price £6,000. This practice has scope for increase as vendor has worked single-handed during the war, bankers' reference required.—Box 9927, B.M.J.

FOR IMMEDIATE DISPOSAL, sound PRACTICE in Angus town, panel 1,300, audited receipts, £1,350, scope for increase, excellent house, good position, price, £4,000 or offer.—Box 9896, B.M.J.

FOR SALE, PRACTICE in West England market town, income pre-war £1,800, cottage hospital, scope surgery, premium 1½ years' purchase cash.—Box 9931, B.M.J.

FOR SALE, West of England town, PARTNERSHIP PRACTICE, receipts £4,650, panel 1,600, possession by arrangement, good opportunity for 2 young practitioners, houses available.—Box 9929, B.M.J.

FOR SALE, PRACTICE OR PARTNERSHIP, lovely country, seaside district, North-West England, gross receipts averaging over £3,000, good accommodation available, 2 years' purchase required.—Box 9971, B.M.J.

FOR SALE, PRACTICE, established 1885, Midland city, average receipts past 3 years £3,000 p.a., panel 3,340, suit 2 doctors, 2 houses available, 2 years' purchase.—Box 9918, B.M.J.

FOR SALE, well-established mixed PRACTICE in Midland town with large panel, income over £2,000, house on short lease with option to purchase.—Box 9924, B.M.J.

FOR SALE, PRACTICE and super-ultra modern HOUSE with garden, Birmingham suburb, panel 1,040, last year's receipts £1,475, 1½ years' purchase, scope for increase.—Box 9970, B.M.J.

FOR SALE, MIDLANDS, mixed country PRACTICE, income £2,000, panel 1,000, pleasant district, price £2,000 for quick sale.—Box 9928, B.M.J.

FOR SALE, well-established mixed PRACTICE in London suburb, panel 1,450, good private connexion, ample scope for further expansion, excellent house for sale or rent, income £2,100 p.a., price about 1½ years' purchase.—Write Box 9792, B.M.J.

FOR DISPOSAL, non-panel, non-dispensing PRACTICE in S.W. England, income £2,700 (auditors' figures), house to rent premium £3,000.—Box 9767, B.M.J.

LARGE MIXED PRACTICE, about 8 miles from Edinburgh, receipts £3,000.—Apply British Medical Bureau, 21 Alva Street, Edinburgh.

LANCASHIRE-CHESHIRE BORDER, good-class PRACTICE for sale, present receipts over £2,700, easily run single-handed, but ample scope for two, excellent house and garden with branch surgery at valuation, premium £3,750.—Box 9933, B M.J.

LONDON, N.W., gross over £1,600, PANEL nearly 2,000, increasing, very good house and garden for sale.—Box 9973, B.M.J.

OPHTHALMOLOGIST, F.R.C.S.E., D.O.M.S., with considerable experience, expecting to be released from the Services within a few months, would like to hear of a suitable PRACTICE or PARTNERSHIP. All replies treated in strictest confidence.—Box 9974, B.M.J.

PRACTICE URGENTLY REQUIRED in area within easy reach of Finchley, North London, lock-up premises or house with caretaker would suit.—Full details to "Doctor," 21, Denmark Villas Hove, Sussex.

PRACTICES AND PARTNERSHIP SHARES for sale, town and country.—Full details, free on request.—British Medical Bureau, 33, Cross Street, Manchester, 2.

PRACTICES AND SHARES for disposal in various parts town and country, incomes £800 upwards, also vacancies for Assistants and Locums.—Apply Percival Turner, Ltd., 25, Maiden Lane, Strand, W.C 2. Telephone: TEMple Bar 9011.

PRACTICE IN ABERDEENSHIRE for sale, good-class private practice and panel with appointments, commodious suitable house with surgery and waiting room, small garden, practitioner desirous of retiring. —Write Box 9925.

PERTHSHIRE (death vacancy), country PRACTICE, receipts £900 approx.—British Medical Bureau, Scottish Branch, 21, Alva Street, Edinburgh.

RADIOLOGIST PRACTICE in Dundee for sale (death vacancy), receipts £2,000 approx.—Further particulars from British Medical Bureau, Scottish Branch, 21, Alva Street, Edinburgh.

SURREY, within 20 minutes of Victoria, slightly over, £2,000, panel 1,900. The PRACTICE covers a compact, easily worked district and there is scope, small modern house for sale, occupying a commanding position within three minutes of railway station, practice has been established 17 years.—Box 9926, B.M.J.

WELL-ESTABLISHED PRACTICE for sale in university town, compact panel over 2,400 (3-year pre-war average) and over 2,000 war period, increasing as forces return, modern house on lease, with tennis lawn garage and separate surgery entrance, appointment over £200 likely to continue, reliable paying private practice with scope, also good open choice Public Assistance work in three adjacent housing estates, suitable for young ex-Service practitioner.—Box 9160, B.M J

DIETETIC, DISPENSING, TYPING, SECRETARIAL, RECEPTION, ETC.

None of the vacancies for women advertised in these columns relates to a woman between the ages of 18 and 40 inclusive, unless she is exempted from the provisions of the Control of Engagement Order, 1945, or the vacancy is for employment excepted from the provisions of that Order

WANTED IMMEDIATELY, DISPENSER-BOOKKEEPER, good salary and hours, other dispensers kept.—Dr. Thomas, 347, Whitegall Drive, Blackpool.

WANTED in September experienced MATRON, hospital trained, for well-known boys' preparatory school, 65 boarders, assistant matron on staff.—Box 9712, B.M.J.

WANTED, LADY-DISPENSER-BOOKKEEPER, pleasant country-town practice, commencing August, permanent post.—Apply full particulars, Drs. Pearce, Robinson, and Bowes, Diss, Norfolk.

DISPENSER-BOOKKEEPER REQUIRED, general practice 25 miles London.—Full particulars to Dr. Hailey, Sawbridgeworth, Herts.

DISPENSER-BOOKKEEPER WANTED, good salary offered.—Write, giving particulars, to Drs Watt and Strong, West End, Tavistock, Devon

DISPENSER-BOOKKEEPER, lady Apothecaries Hall certificate, bookkeeping and first-aid certificates, experienced, can drive car, requires post, Devonshire or near preferred, but not essential —Box 9939, B.M.J.

DOCTOR'S DAUGHTER seeks post as RECEPTIONIST to London doctor, 5 years' ambulance experience, typing, driving.—Roberts, 89, Reigate Hill, Reigate, Surrey.

EXPERIENCED RECEPTIONIST-BOOKKEEPER-DISPENSER or Housekeeper (widow) desires POST, coast or near, has own furniture if accommodation available.—Apply Box 9951, B.M.J.

GENTLEMAN requires LADY HOUSEKEEPER, under 50, all duties, help with rough.—Box 9953, B.M.J.

LONDON COLLEGE OF PHARMACY for Women supplies Dispenser-Bookkeeper or Laboratory Technician. Training for Apothecaries Hall Assistants' Examination, and in Clinical Pathology. —Secretary, 7, Westbourne Park Road, W.2 (BAYswater 0969).

LOCUM DISPENSER REQUIRED for three weeks during summer Nottinghamshire, salary 5 gns. per week and travelling expenses.—Box 9175, B.M.J

LOCUM DISPENSER REQUIRED for 2½ weeks, from July 27, 5 gns. p.w., all found.—Apply Dr. Winckworth, Sussex Lodge, Taunton, Somerset.

LADY (MIDDLE-AGED), tactful and sympathetic, seeks post as RECEPTIONIST-BOOKKEEPER, Folkestone or neighbourhood preferred.—Box 9954, B.M.J.

LADY DESIRES SECRETARIAL POST in London, reasonable hours, efficient shorthand typist, considerable experience medical work Edinburgh and London.—Box 9960, B.M.J.

SECRETARY, EXPERIENCED, requires post, 5½ years E.N.T. surgeon, previous hospital experience. —Box 9894, B.M.J.

SECRETARY-RECEPTIONIST.—Excellent reference 2½ years' consultants, seeks post, preferably busy general practitioner, domesticated, drive car, free August.—Box 9978, B.M.J

SECRETARY-RECEPTIONIST, free September from war-time job (5 years), seeks post with doctor in London area, young educated gentlewoman, expert driver, typing and bookkeeping (no shorthand).—Box 9952, B.M.J.

S.R.N., S.C.M., age 38, requires post NURSE-RECEPTIONIST, West End, 10 years' private nursing experience, free end August.—Box 9979, B.M.J

YOUNG LADY REQUIRES POSITION as doctor's RECEPTIONIST, excellent references.—Box 9955, B.M.J.

MISCELLANEOUS

ALPINE SUN LAMP (HANOVIA), model S500, in perfect condition, price £50.—Box 9901, B.M J.

EDISWAN SHOCK THERAPY APPARATUS FOR SALE, as new, very little used, £45 or near offer.—Apply J Plowman, 2, Devonshire Place, W.1.

FOR SALE, CONTENTS of small Pathology LABORATORY, furniture, glassware, centrifuge, electric incubator, waterbath, etc., Zeiss microscope with full equipment, £150 the lot, offers for separate items considered; Hanovia U.V.L. lamp, £15 —Phone Dr. Keys, Guildford 61377.

HANDSOME SOLID MAHOGANY BOOKCASE with carved cabriole legs, upper part fitted movable shelves enclosed by glass panel doors, 3 drawers and 3 cupboards under, 6 ft. wide by 8 ft high, in splendid order, £50 for immediate sale, or near offer; also 4 ft. wide solid mahogany PEDESTAL DESK with leather top and well-fitting drawers, £25.—Can be viewed by appointment at 1007, High Road, Whetstone, N.20. Tel.: Hillside 2384

LEITZ MICROSCOPE, bought 1938, little used fine condition, 1/3, 1/6, and 1/12 oil immersion lens, mechanical stage, mahogany case, offers over £80 — Box 9959, B.M.J.

LEITZ MICROSCOPE (3 eyepieces, 3 objectives, oil immersion, condenser, moving stage); 300 excellent PATHOLOGY SLIDES (Watson); price £70 or best offer, lot or separate.—Box 9958, B.M.J.

MICROSCOPE FOR SALE (Prior), 3 objectives including 1/12 oil immersion, 2 eyepieces, moving stage, practically new, offers over £35 —J Inglis The Colony, Larbert.

WRITING TABLE, 4 ft. 6 in., mahogany, Chippendale design, 9 drawers and leather top, made by Maple, £5; MEDICAL CABINET, wheeled, 17 in., cream enamelled, ground glass shelves, drawer, and cupboard, £5.—Box 9891, B.M.J.

WANTED, SECOND-HAND SURGICAL INSTRUMENTS, furniture for surgery and consulting room, blood pressure apparatus, electric diagnostic sets, ophthalmoscopes, auriscopes, microscopes, etc: —Particulars to A. Fleming & Co (Succrs.), 51, Mortimer Street, London, W.1 Telephone: Mus 6292).

WANTED TO PURCHASE.—Cameras, enlargers, and all photographic apparatus, exposure meters, tripods, etc, microscopes, cine cameras, and projectors. Prompt cash and high prices offered — Wallace Heaton, Ltd., 127, New Bond Street, London, W.1

COMPRI-VENA (1937), Ltd —The care and after-care of Varicose Veins.—In the treatment of Varicose Veins where leg support is prescribed Compri-Vena gives meticulous attention to instructions They will gladly supply particulars of Surgical Stockings and the service they provide —38, South Molton Street, W.1. MAYfair 0732.

DOCTORS' WATCHES.—Franklands can still supply Gold Watches. Write for particulars.— E. J. Frankland & Co., Ltd., Marle House, South Godstone, Surrey; or London Showroom, New Bridge Street House, 30-34, New Bridge Street, Ludgate Circus, E.C.4.

MEDICAL PHOTOGRAPHS and drawings for illustration records, etc.—Write for particulars Eric O. Sonntag, 159, Bickenhall Mansions Baker Street, London, W.1. WELbeck 6860

STRAWSON'S OPEN-AIR REVOLVING SHELTERS (against doctor's certificate) for tubercular and other medical cases. Stamp for List B.M.J 45. —G. F. Strawson & Son, Horley, Surrey

WIGMORE'S, LTD., 63, Baker St., London, W.1. (Welbeck 5668). DISPENSING OPTICIANS by appointment to Western Ophthalmic Hospital, Marylebone Road, London, N.W.1. Doctors' prescriptions accurately dispensed.

HOUSES, CONSULTING ROOMS

WANTED, CONSULTING ROOM, Harley Street, part-time or whole-time, usual service, by throat specialist.—Box 9957, B.M.J.

CLIFFORD, near BOSTON SPA, Yorks.—A most desirable small modern detached COUNTRY RESIDENCE, at present occupied by medical man, with grounds about ½ acre, no charge for goodwill, view only by appointment, freehold price to include nucleus and introduction.—Apply Jackson Stops and Staff, 15, Bond Street, Leeds.

WIMPOLE STREET, CONSULTING ROOM vacant three days a week, furnished, heat, light, and receptionist.—Box 9956, B.M.J.

NURSING HOMES

NURSING HOME OR SOCIETY, Baker Street (off), former nursing home, 33 rooms 4 bath, passenger lift, central heat, lease about 18 years at £180, price £6,500.—Apply G Head & Co., 40 Baker Street, W.1. WEL. 1318

HOMES

BETHLEM ROYAL HOSPITAL
FOR NERVOUS AND MENTAL DISORDERS
MONKS ORCHARD, MONKS ORCHARD ROAD
EDEN PARK, BECKENHAM, KENT

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Station: Eden Park (Southern Railway)
Telephone: Springpark 1180–1181.

President: HER MAJESTY QUEEN MARY. *Vice-President:* SIR GEORGE WILKINSON, Bart., Alderman. *Joint Treasurers:* Edmund Stone, Esq., John L. Worsfold, Esq., O.B.E. *Physician-Superintendent:* J. G. Hamilton, Esq., M.D., D.P.M.

This REGISTERED Hospital is situated at Monks Orchard in some 250 acres of park, pleasure and farm grounds. Applications can be considered on behalf of patients of the educated classes in a presumably curable condition.

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OCCUPATIONAL THERAPY in the form of various Arts and Crafts is actively encouraged from the medical aspect, and under the guidance of a competent instructress this department has proved most effective as a therapeutic factor in all stages of mental illness. The promotion of physical fitness is a prominent item of treatment, and this is enhanced by arrangements for patients to take part in Outdoor and Indoor Sports and Entertainments. Application should be made to the Physician-Superintendent.

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Ideally situated for the treatment of Tuberculosis. Shelter from E. and N.E. winds. Climate mild and bracing. Low rainfall high average of sunshine. The Sanatorium is situated in its own Park. There are miles of graduated walks through pines, gorse, and heather, rising to 800 ft. and commanding extensive sea and mountain views. Central heating, electric light, X-ray installation. Wireless in all rooms. Full day and night nursing staff. Special milk supply from a tuberculin tested herd. Easily accessible from London, Manchester Liverpool, Birmingham, and the North.

Medical Superintendent: DENNISON PICKERING M.D. Apply Secretary, Pendyffryn Hall, near Penmaenmawr, North Wales. 'Phone 20.

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GREEN LANES, FINSBURY PARK, N.4

A PRIVATE HOSPITAL for MENTAL and NERVOUS ILLNESSES Six acres of ground, facing Finsbury Park. Voluntary and Temporary Patients received without certification. E.C.T. Shock Therapy, Psychotherapy, etc. Telephone: Stamford Hill 2688. Telegrams: "Subsidiary, London." Particulars from the Medical Superintendent, Robert M. Riggall Member British Psycho-Analytical Society.

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Redhill, Surrey, for MENTAL DEFECTIVES of all ages. Training under medical supervision. Schools. Farm. Trade: Workshops. Recreation. Fee £125 to £375 p.a. Election by votes of subscribers at reduced terms for necessitous trainable cases Apply SECRETARY. Tel.: Redhill 344.

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LONDON SATURDAY JULY 21 1945

RELEASE OF DOCTORS

Statement by the Secretary of the B.M.A. and the Central Medical War Committee

The Central Medical War Committee and the British Medical Association are fully aware of the dissatisfaction felt by Service medical practitioners at the lack of information on release. It may be useful to set out the facts, so far as they are known.

1. The Central Medical War Committee is an advisory committee, the decisions in regard to demobilization being made by the Government and the Service Departments in particular.

2. The Central Medical War Committee made specific recommendations to the Government on the subject of demobilization of doctors on Aug. 3, 1944. These recommendations were essentially similar to the reallocation scheme eventually announced in the White Paper, including release by age-and-service groups as the basic principle, with provision for release out of turn in exceptional cases on the ground of civil need.

3. Last autumn, when it became known that there was likely to be difficulty in releasing medical officers at the same rate as other members of the Forces, the Committee recommended to the Government that compulsory recruitment of medical practitioners should be continued after the end of the European War up to a limit of age of 35 to 40. The Government have provisionally adopted the age of 35 as the normal age limit, but have permitted recruitment to proceed up to the age of 40 to the extent necessary for replacement of released officers for whom substitutes must be provided.

4. The Committee, with the Government's approval, is continuing recruitment of general duty officers and specialists so as to accelerate release under Class A, to replace those released under Class B, and to ensure that the greatest possible number of practitioners are released on the dates applicable to their groups. This will involve the continuance of the automatic recruitment of young practitioners and the recruitment of older practitioners, including holders of B1 posts and specialists.

5. The Central Medical War Committee will keep Class B releases down to the absolute minimum.

6. Although the Service Departments have announced their immediate programme, involving the release of Groups 1–7 in the Navy, Groups 1–11 in the Army, and Groups 1–6 in the Air Force, no official decisions have been made known about the remaining groups. There is no assurance at present that the medical timetable will be the same as the general timetable. What has been pressed upon the Service authorities is the urgent need for a clear-cut statement of future intentions, for until Service practitioners are informed of the long-term programme their dissatisfaction will remain fully justified.

7. It is not clear why, so far as medical practitioners are concerned, the rates of group release need differ in the three Services. The Committee has sought enlightenment on this point, its aim being to secure the speediest possible release from all the Services.

8. The British Medical Association is making vigorous representations at a high level, requesting an overhaul of Service establishments and strictly economical use of medical personnel and an official pronouncement of future policy, including a timetable of future group releases.

9. The present position is not satisfactory, but Service medical practitioners can rest assured that the Association and the Central Medical War Committee are taking every possible step on their behalf.

10. The following letter has been sent to Local Medical War Committees:

> "The Central Medical War Committee has resolved, and has so informed all Service practitioners, that it will make every effort to secure that Service practitioners are released in their age-and-service groups as their turn comes. To this end it will continue to recruit young practitioners under the existing procedure. The Government have decided provisionally that the compulsory recruitment of men other than young practitioners shall be continued to the extent to which such men are required to replace officers whose release is dependent on substitution; and that the age limit shall be 35 wherever possible, or 40 where suitable substitutes below the age of 35 are not available.
>
> The Central Medical War Committee therefore proposes to recruit practitioners, other than specialists, who were born in 1910 or later, as and when they are recommended by Local Medical War Committees. Local committees will, it is hoped, proceed with the recruitment of such practitioners as and when they can be spared. Every recruitment means an acceleration of release for a practitioner who has served. As the replacement of specialists will be the more difficult problem, the Central Medical War Committee proposes to recruit consultants and specialists who were born in 1905 or later, again on the recommendation of the local committees.
>
> This letter refers specifically to the recruitment of consultants and specialists, full or graded, so as to make possible the release of consultants and specialists under the age and length of service formula. The scheme now to be put into operation by the Central Medical War Committee will work in the following way.
>
> The Service Departments will inform the Central Medical War Committee of the consultants and specialists falling to be released under Class A age and length of service arrangements. The central committee will inform each local committee of the name of every such consultant and specialist in its area. Immediately on receiving this information the local committee is asked to recommend for recruitment a practitioner working in the same branch, either of the same status or a somewhat junior status. For a specialist there should be offered a specialist or a graded specialist who was born on or after Jan. 1, 1905. If a suitable man who was born on or after Jan. 1, 1910, is available, he should be selected in preference to older practitioners. Wherever there are recruitable practitioners of the appropriate age, status, and branch of medicine the recruitment procedure should be initiated. Unless this is done, specialists who have given grand service to their country will not be released in their order.
>
> The Central Medical War Committee asks for the warm co-operation of your committee in this task. The names of the consultants and specialists in your area will be sent to you from time to time, the first lists being dispatched in the next few days. In some instances the recruitment of the holder of a B1 post would be sufficient to meet the situation. The Central Medical War Committee itself is proceeding with the recruitment of practitioners who have held B1 posts for two years or more. There is no reason why Local Medical War Committees should not in appropriate cases offer for recruitment under this substitution procedure the holder of a B1 post who has not yet held it for two years.
>
> The Government have decided to discontinue the compulsory recruitment of women doctors, as of other women, but women may continue to volunteer for the Services."

INSURANCE ACTS COMMITTEE OF THE B.M.A.

DISCUSSIONS WITH THE MINISTRY

A meeting of the Insurance Acts Committee was held on July 3, Dr. E. A. GREGG presiding. The committee paid tribute to the memory of Mr. Bishop Harman, formerly treasurer to the National Insurance Defence Trust. The chairman said that there never was a more devoted member of the Association.

The chairman reported on a number of matters discussed with the representatives of the Ministry of Health. Following previous conversations, the Ministry had suggested an amendment of the certification rules which would permit a practitioner to issue a special intermediate certificate on any day in the appropriate insurance week—a proposal which the committee did not feel went far enough. The Ministry now stated that it was proposed to extend this so as to allow a practitioner to give special intermediate certificates at eight-weekly intervals in cases where no treatment was required and the doctor had been in attendance continuously for six months. Dr. Gregg said that this was some concession, though not all for which the committee had asked.

The Ministry had been informed of representations made that to an increasing extent insured persons' names were being removed from doctors' lists although the insured persons themselves had been in continuous employment, and the Ministry had agreed to take up the matter with the approved societies and see if it was possible to make any improvement. On the question of sickness benefit in relation to pregnancy, it was stated that the Ministry's advice to approved societies, when sought, was that sickness benefit should be paid during the last four to six weeks of pregnancy, and the Ministry was prepared to pursue the same line with any approved society which could be shown to be adopting a less beneficent attitude.

The Ministry agreed that there should be a return at the first opportunity to the pre-war practice of keeping for five years the medical records of insured persons whose title to benefit has lapsed. On another point, while unable to accept a proposal to include the whole of the sulphonamide group of drugs in the list appended to Part II of the Distribution Scheme, the Ministry promised to include in the list four or five of these drugs most commonly in use.

Reference of Patients to Tuberculosis Officer

The committee took strong exception to a circular letter issued by the Ministry to local authorities stating that certain insured persons were referred to divisional medical officers for independent medical examination, and that in some instances, as a result of that examination, it was advisable for the divisional medical officer, where a tuberculous condition was diagnosed or suspected, to refer the case for specialist investigation and report to the tuberculosis officer of the area. The circular added that the Minister felt "sure that authorities would be glad to have any such case brought within the purview of their tuberculosis service in this way." Dr. Gregg said great objection was taken to this. If there was any individual practitioner who was grossly slack something of the kind might apply, but until such a position arose this suggestion that the divisional medical officer should forthwith send the case to the tuberculosis officer, afterwards communicating the findings of that officer to the insurance doctor concerned, was a form of by-passing the latter which they could not tolerate.

The unanimous view of the committee supported the chairman in his protest. It was pointed out that if there was any slackness on the part of an individual doctor this measure would increase the evil, for the slack practitioner would find that he need not do anything about the patient at all and could wash his hands of all responsibility. "We are bound," said one member, "to accept the service of R.M.O.s on the point of incapacity, but we will not accept that service as being of the quality and kind which entitles them to rank as consultants and as men of higher clinical calibre than ourselves." The chairman also reminded the committee that this would not stop short at tuberculosis. It would make of a divisional medical officer a consultant on any condition.

It was agreed that the strongest possible objection should be made to the Ministry of Health concerning both the contents of the circular and the manner of its issue, which had been without reference to the committee; also that the matter should be ventilated at the forthcoming Annual Representative Meeting.

Other Business

It was reported to the committee that the Council had decided to re-establish the Association's Medical Representation in Parliament Fund. At the next meeting of the committee, sitting as Trustees of the National Insurance Defence Trust, the desirability of a contribution from that Trust will be considered.

The committee considered a resolution from the last Annual Representative Meeting calling for a revision of the disciplinary procedure of the National Health Insurance Acts, to embody a central appeal board. The view of the committee was that on the eve of new arrangements it was not advisable to interfere with the present disciplinary procedure, but that the proposal should be borne in mind in considering the disciplinary aspect of the new service.

The Ministry of Health transmitted a request from the War Office that the routine provision of Service medical reports might be dispensed with in a limited class of case—namely, individuals who do not pass through the normal "invaliding" machinery and are employable from the purely medical point of view but are being discharged because no military low-category employment was available. It was explained that such men pass through a bottle-neck, and the preparation of medical reports would throw a considerable additional burden on the medical staff available through the particular channel of discharge. It was agreed that no exception should be taken to the proposal so far as it applied to this limited class and providing it was understood that a practitioner would have no difficulty in obtaining a copy of the record on application in an individual case.

In view of possible renewed negotiations with the Minister of Health, the Council of the Faculty of Homoeopathy feels that it is important to know the exact location of all physicians practising homoeopathy in the United Kingdom. Those not already in touch with the Faculty of Homoeopathy might contact the honorary secretary immediately at the London Homoeopathic Hospital, Queen Square, W.C.1.

HEARD AT HEADQUARTERS

Wartime Appointments

The Hospitals Committee of the B.M.A. had a long discussion the other day on the question of wartime appointments to the consultant and specialist staffs of municipal and voluntary hospitals (much the same principles, of course, apply to public health and university appointments). Now that the war in Europe is over there is a disposition in some quarters to revert to the practice of making senior hospital appointments on a permanent basis. The Association's view, expressed on many occasions, is that common fairness to doctors absent on national service requires that the policy of making only temporary appointments until the war against Japan is over should continue. This principle cannot be said to be annulled because the war in one continent is over so long as large forces, with medical officers to serve them, are employed in another. This view is also held by the Central Medical War Committee and by the Committee of Reference of the Royal Colleges.

It has always been admitted that there may be exceptional circumstances to justify a permanent appointment even in wartime. In these cases it is urged upon hospitals and other appointing authorities that the time limit allowed for the receipt of applications should be such as to enable candidates over-seas to be considered.

After the discussion the Hospitals Committee reiterated the policy which the Association just before the outbreak of war urged upon hospital authorities—namely, that no new appointments to the consultant and specialist staffs of municipal and voluntary hospitals should be made on a permanent basis during the war and for a period of twelve months thereafter, and that where it is necessary to make an appointment it should be temporary and terminable within twelve months of the conclusion of hostilities.

It should be added that hospital authorities have to a large extent adopted this policy, but the difficulty comes with the ending of the war in—for the people of this country—its most important theatre.

Medical Staff Committees

Readers of the *Supplement* will recall the interesting article on May 5 by Dr. J. B. Cook on the medical staff committees in the hospitals of the Middlesex County Council. Following this the Association made inquiries of the London County Council concerning any official action in the establishment of medical staff committees in the largest hospital service directed by a single authority in the world. The Medical Officer of Health, Sir Allen Daley, has replied that he is in full sympathy with the establishment of such committees and has encouraged the medical staffs to set them up whenever he has had the opportunity, but war conditions have rather hindered the movement. The medical staff of London county hospitals may be said to divide itself into two groups. One consists of visiting consultants and specialists—busy people who would find it difficult to make another appointment to attend a staff meeting; the other of whole-time, mostly resident, staff who are in daily touch with one another and with their medical superintendent. When the inevitable post-war changes of methods of staffing have been carried out, it is hoped that London will set an example in this matter as it has done in other respects.

Hospital Facilities for General Practitioners

A committee of the Association—really a subcommittee of the Hospitals Committee—has been discussing the provision of hospital facilities for general practitioners with reference to the latter's needs in both urban and rural areas. A draft report has been prepared, which is down for further discussion at a meeting to be held this week, and perhaps some statement may be made on the matter at the Annual Representative Meeting. The A.R.M., by the look of things, will not have an overburdened agenda. It is only a little over seven months since the last A.R.M. As for the national health service, this must remain in a state of suspended animation until the results of the General Election—to be announced on what will probably be the last day of the meeting—are known.

Payment of Medical Staff

Not a very encouraging result has come from an inquiry which the Association has been making of all the voluntary hospitals in the area of London and the Home Counties. It was desired to learn how far these hospitals had accepted the new scheme of the Hospital Saving Association, recognizing the £420 limit in full, and also to what extent payment of medical staffs had been adopted.

Of the 123 hospitals who replied, 82 stated that they had accepted the revision (2 of them under protest), 28 had not done so, 5 had accepted subject to almoners' inquiries, and 8 had not yet come to a decision. As for payments to a staff fund, only 33 of the hospitals make such payment, at varying percentages or at certain fixed total amounts or a certain amount for each patient, 5 others have recognized the principle without as yet making any payment, and 85 make no payments.

When these figures were placed before the Hospitals Committee the idea of the general salaried payment of medical staffs found a good deal of support. When one objection was made that salaries would take away the voluntary character of the hospital, it was pointed out that when this question in different forms had come forward in the past it had been agreed that payment or non-payment of staff and payment or non-payment by patients had nothing to do with determining the voluntary or other character of a hospital. A hospital is voluntary by reason of its voluntary management and nothing else.

Putting Britain on its Feet

Looking at the new list of chiropodists on the National Register of Medical Auxiliary Services, one feels that there should be no difficulty in putting the country on its feet. There are now over 3,000 registered chiropodists, though it is true that a large number of them are still on active service. Chiropodists seem most abundant in the North; Glasgow has 144 and Edinburgh has 80. Manchester and Birmingham each has over 60. The Chiropody Group Council has issued a memorandum on the relation of chiropody to the health of the community, which recounts the steps that led to the official recognition of chiropodists, the preliminary move having been made by the B.M.A. The Board of Registration of Medical Auxiliaries laid down certain conditions under which chiropodists would be admitted to the National Register. Five organizations—societies of chiropodists—were recognized under those arrangements as having approved standards of curriculum, training, and ethical conduct, and representatives of those five now constitute the Chiropody Group Council.

Correspondence

Voting at Representative Meetings

SIR,—In the *Supplement* of July 14 you publish a letter from Lieut.-Col. J. A. Balck-Foote which in effect consists of two complaints. The first is that the recent Special Representative Meeting allowed itself to be persuaded by the Chairman of Council (Dr. Dain) to do things which, it seemed to me, it wanted done. This is a matter for the individual Representatives. Decisions are taken by the votes of the majority, and each and every Representative had full opportunity for influencing the Representative Body before any decision was taken. I have not hitherto noticed that they can be led contrary to their convictions.

The second complaint is that the Chairman of Council intervened to an excessive extent in the debates at that meeting. At an ordinary Representative Meeting each and every chairman of a Standing Committee, and often of other committees, acts for the Council on the subject-matter of his own committee. At this Special Representative Meeting the sole subject-matter was the report of the Negotiating Committee, of which the Chairman of Council was the chairman, and it was entirely necessary that he should voice the views of the Council on almost every matter discussed at the meeting. No one else could, and he did so without rhetoric but with a clarity of expression and a simplicity of language which to me were oratory at its best. That he did so intervene to the satisfaction of the Representative Body was evidenced by the enthusiastic tribute paid to him at the conclusion of the meeting.

At the previous Representative Meeting I myself invited the meeting to express its satisfaction with the Chairman of Council. On this occasion the proposal did not come from what I may term the platform, it came from the body of the hall, and it was met with an enthusiasm which, within my knowledge of Representative Meetings, was unprecedented.—I am, etc.,

PETER MACDONALD,
Chairman, Representative Body.

York.

SIR,—Except for the first two sentences, the second of which is confused by a misprint, we, the undersigned, thoroughly endorse the accurate description of the proceedings of the last two Annual Representative Meetings that appeared in the *Supplement* of July 14 (p. 7) over the name of J. A. Balck-Foote. We do, however, feel very sorry that such a fine representative should have declined renomination, because the presence of such men as he is essential if the state of affairs to which he refers is to be rectified.—We are, etc.,

A. LAWRENCE ABEL.
R. COVE SMITH.
A. DICKSON WRIGHT.
HORDER.
R. HALE-WHITE.
E. T. WRIGHT.

London, N.W.8.

Release of Doctors

SIR,—At a recent meeting of Service medical officers which Dr. Hill was good enough to address on medical demobilization these facts emerged which I do not believe are generally known, and as they may help to clear away some misapprehension on medical demobilization I feel that they should be given publicity.

1. The Central Medical War Committee is an advisory body only, and has no power to plan demobilization. The Services are at liberty to accept or reject any advice the committee may offer, although presumably the committee can apply to higher authority if not satisfied with Service plans.

2. I understand that the committee has so far failed to obtain any plan or time-table of demobilization from any of the Services, although it is still pressing for this information. The groups which have been released so far have been put up by the Services themselves and not in co-operation with the committee.

3. It has been stated by the committee that every effort will be made to ensure that medical officers will be demobilized as "their" groups come up. It is now clear that this does not mean Service groups as a whole, but only that medical officers will be demobilized in group order. I believe that a large number of officers have misunderstood the committee's promise, and that it is still thought that the committee will endeavour to obtain release of medical personnel with their general demobilization groups. This misapprehension should be dispelled.—I am, etc.,

GEO. A. FRASER.
Squad. Ldr.

*** A full statement by the Secretary of the Central Medical War Committee dealing with points raised in this and a number of other letters will be found in this issue of the *Supplement* (p. 9).—ED., *B.M.J.*

Medical Certificates

SIR,—The result of the light-hearted or mercenary attitude of certain members of the medical profession towards certification, as is brought to the light of day by recent convictions, is now becoming evident. Even when, as a local medical practitioner for over twenty-five years, a Justice of the Peace for over twenty years, a "civilian medical practitioner" to the Forces on contract, and an Admiralty surgeon and agent, I go to the trouble of stating a case for compassionate discharge or other type of demanded certificate, I find that this is not enough: other people are asked to make inquiries. I am called to the telephone by a "welfare officer," who, when I guarantee the genuine nature of the application, at once says, "That will be all right"; or I have a letter from another source asking for further details, which already have been given if my original certificate had been read.

In one case alone I have counted the number of certificates (7 or 8) written by me in order that a very important issue can be settled. Every certificate has been couched in exactly the same terms of urgency. The unfortunate man involved has had various periods of leave granted. Not one has been enough; complete release is the only way out. I ventured to put the case, both for him and for me, more forcibly in my last effort, and his commanding officer refused to send it on to the next authority. I willingly wrote yet another certificate, but was sorry that the original had not been sent. Surely, this sort of thing should be stopped.—I am, etc.,

F. O. TAYLOR.

Coldingham, Berwickshire.

Assistantships

SIR,—One aspect of private practice as it exists at present has not yet been mentioned. I refer to the buying up of practices by busy N.H.I. practitioners and the employment of assistants to run these practices for them. In pre-war days salaries paid were usually low and altogether out of keeping with the dignity of the profession and the work done.

Any contemplated extension of the existing N.H.I. system should bear this point in mind; otherwise we shall see already prosperous practitioners waxing even richer by acquiring more patients, who will be looked after by their assistants. It is almost a form of exploitation of young doctors. Under ideal conditions, the employment of assistants should be prohibited altogether. A doctor whose practice is too large for him should be obliged to take a partner. We shall then have a more equitable system.—I am, etc.,

M.E.F. "MEDICO."

Medical Demobilization

SIR,—The reply of the Secretary of the Central Medical War Committee to Lieut.-Col. R. Gibson's letter (*Supplement*, June 30, p. 131) is disquieting. It is evasive and shelters behind Service policy and custom. I deal with one point only. The Secretary states that, as the committee is essentially a civilian one, serving soldiers are ineligible as members. I sympathize with Lieut.-Col. Gibson's wish for representation of serving doctors on the committee, but if the reasons against this are too weighty, may I suggest a compromise that would, I think, go far to satisfy doctors still in the Forces.

There are now a certain number of us who have served (in this war), but who, on account of ill-health, senility, or other reasons, have returned to civilian practice. We have seen both sides of the picture. We have seen Service life and now we carry "the almost intolerable burdens" of the civilian. Yet we have no axe to grind. I suggest, then, that the committee should co-opt some of us. We should do our best to represent the views of those still in the Forces and we should be free—an important point, this—from that restraint which the wearing of a uniform has on the expression of opinions that might conflict with those of Service Departments.—I am, etc.,

Wolston, Coventry. GEORGE CAMPBELL.

SIR,—I would like to endorse very heartily the views expressed by Lieut.-Col. R. Gibson in his letter on medical demobilization (*Supplement*, June 30, p. 131). As a regimental medical officer with four and a half years' service home and over-seas I would like to make a few observations on the same subject.

I fully appreciate the efforts which the C.M.W.C. is making with regard to medical demobilization, but Circular Letter D11 of May, 1945, does not greatly inspire any feeling of confidence for the future. I am not at all sure that the C.M.W.C. is fully cognizant of the feeling among Service medical personnel regarding demobilization and postgraduate training. I am at a complete loss to understand why it will be difficult to release medical officers under their appropriate age and service groups. Is the present ratio of one medical officer to 382 Army personnel still too low?

There is no doubt that there is a considerable wastage of medical man-power in the Services, and this has become all the more apparent now that the war in Europe has ended and units have assumed static positions on a peacetime basis. I can safely say, from considerable experience, that not more than *20%* of the work now being done by regimental and unit medical officers is that which requires the services of a qualified doctor. The remainder could be very adequately and efficiently performed by a trained nursing orderly and sanitary inspector or non-medical administrative officer. Perhaps the civilian board of the C.M.W.C. is not fully aware of this.

On the question of postgraduate training of Class 2 medical officers, one can only regard the two-weeks refresher course as being quite absurd if it is designed to make up on four to five years' loss of clinical knowledge and experience. Surely something more could be done than merely to "deplore" such a state of affairs.

May I offer a suggestion that refresher courses be organized now in the Services for personnel soon to be released; these surely could easily be conducted in general hospitals or other field medical units by Service medical personnel, many of whom were on the staffs of teaching hospitals before mobilization. Such courses would do much to help us regain some enthusiasm for our profession, to lift us out of the rut into which we have unavoidably drifted during the monotonous years of Service medicine, and to help us regain some confidence and ability in the work we shall be called upon to perform when we ultimately descend upon the diseased section of the civilian community.

In conclusion I would like to reiterate that "we are not unreasonable or impatient" and that our views are not stated entirely from purely personal interests; but a stage has been reached in the affairs of Service medical personnel which is producing much general discontent and uneasiness, and which must be handled now without further delay and with clarity of thought and action if we are to return to our civilian jobs with any degree of confidence and hope for the future.—I am, etc.,

GEO. W. R. MACGREGOR,
B.L.A. Capt., R.A.M.C.

SIR,—After reading in the *Supplement* of June 23 (p. 127, foot of col. 2), a statement by the Secretary of the Central Medical War Committee that "it is hoped that it will be rarely necessary for medical officers to be retained beyond the dates of the release of their age–service groups," I was dismayed to receive a memorandum from "higher authority" more or less contradicting this statement. This memorandum indicates that "there are no plans yet for the release of doctors beyond Group 11," due for release about August, 1945. This statement, coming two months after the end of the European War and many months after the formulation of the release scheme, suggests an appalling apathy on the part of the War Office Department concerned, and a serious lack of realism towards the problem of release of medical officers generally.

There is already a considerable waste of medical man-power in the Army, and in the medical departments of the other Services too, if the letters in the *Supplement* are to be believed. I, too, could quote many instances of wastage of medical officers. For instance, my camp is inspected by a hygiene sergeant (R.A.M.C.) and a hygiene corporal (R.A.M.C.) each month and the commanding officer also insists that I personally carry out an identical inspection. It is waste such as this that requires the retention of many medical officers in the Services who could be helping to relieve the acute shortage of doctors in civil life.

If the Central Medical War Committee wishes to alleviate the position of the civilian population as regards this shortage of doctors, it will have to press for the speedier release of Service doctors, as it is now obvious that the War Office have made no plans beyond August, 1945, and are determined not to release any more M.O.s than they can possibly help.—I am, etc.,

CAPTAIN, R.A.M.C.

SIR,—Lieut.-Col. Gibson's letter (*Supplement*, June 30, p. 131) calls for action by the medical profession. Many similar letters have appeared in the press, both medical and lay. There is evidence that, by more efficient organization, the Services could now liberate a number of medical officers. Few things can be more demoralizing than to be kept in enforced idleness while useful work is to be done in civil life. The Central Medical War Committee's circular letter exudes sympathy but gives little help.

Various high-ranking medical officers are holding temporary commissions. They have given much help and advice with regard to the care of combatants. Now that hostilities have ceased in Europe could not these officers assist their colleagues by inducing Service authorities to exercise real economy in the use of medical personnel? By this means long-service medical officers might look forward to early demobilization.—I am, etc.,

Northampton. C. C. HOLMAN.

SIR,—I have read with much interest Lieut.-Col. Gibson's letter (*Supplement*, June 30, p. 131). He has my sympathy, and I fully endorse his remarks. In my opinion there should be no difficulty in replacing Service medical officers when they are due for release, providing the C.M.W.C. insists that there shall be recruited a sufficient number of medical men from civilian life, both practitioners and specialists alike; no man, whether civilian or Service, is irreplaceable.

In the R.A.F. any medical officer, if fit, is liable for duty in any part of the world, up to the age of 65 years. Any civilian doctor, if under 65 and fit, should do his turn in the Armed Forces; it is high time many of them were compelled to do so. Since my return last year from over-seas I have frequently heard from civilian doctors how overburdened with work they had been, and told what an easy life we Service M.O.s are leading. They omit to mention any point about the inflated incomes they are making in our absence, or that for six years of war they have been able to live in their own homes in peace and security, whilst we have joined up to serve our country in this present war.

We Service medical officers desire no sympathy or thanks, and if we have got ourselves into a hole we shall get out of it; but what we do insist on having is a fair deal. It is, however, gratifying to see that the Secretary of the C.M.W.C. states that men in uniform are not being forgotten. I sincerely hope that statement will soon be translated into facts. As a member who served in H.M. Forces in the 1914–18 war, and now in my sixth year of service in the R.A.F., I feel qualified to speak on these matters.—I am, etc.,

AUBREY D. GILL,
Squad. Ldr., R.A.F.V.R.

Medical Demobilization and Resettlement

SIR,—Writing, apparently, from India, your correspondent whose *nom de plume* is " Major, R.A.M.C. " states (*Supplement*, June 23, p. 127) that " . . . the Service medical officer will be quick to draw conclusions if he finds himself less favourably placed than those demobilized under arrangements made by a Government Department." This anonymous officer seems to have led the way himself in drawing conclusions with greater speed than accuracy.

How can he blame the profession (or its agent, the C.M.W.C.) for the present position unless he thinks that the profession has been too reticent in pushing its claims, as it may have been through patriotic feeling? So far as one can judge, the C.M.W.C. has laboured throughout the war to maintain an adequate medical service for civilians in the face of exorbitant Government demand for doctors. It is the experience of many (for instance, Surg. Lieut. R. Alexander, who writes in the same issue of the *Supplement* specifying a fit naval rating re-examined seventeen times within a twelvemonth) that these demands are exorbitant. Moreover, the recruitment of medical officers proceeds more energetically than ever, even now with Germany out of the war!

To my simple and untutored mind you could only blame for the overlong retention of doctors in the Services the party who is keeping them there, usefully or otherwise—to wit, the Government. The authorities may be actuated by the best of motives. They may argue broadly that n warfare it is safer with doctors (as with ammunition) to have too many than too few. Or they may regard the Far Eastern situation as calling for a specially great medical force to cope with the indigenous tropical diseases or the carnage they anticipate.

But nothing, unfortunately, can be put past Governments, and ulterior motives may possibly co-exist with the good—for example, the isolation from their normal *milieu* of large numbers of men who could at any time be released *en masse* to act at once as the nucleus of the projected State Medical Service and as a lever for enforcing it. I should not be dumbfounded with surprise if a final vast force of demobilized medical men were given discharge papers that had alluring advertisements or employment in such a service boldly attached to or even printed upon them.

I hope that I am all wrong in suspecting the State to have a notion of rigging the medical labour market. But they are in a position to do so, and in any case the maintenance of apparently excessive medical personnel in the Services keeps their civilian colleagues overworked and the population dangerously short of doctors. Therefore we must hope with Major, R.A.M.C." and the many serving officers who are avowedly of his way of thought that the C.M.W.C. will urge more energetically than ever the return of any and all who can be spared. It may be that discharges should be staggered in the interests of the officers themselves —e.g., so that each may have the best chance of gravitating to his rightful place in civilian life, but this object will fail to be achieved if snap legislation overtakes them while they are still serving owing to delay in demobilization. If it is achieved there should be work for all of them and a good service to the public—a result which should set at rest the forebodings of " Major, R.A.M.C." and convince him and the profession generally that it is capable of managing its affairs " without Government interference "—I should prefer to say " in spite of it."—I am, etc.,

Birmingham. PETER PARRY.

Demobilization of Medical Students

SIR,—In recent issues of the *Journal* there have been many letters about medical demobilization and resettlement, but very few seem to bother about the medical students in the Forces. Many of these boys came down in their exams in the " blitz " years; some were homeless. They will be faced with the huge medical curriculum after years of no study. It appears that these boys are forgotten and the profession as a whole is apathetic. —I am, etc.,

E. J. MURPHY,
Liverpool. Late R.A.M.C.

⁂ The Secretary of the Central Medical War Committee comments as follows: As stated in a footnote to a letter published in the *Supplement* of June 23 (p. 128) the Central Medical War Committee has made representations regarding the early release of medical students. Since, however, it is the declared policy of the Government to restrict severely the number of releases out of turn in Class B, it seems unlikely that a medical student will be able to obtain such release unless in exceptional circumstances.

A Royal Medical Service

SIR,—Now that the war in Europe is over and medical officers in the very early groups are being released, the opposing claims on doctors of the Services and the civilian population are again being argued. The Services can, however, reduce their demands most considerably by combining to form one Royal Medical Service, which, though having a Navy, an Army, and an Air Force Branch, would be under single control and would prevent the tremendous and wasteful overlap of doctors, hospitals, administrations, etc., which now exists. The advantages of similar documentation in all three Services would mean that it would be simpler and more economical.

The process of combining the three Services into one would not be as difficult as may be argued, and the chief Service objection to it would be the fact that there would be one Director-General instead of three, and a corresponding reduction in the higher ranks below Director-General. The economy of medical man-power generally would be marked, and the efficiency of the medical services increased rather than diminished.—I am, etc.,

B.L.A. LIEUT.-COL., R.A.M.C.

Cars and Purchase Tax

SIR,—I am writing to point out a curious anomaly to which some attention has been drawn by the press and which affects to a very great degree medical practitioners. On Form V.C.1 (P.C.), which is required for application to obtain a licence to purchase a new private car, and which licence is issued only for certain priority classes, high among them being the medical and nursing professions, there is in para. 4 the following declaration:

" I hereby certify it will be impossible to perform the work, which in my view is essential to the national interest, unless this application is granted."

The presumption is, therefore, that new cars can only be issued to those people whose work is regarded as being in the national interest, yet purchase tax on these cars is still to be payable. We have always been led to believe that purchase tax was virtually a luxury tax which was imposed for the purpose of curbing expenditure. Surely in the case of cars required in the national interest purchase tax should be remitted.—I am, etc.,

T. CRADOCK HENRY.

Doctors' Cars

SIR,—As one of many country doctors I have been using a car which is getting so old that costs are mounting daily in repairs alone. With my panel cheque cut in half by income tax and little in the way of private practice, it is a shock to hear the price which is to be asked for a new car. Although the income is halved, the long country journeys are not, and to pay between £400 and £500 for a suitable twelve-horse-power car is beyond my means. I have to carry water and oil on my journeys now owing to the lack of spare parts, so it can be imagined that repairs are only makeshift.

Surely if N.H.I. patients are to be visited at distances of five to ten miles some alleviation of working expenses should be allowed by those responsible for medical benefit under the Act. No matter what type of State Medical Service comes, domiciliary units in these rural areas will always be required.

A grant towards purchase of a car is the obvious and just remedy for this state of affairs.—I am, etc.,

Totnes, Devon. IAN M. JEFFERISS.

BRITISH MEDICAL ASSOCIATION

ANNUAL REPRESENTATIVE MEETING, 1945

The Annual Representative Meeting of the British Medical Association will be held at B.M.A. House, Tavistock Square, London, W.C.1, on Tuesday, July 24, and succeeding days.

MOTIONS BY DIVISIONS AND BRANCHES

PRELIMINARY

International Relations

Motion by PADDINGTON: That the Council be asked to approach the appropriate Government Departments and members of the newly elected House of Commons with a request for an early recognition of the medical profession as being entitled to diplomatic representation (like other national interests) through health attachés or counsellors at British Embassies and Legations in foreign countries, which is now considerably overdue.

Public Relations

Motion by GLASGOW: That the chairman of the Public Relations Committee inform the meeting of the arrangements made for showing the film " The Family Doctor."

Negotiating Committee

Motion by BRADFORD: That the Council be requested to give concrete proposals safeguarding private practice under the 100% National Health Service. That any person shall be at liberty to make such arrangements outside the National Health Scheme for his medical attention on any specific occasion, and that no medical practitioner shall be compelled to give any medical attention whatsoever to the said patient under the service during continuance of such specific occasion.

GENERAL PRACTICE

Doctors' Cars

Motion by Glasgow: That steps be taken to facilitate priorities in respect of doctors' cars and for the abolition of purchase tax in connexion with them.

Local Advisory Committees on Industrial Health

Motion by Sheffield: That local advisory committees on industrial health representing the doctors, employers, and employees should be appointed in suitable industrial areas.

PUBLIC HEALTH

Education Act

Amendment by Bristol: That the A.R.M., having considered the Report of Council on the 1944 Education Act, stresses the following observations. It upholds the principle that the health of the child should be in the care of the family doctor, and it should be his responsibility to obtain any necessary consultant services. Hence it deplores the acquiescence by the Council in the provision for direct reference to hospital by the school medical officer, and strongly protests against the Council's failure to promote the doctor–patient relationship as between the family doctor and the child.

Motion by East Yorkshire: That this Branch protests against the introduction by the Government of a comprehensive medical service for school-children, which is not part of the proposed National Health Service, without consultation with the medical profession; and seeks clarification of the conditions and scope of such school medical service.

Askwith Memorandum

Motion by Sheffield: That negotiations with regard to salaries and conditions for doctors in the public health and municipal hospital services be conducted with the Government as part of the negotiations for the whole profession and not as on previous occasions with the Association of Municipal Corporations and County Councils.

Vaccination Fees

Motion by Sussex: (1) That this Branch considers that the fees paid to public vaccinators are still totally inadequate and that the Council be asked to press for uniformity throughout the country. (2) That the scale of fees paid should be the same as has been formulated for the West Riding administrative area of Yorkshire, which has been accepted by the Yorkshire Branch Council of the B.M.A. and approved by the Ministry of Health (*Supplement*, May 19, p. 94)*, with the addition: (*a*) that such fees should be paid whether vaccination is successful or unsuccessful, and (*b*) that a mileage charge of 2s. (two shillings) a mile per vaccination over two miles be paid.

National Maternity Service

Motion by Bradford: That this meeting approves generally the principle instituted by and policy pursued according to the Report of Council, 1945, and is particularly emphatic in agreeing with paragraph 32. It also draws attention to and deplores the views expressed in the Nuffield Hospital Report for Yorkshire on page 90 where " continuous compulsory supervision of children " by a small group of medical men is advocated, and on page 95 where the removal of mothers and children from family general practitioner attendance is advocated, and draws the attention of Council thereto.

Equal Pay and Cost-of-living Bonus

Motion by Morpeth: That the Council be instructed to approach the appropriate authorities—e.g., the local authorities and Government Departments—to ask that the cost-of-living bonus be given to pensioners formerly employed by them.

ORGANIZATION

Regional Secretaries

Amendment by Glasgow: That this meeting re-affirms the 1943 A.R.M. decision regarding the appointment of Regional Secretaries.

NAVAL AND MILITARY

Demobilization

Motion by Glasgow: That this meeting is dissatisfied with the present demobilization scheme.

Motion by Sheffield: That steps should be taken by the Association using the peripheral machinery of Branches and Divisions and all other possible means to ascertain what numbers of medical practitioners can rapidly be absorbed into civilian work as demobilization proceeds.

Recruitment of Doctors

Motion by Bristol: That the A.R.M. proposes that if it is necessary to call up further age groups of doctors from civilian practice—an extremely serious step and one for which there is considerable lack of conviction—it will be advantageous for all concerned to do this from the 40–55 age groups.

Meetings of Branches and Divisions

Isle of Wight Division

At the annual meeting held at Osborne House, Cowes, on June 22, Surg. Rear-Adml. C. P. G. Wakeley gave an interesting lecture to a large audience on " 'D' Day Surgery." Earlier the meeting had expressed its appreciation of the services of the Division's chairman, Surg. Rear-Adml. B. Pickering Pick, during his term of office. Dr. G. M. Balfour was then elected chairman for the ensuing year, and Dr. Howie Wood, Representative in the Representative Body. The Annual Report of Council was considered and resolutions for the A.R.M. were passed.

H.M. Forces Appointments

ARMY

Col. (Acting Major-Gen.) E. A. Sutton, C.B.E., M.C., late R.A.M.C., to be temp. Major-Gen.

ROYAL ARMY MEDICAL CORPS

Lieut.-Cols. E. L. F. Nash, M.C., and J. H. Bayley, M.C., having attained the age for retirement are retained on the Active List (supernumerary).

Major (War Subs. Lieut.-Col.) G. A. Walmsley, O.B.E., to be Lieut.-Col.

Major E. H. Hall to be Lieut.-Col.

Major S. S. Dykes has reverted to retired pay on account of disability, and has been restored to the rank of Lieut.-Col.

Short Service Commission.—War Subs. Capt. I. W. Caldwell, from Emergency Commission, has been granted a Short Service Commission in the rank of Lieut., and to be Capt.

TERRITORIAL ARMY

Royal Army Medical Corps

Col. A. M. Johnson, C.B.E., M.C., T.D., to be Hon. Col. 42nd (East Lancs.) Divisional R.A.M.C.

War Subs. Major W. A. Liston, from R.A., T.A., to be War Subs. Major.

War Subs. Majors J. G. McDowell and T. F. Briggs to be Majors.

Capt. A. Houlbrooke to be Major.

LAND FORCES: EMERGENCY COMMISSIONS

Royal Army Medical Corps

War Subs. Capts. H. I. C. Balfour and D. E. Dunnill have relinquished their commissions on account of disability, and have been granted the honorary rank of Major.

War Subs. Capts. B. O. Reed, N. S. Barnett and A. S. Murdison have relinquished their commissions on account of disability, and have been granted the honorary rank of Capt.

Capts. F. T. Pullicino and F. Zammit, holding Governor's commissions in the Army Medical Corps, Malta Territorial Force, have been granted Emergency Commissions in the rank of Lieut.

To be Lieuts.: T. K. Abbott and J. Battersby.

WOMEN'S FORCES

Employed with the R.A.M.C.

War Subs. Capts. (Miss) M. W. Bowen and (Mrs.) M. R. D. Hart have relinquished their commissions.

(Mrs.) Aileen J. Carlson to be Lieut.

ROYAL AIR FORCE

Wing Cmdr. E. Thompson has retired on account of medical unfitness for Air Force service, retaining his rank.

Royal Air Force Volunteer Reserve

Squad. Ldr. (Temp.) B. J. Bickford has been granted the rank of War Subs. Squad. Ldr.

Fl. Lieut. B. Plowright has been granted the rank of War Subs. Squad. Ldr.

Fl. Lieut. M. W. Robinson has resigned his commission, retaining his rank.

J. R. C. Holmes to be Fl. Lieut. (Emergency).

To be Flying Officers (Emergency): V. Altman, A. Brown, and D. W. R. Lyle.

ROYAL CANADIAN AIR FORCE

A. Gardner Watson to be Fl. Lieut.

INDIAN MEDICAL SERVICE

Emergency Commission

Capt. G. M. F. Dover has relinquished her commission on account of ill-health, and has been granted the honorary rank of Capt.

ARMY IN BURMA RESERVE OF OFFICERS

Emergency Commission

B. S. Joshi to be Lieut.

RETURN TO PRACTICE

The Central Medical War Committee announces that the following have resumed civilian practice: Mr. J. C. Ainsworth-Davies, F.R.C.S., at 48, Wimpole Street, W.1.; Dr. Ernest Bulmer, F.R.C.P., at 3, Arthur Road, Edgbaston, Birmingham.

POSTGRADUATE NEWS

The Fellowship of Medicine announces th following course in preparation for the Primar F.R.C.S. examination: Lecture-demonstrations i Anatomy, Physiology, Pathology and Bacteriology on Mon., Wed., and Fri., Aug. 13 to Oct. 15. Tw lectures each day at 6 p.m. and 7.15 p.m. Detaile syllabus obtainable from the Fellowship of Medicine 1, Wimpole Street, W.

WEEKLY POSTGRADUATE DIARY

Edinburgh Postgraduate Lectures.—At Edinburgh Royal Infirmary, *Thurs.*, 4.30 p.m., Prof J. R. Learmonth: The Clinical Use of Penicilli

BIRTHS, MARRIAGES, & DEATH

The charge for an insertion under this head 10s. 6d. *for* 18 *words or less. Extra words* 3s. 6 *for each six or less. Payment should be forwarde with the notice, authenticated by the name an permanent address of the sender, and should reac the Advertisement Manager not later than first po Monday morning.*

BIRTH

Cameron.—On July 10, 1945, at the Victoria Nursin Home, Ripon, to Janet Cameron, M.R.C.S L.R.C.P., wife of Lt.-Col. D. C. Cameron, R. (S.E.A.C.), a son.

MARRIAGE

Robertson—McNaughton.—At Beechgro Church, Aberdeen, on July 6, 1945, Capt. Jam D. Robertson, R.A.M.C., Stranraer, to Evel Patricia McNaughton, Q.A.I.M.N.S./R., Peterhea

DEATHS

Kayne.—On June 29, 1945, George Gregory Kayn M.D., M.R.C.P., D.P.H., Physician in t Tuberculosis Service of the Middlesex Coun Council.

MacMurtry.—On July 5, 1945, John Alexand MacMurtry, M.D., Maxwell Park, Bange Co. Down, formerly of Coulsdon, Surrey.

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*The West Riding scale of fees is as follows:

	s.	d.
Child entered on list of vaccination officer	2	0
Not entered on list but vaccinated ..	2	0
In respect of vaccination:		
Successful primary vaccination or revaccination at surgery or elsewhere ..	5	0
Successful primary vaccination or revaccination at home of person ..	10	0
Successful vaccination or revaccination of each additional person at the same time	7	6
Medical officers of institutions who are public vaccinators to those institutions —vaccinations and revaccinations ..	3	6

SUPPLEMENT TO THE
BRITISH MEDICAL JOURNAL

LONDON SATURDAY JULY 28 1945

HEARD AT HEADQUARTERS

This Week's A.R.M.

The Annual Representative Meeting this week in London has a light agenda, as was to be expected in view of the fact that the last Representative Meeting took place only a little more than seven months ago. After the experience of the last two or three years, to have only one hundred motions on the agenda paper, many of them formal and many others non-controversial, makes it seem like a holiday meeting. It is not easy to see how the proceedings can be extended over the two and a half days allotted to them, but light agendas are sometimes deceptive. At all events it will enable the business to go forward at a more leisurely pace than is possible when a harassed chairman has to find his way through some five hundred motions and to incur unjust strictures because, one motion having been disposed of, he has ruled that six others with only a slightly different shade of meaning must go with it.

Only some fifty of the motions are from Divisions and Branches. The first, from Paddington, is of some interest. It urges an approach to Government Departments and Parliament with a view to securing diplomatic representation of the medical profession through health attachés and counsellors at embassies and legations in foreign countries.

American Colleagues

The United States Forces are leaving this country, and their medical officers with them. A letter has been received by the Association from Major-Gen. P. R. Hawley. It is written from the European Theatre of Operations of the U.S. Army and speaks of the great regret with which our American visitors view their departure. He adds that one of the reasons for such regret is the breaking of the happy links which have been formed with the medical profession in Great Britain. Gen. Hawley says that it is his pleasant privilege as well as his urgent duty to express to the B.M.A. the deep appreciation of the medical officers "for all the courtesies extended to them by your splendid organization."

Their departure will be sincerely regretted by their British colleagues. The presence of American medical officers has been like a refreshing breeze at B.M.A. House, at the Royal Society of Medicine, and elsewhere. They have proved most companionable. In clinical and scientific meetings they have thrown their experience and ideas freely into the common pool. Many permanent friendships have been made, and the cause of Anglo-American unity has been greatly advanced by this most welcome of war invasions.

Professor R. M. F. Picken

A great loss will be sustained at headquarters if Prof. Picken adheres to his decision, following his appointment as acting provost of the Welsh National School of Medicine, to bring to an end his valuable work on the Association's Council and committees. He finds that his new office will prevent him from making the frequent journeys between Cardiff and London which his work for the Association has hitherto entailed. Prof. Picken has been a member of the Council since 1930. His work over many years for the Public Health Committee has been outstanding, and it is difficult to think of that committee without him in the chair. He has been a most valuable liaison officer between the Association and the Society of Medical Officers of Health, and although his own experience has been in the field of public health he has always shown an informed sympathy with the position of the general practitioner. His quiet voice in debate, in large assemblies and small committees, has carried great authority and has led to many wise decisions and perhaps prevented some unwise ones. It is to be hoped that even if his work for the Association has to be lessened there will not be so complete a withdrawal as that on which he has regretfully decided.

Purchase Tax on Doctors' Cars

Mr. Harold Nicolson recently called attention to the curious fact that one's wartime wardrobe has a tendency to fall to pieces all at once—not in sequence, one suit after another, but simultaneously. Something like that is happening with doctors' cars. Many of them, after enduring the strains of wartime practice, are getting almost beyond repair. One doctor would have been hard put to it if he had not been able to borrow a car from his patients. These old cars can no longer be offered in part exchange, and the cost of replacement is prohibitive.

The Secretary of the Association has lately written to the Treasury asking on behalf of the medical profession that the purchase tax on new cars supplied to doctors should be removed at the earliest possible moment. He reminds the Treasury that new cars can be supplied only against licence to purchase, and the high measure of priority accorded to medical men during the war is evidence that they are regarded as giving an essential public service. Alike in town and country, the roadworthy motor-car of the doctor is not a luxury but necessary equipment of his profession, without which he cannot perform the public service demanded of him. Until recently a large proportion of reconditioned ex-Service cars were allowed to doctors, but, following a decision of the Minister of War Transport, these are no longer available. Apart from the practitioner who has to replace his car, the position of the doctor returning from the Forces and establishing or re-establishing himself in general practice has to be considered. He will have enough calls upon his resources without having to buy a car at an artificially raised price. Certain trade vehicles are exempt from purchase tax, and it seems as if an equally good case could be made out for the extension of this concession to a vehicle which is a necessary part of an essential service.

Rehabilitation Facilities

The Rehabilitation Committee of the B.M.A. is getting into its stride. New members include two Scottish authorities on the subject—Brig. F. A. E. Crew and Dr. Thos. Ferguson—as well as Dr. H. M. C. Macaulay, of Middlesex. The first stage of the committee's work has been the compilation of memoranda on existing facilities and on rehabilitation from various aspects. These have been produced by members of the committee. The one on existing facilities is the work of the deputy chairman, Dr. Vaughan Jones, of Leeds; it is supplemented by a list of all the centres and clinics already established. It is surprising, when one thinks of the comparative newness of the subject, how extensive those facilities are: The Ministry of Health has set up 21 special orthopaedic centres for the physically disabled; half of these are permanent orthopaedic hospitals carrying on peacetime functions in addition to emergency work. Then there are about 60 long-stay fracture departments, and 200 short-stay ambulatory ones, and 12 neurosis centres under the E.M.S., and about 120 neurosis clinics. The committee has an important work to do, but few committees have started their task so well documented.

Consultation

To my story under this heading two weeks ago a reader adds the following: "My partner had occasion to send a child with a squint to the ophthalmic surgeon at the local infirmary. This correspondence took place: 'Dear R——. She squints.—Yours, A.' 'Dear A.——. She does!—Yours, R.'"

After July 30 the address of the Mid-Cheshire Division of the B.M.A. and Local Medical War Committee will be: Williams Deacon's, Bank Chambers, The Downs, Altrincham. Telephone Altrincham 3785.

GENERAL MEDICAL COUNCIL

SPECIAL SESSION

A special session of the General Medical Council to hear outstanding disciplinary cases was opened on July 17, Sir HERBERT LIGHTFOOT EASON presiding. Dr. W. W. Dalziel Thomson was introduced as representative of Queen's University, Belfast, for a term of five years.

Insurance Practitioner's Failure to Visit

The Council considered the case of Dr. Gerald Donagh Flatley, registered as of Stepney Drive, Scarborough, who was summoned on charges relating to his alleged failure to visit five insured persons on his N.H.I. list, thereby committing breaches of subclause (5) of clause 9 of the terms of service applicable to insurance practitioners contained in Part I of the First Schedule to the National Health Insurance (Medical Benefit) Regulations, 1936. Dr. Flatley appeared in answer to the charge ; he was not accompanied by counsel or solicitor.

Mr. Winterbotham, solicitor to the Council, said that this case was of a type unlike any which had previously come before the Council. Under the subclause cited a practitioner was required to visit and treat a patient whose condition required it at any place where the patient might be at the time within the district in which the practitioner had under the terms of service undertaken to visit patients. The complainants were the Ministry of Health.

The first of the five specific charges, which all concerned Dr. Flatley's practice in Salford, related to one R. Williams, who, on Feb. 20, 1943, had a severely swollen knee. Members of his family sent for Dr. Flatley, on whose list he was, but at no time between Feb. 20 and 24 did Dr. Flatley visit him, and as a result he was unable to obtain a certificate. Certain of Williams's relatives testified in the witness-box to making repeated calls at Dr. Flatley's surgery and to leaving messages with the caretaker.

The second case was that of William Taylor, an insured person on Dr. Flatley's list, whom Dr. Flatley failed to visit in illness, despite repeated calls, between June 22 and July 5, 1943. On one occasion, when seen by a relative, Dr. Flatley explained that he had not called because he had five Taylors on his list and did not know to which the call referred, but even after this he failed to visit.

In the third case a Mrs. Hughes, widow of John Hughes, testified that her husband, who was on Dr. Flatley's list, was taken ill with severe pain in the ear and giddiness on April 3, 1944. She sent for Dr. Flatley on the following morning, but he failed to attend, and in spite of repeated requests made no call until April 10, on which date Mr. Hughes went into hospital. He was discharged on May 6, but immediately fell ill again and returned to hospital, where he died on May 21 from septicaemia following a mastoid operation. Dr. Flatley made the excuse, when seen on one occasion, that he had been unable to find the street, but it was only ten minutes' walk from his surgery.

The fourth case concerned a Fred Ashton, who testified that he was taken ill on July 26, 1944, and had a temperature of 103°. His wife went to Dr. Flatley's surgery, and the doctor said that it was probably malaria, prescribed some quinine tablets, and promised to call and see him. But he did not call in response to that or subsequent requests, and eventually another doctor was called in, and said that there was fluid in the left lung. Ashton was admitted to hospital with lobar pneumonia and was kept there for eight weeks.

The fifth case concerned one William Beckett, with regard to whom it was alleged that Dr. Flatley had failed to treat him at any material time, except on one occasion he visited and prescribed poultices to prevent pneumonia.

Dr. Flatley was afforded the opportunity of asking questions of the various witnesses, but did not do so. The President said that if he did not challenge these witnesses he must be taken as accepting their evidence as true.

Dr. Flatley said that the only statement he wished to make was that he had suffered from malaria, contracted on active service, and also from oedema of the legs. In consequence he had not been able to work as he would have liked to do. Further, without any wish to blame his colleagues, matters had been made difficult in Salford by the recent erasure of the names of two Salford doctors from the *Medical Register* and the suicide of another, while one doctor had refused to attend any of his patients unless they would transfer to him. He had approximately 1,100 patients on his list. He lived 250 yards away from his surgery, which was in charge of a caretaker, who when he was not there would direct people to his private address. Asked whether he had other responsibilities, he said that he was an Admiralty surgeon and also did a fair amount of private work. He thought it possible that a former caretaker, whom he had to dismiss, had not transmitted messages in some of these cases. Asked whether he had a bad memory or a very large practice, he replied that he had a combination of both.

Does that mean that you have no explanation, or that you do not wish to give one ?—I have no explanation; I can only say that I do not recollect the occurrences.

Have you made any deputizing arrangements ?—I have a working arrangement with another doctor.

Were those arrangements in force at the date of these cases ?—They have been in force ever since I went there, at Christmas, 1942.

Has the Salford Insurance Committee made representations to the Minister of Health ?—Yes.

Has the inquiry been held ?—Yes, it has been held.

Have any findings been promulgated ?—No, I think not.

You seem very vague about it.—I am very vague about the whole thing.

Are you still on the Salford panel ?—Yes.

After deliberation *in camera* the Council found that the facts alleged against Dr. Flatley had been proved to its satisfaction. In respect of the facts so proved the Council judged him to have been guilty of infamous conduct in a professional respect and directed the Registrar to erase his name from the *Medical Register*.

False Statement in Cremation Certificates

The Council considered the case of Dr. Harry Anderson Mackay, registered as of Clifton Road, Aberdeen, who appeared on the charge that on July 28, 1944, at the Court of the Sheriffdom of Aberdeen, Kincardine, and Banff, he was convicted (after having pleaded guilty) of the following offence—namely, when required under the Cremation (Scotland) Regulations, 1935, to issue confirmatory medical certificates he knowingly and wilfully made false statements in a material particular, in contravention of the False Oaths (Scotland) Act, 1933, section 2, (nine charges), and was fined £50. Dr. Mackay attended, accompanied by Mr. R. S. Davies, counsel.

Mr. Winterbotham explained that under the regulations in question the doctor issuing a confirmatory certificate—certificate C—was required to state whether he had interviewed the practitioner who had attended the deceased and who had issued certificate B. Dr. Mackay had certified that he had so interviewed the other practitioner, but in nine cases it was alleged he had failed to do so.

Mr. Davies, on behalf of Dr. Mackay, said that he had punctiliously fulfilled all the other requirements—that is to say, he had examined the bodies of the deceased persons, had obtained full information as to the last illness and death, and in most, if not all, of the cases had questioned the relatives. He satisfied himself beyond reasonable doubt that the deceased person did not die a violent or unnatural death or a sudden death of which the cause was unknown. He had omitted, however, in these nine cases to follow what was otherwise his invariable practice of interviewing the medical practitioners who had signed the other certificate. This was due to oversight and pressure of work. He had tried to get in touch with the practitioners at the time, but being unable to do so had signed the certificate, intending to obtain the necessary interview later. Out of the many hundreds of certificates of the kind which he had signed, there were only these nine covering a period of two years in which the police were able to discover any irregularity. Since the proceedings started he had granted no more such certificates. Counsel recited the ascertained cause of death in each of the nine cases. There was no suggestion whatever in any of the cases of the smallest malpraxis or impropriety. Dr. Mackay had loosely allowed his own common sense to override the technical observance of the regulations. Counsel suggested that the real safeguard in these matters was the examination of the body, and that the interview between the two practitioners which was insisted on must often be perfunctory. He put in a testimonial signed by 68 doctors practising in and around Aberdeen speaking in high terms of Dr. Mackay's character.

The Council found the fact of the conviction proved, and the President said that the Council took a grave view of such misdoing, but in the circumstances of the case it did not see fit to direct erasure of Dr. Mackay's name.

Unlawful Use of Motor Fuel

The Council considered the case of Dr. Abraham Clein, registered as of Huyton Lane, Liverpool, who was summoned following a conviction at Prescot on Oct. 19, 1943, of the unlawful use of motor fuel, on which occasion he was fined £40 and costs, and on Oct. 3, 1944, of permitting the unlawful use of motor fuel, when he was fined £4 and costs.

Mr. Winterbotham, the Council's solicitor, said that the first conviction arose out of a journey which Dr. Clein made in his car from Liverpool to Rhyl. According to his statement, his wife, children, and maid travelled by train from Liverpool, and he, having to attend to his practice in Liverpool, drove down in his car. He explained to the police that his wife assisted him in his practice and was returning to Liverpool in the car. In reply to a letter from the Registrar after the first conviction, Dr. Clein wrote that the whole unfortunate incident arose out of the misinterpretation of a letter from the petroleum officer, adding that had he intended to commit a crime or hinder the war effort he would not have entered into a correspondence with that official. The second offence arose out of an incident when the police saw Mrs. Clein driving the car. When the doctor was asked if he had allowed his wife to use the car he replied that he had ; she was taking the children to a school concert. When it was pointed out that other transport was available, he replied that his wife was essential to him at surgery hours.

On Dr. Clein's behalf it was pleaded that if the petrol had been used more recently there would have been no offence at all, because, with the restoration of the basic petrol ration in the last few months, the whole matter had been modified.

A number of testimonials were put in. The Council did not see fit to direct the erasure of the name from the *Register*.

Correspondence

Unemployed Doctors in Britain

SIR,—Two cases have recently come to my notice of medical men with long war service in the British Army who will shortly be faced with unemployment. The first case is that of a British-born subject with an English wife, domiciled in England, who has served in the R.A.M.C. since 1940 in Libya, Crete, and Sicily. He has, however, a French degree which he took at a time when he did not intend to practise medicine but to engage in research work. The second case is that of a Polish doctor with three and a half years' service in the R.A.M.C., two and a half of them in West Africa. It has become impossible for him to return to his own country.

Both of these men have been given to understand that it will not be possible for them to practise in England until they have taken an English qualification and that they will not be excused the pre-clinical work. Neither can afford the time or money for the full pre-clinical and clinical courses required by the Conjoint Board. It seems likely that there will be other medical men similarly placed, that we shall have a particular duty towards them in view of their military service with the British Forces, and that with the prospective shortage of doctors there should be room for their services.

I write to inquire whether similar cases have come to the notice of others, and what machinery should be set in motion to ensure that their difficulties will receive fair consideration.—I am, etc.,

Oxford. JOHN A. RYLE.

Voting at Representative Meetings

SIR,—I was sorry to see in the letter from the Chairman of the Representative Body (*Supplement*, July 21, p. 11) some indication that he considered my letter of the previous week to be in the nature of a personal attack on the Chairman of Council and himself. This is not so. It is the system I am concerned with, not the personalities of those who run it. Much as I deplore the views held by Dr. Dain, I believe in the sincerity with which he holds them and much admire the ability with which he puts them through. Of Dr. Peter Macdonald's personal impartiality I have no doubt whatever.—I am, etc.,

Andover. J. A. BALCK-FOOTE.

SIR,—As one of the representatives of the Reading Division I write in whole-hearted support of Dr. Balck-Foote's timely letter. I had come to similar conclusions myself. With regard to the power of any future Minister to alter terms of service and remuneration, etc., I put this particular point myself to the Minister in a conversation that I had with him, and I was not satisfied with the answer I received. It seems to me that the medical profession is in the vanguard of the fight for reasonable individual freedom and liberty of the subject. If we fail and medicine becomes nationalized, I believe strongly not only that our medical liberties will go by the board, but that before long our patients' liberties, privacy, and freedom will go too. There is no reason why the medical profession should not be allowed to administer a nation-wide service as free from interference from the executive and party politics as the judiciary.

With regard to a national medical service being closely related to and dependent upon a scheme of social security, this would, I consider, be politically dishonest in view of the shortage of medical man-power, because to run such an interdependent scheme would require at least double, probably treble, the number of doctors that are in practice in normal times, and this increase of medical man-power cannot be achieved for at least twenty years without seriously lowering the standards of medical training, efficiency, and integrity, and if this was done, again the patients would suffer. It is my firm belief that the medical man must stand up for his patient not only in matters that affect his health and in the prevention of disease but in any matter that may affect that patient's privacy, honour, and peace of mind. If the medical men of this country keep this in the forefront of their minds and are prepared to break off negotiations if this or any other Government does not accede to these basic principles, then we can win the day for both the public and ourselves. —I am, etc.,

Caversham. S. F. LOGAN DAHNE.

SIR,—Permit me to thank Dr. Balck-Foote for his letter (*Supplement*, July 14, p. 7), which is a pleasure to read, not only for its matter but also for the clarity of its English.

The mock democracy in medico-political meetings (not alone in the big ones, by the way), which he so ably describes, may perhaps be inherent in the trend of events. So long as doctors were free to practise medicine this kind of difficulty did not arise. When Dr. and Mrs. Smith or Jones bought a practice, or he put up a plate, the success or failure of their venture depended solely upon their own efforts; any question of policy being a relatively simple affair to be discussed over the evening meal or in the privacy of the bed-chamber. But a medical "service" is a totally different proposition (and how the word "service" is overworked to-day with its suggestion, at once smug, cunning, and false, of labour for love !). A "service" must be administered, but efficient administrators are rare, especially in a profession whose members have chosen to work in the field of science and of art and craft.

In these circumstances the rank and file, conscious of their own shortcomings and realizing that the chairman is probably the most suitable man for the job, also that, if he were to resign no one would be eagerly forthcoming to fill the breach, are tempted to lie low and to leave the big decisions to the few. And so the principle is conceded, and the doctors are left to wrangle over points of detail, while the plans go forward behind the scenes for the next attack.

And the moral ? Well, for that I suppose we may turn to the old tag ending in the words "eternal vigilance." But if we value freedom then enough of us must be willing to work for it, to study, and if necessary to suffer. In conclusion, we may confidently hope that Dr. Balck-Foote will soon find new scope for those qualities which our profession badly needs at this fateful moment of our history.—I am, etc.,

Uckfield. W. R. E. HARRISON.

Voting for Members of Council

SIR,—The result of the election of members of Council of the B.M.A. for Group C (Isle of Man, Lancashire and Cheshire) and Group L (Southern Surrey) shows that in Group C 850 voting papers were returned, number issued, 2,754 ; and in Group L 561 voting papers were returned, number issued, 1,528 ; which means that only one-third of the doctors voted. It is a very poor state of affairs that a body of educated men like the profession should not use its vote, and take so little interest in the election of councillors, who do so much for the welfare of the profession. Granted that all the candidates are men of integrity and will do their best for the profession ; still, a large poll and an interest in the election would encourage them in their work. If medical men do not take an interest in the election of the governing bodies, and attend the B.M.A. meetings, they will have no grounds to grumble at the terms of the future health services.—I am, etc.,

Dunscar, Bolton. HAROLD ROBINSON.

Medical Immobilization

SIR,—As hostilities are well over in Europe great numbers of doctors and nurses must be idle with the relatively fit members of the armed Forces, while the cries of the civilian sick are heartrending to the decimated ranks of the profession at home, who are on the verge of exhaustion in vainly attempting adequate service to increasing illness.

Even if it is injudicious suddenly to demobilize the large majority of our professional elements, surely, in the names of intelligence and humanity, they need not remain immobile when their skill is so sorely needed by civilian comrades. Let the great numbers, having their vacant pre-war practices and posts, be granted temporary leave to return to them, pending the disbanding of the armed Forces, which is inevitably a slow process. The sick are constantly refused admission to hospital, yet wards might be reopened, given the missing personnel to work them.

"Nero fiddles while Rome burns" and England apparently leaves doctors and nurses tied up in red tape when thousands of its citizens are suffering or dying for lack of succour!—I am, etc.,

Bristol. A. WILFRID ADAMS.

Medical Demobilization and Recruitment

SIR,—I have followed with growing concern the correspondence appearing in the medical and lay press regarding medical demobilization, and find myself in considerable sympathy with the views expressed by Service doctors. It seems to me that, despite the many difficulties to be overcome, it should be possible to arrange a wide exchange of Service and E.M.S. medical men, with the object primarily of releasing those in uniform, and, taking a longer view, in order to avoid the inevitable feeling of injustice which will remain in the years to come. Many of us in civilian work have been ready to serve since the outbreak of war, but despite repeated efforts to do so have been instructed to remain at our posts. I feel confident that there are many like myself who are willing, for the reasons I have stated, to exchange their position with men of similar training and experience in the Service for duty at home or over-seas until general demobilization.—I am, etc.,

R. G. PULVERTAFT,
Grimsby. Orthopaedic Specialist.

Release of Doctors

SIR,—It has been stated that, because of the shortage of medical officers, particularly specialists, in the R.A.M.C. available for service in the Far East, the following medical officers are now eligible for posting to the Mediterranean, India, and S.E.A.C.: those in age-and-service group 16 or over who (*a*) have less than 2½ years' operational oversea service; (*b*) have any length of non-operational oversea service, exclusive of those who have served for 1 year 9 months or more in M.E.F., B.N.A.F., or C.M.F. These latter are eligible for exchange-posting with medical officers in the U.K. or B.L.A. This means, in effect, that a medical officer who has served since the beginning of the war, who is now aged 36 and who may have spent 3 years in West Africa, may have to look forward to a further 2 years' oversea service. It is a generally held opinion among many medical officers at present in B.L.A. that no M.O. would raise any objection to having to do this if he felt that there were no other doctors available, and that there was going to be any real necessity for the services of so many medical officers in the Far East, but it is felt that this is not the case.

It was said about 1½ to 2 years ago that twice as many medical officers would be required in the Far East as were going to be employed in Europe. We accepted that statement as an authoritative pronouncement, but have since come to the conclusion that the R.A.M.C., at any rate, is too liberally supplied with doctors and that the authorities have over-insured in medical officers. There is ample evidence of this. For instance, there have been many letters, published in the medical press and emanating from Service M.O.s, complaining of the paucity of medical work that they are called upon to do. There would be no such letters or complaints from doctors in a merely adequately staffed, as opposed to over-staffed, organization. Again, it is well known that many medical officers are employed on purely administrative duties. This they would not be doing if they were required for medical duties pure and simple. Lastly, it is known that not a few M.O.s spent quite a considerable proportion of their service in the B.L.A. in "Reinforcement Holding Units,"—a self-explanatory term—and did no medical work there at all.

The only conclusion that one can come to, after considering the above facts, is that perhaps the same number of M.O.s as have been in the B.L.A. would be found adequate for the Far East. Even active service does not provide the average M.O. with sufficient work to keep him busy, as many of us who have been through the campaign in North-West Europe can testify.

The Central Medical War Committee states in a letter issued to all doctors serving temporarily with the armed Forces: "In the E.M.S. in England and Wales there are at present approximately 110 B1 officers, liable and fit for military service, who have held their posts for two years or longer; and about half as many again who have held their posts for one year but less than two years." Presumably these officers are being conscripted now, but how many are considered unfit for active service as opposed to unfit for work as a doctor? We believe that there are very many E.M.S. officers and young general practitioners in this category, and we fail to see why they cannot now be conscripted into the Army to do what work there is for a doctor in the Army of Occupation. We can promise them that their health will not suffer as a result of the amount of work which they will be called upon to do. We also believe that many of them could, in spite of their disabilities, be employed in units in the rear of Divisional troops. If they were to be conscripted now, many of us who volunteered and joined up in the early months of the war, having been qualified for one year, could be released to try to pick up the threads of medicine again. There are not a few of us in this category, of course, who have been warned for service in the Far East, having done 6 of our 7 years as qualified men in the armed Forces—i.e., we are members of age-and-service group 16 or over. We consider that we have a very justifiable complaint in objecting to going to the Far East at all, let alone for possibly 2 years, while there are still doctors of the same age as we are, and some younger, who have not served at all.

We believe that the normal demobilization scheme for the armed Forces could be applied equally to the medical services, and that if the Central Medical War Committee would conscript those doctors whom we have indicated the efficiency of the Forces would not be adversely affected in the slightest degree. Indeed, we feel that it is almost a duty on the doctors who remain at home to see that we get the release that we feel we have now earned.—I am, etc.,

B.L.A. "1939, BURMA BOUND."

Release from the Navy

SIR,—No doubt this is one of many hundreds of letters with which you will be plagued by men of other Forces apart from my own Service, but I hope it may receive some attention.

Is it known to the medical profession that Naval M.O.s are not to be included in the demobilization scheme and that no provision for them has yet been put forward? Is it fair to the Naval section of the medical profession that their colleagues in the other two Forces should receive such a disproportionate advantage in being given their liberty so much earlier? Is it realized by the Central Medical War Committee, who evidently considers itself responsible for the welfare of serving M.O.s, that Naval doctors will inevitably suffer in the question of allocation of practices, appointments, etc., being the last to be demobilized?

We medical officers in the Navy meet M.O.s of the Army and R.A.F., far junior in age and length of service, who have already received notice of their return to civilian life. The implications of this selection demobilization must be so obvious to all members of our own profession that repetition of them is unnecessary, but if the "silent Service" is allowed to continue their famous policy of not giving any information away the B.M.A., which purports to represent the profession, should endeavour to make them talk. Even a promise of a definite date for our demobilization would be something to which we could look forward.

A letter of this nature is of little use unless its criticism contains a constructive element. If the demobilization of Naval M.O.s is delayed owing to that typically Service phrase, "the exigencies of the Service," then I suggest that the majority of conscripted doctors should be sent into the Navy to keep Naval demobilization on a level with the other Services, since it is freely admitted that the upkeep of medical man-power in the other Services is not considered so essential as in the Navy. With regard to a certain statement made in the Central Medical War Committee's circular to serving M.O.s "that in the E.M.S. there are approximately 110 B1 officers liable and fit for military service who have held their posts for two years or longer," let these men be conscripted at once and the majoriy into the Navy.

I for one have no doubt whatever that these 110 men have worked extremely hard for their two-year period in B1 jobs, but let them come and have their share of working for 5 years and more under a system whose central organizing ability and general inefficiency have to be experienced to be believed.—I am, etc.,

S.E.A.C. "NAVAL MEDICAL OFFICER."

*** The Secretary of the Central Medical War Committee states that the committee has not yet been able to obtain exact information regarding the future time-table of release of medical officers from the three Services. *It is pressing for this information.* It will do everything possible to find recruits to replace those officers for whom substitutes are required, but it is not practicable to send all the B1 recruits to the Navy. Many of these recruits are of graded specialist status, and they must be allocated in accordance with the needs of the Services for specialist officers.

Some Pointed Questions

SIR,—Does anyone *really* know what percentage of the medical profession is in favour of any form of Government-controlled health service for the nation? So far as I am aware, this question has never been asked of doctors in plain English in any questionary or material put out for discussion. If the profession really favours a State service then the minority must fall into line, but who can claim to know where opinion lies?

I submit that there is still time to ask: (1) (*a*) Are you in favour of a Government-controlled National Health Service? (*b*) Are you indifferent as to the outcome of present events? (*c*) Are you emphatically opposed to the Government proposals? (2) If you are opposed to any such procedure as that outlined in the White Paper, are you solemnly prepared to decline to operate such a service, provided that 70% of the profession gives a similar undertaking?

It is, of course, sheer nonsense to say that any Government proposal is inevitable, if the majority of the profession declares against it and possesses the "guts of a louse"! Could one imagine the Transport Workers' Union officials asking the members to discuss endless details of a scheme which would alter their whole future, without first having asked if the scheme is acceptable at all? How long would such officials last? And can anyone imagine the transport workers meekly saying, "Well, Bill, Parliament says we've got to do it, so of course we must"? I suggest that this is pure *Alice in Wonderland* stuff.

In plain English, it is just a question of guts and leadership. If the B.M.A. is to be accepted as our accredited representative, it must at least convince us that the profession desires the change. If not, well there is still just time for the installation of a "stroke" who will pull the crew together.—I am, etc.,

London, S.E.5. GUY BOUSFIELD.

Return to Practice of Refugee Doctors

SIR,—In view of disquieting rumours about the mortality rate among British Service medical personnel and British medical students working in former German concentration camps, such as Buchenwald, etc., would it be possible to publish the true figures of such casualties?

Further, I have heard it stated that very many Army and Air Force medical officers, who, on their group numbers, have high priority for demobilization, are likely to be retained for very considerable periods after their demobilization dates because of the pressure of civilian work in the liberated or enemy countries in Europe. If there is any truth in this would it not seem desirable that Central European and other refugee doctors, who now hold posts in this country, should be set free to return to Europe in order to relieve our own men and allow them to return home to their practices and hospital appointments? It would seem especially desirable since the refugee practitioners would be *au fait* with local conditions in their own countries and should be under no handicap because of language difficulties.—I am, etc.,

VICTOR RUSSELL,
Chairman,
S. Staffordshire Division,
Wolverhampton. B.M.A.

Purchase Price of Cars

SIR,—Many doctors now leaving the Services and returning to general practice are faced with the problem of providing themselves with a new car. At present their choice is understandably limited and the manufacturers' prices are considerably higher than pre-war. But in addition to this they have to pay purchase tax. It has been understood that purchase tax is designed to discourage spending on luxuries, but surely the doctor's car can in no wise be regarded as such.

This financial imposition comes at a time when doctors are leaving the Services in a not particularly prosperous financial state, especially having regard to the ungenerous gratuity granted them. Would it not be possible for Parliamentary representation to be made for the exemption from purchase tax of doctors who can show that a car is essential to their work?—I am, etc.,

"GROUP CAPTAIN."

*** The Secretary of the B.M.A. states: Strong representations have been made to the Treasury for removal of the purchase tax on cars bought by doctors.

Practitioners' Right of Appeal

SIR,—In the section relating to "Practitioners' Right of Appeal" in the proceedings of Council (*Supplement*, June 23) the report as published does indicate that the meaning of the resolution on this subject that was moved at the S.R.M. in May is incompletely understood. According to the report, Dr. Forbes is represented as saying that in the main there are two types of case that come to be considered—namely, technical breaches of the terms of service and imputed negligence—and that although he considered that appeal should lie from the latter, it should not do so from the former, which group contained many cases that were of a domestic character and which ought to be settled without recourse to the courts.

It does not seem to be recognized generally that there is no contract in existence between the doctor and the insured patient. The contract is between the insurance committee and the doctor. So that if a patient imputes negligence it is the committee which moves against the doctor, and if the case goes the full course the Minister, who, in the last resort, gives the final decision. But, in addition, the patient may well move against the doctor by exercising his common law right to do so through the courts. If he does and obtains a verdict, it is theoretically possible for the doctor on appeal to get such verdict reversed, and the paradoxical situation might then arise whereby the doctor is adjudged guilty by the Minister of an offence that he has been cleared of by the courts!

In regard to cases of a domestic character, most if not all should no doubt be dealt with apart from the courts, but nevertheless there can be decisions that leave a very real and rankling sense of injustice in the doctor, and it is the total negation of the "Rule of Law" that he should be denied appeal to it from a ministerial decision. The usual statement that injustice is not likely to happen does not obviate the possibility of its happening, and is one of the greatest jurisprudential fallacies recognized.

There can at least be no harm in obtaining for the practitioner his full rights of a citizen, and it would not be out of place for the B.M.A., as representing one of the liberal professions, to take a place in the van for an attack upon that most pernicious system of our times—legislation by delegation. The advice of the late Lord Hewart, probably the greatest upholder of the common law fights of the subject for over two centuries, is not lightly to be discarded: "It is a strong thing to give a Minister powers over the subject which are not reviewable by the courts of law."—I am, etc.,

Lincoln. S. WRAY.

Health Centres and the Scientific Method

SIR,—"Grouped [and separate] private practices are not concerned in any way with morbidity data" (Dr. Garvie, May 26, p. 97). Only too true. He might have added "and never will be" except in the rare instance of the statistical enthusiast like Dr. Garvie himself. One would therefore have expected him to welcome a national service that promises to make good this regrettable deficiency; but such is the power of human perversity that the very completeness of the service arouses his hostility. In pursuing his free researches he is constrained by prohibitive costs to devise statistical schemes that are presumably more restricted than he would have wished, and thereby triumphantly demonstrates his cherished freedom. Metaphysics has indeed much to answer for.

Digging in his own statistical patch afforded Dr. Garvie legitimate and well-deserved satisfaction, but essentially, wasn't he making the best of a bad job? He spurns an institution, presumably fully equipped, in which the co-operation of several colleagues, untroubled by fears of "advertising", potential business rivals, would enable him to indulge his particular bent on just such a scale as he would desire, to far greater purpose than he could hope for with his own unaided means, because he fears that health centres must inevitably be incompatible with freedom for research. But is it really inevitable? I note that a high proportion of original papers that have achieved recent publication in the *Journal* derive from State or quasi-State "slave" institutions. The Goodenough report may lay emphasis on the larger research. But this does not exclude the lesser; and in any case, in the course of implementation it is presumably as capable of emendation in this respect as it is in others. "Both schemes should be given a chance" (Dr. Garvie, p. 98). Why, therefore, ban health centres, which one infers from Dr. Garvie can be of service in one—and, in my humble submission, in both? It would be more consistent in Dr. Garvie to help in ensuring the desired degree of autonomy than to cut off his nose to spite his face by condemning outright the innocent, unborn, and still plastic centre.

And why this contempt for the long-suffering "cog"—an indispensable device that has rendered such immeasurable service to our civilization? And why the implied assumption that acting the passive "cog" in one regard excludes active responsibility in another? While the number of statistician-practitioners, scientifically trained and capable of making useful independent contributions, is likely to remain exceedingly small, I feel that very many actively responsible practitioners would be only too ready to assist as inexpert field workers. Such work would naturally hold little attraction for Dr. Garvie, but a recognition of its useful (even necessary) place in a total design would be more in keeping than the disdain of the expert. Cogs are not designed for their own sakes; and it is just possible that a human "cog" may experience gratification, and even interest, in his contribution to a common achievement.

I venture to suggest that much contemporary controversy is due to a confusion of terminology. The necessary periodic revision of our sociological vocabulary is sadly overdue. When "freedom for research" encounters "prohibitive cost" of desirable equipment, what is "free" and what is "bond"? The "tyrannous" machine has been known to effect a welcome release from "unfettered" drudgery. Dr. Garvie (like others) must surely realize that his choice lies not between "freedom" and "control" but between two controls—the one, blind, indiscriminate, and purposeless; the other, deliberate, planned, and purposive. Confusion is not freedom.—I am, etc.,

London, N.W.10. L. PHILLIPS.

Future of Radiotherapy

SIR,—At this time when the medical services of the country are under review and legislation is being prepared to govern their future, it is essential to make certain that proper guidance is given to those in authority on professional and technical matters. There appear to be three steps in the preparation of such guiding measures: first, the accurate assessment of the present position, which should be capable of definite tabulation; secondly, the estimation of future requirements and the shortcomings of the existing provisions, which can be approximately determined; and, thirdly, the formulation of concrete schemes on which to base future services. This last part must necessarily be the expression of personal opinions, however expert, and must be capable of amendment as varying views are forthcoming, but obviously the first step must be attained with unquestionable accuracy before the last two become possible. Attention is therefore directed to two or three semi-official publications which are now available and which must necessarily influence the opinions and possibly actions of those in authority.

The report of the survey carried out for the Ministry of Health on the hospital services for London and the Home Counties has just been published, and it will presumably be taken as the official basis for future organization. It contains a number of errors concerning radiotherapeutics which may or may not be vital, but which are nevertheless most unfortunate and suggest that other errors may also exist in other specialized sections. In Appendix 1 figures are given for the numbers of "radiologists" and "radiotherapists" on the staffs of various hospitals, which indicate that considerable confusion has occurred and give an entirely wrong picture of the type of specialist staff in those hospitals. For example, on page 83 St. Bartholomew's is credited with five visiting radiologists but no radiotherapists, in spite of the fact that one of the most well-known members of the specialty—Dr. Finzi—is on the staff. Further, on page 75 it is categorically stated that only the Middlesex, Lambeth, and Royal Cancer Hospitals carried out any appreciable amount of radiotherapy in London, entirely ignoring the very large and important radiotherapy departments at Bart's, Westminster, and University College Hospitals.

In the whole of London the statistics only show radiotherapists at Guy's, Westminster, and U.C.H. among the teaching hospitals, and at not one of the general or municipal hospitals, which produces the anomaly that at none of the three hospitals the report recognizes as carrying out serious radiotherapy is there any mention of the existence of a radiotherapist. In my own county, on the other hand, the two appointments at the Royal Sussex County Hospital are listed as "radiotherapists," when they are, in fact, radiologists doing both diagnostic and therapeutic duties, and the appointment at the Royal Alexandra Children's Hospital is also listed as "radiotherapist," while it is purely diagnostic, as should be obvious in such a special hospital.

It is easy to see how these errors have arisen through the completion of questionaries by lay hospital staffs and later perusal by surveyors not well versed in the practice of the specialties. It is also too easy to predict future legislation taking these errors as gospel, leading to disastrous changes in the special fields concerned.

The recommendations in Part 2 of the Survey show a strong resemblance to those already published by the Faculty of Radiologists and by the National Radium Commission, which is only natural as the surveyors have presumably largely accepted the views of these specialized organizations as they themselves are admittedly not expert in such matters. This inclusion of the views of the two unofficial bodies in this official report does, however, give them added weight, and it is necessary for a word of protest before it is too late, since these views are by no means universally held by radiotherapists, as was forcibly demonstrated at the meeting held recently at the instigation of the National Radium Commission to consider the "A B C Plan" for future cancer treatment. The published views of these two bodies, which are composed mainly of members of staffs of large hospitals and centres, not unnaturally are that all radiotherapy should be carried out in such large centres. However ideal these schemes may be, those of us who practise radiotherapy in the Provinces know only too well the many difficulties connected with them, and we are not ashamed of the results of our treatment carried out under what our senior colleagues would regard as unsatisfactory conditions.

This is not the place to enter into any detailed discussion on the future organization of radiotherapy, but the facts noted above are of general interest, and are written in the hope that they will encourage others to take more interest in the details of the preparations now being made for the future medical services of the country. It is not perhaps too much to hope that the errors pointed out here may be amended and that undue weight will not be given to individual expressions of opinion.—I am, etc.,

Hove. E. MILLINGTON.

Civilian Practice

SIR,—Nonsense is still being written about overworked doctors. The amount of work a doctor can do, apart from consultations and filling up forms, depends on the help he can find for his patient. Without nursing homes, nurses, maids, "non-queueing" neighbours he cannot look after anyone who must stay in bed. Thus the work of the G.P. is restricted and the hospitals overfilled. Until more attention is given to the home demobilized doctors will find their work confined to consultations, certificates, and single visits.—I am, etc.,

London, S.E.3. GUY NEELY.

Correction

Lieut.-Col. J. A. Balck-Foote points out that the last two words of the second sentence of his letter (July 14, p. 7) should be "free voting," not "free speech."

H.M. Forces Appointments

ROYAL NAVY

Surg. Cmdrs. A. H. Harkins, E. C. Davis, J. G. Holmes, O.B.E., and J. V. Williams to be Surg. Capts.

ROYAL NAVAL VOLUNTEER RESERVE

Surg. Lieut.-Cmdrs. D. M. Dean, V.D., J. C. Moor, V.D., P. B. Moroney, V.D., R. S. Rudland, V. S. Hughes-Davies, V.D., and F. E. D. Hallon to be Surg. Cmdrs.

ROYAL ARMY MEDICAL CORPS

Short Service Commissions.—War Subs. Capts. F. Zammit and F. T. Pullicino, from Emergency Commissions, have been granted Short Service Commissions in the rank of Lieut., and to be Capts.

TERRITORIAL ARMY

ROYAL ARMY MEDICAL CORPS

War Subs. Majors J. C. Anderson and H. Hall-Tomkin to be Majors.

War Subs. Capt. E. G. Murphy has relinquished his commission on account of disability, and has been granted the honorary rank of Capt.

Lieuts. (War Subs. Capts.) H. F. Whalley and C. R. Clayburn to be Capts.

Senior Training Corps.—Major R. B. Green, supernumerary for service with Durham University Senior Training Corps (Medical Unit) has resigned his commission.

TERRITORIAL ARMY RESERVE OF OFFICERS: ROYAL ARMY MEDICAL CORPS

Capt. G. Chesney has relinquished his commission on account of disability, and has been granted the honorary rank of Major.

LAND FORCES: EMERGENCY COMMISSIONS

ROYAL ARMY MEDICAL CORPS

To be Lieuts.: T. B. Anderson, P. C. Barry, D. V. Bates, R. G. Chapman, D. M. Clement, G. N. Cooke, C. F. A. Cummins, R. C. Curran, A. F. Goode, I. G. Gray, W. H. Greenwood, H. T. Halper, P. J. Hare, E. J. Harries, A. D. Harris, F. G. J. Hayhoe, E. P. W. Helps, W. G. Henderson, M. I. A. Hunter, D. MacG. Jackson, B. D. Jacobson, N. H. James, W. C. Johnson, W. G. Keane, M. D. Keates, E. J. C. Kendall, W. H. Lillywhite, M. G. Lucas, P. McCulloch, V. F. Masters, D. M. Montgomery, H. G. Munro, N. I. Nash, R. W. Nash, H. Park, E. J. Parr, P. B. Philip-Smith, I. F. Pirie, I. Rees-Mathews, A. Q. Ritchie, D. C. Roberts, R. D. W. Schofield, H. L. Shimmin, J. D. Simpson, G. B. Smith, J. A. Smith, J. S. Smith, W. B. A. Smyth, J. D. Wilson, and E. A. Wright.

WOMEN'S FORCES

EMPLOYED WITH THE R.A.M.C.

The following M.O.s have been granted commissions in the rank of Lieut.: Ruth M. Haslam, Edith S. M. Merry, Rona Panting, and Agnes A. Brash.

ROYAL AIR FORCE

ROYAL AIR FORCE VOLUNTEER RESERVE

Squad. Ldr. (Temp.) C. F. Hamilton-Turner has been granted the rank of War Subs. Squad. Ldr.

WOMEN'S FORCES

EMPLOYED WITH THE MEDICAL BRANCH OF THE R.A.F.

Flying Officer M. I. Allen to be War Subs. Fl. Lieut.

INDIAN MEDICAL SERVICE

EMERGENCY COMMISSION

Major W. A. B. Reynard has relinquished his commission on account of ill-health, and has been granted the honorary rank of Major.

BRITISH MEDICAL ASSOCIATION

Election of Member of Council by South Wales and Monmouthshire Branch

The following is the result of the election of a Member of Council by the South Wales and Monmouthshire Branch:

W. V. Howells (Swansea) ..	163	*Elected*
G. W. Parry (Abergavenny)	86	
O. Williams (Llanelly) ..	63	
No. of voting papers issued ..	839	
No. returned	312	
Spoiled papers	2	

CHARLES HILL,
Secretary.

WEEKLY POSTGRADUATE DIARY

EDINBURGH POSTGRADUATE LECTURES.—At Edinburgh Royal Infirmary, *Thurs.*, 4.30 p.m., Dr. J. Norman Davidson: Nucleo-proteins in Growth and Development.

BIRTHS, MARRIAGES, & DEATHS

The charge for an insertion under this head is 10s. 6d. for 18 words or less. Extra words 3s. 6d. for each six or less. Payment should be forwarded with the notice, authenticated by the name and permanent address of the sender, and should reach the Advertisement Manager not later than first post Monday morning.

BIRTHS

CHIPPINDALE.—On July 4, 1945, at Combined Military Hospital, Dehra Dun, India, to Ruth (*née* Stevenson), M.B., B.Ch., and Keith Chippindale, the Sikh Regiment, a son, Peter Douglas.

HOUSTON.—On July 10, 1945, at Richmond, Yorks, to the wife of Major J. M. Houston, R.A.M.C., a son, James.

JOHNSTON ABRAHAM.—On July 9, 1945, at the Middlesex Hospital, to Athalie (*née* Rowan), wife of Fl. Lieut. A. Johnston Abraham, a daughter—Deirdre Elizabeth.

JONES.—At Okehampton, Devon, to Marjorie and Gwynda Jones, the gift of a fifth child, Sally Mair.

McLETCHIE.—On July 14, 1945, at Glasgow, to Ann, wife of Major Norman McLetchie, R.A.M.C., India Command, a son.

METCALF.—On June 27, 1945, at University College Hospital, to Norah Metcalf, M.B., B.S. (*née* Lambe), wife of Lieut. Kenneth Metcalf, R.A.M.C. (S.E.A.C.), a son.

DEATH

CALEY.—On July 9, 1945, suddenly, Eric Stransom Caley, M.R.C.S., L.R.C.P. (St. Thomas's Hospital), aged 43, of Trees, Hoopern Avenue, Exeter, Devon, late Captain, R.A.M.C., dearly beloved husband of Jean. Cremated at Plymouth.

SUPPLEMENT TO THE
BRITISH MEDICAL JOURNAL
LONDON SATURDAY AUGUST 4 1945

British Medical Association

ANNUAL REPRESENTATIVE MEETING, LONDON, 1945

The Annual Representative Meeting opened at the B.M.A. House, London, on Tuesday, July 24, and was continued on the two following days. It was presided over by Dr. PETER MACDONALD, with Dr. J. B. MILLER in the deputy chair, and they were supported by Mr. H. S. Souttar (President), Dr. H. Guy Dain (Chairman of Council), Dr. J. W. Bone (Treasurer), and the officials of the Association.

FIRST DAY

Tuesday, July 24

The meeting opened at 2 p.m.

Standing Orders

On a motion by Dr. D. H. S. BOYD (Reading) it was agreed that the standing orders should be amended so that motions by Divisions and Branches which called for reports on matters referred to Council should be placed on the agenda before approval was given to reports of Council.

Dr. A. C. DE B. HELME (Guildford) further moved that either the action taken on all motions and amendments referred to Council should be published with the Council's report or representatives should be informed of such action. He said the idea was that representatives should know before the meeting what had been done by the Council concerning the matters referred to it.

The CHAIRMAN OF COUNCIL (Dr. Dain) said that there was considerable misapprehension as to what the Council did with motions passed by the Representative Body. All such motions were considered carefully and the results of such consideration were to be found in the Annual Report. During the last twelve months a Representative Meeting had been called to consider the action of the Negotiating Committee, of which the Association was only a part, and motions had been passed to the Negotiating Committee for consideration, and if necessary for action, and no report had been made to the representatives. The reason for this absence of a report was, in the majority of cases, that this stage of the matter had not yet been reached by the Negotiating Committee: when it was reached a report would be made. Since the Special Representative Meeting there had been no opportunity to carry the negotiations any further, and so there were no further reports. It was not that the motions had been ignored.

Dr. HELME said that he was not suggesting for a moment that the Council neglected its business, but representatives did want to know what action had been taken on their motions, and, equally, if no action had been taken.

The Guildford amendment was carried.

Dr. C. M. SCOTT (Barnet) moved that a representative having a motion or amendment on the agenda should have the right to speak to, and demand a vote on, his motion, except when motions to pass to the next business or that the question be now put had been accepted by the Chairman and agreed to by a two-thirds majority. He was anxious that the position should not again arise whereby whole pages of motions were wiped out on a statement from the Chair that they had been already covered.

The CHAIRMAN pointed out that the result of this would be that the same subject-matter on similar motions would come up over and over again, and the time of the meeting would be occupied most unreasonably. Once the general principle had been determined it was surely in order to rule as covered such motions and amendments as were of the same tenor although of slightly different wording.

The CHAIRMAN OF COUNCIL said that it was the custom of the Representative Body to set out all motions on the agenda but to ask members in charge of specific motions to speak to the motion selected for putting to the meeting. He thought it a better procedure than the one followed by some other large bodies in which a committee decided what motions should be submitted, with the result that perhaps three-fourths of them never reached the agenda paper at all.

The amendment was lost.

PRELIMINARY BUSINESS

The CHAIRMAN OF COUNCIL (Dr. Guy Dain) moved the reception of the Annual Report of Council under "Preliminary" and the Supplementary Report under various headings. The work in connexion with the National Health Service, he said, had largely disturbed the ordinary procedure, and no doubt further special meetings would be necessary in the future to consider the progress of the negotiations, but he would like to call attention to the amount of other business which had been carried on. Within the last week the membership had passed the 50,000 mark. (Applause.) An effort was being made to establish relations with the medical associations of countries on the Continent, and it was hoped to set up an international body analogous to the International Labour Office, but to deal with medical questions, when conditions became more stable. A number of experts in different fields of health had come together and produced a very useful book, *A Charter for Health*, which would be ready for publication, it was hoped, in September. So much emphasis had been placed recently on organization and administration that people might lose sight of the fact that health did not depend primarily upon medicine or medical organization, but that good wages, good surroundings, fresh air, good food, and recreation were all essential to health before the doctor ever came in.

The General Practice Committee had done much to improve rates and conditions for doctors doing all kinds of general practice work for Government Departments. The General Practice Committee and the Insurance Acts Committee had produced evidence to put before the Spens Committee, which was dealing with the range of income of general practitioners. The Public Health Committee had asked for a revision of the Askwith scale, which regulated the salaries of medical officers of health. The Ophthalmic Group had produced a report on the Eye Service which was an example of what could be done in that way. The Journal Committee was dealing with the starting of new scientific journals, covering various fields of medicine.

The Council was taking up the question of the efficiency of medical auxiliaries. It was to be hoped that the Government would recognize that such a body as the Board of Registration of Medical Auxiliaries was essential to secure the competence of the various auxiliary services.

Election of President

It was agreed with acclamation that Mr. H. S. Souttar be elected President of the Association.

Representation of Services on Council

Major-General R. W. D. Leslie and Air Marshal Sir Victor Richardson were elected to the Council to represent respectively the R.A.M.C. and the medical branch of the R.A.F.

The General Practitioner and Medical Education

Dr. W. D. STEEL (Worcester) moved as a rider to the preliminary part of the Report:

> That the Medical Education Committee be asked to investigate the part which general practitioners can take in the medical education of the prospective general practitioner.

General practice, he said, was brushed aside in the Goodenough report with only two or three references, but demanded better treatment. At present it was not necessary for a specialist to have taken part, even for a short time, in general practice, although a little experience of general practice would make him a better specialist. No part of the syllabus of instruction dealt with the work of the general practitioner, but it would be of tremendous advantage if medical students could have some instruction from a general practitioner of experience. There should be an opportunity for such general practitioners to take part in medical education.

The CHAIRMAN OF COUNCIL asked that the motion be referred to Council, who would then put it before the appropriate committee. Dr. Steel assented to this course, which was agreed.

"A Charter of Health"

Dr. VAUGHAN JONES (Leeds) moved:

> That the Council be requested to have prepared and published a concise pamphlet on health which would be available to the general public at a small charge.

The *Charter of Health*, he said, was to be published at 5s., which would limit its appeal.

The CHAIRMAN OF COUNCIL said the Charter of Health Committee started out to do exactly what was suggested, but found that if the book was shortened further it became simply a series of platitudes. The Council, however, would look into the matter again if the Representative Body so desired.

Dr. R. G. GORDON (Bath) agreed that a shortened form of the book would be almost meaningless, but added that it had been possible to come to a satisfactory agreement with the publishers on royalties, by which the Association, which would not want to make a profit on the book, would take free copies instead, and would distribute them widely as propaganda. That would be better than trying to emasculate the document.

Dr. VAUGHAN JONES, while paying a tribute to the excellence of the *Charter*, maintained that it was written for a limited section of the public. An entirely different document was wanted, and, if the present committee were unwilling to do the work, another committee could be set up for the purpose.

The motion was carried by 76 votes to 69.

International Relations

Dr. G. DE SWIET (Paddington) moved:

> That the Council be asked to approach the appropriate Government Departments and members of the newly elected House of Commons with a request for an early recognition of the medical profession as being entitled to diplomatic representation (like other national interests) through health attachés or counsellors at British embassies and legations in foreign countries, which is now considerably overdue.

He had, he said, advocated the setting up of a health department in the Diplomatic Service for many years, in spite of the existence of the Health Section of the League of Nations. With the disappearance of that body, the need was more apparent and pressing than ever. The members of the International Relations Committee had approved the idea in principle. Diplomatic recognition would help the medical profession to recapture the status which it possessed in bygone days, when every court had a court physician, but air attachés and press attachés were unheard of. If more doctors were admitted to the diplomatic services of the world, the results of diplomacy would be better than they were to-day.

The CHAIRMAN OF COUNCIL expressed the hope that the motion would be referred to Council so that the position could be explored. He was completely ignorant of the amount of detail which the motion would entail, but would undertake to explore the ground. Council should not be tied to taking action if it found action undesirable.

Dr. de Swiet agreed to the course suggested, and the motion was referred to Council accordingly.

Board of Registration of Medical Auxiliaries

Dr. F. A. ROPER (Exeter) moved that the Government be pressed to establish proper bodies for the regulation of standards of entry to and registration of members of medical auxiliaries' organizations. The motion was not, he explained, intended as criticism of what had so far been done with the backing of the Association; the object was to establish standards approved by the profession for those who should be recognized as possessing sufficient qualifications in their particular branches. The Board of Registration was doing excellent work of a pioneer kind, but, now that the expansion of the medical services as a whole was contemplated, the Council should go much further than merely expressing a view and should press the Government to consider the desirability of enacting statutory standards. The work of the Board of Registration would provide an effective foundation for the subsequent structure.

Whether one board would be sufficient for all the auxiliary medical services was debatable. The physiotherapists had indicated that they thought not, and had seceded to secure a position of independence, and were now under no control, voluntary or statutory, though their chairman had stated that State registration of physiotherapists was bound to come before long. The time had come to approach the Government with, if possible, the full collaboration of all the bodies involved, and indicate the reasons why Government action should not be further delayed. A Government commission of inquiry seemed justified.

Mr. ZACHARY COPE (Council) said it was unwise to press the Government to form new bodies when there was already a body in existence—the Board of Registration, which was doing the work well. It was not true that all the physiotherapists had withdrawn; out of the 8,000 who were on the register 6,000 still remained and were not willing to follow the lead of their council. Medical men had a majority of one on the Council of the Board, and, while some medical auxiliaries resented that fact, it was most important to have such a majority to uphold the standards and ensure close working with the medical profession.

The motion was lost.

Public Relations

Dr. J. A. GORSKY (Westminster and Holborn) moved:

> That the Representative Body considers the work of the Public Relations Adviser should be pressed with more vigour, in view of the unsympathetic attitude of the Press.

The motion, he said, was not intended as a reflection on the public relations work of the Association, but there should be greater liaison between the Association and the Press. Personally, he did not regard the attitude of the Press as unsympathetic, but rather as uninformed. He would like to see an extension of the public relations conferences which had been held in London and Leeds, and a liaison committee of members of the Press and of the Association to give the Press the views of doctors on the National Health Service.

The CHAIRMAN OF COUNCIL said that each Division in the Home Counties had been invited to send its public relations' secretary or some other official to a meeting which was addressed by distinguished representatives of the Press, and similar action had been taken in the case of the meeting held in Leeds. He did not agree that the attitude of the Press had been unsympathetic; apart from three or four prominent newspapers, the Press had put the point of view of the Association fairly. It was only recently that the medical profession had come to realize that private relations with their patients were not enough, and that they must have public relations. The vigour of the Association's Public Relations Adviser was all that could be desired, and his advice was excellent and his contacts enormous.

The motion was withdrawn.

Dr. I. D. GRANT (Glasgow) asked what arrangements had been made for showing the film *The Family Doctor*.

The CHAIRMAN OF COUNCIL replied that the matter was in the hands of the Public Relations Adviser, who reported that it had already been shown to one distributing company and to the British Council. Film distributing companies gave priority to entertainment over instructional films, but everything possible was being done to secure the showing of the film. He hoped that members who had influence with film magnates would use it.

GENERAL PRACTICE

Certification

Dr. S. WAND (chairman, General Practice Committee) moved as a recommendation of Council to rescind a resolution of the 1944 Annual Representative Meeting, namely:

> That the policy of this Association be to lessen the burden of certificates, and, with this end in view, when a medical certificate is compulsory, to place the responsibility for payment on the authority demanding the certificate.

If that resolution stood, he said, general practitioners would have to render accounts to large numbers of different firms. It seemed to him like an accountancy nightmare.

Dr. DOUGLAS BOYD (Belfast) said the original resolution came from Belfast, and its object had been to open a discussion on the whole question of certification; it was realized that it could not be applied on every occasion. The time had come to consider the whole question of certification, because on it would hinge the success or failure of a national health service. On many occasions an authority demanded a certificate simply to protect its own interests, and it should not do so at the expense of the patient and by overburdening the practitioner. The wording might be altered to: "Where an authority makes a certificate compulsory, it should be responsible for the payment, except in such instances where it interferes with the ethical relationship."

Dr. A. MORRISON (Darlington) opposed the rescinding of the resolution, which represented, he contended, one way in which certification could be cut down. The recipient of the certificate could still pay the doctor, but the cost should be refunded to him by his firm.

Mr. A. STAVELEY GOUGH (Council) maintained that it was better for the doctor to receive the money from the patient, and not have to render accounts to employers for certificates. It would not cut down certification to make the employer pay. If the employers ought to pay, it was for the employees to see that they did, and certain trade unions were already taking the matter up.

It was agreed that the resolution be rescinded.

Dr. W. B. A. Lewis (Shropshire and Mid-Wales) asked the meeting to express the view that there should be no payment for certificates by the patient or employer, but that, in the future planning, payment for all certificates should be included in the capitation fee. The practice of charging insured persons for certificates, he said, was meant as a deterrent, but had failed in its object. It was not fair to make an insured person pay for a certificate demanded of him, and it was not fair or practicable to charge the employer. It was improbable that the practice of charging the patient would be continued when the new Act came into force. It was both right and expedient to put an end to a state of affairs which reflected little credit on the medical profession.

Dr. R. W. Cockshut (Hendon) held that it would be impossible to include payment for certificates in the capitation fee, because the demand varied so much in different parts of the country. It was not in the interests of the country that people should expect to get everything from the State, and those who wanted certificates should pay for them; otherwise the burden would greatly increase. Dr. C. M. Stevenson (Council) said the motion might easily multiply the burden sixfold. Dr. E. C. Dawson (Derby) regarded the motion as impracticable, in view of the fact that the number of certificates demanded by patients varied immensely, and some certificates involved answering a large number of questions. Dr. J. Hallam (Stoke-on-Trent) pointed out that a considerable sum of money was involved, and there was no reason to deprive practitioners of part of their income. If doctors agreed to give certificates without a token payment they would not obtain an increase in the capitation fee.

The motion was lost.

Dr. A. S. Wigfield (East Herts) moved that the question of certification in general should be reviewed at the earliest possible moment, and that the use of one certificate should suffice for visual demonstration to minor authorities. The Association must make up its mind about the matter, he urged, before it was reviewed in connexion with the National Health Service. Dr. S. Wand, opposing the resolution, said the general practitioner must decide for himself which kind of certificate he should use, apart from the statutory forms under the National Health Insurance Acts. Dr. Warner (Cleveland) said that in the North practitioners felt strongly on the question of certification. There should be one form of certificate, and he suggested that the form of certificate given under the National Health Insurance Acts should be used in every case. That could be done, and had been done to a minor degree in the North.

Dr. Wigfield pointed out that the passing of the motion would involve no compulsion to use a particular form of certificate.

The motion was lost.

Dr. J. A. Gorsky (Westminster and Holborn) moved that in view of the fact that the Ministry of Pensions had agreed that a fee of 5s. should be payable by the Ministry for the completion of the form issued by them concerning the previous medical history of an applicant for a pension, such form should state that that fee was so payable and give the name of the officer of the Ministry to whom application should be made if the fee was not duly paid.

Dr. Wand explained that originally there was a form which the doctor was required to fill up and for which he received a fee from the patient, the patient in certain circumstances recovering the fee from the Ministry. The Association represented that that was wrong, and so a new form was devised, and when the Ministry wanted information from a man's panel doctor they sent him the form with a fee of 5s. There were also, however, men whose application for a pension had been turned down and who were given papers to enable them to state their case on appeal to the tribunal, and on one of those papers the man was invited to get information from his pre-enlistment doctor. If the tribunal were satisfied that the appeal was made on substantial grounds, they could reimburse the man for any fee up to £2 for which he had made himself responsible. The Ministry insisted on this machinery, as public money was involved.

The motion was lost.

Capitation Fee for Ex-regular Firemen

Dr. Wand hoped it would be agreed that a fairly satisfactory settlement had been obtained in the matter of the capitation fee for ex-regular firemen.

Dr. W. N. Maple (Brighton) moved that the arrangement be not ratified, on the grounds that it was an unsatisfactory method of payment and involved the principle of unlimited liability to service on the part of the doctor with limited liability of payment by the employing party, which was quite different from the principle of the capitation fee.

Dr. Wand said that the General Practice Committee would not object to the reference back of the particular section referred to, as it was an arrangement at present existing with the Post Office, and it would strengthen the Committee's hands in further representations. He hoped, however, that the amendment would be withdrawn.

The amendment was withdrawn.

Occasional Treatment of Service Personnel and Italian Prisoners of War

Dr. Wand referred to Form O1667, on which application was made for payment for treatment of Service men and women, and which had been extended for use with Italian prisoners of war, and said that as a result of representations the amounts payable had been increased to the following: attendance at surgery, 4s.; day visit to patient, up to two miles, 6s.; night ditto, 10s.; distance fee, for day or night visit to patient, for each additional mile over two, in one direction only, 9d.; fee for medical certificates, 1s. An allowance was to be made for specially expensive drugs, and negotiations were proceeding on the interpretation of what was a night call.

Post-war Financial Aid

Dr. R. Forbes (Hendon) moved:

> That while welcoming the Report of the Council on a scheme to enable doctors without capital to purchase and establish themselves in a civilian practice on their demobilization the Representative Body is nevertheless of the opinion that special arrangements should be made to inform medical officers of the facilities that the Association is able to sponsor and to interview and advise demobilized officers on the various professional and business difficulties peculiar to the acquisition of a civilian practice.

It was desirable, he said, that the arrangements made by the Association should be brought to the notice of those concerned. Many newly qualified men had gone into the Services, and would be returning with little or no idea of the difficulties of acquiring a partnership or practice. Other organizations had set up resettlement bureaux, and the Association should do something on those lines. Many practitioners would return to find their houses requisitioned and that their practices had diminished or largely disappeared; others might fall into the hands of those who were pushing the sale of single-handed practices, exaggerating their receipts and leading men to assume liabilities they would be unable to discharge.

Dr. R. G. Gordon (Bath) maintained that the whole future of the Association might depend on the degree to which returning practitioners were convinced that it was looking after their interests. Among officers who had already started in practice there was grave fear of the future. In many instances the protection of practices arrangements had not worked well, and their practices had melted away. They had been out of touch with clinical medicine for some time, and did not consider a fortnight's refresher course adequate. They saw no way of tiding over the interval between their return and their rehabilitation in their practice. He therefore supported the idea of a central bureau to give advice, though it would require the numerical strengthening of the headquarters staff. Consideration should be given not only to loans for the purchase of practices but to loans for those who needed longer postgraduate instruction, and to tide them over the period of rehabilitation.

Dr. Wand pointed out that what was asked for was already being done, and had been done for a long time past.

Dr. J. A. Brown (Birmingham) said there had been an improvement in the arrangements for those who wanted to buy a practice as compared with the position before the war, when the rate of interest was about 5½%. As a result of the Association's negotiations, the returning practitioner would be able to borrow at 4%, unless the bank rate rose above 3½%, and would be able to borrow the whole of the capital required to purchase, provided the practice was approved and he took out an insurance. Repayments could be spread over a term of ten or fifteen years, and the arrangements were elastic.

Dr. Forbes, in reply, said that he had particularly avoided making any criticism of what had been done to afford assistance and advice to officers returning from service. What Hendon hoped was that greater point and arrangement could be given to the tendering of such advice and that something on a wider scale might be established within the organization, so that these men would look to the Association primarily for help and assistance.

The Hendon motion was carried.

Dr. N. Stevens (West Suffolk) moved:

> That the Association considers the creation of a fund to be used for the guarantee of loans to medical men wishing to purchase practices and thus enable them to borrow at a lower rate of interest than would otherwise be possible.

He said this was a practical proposal to help returning practitioners. There was a fund [the N.H.I. Defence Trust] which could be made available for guarantee purposes, so that money could be borrowed at a very much lower rate of interest. It was not for him to say which fund should be so used, but it would serve a useful purpose and the Association would be able fully to investigate practices put up for purchase. The whole future of the Association might be affected by this; some political party might start a service of its own, using the young medical practitioner returning from the Services who had not the money to buy a practice. Candidates in the recent Election had said that a State-salaried service was the answer for returned men. If the Association did not deal with this with great determination it would regret it.

Dr. D. C. **Barron** (Sheffield) supported the West Suffolk motion because his Division felt that more should be done for the returning men, and would go so far as to press for the Association to find the money to set them up. If the Association used a fund of £250,000 to guarantee the loans—not to lend the money—it could be a guarantor up to £1,000,000, and the very nature of the guarantor would induce lenders to advance money at much lower rates of interest than had already been mentioned.

Dr. **Wand** said he felt sympathy with the idea and had thought it was the solution of the problem of post-war settlement of practitioners, but that problem had been solved to a very large extent by what had been called a rather nebulous scheme. People were getting loans from the bank under these terms. What was the guarantee fund proposing to do? If a man bought a practice at £3,000 he would pay £120 per annum as a maximum for interest, which would be reduced as the years went by. At present it was halved by tax. He had estimated that the amount of money which might be turned over in the sale and purchase of practices during the next 7 or 8 years would be in the region of £10,000,000 to £15,000,000. Where were they to start? There was no need for a guarantee; the bank was lending money without guarantee to individual men. If the interest was reduced by 1% it would save the borrower £15 on the greatest expense year; on the average throughout the term it would cost him £7 10s. per year less. It was not the interest which was the problem, it was the capital repayment, and by extending the term and introducing the element of life insurance the burden had been lessened considerably. The small saving to the individual would not make it worth while at this stage. The Relief Fund might help a man who had fallen on bad times to pay his interest, but the Defence Trust was created for another purpose and could not be used in this manner. The problem had so nearly been solved that no useful purpose would be served by making a guarantee fund under these conditions.

Dr. **Stevens** disagreed that the guarantee fund would be useless because it was too small, for not everyone buying a practice would need a loan. The creation of such a fund would be a gesture towards helping these men and would make them feel that there was something substantial behind these proposals.

The motion was lost.

Dr. **Stevens** then moved that an appeal be made to all medical men throughout the country for generous payments to the Medical War Relief Fund in order to enable that fund to assist young medical men returning from the Services and wishing to start in practice.

Dr. J. W. **Bone** (Hon. Treasurer) pointed out that the Medical War Relief Fund was not a B.M.A. Fund but a joint fund between the Association, the three Royal Colleges, and the Royal Medical Benevolent Fund, and its terms of reference were very definite: "To give temporary assistance to medical practitioners and their dependants who find themselves in financial straits as a direct result of war conditions." This fund, which was one of the most useful with which he had ever been associated, had received £51,000 and had a balance of £31,000. An appeal was shortly to be issued in view of the fact that men were coming back and trying to re-establish themselves. It particularly met the needs of widows and orphans, and of doctors who were in difficulties, but there was another object. Men very often left their practices in debt and also had heavy commitments of various kinds, and they came back so overburdened with debt that there was no prospect of their regaining financial stability. Quite a number of such cases had been helped. He would suggest by way of amendment that the motion should finish at the word "Fund."

Dr. **Stevens** accepted Dr. Bone's suggestion and the motion was carried in this form without dissent, as an appeal for generous payments to the Medical War Relief Fund.

Fees for Medical Witnesses

Dr. G. W. **Taylor** (Leicester and Rutland) moved that in reopening discussion with the Home Office with a view to securing a new scale of fees for medical witnesses in both civil and criminal cases, methods of payment should also be reviewed in order to avoid waste of time of medical witnesses.

Dr. **Wand** accepted the motion on behalf of the General Practice Committee and it was agreed to by the meeting.

Doctors' Cars

Dr. J. A. **Gorsky** (Westminster and Holborn) moved:

> That the meeting considers that in view of the price of new cars the supply of second-hand reconditioned cars should be augmented.

He said that some time ago it was stated that reconditioned cars would be available to the profession on priority at about two-thirds pre-war price without purchase tax. It was now stated that these cars were in short supply; in fact a member had been informed by the Ministry of War Transport that there were only about four such cars available per week in London. Purchase tax was a luxury tax, and the Association should call for an abolition of the tax on new cars for doctors. As the price of new cars was so high the Association should press for an increased allocation of reconditioned Service cars.

Mr. **Lawrence Abel** (Marylebone) moved as an addition (which was seconded by Mr. Dickson Wright) that "those who sold their cars for Government work should be offered a similar ex-Service car at a price comparable to the price received."

Dr. **Wand** said that Dr. Potter and he went to the Ministry some months ago in order to seek to obtain full priorities on reconditioned cars and to press for an adequate supply of new cars to doctors. The Ministry had stated that 20,000 written applications had been received for reconditioned cars—a number not including a large number of inquiries either in person or by telephone. During the period the number of surplus cars placed at the Ministry's disposal was 170. It was also stated that prior to the Minister's most recent statement nearly every one of those reconditioned cars was allocated to a doctor or to an M.P. With regard to the rumour that there were a large number of cars which could easily be reconditioned the Minister said that the majority of the cars in the dumps were denuded of spare parts to make existing Service vehicles serviceable and therefore were quite unsuitable for reconditioning. The General Practice Committee and the office would take every opportunity of making representations to the Ministry that reconditioned cars should be available to the profession. The committee, while not accepting the exact wording of the motion, would accept the principle and the amendment by Mr. Lawrence Abel.

In reply to a question whether "priority in spare parts" meant anything, Dr. Wand said that in theory it meant a lot; in practice it did not mean anything. The supply of certain parts was very short. The Ministry gave an unqualified assurance that every case brought to its notice would be investigated and everything possible done to get the part. He understood that they had done so, but in some cases the parts were just not there.

Dr. **Gorsky**, in reply, asked why information was not obtained from the Ministry of War Transport as to the limited number of reconditioned cars available.

The motion as amended was carried.

Dr. **Kate Harrower** (Glasgow) moved:

> That steps be taken to facilitate priorities in respect of doctors' cars and for the abolition of purchase tax in connexion with same.

The first part of the motion was carried unanimously.

Dr. **Wand** said, with regard to the second part, that steps were taken by the office to get purchase tax removed from doctors' cars several weeks ago. With regard to priorities, of the first batch of licences issued by one firm 65% were received by doctors and 15% by M.P.s.

Dr. J. A. **Ireland** (Council) said that because of shortage of transport new cars intended for export were accumulating in this country, and he suggested that doctors should be given priority over the export trade in respect of cars.

The second part of the motion was also carried.

The General Medical Council

Dr. R. **Forbes** (Hendon) asked the meeting to express the firm opinion that the time was ripe for the Council to press for the amendment of the Medical Acts to secure an increased and adequate representation of the profession by direct representatives. He said that the G.M.C. consisted of 39 persons, and there were 7 direct representatives—a very small proportion to sit on a body which touched the medical profession at so many points. The Council was known to be considering amendments of the Medical Acts, and if amendment was taking place at all surely it was an appropriate time for the Association to join in and ask for an enlarged representation duly elected by the rank and file of the profession. The

Council might on counts of negligence or of conviction for various offences erase the name of a medical practitioner from the *Register*, and by so doing interfere temporarily or permanently with his livelihood. Those familiar with the difficulties and dangers of medical practice were more likely to be the appropriate people to judge the alleged errors and faults of others than those who had spent the greater part of their lives in the cloisters of universities.

Dr. N. E. WATERFIELD moved to widen the motion so that it called for a review of the composition, functions, and procedure of the General Medical Council, and Dr. Forbes accepted this amendment.

Mr. LAWRENCE ABEL (Marylebone) moved a further amendment that the number of direct representatives be increased by 100%.

Dr. J. W. BONE, one of the direct representatives, said that the Council consisted of 42 members, though three sat only for dental business. The bulk of the members were appointed by the Privy Council and by the examining bodies. There was at present only one lay member—namely, Lord Hacking, appointed by the Privy Council. The main business of the Council was medical education and the maintenance of the *Register*. The seven direct representatives had during the years steadily advanced from strength to strength, their advice was sought and welcomed, and they took a principal part in the debates on penal procedure. He did not quite see what was to be gained by increasing the representation to 14, though some small increase might be desirable.

The CHAIRMAN OF COUNCIL, also one of the direct representatives, said that the Medical Acts were now under reconsideration, and this was an appropriate time for the Association to give attention to the subject. He thought that the Association Council might be asked to set up a committee to consider the composition and duties of the General Medical Council and to report to the Representative Body. He desired to say, however, that the members of the Council appointed by the universities were not "dusty old professors," as one speaker had called them, but men thoroughly acquainted with the needs of medical education, and under the vigilance of the Council the standard of education was well maintained. He had never known a body on which changes of personnel were so frequent, and during his own ten years or so of membership the personnel of the Council had very largely changed.

The amendment moved by Mr. Abel, to press for the doubling of the number of direct representatives, was met by the carrying of the previous question, and Dr. Forbes's original motion, as amended by Dr. Waterfield, was carried in the following form:

> That the Representative Body is firmly of opinion that the time is now ripe for the Council to review the working of the Medical Acts with special reference to the composition, functions, and procedure of the General Medical Council.

Dr. FORBES said that he had rather gathered that Dr. Bone thought that general practitioners, unlike academic men, had nothing to contribute to medical education. Yet one of the finest pieces of criticism of medical education emanated from the Association, the work of a committee of which the late Sir Henry Brackenbury, a general practitioner, was chairman.

Local Advisory Committees on Industrial Health

Dr. C. S. O'FLYNN (Sheffield) moved that local advisory committees on industrial health representing doctors, employers, and employees should be appointed in suitable industrial areas. He said that some months ago he attended a joint conference of such bodies, and was impressed by the amount of approval they received from all quarters. But he thought they should not be allowed to grow up piecemeal throughout the country without any set plan.

Dr. E. C. DAWSON (Derby) moved an amendment to instruct the Council to promote the formation of local advisory committees on industrial health. It was merely an improvement in wording on the Sheffield motion. There was such a committee in Derby which had been working for eighteen months, and local opinion was that it had been a great success.

Dr. C. M. STEVENSON (Council), supported the amendment. The original motion restricted the movement to industrial areas, but these committees were wanted particularly among farming communities.

The amendment was carried.

The meeting adjourned at 6 p.m.

SECOND DAY

Wednesday, July 25

The meeting was resumed at 10 a.m., under the chairmanship of Dr. Peter Macdonald.

Supplementary Clothing Coupons

Dr. S. WRAY (Lincoln) moved that the Board of Trade be pressed for the provision of supplementary clothing coupons for all medical practitioners and dispensers, to cover the purchase of such items as gowns, coats, and overalls.

Dr. S. WAND (chairman of the General Practice Committee) said that representations were made to the Board of Trade about six months ago. Inquiries showed that people whose clothes were less likely to be damaged than those of doctors and dispensers were in fact getting supplementary coupons. For example, works chemists who were putting in over 20 hours a week in the laboratory were entitled to them. The reply received from the Board was disappointing. It stated that the Board had considered the case sympathetically, but was unable to make any concession at present. Doctors could not be put in the special category without including others such as dentists, retail dispensers, hairdressers, and masseurs. But it was added that there was every intention of reconsidering the position as soon as there was a slight improvement. This attitude was a most unreasonable one. It was typical of the pinpricks which the profession had had to put up with during the war. The most appalling difficulties had been put in their way by some Government Departments—as, for example, in the matter of domestic help. It was the most mean and miserable attitude that could be taken up by a Government Department towards a section of the community which was doing a job of the highest priority. (Applause.)

The motion was carried.

Night Calls

Dr. ELSIE WARREN (Kensington) moved that wherever practicable a night call should be deemed to be one made between 9 p.m. and 9 a.m. The best definition of night calls was given by the London Insurance Committee in their form (MC2) revised in 1939.

Dr. H. M. GOLDING (Bristol) moved an amendment. It was admitted that doctors were on duty 24 hours a day, but that did not mean that their normal working day was 24 hours. The motion of Kensington might suggest that the normal working day was 12 hours. He wanted the motion amended to read "between 6 p.m. and 9 a.m.," suggesting that the working day was 9 hours.

Dr. WAND was sympathetic, but a little disturbed about the hour of 6 p.m. It would be necessary to negotiate for different fees for a night call. He thought there should be a graduated scale—a late fee scale—and the better way would be to make the night call time begin at 8 p.m. Dr. J. A. IRELAND seconded. Night calls from the practitioner's point of view could not be considered as beginning from 6 p.m. A double fee could not reasonably be charged between 6 p.m. and 8 or 9 p.m.

It was agreed that the time should be between 8 p.m. and 9 a.m.

NATIONAL HEALTH INSURANCE

Dr. E. A. GREGG introduced the report under this heading.

A representative complained of paragraph 21 in the Annual Report of Council with its reference to "what ought to be the range of total professional income of a registered medical practitioner." He could not see how anyone should lay down what a practitioner "ought" to earn. Dr. GREGG pointed out that this was the reference of the Spens Committee; it was not an Association phrase.

Sickness Benefit in Pregnancy

Dr. D. S. ROBERTSON (Edinburgh) moved to omit the reference in paragraph 22 of the Annual Report concerning the obtaining of independent medical opinion and examination of a pregnant woman. There were three possible reasons why such an independent examination should be made. One was that the pregnancy was abnormal, in which case the examination would be much better made in hospital. Another was that examination was necessary because the question of pregnancy was in doubt. But the diagnosis of pregnancy at the 32nd or 34th week was not one calling for great clinical acumen; the average general practitioner was quite capable of diagnosing pregnancy at that stage, and independent examination was therefore quite unnecessary. The only other possible reason was that laxity of certification was suspected. The patient herself also should be considered. What would she think of a strange doctor making an unwarrantable intrusion on her privacy?

Dr. GREGG said that Dr. Robertson was under a misapprehension. The Association had taken up a certain position where the practitioner had made a reference to the Regional Medical Service in connexion with certification of incapacity. They believed that no woman should be asked to come up for examination within eight weeks of the expected date of delivery, and that any such independent examination should be conducted at home. The Ministry had given an assurance that in those cases in which the doctor stated that the patient by reason of her condition was unfit to go for examination, or that it was undesirable she should go; the statement would be accepted without question. If anyone had the right to insist that in such cases an examination should be made, it should be carried out in the woman's home, and she should not be asked to travel. That was all there was in it.

Dr. Robertson said that that proved his point, that the paragraph was not clear. In an uncomplicated pregnancy there was no need for the latter part of the paragraph.

The Edinburgh proposal that the words be omitted was lost.

References to Regional Medical Service

Dr. E. A. Gregg referred to a matter which he said was likely to assume considerable importance in the near future. At present, when a reference was made to the Regional Medical Service on the question of fitness for work, the examining officer, after seeing the patient, filled in a report for the Ministry and sent a report to the doctor concerned to say whether he agreed or disagreed with him. In cases of tuberculosis, the Ministry now wished to take the matter outside the range of incapacity for work and determine through their examining officer whether the patient should be referred to a consultant. The Regional Medical Officer would refer the patient to a consultant without asking for the opinion of the patient's own doctor, and after getting the report from the consultant would send it to the doctor.

The strongest exception should be taken to that. There might be a few occasions when an individual practitioner had been slack, and when it might appear that a patient was referred to the Regional Medical Officer without proper steps having been taken to have his condition investigated; but the correct way of dealing with that would be for the Regional Medical Officer to say, in his report to the doctor, that in his opinion it would be wise to ask the local tuberculosis officer to see the patient or to have further pathological or bacteriological investigations done. The matter was being taken up with the Ministry, and it would strengthen their hands to have the support of the Representative Body.

Dr. J. A. Brown (Council) pointed out that a promise had been given that nothing would be done in the new service to interfere with the doctor-patient relationship, yet this was an attempt to graft something on to an old service which materially affected that relationship. It was the thin end of the wedge of bureaucratic control. The Association wanted everything possible done for the patient, but would not tolerate interference by officials of the Ministry in the doctor-patient relationship. Dr. N. E. Waterfield said it should be for the doctor in charge of the case to call in a consultant and receive his report. What the Ministry proposed was a distinct breach of the ethical rules, and the Ethical Committee supported the protest against it. Dr. W. Jope (Lanarkshire) expressed the hope that nothing would be done to interfere with the very good relations which existed in Scotland between general practitioners and the Regional Medical Service. In Scotland, for many years the R.M.O. had, with the approval of the general practitioners, used the services of consultants to assist him in diagnosis, up to the point of estimation of capacity for work only.

The meeting indicated by a show of hands its general agreement with the statement made by Dr. Gregg, and the report under "National Health Insurance" was approved.

SPECIAL PRACTICE

A National Eye Service

Prof. A. W. Burgess (Chairman of the Special Practice Committee) moved, as a recommendation of Council, that the Representative Body approves the scheme for a National Eye Service (set out as an appendix to the Annual Report of Council, *Supplement*, May 12), and gave a brief outline of the scheme there set forth.

Dr. C. M. Stevenson (Cambridge) pointed out that the specialty in question was one which was very difficult to organize. It was almost the only one which was in violent competition with a non-medically-qualified body of people who had a powerful vested interest, and was divided into two groups: the ophthalmic surgeons proper, and the ophthalmic medical practitioners who did not do major surgery. At the present time there were not enough ophthalmically qualified doctors to do all the refraction work, and therefore the technicians could not be squeezed out. The prescribing optician was in a very strong position, politically and otherwise, and a good many doctors supported him and did not support the ophthalmic surgeon. A difficult position would arise when the implementation of the scheme came to be considered by Parliament.

Dr. Lucas Young (Eastbourne) said the scheme had been considered by regional meetings all over the country. At some of them exception had been taken to parts of it which were thought to suggest that the services of sight-testing opticians should be utilized by medical practitioners, but that had been ruled out by subsequent amendments. Personally, he would like to see the word "optician" deleted from the scheme entirely, and, where not used in the sense of "dispensing optician," replaced by "refractionist." There might be a school of refractionists, just as there was a school of orthoptists, to produce qualified medical auxiliaries. It had been suggested that it would be impossible for the ophthalmic surgeon to exercise adequate supervision over the refractionists working under him, but he thought there were no grounds for that view.

The Chairman of Council commended the scheme as an example of what could be done in organizing a scheme for a specialty. Taken as a whole, he added, it was a very satisfactory solution of one of the most difficult problems which would have to be faced in the future, and he congratulated the Ophthalmic Group upon it.

The scheme was approved by the meeting without dissent.

HOSPITALS

Permanent Appointments

Mr. R. L. Newell (Chairman of the Hospitals Committee), in introducing the report under "Hospitals," said that in 1939 the Association recommended that for the period of the war no permanent appointments should be made to hospitals, but recently many advertisements for posts of a permanent nature had been coming to the *Journal*, and some forty senior appointments had been made to mental hospitals, much to the dissatisfaction of serving psychiatrists. Nothing must be allowed to jeopardize the future of these who were serving in the Forces, and the Council had accepted the Hospitals Committee's recommendation that everything possible must be done to prevent such permanent appointments being made.

A subcommittee had been formed to deal with the difficult question of hospital beds for practitioners, and had held two meetings. It was hoped that it would present its report in the near future. There were differences between urban and rural districts, but it would be of great advantage if the practitioner had beds in a hospital with ready access to expert consultant opinion. The cottage hospitals had met that need to some extent, but had been rather overweighted by surgery.

General Practitioner Hospitals

Dr. W. N. Leak (Mid-Cheshire) moved a resolution welcoming the proposed action of the Council for the preservation and development of small general hospitals staffed by general practitioners and welcoming the value of these hospitals to the community, especially if adequately equipped with ancillary services. Such hospitals, he said, tended to be overlooked when large schemes were prepared, but their value was fourfold. The fact that there was such a small hospital in existence attracted the better type of general practitioner to the area. They relieved the larger hospitals of a great deal of minor and routine work, and enabled it to be done near the home of the patients. They did not require the same rigid routine and organization as the larger hospitals, and could cater better for the personal characteristics of the patient. They enlisted local support, and people felt at home in them. Consultants could learn from them how to treat patients as human beings, rather than treating human beings as patients. Some of the doctors who used them might be incompetent or too venturesome, but with all their drawbacks these small hospitals were more than glorified health centres, and represented an essential agency in the health service of the country.

Dr. G. MacFeat (Lanarkshire) maintained that the general practitioner hospitals helped to develop a team spirit among practitioners, and if used for the teaching of students would give them a better knowledge than they would otherwise obtain of the kind of work which they would have to do after qualifying. They would also provide suitable resident appointments for the pre-registration year. Many practitioners found they could get much better results in a cottage hospital than when treating a patient in his own home. Dr. A. C. E. Breach (Bromley) voiced the opinion of his Division that to deprive the general practitioner of the facility of attending his patients in hospital would be a major disaster.

Mr. Newell suggested that the motion was ambiguous. It welcomed the action of the Council, but the object of the Council was to bring into being a type of hospital which had not existed before, to provide practitioners with facilities for treating patients within their own sphere. Much damage had been done by the performance of major surgery in the smaller hospitals, and it would be wise not to accept the motion if it meant that that type of work was to be done in them. Mr. Anthony Green (Guildford) said that as a member of the Volims consultant committee he would like to draw attention to the Volims report, which could be obtained from the Association, and which emphasized the importance of the type of hospital in which the general practitioner could see and treat his own patients. Mr. C. E. **Beare** (Reigate) did not agree that all cottage hospitals were incapable of doing major work, and said he could not support the Council if they desired to make all the smaller hospitals into health centres. Dr. **Leak** suggested that it was a matter of degree. A certain amount of major work was done satisfactorily, but very few general practitioners would try to do anything beyond their competence.

The motion was carried.

Part-time Consultants on Hospital Staffs

Dr. **Howie Wood** (Isle of Wight) moved to request Council "to inform part-time consultants and specialists on hospital staffs what steps were being taken to safeguard their position and future employment, and recalled that in 1944 the Representative Body said that they should not be excluded from the appropriate group for their specialty and that steps should be taken to ensure that the profession was not split rigidly into two groups—consultants, and others. The Chairman of Council had later given the assurance that there was no need for apprehension, but since then he had received letters stating that part-time men were being requested to resign their positions in favour of whole-time consultants, and it appeared probable that in the new national health service the part-time consultant must become either a general practitioner or a whole-time specialist. If it was made impossible for those interested in a specialty but predominantly engaged in general practice to continue, the efficiency of the service would suffer. Many of the best general practice partnerships consisted of teams of men each of whom was a part-time specialist. The motion merely asked the Council to implement the assurance which had already been given.

Dr. N. **Stevens** (West Suffolk), in supporting the motion, mentioned the case of the pathologist in a hospital in his area who, though he was a general practitioner, had held the appointment for 15 years, but was then told that he must give up general practice or give up the appointment, and had been superseded. That was very unfair.

The motion was carried.

Medical, Nursing, and Domestic Staffs

Dr. W. **Radcliffe** (N.E. Essex) moved that steps be taken to obtain the release of nursing and medical personnel and the direction if necessary of domestic help for the voluntary hospitals and nursing homes to deal with the civilian population. Two of the hospitals serving his area, he said, had recently had to close down 12% of their beds through lack of nursing and domestic staff, though their waiting list was four times as long as it was before the war.

Dr. J. C. **Arthur** (Gateshead) said that the position in nursing homes, and especially in small maternity homes, was becoming desperate, and they were having to close down. The shortage of nurses was largely due to the operation of the Excess Profits Tax, which had led to the employment of some 8,000 skilled nurses in the industrial medical service, since the cost did not fall on the firms concerned. The work being done by those 8,000 nurses could be done by half that number without loss of efficiency, and the Association should ask for a drastic overhaul of the establishment of that service. With regard to domestic workers, although the Government would not direct female labour to private domestic work, a great deal could be done without explicit direction. In one case, where a doctor in the North badly needed domestic help, a girl was told she would be sent to work on a bus in Birmingham, but it was added that were she working for this doctor she would not be sent. That had the desired effect.

Dr. **Radcliffe** accepted an amendment to delete the word "voluntary," it being pointed out that the shortage was just as acute in municipal hospitals. Dr. P. **Phillips** (Bristol) emphasized this point, and said that the Ministry of Labour had just withdrawn all staff nurses from the wards of the municipal hospital in Bristol, leaving large wards of 36 beds in charge of a second-year or third-year probationer nurse. The hospitals were in desperate need. Dr. R. W. **McConnel** (Buckinghamshire) mentioned that in his county town half the beds in the infirmary were empty because of lack of nursing staff, and in a new sanatorium only a quarter of the beds were occupied for the same reason.

The motion, amended by the omission of the word "voluntary," was carried without dissent.

FINANCE

Dr. J. W. **Bone** (Treasurer) presented the Financial Statement for 1944, which was printed in the *Supplement* of June 23. There was, he said, no material difference in the expenditure as compared with the previous year; the extra expenditure merely reflected the increased activity of the Association, and he hoped that it would be materially increased during the present year. The accounts presented a picture of prosperity and of safe finance. The object of the Association was not to make money, but to save it for future use. Its funds must be safe and easily realizable. Due regard had been paid to the desirability of keeping the ordinary subscription at three guineas, but, because of the various concessions which were made, the average subscription was only £2 5s.

The report under Finance was approved.

BRITISH MEDICAL JOURNAL

Dr. O. C. **Carter** (Chairman of the Journal Committee) moved the approval of the part of the report under "British Medical Journal," and in doing so mentioned that the difficulties due to shortage of paper and shortage of staff still continued. The allotment of paper was based on pre-war consumption and not on present circulation, so that the *Journal* was likely to remain at its present reduced size for some months. A copy had to be sent to every member, and as the membership grew the difficulties increased. It was now necessary to print 53,500 copies each week. Its financial position was very strong, and it cost the Association only a very small fraction of members' subscriptions; but he did not know whether it would be possible to say that in a few years' time, when their post-war plans came to fruition. They were, to adopt a phrase used by Mr. Neville Chamberlain towards the end of the slump, passing from "Bleak House" to "Great Expectations."

The editorial department received about four times as many signed articles as it was able to publish, and all shades of opinion were ventilated in the correspondence columns. In spite of the strain of war, the *Journal* had always appeared punctually, and had continued to do so in spite of the strain of peace; the VE Day celebrations came as it was going to press, but it appeared on time on May 12. Great credit was due to the editorial and publishing departments and to the printers.

Three new quarterly journals were to be published: a *Journal of Social Medicine*, a *Journal of Pharmacology and Chemotherapy*, and a *Journal of Diseases of the Chest*. This would mean that eight special quarterly journals would be published. They attracted to the Association men of high academic standing who took little interest in the medico-political side of the work, and assisted the Association's contribution to the promotion of medical and allied sciences, which was one of the most important functions of the Association.

The Germans used to provide a comprehensive abstracting service of the world's medical literature. There seemed to be an opportunity for the Association to do something to fill the gap, and, with others, it was exploring the possibility of setting up an abstracting service on those lines in this country.

Dr. D. V. M. **Adams** (Lanarkshire) congratulated those concerned on the way in which the *Journal*, still produced under difficult conditions, appeared from week to week. He complained, however, of certain advertisements for Scottish appointments which, he contended, were at an inadequate basic salary. The advertisements were inserted without consulting the Divisions concerned. Dr. **Carter** replied that the salaries offered came within the approved scale operating at present in Scotland.

The report under "Journal" was approved.

ORGANIZATION

The Deputy Chairman, Dr. J. B. Miller, presided over this part of the proceedings.

Dr. J. C. **Matthews**, Chairman of the Organization Committee, presented the report of Council under "Organization."

A Northern Ireland Committee

Dr. Matthews proposed an alteration of the by-laws to permit of a Northern Ireland Committee, similar to the Scottish Committee. He said that Northern Ireland had its own Government, and ought to have a medical body of adequate status to negotiate with it.

The recommendation for the amendment of the by-laws to effect this was agreed to.

Regional Organization of the Association

Dr. J. **McCutcheon** (Glasgow) asked the meeting to reaffirm the decision of the Representative Body in 1943 regarding the appointment of regional secretaries. This was to the effect that arrangements should be made now to appoint full-time regional secretaries so that these secretaries should start to function as soon as possible after the war. Local problems, he said, were becoming more frequent and important.

Dr. F. **Gray** (Council) said that there were three problems to be settled before they could go ahead with regional organization: personnel, buildings, and determination of areas. He wished to put the reasons why the Council did not want to take steps immediately. It was obviously necessary that the regional secretaries should have a period at headquarters during which they could become thoroughly acquainted with the work of the Association before they were sent out to act on their own. As for buildings, the present was not a good time to acquire them, and yet they would be necessary for regional organization. There remained the question of areas. The Government was also proposing regions under the White Paper, and every member of the Representative Body would appreciate how necessary it was in any matter of local government that the areas of the Association should as far as possible correspond with local government areas. It was not known yet how the Government areas were to be determined.

Dr. O. C. Carter (Bournemouth) said that no one realized more than he did the necessity for bridging the gap between the periphery and the centre. He would strongly support regionalization whatever the cost if he thought it was the right thing, but he thought it the wrong thing. The duties of these regional secretaries would be to stimulate inactive Divisions and give the greatest possible encouragement to those which were doing their work well. Most important of all, they would require to be familiar with central Association matters, and they could acquire that familiarity only by living in London and attending Council and committee meetings. He thought, moreover, that if secretaries were posted to regions there would be a tendency for divisional secretaries to short-circuit them and write for advice to headquarters.

Dr. J. G. Thwaites (Brighton) said that his Division had been in favour of regional secretaries, but he was against the Glasgow proposal. The moment was not opportune to put this policy into effect. It would be much better for these new secretaries to serve an apprenticeship at the centre. It was necessary to preserve at all costs the unity of the Association. There was a risk, if they were not careful, and if the secretaries were not properly placed in their job, of the regions coming to look upon them purely as men out to push their own regional interests as against the interests of the Association as a whole.

Dr. W. E. Dorman (Sheffield) urged the meeting to reaffirm the 1943 resolution. Dr. F. M. Rose (Preston) was still convinced of the need for regional secretaries. Association boundaries might be determined, and afterwards readjusted when the Government had made its arrangements. Dr. I. D. Grant (Glasgow) thought that the new secretaries should be appointed to their regions as soon as possible. There was no need to follow slavishly the Government division of the country. Housing was admittedly a difficulty, but he believed that in Manchester there was a house available.

Dr. J. C. Matthews said that this matter had been under the consideration of the Organization Committee for nearly ten years. At the beginning it resulted in the appointment of Dr. Gibson (whose death was greatly regretted) as regional secretary to the Metropolitan area. Plans were being discussed before the war for the extension of regional secretaryship to the Provinces, possibly one secretary being appointed at a time as suitable men came forward. The war came, but the matter was not forgotten. At the Representative Meetings in 1942 and 1943 there were reports on the subject by the Organization Committee through the Council. The problem at present had several aspects. One was the scarcity of doctors at the moment. There would be no justification for taking men into the Association as secretaries when there were such demands upon the profession. Again, the finding of the right man was not easy. A man was needed who had character, presence, and tact, together with a knowledge of Association affairs. The proposal of the Council was to intimate to the profession, including men over-seas, that appointments as assistant secretaries were to be made, with a view to their employment either at headquarters or at the periphery. Such men would be able to assist the present secretaries (who were overburdened), and could also be sent on occasion on visits to the Provinces to make contact with the Divisions. The procedure outlined in the report was not very different from that which Glasgow desired and would achieve the object which the meeting desired. The 1943 resolution was proposed by Lincoln and was to the effect that arrangements should be made now to appoint full-time regional secretaries so that they could start functioning as soon as possible after the war.

The Chairman of Council said that the Council had this instruction in mind, and the steps proposed in paragraph 66 were the business-like method to follow. Assistant secretaries would be appointed, they would learn the technique and run of the offices, and be sent into the Provinces to meet the Divisions; when that had been done and suitable people had been found they would be appointed to regions.

In view of Dr. Dain's statement Glasgow withdrew the amendment.

Dr. Talbot Rogers (Bromley) said that he had been asked to draw attention to a resolution proposed by Bromley last year that in view of the increasing importance of industrial medicine a standing committee to deal with matters of industrial health should be set up. The resolution was accepted by the Chairman of Council, but in view of the discussions regarding the central committee machinery consideration of the matter was deferred. His committee was not satisfied, because it felt that industrial health was a matter of urgency in view of the difficult situations which might arise in the post-war years.

Dr. W. D. Steel (Worcester) moved an amendment that the Council be instructed to institute in the Midland region, centred on Birmingham, the Midland organization of the profession.

The Chairman of Council appealed to the mover to withdraw this amendment for the time being. It was obvious that this was not the proper time to argue where the regional secretaries should be established.

The amendment was withdrawn.

Dr. Matthews said that the matter raised by Dr. Rogers regarding the industrial medical committee would be borne in mind, and this part of the report was approved.

Dr. S. Wray (Lincoln) moved that regional secretaries should be selected only from those who had been in general practice for 15 years and that they should be under 50 years of age on appointment. He said the framers of the motion were of the opinion that the functions of regional secretaries were likely to differ greatly from those of headquarters secretaries, that different qualifications would be required, and the predominant background should be that of general practice. The figure of 15 years was inserted so as to cover men in the Forces.

The Chairman of Council asked the meeting not to tie the hands of the Council in their selection of suitable people.

The motion was withdrawn.

Scottish Assistant Secretary

Mr. Simson Hall (Edinburgh) moved:

> That the pressure of work in the Scottish Office of the Association is now such as to require the appointment of an Assistant Secretary and that such an appointment should now be made.

He said there were two points to mention: the first was that Scotland was not an easy place to get round, and, secondly, the Secretary was so tied to the office by interviews, consultations, and so on that the field work had suffered rather severely. The geographical distribution of the population was such that the larger proportion of practitioners were in Glasgow and its environs, and their Glasgow colleagues felt that they deserved a little more of the time and attention of the Secretary. The Edinburgh Division asked that this matter be referred to Council for consideration.

The Chairman of Council accepted the motion.

It was agreed that the resolution be referred to Council, and the remainder of the report under "Organization" was approved.

THE NEGOTIATING COMMITTEE

At this point, by previous arrangement, certain motions under the heading of "The Negotiating Committee" were taken.

Buying and Selling Practices

Dr. R. S. Brock (Denbigh and Flint) moved:

> That the custom of buying and selling practices cannot be retained in any comprehensive health service without prejudice to the interest of the profession and of the public, and that this meeting favours abolition of the custom at the outset, provided that agreement can be reached not only regarding compensation but regarding security of tenure of existing practices within an administrative structure and under terms of service acceptable to the profession.

The motion rested on the assumption, he said, that it was the intention of the Government to introduce a co-ordinated and comprehensive health service which would ensure that the services of every available doctor were utilized. The criterion ultimately adopted by such a service must be the capacity of the doctor to do the work required of him, and not his capacity to buy a practice. The market for practices must gradually disappear, and if the profession waited until then before compensation was agreed it would lose the chance of being compensated at all. No Government would dare to establish a precedent by compensating doctors for loss of market. Unless a clear indication was given to the Committee, it might be hampered by the Hendon resolution, passed at a previous meeting.

Dr. R. W. Cockshut (Hendon) recalled that the Hendon resolution just referred to was that it was in the national interest and essential to the independence of the medical profession that doctors should continue to own the goodwill of their practices. It had been possible to use that resolution in the negotiations with the Minister of Health, and the Government had issued a statement on compensation which put off the question for an indefinite period and left doctors the masters of their own practices. Compensation would cost anything up to £80,000,000, and what would the Government get for the money? The answer was the freedom of the doctor. "At the last Representative Meeting," he added, "we gave away a great slice of our freedom; do not now give away what is left." (Applause.) If the Government gave compensation they might allow a doctor to remain in his practice, but when he wished to pass it on, say, to his son, the Government would say: "No, your son cannot take it over; we are going to bring it into a health centre."

Dr. R. W. McConnel (Buckinghamshire) maintained that those who favoured the buying and selling of practices were thinking not only of their pocket but of their patients; they wanted to be able to choose their successors.

The Chairman of Council said it had been the policy of the Negotiating Committee to press the Minister to make the Government's position in the matter definite, and the Government had stated that there would be no interference with the sale and purchase of practices when the new scheme started. He hoped the meeting would leave it at that. It was a guarantee of freedom to have something of one's own.

Dr. Brock, in reply, said it was natural that the Government should be prepared to allow the continuance of the purchase and sale of practices. They would arrange matters so that there was nobody left to buy when practitioners wanted to sell, and so no compensation need be paid. The statement of the Chairman of Council meant a reversal of the policy previously formulated by the Council on the subject. His Division wished the custom of buying and selling practices to continue, provided the market value of practices was maintained; but they did not see how it would be possible under the scheme to avoid the gradual fading away of the market for goodwill.

Dr. Douglas Boyd (Belfast), in opposing the motion, said that unless and until the right of private practice was abolished the principle should be upheld that a man was entitled to the fruits of his labour. A doctor's practice was normally valuable in proportion to the amount and quality of the work which he put into it; if he could not transfer that for a material consideration he became a lessee, and his landlord was the civil power. If the majority of doctors were denied their property rights, they would become a dependent profession, and would be unable to secure proper terms and remuneration for their work. If there were abuses in the buying and selling of practices they should be remedied, but it was not in the national interest that the right to private property should be abolished.

The motion was lost by a large majority.

Insufficiency of Doctors

Dr. A. G. Holman (East Norfolk) moved that the national medical service should not be started until sufficient medical personnel were available to run it. Under the recent Education Act, he pointed out, free medical attention for children had been promised, but the personnel to provide it were lacking, and local authorities had had to fall back on general practitioners to help them out of the difficulty.

Mr. Lawrence Abel (Marylebone) suggested that the resolution that national health insurance should be completed, which had already been passed twice by the Representative Body, covered the point raised; but the present motion should strengthen the hands of the Negotiating Committee and enable them to say to the Government: "Give us our hospitals in proper order and make proper arrangements for all your sick workers."

The motion was carried.

The Control of the New Health Service

Dr. Holman further moved that in order to ensure executive power for the professions concerned in working the proposed health service, the possibility of its control and administration by a separate corporate body be given consideration as a matter of urgency. The objections to a corporate body, he said, amounted in effect to the statement that he who paid the piper should call the tune, but in this case two parties were paying the piper but it seemed that only one was to call the tune. Public funds would largely maintain the health services, but they were to be built on the capital, the buildings, traditions, and goodwill of the voluntary hospitals and on the experience and training of the medical profession. The White Paper relegated the medical profession to a purely advisory position, and even the advisers were to be chosen by the Minister—a sort of ministerial medical Gestapo. What happened when executive power did not lie in the hands of the medical profession was shown before the war by the failure of public authorities to implement their powers in regard to tuberculosis, maternity, cancer, and so on, and during the war by the wholesale evacuation of tuberculosis patients in all degrees of infectivity from certain sanatoria, and by the failure to foresee the need to reserve trained nurses and domestic staffs for hospitals and nursing homes, and by the chaos in medical demobilization.

Ministerial control meant administration on departmental lines, which could never be elastic enough to meet the requirements of a service so intimate as a health service. In the E.M.S., a patient might die while waiting for necessary forms to be completed in triplicate, but so long as he died according to the regulations, honour was satisfied. The principle of block grants to meet expenditure existed already in the case of the universities, and a similar arrangement was warranted for the health service.

Mr. Lawrence Abel moved as an amendment the substitution of the words "other than by the Ministry of Health" for the words "by a separate corporate body." At the last meeting, he said, the Representative Body decided against the running of the new service by a separate corporate body. From the point of view of the health of the public it was difficult to say which would be better, the Ministry or a corporate body; but there was a growing feeling in the medical profession against being put under the Ministry of Health. The Ministry's action in allowing thousands of people to die because they would not make compulsory the pasteurization of milk was a scandal, and was enough to make every doctor say, "We will not negotiate with the Government until they give us pure milk." He had nothing to say about a corporate body, except that no one knew what it meant or implied, but he was certain that the majority of doctors did not want to be ruled and enslaved by the Ministry of Health. (Applause.)

Mr. Dickson Wright (Marylebone), in supporting the amendment, said that when a corporate body was mentioned reference was apt to be made to a "medical hierarchy," but the members of such a body could be changed from time to time if they did not meet with the approval of the profession, whereas the permanent officials of the Ministry could not. There were at present 700,000 civil servants, and it had been estimated that the new medical service would employ a similar number, at an annual cost of £170,000,000. The doctors should have a say in the running of a service in which they were intimately concerned.

Dr. C. E. Cobb (Aldershot) described the problem as that of choosing the lesser of two evils. The fact that in 1942 and 1943 the Representative Meeting supported control by a corporate body, and that last year the Council could not quite make up their minds, showed that further investigation was necessary. Replying to a letter from the chairman of the Aldershot and Basingstoke Division, the Chairman of Council wrote: "The corporative alternative to departmental control was brought to the notice of the Government by the Negotiating Committee, but was not pressed. It would be impossible for me to say why members of the Council are opposed to the corporative solution, but in my personal view we should not be any better off in the hands of a corporate body than in the hands of a Minister." That was very likely correct, but there had been so many changes of mind that he felt that further investigation was necessary. Dr. J. B. W. Rowe (Harrow), who also supported the amendment, instanced the case of the Port of London Authority, whose executive was elected by the members. Mr. C. E. Beare (Reigate) drew attention to the recent Rushcliffe report on what was a sort of national legal service, and pointed out that the legal profession took the view that such a scheme must be controlled by lawyers, and that that view had been supported by the Press. In his view, a corporate body would afford the medical profession more control than if they were under the Minister of Health. Dr. E. D. Broster (Derby) said the vital importance of central organization and executive control had been emphasized again and again, yet the provisional report of the Negotiating Committee contained only a restatement of the words of the White Paper. The Negotiating Committee seemed unable to make any headway in this regard, and the record of the Association *vis-à-vis* the Ministry of Health had been deplorable. He had not the slightest trust in advisory bodies as safeguards. Mr. Anthony Green (Guildford) suggested that it was inadvisable to close the door and say that there was no alternative to the Ministry.

Dr. Holman intimated his willingness to accept the amendment.

The Chairman of Council asked the meeting to face the issue properly, as members had done in May, when they had all the information before them. They were asked then, he said, to decide whether they were in favour of a corporate body for central administration instead of the Ministry of Health, and, having heard the arguments, they decided in favour of the Ministry. The Representative Body originally expressed an opinion without knowledge; the Council obtained knowledge and published in the *Journal* a statement by a lawyer on the position of a corporate body, and, having read that and discussed it, the Representative Body decided by a very large majority that they did not want a corporate body. They were now asked to go into the question all over again without any fresh information being forthcoming, and the amendment asked them to say that they did not like the Ministry of Health without suggesting any alternative.

In this democratic country Parliament was responsible for all the public services. For the medical profession to say that it would take part in a public service provided it was not responsible to Parliament through a Minister in the ordinary way would be a waste of time, because doctors were too sensible to take that view and the public would not stand for it. He did not agree that the Association had always done badly in negotiating with the Ministry of Health. The Port of London Authority had been referred to, but that was supported by the payments in the port, whereas the public medical service would be run on public money. The lawyers were considering a scheme for people with an income of under £420 a year, but no public money was to be provided there. The influence of the Association was steadily increasing, and was better now than it had ever been. He hoped the meeting would not do anything so absurd as to say that it would not have a public service responsible to Parliament through a Minister. The White Paper was always being referred to as if it was the last word, but material changes had been made since it was issued.

Mr. Lawrence Abel, in reply, said that since the last meeting schemes had been evolved for putting the control of the medical profession in the hands of the universities in their various regions, and he would submit that the profession in the different regions could control medical work better than someone in Whitehall. He spent a lot of time seeing doctors who had bleeding duodenal ulcers due to worrying about being under the State, and he thought they would all be bled white if they got under the Ministry of Health.

Mr. Abel's amendment was lost.

Dr. A. C. de B. Helme (Guildford) pointed out that the Representative Body had never agreed specifically, but only by inference, to the service being placed under the Ministry of Health, and several questions had arisen recently which had a bearing on the matter, so that it was only right to consider any possible alternatives.

The Chairman of Council agreed that the Representative Body had never said it would be willing that the new service should be under the direction of the Ministry of Health. It had said it was not in favour of a corporate body, and no one had suggested a method of being responsible to Parliament except through a Minister. The motion was lost.

The Right to "Opt Out"

Dr. J. O. McDonagh (Perth) moved that in any national health service the right to opt out should be retained, and that any patient taking advantage of this right should be entitled to the refund of a proportion of his contributions. The right to opt out, he declared, was an essential safeguard not only for the doctor but for the citizen, who should be allowed to retain what remained to him of his independence.

Dr. Douglas Boyd (Belfast) moved as an amendment to substitute the following:

> (i) That all persons compulsorily insured should have the right to opt out from the Government service in matters of medical advice and treatment and receive a financial grant towards a private contract, and that no new agreements be entered into which do not effectively safeguard this right; (ii) that insured patients should be in a position to assign to the hospital or nursing institution of their choice any financial grant received through their health insurance authority.

The amendment, he said, gave a much stronger administrative direction to the Negotiating Committee. The Association had already decided that it wanted freedom for the individual practitioner to conduct his own practice in his own way, freedom from unjustifiable interference from officials, and reasonable remuneration for all work done. Experience of the National Health Insurance Acts showed that there was a trend for economic reasons towards a 100% clinically controlled State service, which would mean the loss of the power to negotiate decent conditions for the public and fair remuneration for the doctors. Every compulsorily insured patient should have the maximum possible liberty to decide what type of service he wanted. That would be opposed, because a 100% service was easier to administer, but that was no reason for denying to the public its right of choice. If there was only one type of service available, the public would have no standard of comparison by which to judge whether it was getting the best service. The public, he thought, wanted a national health service, but did not want control by State officials. If the Negotiating Committee were not satisfied on this score, they should reject the whole scheme.

The second part of the amendment sought to secure for voluntary hospitals the same freedom which was desired for the general practitioner. The voluntary hospitals must be free and autonomous bodies, with their policy co-ordinated but not dominated from outside, and that could be secured only by giving them grants for services rendered, payable to the hospital board by the patient, who would be free to choose the hospital giving the best service.

Dr. S. F. L. Dahne (Reading) said it was the essence of democracy that there should be alternatives for the patients and the profession to turn to; if not, it would lead to the servile State. He had had the opportunity to put this point to the Minister himself, and, not being satisfied with the answer, followed it up with a letter, to which the Minister's reply was more hopeful; he wrote saying that the matter was of immense importance, and that he would give it serious consideration. Personally, he supported the Belfast amendment.

Mr. Mark Fraser (Cumberland) said that at a previous meeting the Representative Body agreed to accept a 100% service provided there were proper safeguards to give patients freedom of choice of doctor and doctors the right to retain private patients, so that he thought that the first part of the amendment had been fully covered already. Dr. J. A. Ireland (Council) suggested that it was entirely dishonest and immoral for them to say that they would take on the whole of the population and then talk of treating some people on private lines. Dr. F. A. Roper (Council) said that this attitude was a dubious one and he very much doubted its wisdom. Was it likely that the Government would be willing to accept this principle of opting out, which seemed insidiously subversive of the Government's aims? Dr. W. N. Leak (Mid-Cheshire) supported the Belfast amendment. The analogy which some had drawn between medicine and education was false. When they sent their boys to a private school they knew what it was going to cost, but no one could say what illness would cost. It was an unlimited risk, only to be covered by a wide scheme of insurance. Dr. Talbot Rogers (Bromley) thought they should stand firmly on the position at which they had now arrived. If they tried to get opting out they might place themselves in difficulties without attaining anything really tangible. Dr. E. T. Wright (Marylebone) supported Belfast. In May, 1945, the Representative Body expressed a willingness to negotiate on the 100% inclusion, but in December, 1944, it decided that National Health Insurance on evolutionary lines was the direction in which it should progress towards the nationalization of medicine, and National Health Insurance had a proviso that the individual worker could opt out. Such a right as opting out should be strongly advocated; it was the right of a free people. Dr. J. C. Arthur (Gateshead) agreed with the fundamental idea of the amendment. What he was concerned about was not the freedom of the doctor but the freedom of the citizen, the freedom of a man to spend his money as he liked. What was the position of the lower middle-class patient, with whom every shilling counted, who wanted at the same time to have his own doctor in his own way? Dr. A. C. de B. Helme (Guildford) said that if the Belfast amendment were rejected it would mean that the meeting declared itself in favour of monopolies or cartels, to which people in general were opposed. Mr. Anthony Green (Guildford) thought that the public would look upon them with disfavour if they failed to support their chance to opt out. Dr. A. Smith Pool (Glasgow) asked how private practice could honestly continue if people who were in the scheme were to be charged a fee but their claim for an allowance in respect of their treatment was not supported. Dr. J. S. M. Ord (Glasgow) spoke against Belfast. To his mind this policy would lower the profession in the eyes of the public.

The Chairman of Council said that the Belfast amendment sought to do two things which were contrary the one to the other. It spoke of opting out, when if a person opted out he would have no benefits under the scheme, and it spoke at the same time of receiving benefits. The public could not have it both ways. How could anyone expect to get a grant-in-aid if he put nothing in at all? By opting out he would have paid nothing and would not be entitled to receive anything. The Special Representative Meeting, in its resolution on the 100% provision, had called for safeguards to insure that any member of the community, whatever his income, should be able to obtain his medical service, in part or in whole, privately, as, for example, by grant-in-aid provisions. The amendment was not very logical.

Dr. Douglas Boyd, replying, said that this was simply a direction to the Negotiating Committee. It was fully realized that if there was a right to opt out there must be safeguards in order that the public might be protected against victimization, although the likelihood of victimization by a doctor was very small. But it was also important to safeguard the right of the public to choose the type of service it wanted. The public in Northern Ireland were quite clear about two things—they wanted a National Health Service, but not a medical service controlled by State officials, and they wanted the right to choose their own doctor, to accept or refuse the advice given them, and to ensure the secrecy of clinical records.

A show of hands on the Belfast amendment resulted as follows:

In favour	114
Against	74

Dr. A. **Beauchamp** asked whether the carrying of the amendment meant a reversal of the policy of the Association, and if so whether it did not require a two-thirds majority.

The **Chairman**: We do not consider that it reverses the policy.

The Perth motion as amended by Belfast was then adopted.

The Spens Committee

Dr. H. H. **Goodman** (Newcastle-upon-Tyne) moved to urge the Association to expedite the findings of the Spens Committee so that its conclusions were available before the profession decided to take part in the proposed new health service. His Division was deeply concerned that shortly they would be having a new medical service on the statute book, and they would not be in a position to know what they would be paid for their services. This was purely a matter of business; he did not put his trust in any Government. He could not believe that the Spens Committee had nothing to do with the National Health Service proposals.

Dr. J. A. **Brown**, a member of the Spens Committee, said that he felt sure that the committee would do its best to issue a report as soon as possible, but he hoped that it would not be hurried unduly, because its decision might have far-reaching effects on the future of medical practice as a whole. Recruitment to medicine had shown no signs of falling off, but it was well to remember what had happened in nursing. Nursing, like medicine, had been called a noble profession, but in return for the title of nobility it was underpaid and overworked until recruits ceased to be attracted, with the result that hospitals were at their wits' end to find suitable candidates so long as conditions of work remained unimproved. Unless something was done for medicine, recruitment might diminish. The Spens Committee had a high sense of its responsibility to the profession and the public.

The **Chairman of Council** said that there was no risk of the profession's being asked to accept terms before the Spens Committee had reported.

It was agreed to pass to the next business.

Views of Practitioners with the Forces

Dr. H. S. **Pasmore** asked the meeting to declare that inadequate opportunity was being given to medical practitioners serving with H.M. Forces to express their views on the future medical services. If profound changes of a controversial character were going to be made in the medical service the one-third of the profession who were in the Forces should be fully consulted. They were the younger part of the profession on whom the main task of running the service would depend.

Mr. C. **Gibson** (West Sussex) moved to re-word the Kensington motion as follows: "That the Council be instructed to take steps to stimulate and increase the expression of opinion on the White Paper by Service medical practitioners." Of all groups of doctors the medical officers in the Services should have the largest interest in the future conditions of practice, yet they appeared to have been the least vocal up to date. Their response to the Questionary was small, and they had not written many letters to the *Journal*. Since March 248 letters from civilian doctors had appeared, but only 31 from serving officers. He suggested a leading article in the *Journal* asking Service medical officers to voice their views. The Council might offer speakers to places like Aldershot, where there were large numbers of Service medical officers, and it might be possible to approach the Directors-General of the different Services and enlist their help.

The **Chairman of Council** said that he did not want it to go out that they were not taking all the steps they possibly could to interest and discover the views of serving officers. Dr. Hill, on a number of occasions, had accepted invitations to address groups of officers at Services centres.

The amendment was lost and the Kensington motion was carried.

The 100% Issue

Mr. **Donald Watson** (Bradford) moved that the Council be requested to make concrete proposals safeguarding private practice under the 100% National Health Service. The recommendation of Council on the 100% issue, he said, was passed with a proviso as to private practice, and all that he asked was that the Council should enumerate the proposed safeguards so that they could be studied and voted upon.

The **Chairman of Council** gave the firm assurance that concrete proposals would be placed before the Representative Body before it was asked to say that private practice was properly safeguarded.

Mr. **Watson** was not quite satisfied. His Division wanted to have these intimate points about private practice detailed.

His motion was carried.

Dr. E. **Babst** (Tyneside) moved that no further discussions on Government Health Services be taken in the Representative Body until the Spens Committee report on the financial aspect of the Services was available. The last Representative Meeting carried a resolution accepting the 100% principle, but no mention was made of remuneration. His Division felt that to accept that principle without knowing what the remuneration was to be was a serious error, and that the Negotiating Committee should have told the Government that this question must be settled first.

Dr. O. C. **Carter** said that if this motion was carried the meeting would be exerting indirect but considerable pressure upon the Spens Committee, and he moved to proceed to the next business.

The motion to proceed to the next business was carried.

PUBLIC HEALTH

The School Medical Service

Dr. J. **Fenton**, on behalf of the chairman of the Public Health Committee, presented the report of Council under "Public Health." He explained that he did so in the absence of Prof. Picken, who on his recent appointment as Acting Provost of the Welsh National School of Medicine had felt himself compelled to withdraw from Association work, to their very great regret. His withdrawal, which they hoped was only temporary, was a great loss to the Association.

Dr. Fenton said that one of the principal matters in the report concerned the medical service under the new Education Act. That Act introduced a new comprehensive medical service for school-children. Here was a large section of the community taken out of the whole, for whom the Government had introduced a free medical service in anticipation of the national medical service. It was on the statute book and was there to be implemented. With the shortage of doctors at present no service as effective as the profession would wish could be given; nevertheless, in the coming months local education authorities would be bringing in this new service, and it behoved the Council and Divisions to scrutinize their actions very carefully so as to be satisfied that nothing but an efficient service was likely to result. The Council would keep the matter very closely under observation.

Dr. H. M. **Golding** (Bristol) moved that the following observations on the Education Act, 1944, should be stressed:

> "The Association upholds the principle that the health of the child should be in the care of the family doctor, and it should be his responsibility to obtain any necessary consultant services. Hence it deplores the acquiescence by the Council in the provision for direct reference to hospital by the school medical officer, and strongly protests against the Council's failure to promote the doctor–patient relationship as between the family doctor and the child."

The backbone of any new service should be the family doctor.

Dr. J. G. **Thwaites** (Brighton) said that the step taken by the Ministry of Education was an example of unilateral action by a single Government Department without consideration for the Ministry of Health or previous consultation with the organized medical profession. He hoped the meeting would support, not only the Bristol motion, but any action which the Council proposed to take in the near future.

Dr. J. A. **Pridham** (Dorset) said that the profession was at last waking up to the provisions of the Education Act. They were not taking exception to the fact that the treatment of children was made free. Much had been heard of "splinter politics," but this was "splinter medicine." It had been hoped to see an integration of services, but this was a reversal of the process. They could not protest too strongly against the action of the Ministry of Education, but at the same time he did not like the Bristol motion, which seemed to condemn the Council. The Council on the previous day had agreed to set up a special committee to consider the implications of this section of the Act.

Dr. P. **Phillips** (Bristol) said that with hyperspecialism coming more and more to the fore he visualized a time when the newborn would be looked after by the paediatrician, followed by the health visitor, and afterwards by the school medical service, and the first time the general practitioner would learn anything of the history of this individual would be on his entrance at 16 or 18 into National Health Insurance.

Dr. J. B. W. **Rowe** (Harrow) said that he had examined many children of school-leaving age and had made a short analysis of the results. Among 235 children he found the following proportion of defectives:

	Boys	Girls
Postural defects ..	55%	55%
Dental defects ..	33%	41%
Foot defects	21%	17%
Defects of vision ..	12%	9%
Tonsillar troubles ..	10%	9%
Skin troubles ..	4%	19%

These preventable deformities were allowed to go on during school life until it was far too late to remedy them. He asked that the plight of these children might be borne in mine when a vote was taken on the matter.

Dr. H. H. D. SUTHERLAND said that there were a good many families where there was no doctor. Most of these cases were probably in the poorer parts of towns. The Public Medical Service had covered this in a large measure, and it would be interesting to learn whether a legal expert would say that in a case where a child was taken away from its usual medical attendant under the Public Medical Service damage had been done to the doctor's contract with that family, quite apart from other cases where the doctor was the recognized private medical attendant of that family and child.

Mr. SIMSON HALL (Edinburgh) said that to believe that the Council's report suggested they were going to take away from the practitioner the care of the children was ridiculous. The Bristol motion was founded upon a misconception. This loophole referred mainly to the slum child who had no medical attendant. No matter how much one might try to persuade parents to have their children looked after a certain number would not do it. This provision in the Council's report concerned children who were otherwise going to be neglected. The child was their first care, and they must do nothing to prevent that child from being properly looked after.

Dr. FENTON said that the Council's view was that the child should normally be looked after by its own doctor, but there were exceptional cases, such as an outbreak of scabies, when other measures might have to be taken.

The second part of the Bristol amendment deploring the "acquiescence of the Council" was withdrawn, and the first sentence was carried.

Mr. LAWRENCE ABEL (Marylebone) moved to add as a rider: "and that the Council be instructed to arrange for adequate representation of the views of consultants, whole-time and part-time, including a special meeting in London of representatives of consultants." This question of an item-of-service basis was going to loom large in the near future, not only concerning school-children, but concerning other work of consultants. There was a remarkable lack of attendance of consultants at meetings of Divisions, probably because they felt that many of the matters at issue did not concern them. But here was a matter which did concern them, and special steps should be taken to ascertain their views.

Dr. FENTON said that in the committee which the Council was setting up to go into this subject it would see that consultants were specially represented.

Mr. ABEL hoped that the representation would be adequate.

The CHAIRMAN OF COUNCIL said that he would be glad to consider this proposal.

Mr. Abel's amendment was agreed to.

The consideration of the remainder of the report under "Public Health" was adjourned until the following day.

ELECTIONS

During the course of the day it was announced that Dr. J. B. Miller, of Bishopbriggs, Lanarkshire, had been elected, unopposed, Chairman of the Representative Body—the first practitioner in Scotland to be elected to that position. Dr. MILLER, who was greeted with loud cheers, said that this was one of the greatest distinctions that could fall to an ordinary practitioner. He was a Lowlander and could not possibly expect to bring to the Chair the dignity of a Macdonald, but as one who had already served some apprenticeship, and who knew with what celerity he would be told of his mistakes, and with what generosity he would be forgiven, he accepted the position with a due sense of its honour.

It was also announced that Dr. E. A. Gregg had been elected Deputy Chairman and that Dr. J. W. Bone had been re-elected Treasurer.

The following were elected members of Council by the Grouped Divisions: (1) Dr. J. A. L. Vaughan Jones, (2) Mr. D. R. Owen, (3) Mr. A. Staveley Gough, (4) Dr. S. Wand, (5) Dr. H. R. Frederick, (6) Mr. A. Dickson Wright, (7) Dr. R. W. Cockshut, (8) Dr. O. C. Carter, (9) Dr. A. Talbot Rogers, (10) Mr. I. Simson Hall, (11) Dr. W. D. Frew, (12) Dr. J. M. Hunter.

The following eight members of Council were elected by the Representative Meeting as a whole: Dr. J. C. Arthur, Dr. A. Beauchamp, Prof. A. H. Burgess, Mr. V. Zachary Cope, Dr. W. E. Dornan, Dr. R. Forbes, Dr. R. G. Gordon, Dr. A. Smith Pool.

The selection of practitioners who will have the support of the Association in an election of Direct Representatives for England and Wales for the General Medical Council resulted as follows:

Dr. J. W. Bone, Dr. H. Guy Dain, Dr. E. A. Gregg, Sir Kaye Le Fleming, Dr. N. E. Waterfield.

The meeting adjourned at 6 p.m.

THIRD DAY

Thursday, July 26

The Representative Meeting reassembled at 10.45 a.m. The hour of meeting had been put back to enable representatives to attend a showing of the film *The Family Doctor* at an adjacent cinema. From time to time during the meeting the results of the General Election were announced.

Dr. PETER MACDONALD again occupied the chair.

PUBLIC HEALTH

The discussion on the section of the Annual Report of Council under "Public Health" was resumed. Dr. J. FENTON, deputy chairman of the Public Health Committee, had presented the report on the previous day.

School Medical Reports

Dr. E. C. DAWSON (Derby) moved that school medical reports should be made available only to the patients' own doctors. Other medical officers requiring school medical reports should first obtain the written consent of the parents or guardians. If such reports were sent to industrial medical officers, he said, they might, if unfavourable, prejudice the interests of the children concerned. The right of young people to have information regarding their medical history regarded as confidential should be respected. A discussion of all aspects of the availability of school medical reports might be useful, with a view to clarifying the situation.

Dr. FENTON expressed sympathy with what the proposer had said, but not with the motion, which referred to all other medical officers, and not industrial medical officers only. When a child moved to another school a report was sent showing the infectious diseases which that child had had, and when children were evacuated from London information regarding diphtheria immunization and so on was sent to the doctors in the country areas concerned; similar information was given by them when the children returned, and such action was in the interests of the children and of the community generally. He recommended the reference of the motion to the Council, so as to obtain a form of words more in accordance with the speech made by the proposer.

Dr. DAWSON agreeing with this course, the motion was referred to the Council.

The Education Act, 1944

Dr. R. FORBES (Hendon) moved:

> That the Representative Body places on record its grave dissatisfaction with the failure of the late Minister of Education to receive favourably the proposals of the Council of the Association on the inability of the profession to implement at present and for some time to come the operation of section 48 (3) of the Education Act, 1944, and urges the Council to warn the new Government of the need to suspend the operation of this section until agreement has been reached on the terms and conditions applicable to the establishment of a National Health Service.

The Education Act of 1944, he said, was in his view of more serious significance than the proposals for a national health service, because it was already in operation. Section 48 required the local authorities to provide the children with medical attendance; circulars had already been sent to them on the subject, and they were beginning to take action. Chaos might result if the matter was not carefully watched, and many practitioners might find a large section of their private practice abstracted from them and handed over to clinics, hospitals, and so on.

When the Act was being drawn up Mr. Butler, who went out of his way to negotiate with many of the interested parties, was approached by the Association. At first he declined to meet them. On further pressure he did so, but declined to accept their contention that the time was not opportune to introduce the provision in question and that the personnel to give effect to it did not exist and would not exist for some time to come. The present Minister (Mr. Law) had been interviewed and had said: "I shall not approve any proposal which would lead to the setting up by the local education authority of a general medical practitioners' service." He had not said, however, what he would approve, and that left a loophole which might be dangerous.

Dr. R. W. MCCONNEL (Buckinghamshire) said that if the Association adopted the motion it might be accused of being indifferent to the needs of the schoolchild. It would be better, he thought, to pass the next motion on the agenda, standing in the name of East Yorkshire. Dr. VAUGHAN JONES (Leeds) maintained that the Association should take the initiative in the matter. Draft schemes were being prepared, and all Divisions should approach their local authorities to ascertain whether such schemes were available. Dr. J. A. IRELAND (Shrewsbury) protested against any suggestion of watering down the motion; there had been too much of that, he contended, in the past, and it was time the Association put its foot down. Section 48 (3) could not be implemented. The Minister might say he would lose face if it was not implemented, but they were not interested in the face of any Minister. Dr. FENTON pointed out that the motion merely confirmed in stronger terms what the Council had already said in paragraphs 25 and 26 of their report. The matter would require careful attention in the coming months, when local authorities would be introducing schemes.

The motion was carried without dissent.

Dr. I. G. INNES (East Yorkshire) moved that a protest be made against the introduction by the Government of a comprehensive medical service for school-children which was not part of the proposed national health service, without consultation with the medical profession, and that clarification be sought of the conditions and scope of such school medical service. The White Paper, he said, laid it down that, when the new health service was able to take over the comprehensive care of health, the education authority as such would give up medical treatment, but the Education Act was in complete contradiction of that. It almost seemed as though there were to be two comprehensive services.

The CHAIRMAN OF COUNCIL said he had already been twice to the Minister of Education on the problem. The difficulty of the new Minister appeared to be a political one; with a General Election pending, no political party was willing to say that the free medical treatment of school-children must be postponed, even though the Minister knew that it could not be implemented. When the new Government was in office it might be possible to exert more influence. It was dishonest to say that the children should be given this service when the service was not there to give.

Dr. FENTON pointed out that the first part of the motion had been covered by the previous motion, and the second part by the decision of the Council to set up a special committee to watch the matter. The motion was withdrawn.

Other Public Health Matters

Dr. FENTON, in presenting the remainder of the report, said the Askwith scale of salaries for public health officers, which was adopted in 1929, was now completely out of date. That was recognized by many local authorities, who were anxious to advertise appointments at above the scale. Salaries must be adjusted to modern values.

The Association was anxious to establish a national maternity service to serve the best interests of the mother and the child, and desired that every woman throughout pregnancy, during labour, and throughout the post-natal period should be under the care of her doctor and midwife, aided where necessary by a specialist and institutional service.

In paragraph 33 the policy of the Association was stated on equal pay for men and women. They felt that not only pay but also the cost-of-living bonus should be equal, because it was counted in fixing the rate of superannuation on retirement.

The Council were as satisfied as ever of the efficacy of vaccination, but believed that compulsion should be removed and that the parent should take the child to his own doctor for vaccination, as for other services. They believed that this would mean that a higher proportion of children would receive the protection so afforded.

Mr. ANTHONY GREEN (Guildford) moved:

> That the Minister be asked to request local authorities and like bodies to implement their statutory responsibility for the care of the chronic sick at the earliest possible moment.

This was carried.

The Askwith Memorandum

Dr. D. C. BARRON (Sheffield) moved:

> That negotiations with regard to salaries and conditions for doctors in the public health and municipal hospital services be conducted with the Government as part of the negotiations for the whole profession and not as on previous occasions with the associations of municipal corporations and county councils.

Scales of remuneration generally, he said, should be correlated throughout the profession. In any municipal corporation the highest-paid official was the town clerk, and after him the treasurer, and then came the medical officer of health, whose salary was conditioned by that of lay officials of his employing authority. All other salaries paid to medical men were scaled down from that of the medical officer of health, and were thus equally affected by the salaries of lay officials. No matter how big the hospital that the medical superintendent had to run, his salary was never so great as that of the medical officer of health, although he might have greater responsibilities. It was important that the junior members of the staffs of local authority hospitals should have their scale of remuneration related to the standards of the profession generally, and that could be done only if the same body negotiated for them all. The adoption of the procedure suggested would take the remuneration of public health officers out of the range of local political influence.

Dr. D. G. MORGAN (Cardiff), in supporting the motion, said it might be too late to discontinue the present negotiations with the representatives of local authorities, but future procedure should be along the lines suggested by Sheffield. The Rushcliffe scale for nurses was decided by a Government Committee, and not by negotiations between the nurses and the employing authorities, and the salaries of whole-time public health officers should be fixed in the same way.

Dr. FENTON said he was not sure that the motion was in the best interests of the public health officer. In the national health service the Government would be the employer, and it was right that negotiations should take place between the Government and the Association; but with public medical officers the employer was the local authority, who obtained the money from the rates, and it would be unwise to say that local authorities should have no voice in deciding what the salaries should be. He liked the idea of all salaries being "under one umbrella," and would like the motion referred to the Negotiating Committee for consideration, but he did not want the meeting to say that the local authorities, who provided the money, should be cut out of the negotiations on the salary scale. It would mean that the doctors would lose many friends.

Dr. W. E. DORNAN (Sheffield) asked the meeting not to adopt the course suggested by Dr. Fenton, and pointed out that when the Askwith scale was adopted local authorities employed far fewer men and women engaged in clinical medicine than they did at present, but the municipal officer had always enjoyed the highest salary, which was a dangerous precedent at a time when a great number of administrative posts were to be created. Some of the backward county councils had never even paid the Askwith scale. It would be better to have no truck with the local authorities if it could be avoided.

Dr. J. RIDDELL (Edinburgh) moved as an amendment that the Sheffield motion should end at the word "Government." The object was, he said, to strengthen and widen the purpose of the motion. There was a difficulty in making the negotiations part of the negotiations for the whole profession, because it had been said that the Spens Committee should not be urged to bring out their report quickly, but the Askwith scale would come to an end in March, 1946, and the Association should then have a substitute ready to be put into operation. The Scottish local authorities were often more recalcitrant than those in the south, and, therefore, negotiations should be conducted on as wide a basis as possible.

Dr. MAXWELL ADAMS (Lanarkshire), in supporting the motion, called attention to the fact that the salary offered for the position of medical officer of health of Glasgow, one of the highest executive positions in Scotland, was only £1,500. There was a danger, he said, that low salaries would lead to the appointment of doctors who would merely be "yes-men."

Mr. LAWRENCE ABEL (Marylebone) contended that it would be a mistake to weaken the resolution. Medical officers of health, in his view, should have the lowest scale of pay, and physicians and surgeons and specialists the highest; and that should be negotiated for the clinicians with the Government.

The Edinburgh amendment was lost.

Dr. BARRON, in reply, said the motion would not preclude the local authorities taking part in future negotiations; the outcome might be a fresh committee on the lines of the Askwith Committee, on which local authorities would be represented.

The motion was carried by a very large majority.

The Safety of Milk

Dr. HOWIE WOOD (Isle of Wight) moved:

> That this Annual Representative Meeting is of opinion that steps should be taken *immediately* to ensure that all milk supplied to children at school should be safe milk.

Members of his Division, he said, were definitely of opinion that cervical and abdominal adenitis, which they attributed to the tubercle bacillus, was largely on the increase in their area. Forty per cent. of all dairy cows slaughtered in this country were found to have tuberculous lesions, and a proportion varying from 2 to 21% of dairy cows, with an average of 7% over the whole country, secreted living tubercle bacilli in their milk. All the bulked milk supply coming into London contained virulent tubercle bacilli, often in large numbers. In Canada work by Price showed that of 300 tuberculous children under 14, 15% suffered from bovine tuberculosis, and every single one of them came from districts where pasteurization was not in operation, whereas in the city of Toronto, where pasteurization had been enforced since 1915, there was not a single case, in spite of the fact that 26% of the milk coming into the city contained living tubercle bacilli. The Association had given a grand lead on the question of infected milk, and doctors were preaching to their patients that they should not give their children milk which was not "T.T." or boiled; but the reply was, "What is the good of treating milk which we give to the children at home when they have unboiled milk at school?" The object of the motion was to see that some action was taken now to render safe the milk consumed by children in the schools.

Mr. **Lawrence Abel** (Marylebone) moved as an amendment the substitution of the words:

> That this meeting instructs the Council to insist that the Ministry of Health and the Ministry of Food shall secure legislation immediately requiring all milk for human consumption to be pasteurized.

Scotland was in a better position than England, he said, with regard to the infection in cattle, which on Scottish farms were usually not up to their udders in filth. The 1936 Order laid it down that all cows in this country were to be tuberculin-tested not less than once in six months, but in 1938, when he realized that war was coming, he bought a cow, and nobody had come to test it yet. London was fortunate in that 95% of its milk was pasteurized, but he was told that in Rugby, for example, nothing but raw milk was served, and in no town in the whole country was there 100% pasteurization of milk.

There had been outbreaks all over the country the germs of which could be transmitted by milk—streptococci, which caused outbreaks of sore throat, and the germs of typhoid, undulant fever, and, most important, tuberculosis. He had obtained some facts from one of the principal officials of the Ministry of Health. In the great majority of cases of bovine infection the disease occurred elsewhere than in the lungs, and bovine infection was responsible for nearly one-third such cases. In England and Wales in 1943 there were 4,000 deaths from non-pulmonary tuberculosis, so that some 1,200 deaths were due to bovine infection. In the same year there were 14,000 notifications of non-pulmonary tuberculosis, which meant 4,000 due to bovine infection. Half the deaths from non-pulmonary tuberculosis occurred in children under 14, which meant that 600 children in 1943 were killed by the lack of action by the Ministry of Health.

All over Europe courts of justice were being set up, and men were saying "J'accuse!" He accused the Ministry of having for the last thirty years murdered children in this country. Yet they were the people to whom the medical profession was asked to give up its freedom. Much had been said of the horrors of Belsen and other camps, but there were 1,200 little Belsens in the homes of England to-day, because the Ministry of Health "did not give a damn about the health of the people." His amendment used the word "insist." The Association should spend some money in indicting the Minister of Health at the Old Bailey for murder, and have a public hanging on the lampposts from the Old Bailey to B.M.A. House of ex-Ministers of Health and their permanent officials. They should break off negotiations with those who allowed 1,200 people a year to die because of their carelessness.

Dr. O. C. **Carter** (Bournemouth) said there had been an epidemic of typhoid in Bournemouth a few years ago due to the consumption of milk infected by typhoid bacillus; the milk was in circulation for only 36 hours, but it caused the death of 135 children and young adults. If that could be done in 36 hours it was obvious that the country ran an appalling risk when unpasteurized milk was in continual use. It also led to a considerable increase in abortus fever, which was difficult to treat. Dr. J. A. **Ireland** (Shrewsbury) remarked that the most striking commentary on the milk supply of this country was the fact that the United States Government did not permit the supply of British milk to any of their units or organizations over here.

The **Chairman of Council** suggested that the time had come when the Association should say that in its opinion the sale or distribution of unsafe milk should be made a criminal offence. If the responsibility for selling poison was put on the person who sold it, it was possible to deal with the position, and the vendor would soon see that the milk sent to him passed the test. Vendors were already prosecuted for selling milk with too much water in it, and it was a worse offence to sell milk with germs in it. It was the milk with which they were concerned—not the cows.

Mr. **Lawrence Abel**, in reply, expressed sympathy with the small farmer who had no opportunity of pasteurizing his own milk, but said that the Government could produce the necessary containers for the purpose, even if they had to melt down a few guns to do it. There had been a White Paper on milk, followed by Defence Regulation 55G, but that had never been implemented.

The amendment was carried with what the Chairman described as "a minimum of dissent."

Vaccination Fees

Dr. J. G. **Thwaites** (Sussex) asked the meeting to affirm that the fees paid to public vaccinators are still totally inadequate and to ask the Council to press for uniformity throughout the country; also that the scale of fees should be the same as has been formulated for the West Riding administrative area, accepted by the Yorkshire Branch Council of the B.M.A., and approved by the Ministry of Health (see *Supplement*, May 19, 1945, p. 94),[1] with the addition that such fees should be paid whether vaccination is successful or unsuccessful, and that a mileage charge of 2s. a mile per vaccination over two miles should be paid. He made it clear that the motion was intended to apply to Scotland as well as to England and Wales.

The motion was carried.

National Maternity Service

Mr. J. D. R. **Murray** (Exeter) moved:

> That those practitioners who have had extensive and lengthy practical experience in midwifery should *ipso facto* be eligible to sit for the diploma in obstetrics and gynaecology without the necessity of having held a resident post in midwifery, and that this suggestion be brought to the notice of the College.

The object of the motion, he said, was to safeguard the experienced country practitioner, who had learned his midwifery in the hard school of practice. Many such practitioners were regarded as obstetric consultants, and were recognized as such by the county medical officer of health for the county consultant obstetric service, but they feared that they might be put on one side in favour of younger men who had obtained the diploma in obstetrics and gynaecology, which did not exist in their day, and they were told that they would be eligible to sit for it only if they took a resident post in a recognized hospital. Dr. J. S. M. **Ord**, who supported the motion, said any proposal to keep practitioners out of any midwifery service in the future should be resisted. Dr. W. B. A. **Lewis** (Shropshire) said the Royal College of Obstetricians and Gynaecologists had stated that the midwifery of the country should be in the hands of specialists in the subject, which would mean that the general practitioner who had a large experience of domiciliary midwifery would, by the suggestions made, be entirely excluded from taking part in it.

The Exeter motion was carried.

Dr. R. **Forbes** (Hendon) moved:

> That this Representative Body is determined to pledge itself to resist the introduction of any new criteria of qualification in midwifery that would, if officially recognized, deprive any registered medical practitioner of the right to practise midwifery in a national service.

If it was true, he said, that the general practitioner was unable to provide proper service in ante-natal and post-natal care there must be something sadly wrong with the teaching in the medical schools, because a registered practitioner should be sufficiently equipped to accept responsibility for attendance on a pregnant woman. The national maternity service which this country required should provide a general practitioner service, a full nursing service, and a full specialist and hospital service. It was important not to overstate the case in such a way as to alarm women and cause them to fear becoming mothers. The general practitioner was well able to look after women during their pre- and post-natal periods, and, if he was in any difficulty, consultant services should be made available at the home of the patient or in a suitable hospital in the neighbourhood.

Dr. F. **Gray** (Wandsworth) said discussions had been arranged between the Council of the Association and the Council of the Royal College, and the first meeting had been held. While the fact that the Royal College had rushed into print was to be deplored, on both sides of the table they were actuated by the one motive of providing the best possible maternity service for the country. When the discussions were resumed and a full report of the present discussion was available, it would be possible to arrive at a solution satisfactory to both bodies.

This was a matter which concerned the whole country. The same newspaper—(the *Daily Mirror*) which after the special meeting in May came out with headlines "Butchers at the B.M.A." had now done worse, and said "Babies' lives at stake in the battle of doctors," and made the grossly improper insinuation that the Association was concerned with midwifery simply because it provided large

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[1] The West Riding scale of fees is as follows:

In respect of births:		
Child entered on list of vaccination officer	2s.	0d.
Not entered on list but vaccinated	2s.	0d.
In respect of vaccination:		
Successful primary vaccination or re-vaccination at surgery or elsewhere	5s.	0d.
Successful primary vaccination or re-vaccination at home of person	10s.	0d.
Successful vaccination or re-vaccination of each additional person at the same time ..	7s.	6d.
Medical officers of institutions who are public vaccinators to those institutions—vaccinations and re-vaccinations	3s.	6d.

financial rewards. When engaged in discussions on such a matter they should not be subject to so gross a libel.

Dr. W. Livingstone (South Staffordshire), in supporting the motion, said that if the Royal College thought that the standard of midwifery was not so high as it should be, they should see that the standard at the universities was raised. One reason for the present maternal mortality was the complete lack of liaison between those who saw the patient at the ante-natal clinic and the midwife and doctor who conducted the confinement.

The Chairman of Council pointed out that the *Daily Mirror* had made an entirely unjustified accusation against the Association, and had, moreover, made it in advance of the discussion that day. It was not possible to prevent things of that kind; the Press were invited to attend the meeting; but they did expect, and they usually obtained, fair play. The *Mirror,* however, had for a long time gone out of its way to poison the minds of the public against doctors as a class. Why, he did not know; but he gathered from its performances in other fields that something sensational was essential to its success. They very much appreciated the way in which the Press as a whole, however, dealt with their business.

Dr. Maxwell Adams (Lanarkshire) said that in Scotland the Scottish Maternity Act of 1935 was giving very good results, and maternal mortality and morbidity had been very much reduced in consequence. The general practitioner of experience was well able to cope with any maternity case. At present a great many women went into hospital for their confinement, but that tendency would be reduced when the housing problem was solved.

Dr. H. S. Pasmore (Kensington), while supporting the motion, said that one reason why the Royal College had suggested a new criterion of qualification was that the specialist and consultant saw the mistakes of the general practitioner. An obvious remedy was to provide easier access to the specialist. It was impossible for a newly qualified doctor to be competent to carry out difficult maternity work, and the young practitioner should be able to call on consultants and specialists more easily.

Dr. J. A. Brown (Birmingham) remarked that an attempt was being made to accuse the general practitioner of being the cause of maternal mortality, but the report of the Royal College itself showed where the blame really lay, for it said that poverty, with its accompanying deficient nutrition, bad housing, and overcrowding, contributed greatly to stillbirth and neonatal mortality. The accusation should really be directed against the Government, which allowed slums to continue and nutrition to be at such a low level.

The motion was carried unanimously.

Dr. R. W. McConnel (Buckinghamshire) moved: "That all ante-natal examinations should be carried out by the doctor who is eventually responsible at the confinement." Dr. J. S. M. Ord (Glasgow) considered this to be impracticable. He could not see how it was to be known what doctor would ultimately be responsible for the confinement, for the doctor who had done the ante-natal work might be ill or away at the time. Dr. C. B. Byrd (Westmorland) also considered it impracticable, especially in a country district like his own, where the nearest hospital or nursing home was many miles away. Dr. J. C. A. Norman (Bournemouth) hoped the motion would be supported. There were certain medical men who attended confinements but did no ante-natal examination. No man who refrained from ante-natal examination ought to be allowed to attend any woman at childbirth. This was a motion for the protection of the mother. Of the large number of women who came up from the various ante-natal centres some 20 or 30% had a quite incorrect prognosis, for the reason that these cases were not seen to their ultimate conclusion by the person who carried out the ante-natal examination. It was a great disadvantage to any man to be called in at the last minute when he had not seen the case ante-natally.

Dr. J. C. Arthur (Gateshead) said that none of them would cavil at the spirit of this motion, though certain practical difficulties might be involved in carrying it out to the letter. He proposed the insertion of the words "as far as possible."

With this amendment the motion was agreed to.

Dr. G. Priestman (Bradford) moved:

> That this meeting approves generally the principle instituted by and the policy pursued by the Council according to the Report, and is particularly emphatic in agreeing with para. 32. It also draws attention to and deplores the views expressed in the Nuffield Hospital Report for Yorkshire on page 90, where "continuous compulsory supervision of children" by a small group of medical men is advocated, and on page 95, where the removal of mothers and children from family general practitioner attendance is advocated, and draws the attention of Council thereto.

He said that the report to which the motion drew attention recommended that these children, possibly with their mothers, should be provided for by a special children's medical service. There would be in each region a group of medical men and women who would confine themselves to work for children. This would mean a further dismemberment of general practice. Where did the conception of the family doctor come in if the supervision of children were taken away from his practice? What doctor, given the time and freedom from financial considerations, would not be willing to look after the children in health as well as in sickness, and what doctor worthy of the name was not interested in children and their diseases? Here was an attempt to set up a large new body of specialists. Dr. W. S. Macdonald (Leeds) hoped this resolution would not be accepted. This report was the work of one individual, and was undertaken for a specific purpose and for one region. The words quoted in the resolution were not in harmony with the general spirit of the report, which was a very useful document. Dr. Fenton suggested that it was not for other parts of the country to intervene in a difference between Leeds and Bradford.

It was agreed to refer the matter to the Council.

Equal Pay and Cost-of-living Bonus

Dr. S. Noy Scott (Plymouth) moved:

> That the B.M.A. reaffirms the policy that men and women medical practitioners shall receive equal pay for equal work; that it shall be understood that this policy shall include cost-of-living bonus; that where authorities or other bodies have not paid the same cost-of-living bonus to women as to men they should take immediate steps to rectify the position, and that such rectification should be retrospective.

No cogent argument, he said, had been produced for the cost-of-living bonus being greater for men than for women. The cost-of-living bonus was frequently incorporated in the salary, and once that was done pensions and rates of remuneration would become larger for men than for women. Some authorities were giving an equal cost-of-living bonus, but one of the biggest offenders was the L.C.C. The motion had the support of the Medical Women's Federation. Dr. Mona Macnaughton (Newcastle-upon-Tyne) supported the motion, and emphasized the fact that a different cost-of-living bonus would mean different pension rates, although at the time of retirement the needs of men and women were very similar. Dr. J. A. Gorsky (Westminster and Holborn), who also supported the motion, pointed out that all men, married or single, received a larger cost-of-living bonus, but costs for single men and single women were the same, and especially when both were doctors their overheads were exactly the same. Moreover, a high percentage of women over the age of 25 had dependants.

Dr. N. E. Waterfield (Council) recalled that when the Royal Commission on Equal Pay for Men and Women asked the Association to give evidence, a committee was set up by the Council and came to a definite decision in favour of equal pay, and it was pointed out at the time that there was no justification for a differentiation in the cost-of-living bonus.

Dr. W. N. Leak (Mid-Cheshire) pointed out that the matter was not so simple as it seemed, and that equal money rates and equal standards of living were two different things. If one asked for equal standards of living for all people doing the same job, it was an invitation to employers to employ those with small responsibilities; but to ask for equal cash payments was to condemn those who had the highest responsibilities to a lower standard of living, and that was at the basis of such evils as late marriage and the declining birth rate.

The motion was carried unanimously.

Dr. Elsie Warren (Kensington) moved that the pensionable age for medical women should be the same as that for medical men. There was, she said, need for more practising doctors, and one way of getting them was to expect medical women to go on working for as many years as the men. A woman's expectation of life was longer than a man's, and at a given age she tended to be less worn out than her twin brother, and so should not be pensioned at an earlier age. Moreover, a man patient seemed to prefer a woman doctor like his mother to one like his daughter.

Dr. Janet Aitken (Council) supported the motion.

Dr. H. H. D. Sutherland (Kensington) pointed out that since the medical woman qualified at much the same age as the medical man, to qualify for an equal pension their pensionable age should be the same.

The motion was carried.

Dr. H. S. Brown (Morpeth) formally moved that the Council be instructed to approach the appropriate authorities—e.g., the local authorities and Government Departments—to ask that the cost-of-living bonus be given to pensioners formerly employed by them, and this was carried.

National Health Service

The Chairman of Council was asked what action the Negotiating Committee had taken to implement the resolution passed by the Representative Body in December, 1944, to the effect that the National Health Insurance scheme should be completed by the organization of full hospital, *x*-ray, consultant, and auxiliary services, and that when these were available the scheme should be extended to dependants. He said that that was the principle behind all their efforts. The question of how it should come into operation had not yet been reached, and a different problem might have to be faced as a result of the General Election.

Collaboration with Other Bodies

Dr. A. S. Wigfield (East Herts) moved:

> That the Council be requested to consider every possible means of instituting collaboration between the Association and all medical bodies producing reports concerning the nation's health before such reports are published.

The resolution, he said, arose from the fact that the Royal College of Obstetricians and Gynaecologists had made a recommendation which was in direct conflict with the policy of the Association. It was understood that as a result of consultation modifications might be made which would bring the report of the Royal College more into line with the Association's policy, but such consultation should have taken place before rather than after the publication of the report. In intraprofessional matters differences of opinion which were made public might have an unfortunate effect. The Chairman of Council, while stating that the efforts of the Association were in the direction indicated, pointed out that it had no power over other bodies, so that everything depended on the willingness of those bodies to work together. The Negotiating Committee included representatives of all the chief forms of medical organization, and it would be proper for those bodies to submit any report to the committee before publication; but it was difficult to deal with them if they would not.

The motion was carried.

Conduct of Business at B.M.A. Conferences

Dr. A. Beauchamp (Birmingham) moved that Council be instructed to investigate the desirability of appointing a Speaker and Deputy Speaker in place of the Chairman and Deputy Chairman of the Representative Body to take charge of all conferences held under the aegis of the B.M.A. A practice had grown up, he said, for the chairmanship of the Representative Body to be regarded as a stepping-stone to chairmanship of the Council, but it did not follow that a good chairman of the one would be equally successful as chairman of the other, and the Representative Body might not wish to lose a good chairman. Moreover, the Chairman of the Representative Body was *ex officio* a member of the Council and the Standing Committees, and if a man was in at the initial stages of the formation of policy he would have an unintentional bias in favour of that policy. His Division used the word "Speaker" to emphasize the analogy with the Speaker of the House of Commons. In saying "all conferences" they would include the Panel Conference.

Dr. J. A. Ireland (Shropshire) said that no change apart from the name seemed to be involved by the proposal. Men of weight in the councils of the Association were appointed to the chairmanship and vice-chairmanship of the Representative Body, and could not be forbidden to take part in the conduct of the affairs of the Association. They had never shown the slightest signs of bias. (Applause.)

Dr. A. Talbot Rogers (Bromley) pointed out that the Panel Conference, which represented all insurance practitioners whether members of the Association or not, would jealously guard its rights to choose its own chairman.

The Birmingham motion was lost by a very large majority.

Dr. C. E. Cobb (Aldershot) asked that something should be done by rearranging the platform to afford better facilities for debate at Representative Meetings. Speakers who came to the back of the platform to await their turn could not hear what was said or judge its effect on the meeting. He suggested that the platform should be moved further back and seats placed at the side for intending speakers.

The Chairman of Council promised that the matter would receive consideration, and said that new loud-speaker apparatus would be installed as soon as it could be obtained.

The following motion was on the agenda in the name of Reading: "That as long as the Annual Representative Meeting is conducted solely through the Chair, this Division does not think it worth while sending representatives to it." Later a notice was given that Reading desired to amend its motion to read:

> That so long as Representative Meetings are conducted through the Chairman of Council, by consent of the Chair, even to the extent of disregarding standing orders, this Division considers that undue weight will be given to the views of the Chairman of Council, and that any views unacceptable to him will receive scant consideration.

A letter was now read from the Reading Division asking permission to withdraw the motion.

The Chairman of Council said that he hoped the meeting would not allow this motion to be withdrawn. He was not concerned with his personal reputation in this matter, but he was jealous that the business of the meeting should always be carried on properly, and if in any sense their arrangements were defective he would be the first to agree to remedial action. The meeting was not conducted through the Chairman of Council. The Council did its business through standing committees, and each chairman of such committees presented the appropriate part of the report to the Representative Body. But there had been two Special Representative Meetings solely concerned with the business of the Negotiating Committee, and as chairman of that committee he had had to present the whole of the business. That was an accident of the occasion. If anybody was dissatisfied with that method and could suggest a better they would be very glad to hear of it. There had been a number of letters in the *Supplement* suggesting that the Chairman of Council had some unwholesome influence over this body, and that the action which he had taken was such as to prevent good representatives ever coming to the meeting again. This was a most serious charge, and if it was supported something serious must be done to cure it. The answer might be that the people who were offended by the action of that body were just being childish because they could not get their own way. ("Hear, hear.")

The meeting by an almost unanimous vote refused to allow Reading to withdraw its motion.

The representative for Reading at first declined the Chairman's invitation to move it, and the Chairman of Council asked if Reading was running away from its own proposal.

Dr. D. H. S. Boyd (Reading) then came forward and said that the letter from the Division was written on July 23, before the meeting opened, and he thought that anything withdrawn before the meeting should not be brought forward. The Secretary explained that the motion had been considered by the Agenda Committee before the letter of withdrawal was received, and thus it became part of the business of the meeting, and could be withdrawn only with the meeting's permission.

Dr. R. W. Cockshut said that the results of the General Election which had been declared during the day made it all the more necessary that the Association should be consolidated. All this business should now be regarded as over, facing as they did the threat of a Government pledged to bring in a State-salaried service. All the unity they could muster would be needed.

The Chairman read a letter which he had received from Dr. Balcke-Foote, saying how sorry he was to see from the Chairman's letter in the *Supplement* of July 21 that his (Dr. Foote's) letter was construed as a personal attack on himself and on Dr. Dain. It was the system which he was concerned with and not the personalities of those who ran it. He had never doubted the impartiality of the Chairman, nor the sincerity of Dr. Dain. The Chairman said that he thought it only fair to Dr. Balcke-Foot to read the letter, but, of course, there was no personal attack.

Dr. Maxwell Adams said that those who had signed the letter in the *Supplement* criticizing the Chairman of Council ought to have the courage to come forward and state their views. He was one of those who thought the Chairman of Council took too much into his own hands; but he was making no accusation against him: his accusation was against the representatives who allowed him to have his own way.

Mr. Dickson Wright (Marylebone) said that he was one of those who signed the letter, and he did not wish to withdraw anything. This Representative Body had been described to him as the Parliament of the medical profession. In this controversial time when they saw the profession drifting into bondage they did right to feel agitated. The "opposition" in the body of the meeting felt at a disadvantage as against the platform, that the scales were weighted against them.

Dr. Stanley Hodgson (Salford) said that a good many members of the Representative Body brought forward motions with very scant knowledge of the facts, and they really depended upon such men as Dr. Dain to keep them properly informed. In Salford they felt it disgusting that a number of members should sign such a letter. They were only too thankful to have a man of Dr. Dain's calibre to assist them. Dr. Lucas Young (Eastbourne) deplored the number of motions which were referred for consideration by the Council; time should be given for them to be fully discussed. Dr. E. T. Wright (Marylebone) spoke to the same effect.

The **CHAIRMAN OF COUNCIL**, who was received with general applause, said that it was very important at the moment not to have differences of opinion on things that mattered. As for the agenda, if representatives were prepared to go on day after day until the agenda was finished, well and good, but it was the general feeling that, owing to various considerations, especially in wartime, some limit should be placed upon the length of the meeting. As for its decisions, they were decisions of the meeting, and it was not fair for a member of that body afterwards to say that the representatives voted for something because the platform wanted them to do so. He had much greater respect for the Representative Body, of which he had been a member for 26 years, than to suppose that they would vote for anything other than they wanted. To accuse him of pushing a State medical service was ridiculous. He was chairman of a committee which was negotiating the form which a medical service might take, but he did not want a State medical service; it was a most unfair charge to make against him. On the more general question, it had always been open to anyone who held views which were not the same as those of the Council to ventilate them freely. He complained of the suggestions conveyed in letters in the *Supplement* which gave the impression to the outside world that things were not being properly done in their own Parliament. (Applause.)

Dr. H. S. **GABB** (Hastings) said that many Divisions were perplexed because decisions made last December were reversed in May. When his Division wanted to know why this had happened he could only say that the reversal was due to the great ability of the Chairman of Council.

Dr. **BOYD** (Reading), replying, commented on the number of speakers who had urged reform of one kind or another, which suggested that things were not quite as they should be.

The Reading motion was lost by an overwhelming majority.

NAVAL AND MILITARY

Col. A. H. **PROCTOR** (chairman, Naval and Military Committee), in presenting the report under that heading, said that an answer had been received from the Treasury on two points mentioned in that report. The first question was: Will a medical officer who is released at the instigation of the Central Medical War Committee on grounds of civil needs be entitled to either the release leave of 56 days or to the foreign service leave, or both? The answer was that special release officers, released on the grounds of national service, were divided into two classes: (1) those who were released prior to the reallocation scheme coming into force, and (2) those released after the scheme. The former got no leave on release, but would receive a grant in lieu of foreign service leave which they might have earned. The latter were treated as Class B releases and were subject to the conditions laid down in those releases—that is, they would receive 21 days' leave and at the end of the war a grant in lieu of their foreign service leave which they might have earned. The Royal Navy differed inasmuch as they received foreign service leave. The release leave of 56 days for officers in the Forces was granted only to those in Class A. The second question was: Will a medical officer be entitled to receive, if he so wishes, the outfit allowance of £12 in lieu of the outfit? Here a differentiation was made between men and women. Men would have to take the clothing outfit; women, if they wished, would be given a grant of £12 in lieu of it. A money grant in lieu of clothing had been made to a few officers who took their discharge over-seas. A disability pension was exempt from income tax.

Postgraduate Study for Demobilized Practitioners

Dr. J. A. **GORSKY** (Westminster and Holborn) moved:

> That this meeting considers that the present decision whereby a Service medical officer previously engaged in general practice is being offered on demobilization a two-weeks refresher course during which time he is offered subsistence allowance and a small sum per week for the provision of a locumtenent is totally inadequate, and that a period of at least two months should be allowed during which time adequate financial arrangements should be provided.

He said that he had been asked by many serving members of his Division, some of whom had been out to the East and had just returned to jobs where they were at the moment stagnating, to put forward this motion. They considered that two weeks' postgraduate study was not sufficient. Some of the reasons they had given him were as follows. Medical officers of the Services were dealing essentially with the age groups 20 to 45, which normally gave rise to the least illness in general practice. The members of those groups were selected people, essentially sound, and, therefore, the amount of illness in them was not the same as in general practice among corresponding age groups. Most of the serving officers of the male sex had had little or nothing to do with female patients, who were looked after by women Service medical officers. Most of these officers had never attended a confinement since 1939, nor had the opportunity of doing any ante-natal or post-natal work. They had also had little opportunity to attend clinical meetings, and their experience of war wounds and injuries, field hygiene, mass inoculation, etc., had very little bearing on general practice.

Dr. W. N. **LEAK** (Mid-Cheshire) supported the motion. Anyone who served in the Army knew how rusty they got. There should be some period of re-education. The only objection was from the Treasury. But there was no possible expenditure of money by the Government which would yield greater dividends than to make sure that a whole generation of practitioners returning from the Forces were given the best possible chance of rehabilitating themselves.

The motion was carried.

The Demobilization Scheme

Dr. W. M. **KNOX** (Glasgow) moved a resolution which, combined with one from Brighton and an amendment from North Staffs, read as follows:

> That this meeting is dissatisfied with the operation of the present demobilization scheme, and in view of the urgent need for medical practitioners in civilian practice, urges that pressure be brought on the Services to release more doctors at an early date.

The President of the Association, in his address from the chair the previous day, had given a hint of the difficulties and troubles likely to arise on demobilization. There was a feeling of dissatisfaction, not so much with what was being done as with the uncertainty of the future. It was in the minds of the chairman and secretary of the Central Medical War Committee that some more vigorous method of demobilization should be inaugurated. During the last six years, fortunately, there had been no major epidemics, but there was no guarantee that this winter would not produce one, and at the present stage, when the medical profession in this country was getting older and tired and had had no replacement of any description, it was absolutely necessary that immediate steps be taken. The Forces in Europe might now be regarded as on a peacetime basis; their sickness rate should be much less, as they were a fit body of men, and therefore there seemed to be no reason why their proportion of medical man-power should be higher than that of the civilian population. There was nothing to be criticized in Group A demobilization, which went by age and length of service, but the difficulty arose in the Group B class, where they were not actually demobilized but released. One of the things that concerned them was the question of replacement. It was stated that very few would be released in the Group B category, and that releases would take place only if replacements were available. There must be no further call on recruitment from general practice, which was already sufficiently depleted. During the period of recruitment, especially in the last year, they had been hard pushed by the Services to supply medical men. They had been forced, so far as general practice was concerned, to give up very valuable men, men from 35 to 40 years of age. These men had been recruited, but naturally they had been credited with a very short period of service, and therefore their time of release was at a late date. Their reason for not entering the Forces earlier was because they had been retained by Local Medical War Committees earlier on account of civilian needs. It was on those grounds that an assurance was sought that there was some definite agreement with the Services for release.

Dr. W. N. **MAPLE** (Brighton) said that these doctors could be demobilized from the Services rather more quickly. They were all conscious that the civilian population was not getting all the medical attention it ought to have, and that most civilian doctors, after five years of overwork, were getting very tired. It might be argued that, however well they might be able to judge civilian needs, they were not in a position to judge Service needs, and that was very probably true; but a case could be made out for suggesting that the Services were over-doctored. He mentioned one or two cases in point.

The motion expressing dissatisfaction with the operation of the present demobilization scheme was carried.

Dr. A. **BEAUCHAMP** (Birmingham) moved: "That in order to facilitate the return of practitioners Council be instructed to take steps forthwith to prevent the requisitioning of the houses of absentee doctors, or alternatively to ensure that if the premises are requisitioned they shall be released in adequate time for the return of the absentee practitioners." He quoted an instance. Last Wednesday a practitioner was demobilized, and went to see an official of the local authority, who said, "You are just in time. Another three weeks later and your house would have been requisitioned."

Dr. J. A. Brown (Birmingham) supported. He said that in some cases the doctors had been got back, and there was no opportunity for them to do their work because their houses could not be derequisitioned.

This motion also was carried.

Dr. A. Talbot Rogers (Bromley) drew attention to the state of affairs in his own Division. They were grossly short of doctors, one of the reasons being that they had contributed their quota of doctors from general practice at a time when the population of the area, based on the number of food cards issued, was at its lowest, owing to bombing and evacuation. Since then the population had come flooding back, but there were no more doctors; indeed, there were fewer.

The Chairman of Council said it was not so much that they were dissatisfied with the present demobilization scheme, as that they were unable to find out what it was. They had failed to obtain information from the Services as to what groups were likely to be demobilized at certain dates. But now two at least of the Services had reacted to the popular expression of opinion as given in the Press the previous week (following upon a press conference at the B.M.A.). It was said now that by the end of August the first eleven groups in the Army would be demobilized, and he believed that these included over 1,000 doctors. The matter was being very actively pursued. He had hopes that 5,000 would be demobilized by Christmas.

Dr. O. C. Carter asked whether the Medical Personnel Priority Committee still functioned, and if it had scrutinized recently the medical establishment of the Services.

The Secretary said that an emergency meeting of the Services Committee had been held that morning, and the Minister of Health was being asked to arrange for an early meeting of the Priority Committee.

Col. Proctor said that it was a misdescription of the present scheme to call it a demobilization scheme; it was a reallocation scheme—a reallocation of personnel as between the Services and the civil community. There were certain difficulties about reductions in staffs. In this country casualties had been dealt with in E.M.S. hospitals. On the Japanese front the Army had had to establish general hospitals where formerly it had E.M.S. hospitals, and this had meant a much greater demand for specialists. The demand in the Navy for medical officers also was much greater now than at any stage in the war. The Army had a large number of officers who had done their tour of foreign service and were in this country; these men were not, under present conditions, to be sent abroad again. They could be reallocated to civil employment, but special rules for demobilization or reallocation would have to be brought out for the medical profession. A quota had been laid down which could not be exceeded for the special releases. The medical services in the Army were only allowed to grant special releases at a certain percentage of Group A. The present position was that the Army was very short of medical officers to send over-seas and was dependent entirely on the men now being recruited. This looked like continuing until the end of the Japanese War. It was probable that the age limit would have to be raised rather than lowered to get the requisite number of men. The difficulties were very great because of their repercussions on other professions and callings.

Dr. W. E. Dornan (Sheffield) asked that steps should be taken by the Association, using the machinery of the Branches and Divisions and all other possible means, to ascertain what numbers of medical practitioners could rapidly be absorbed into civilian work as demobilization proceeded. He urged that the time lag between demobilization and re-employment should be as short as possible. Any large unemployed body of medical men demobilized from the Services would be a very serious problem.

The Chairman of Council said that the needs in civil life in all departments were so urgent that 10,000 men could easily be absorbed without looking round, and there need be no fear of a pocket of medical unemployment. An information bureau had been established at headquarters, and they were prepared to advise any demobilized officer.

Dr. R. W. McConnel (Buckinghamshire) suggested that a list of elderly practitioners intending to retire be compiled by the Central Medical War Committee; but the Chairman of Council said that that was a job for very special people familiar with detail, and he did not see any reason why the Association should undertake the work of agencies.

The Sheffield motion calling for the use of Association machinery for the ascertainment of the numbers which could be absorbed into civilian work was carried.

Dr. P. Phillips (Bristol) moved that if it was necessary to call up further age groups of doctors from civilian practice it would be advantageous for all concerned to do this from the 40–55 age groups. Many of them who were past their half-century felt that they could replace some of the younger people.

This motion was lost. The report under "Naval and Military" was approved.

Other Reports

Mr. Zachary Cope moved the report of Council under "Patent Law" and briefly summarized the position as there set out (see *Supplement*, May 12).

Dr. N. E. Waterfield presented the paragraph under "Medical Ethics," remarking that there had been peace in the ethical world during the year.

The Chairman moved the report under "Oversea Branches."

Dr. G. MacFeat presented the report under "Scotland," describing the two successful Scottish Conferences, the discussions on the White Paper, the new liaison with the British Hospitals Association, the activities of the Highland and Islands Medical Service, and the operation of the Maternity Services (Scotland) Act.

All these portions of the Council's report were approved.

Votes of Thanks

The Chairman expressed the thanks of the meeting to the secretarial and clerical staff of the Association, also to the catering staff for what they had done to promote the success and comfort of the meeting. He further referred to the work of Dr. Craig, the retiring Scottish Secretary, and said how greatly the Association valued his services.

Dr. Talbot Rogers moved a vote of thanks to the retiring Chairman, Dr. Peter Macdonald, not only for the way in which he had handled that meeting, but for all that he had done during the last three crowded years—perhaps the most crowded three years in the Association's history. He had presided over three Annual and three Special Representative Meetings, and had done it with patience, understanding, good humour, and justice.

The vote of thanks was carried, the representatives rising and applauding.

Dr. Macdonald said that he had come to the end of his tenure of office with regret. He expressed his gratitude for the co-operation and courtesy extended to him by the members of the Representative Body and for the help of the Deputy Chairman, Dr. J. B. Miller, whom he then invested with the badge of office and inducted into the chair.

Dr. Miller's first act was to declare the meeting at an end (at 5 p.m.).

BRITISH MEDICAL ASSOCIATION

Areas of Aldershot and Basingstoke, and Winchester Divisions

Notice is hereby given by the Council of the Association that as from the date of this notice the Civil Parish of St. Mary Bourne is transferred from the area of the Aldershot and Basingstoke Division to the area of the Winchester Division.

Charles Hill,
Aug. 4, 1945. *Secretary.*

H.M. Forces Appointments

ROYAL AIR FORCE

Royal Air Force Volunteer Reserve

The notification concerning B. Plowright in a *Supplement* to the *London Gazette* dated June 29, and in the *Supplement* to the *Journal* of July 21, p. 14, should have read O. Plowright.

To be Flying Officers (Emergency): C. C. Dawson and M. Hutchinson.

POSTGRADUATE NEWS

The Fellowship of Medicine announces the following course in preparation for the Primary F.R.C.S. examination: Lecture-demonstrations in anatomy, physiology, pathology, and bacteriology on Mon., Wed., and Fri., Aug. 13 to Oct. 15. Two lectures each day at 6 p.m. and 7.15 p.m. Detailed syllabus obtainable from the Fellowship of Medicine, 1, Wimpole Street, W.

WEEKLY POSTGRADUATE DIARY

Edinburgh Postgraduate Lectures.—At Edinburgh Royal Infirmary, *Thurs.*, 4.30 p.m., Dr. Cranston Low: Molluscum Contagiosum.

BIRTHS, MARRIAGES, & DEATHS

The charge for an insertion under this head is 10s. 6d. *for* 18 *words or less. Extra words* 3s. 6d. *for each six or less. Payment should be forwarded with the notice, authenticated by the name and permanent address of the sender, and should reach the Advertisement Manager not later than first post Monday morning.*

BIRTH

Foster.—On June 10, 1945, at Prospect, Bermuda, to Stella (*née* Stannard), wife of Temp. Major G. E. Foster, R.A.M.C., a son—Anthony Elwood.

MARRIAGE

Lankester—Burnett.—On July 21, 1945, at Leicester, Major John H, Lankester, R.A.M.C., of Oxted, Surrey, to Mary, only daughter of Col. T. W. Burnett, U.S.A.M.C., and Mrs. Burnett, of New York City.

DEATHS

Babington.—On June 29, 1945, Gilbert Cleary Babington, M.D., M.R.C.P.Lond., D.C.H., Lieut.-Col., R.A.M.C., of 37, The Fossé, Leicester, died in India, aged 39 years.

Rose.—On July 23, 1945, at his residence in London, Andrew Rose, M.B., C.M., passed peacefully away.

SUPPLEMENT TO THE
BRITISH MEDICAL JOURNAL
LONDON SATURDAY AUGUST 11 1945

PROCEEDINGS OF COUNCIL

A meeting of the Council of the Association, preceding the Annual Representative Meeting, was held on July 24, under the chairmanship of Dr. H. Guy Dain.

The deaths of four former members of Council—Dr. Thomas Beattie, Dr. H. C. Bristowe, Dr. William Clow, and Mr. N. Bishop Harman—were reported, and the Chairman referred in particular to the great services of Mr. Bishop Harman to the Association and said how much they would miss his presence.

A letter was read from the Federal Council of B.M.A. in Australia placing on record its appreciation of the services rendered to the British Medical Association by the late Viscount Dawson of Penn.

The congratulations of the Council were conveyed to 22 members of the Association whose names were in the recent Birthday Honours list.

The Spens Committee

Dr. E. A. Gregg, reporting for the Insurance Acts and General Practice Committees jointly, said that the Spens Committee had devoted its meeting on July 12 and 13 to the consideration of evidence, written and oral, from the Association. It was understood that further opportunity would be given to the Association's witnesses. The principal witnesses for the Association, led by the Chairman of Council, numbered five, and ten other practitioners had been nominated to give evidence on special conditions of general medical practice in different types of area.

Reference of Patients to Tuberculosis Officer

Dr. Gregg, as chairman of the Insurance Acts Committee, brought forward the circular letter issued by the Ministry on June 4, suggesting that the Divisional Medical Officer, when an insured person was referred to him for independent medical examination, and a tuberculous condition was diagnosed or suspected, should refer him direct to the tuberculosis officer of the area. Dr. Gregg said that the strongest possible exception was to be taken to this procedure. The duty of the Divisional Medical Officer, when he diagnosed or suspected tuberculosis, was to suggest in the report sent back to the practitioner that he should seek the assistance of the tuberculosis officer. Only if, after sufficient opportunity had been given to the practitioner to take action, no steps had in fact been taken, would there be a case for proceeding further. A very important question of principle was involved. The point was one which might affect every practitioner in the country, insurance or other.

Dr. Peter Macdonald, Dr. F. Gray, and Dr. N. E. Waterfield spoke in deprecation of the Ministry circular, and the Council endorsed unanimously the instruction of the Insurance Acts Committee to its chairman to oppose in the strongest possible manner the suggested proposal.

Protection of Practices

A report was made by the Protection of Practices Committee, stating, *inter alia*, that a survey of work done by Local Medical War Committees in protecting the practices of absentee practitioners was to be prepared, and a questionary would shortly be issued to such practitioners throughout the country.

Dr. Gregg said that under the protection of practices arrangements it was useless for anybody to look for a perfectly running machine that would solve every problem. It was necessary to rely on a very large measure of good will, tolerance, and helpfulness.

Advertisements of Permanent Appointments

Mr. R. L. Newell presented a report of the Hospitals Committee. The committee, he said, had gone very fully into the question of permanent appointments. It was their strong feeling that nothing must be allowed to jeopardize the future of the men serving in the Forces. He moved a series of recommendations, all of which were agreed to as follows:

> That advertisements of permanent medical appointments which do not invite applications from practitioners serving in H.M. Forces and allow at least four months for the receipt of applications be refused publication in the *British Medical Journal* and that the reasons for such refusal be explained to the employing authorities concerned.
>
> That in the event of an employing authority declining to amend an advertisement of a permanent medical appointment in conformity with the policy of the Association, the appointment in question be included in the "Important Notice" in the *British Medical Journal.*
>
> That in the event of an advertisement of a permanent medical appointment the wording of which conflicts with the policy of the Association being published in a newspaper, an announcement in the form of the "Important Notice" be inserted in the same newspaper.
>
> That the policy of the Association in regard to advertisements of permanent medical appointments at the present time, as recently explained to hospital authorities, be communicated to employing authorities generally.

A National Maternity Service

It was reported that representatives of the Association, headed by the Chairman of Council, had met representatives of the Royal College of Obstetricians and Gynaecologists on the question of a national maternity service and in particular on the role of the general practitioner with regard to obstetrics. A provisional agreement had been reached on the following statement, and a further meeting was to be held after each body had considered it:

> (1) After qualification a practitioner needs adequate and regular experience in obstetrics to be a good obstetrician.
>
> (2) Midwifery standards should be raised by (*a*) the inclusion of a resident midwifery post in the pre-registration compulsory hospital posts as proposed by the Goodenough Committee; (*b*) creating an increased number of resident obstetric hospital posts available to recently registered practitioners; (*c*) the organization of the proposed comprehensive medical service so as to secure for each pregnant woman a general practitioner, a midwife, and, where necessary, an obstetric specialist; (*d*) the recognition for the purposes of the future service of those general practitioners who desire to undertake obstetrics, provided that they undertake sufficient midwifery to enable them to remain efficient."

Dr. Cockshut referred to the position of the practitioner who had done a good deal of midwifery in his time, but for certain reasons did not want to go on doing it to the same extent, although he remained very competent to do so. He suggested that a proviso should be inserted in the report that nothing should be done to interfere with the right of any woman to engage any doctor she wished.

The Chairman pointed out that note would be taken of this and other suggestions, but the Council could not alter the agreed report.

Dr. James Fenton, who had attended the conference with the College, said that it was made plain that one of the first planks in the Association platform was that a registered medical practitioner was qualified to practise medicine, surgery, and midwifery.

Other Committees

Reports were made by the Chairman on the work of the Public Relations Committee and the Parliamentary Elections Committee, and by Dr. R. G. Gordon on the Care of Children Committee. Mr. Zachary Cope, for the Science Committee, proposed, and it was agreed, that for the ensuing year no Association grants be awarded, in view of the difficulty of allocating them, but that the number of Association scholarships be increased for the present from five to six, two of the value of £200 each, and four of the value of £150 each, to be awarded for the nine-months period from January 1 next, subject to renewal for a further period of one or two years at the discretion of the Council. It was agreed that special measures be taken through the various Service departments to make the scholarships known to members of H.M. Forces.

The finance of the Association for the first four months of this year was presented by the Treasurer and the report adopted.

Professor Picken

The Chairman said that members of Council would be grieved to hear that Prof. Picken, in view of his appointment as Acting Provost of the Welsh National School of Medicine, was resigning from the Council and from the various committees of which he was a member in virtue of his membership of the Council, including the Central Medical War Committee. Prof. Picken was doing this very regretfully, but he found it impossible to continue with his new office the frequent visits to London which the work of the B.M.A. entailed. He thought the Council would desire to express to Prof. Picken their very great regret at this severance, both on personal grounds and on the ground of the value of his contributions to their discussions. ("Hear, hear.")

Dr. Peter Macdonald testified to the value of Prof. Picken's work on the Central Medical War Committee, and Dr. R. W. Cockshut described Prof. Picken as one of the finest chairmen under whom he had ever sat, a man of superlative honesty and always ready to listen to and understand any point of view.

The Council placed on record its great regret at Prof. Picken's resignation and its appreciation of his outstanding services.

The Council held another brief and formal meeting at the close of the Representative Meeting on July 26. New members of Council were introduced and took their seats, and the sole business was the election of Council members to the standing committees, and the continuance, in some cases with slight changes of personnel, of those special committees which have not discharged their reference. A new special committee was appointed by the Council for the consideration of the treatment of school children under Sect. 48 (3) of the Education Act, 1944.

ANNUAL GENERAL MEETING

The Annual General Meeting of the British Medical Association was held in the Great Hall, Tavistock Square, London, on Wednesday, July 25, 1945. Dr. H. GUY DAIN, Chairman of Council, presided over the first part of the proceedings.

The SECRETARY read the notice convening the meeting. The minutes of the previous Annual General Meeting, held on December 6, 1944, and published in the *Supplement* of December 23, were taken as read and confirmed.

Dr. DAIN reported that the Representative Body had elected as President of the Association, 1945–6, Mr. H. S. Souttar, C.B.E., D.M., M.Ch., F.R.C.S.

Mr. SOUTTAR took the chair amid applause, and proceeded to read his Presidential Address, which is published at page 163 of last week's *Journal*.

Dr. PETER MACDONALD, Chairman of the Representative Body, proposed a vote of thanks to Mr. Souttar for his address. He said that Mr. Souttar regretted as much as any of them the sad event which had opened the way for him to become President of the Association, but when Lord Dawson died the Council found to its great satisfaction that it had within its own ranks a person whom it could recommend with confidence to the Representative Body as President. To those of them who had been for long his colleagues in the work of the Association, and who had sat under his chairmanship in various capacities, Mr. Souttar's election was a source of great pleasure, and they felt that Lord Dawson would have an adequate successor. He added that Mr. Souttar might have to be President for a longer time than usual, until, in fact, the Association resumed its practice of visiting provincial cities and selecting its President from the locality in which its Annual Meeting was held. But the President would not misunderstand him when he said that he hoped his tenure of office would not be too long.

The vote of thanks was carried by acclamation.

On the motion of Dr. I. D. GRANT, seconded by Mr. A. STAVELEY GOUGH, Messrs. Price, Waterhouse and Co. were reappointed auditors of the Association at a remuneration of 300 guineas.

The Annual General Meeting then concluded.

GENERAL MEDICAL COUNCIL

DISCIPLINARY INQUIRIES

(Concluded from p. 17)

Reference of Patients to Abortionist

The Council on July 17 considered the case of James Alexander Henry Van Derwert, registered as of Regent's Square, London, who was summoned on the charge that in or about July, 1944, he had referred a woman, who was named in the charge, to one Pius Louis Beausoleil, who, to his knowledge, was an unqualified and unregistered person, in order that he might procure her abortion; an alternative charge was that he referred the woman to this unregistered person for attendance and/or treatment and/or the performance of an operation in a matter which to his knowledge required professional discretion or skill, and, further, that by his presence, countenance, advice, assistance, and co-operation he knowingly enabled the said Beausoleil to engage in professional practice as if he were duly qualified and registered.

Mr. Gerald Howard, counsel, in opening the complaint, said that the case arose out of the conviction on December 8 last of a man named Beausoleil, a herbalist, of using an instrument to procure abortion. According to a statement made to the police by Dr. Van Derwert, he had known of Beausoleil for a number of years and was aware that he was not a medical practitioner. The woman named in the charge went to Dr. Van Derwert and asked for assistance in terminating her pregnancy; as a result she was put in touch with Beausoleil, and an illegal operation was performed. The police entered the premises actually as the operation was being performed. According to Dr. Van Derwert's statement he had referred women to Beausoleil, but he had never kept a record of their names and addresses. He had received no payment from Beausoleil, and he had never learned what had happened. It was plain, said Mr. Howard, that Dr. Van Derwert was consulted by the woman and put her in touch with Beausoleil, knowing that he was not a registered practitioner and that he had dealt with women in that condition before.

Detective-Inspector Philip Burney, of Scotland Yard, testified that one of the cases to which Beausoleil pleaded guilty when charged was the case of this particular woman. In the course of inquiries into Beausoleil's activities he interviewed Dr. Van Derwert, whose statement was voluntarily made. It was made under caution because Dr. Van Derwert was suspected of connivance, but Beausoleil made no statement involving Dr. Van Derwert, and Dr. Van Derwert was never charged. Dr. Van Derwert became involved through a note, part of which was in his handwriting, that was found in Beausoleil's possession.

A woman who was described as C. D. said that she called on Dr. Van Derwert in June, 1944, with the woman on whom eventually the operation was performed. He was not in, and she left a note for him. Later she and the woman saw the doctor; he said he could not help the woman, but he would "contact" someone who could. Evidence was also given by the woman on whom the operation was performed. She described how she went with C. D. to "a doctor near King's Cross," who said that he knew of somebody who would help her, and he wrote down her address. Dr. Van Derwert did not examine her. No money was paid to him.

In his defence Dr. Van Derwert said that he was 70 years of age, was born in Ceylon, and qualified in 1898. He saw active service in the Boer War and in the first European War. When the two women called on him they were very distressed, and all he said to them was that he had done nothing like that in his practice, but that there were herbalists about and that they might consult one of them. When he saw Beausoleil, who was a patient of his, he told him about a woman who was worrying about her pregnancy, but he did not introduce any woman to Beausoleil for the purpose of an illegal operation. His object had been to get rid of these women. With regard to the note, it was left at his house by C. D., and he wrote the other woman's name and address at the bottom of it, but he did not know how it came into the possession of Beausoleil. It was pointed out to him that in his statement he said that he had referred women to Beausoleil; he now strongly denied that he had referred them for the purpose of an illegal operation.

Mr. G. F. Rutledge, on behalf of the doctor, said that this was a tragic case. The doctor was an old man, suffering from great physical infirmity. It was unfortunate that evidence in support of the complaint should have been given by accomplices who, under the rules of the Council, could not be sworn.

Mr. Gerald Howard said that this was not a case of asking the Council to act upon the uncorroborated evidence of accomplices, because there was the strongest corroboration of everything those witnesses had said in the statement of the doctor himself—that he had referred women to this herbalist.

The President announced that certain facts alleged in the charge—the facts stated above—had been proved to the satisfaction of the Council. "In respect of the facts so proved the Council have found you to have been guilty of infamous conduct in a professional respect. The Council, however, have not seen fit, in view of your age and physical condition, to direct the Registrar to erase your name from the *Register*."

Convictions

The Council considered the case of John Mackay Young, registered as care of New Zealand House, London, who, at Newcastle-upon-Tyne on Jan. 31, had been convicted of being drunk at South Gosforth railway station, and fined 10s. and 21s. costs. The Council's solicitor stated that Dr. Young had been before the Council on similar charges in 1938, when judgment was postponed. In 1941 he was struck off the *Register*, but restored in 1942. Mr. Oswald

Hempson, in Dr. Young's defence, said that during the severe weather Dr. Young went on a long railway journey and drank from a bottle of gin. On alighting he slipped on the frozen platform and injured his head.

The Council found the conviction proved, and ordered the erasure of Dr. Young's name.

Alleged Failure to Exercise Reasonable Skill and Care

On July 18 the Council considered the case of Richard Morven Shirlaw, registered as of Collier Row Lane, Romford, who appeared on a charge that he had failed to exercise reasonable skill and care in the treatment of Charles William Pearson, a person for whose treatment he was responsible under the National Health Insurance Acts. The charge stated that, to the doctor's knowledge, on the day before he visited him Pearson had drunk in error part of the contents of a bottle of liniment commonly known as lin. A.B.C., being a preparation containing substances included in the First Schedule of the Poisons Rules, 1935, as substances falling within the Poisons List to which special restrictions applied, which he had prescribed for him a few days previously. It was complained that he had failed to make an adequate examination of Pearson when he visited him, had failed to take steps to ensure that his stomach was completely emptied of its contents with the least possible delay, and had failed to inform the authorities of a hospital, to which he had arranged for him to be removed, with reasonable promptitude of the composition of the liniment he had drunk.

The complainant was the Minister of Health. Mr. Winterbotham, the Council's solicitor, read the report of the persons appointed to hear the appeal of Dr. Shirlaw from a decision of the Essex Insurance Committee concerning this matter. It was stated that Mr. Pearson, who had been suffering from an influenza chill and bronchitis, saw Dr. Shirlaw, who prescribed for him a medicine to be taken in doses of one tablespoon and "liniment A.B.C." compounded of equal parts of liniments of aconite, belladonna, and chloroform. Mr. Pearson by misadventure drank some of the liniment in mistake for the medicine. He was given an emetic and medicinal salts, and Dr. Shirlaw, who was summoned, prescribed repeated doses of sugar and water. Dr. Shirlaw had alleged that he took the patient's pulse and found it steady, the patient's skin was moist and of good colour, the pupils were not dilated, and there were no symptoms of toxicity; he saw about a cupful of brown vomit in a bowl beside the bed. Two other witnesses, relatives of the patient, were emphatic, however, that there was no such bowl in the room, and that Mr. Pearson had not vomited at this stage, and was in a semi-conscious condition. The following evening a nephew of the patient telephoned to Dr. Shirlaw and suggested that Mr. Pearson should be taken to hospital. Dr. Shirlaw agreed and made arrangements. He informed the hospital authorities that the patient had swallowed liniment in mistake for medicine, but did not specify of what the liniment was compounded, and the hospital authorities did not have this information until the surgeon on duty telephoned Dr. Shirlaw to ascertain it. Dr. Shirlaw did not visit the patient again, and the patient died on the following day. The persons appointed to hear the appeal stated:

> "We are more disposed to accept the version of the relatives as to what happened at Dr. Shirlaw's visit than that of the doctor, though even from his own version it is evident that his examination was cursory and inadequate. . . . We are of opinion that by his failure to make an adequate examination of Mr. Pearson and take steps to ensure that with the least possible delay his stomach was completely emptied of its contents, Dr. Shirlaw failed to exercise reasonable skill and care."

Mr. Oswald Hempson, solicitor, on behalf of the Medical Defence Union, who appeared for the defence, admitted that his client was under an obligation to exercise reasonable skill and care, but, he asked, "Where is this thing to stop?" "Any one of you," he added, "may make a mistake. We have cases of forceps being overlooked, and occasionally cases so grave as the removal of the wrong eye, the operation on the wrong side, and cases of mistaken diagnosis. Each one of us can be wise after the event." At a later stage Dr. Shirlaw appreciated the toxicity of this "A.B.C." liniment. There was a real danger that by the use of initials people would fail to appreciate the nature of the contents. Dr. Shirlaw had admittedly failed to exercise reasonable skill, but there was no question of his neglecting the interests of his patients for his own convenience. Could it be said that he was guilty of infamous conduct by reason of this one error?

I should like to emphasize [Mr. Hempson continued] that this is a complaint from the Ministry of Health. They can remove this man from the list of insurance practitioners if they desire to do so. Apparently the Minister has decided that he has not been so culpable in this case as to warrant that, yet they ask you to say that he has been guilty of infamous conduct in a professional respect and is no longer fit to remain on the *Register*. I feel that this is stretching the intention of the Act. Is everyone who makes a mistake in your profession to be liable to appear before you and have his name erased from the *Register*?

The Legal Assessor: Is not the issue that this tribunal has to consider whether the negligence was so gross as to amount to infamous conduct? It must be a question of degree, must it not?

Mr. Hempson agreed that it was a question of degree, but submitted that the present case was not one which would justify a finding of infamous conduct. The result was serious, but it was the mistake which mattered here, not the result, and if his client had taken every possible step, no one could say with certainty that the patient would have recovered.

The President, after the case had been considered *in camera*, said that the Council had found the facts proved, but in relation to the facts so proved had not found Dr. Shirlaw guilty of infamous conduct in a professional respect.

Conviction for Felony

The Council considered the case of James Samuel Ashe, registered as of Merrion Square, Dublin, who was summoned on a charge that on Nov. 24, 1944, he had been convicted at a circuit criminal court at Dublin of a felony—namely, that on a date unknown in or about September, 1941, in Dublin, with intent to procure the miscarriage of a woman, he unlawfully used an instrument or some other unknown means, and was sentenced to eighteen months' imprisonment in the second division. The case having already been before the Medical Registration Council of Eire, the President asked members of that body to withdraw. Mr. Winterbotham, in presenting the facts to the Council, pointed out that Dr. Ashe did not himself perform the operation, but was charged under the Accessories and Abettors Act, 1861, by which accessories before the fact to any felony could be indicted and convicted in all respects as if they were the principal felons. All that Dr. Ashe had done was to recommend the woman in question to go to someone else. Testimonials were read on behalf of Dr. Ashe, but the Council directed the erasure of his name from the *Register*.

Other Erasures

The Council also directed the erasure of the name of Harold Nairne Wright, registered as of Anstey, Leicester, who had been convicted in May last, after pleading guilty, to an offence against a youth, and on each of two counts had been sentenced to six months' imprisonment, the sentences to run consecutively; and of Gerald Green, registered as of Hough Hall, Moston, Manchester, who at Hampshire assizes in February last had been convicted on his own confession of bigamy, and ordered to be imprisoned for 22 months.

False Statement to a Registrar

The Council considered the case of Arthur James Daly, registered as of Rugby Road, Clifton-on-Dunsmore, who, at the Court of the Sheriffdom of Lanark at Glasgow in November last, was convicted of the following offence—namely, in oral answers, when registering the birth of an illegitimate child, knowingly and wilfully making a false statement to the Registrar in contravention of the False Oaths (Scotland) Act, 1933—and was sentenced to three months' imprisonment.

Dr. Daly was defended by Mr. Hempson. After a brief hearing the Council decided not to erase the name.

Five other practitioners appeared in answer to charges that they had been convicted at various courts of drunkenness and cognate offences. The Council placed certain of them on probation, but in no case other than the one already reported did it see fit to erase the name.

On July 5 the Medical Society of the Royal Air Force Hospital, Cosford, departed from its usual form of medical clinical meeting, and invited Dr. Charles Hill, Secretary of the British Medical Association, to address them. One hundred and seventy medical officers, including representatives from the Royal Navy and Royal Army Medical Corps, attended. Dr. Hill gave a detailed account of the present position regarding post-war medicine, commencing with an analysis of the White Paper and subsequent communications issued by the Association. He then dealt with the position of the general practitioner and the future of the specialist or consultant. Questions were invited afterwards, but the address had been so comprehensive that the majority of questions presented purely personal problems. The president of the society, Group Captain L. C. Palmer-Johes, thanked Dr. Hill for his brilliant address, and the audience, most of whom were temporary serving officers, acclaimed the speaker with prolonged applause.

IN NEW ZEALAND TO-DAY

Some harsh comments on the working of the health services in New Zealand are contained in an article by Dr. Douglas Robb, of Auckland, N.Z., in the *Canadian Medical Association Journal.* Readers of the *Supplement* are aware of the general structure of the health services in New Zealand from the account in these columns on Nov. 18 last (p. 115). According to Dr. Robb, most of the methods of paying G.P.s—salary, capitation fee, fee-for-service, and the refund system—are open to abuses by both doctor and patient. No one knows the cost to the Government, except that it is high, but the result, so far as doctors' incomes are concerned, is that mediocre practitioners are doing well and may make £3,000 to £4,000 a year each. Many young and inexperienced doctors already have become convinced that they are worth these sums, though a professor of medicine gets £2,000. It is said that the more business-like doctors through organization can earn £8,000 to £10,000. As in Great Britain, much of these earnings is returned to the Government in income tax; but, according to Dr. Robb, after a while doctors tend to ease up and to refuse night calls, earning 7s. 6d. (which is the fee-for-service payment) by completing certificates, repeat visits, etc., while passing on the more difficult cases to hospitals. The latter "are thus flooded with work the G.P. is paid to do but evades." Dr. Robb sums up his criticisms of the medical benefit section of the Social Security Act by saying that no new medical service has been provided; merely a new method of paying for the old article, which is now retailed under more difficult conditions.

Specialists, on the other hand, would appear to have been hard hit financially by the present scheme. A refund of 7s. 6d. per service rendered—whether that service is a consultation, an operation, or a post-operation visit—is available, whatever fee the specialist asks. Dr. Robb says this is thought by some to be a gesture to the people because no specialist service has been arranged, and by others to be a device to compel specialists to give receipts for money received and so be liable for income tax. At any rate specialists now have to keep records of all their daily visits to private patients in hospital, as each visit means another 7s. 6d. off the bill. It has been known for specialists to make assiduous visits to a patient on whom appendicectomy had been performed in a private hospital, "as a means of beating up a sizable fee for themselves in the case of a patient who would otherwise go to a public hospital."

The maternity, radiology, physiotherapy, and pharmacy services under the Act seem to be working well, and, what is more, appear to satisfy maternity hospitals, the radiologist, the medical physiotherapist, and the chemist. In assessing the value of the hospital benefits (a free-for-all system of hospital care has been in operation since 1939) Dr. Robb says it has to be remembered that, particularly in some of the big cities, the public hospitals have lagged far behind modern standards, and are feared by a proportion of the public. There is often no out-patient department, or if there is it is inadequately staffed, while pressure on hospital beds generally makes the service illusory. In some instances the best medical talent in the town is absent from the hospital staff, and the public knows this. Building programmes are years behind requirements and there are many instances of improvised accommodation. The article in the *Supplement* last November noted the fact that with the introduction of a free hospital service the honorary staffs of hospitals had disappeared. The part-time staff now receive varying sums—£500 for a senior and £250 for an assistant physician or surgeon—for their work. The New Zealand Government pays hospitals, private ones included, 9s. per patient per day, apart from extra sums for out-patient attendances, *x*-ray examinations, and physiotherapy.

In some final notes on the whole position in New Zealand Dr. Robb is not optimistic. He says that, while the principle of universal free service on the basis of a social security tax has been accepted, he doubts whether the finance of the scheme is sound. The present tax of a shilling in the £ is too small to do all that has been promised. That the Government's motive in introducing the present service was political is confirmed, in his opinion, by the fact that neither the men nor the material were available at the time and will not be for some time to come. The scope of the service falls very short of what is desirable. There has never been any suggestion that some of the money should be devoted to post-graduate teaching and research, to refresher courses for doctors, to the establishment of an institute for standardization of, and also perhaps preparation of, hormones, vitamins, and chemotherapeutic substances, or to clinical research departments in hospitals or to hospital reform generally. In all that has been done it has been assumed that past standards and methods left nothing to be desired. Dr. Robb hopes, however, that the planning for a National Health Service which is going on in Britain to-day will make all parties in New Zealand, including the doctors, realize that such a service is both desirable and inevitable in that country.

ATTENDANCE ON SOLDIERS, SAILORS, AND AIRMEN SICK ON LEAVE

Discussions have taken place recently between the B.M.A. and the three Service Departments concerning the scale of fees payable to civilian medical practitioners for attendance on Service personnel sick on leave. (Army Form O1667; R.A.F. Form 1667; Admiralty Form S.26.) The Admiralty, the War Office, and the Air Ministry announce that the following scale has been agreed:

Attendance and medicine	4s. 0d.
Day visit to patient (up to two miles)	6s. 0d.
Night visit to patient (up to two miles) (10 p.m. to 7 a.m.) ..	10s. 0d.
Distance fee "payable for day or night visit to patient for each additional mile or part of a mile over two miles" (payable in one direction only) ..	9d.
Fee for medical certificate ..	1s. 0d.

Army Form O1667 and R.A.F. Form 1667 have been simplified and revised, and the new rates take effect as from Aug. 1, 1945. As it may take some time to reprint and distribute the new forms, existing forms may still be supplied to doctors. In making claims, practitioners should enter the new rates, since instructions authorizing payment have been issued. In the case of military personnel all claims should be forwarded to the A.D.M.S. of the area in which the soldier is temporarily residing, and not to the commanding officer of the soldier's unit.

HEARD AT HEADQUARTERS

L.C.C. and Full-time Posts

The London County Council is proposing to appoint two full-time thoracic surgeons, one of them, a senior, to be known as chief thoracic surgeon. This position has arisen because the comparatively few surgeons available who are competent to undertake this branch of surgery look with disfavour on the sessional rates of remuneration offered by the council—namely, in hospitals within the London area three guineas a session, and in certain hospitals and sanatoria in outer London six guineas. The total expenditure on fees to the five part-time thoracic surgeons during a recent year was £2,180 for 532 sessions. It is considered that a salary scale substantially higher than that paid to full-time surgeon specialists—namely, £1,250 rising by increments of £50 to £1,500 a year—is necessary to attract a thoracic surgeon of adequate experience to the senior of the two positions. For the chief thoracic surgeon, therefore, a salary scale of £2,000, rising by annual increments of £100 to £2,500, is proposed. The scale for the other thoracic surgeon will be the same as for the surgeon specialists. The appointments to the full-time posts will render unnecessary the employment of the present part-time thoracic surgeons. The consent of the Ministry will be required for the creation of the new positions.

The council is also appointing a consultant in allergic diseases. For some time voluntary assistance has been afforded to the hospitals by a consultant specializing in allergic diseases, but the demand for his services is increasing, and it is felt that the time has arrived for the appointment of such a consultant at a sessional basis of remuneration.

Night Calls

After the resolution on night calls was carried at the recent Annual Representatime Meeting of the B.M.A.—the meeting decided that wherever practicable a night call should be deemed to be between 8 p.m. and 9 a.m.—it was stated by some representatives that an ordained time for night calls for doctors was set out in *Whitaker's Almanack.* A diligent search has failed to find in the current issue any reference to the subject. At the same time, the almanack contains so much compact information, including some most curious facts about chronology, that it is quite possible it is embedded somewhere in its pages, and it would be interesting to know on what authority it was laid down.

Doctors and the Press

A resolution of the A.R.M. which was withdrawn referred to the unsympathetic attitude of the Press, but the Chairman of Council would not agree to this diagnosis. With the exception of three or four prominent newspapers, he had found the Press helpful and sympathetic, and for this change he commended the Public Relations Department.

Correspondence

Release of Doctors from the Navy

SIR,—I and all my colleagues would like to know why the release of Naval medical officers is being so delayed over that of medical officers in the other Services. The obvious reply that the Navy has a large part to play in the Pacific war does not satisfy us.

When, three months ago, I inquired about my prospects for demobilization I was told that being Group 16 I would have to see the Japanese war through, as the Navy was very short of M.O.s. On my way out to my present appointment I met two disconsolate newly joined R.A.M.C. doctors who, applying to join the Navy at the same time as I made my inquiry, were told that the Navy had "no vacancies" for M.O.s.

Surely of all the branches in all the Services by far the most interchangeable of personnel must be the medical, owing, as we do, 95% of our value to our pre-Service training and experience—a situation which is reversed in nearly all other branches. The captain of my ship wants to know if I am a sound "doctor" and doesn't give a hair for my knowledge of "Service routine." I would like to know if any R.A.M.C. doctors are being transferred to the Navy, and if, as I suspect, none, why this should be at the same time as my release is being delayed. I can imagine our permanent Service administrators throwing up their hands in horror at the thought of having "damned Pongoes" in the Royal Navy, but should this antique attitude be allowed to create such an unfair situation?

As it is my hope that you will publish this letter I must, for fear of reprisals, remain anonymous.—I am, etc.,

"SURG. LIEUT.-CMDR., R.N.V.R."

Medical Demobilization

SIR,—Reading Squad. Ldr. Gill's letter (*Supplement*, July 21, p. 12) on the "peace and security" we elderly civilian practitioners had lived in, I, like "little Audrey," laughed and laughed and laughed. Perhaps Squad. Ldr. Gill *may* have heard of high explosives and "flying bombs," and perhaps have heard of Croydon and area having a few incidents. As regards "inflated incomes," a large percentage of our patients have been bombed out of their homes and many more have lost their source of income. We here have done our bit, and perhaps a little over.—I am, etc.,

Norbury, S.W.16 R. BERRY FORGAN.

SIR,—The footnote appended to the letter of "Life Sentence" (*Supplement*, July 14, p. 8) to the effect that the C.M.W.C. is doing everything possible to recruit specialists will amaze those specialists serving with the Forces. It takes anything from five to ten years to make a specialist, and, as for the past six years all newly qualified medical men, after six to twelve months as house-surgeons, have been drafted into the Forces, quite naturally there are no replacements available. In most civil hospitals the retiring age for specialists is 65, and there re many men now over 50 years of age who, having served for six years in the Army, have no desire to return to civil fe and start all over again. Many of ese would gladly remain on, given a eriod of seven or ten years' security. No ch offer has been made; they have the option of signing-on for one or two years or until general demobilization is ordered, which is useless, as they would be worse off in two years' time than they are at present.

The fact is that the R.A.M.C. has no particular wish to recruit specialists as such at all. In peacetime a regimental medical officer, after some years of form-filling, attends a "course" of three months, after which he becomes a full-blown specialist in his chosen subject. From this anyone can deduce how wonderful are the facilities and material existing in the Army for the production of specialists—or can't they?—I am, etc.,

"RELEASED SPECIALIST."

SIR,—It is comforting to read each week that the C.M.W.C. remains unshaken in its good intentions as regards our demobilization. But in spite of this our doubts return, and are increased by semi-official rumours of a shut down after Group 11. It is fair to assume that the authorities know the size of the discharge groups, their own requirements, and the size of the new intake. Why cannot we be told the result of this simple arithmetic?

There is increasing pressure for the release of doctors in Class B. Those of us who have been away nearly six years regard this with suspicion. If Class A releases are going to be delayed we should not feel quite so sore if we were given a definite date for each class, and if we knew how much "queue-jumping" was going on.—I am, etc.,

"CAPT., R.A.M.C."

Voting at Representative Meetings

SIR,—I agree with Lieut.-Col. Balck-Foote's view that the Chairman of Council exerted an undue influence at the last two Representative Meetings. It is true that the Representative Body is free to make its own decisions, but, in fact, it is at present mainly guided by the Chairman of Council. This is because it has been led into such utter confusion of thought that it will accept any clear line of action suggested by a recognized leader in that Body.

This confusion of thought is due to the present system where lengthy agenda with unimportant details have to be considered in too short a time; where decisions have to be reached without the meeting being given enough facts—e.g., having to decide on the 100% issue without knowing who would be in control of the medical service; where resolutions passed at previous meetings are ignored; and where recommendations have to be accepted not because they will lead to the best medical service possible, but because of the fear that negotiations with the Government will be broken off if they are not accepted.

The remedy would seem to be in an alteration of the Standing Orders so that the Agenda Committee could produce a sensible agenda.—I am, etc.,

London, W.8. H. STEPHEN PASMORE.

Regional Organization of the Association

SIR,—At the Council meeting on June 13 it was agreed that regional organization should be postponed. At a previous Council meeting it was agreed that a regional organization should be set up. The Representative Meetings have repeatedly sent recommendations to the Council to proceed with regional organization.

One of the main reasons for postponement appears to be the cost of £2,000 a year for each region. The Chairman pointed out to the Council that one of the results of appointing regional secretaries might be to increase membership, which would go some way to meet additional expenditure. In 1943 £15,000 was put aside for regional organization, and in 1944 £10,000 for this purpose; so the B.M.A. is not short of funds to carry out regional organization.

It seems to be a waste of time to have Representative Meetings if their recommendations are not carried out by the Council. Surely the duty of the Council is to carry out the policy and recommendations of the A.R.M. I take it that the Representative Meetings represent the whole of the B.M.A. members, and the Council a body elected by them to put their recommendations and wishes into operation. The members have the remedy in their own hands. How long is the profession going to allow "the tail to wag the dog"?—I am, etc.,

Dunscar, Bolton. HAROLD ROBINSON.

Professor R. M. F. Picken

SIR,—I trust that you will permit me to supplement what you have said (July 28, p. 15), about Professor or, as I presume we ought now to call him, Provost Picken. I wish to testify to the extreme value of the work he has done for the profession through his services on the Central Medical War Committee. In addition to the clearest of brains he has the power to give incisive expression to his thoughts; and great as is his loss to the Association generally, to me personally, who am chairman of the executive committee of the C.M.W.C., the loss of his counsel on the difficult problems which are confronting it and will confront it is the greatest.

I trust that ere long he may return to the Council, as well as to the counsels, of the Association.—I am, etc.,

York. PETER MACDONALD.

Financing Purchase of Practices

SIR,—The *Journal* has rendered the profession a useful service in presenting clear details of the proposed method of financing the purchase of practices If 5,000 doctors will require such loans, the scheme would demand a capital of at least £15,000,000, and it is therefore necessary to consider carefully what it offers to practitioners and hence its chance of success.

In one respect the description in the *Supplement* of June 9 (p. 103) is inadequate, and it should be noted that though net incomes of £633 or £731 are attained according to the length of the period of amortization, yet the income tax that must be paid will in each case be on an income of £1,050. In other words, with income tax at present rates, in the one case over £200 and in the other over £150 more tax would be payable than if the practitioner were in whole-time employment at the incomes quoted. Consequently, after deducting the tax the true net income would be approximately £300 to £400 if the ten-year repayment were adopted, and about £100 more if the doctor accepted the longer period of financial loading. If, however, further assistance is required for purchase of a house, car, and equipment, the attempt to amortize such loan in a 10- to 15-year period would be a considerable, if not an impossible, additional burden.

The ex-Service doctor will naturally consider carefully whether it is worth while accepting such a financial burden for such a reward, and whether he will obtain such a standard of living and freedom from anxiety as will enable him to put his best work into the practice of medicine.—I am, etc.,

London, E.7. ROBERT POOTS.

Doctors and the Election

SIR,—The medical profession will have received the Election results with more equanimity than most other members of the community who are not Socialists. It has always seemed strange to me that members of all the political parties regarded the socialization of the doctors as a progressive step. If the State can run the health services better than the doctors themselves it is surely right to suggest that the same applies to all trades and professions. I suppose it is only human nature to gain comfort from companions in distress.—I am, etc.,

Camberley. LESLIE HARTLEY.

SIR,—Under the heading of "Doctors' View of Election" the *Daily Telegraph* publishes an account of what is reputed to have transpired at the A.R.M. It is poor reading. The cheering which is said to have occurred when it was announced that Sir William Beveridge and Mr. Ernest Brown had been defeated at the poll was a schoolboy gesture, to say the least of it, and not likely to impress the public, who have given such a decided answer to the question as to whether they are in favour of a National Health Service—and a whole-time one at that. There can be no doubt that this is what the Election result means, for this was one of the main planks of the Labour manifesto.

Dr. Guy Dain, with his usual sagacity, urges a restrained and moderate attitude, but this is countered by the extravagant absurdities of Mr. Lawrence Abel. As a representative of the "Harley Street group" he has done them and all the rank and file of the profession a great disservice by this irresponsible nonsense. Unfortunately, his remarks will carry great weight, as the sayings of a consultant do with the layman.

No one can be in doubt that we are now, as a profession, faced with the very thing that we wanted most to avoid—a whole-time salaried State Medical Service. The Government will not help us, but the public might if we showed any inclination to co-operate in a scheme that would fill the bill of providing a good service to all under State supervision. Opposition can only worsen our case. We have got to mould the future service, not fashion it. It would be well if those whose meetings are reported by the Press were a little more conscious of their responsibilities than to give cause for the publication of articles such as that referred to above.—I am, etc.,

Cheshunt, Herts. CYRIL SHERRIS.

The Medical Women's Federation will be glad to hear from medical women who, on demobilization from the Services, are faced with any difficulty on re-entering civilian life on which they desire advice. The Federation can loan money on easy terms in sums up to, say, £100, to suitable applicants who contemplate doing postgraduate study, or who wish to undertake medical work which involves monetary outlay. All inquiries should be addressed to the Secretary, Medical Women's Federation, 73, Bourne Way, Hayes, Bromley, Kent.

H.M. Forces Appointments

ARMY

Col. J. W. C. Stubbs, D.S.O., M.C., late R.A.M.C., having completed four years in the rank, is retained on the Active List supernumerary.

ROYAL ARMY MEDICAL CORPS

Major J. E. Rea to be Lieut.-Col.

REGULAR ARMY RESERVE OF OFFICERS

ROYAL ARMY MEDICAL CORPS

War Subs. Major W. H. H. J. de Wytt, from Supplementary Reserve of Officers, to be War Subs. Major.

TERRITORIAL ARMY

Col. (Temp. Major-Gen.) P. H. Mitchiner, C.B., C.B.E., T.D., K.H.S., late R.A.M.C., having attained the age limit, has retired.

Col. Sir E. M. Cowell, K.B.E., C.B., D.S.O., T.D., K.H.S., late R.A.M.C., to be Major-Gen.

Col. G. J. Linklater, O.B.E., T.D., late R.A.M.C., having attained the age limit, has retired, retaining the rank of Col.

ROYAL ARMY MEDICAL CORPS

War Subs. Majors P. J. May, M.B.E., T. T. S. Hall, M.B.E., F. L. Ker, and G. W. Molyneux to be Majors.

Capt. W. A. Liston, from R.A., T.A., to be War Subs. Major. (Substituted for the notification in a *Supplement* to the *London Gazette* dated June 29.)

Senior Training Corps.—Lieut. W. H. Newton, supernumerary for service with Liverpool Univ. Senior Training Corps (Medical Unit), has resigned his commission.

2nd Lieut. D. W. L. Leslie, from R.A., T.A., to be Lieut.

LAND FORCES: EMERGENCY COMMISSIONS

ROYAL ARMY MEDICAL CORPS

War Subs. Capt. T. C. Masson has relinquished his commission on account of disability, and has been granted the honorary rank of Capt.

To be Lieuts.: D. H. Ropschitz and H. Parsons.

ROYAL AIR FORCE

RESERVE OF AIR FORCE OFFICERS

Squad. Ldrs. (Temp.) R. M. Hewat and E. H. E. Cross have been granted the rank of War Subs. Squad. Ldr.

ROYAL AIR FORCE VOLUNTEER RESERVE

Squad. Ldr. (Temp.) G. MacK. Gibson has been granted the rank of War Subs. Squad. Ldr.

Fl. Lieut. C. Hardwick has been granted the rank of War Subs. Squad. Ldr.

INDIAN MEDICAL SERVICE

Col. D. V. O'Malley, O.B.E., V.H.S., to be Major-Gen.

Lieut.-Col. B. Basu, C.B.E., has retired, and has been granted the honorary rank of Col.

Lieut.-Col. P. N. Lahiri has retired.

Major C. L. Pasricha to be Lieut.-Col.

Capts. G. R. C. Palmer, J. Revens, T. Sommerville, A. C. Taylor, and J. G. Thomson to be Majors.

ARMY IN BURMA RESERVE OF OFFICERS

EMERGENCY COMMISSIONS

To be Lieuts.: Maung U., V. S. Hariharan, J. V. Decruz, and Y. M. Khan.

BRITISH MEDICAL ASSOCIATION

Election of Member of Council by the Metropolitan Counties Branch

Notice is hereby given that, owing to the election of E. A. Gregg as Deputy Chairman of Representative Body, a vacancy exists on the Council for the Metropolitan Counties Branch (Group I). Nominations of candidates must be forwarded in writing so as to reach me by Sept. 1, 1945. Candidates must be nominated by either (*a*) a Division or (*b*) not fewer than three members of the Branch. A notice will be published by the Council in the *British Medical Journal Supplement* on Sept. 15, 1945, of the candidates nominated. If a contest occurs voting papers will be issued on Sept. 15, 1945, to each member of the Group. A notice will be published by the Council in the *Supplement* of Sept. 29, 1945, giving the result of the election.

CHARLES HILL,
Secretary.

Petition for the Formation of a Group of Dermatologists

The following petition for the formation of a Group of Dermatologists within the B.M.A. has been addressed to the Council:

We the undersigned members of the British Medical Association engaged in the practice of dermatology hereby make petition for the formation within the Association of a Group of Dermatologists.

We are engaged in a specialized branch of medical work of which the importance is becoming increasingly recognized, but the number of dermatologists in one Division is too small adequately to put forward the medico-political problems of our specialty. We are, therefore, of the opinion that the formation of a group of those whose work is exclusively confined to dermatology would be an advantage not only to the specialty but also to the Association.

We have the honour to be, Sir,
Your obedient Servants,

R. T. BRAIN, London.
W. H. BROWN, Glasgow.
A. BURROWS, Brentwood.
S. E. DORE, London.
G. DUCKWORTH, London.
D. ERSKINE, London.
DORIS FLETCHER, Sheffield.
L. FORMAN, London.
W. N. GOLDSMITH, London.
A. M. H. GRAY, London.
J. T. INGRAM, Leeds.
R. A. E. KLABER, London.
E. C. RITTER, Lincoln.
A. C. ROXBURGH, London.
J. F. SMITH, Glasgow.
R. STOPFORD-TAYLOR, Liverpool.
A. M. STUART, Southsea.
E W. PROSSER THOMAS, Richmond, Surrey.
M. S. THOMSON, London.
H. R. VICKERS, Sheffield.
H. J. WALLACE, Woking.
C. H. WHITTLE, Cambridge.
J. E. M. WIGLEY, London.
L. K. WILLS, Harrow.

Branch and Division Meetings to be Held

WAKEFIELD, PONTEFRACT, AND CASTLEFORD DIVISION.—At Clayton Hospital, Postgraduate Lectures by Dr. Leslie Watson: Sun., Aug. 12, 11 a.m., Rheumatoid Arthritis: Sun., Aug. 19, 11 a.m., Glycosuria and Diabetes.

BIRTHS, MARRIAGES, & DEATHS

The charge for an insertion under this head is 10s. 6d. *for* 18 *words or less. Extra words* 3s. 6d. *for each six or less. Payment should be forwarded, with the notice, authenticated by the name and permanent address of the sender, and should reach the Advertisement Manager not later than first post Monday morning.*

DEATH

ALDREN TURNER.—In Edinburgh, on Sunday, July 29, 1945, William Aldren Turner, C.B., M.D., F.R.C.P., eldest son of the late Sir William Turner, K.C.B., F.R.S., Principal of the University of Edinburgh, husband of Helen M. Turner, of 27, Evelyn Gardens, London, S.W.7, and father of John, Patrick, and Anthony.

RETURN TO PRACTICE

The Central Medical War Committee announces that the following have re sumed civilian practice: Dr. J. R. Rees F.R.C.P., 116, Bickenhall Mansion London, W.1; Dr. C. P. Symond F.R.C.P., 87, Harley Street, Londo W.1; Dr. W. D. Jeans, at 17, Ur versity Road, Leicester; Dr. G. de I Rudolf, at Sea Walls, Clevedon, Som set; Mr. R. Scott Stevenson, at Harley Street, London, W.1; Mr. F. R. Stammers, F.R.C.S., at 89, Harbo Road, Edgbaston, Birmingham, 15.

CITY OF STOKE-ON-TRENT. CITY GENERAL HOSPITAL. ASSISTANT RESIDENT MEDICAL OFFICER (B2).—Applications are invited from registered medical practitioners (single, male or female), including R and W practitioners who now hold A posts, for the appointment of Assistant Resident Medical Officer (B2), at the City General Hospital, Stoke-on-Trent. If offered to an R or W practitioner the appointment will be limited to a period of six months, otherwise will be for a period of one year. The salary is at the rate of £250 per annum, plus bonus, with full residential emoluments. The Hospital, which is an Emergency Hospital, has approximately 1,200 beds, and there is excellent scope for medical, surgical, and obstetrical work.—Applications endorsed "Medical Officer, City General Hospital," to be sent to the undersigned immediately.—Harry Taylor, Town Clerk.

COUNTY COUNCIL OF THE STEWARTRY OF KIRKCUDBRIGHT.—Applications are invited for the temporary post of ASSISTANT MEDICAL OFFICER OF HEALTH, male or female, in the Public Health Department of the County Council of the Stewartry of Kirkcudbright. Applicants should be registered medical practitioners, and preference will be given to applicants holding the Diploma in Public Health. Salary £600 per annum, with, in addition cost-of-living bonus, at present £60 per annum (male) or £48 per annum (female). The person appointed will require to provide and maintain a motor car, in respect of which a travelling allowance will be paid. Applications should be lodged with the County Clerk, Kirkcudbright, not later than August 31, 1945.

CAMBRIDGE COUNTY COUNCIL. County Hospital.—Applications are invited for the post of RESIDENT OBSTETRIC OFFICER (B2) at the above hospital. The appointment is limited to six months. Salary is at the rate of £250 a year, with full residential emoluments. R and W practitioners holding A posts may apply.

Applications are also invited from registered medical practitioners, male and female, for the post of HOUSE PHYSICIAN (A). Salary £150 a year, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months, otherwise not exceeding one year. Applications should be sent at once to the Clerk of the Cambridgeshire County Council, Shire Hall, Castle Hill, Cambridge.

CORNWALL COUNTY COUNCIL.—Applications are invited from registered medical practitioners for the whole-time appointment of a TEMPORARY ASSISTANT COUNTY MEDICAL OFFICER to reside in or near the City of Truro. The person appointed will be required to work under the direction of the County Medical Officer, and must be qualified to treat patients suffering from venereal disease. The duties will include the taking of such venereal disease clinics as the County Medical Officer may direct, the supervision of the Rural Practitioners' Scheme for the treatment of venereal disease, and any other work not necessarily connected with venereal disease treatment as may be required from time to time by the County Medical Officer. The commencing salary will be £750 per annum, rising by three biennial increments of £50 and one of £37 10s. to £937 10s. per annum, together with a travelling allowance in accordance with the County scale. The duties of the person appointed will be reviewed within two years of the appointment. Persons already in whole-time Public Health employment by local authorities are not eligible to apply. Applications should reach the County Medical Officer, County Hall, Truro, not later than September 1, 1945. The appointment is approved by the Ministry of Health.—L. P. New, Clerk of the County Council, County Hall, Truro.

EAST RIDING COUNTY COUNCIL. Driffield Emergency Hospital (324 beds).—Applications are invited from registered medical practitioners for the appointment of RESIDENT SURGICAL OFFICER (B1), vacant immediately. The hospital provides experience in general surgery. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary from £350 to £550 per annum according to qualifications and experience, together with full residential emoluments. Applications should be forwarded so as to reach the undersigned as soon as possible.—T. Stephenson, Clerk of the Council, County Hall, Beverley.

KENT EDUCATION COMMITTEE.—Applications are invited for the engagement, on a sessional basis, of TEMPORARY PART-TIME OPHTHALMOLOGISTS for school medical work. The majority of clinics to be held are in North-West Kent, within 25 miles of London. Applicants should possess a specialist qualification in ophthalmology and indicate the number of sessions they are prepared to undertake. The fee for each session, which is usually of two hours, is 2½ guineas, and third-class travelling expenses will be paid to and from the usual place of residence. Applications are to be submitted to the undersigned not later than August 21, 1945.—Constant Ponder, School Medical Officer, County Hall, Maidstone.

LONDON COUNTY COUNCIL invites applications from registered medical practitioners for appointment as a TEMPORARY WHOLE-TIME ASSISTANT MEDICAL OFFICER in the Public Health Department. The duties will be primarily those in connexion with the school medical service. Salary £600 by £25 to £750, together with a cost-of-living addition, amounting at the present time to £60 a year for men and £48 a year for women. There are no emoluments. Medical practitioners in whole-time employment as public health medical officers who require the permission of the Ministry of Health before applying are ineligible. All appointments during the war are on a temporary basis and subject to review. It will be an advantage if the candidate is recognized by the Board of Education as a certifying officer for physically defective and mentally defective children, or has has special experience, particularly in mental deficiency. Candidates should submit with their application full information as to their liability for military service, medical fitness and position as regards deferment. Forms of application (stamped addressed envelope necessary) obtainable from the Medical Officer of Health (S.D.5), The County Hall, Westminster Bridge, S.E.1., and should be returned not later than August 18, 1945. Canvassing disqualifies.

LANCASHIRE COUNTY COUNCIL. Biddulph Grange Orthopaedic Hospital.—Applications are invited from registered medical practitioners, male or female, for the appointment of RESIDENT JUNIOR HOUSE SURGEON (B2), now vacant, including R and W practitioners who now hold A posts. If held by an R practitioner who is liable under the National Service Acts, the appointment will be limited to six months, otherwise it will be for a period of twelve months. The salary is at the rate of £250 per annum, with full residential emoluments. Applications, stating age, should be sent to Dr. F. Hall, School Medical and Child Welfare Department, County Offices, Preston, not later than August 18, 1945.—R. H. Adcock, Clerk of the County Council, County Offices, Preston.

LANCASHIRE COUNTY COUNCIL. Wrightington Hospital, near Wigan.—Applications are invited for JUNIOR MEDICAL OFFICER (B2) at the Wrightington Hospital, containing 370 beds (260 beds for non-pulmonary tuberculosis (adults and children), 20 beds for "combined" pulmonary and non-pulmonary cases, and 70 beds for pulmonary cases). The medical staff consists of medical superintendent, three assistants, two consultant orthopaedic surgeons, other visiting surgeons and visiting physician. Excellent facilities for reading for M.D. Salary £300 per annum, plus bonus, together with board, single quarters, and laundry valued at £146. R and W practitioners who now hold A posts may apply, when appointments will be limited to six months, otherwise one year. Forms of application and conditions of appointment from Central Tuberculosis Officer, County Offices, Preston. Mark letters "Wrightington M.O."

MIDDLESEX COUNTY COUNCIL. TEMPORARY DISTRICT MEDICAL OFFICER and PUBLIC VACCINATOR, Yiewsley and West Drayton Medical Relief district.—The County Council invites applications from registered medical practitioners for the above appointment. District Medical Officer (average number of cases 6 per annum). Salary at least £50 per annum, and as a wartime measure only, a payment equivalent to 20% of salary in respect of additional practice expenses, plus cost of expensive drugs, confinement fees and for services of another medical practitioner to administer short anaesthetics for minor operations. Duties in accordance with the Public Assistance Order, 1930, of the Minister of Health, reside in the district unless the Council otherwise determines, and nominate a deputy to act in his unavoidable absence. Public Vaccinator. Must produce to the Council a certificate of proficiency in vaccination, except in a case in which such certificate was required as a condition of obtaining any diploma, licence, or degree which he possesses; will be required to enter into a contract with the Council in accordance with the Vaccination Order, 1930, of Minister of Health. Contract will provide for the payment of the scale of fees laid down by the County Council. Applications must reach the undersigned by September 1, 1945.—C. W. Radcliffe, "Z," Clerk of the County Council, Middlesex Guildhall, Westminister, S.W.1.

MIDDLESEX COUNTY COUNCIL.—SURGEON REQUIRED at ASHFORD COUNTY HOSPITAL, Middx. (late Staines County Hospital). Applicants must be registered medical practitioners with higher degree or diploma in surgery, who have devoted their time wholly or chiefly to practice of surgery. Commencing salary between £650 and £950 p.a. according to experience, plus war bonus (now £60 p.a.). Non-resident, but surgeon appointed must live near hospital. Whole-time unestablished appointment, subject to medical examination and three months' notice. Salary is inclusive; any fees received must be paid to County Council. Surgeon appointed will take share in general surgery of hospital, his duties, such as Council may require, will be under general supervision of Medical Director, and may include teaching. Post vacant early September. Application to the undersigned. Application forms not provided. Closing date August 25, 1945.—C. W. Radcliffe, "Z," Clerk of the County Council, Middlesex Guildhall, Westminster, S.W.1.

NORTHUMBERLAND COUNTY COUNCIL. Hexham Emergency Hospital (Regional Orthopaedic Centre) (640 beds). HOUSE SURGEON (A).—Applications for the above post are invited from registered medical practitioners, male or female, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months; otherwise it will be for a period of one year. Salary is at the rate of £120 per annum, with full residential emoluments. The hospital offers excellent training and experience in orthopaedic surgery. Applications should be sent to the undersigned immediately.—J. B. Tilley, County Medical Officer, County Hall, Newcastle-upon-Tyne, 1.

SURREY COUNTY COUNCIL. Public Health Department. Epsom County Hospital, Dorking Road, Epsom (350 beds).—Applications are invited for the appointment of TEMPORARY RESIDENT PHYSICIAN (B1) to the above acute general hospital. Candidates should possess a higher medical qualification. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C.. Salary is at the rate of £800 per annum, plus war bonus, plus full residential emoluments valued at £125 per annum, or cash in lieu thereof. The appointment is temporary, and is subject to one month's notice on either side, but any Local Government Superannuation rights will be preserved. Apply to the County Medical Officer, County Hall, Kingston-on-Thames, by August 15, 1945.

SURREY COUNTY COUNCIL. Kingston County Hospital (500 beds), Wolverton Avenue, Kingston-on-Thames.—Applications are invited from registered medical practitioners, male and female, for the appointment of ANAESTHETIST (B1). The position is temporary and is subject to one month's notice on either side. Preference will be given to candidates holding D.A. qualification. Suitably qualified R and W practitioners now holding B2 posts are invited to apply. Applications from R practitioners holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £550 per annum plus war bonus plus full residential emoluments. Apply to Medical Superintendent by September 7, 1945.

SOMERSET COUNTY COUNCIL. TEMPORARY ASSISTANT TUBERCULOSIS OFFICER.—The County Council invite applications for the above post. Salary scale £800 by annual increments of £50 to £900 per annum, plus a temporary war bonus of £59 19s., together with travelling and subsistence allowance according to County Scale. The appointment will be made subject to the provisions of the Local Government Superannuation Act, 1937. Candidates already in whole-time public health employment by local authorities are not eligible for appointment. Applications immediately to the undersigned, from whom further particulars can be obtained. Applicants should submit full information as to their liability for military service, medical fitness, and position as regards deferment.—J. F. Davidson, County Medical Officer of Health, County Hall, Taunton.

ZETLAND COUNTY COUNCIL. — Wanted, DEPUTY MEDICAL OFFICER AND PUBLIC VACCINATOR for the Parish of Walls, etc., Shetland, to take up duty not later than October 20, 1945. The appointment requires the approval of the Department of Health for Scotland, and carries the following remuneration: (1) a fixed annual grant from the Department of such amount as may be adjusted between them and the successful applicant, and in regard to which inquiry should be made direct to the Department; (2) fees in respect of a panel numbering at present about 390; (3) salary from the County Council (exclusive of the cost of medicines supplied to Poor Law patients), £83 per annum; and (4) fees from private practice. Tenancy of a house is available. Applications (stating married or single) are to be lodged not later than August 25, 1945, with R. C. Thomson, Clerk to the Public Health Committee, County Buildings, Lerwick.

BRITISH HOSPITAL FOR MOTHERS AND BABIES, Woolwich.—Applications from registered medical women are invited for the post of RESIDENT MEDICAL OFFICER (B2). W practitioners who now hold A posts may apply, when appointment will be limited to six months, otherwise the appointment is for the period of one year; six months as junior, at the rate of £150 per annum, followed by six months as senior at the rate of £200 per annum. Preference to a candidate intending to specialize in obstetrics. Applications to the Secretary, Samuel Street, S.E.18.

BURSLEM HAYWOOD AND TUNSTALL WAR MEMORIAL HOSPITAL, High Lane, Tunstall, Stoke-on-Trent.—Applications are invited from registered medical practitioners, male and female, including R and W practitioners who now hold A posts, for the post of HOUSE SURGEON (B2). If held by an R practitioner the appointment will be limited to six months. Salary is at the rate of £225 per annum, with full residential emoluments. Applications should be forwarded as soon as possible to C. E. Lowndes, Secretary.

IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page 10

WEST RIDING OF YORKSHIRE HOSPITALS BOARD. Pinderfields Emergency Hospital, Wakefield. RESIDENT HOUSE SURGEON (A and B2).—Applications are invited from registered medical practitioners, male and female, for the appointment of a House Surgeon (A), the position now vacant, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, the appointment will be for a period of six months, otherwise it will be for a period not exceeding one year. The salary, together with full residential emoluments, will be at the rate of £120 per annum.

Applications are also invited from registered medical practitioners, male and female, for the appointment of a RESIDENT HOUSE SURGEON (B2), the position now vacant, including R practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months, otherwise it will be for a period not exceeding one year. The salarv, together with full residential emoluments, will be at the rate of £200 per annum.

The hospital can accommodate some 1,300 service and civilian patients and, in addition to pro- a special Thoracic Surgery and large Orthopaedic centre. The main duties will be undertaken in the Ear, Nose and Throat, Orthopaedic, and Casualty Departments.

Applications to be submitted to the Medical Superintendent, Pinderfields Emergency Hospital, Wakefield, forthwith.—G. L. Banner, Clerk of the Board, Board Offices, Victoria Chambers, Wood Street, Wakefield

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ATKINSON MORLEY EMERGENCY HOSPITAL, S.W.20.—Applications are invited for the post of THIRD SURGICAL ASSISTANT to the Neurosurgical Unit at the above hospital. The post is a B2 one with salary at the rate of £200 per annum and board and lodging. R and W practitioners now holding A posts may apply. The appointment is for six months, with eligibility for a higher appointment at the end of that time. Applications should be sent as soon as possible to the Secretary, St. George's Hospital, Hyde Park Corner, S.W.1.

ALTRINCHAM GENERAL HOSPITAL, Near Manchester (100 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (A). Salary at the rate of £150 p.a., with full residential emoluments. The appointment will be for a period of six months. Practitioners within three months of qualification and liable under the National Service Acts, may apply. Address applications to the General Superintendent.

BROMPTON HOSPITAL SANATORIUM, Frimley, Surrey.—The Committee of Management of the Hospital for Consumption and Diseases of the Chest, Brompton, S.W.3, invite applications for the post of TEMPORARY MEDICAL SUPERINTENDENT at the Sanatorium. Salary £1,000 per annum, with residence, fuel, light, and water. Candidates must be a Fellow or a Member of the Royal College of Physicians, a Fellow of the Royal College of Surgeons, or a Doctor of Medicine of a British University. The appointment is for one year, with eligibility for reappointment. Applications must be sent in not later than Monday, September 10, 1945. Further particulars may be obtained upon application to the Secretary at the Hospital.—F. G. Rouvray, Secretary, Brompton, S.W.3.

BOOTLE GENERAL HOSPITAL, Linacre Lane, Bootle, Liverpool, 20. CASUALTY OFFICER (A), required immediately. HOUSE PHYSICIAN (A), required for September 20.—Applications are invited from registered medical practitioners, male and female, for the above appointments, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by practitioners who are liable under these Acts, appointments will be made for a period of six months, otherwise it will be for six months, with the possibility of extension. Salary for both positions is at the rate of £200 per annum, with full residential emoluments. Applications should be sent immediately to A. J. Cooper, Superintendent.

BECKENHAM HOSPITAL.—Applications are invited from registered medical practitioners for the appointment of RESIDENT MEDICAL OFFICER (B2). Salary is at the rate of £150 p.a., with full residential emoluments. R or W practitioners who now hold A posts may apply, when the appointment will be limited to six months, otherwise will be renewable for a further period of six months. Applications should be addressed to Gordon Easto, Secretary.

THE CORBETT HOSPITAL, Stourbridge, Worcs. (106 beds and special departments).—Applications are invited from registered medical practitioners for the appointment of RESIDENT HOUSE PHYSICIAN (A), which becomes vacant on November 1, 1945, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary is at the rate of £175 per annum, with full residential emoluments. Applications should be sent to the undersigned forthwith.—W. G. H. Weston, House Governor and Secretary.

BRADFORD ROYAL INFIRMARY.—Applications are invited from registered medical practitioners, male, single, for the following appointments: HOUSE SURGEON (B2), vacant October 1, 1945; HOUSE SURGEON (B2), vacant October 17, 1945; HOUSE PHYSICIAN (A), vacant October 17, 1945. Six months' appointment. For the B2 posts R practitioners now holding A posts may also apply. For the A post practitioners within three months of qualification who are liable to service under the National Service Acts may apply. Salary £150 per annum, with full residential emoluments. There are 372 beds and eight resident officers. Applications should be sent immediately to H. Trusson, House Governor and Secretary.

BECKETT HOSPITAL AND DISPENSARY, Barnsley. HOUSE SURGEON (A).—Applications are invited from registered medical practitioners for this appointment. Salary is at the rate of £225 per annum with full residential emoluments. Practitioners within three months of qualification may also apply when the appointment will be for six months. Applications should be sent immediately to Arthur L. Bourne, Secretary-Superintendent.

BELGRAVE HOSPITAL FOR CHILDREN, 1, Clapham Road, S.W.9.—The Committee of Management invite applications from registered medical practitioners, male and female, for the post of HOUSE SURGEON (B2), vacant August 22. Salary at the rate of £150 per annum, with full residential emoluments. R and W practitioners now holding A posts may apply, when appointment is limited to six months. Applications should be forwarded not later than August 15 to Thomas Clapham, Secretary.

BURTON-ON-TRENT GENERAL INFIRMARY (200 beds normal).—Applications are invited from registered medical practitioners for the appointments of CASUALTY OFFICER AND HOUSE SURGEON (A). Salary at the rate of £200, with the usual residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months. Applications to be sent to the Secretary-Superintendent.

CAMBORNE-REDRUTH MINERS' AND GENERAL HOSPITAL.—With the formation of a special department, a vacancy occurs for a physician for diseases of children. A higher qualification, preferably membership of the Royal College of Physicians, is essential. Experience in paediatrics would be an additional advantage. Candidates must be prepared to engage solely in consulting practice in this sphere. Full particulars may be obtained from the undersigned. Applications from Service candidates are specially invited. It is not proposed to make an appointment before December, 1945, in order that serving practitioners may receive full consideration.—J. C. Field, Secretary-Superintendent.

CONNAUGHT HOSPITAL, Walthamstow, London, E.17. CASUALTY OFFICER (A).—Applications are invited from registered medical practitioners, male and female, for the appointment of Casualty Officer, now vacant, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under the Acts, the appointment will be for a period of six months. Salary at the rate of £120 per annum, with full residential emoluments. Applications to be sent as soon as possible to R. Halton Harrison, General Secretary.

CAMERON HOSPITAL, West Hartlepool (86 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of a HOUSE SURGEON (A), duties to commence as soon as possible. Salary at the rate of £200 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months. Applications should be sent to Miss P. M. Betts, Secretary.

CHILDREN'S HOSPITAL, Sunderland (in Association with the Royal Infirmary, Sunderland) (70 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A) and HOUSE PHYSICIAN (A), now vacant, including practitioners within three months of qualification who are liable to service under the National Service Acts. The appointment will be for a period of six months. Salary is at the rate of £175 per annum, with full residential emoluments.—T. F. W. Mackeown, House Governor and Secretary.

COVENTRY AND WARWICKSHIRE HOSPITAL. HOUSE SURGEON (B2) to the Gynaecological and Obstetric Department.—Applications are invited from registered medical practitioners, male and female, for the appointment of House Surgeon (B2) to the Gynaecological and Obstetric Department, including R and W practitioners who now hold A posts. The appointment, which is for six months, is vacant immediately. Salary at the rate of £170 per annum, together with full residential emoluments. Applications should be sent to the undersigned. S. Cecil Hill, House Governor and Secretary.

DERBY COUNTY MENTAL HOSPITAL, Mickleover.—Applications are invited for the posts of (1) TEMPORARY SENIOR ASSISTANT MEDICAL OFFICER (B1). Salary £600, rising by fou annual increments of £25 to £700, together with full residential emoluments. Experience required. (2) TEMPORARY ASSISTANT MEDICAL OFFICER (B1). Salary £500, rising by annual increments of £25 to £550, together with full residential emoluments. Experience not required. In addition, £50 per annum will be paid for D.P.M. in either case. Suitably qualified R and W practitioners holding B2 posts and those holding B1 posts and rejected by the R.A.M.C. may apply Apply to the Medical Superintendent.

DEVON MENTAL HOSPITAL, Exminster Nr. Exeter.—Male or female TEMPORARY ASSISTANT MEDICAL OFFICER (B1) required immediately. R and W practitioners holding B2 appointments, also R practitioners holding B1 appointments and rejected by the R.A.M.C., may apply. Salary £9 9s. per week, plus full residential emoluments. Apply to the Medical Superintendent.

DERBYSHIRE ROYAL INFIRMARY, Derby Grade 1A Hospital (531 beds, including 115 E.M.S.) —Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (B2), vacant August 20. Salary at the rate of £200 per annum, with full residential emoluments. R and W practitioners who now hold A posts may apply, when the appointment will be limited to six months. Applications should be sent as soon as possible to Arthur Taylor, Superintendent and Secretary.

DERBYSHIRE ROYAL INFIRMARY, Derby (Voluntary hospital.) (Total beds 416, plus 115 E.M.S.)—Applications are invited from registered medical practitioners, male and female, for the appointment of CASUALTY OFFICER (A), now vacant. Salary is at the rate of £200 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when appointment will be for a period of six months. Applications should be sent as soon as possible to Arthur Taylor, Superintendent and Secretary

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DURHAM COUNTY HOSPITAL (110 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of RESIDENT HOUSE SURGEON (B2), at a salary of £250 per annum, with full residential emoluments. R and W practitioners who now hold A posts may apply, when appointment will be limited to six months, otherwise it may be extended. Applications should be sent to the undersigned immediately.—L. Teasdale, Acting Secretary, County Hospital, Durham.

ELIZABETH GARRETT ANDERSON HOSPITAL, Euston Road, N.W.1. At Oster House E.M.S. Hospital, St. Albans.—HOUSE SURGEON (A). Applications are invited from registered medical practitioners, female, for the post of House Surgeon (A), to become vacant on September 1, 1945, including practitioners within three months of qualification who are liable to service under the National Service Acts. Appointment will be for a period of six months. Salary at the rate of £115 per annum, with full residential emoluments.

HOUSE PHYSICIAN (A). Applications are invited from registered medical practitioners, female, for the post of House Physician (A), to become vacant on September 1, 1945, including practitioners within three months of qualification who are liable to service under the National Service Acts. Appointment will be for a period of six months, Salary at the rate of £115 per annum, with full residential emoluments.

HOUSE SURGEON (B2). Applications are invited from registered medical women practitioners for the post of House Surgeon (B2), to become vacant on October 1, 1945, including W practitioners who now hold A posts. Appointment will be for a period of six months. Salary at the rate of £200 per annum, with full residential emoluments.

Applications for the above appointments should be sent to the Secretary of the Elizabeth Garrett Anderson Hospital by August 15.

ELIZABETH GARRETT ANDERSON HOSPITAL, Euston Road, N.W.1.—The Managing Committee invite applications from qualified medical women for the Staff appointment of part-time RADIOLOGIST in charge of the diagnostic work. Honorarium £200 per annum. Applications, with full particulars and copies of three recent testimonials, should be sent to the Secretary by August 31. Out of consideration for medical officers now in the Services this appointment will not be made on a permanent basis at present.

EAST HAM MEMORIAL HOSPITAL, Shrewsbury Road, London, E.7.—Applications are invited for the post of TEMPORARY HONORARY NEUROLOGICAL SURGEON. Applications, stating full particulars, together with copies of three recent testimonials, should be forwarded to the undersigned. Candidates will be expected to send copies of their applications and testimonials to, and call upon, members of the Honorary Medical Staff.—Reginald Perry, Secretary-Superintendent.

IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page 10

ELIZABETH GARRETT ANDERSON HOSPITAL, Euston Road, N.W.1. At Oster House E.M.S. Hospital, St. Albans.—Applications are invited from registered medical practitioners for the appointment of full-time SURGICAL REGISTRAR (B1). Suitably qualified W practitioners now holding B1 or B2 appointments are invited to apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Candidates should have had some operative experience, and the Fellowship would be an advantage. Appointment under E.M.S. Salary £350 to £550, according to experience and qualifications, and billeting allowance. Duties to commence September 1 or as soon after as possible. Applications should be sent to the Medical Officer-in-Charge, Oster House E.M.S. Hospital, by Aug. 23.

GLOUCESTERSHIRE ROYAL INFIRMARY (Voluntary Hospital, 250 normal beds).—Applications are invited from registered medical practitioners, male or female, for the following appointments:

1 HOUSE SURGEON (A) to the General Surgeon now vacant.

1 HOUSE SURGEON (A) to the Orthopaedic and General Surgeon, now vacant.

1 HOUSE PHYSICIAN (A) vacant August 18. Practitioners within three months of qualification who are liable to service under the National Service Acts may apply, when appointment will be for a period of six months. Salary £150 per annum.

CASUALTY HOUSE SURGEON (B2) now vacant. R and W practitioners now holding A posts may apply. If held by an R practitioner appointment will be limited to six months. Salary £200 per annum. All appointments carry full residential emoluments, and may be terminated by one month's notice on either side. Applications should be addressed to—C. J. Adams, House Governor and Secretary, Royal Infirmary, Gloucester.

GENERAL HOSPITAL, Nottingham. Ear, Nose, and Throat Department (40 beds) and large Outpatient Department.—Applications are invited from registered medical practitioners, male and female, for the appointment of a HOUSE SURGEON (B2) for the above Department, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts appointment will be for a period of six months. Salary at the rate of £200 per annum, with full residential emoluments. Applications to be addressed to the undersigned. Duties to commence on September 1, 1945. Henry M. Stanley, House Governor and Secretary.

GLOUCESTER COUNTY AND CITY MENTAL HOSPITALS.—Applications are invited for the posts of two TEMPORARY ASSISTANT MEDICAL OFFICERS (B1), ineligible for military service. Both these appointments commence at a salary of £550 per annum, together with board, lodging, laundry, and attendance, valued for superannuation purposes at £104 per annum. A further £50 per annum will be paid if the selected candidates have, or obtain, a degree or Diploma in Psychological Medicine. There is, in addition, a war bonus (at present £30 per annum). Applications should be sent to the Medical Superintendent.

GREAT YARMOUTH GENERAL HOSPITAL (92 beds).—Applications are invited from registered medical practitioners, male, for the appointment of RESIDENT SURGICAL OFFICER (B1). Candidates must hold the Fellowship diploma of one of the Royal Colleges of Surgeons. Salary £750 per annum, with residential emoluments (or if married, a living-out allowance). Suitably qualified R practitioners now holding B2 posts may apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Information should be furnished regarding liability under National Service Acts. Applications to be sent immediately to the undersigned.—John S. Egerton, Secretary.

GENERAL HOSPITAL, Nottingham (712 beds, including E.M.S. beds).—Applications are invited from registered medical practitioners, male and female, including practitioners within three months of qualification who are liable to service under the National Service Acts for the appointment of a HOUSE PHYSICIAN (A) for the above hospital. Duties to commence on September 1. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary at the rate of £200 per annum, with full residential emoluments. Applications to be sent to the undersigned.—Henry M. Stanley, House Governor and Secretary

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GENERAL HOSPITAL, Nottingham. (712 beds, including E.M.S. beds.)—Applications are invited from registered medical practitioners for the appointment of HOUSE SURGEON (B1). Duties to commence on September 22. R practitioners now holding B2 posts may apply. Applications from R practitioners who now hold B1 posts cannot be considered unless they have been rejected by the R.A.M.C. The appointment will be for a period of six months. The salary is at the rate of £300 per annum, with full residential emoluments. Applications to be sent to H. M. Stanley, House Governor and Secretary.

GENERAL INFIRMARY AT LEEDS.—Applications are invited from registered medical practitioners for the post of ASSISTANT MEDICAL OFFICER (B1) (female) to the V.D. Department. The appointment is a whole-time one and will be for a period of one year, with eligibility for re-election. The commencing salary will be from £500 to £700 per annum, according to experience. Applicants must be ineligible for military service. Applications should be received by the undersigned not later than August 31, 1945.—S. Clayton Fryers, House Governor and Secretary.

HOVE GENERAL HOSPITAL.—Applications are invited from registered medical practitioners, male and female, for the appointment of RESIDENT MEDICAL OFFICER (B2). Salary at the rate of £200-£250 per annum, according to experience, with full residential emoluments. R and W practitioners who now hold A posts may apply, when appointment will be limited to six months, otherwise may be extended. Applications should reach the undersigned as soon as possible, stating when free. The position is now vacant.—J. V. Roe, Secretary-Superintendent.

HUDDERSFIELD ROYAL INFIRMARY (321 beds).—CASUALTY OFFICER (B2) required, to commence immediately. R and W practitioners who now hold A posts may apply. If held by an R or W practitioner appointment will be limited to six months. Salary at the rate of £200, with full residential emoluments. Applications to be sent to the undersigned as soon as possible.—H. J. Johnson, General Superintendent and Secretary.

INVERNESS DISTRICT MENTAL HOSPITAL. SENIOR ASSISTANT MEDICAL OFFICER.—Applications are invited from registered medical practitioners for the appointment as Senior Assistant Medical Officer (B1). Salary at the rate of £500 per annum, with board, lodging and laundry. Suitably qualified R practitioners holding B2 or B1 appointments are invited to apply, but they must have obtained the sanction of the Scottish Central Medical War Committee to their application. The appointment is subject to the Asylums' Officers' Superannuation Act, 1909. Applications to be sent immediately to the undersigned.—Robert Gilbert, Clerk and Treasurer, York House, Church Street, Inverness.

KETTERING AND DISTRICT GENERAL HOSPITAL. HOUSE SURGEON (A); HOUSE PHYSICIAN (A).—Applications are invited from registered medical practitioners, male and female, for the above appointments, which are now vacant, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by practitioners who are liable under these Acts, appointments will be for a period of six months. Salary is at the rate of £250 and £200 per annum respectively, with full residential emoluments.—G. W. Jackson, Secretary-Superintendent.

KENT AND CANTERBURY HOSPITAL, Canterbury.—Applications are invited from male registered medical practitioners for the appointment of HOUSE PHYSICIAN (A) to become vacant about the beginning of September, 1945, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by practitioners who are liable under these Acts, appointment will be for a period of six months. Salary is at the rate of £160 per annum, with full residential emoluments. Applications should be sent immediately to the undersigned.—J. F. Kent, Superintendent and Secretary.

LEICESTER ROYAL INFIRMARY. HON. ASSISTANT SURGEON.—The Board invites applications for this position, arisen as the result of the death of the Senior Honorary Surgeon. Candidates must be Fellows or Members by examination of the Royal College of Surgeons of England or Graduates in Surgery of one of the universities of the United Kingdom or Ireland. Service candidates are eligible to apply for the appointment, which will be made on January 16, 1946, on which date candidates will be asked to interview the board. One hundred guineas annually is granted by the board for out of pocket expenses. This matter is under revision. Applications, with recent testimonials, to reach the undersigned by first post on Saturday, December 1, 1945.—H. T. Plowman, House Governor and Secretary.

LINCOLN COUNTY HOSPITAL (VOLUNTARY HOSPITAL, 200 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (A), vacant middle September, 1945. Salary is at the rate of £225 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when the appointment will be for six months.—Arthur Moore, Secretary-Superintendent.

WESTMORLAND COUNTY HOSPITAL, Kendal (82 beds).—Applications are invited from registered medical practitioners (unmarried) for the appointment of HOUSE SURGEON (B2), vacant now. Salary £300 per annum, with board, residence, and laundry. R and W practitioners who now hold A posts may apply, when appointment will be limited to six months, otherwise may be extended. Applications should be sent without delay to J. M. Somervell, Hon. Secretary.

LIVERPOOL EYE, EAR & THROAT INFIRMARY.—Applications are invited from registered medical practitioners, male or female, for the appointment as HOUSE SURGEON (B2) to the Aural and Laryngological Department, vacant about August 20, including R and W practitioners who now hold A posts. The appointment is for a period of six months and salary is at rate of £126 per annum, with full residential emoluments. This post is recognized for D.O.M.S. and D.L.O. examinations. Application to be sent to George Nickson, Secretary-Superintendent.

LIVERPOOL MATERNITY HOSPITAL, Oxford Street, Liverpool.—Applications are invited from registered medical practitioners, male or female, for the appointments of two HOUSE SURGEONS (B2), to become vacant on October 1 next, including R and W practitioners who now hold A posts. If held by R or W practitioners the appointments will be limited to six months, otherwise they may be extended. Salary is at the rate of £90 per annum, with full residential emoluments. Membership of a Medical Defence Society is a condition of appointment. Applications should be addressed to the Honorary Secretary of the Medical Board at the Hospital as above not later than August 24.

MANCHESTER ROYAL INFIRMARY. NON-RESIDENT PART-TIME CHIEF ASSISTANT to Aural Department. Attendance 5 sessions per week.—The Board of Management invite applications for the above appointment from registered medical practitioners, male and female. Applicants should have held senior house appointments and had surgical experience. The appointment is for 12 months, subject to the byclaws as to notice, etc., at a salary of £280 per annum, for 5 sessions per week. Applications should be sent to the undersigned not later than August 27, 1945.—By Order, F. J. Cable, Gen. Supt. and Secretary.

MONTAGU HOSPITAL, Mexborough, Yorkshire (123 beds).—Applications are invited from registered medical practitioners, male, for the appointment of HOUSE SURGEON (A). Commencing salary at the rate of £200 p.a. with usual residential emoluments. Practitioners within 3 months of qualification and liable under the National Service Acts may also apply, when appointment will be for a period of 6 months.—Applications to A. W. Youngs, F.C.I.S., Secretary-Superintendent.

MANSFIELD AND DISTRICT GENERAL HOSPITAL, Mansfield, Notts (186, plus 40 E.M.S., beds).—Applications are invited from registered medical practitioners for the appointment of RESIDENT HOUSE SURGEON (A), now vacant. Salary £220 p.a., with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months.—Applications should be sent at once to K. L. Ward, Secretary.

MERTHYR GENERAL HOSPITAL (115 beds).—Applications are invited from registered medical practitioners for the appointment of a RESIDENT HOUSE SURGEON, male or female (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. The appointment will be for a period of six months. Salary at the rate of £200 per annum, with board and lodging.—Applications to the Secretary, Merthyr General Hospital, Merthyr Tydfil.

NOTTINGHAM CITY HOSPITAL. RESIDENT JUNIOR HOUSE PHYSICIAN.—Applications are invited from registered medical practitioners, male or female, for the post of Junior House Physician (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months, otherwise it will be for a period not exceeding one year. The appointment may be determined by either party by one month's notice at any time. Salary at the rate of £250 per annum, plus war bonus, with full residential emoluments. Applications to J. E. Richards, Town Clerk, The Guildhall, Nottingham.

NORTH ORMESBY HOSPITAL, Middlesbrough.—Applications are invited from the registered medical practitioners for the appointment of two HOUSE SURGEONS (A). Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for six months. Salary £120 per annum rising by £20 per annum after each six months' service to a maximum of £160 per annum with board, residence and laundry. Applications to be sent to the undersigned.—George Watts, Secretary-Superintendent.

NORTH HERTS AND SOUTH BEDS HOSPITAL, Hitchin, Herts (76 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of RESIDENT HOUSE OFFICER (B2) (duties of House Physician, House Surgeon and Casualty Officer), now vacant, including R and W practitioners who now hold A posts. If held by an R or W practitioner appointment will be limited to six months. Salary is at the rate of £200 per annum with full residential emoluments.

(Continued on page 17)

CHARGES FOR CLASSIFIED ADVERTISEMENTS

Circulation 53,000

Advertisements should reach the Advertisement Manager not later than the THURSDAY, ten clear days before publication.

Cancellation cannot be accepted after 10 a.m. MONDAY for current week's issue.

To economize in accounting, postage, and collection, **all advertisements should be paid for at time of order.** Publication will be in the earliest possible issue, but delay is unavoidable in present circumstances.

1. TO MEMBERS OF THE ASSOCIATION the cost of advertisements for Assistants, Dispensers, Locums, Partnerships, *Practices, Secretaries, is ten shillings for 24 words, including name and address. When a Box Number is used, it must be reckoned as six of the total number of words in each advertisement.

1s. *extra* should be added for each insertion to cover the Box fee and postage of replies.

Additional words 2s. 6d. for every six, or part.

Please mark advertisements clearly, *MEMBER*

2. To all other (private) advertisers the charge under the headings specified above, para. 1, is 12s. (minimum) for 24 words, including name and address. When a Box Number is used, it must be reckoned as six of the total number of words in each advertisement.

1s. *extra* should be added for each insertion to cover the Box fee and postage of replies.

Additional words 3s. for every six, or part.

* SALE OF PRACTICE. The name and address of owner and of the firm negotiating the sale must accompany the advertisement. These details are not for publication.

3. Consulting rooms, Dietetic, Duplicating, Hotels, Houses, Miscellaneous, Motor Cars, Typing, the charge is same as para. 2.

Personal, Notices, University and Industrial Appointments, minimum charge is 20s. for 24 words, including name and address. When a Box Number is used, it must be reckoned as six of the total number of words in each advertisement.

1s. *extra* should be added for each insertion to cover the Box fee and postage of replies.

Additional words 5s. for every six or less

Educational, Hospitals, Public Health Appointments, 3s a line, minimum charge 15s.

Births, Marriages, and Deaths.—The charge for an insertion under this head is 10s. 6d. for 18 words or less. Extra words 3s. 6d. for each six or less. Payment should be forwarded with the notice, authenticated by the name and permanent address of the sender, and should reach the Advertisement Manager not later than first post Monday morning.

BOX NUMBERS.—A Box number is used in place of name and address to conceal identity of advertiser. In no circumstances will this information be divulged by this office. Separate applications should be written to each, addressed Box—, c/o B.M.J. (address as below). All applications are forwarded to the advertiser in plain closed envelopes.

TRADE ANNOUNCEMENTS. 20s. minimum 24 words Extra words 5s. for six, or less.

Every effort is made to ensure the accuracy of advertisements appearing in the Journal. No recommendation is implied by acceptance, and the British Medical Association reserves the right to refuse or interrupt the insertion of any advertisement

Advertisement Manager, British Medical Journal,
B.M.A. House, Tavistock Square, London. W.C.1
Telephone: Euston 2111.
Telegrams: Articulate, Westcent, London.

APPOINTMENTS—Hospitals and Public Health, commence at page 10

NOTICES

ASTLEY COOPER STUDENTSHIP, Guy's Hospital.—This STUDENTSHIP, tenable at Guy's Hospital Medical School, will become vacant on October 1, 1945. The student, who is called the "Astley Cooper Assistant to the Curator of the Gordon Museum," will be elected for a period of three years. Particulars regarding the Studentship can be obtained from the Secretary to the Astley Cooper Trustees, Medical School Office, Guy's Hospital, S.E.1., to whom applications for the post should be addressed on or before September, 15, 1945.

APPLICANTS ARE ADVISED not to send original testimonials when replying to advertisements. Copies will answer the purpose quite as well, and in the event of their being lost or mislaid no inconvenience will ensue.

THE FACT THAT GOODS made of raw materials in short supply owing to war conditions are advertised in this Journal should not be taken as an indication that they are necessarily available for export.

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE. ROCKEFELLER FELLOWSHIPS IN PREVENTIVE MEDICINE.—(1) The Rockefeller Foundation is prepared to award a small number of Fellowships to enable medically qualified men and women who wish to take up public health as a career to engage in special studies for this purpose. These Fellowships will be open to those who hold a University degree in Medicine registrable in the United Kingdom and are British subjects by birth. (2) The Fellowships will be awarded for one or more years according to the needs of the candidate, but the normal period will be two years. The annual value will be between £450 and £800, and travelling expenses will be paid during residence abroad. (3) The committee of award is prepared to receive applications at any time, and medical officers serving with the Forces of the Crown may apply *now* for Fellowships, tenable on demobilization. No forms of application will be issued. Prospective candidates should write informally to the Dean, London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, London, W.C.1.

UNIVERSITY AND INDUSTRIAL APPOINTMENTS

DEMOBILIZED MEDICAL OFFICER, experienced with labour, is now free to accept any suitable APPOINTMENT.—Box 952, B.M.J.

THE WELSH NATIONAL SCHOOL OF MEDICINE (University of Wales).—Applications are invited for the full-time posts of (I) LECTURER IN BACTERIOLOGY; (II) LECTURER IN CLINICAL PATHOLOGY. The salary of each appointment will be at the rate of £875 per annum. The persons appointed will be required to commence duty as soon as possible. Further particulars of the appointments may be obtained from the undersigned.—S. C. Edwards, Secretary, The Welsh National School of Medicine, 10, The Parade, Cardiff.

THE UNIVERSITY OF LIVERPOOL.—The Council invites applications for the post of LECTURER IN DENTAL PATHOLOGY AND BACTERIOLOGY. The appointment will be a whole-time one, at a salary not exceeding £800 per annum, and to be fixed according to qualifications and experience. The University will consider applications from candidates in the Forces, or engaged upon other national service, even though they may have no immediate prospect of release. Applicants must have had training and experience in research methods in a department of a Medical School or similar institution, and should preferably hold a medical qualification. A dental qualification is desirable but not essential. Applications should be received not later than September 30, 1945, by the undersigned, from whom further particulars may be obtained.—Stanley Dumbell, Registrar.

UNIVERSITY OF BIRMINGHAM. Department of Anatomy.—Two whole-time TEMPORARY ASSISTANT LECTURERS are required for Session 1945-46. Salary £350 per annum. Duties to commence October 1. Applications should be sent to the undersigned immediately.—C. G. Burton, Secretary, The University, Edmund Street, Birmingham, 3.

UNIVERSITY OF ABERDEEN.—Applications are invited, before September 30, for the post of ASSISTANT in the Department of Medicine at a salary of £350 per annum. Applications (with references) and inquiries should be addressed to the undersigned.—H. J. Butchart, Secretary, The University, Aberdeen.

EDUCATIONAL

DIPLOMA IN PUBLIC HEALTH. THE ROYAL INSTITUTE of PUBLIC HEALTH AND HYGIENE.—The Course of Instruction may be commenced at any time. A prospectus and full particulars can be obtained from the Secretary, 28, Portland Place, London, W.1. Telephone: LANgham 2731-2.

L.M.S.S.A.: FINAL EXAMINATIONS. Surgery, Oct. 8, Nov. 12, Dec. 10. Medicine, Pathology, Oct. 15, Nov. 19, Dec. 17. Midwifery, Oct. 16, Nov. 20, Dec. 18.—For particulars apply Registrar, Apothecaries Hall, Black Friars Lane, E.C.4.

POSTAL COACHING for all Medical Examinations. Some successes from 1901-1944: M.D.Lond., 440; M.B., B.S.Lond., final, 386; M.R.C.S.Eng., primary, 332; F.R.C.S.Eng., final, 262; M.R.C.P Lond., 365; M.R.C.S., L.R.C.P., final, 815; D.A (1936-44), 72; F.R.C.S.Edin, and D.R.C.O.G, many successes. Assistance with M.D. thesis Special arrangements for medical officers with Forces. Medical prospectus (24 pp.) gratis, along with list of Tutors, etc., on application to the Principal.— University Examination Postal Institution, 17, Red Lion Square, London, W.C.1. Phone: HOLborn 6313.

POSTGRADUATE STUDY. Instruction is arranged in medical, surgical, and special subjects, as circumstances permit Information and advice obtainable from the Fellowship of Postgraduate Medicine, 1, Wimpole St., London, W 1. Langham 4266

NORTH-EAST LONDON POSTGRADUATE COLLEGE AND UNDERGRADUATE REVISION WORK. Prince of Wales's General Hospital, N.15.—Particulars from J. Browning Alexander, M.D., F.R.C.P., Dean.

BIRMINGHAM ACCIDENT HOSPITAL AND REHABILITATION CENTRE.
COURSE IN INDUSTRIAL HEALTH.

The Birmingham Accident Hospital, which acts largely as a service department to Industry's Workpeople, proposes to run a fortnight's intensive course in industrial health from Monday, August 27, to Saturday, September 8, 1945. This course is primarily intended for doctors in the Services who can obtain leave, for recently demobilized doctors, and for others who wish to take up this branch of medicine. The course will be in the charge of Dr. Donald Stewart, and will be for the most part practical in nature. The following have agreed to act as visiting lecturers: Dr. A. J. Amor, Chief Medical Officer, Ministry of Supply, London; Dr. Donald Hunter, London Hospital; and Prof. R. E. Lane, Manchester. In addition, Mr. Wm Gissane, Clinical Director of the Hospital, will take part in the training, together with Prof. W. H. Wynn and other members of the Birmingham University teaching staff. The fee for the course will be £10 10s., and numbers will be limited. Applications to join the course should be sent to the Hospital Secretary, from whom full particulars can be obtained.—A. A. MacIver, Secretary, Bath Row, Birmingham, 15.

EXAMINING BOARD IN ENGLAND
by the
ROYAL COLLEGE OF PHYSICIANS OF LONDON
and the
ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Notice is hereby given that the following examinations will commence on the dates stated below:

PRE-MEDICAL EXAMINATION
(Chemistry, Physics, and Biology),
Monday, September 3
FIRST EXAMINATION
(Anatomy, Physiology, and Pharmacology)
Monday, September 10
FINAL EXAMINATION
(Pathology, Medicine, Surgery, and Midwifery)
Monday, October 1

Candidates who have fulfilled the necessary conditions, and who desire to present themselves for examination, must give notice in writing to the Secretary, Examination Hall, 8-11, Queen Square, London, W.C.1, at least twenty-one days before the date of the examination, transmitting at the same time such certificates as may be required by the Regulations of the Board, together with the full amount of the fee due for the subject or subjects for which they desire to enter.

HORACE H. REW, Secretary.

THE BEDFORD PHYSICAL TRAINING COLLEGE, 37, Lansdowne Road, Bedford. Principal, Miss Stansfeld, O.B.E., Vice-Principal, Miss Petit Students are trained to become teachers in Gymnastics and Games, and the training, which extends over three years, includes Educational and Medical Gymnastics, Massage, Games, Dancing, and Swimming. Fees: £165 per annum. Two scholarships of £50 and two of £25 are offered annually —For particulars, apply Secretary

MEDICAL CORRESPONDENCE COLLEGE, 19, Welbeck Street, London, W.1, provides Coaching for all Medical Examinations: D.A., D.P.M., D.O.M.S. D.L.O., D.C.H., M.R.C.P., F.R.C.S., M.D thesis, and all qualifying exams. by a staff of highly qualified Tutors, Honoursmen, and Gold Medallists. No interruption of Postal Courses during the war. Complete Guide to Medical Examinations sent free on application Applicants should state in which qualification they are interested.

ROYAL COLLEGE OF SURGEONS OF ENGLAND
LICENCE IN DENTAL SURGERY

Notice is hereby given that the following Examinations will commence on the dates stated below:

FIRST PROFESSIONAL EXAMINATION
Monday, September 10
SECOND PROFESSIONAL EXAMINATION
Tuesday, September 11

Candidates who have fulfilled the necessary conditions, and who desire to present themselves for examination, must give notice in writing to the Director of Examinations, Examination Hall, 8-11, Queen Square, London, W.C.1, at least 21 days before the Examination, transmitting at the same time such certificates as may be required by the regulations, together with the full amount of the fee for the Part or Parts of the Examination for which they desire to enter.—Horace H. Rew, Director of Examinations.

ROYAL COLLEGE OF PHYSICIANS OF LONDON

The next EXAMINATION for the MEMBERSHIP will commence on Monday, September 24, 1945.

Candidates are asked to note the change of date of the Examination, and are required to give at least 21 days' notice, in writing, to the Registrar of the College. The last day for receiving entries, accompanied by the certificates and testimonials required by the bye-laws, is therefore Monday, September 3, 1945. Candidates who propose to submit published work under the regulations are required to give 28 days' notice, and should apply in writing to the Registrar, without delay, for detailed instructions as to the procedure they should follow. The last day for receiving completed entries for published work is Monday, August 27, 1945.—H. E. A. Boldero, D.M., Registrar, Pall Mall East, London, S.W.1.

F.R.C.S.(EDIN.)

POSTAL AND ORAL COURSES continued as usual. Full details.—H. C. Orrin, F.R.C.S. Surgeons' Hall, Edinburgh.

THE MILROY LECTURES ON STATE MEDICINE AND PUBLIC HEALTH.—The Council of the Royal College of Physicians of London is prepared to receive applications for the office of MILROY LECTURER for 1947. Applications must be addressed to the Registrar, Royal College of Physicians, Pall Mall East, to reach the College on or before Saturday September 15, 1945, and to include a short synopsis of the subject selected by the candidate. Two Lectures are to be given on a Tuesday and Thursday in February or March, 1947. A copy of Dr. Milroy's "Suggestions" on the subject of his bequest, and information as to the emolument, may be obtained from the Registrar.

ASSISTANTSHIPS VACANT

WANTED, ASSISTANT with VIEW to partnership old-established good-class practice Lincolnshire, male and ex-Service, easily worked modern house with good garden, willing to wait demobilization suitable man.—Box 1007, B.M.J.

WANTED at once in large mixed practice in East Midland city, an ASSISTANT, male or female, with or without VIEW to partnership, two partners, secretary, dispenser kept, full accommodation, all found, car provided, salary from £650.—Box 989, B.M.J.

WANTED urgently, ASSISTANT, male, single, for semi-rural district in Derbyshire, work light, good salary by arrangement.—Dr. Gordon, Bolsover, Nr. Chesterfield.

WANTED, ASSISTANT, good-class G.P. within 20 miles London, starting Sept., non-dispensing, secretary, modern surgery, full equipment, clinical notes kept, suit keen clinician, either sex, desiring experience of G.P., preferably ex-Service and London Medical Schools, interview essential.—Box 981, B.M.J.

WANTED, ASSISTANT for about nine months from September, British, country practice near West Country city, indoor or part furnished house, suit married man, car provided or allowance, salary by arrangement.—Box 980, B.M.J.

WANTED, ASSISTANT about middle of September, mixed good-class practice Birmingham, car provided.—Box 1014, B.M.J.

WANTED, experienced well-qualified Welsh-speaking man before the winter with VIEW to succession to very old-established practice, particulars in strict confidence.—Box 1010, B.M.J.

WANTED immediately indoor single ASSISTANT to run branch surgery large private and panel practice, South Manchester, Scot or English preferred, dispenser kept, car provided, Salary £700 indoor.—Apply Box 1008, B.M.J.

WANTED ASSISTANT, male, for large mixed practice S.E. London, £500 all found to start, or unfurnished flat available, salary by arrangement.—Apply Box 1009, B.M.J.

WANTED, ASSISTANT to live at comfortable branch surgery, salary £500, car, board, light work, suit doctor, single, not strong.—Box 954, B.M.J.

WANTED, ASSISTANT, male or female, with or without VIEW, Northern cathedral city, £700 outdoor, car allowance by arrangement.—Box 828, B.M.J.

WANTED, ASSISTANT with VIEW to partnership in well-established practice in East Coast seaside resort, applicants should be especially interested in medicine and under 34 years of age, salary £750 plus car, practice has at present two partners and dispenser, excellent opportunity for young man who wishes to take up general practice as his career.—Box 1006, B.M.J.

WANTED, ASSISTANT, either sex, for private and panel practice, Oxford.—Box 1004, B.M.J.

WANTED, ASSISTANT, preferably indoor, male, general practice near Leeds, dispenser kept, salary by arrangement, car allowance.—Box 1002, B.M.J.

WANTED, urgently, ASSISTANT, British, indoor £600 or outdoor £700, September or soon after, mixed old-established practice between Bradford and Leeds, car provided.—Box 955, B.M.J.

WANTED, ASSISTANT, male, single preferred, car, etc., provided, two energetic partners, Birmingham area, salary £700.—Box 958, B.M.J.

WANTED, outdoor ASSISTANT, woman (or man), for semi-rural practice beginning August, September, or October, rota, car and board and lodgings provided, small flat possible if preferred, £550.— Drs. Fairweather and Royle, Clitheroe.

WANTED, ASSISTANT, under 40, either sex, pleasant small South Midland town, salary £700 and small house rent free, own car preferred with allowance.—Box 757, B.M.J.

WANTED, ASSISTANT, with probability of partnership if desired, North London, good unfurnished house available, easily worked middle-class practice, salary by arrangement.—Applicants please state age and relevant particulars, Box 755, B.M.J.

WANTED, immediately, indoor and outdoor ASSISTANTS for town and country practices with and without view to partnership, also Locums, good salaries offered, state full particulars.—British Medical Bureau, 33, Cross Street, Manchester, 2

WANTED, for East London panel and general practice, ASSISTANT, capable of taking sole charge, salary by arrangement, all found if single, free furnished house if married, state full particulars. —Box 1039, B.M.J.

ASSISTANT REQUIRED, with or without VIEW, furnished flat available if required, good salary, Chester.—Box 983, B.M.J.

ASSISTANT WANTED for good mixed practice in East Midlands town, modern house and garage rent free, salary according to experience, state fullest particulars.—Box 982, B.M.J.

ASSISTANT WANTED, man or woman, in Birmingham, salary £800 to £900, outdoor, according to experience, car provided.—Box 1029, B.M.J.

ASSISTANTSHIP, with VIEW, Sussex Coast town, accommodation available, yachting and golf facilities, suitable for Service man with early release, terms by arrangement.—Box 976, B.M.J.

ASSISTANT, mixed panel and private practice Midlands, indoor or outdoor, commencing September or October, dispenser kept, salary by arrangement.—Box 1005, B.M.J.

ASSISTANT, English or Scottish REQUIRED, for general practice South of England town, four partners (one absent on war service), secretary, three dispensers, and maid kept, central surgery, regular duties, VIEW for suitable man, car available, suitable accommodation outdoor, salary £800.—Box 1003, B.M.J.

ASSISTANT WANTED shortly to act as DURATION LOCUM in mixed practice, pleasant London suburb, delightful unfurnished flat and car provided, initial salary £600 with prospects of increase and continuation after demobilization of partner if suitable, give full particulars.—Box 959, B.M.J.

ASSISTANT REQUIRED, must be keen and energetic, able to drive, single male preferred, good-class mixed non-dispensing practice, East Yorkshire, VIEW to partnership if required salary by arrangement.—Box 607, B.M.J.

MALE ASSISTANT view EARLY PARTNERSHIP, West seaside town, free unfurnished bungalow and garage salary by arrangement, unlimited prospects. —Box 957, B.M.J.

YORKSHIRE partnership practice requires ASSISTANT, with or without VIEW, salary £750, car provided, excellent opening for keen practitioner.—Box 956, B.M.J.

ASSISTANTSHIPS WANTED

WANTED by energetic doctor aged 30, specialist anaesthetist, ASSISTANTSHIP with scope for major anaesthesia and hospital appointment.—Box 977, B.M.J.

ASSISTANTSHIP with definite VIEW required by Scot, age 34, Glasgow graduate, married, ex Services, hospital and general practice experience, car and furnished house essential.—Box 602, B.M.J.

ASSISTANTSHIP, with VIEW, wanted by M.B., Ch.B., aged 32, married, good hospital and G.P. experience, country practice (hospital facilities preferred) in Home Counties, S. or S.W. England, free end of Sept., unfurnished house essential, driver.—Box 860, B.M.J.

EX-R.A.F. M.B., Ch.B.Glas., 30, married, previous G.P. experience, desires ASSISTANTSHIP with VIEW, country or coastal preferred, car and house essential, available October, state full particulars.—Box 951, B.M.J.

LATE R.A.F. MEDICAL OFFICER, aged 54, is now free and willing to ASSIST, own car and furniture, some capital, replies treated strictly confidentially.—Box 953, B.M.J.

M.B., Ch.B.Ed., wishes ASSISTANTSHIP with definite VIEW, preferably near sea, aged 32, married, hospital experience, R.A.M.C., demob. number 26, house and car essential.—Box 1040, B.M.J.

MARRIED LADY DOCTOR, recently qualified M.B., Ch.B., requires country ASSISTANTSHIP, house required, furnished or unfurnished, North England preferred.—Box 984, B.M.J.

MARRIED DOCTOR, 34, requires ASSISTANTSHIP, one year hospital and four years' G.P. experience, L.M. (Rotunda), keen, reliable, ineligible, state accommodation.—Box 1012, B.M.J.

M.D., M.R.C.S., with considerable experience in medicine, surgery, and obstetrics in hospital, and in general practice, wishes ASSISTANTSHIP.—Box 1011, B.M.J.

WIFE of serving doctor wishes ASSISTANTSHIP (preferably doctor nearing retiring age), with VIEW succession when husband demobilized, areas preferred—West Counties, Westmorland, North Lancashire, or Northern Ireland.—Write Box 962, B.M.J.

LOCUMS

WANTED, LOCUM ASSISTANT shortly to take charge of mixed general practice in London suburb for three to six months, car provided, salary by arrangement.—Box 803, B.M.J.

WANTED, LOCUM for London area for month September.—Box 1027, B.M.J.

WANTED, LOCUM, August 18 for 4 weeks, Birmingham district.—Box 1013, B.M.J.

WANTED, LOCUM, in Norfolk country practice, from Sept. 17 to Oct. 2, all found and car.—Reply, Dr. Stuart, Hethersett.

WANTED, DURATION LOCUM, pleasant mixed practice Cheshire, £600 p.a., indoor, car, cottage hospital, surgical scope if desired.—Box 864, B.M.J.

WANTED, LOCUM for pleasant practice, North London; Sept. 3 to 15 inclusive, preferably own car, petrol supplied, wife not objected to.—Box 654, B.M.J.

HOLIDAY LOCUM—Demobilized South Kensington practitioner would undertake holiday locum work in Knightsbridge, South Kensington area, August, September.—Box 963, B.M.J.

LOCUM REQUIRED Sept. 1 to Sept. 12, surgeries only, Croydon.—Box 1028, B.M.J.

CITY OF MANCHESTER. Booth Hall Hospital for Children (760 beds).—LOCUM TENENS RESIDENT SURGICAL OFFICER required for holiday duty, seven to ten days. Fee £10 10s weekly, with full board and residence in addition. Dates to be mutually arranged. Apply to the Medical Superintendent, Booth Hall Hospital, Charlestown Road, Blackley, Manchester, 9.

LONDON-TRAINED DOCTOR willing ASSIST part time South Coast resort, 10 days early Sept., in exchange, ACCOMMODATION himself, wife and child (aged 1½).—Box 985, B.M.J.

PRACTITIONER is willing to do HOLIDAY LOCUM for one or two weeks in North London —Box 838, B.M.J.

PRINCESS ALICE HOSPITAL, EASTBOURNE —LOCUM LABORATORY TECHNICIAN for two weeks August or September, board and room available.—Apply to Secretary.

SOUTHAMPTON CHILDREN'S HOSPITAL.—Applications are invited from registered medical practitioners, men or women, for three weeks from August 16 to September 5, as LOCUM TENENS (B2) (Acting Resident Medical Officer). Salary nine guineas per week, with full residential emoluments. Applications should be sent to Ella K. Matthews, Secretary.

PARTNERSHIPS

FOR SALE, S.W. England, PARTNERSHIP, 1/2 share of £2,200, near sea coast with growing population, excellent house and garden for sale, good terms for quick sale owing to ill-health.—Box 1016, B.M.J.

ONE-THIRD of £9,000 for sale in PARTNERSHIP of three in good residential district in beautiful country 40 miles north of London, panel £1,850, appointments £800, good hospitals, golf, trains, etc., attractive house, central heating, gas, electricity, all main services, and charming garden for sale.—Box 1018, B.M.J.

PARTNER (British) wanted in first-class old-established practice in Kent, applicant must be well qualified, preference for one holding F.R.C.S., or M.D., or M.R.C.P., or M.R.C.O.G. qualification, excellent modern house and garden available, share producing £1,500 suggested to commence with.—Apply Box 773, B.M.J.

PARTNERSHIP, preliminary assistantship if desired, REQUIRED by serving Scots graduate, aged 33, due release early 1946, capital available. —Box 1015, B.M.J.

PARTNER OR ASSISTANT WITH VIEW, to replace senior partner, retiring, in rural practice in S.W. Midlands, receipts over £4,000, panel over 2,000, cottage hospital with opportunity for surgery, share for disposal 1/3 to 1/2 at 1½ years' purchase. —Box 273, B.M.J.

PARTNER WANTED, North-West town, near Lakes, old-established practice, share relinquished by one partner for sale, access to hospital, opportunity for surgery, preliminary assistantship essential.—Box 836, B.M.J.

MEDICAL POSTS

WANTED, LABORATORY TECHNICIAN, Grade B, experience in Morbid Histology and Haematology, salary according to B.H.A. scale.—Apply Pathologist, East Suffolk and Ipswich Hospital, Ipswich.

DOCTOR, just released, 20 years G.P., looking for CONGENIAL WORK near South Coast, income not essential factor, appointment or small practice —Box 1044, B.M.J.

LUDHIANA WOMEN'S CHRISTIAN MEDICAL COLLEGE, INDIA.—Applications are invited from women doctors—including those who, but for the war, intended to become medical missionaries—to join the Staff of this Medical School for training Indian girls. Remuneration, missionary maintenance allowance of £175 p.a. Apply Secretary, Ludhiana, 39, Victoria Street, London, S.W.1.

M.D., D.P.H., Scot, 32 years' experience public health administration, schools, sanatorium, and tuberculosis dispensary, seeks PUBLIC APPOINTMENT.—Box 825, B.M.J.

PRACTITIONER many years in specialist venereological and dermatological practice and now in charge male and female clinics would be interested in other possible PART-TIME county or hospital APPOINTMENTS in these diseases in Southern Counties.—Box 1021, B.M.J.

TECHNICIAN (male or female) required qualified to undertake routine haematology and clinical biochemistry in a London Hospital. Preference will be given to applicants holding the Associateship or Fellowship of the Institute of Medical Laboratory Technology salary according to experience, applications, stating full particulars as to experience, age, etc., accompanied by two recent testimonials, should be addressed to Box 776, B.M.J.

PRACTICES

WANTED, Hampstead or Hertfordshire surgical PRACTICE or partnership by experienced F.R.C.S., just demobilized, aged 45, capital available.—Box 987, B.M.J.

WANTED, PRACTICE in Northern England by Service doctor due early release.—Box 986, B.M.J.

BUSY PRACTICE, South Coast, average gross takings exceed £4,000 half share for sale, two years' purchase.—Box 856, B.M.J.

DOCTOR, R.A.M.C., 36, due release Nov., requires PRACTICE with scope London area, £1,000 to £1,500 p.a., good panel, good house to rent, capital available.—Box 968, B.M.J.

ENGLAND, N.W., urban (inland), old-established compact mixed PRACTICE, receipts £2,500 (certified), 1½ years' purchase, also excellent house.—Box 767, B.M.J.

FOR SALE, panel and private PRACTICE, average about £1,200 per annum, modern detached corner house, freehold, Home Counties, particulars on application.—Box 965, B.M.J.

FOR SALE, old-established country town PRACTICE in Home Counties, good and middle class, panel 900, increasing rapidly, average receipts last three years £1,500 convenient, easily run house at rental of £40, premium £2,500.—Box 966, B.M.J.

FOR SALE, coastal PRACTICE of over £1,000, unopposed, house with tennis, lawn, greenhouse, sale or rent.—Box 990, B.M.J.

FOR SALE, old-established country PRACTICE, Co. Durham, panel approximately 800, average audited receipts last three years excluding public appointments £1,277, price £2,000, if desired excellent modern house with good garden and tennis lawn available.—Box 853, B.M.J.

FOR SALE, succession PRACTICE (unopposed) in small Somerset town, income about £2,000, also good house.—For further particulars apply Dyne Hughes & Archer, Solicitors, Wincanton, Somerset.

FOR SALE, old-established PRACTICE near Burnley, panel 1,800, gross income over £2,000, excellent modernized house and surgery, no branch surgery.—Box 625, B.M.J.

LONDON SUBURB PRACTICE for sale, income £1,300, panel 850; good house for sale, terms 1½ years' purchase.—Box 1041, B.M.J.

NORFOLK, excellent PRACTICE for immediate sale, gross income over £2,500 per annum, including £1,100 panel, good house and garden, this practice offers great scope for advancement in well-known country town.—Box 979, B.M.J.

NON-PANEL PRACTICE for sale, accountant's figures, leasehold double-fronted corner house with double garage, vacant possession at valuation, panel could be easily developed, ample waiting, surgery, and consulting room accommodation.—Apply Accountant, V. C. Nicholls, 9, Basinghall Street, E.C.2.

OPHTHALMIC PRACTICE for Sale, important town, N.E.; average last four years £1,571; consulting rooms to rent.—Box 1020, B.M.J.

OLD-ESTABLISHED PRACTICE for cash sale, Buckinghamshire, receipts £900, scope, good modern house, rent, good garden, half acre, garage, surgery separate, stabling for two.—Box 964, B.M.J.

PANEL and P.M.S. PRACTICE for sale, Oxford area, receipts over £700, per annum, good scope.—Box 1019, B.M.J.

PRACTICES AND SHARES for disposal in various parts town and county, incomes £800 upwards, also vacancies for Assistants and Locums.—Apply Percival Turner, Ltd., 25, Maiden Lane, Strand, W.C.2. Telephone: TEMple Bar 9011.

PRACTICE for SALE in South-West rural and industrial area near large town and sea, panel and private £2,500, good house with garden, rent or purchase.—Apply Smith & Bateman, Chartered Accountants, Lionel Street, Birmingham, 3.

PRACTICES AND PARTNERSHIP SHARES for sale, town and country.—Full details free on request.—British Medical Bureau, 33, Cross Street, Manchester, 2.

PRACTICE, small town in County Durham, for sale, suitable partners, two good houses available, panel 4,000, income £5,400, scope for extension, owner retiring.—Apply Patrick Bennett & Co., Solicitors, 4, Mosley Street, Newcastle-upon-Tyne.

PRACTICE OR SHARE, Middlesex, long established, receipts over £5,000, including panel 3,500 and appointments, suit man and wife or two friends, house, 6 bedrooms, and surgery attached, urgent sale.—Box 768, B.M.J.

SMALL S.W. LANCS. TOWN, easily worked G.P. (old-established), panel 1,600 units, income average £2,200 about, house to rent £60 p.a., premium goodwill 1½ years.—Box 967, B.M.J.

SHEFFIELD, old-established PRACTICE for sale, panel 1,850, receipts £2,000, commodious house £1,500, premium 1½ years (cash).—Box 988, B.M.J.

URGENT SALE, old-established better-class PRACTICE in Lancashire, panel 1,800, cash receipts 1944 £3,000 (chartered accountant's figures), excellent house, sale or rent, easy terms, preliminary Assistantship if desired, excellent opportunity for F.R.C.S., latter not essential.—Box 1042, B.M.J.

DIETETIC, DISPENSING, TYPING, SECRETARIAL, RECEPTION, ETC.

None of the vacancies for women advertised in these columns relates to a woman between the ages of 18 and 40 inclusive, unless she is exempted from the provisions of the Control of Engagement Order, 1945, or the vacancy is for employment excepted from the provisions of that Order.

WANTED, experienced qualified DISPENSER-SECRETARY (Hall), old-established practice (near Bath), for public school and university men, attractive position.—Box 1043, B.M.J.

WANTED immediately, DISPENSER AND BOOKKEEPER for general practice.—Apply 39 London Road, Newark-on-Trent.

WANTED, September 1, DISPENSER-SECRETARY for general practice, Sutton, Surrey.—Box 1022, B.M.J.

WANTED, LADY DISPENSER-BOOKKEEPER, permanent, country town, £4 10s. weekly.—Box 417, B.M.J.

WANTED by partnership in Stratford-on-Avon, full-time experienced lady BOOKKEEPER-SECRETARY, state qualifications and full particulars.—Drs. Wells, Girling and Marks, Bridge House, Stratford-on-Avon.

WANTED, September 1, LADY DISPENSER-BOOKKEEPER, market town, Lincs, please state age, experience, etc.—Box 978, B.M.J.

WANTED, for Harley Street consultant, a full-time SECRETARY, good shorthand and typing essential, must have personal reference.—Apply by letter, Hoskin, 112, Harley Street, W.1.

ASSISTANT DIETITIAN REQUIRED to work in special diet kitchens.—Apply Lady Superintendent, Bradford Royal Infirmary.

ASSISTANT NURSE seeks position doctor's RECEPTIONIST with nursing duties, London district, 3 years' nursing experience London hospitals, references available.—Box 973, B.M.J.

CAN DOCTOR recommend doctor's war-widow, under 40, cheerful, CAPABLE RUNNING HOME for woman doctor, two young school-children, pleasant surroundings, Midlands, maid and morning woman.—Box 854, B.M.J.

DISPENSER, Hall certificate, 8 years' experience, seeks POST with doctor, or in hospital, in or near Brighton.—Box 1024, B.M.J.

DISPENSER-BOOKKEEPER REQUIRED immediately, North-West London suburb, particulars on application.—Dr. McConnell Thompson, 533, Kenton Road, Kenton, Middlesex. (Wordsworth 1124.)

DOCTOR'S WIFE, 33, exempt, desires post as SECRETARY-RECEPTIONIST to consultant or hospital, London area or Southern England, typing, bookkeeping, hospital experience.—Box 969, B.M.J.

DISPENSER-SECRETARY required by single-handed doctor, pleasant varied work, kindness, neatness, intelligence, references required, £225 per annum.—Dr. Lampard, 2, Lexden Road, Colchester.

DISPENSER-SECRETARY requires LOCUMS London area, free from September 15.—Box 971, B.M.J.

EXPERIENCED LADY SECRETARY (shorthand-typist) required by Medical Officer of the South Metropolitan Gas Company, 589, Old Kent Road, S.E.15, hours reasonable, salary according to experience. Apply, in writing, with testimonials.

EXPERIENCED QUALIFIED DISPENSER-BOOKKEEPER, receptionist or housekeeper, desires POST, own furniture if accommodation available. Box 991.—B.M.J.

LADY HOUSEKEEPER or Receptionist willing to give SERVICES in London to professional man in return for unfurnished ACCOMMODATION.—Box 992, B.M.J.

LONDON COLLEGE OF PRARMACY for Womes supplies Dispenser-Bookkeeper or Laboratory Technician. Training for Apothecaries Hall Assistants' Examination, and in Clinical Pathology—Secretary, 7, Westbourne Park Road, W.2 (BAYswater 0969).

RECEPTIONIST requires POST, London, typing, accurate at figures, special experience P.A.Y.E. and income tax matters.—Box 972, B.M.J.

SECRETARY-RECEPTIONIST with some experience of laboratory work required by doctor in pleasant country town.—Box 970, B.M.J.

YOUNG LADY, intelligent, good appearance, previous executive position day nursery seeks work as ASSISTANT RECEPTIONIST, preferably with children's doctor.—Box 1023, B.M.J.

MISCELLANEOUS

FOR SALE, Baker's model MICROSCOPE, one eye-piece, Zeiss objectives A (3/4 in.) and D (1/6 in.). Leitz 1/12 in. oil-immersion, double nose-piece, substage condenser, with two diaphragms, in case, £30 or near offer.—Box 1017, B.M.J.

FOR SALE, "Hanovia", artificial SUNLIGHT APPARATUS, "Home Sun 100," as new, £20.—Box 1025, B.M.J.

WANTED, SECOND-HAND SURGICAL INSTRUMENTS, furniture for surgery and consulting room, blood pressure apparatus, electric diagnostic sets, ophthalmoscopes, auriscopes, microscopes, etc.—Particulars to A. Fleming & Co. (Succrs.), 51, Mortimer Street, London, W.1. Telephone: Mus 6292).

WANTED TO PURCHASE.—Cameras, enlargers, and all photographic apparatus, exposure meters, tripods, etc., microscopes, cine cameras, and projectors. Prompt cash and high prices offered.—Wallace Heaton, Ltd., 127, New Bond Street, London, W.1.

COMPRI-VENA (1937), Ltd.—The care and after-care of Varicose Veins.—In the treatment of Varicose Veins where leg support is prescribed, Compri-Vena gives meticulous attention to instructions. They will gladly supply particulars of Surgical Stockings and the service they provide.—38, South Molton Street, W.1. MAYfair 0732.

DOCTORS' WATCHES.—Franklands can still supply Gold Watches. Write for particulars.—E. J. Frankland & Co., Ltd., Marle House, South Godstone, Surrey; or London Showroom, New Bridge Street House, 30-34 New Bridge Street, Ludgate Circus, E.C.4.

STRAWSON'S OPEN-AIR REVOLVING SHELTERS (against doctor's certificate) for tubercular and other medical cases. Stamp for List B.M.J. 45.—G. F. Strawson & Son, Horley, Surrey.

NAME PLATES in bronze or brass, electric box signs, etc.—Send details to Dept. M.J., Herbert & Son, 54, Newington Causeway, S.E.1. Hop 1188.

MEDICAL PHOTOGRAPHS and drawings for illustration records, etc.—Write for particulars Eric O. Sonntag, 159, Bickenhall Mansions, Baker Street, London, W.1. WELbeck 8860.

WIGMORE'S, LTD., 63, Baker St., London, W.1. (Welbeck 5668). DISPENSING OPTICIANS by appointment to Western Ophthalmic Hospital, Marylebone Road, London, N.W.1. Doctors' prescriptions accurately dispensed.

MOTOR CARS

STANDARD 12, early 1939, excellent condition, recelluloised, good tyres, £300 to doctor really requiring car, seen London.—Box 975, B.M.J.

HOUSES, CONSULTING ROOMS

A CONSULTING ROOM with service to let in Harley Street, whole time, with plate.—Box 1001, B.M.J.

HOLIDAYS—PRIVATE SUITE, full board (inc. bath), 15th-century house, also other rooms, extensive view, grounds, privacy, freedom, own produce. Simpson, Stone House, Hele, Nr. Taunton, Som.

NORFOLK COAST (furnished) delightful HOUSE, private way from own grounds to quiet sands, 4 bed, 2 reception, rooms, bathing hut, garage, summer house, etc., every modern convenience, domestic help probable, 30 gns. monthly for six months from September.—Johnson, Cherry Orchard, Cookham Dean, Berks.

OBSTETRICIAN - GYNAECOLOGIST requires small part-time use of CONSULTING ROOM in the Watford, Luton, St. Albans, or Bedford areas—Box 618, B.M.J.

SURREY, 22 miles south of London, to be let on long lease, HOUSE with 10 acres, 17 bed, 4 bath, 5 reception rooms, 3 cottages, main electric light and water, rent £500 p.a., view by appointment.—Apply Drivers, Jonas & Co., Chartered Surveyors, 7, Charles II Street, St. James's Square, London, S.W.1.

NURSING HOMES

NURSING HOME, in the heart of the West End, pre-war, modern nursing home to let on 18 years' lease, some 34 rooms, cottage for nurses, stretcher lift, operating theatre, bathrooms, central heating, large kitchen, no furniture, at present empty but still requisitioned, early release expected, rent £1,650 p.a. excl.—Write Box 974, B.M.J.

AGENTS

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STRAND, LONDON, W.C.2.
Telephone: Temple Bar 1616-8—F. M. THEW.

1. LANCS.—Large town. Over £2,900. Panel 1,800. Gd. hse. and gdn. Low prem quick sale.
2. ESSEX.—Receipts over £2,000. Panel 1,450 Suit. hse. Gd. gdn.
3. DEATH VACANCY HANTS.—Receipts £660. Panel 450. Gd. scope. House rent £75.
4. KENT.—Desirable town. £1,400-£1,500. Panel 1,465. Ex. freehold hse. Prem 1½.
5. 12 MILES N.W. LONDON.—Rapid. increas pract. £2,815. Panel and appts. £1,140
6. NORFOLK.—Market town. 3/16ths share nearly £11,000. Panel 5,500. Hse. to rent
7. LEICS.—Large town. Over £1,500 consid. scope Panel 1,500. Central hse. Prem 1½ yrs.
8. DEATH VACANCY S COAST.—Favourite town. Nucleus pract. present receipts about £300. Panel 420. Gd. freehold hse price £2,500.
9. S.W. FAVOURITE COAST TOWN —1/3 share after prel. a'ship. in better class pract. av. £4,000. Panel 900. Gd. hse. and gdn., rent £100.
10. NOTTS.—Good mixed pract. nearly £2,000. Panel 1,500. Appts. over £100. Gd. hse. to rent.
11. SURREY.—Receipts abt. £3,000. Panel abt. 1,000. House to rent.
12. N. DEVON.—Beautiful country nr. coast. Receipts £2,000. Nice hse., gd. gdn. Low prem.
13. SURREY.—Growing dist. within easy reach Receipts £2,000. Panel 1,900. Prem 1½ yrs.
14. LONDON, W.—About £1,500. Consid. scope. Panel abt. 1,200. Hse. for sale. Prem. 1½.
15. CAMBS.—Attractive country. Receipts £3,300. Panel abt. 1,000. Gd. hse. rent £70. Prem. £3,500.
16. N. DEVON.—Nr. coast. Receipts £2,400. Suit. house for sale. Prem. £3,000.
17. LEICS.—One-third share over £4,000. Panel 3,000. Mod. hse. Prem 1½ yrs.
18. I.O.W.—2/5ths share of £2,400. Panel 1,500. Det. hse. gd. gdn. rent or sale. Prem. 1½ yrs.
19. MID-DEVON.—One-sixth share of £9,300. Panel abt. 2,000. Gd. appts Nice hse.
20. WARWICKS.—Sound steadily increasing pract. over £1,600. Panel 1,450. Well sit hse. rent £100.
21. N. RESIDENTIAL DISTRICT. — £2,503. Panel 970. Gd. hse. sale or rent. Prem. 1½ yrs.
22. LANCS.—Large town Receipts £1,930 Panel 1,600. Mod. hse. sale.
23. DORSET.—Beautiful dist. £800-£900 good scope. V. attract. hse. gd. gdn. Prem. £1,000.
24. SURREY.—½ share well est. lady doctor's pract. £4,000. Panel 800. Attract hse.
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4. S.W. COAST.—Favourite resort. 1/3 share in about £4,000. Panel 900. Excellent house.
5. CAMBS.—Whole practice or share. Receipts over £7,000. Panel 4,500. House for sale.
6. WILTS.—Country town. Share between £1,000-£1,500. Panel 2,900. Prely. Assp. if desired.
7. WORCS.—Country town. 1/3 in over £4,000 p.a. Panel 1,640. Prely. Assp.
8. MIDLANDS.—Town. Receipts over £2,200. Panel over 2,000. House (5 bed) for sale.
9. SURREY.—Share in non-panel practice. Receipts about £4,000. Prely. Assp. Good flat.
10. CAMBS.—Country. Receipts over £3,000. Panel 950. House £75 p.a. Prem. £3,500.
11. GLOS.—Country. Receipts 1944 £1,949. Panel 1,100. Good house. Freehold, £2,000. Prem. £2,800.
12. BUCKS.—Town. Whole practice or share. Receipts £4,000 p.a. Panel 3,000. Choice of houses.
13. KENT.—Residential town. Receipts £14/1,500 p.a. Panel and appointments £1,100. Prem. 2 years.
14. LONDON, S.E.—Receipts 1944 £1,127. Panel 1,200. House to rent. Premium £1,250.
15. SURREY.—Suburb. £1,200 p.a. Panel 979. Modern house for sale. Premium £1,650.
16. SOM.—Country town. 1/2 share in £4,039. House for sale. Premium 1½ years'.
17. W. OF ENGLAND.—Town. Receipts 1944 £1,069. Panel 10/1,100. Premium 1½ years'.
18. S. WALES.—Town. £1,200 p.a. Panel 1,000. Modern house to rent. Premium 1½ years'.
19. SURREY.—Medical woman's practice. 1944 £1,875. Panel 807. House to rent. Prem. £2,000.
20. SURREY.—1/2 share in about £4,000 for medical woman. House (5 bedrooms) for sale.
21. W. OF ENGLAND.—Country town. 1/2 share in over £4,000. Non-panel.
22. SUSSEX.—Country. 1/5 to 1/3 share in £5,500. House to rent.
23. LANCS.—Town practice. Receipts 1945 £2,975 Panel 2,091. House for sale. Prem. £3,500.
24. CAMBS.—Town. Share about £1,800. Panel 4,000. House for sale.
25. SURREY.—Hants border. Large practice. Suit 2. Panel over £1,000 p.a. House and flat.
26. WORCS.—1/3 to 1/2 share in £4,377. Panel 2,000. Prely. a'ship if desired.
27. BUCKS.—Whole or half-share with succession. Receipts 1945 £2,899. Prem. 1½ years.
28. E. ANGLIA.—Country practice. Receipts 1944 £2,270. Panel £1,085. Prem. 1½ years.
29. BUCKS.—1/4 of £4,500. Panel 4,600. House to rent. Premium 1½ years.

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MIDLANDS. Excellent well-established Practice, receipts £2,000 p.a., panel 2,000, good house.—MIDLANDS. Sound Ptce., receipts £1,900 p.a., panel 2,020, excellent house.—LANCS. Old-established Ptce., scope for surgery, receipts £297, panel 1,800, good house.—STAFFS. Receipts £800, panel 460.—YORKS. Partnership, half share £5,220, panel 3,650. Good Country Ptce., receipts £1,700, panel 1,867. Others on application.

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LANCS. town, £1,600 p.a., panel 2,200, 1½ yrs.' pur.—CHESHIRE, £8/900 p.a., panel 800, scope, low prem.—LANCS. town, £2,900 p.a., panel £1,800, reas. offer.—SOM., about £1,600, panel and appointments, increasing scope, house on rent, low prem.—HANTS, 7/15th share of over £3,700 p.a., house on rent.—WORCS., 1/2 share of £4,500.—S.W.18, £800 p.a., panel £350 p.a., appointments, house on rent.—GLOS., 3/16th share of £11,533, premium by arrangement.—LINCS., £1,472 p.a., panel and appointments, nice house, reasonable premium.—LANCS. town, about £5,500, 2 practices, panel 3,570, increasing, sell separate or whole.—NOTTS, £1,600 p.a., panel 1,886, house on rent, premium 1½ years' purchase.—KENT, £1,400, panel 1,465 and appointments, nice house.—N. CORNWALL, 1/2 share of £2,300, panel 8/900, large house and garden.—GLOS., country, over £1,400, panel 1,100, house on lease at £75 p.a.—ISLE OF WIGHT, 2/5th share of £2,400, panel 1,600, house to rent or sell.—ESSEX, 1/2 share of £4,000, or whole, panel 1,600, house to rent.—BRISTOL, £2,900, panel 1,860, choice of house.—CORNWALL, about £2,000, panel 700, prem. £2,000.—ESSEX country, £2,000 p.a., panel 1,500 house to rent.—MIDLANDS, £1,000 p.a., panel 5/600, house, 5 beds., nice garden.—S. WALES, about £1,400, panel 1,000, small house.—May others in all parts, apply for list.

ASSISTANTS AND LOCUMS REQUIRED.

APPOINTMENTS

(Continued from page 13)

NUNEATON GENERAL HOSPITAL (Voluntary Hospital) (104 beds). HOUSE SURGEON (CASUALTY) (A).—Applications are invited from registered medical practitioners, male and female, for the appointment of House Surgeon (A), which is now vacant, including practitioners within three months of qualification who are liable to service under the National Service Acts. The appointment will be for a period of six months. Salary is at the rate of £200 per annum, with full residential emoluments. Applications should be addressed to Douglas S. Pracy, Honorary Secretary, Medical Board.

NORTH STAFFORDSHIRE ROYAL INFIRMARY, Stoke-on-Trent.—Applications are invited from registered medical practitioners, male and female, for the following posts: GENERAL HOUSE SURGEON (A), ORTHOPAEDIC HOUSE SURGEON (A). Practitioners within three months of qualification who are liable to service under the National Service Acts may apply, when appointment will be for a period of six months. Salary will be at the rate of £185 per annum, with full residential emoluments. Applications to be forwarded as soon as possible to the House Governor.

NORTH CAMBRIDGESHIRE HOSPITAL, Wisbech.—Applications are invited from registered medical practitioners, including practitioners within three months of qualification who are liable to service under the National Service Acts, for appointment of HOUSE SURGEON (A), vacant immediately. Appointment will be for a period of six months. Salary £200-£250, with full residential emoluments. Applications should be sent to the Secretary.

NOTTINGHAM GENERAL HOSPITAL (712 beds, including E.M.S. beds).—Applications are invited from registered medical practitioners, male and female, including practitioners within three months of qualification who are liable to service under the National Service Acts, for the appointment of a RESIDENT CASUALTY OFFICER (A) for the above hospital. Duties to commence about August 10. If held by a practitioner who is liable under these Acts appointment will be for a period of six months. Salary at the rate of £200 per annum, with full residential emoluments. Applications to be sent to the undersigned.—Henry M. Stanley, House Governor and Secretary.

PRESTON ROYAL INFIRMARY. CASUALTY OFFICER (B2). Vacant August 20.—Applications are invited for the post of Casualty Officer (B2) in busy department from registered medical practitioners, including R and W practitioners now holding A posts. If held by R practitioner, the appointment will be for six months. Salary £200 per annum, with full residential emoluments. Applications to be sent to the Superintendent.

OSTER HOUSE E.M.S. HOSPITAL, St. Albans. HOUSE SURGEON (A).—Applications are invited from registered medical practitioners, female, for the post of House Surgeon (A), to become vacant on September 1, 1945, including practitioners within three months of qualification who are liable to serve under the National Service Acts. Appointment will be for a period of six months. Salary at the rate of £115 per annum, with full residential emoluments. Applications should be sent to the Medical Officer in Charge, Oster House, E.M.S. Hospital, St Albans, Herts, not later than August 17, 1945.

PONTYPOOL AND DISTRICT HOSPITAL, Pontypool, Mon.—Applications are invited from registered medical practitioners, male and female, for the appointment of RESIDENT MEDICAL OFFICER (B2), medical and surgical beds, vacant now, including R and W practitioners who now hold A posts. If held by an R or W practitioner, the appointment will be limited to six months, otherwise it may be extended for a further period. The salary is at the rate of £250 per annum, with full residential emoluments. Applications should be sent to N. A. Ball, Secretary.

ROYAL LONDON OPHTHALMIC HOSPITAL (MOORFIELDS EYE HOSPITAL), City Road, E.C.1.—Applications are invited for the post of THIRD HOUSE SURGEON (B1). Suitably qualified R practitioners holding B2 appointments are invited to apply. R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Salary at the rate of £100 per annum, with board and residence in the hospital. The appointment is for the period of six months as from November 1, 1945, and the candidate at the completion of that time will be eligible for appointment as Second House Surgeon, First House Surgeon, and subsequently as Senior Resident Officer for similar periods, subject to the approval of the Central Medical War Committee. The applicant must be prepared to begin his duties with the present officer on October 15, and will be non-resident until November 1. Applications must be received not later than August 27, 1945.—A. J. M. Tarrant, Secretary

RADCLIFFE INFIRMARY, OXFORD.—Applications are invited for the post of GRADUATE ASSISTANT in the Department of Biochemistry. The appointment is for one year in the first instance, with a possibility of renewal, and the salary will be on a scale between £350 and £500 per annum, according to qualifications and experience. Applications must reach the undersigned not later than Friday, August 31 and must be accompanied by a full statement of qualifications and the names of not more than three referees. Testimonials are not required. Preference will be given to candidates discharged from H.M. Forces.—A. G. E. Sanctuary, Administrator.

ROYAL WEST OF ENGLAND SANATORIUM AND E.M.S. HOSPITAL, Weston-super-Mare, Somerset (172 beds).—Applications are invited from medical practitioners for the appointment of HOUSE PHYSICIAN (A). Duties to commence September 1. Salary is at the rate of £200 p.a., with full residential emoluments. Practitioners within three months of qualification, and liable under the National Service Acts may also apply, when the appointment will be for a period of six months. Applications should be addressed to Leslie J. Fursland, Secretary.

ROYAL EAST SUSSEX HOSPITAL, Hastings.—Applications are invited from registered medical practitioners, male and female, for the appointment of a HOUSE SURGEON (A), vacant now, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months, otherwise it may be extended. Salary is at the rate of £150 per annum, with full residential emoluments. Applications should be sent to Wilfrid G. Kemsley, Secretary and House Governor.

THE ROYAL GWENT HOSPITAL Newport, Mon. (255 beds, 30 E.M.S. beds). SECOND HOUSE SURGEON (A), vacant now, salary at the rate of £175 per annum. THIRD HOUSE SURGEON (A), vacant now, salary at the rate of £175 per annum.—Applications are invited for these appointments, including practitioners within three months of qualification liable to service under the National Service Acts. If held by a practitioner liable under these Acts, appointment will be for a period of six months. The salary is as stated in each case, with full residential emoluments. Applications should be sent to the undersigned immediately.—Alan Ruddle, Secretary-Superintendent

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Members receive advice and assistance in all matters affecting the practice of their profession and are afforded COMPLETE INDEMNITY against costs and damages in cases undertaken on their behalf.

Subscription, £1. **No entrance fee to those joining within twelve months of registration.** **Entrance fee, 10/-.**

Full Particulars from the **Secretary, VICTORY HOUSE, LEICESTER SQUARE, W.C.2.** **Gerrard 4553 and 4814.**

IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page 1

RUNWELL EMERGENCY HOSPITAL, near Wickford, Essex (180 beds).—Applications are invited from registered medical practitioners, male and female, for the post of HOUSE SURGEON (A). Salary £200 p.a., with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months otherwise not exceeding one year. Applications to the Medical Superintendent as soon as possible.

ROYAL HALIFAX INFIRMARY (Class 1A, E.M.S.) (250 beds).—Applications are invited for the post of RESIDENT SURGICAL OFFICER (B1), male. Salary £250 per annum, with residence, board and laundry. Preference given to one holding the F.R.C.S. R practitioners who now hold B2 posts may apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Applications should be sent to the undersigned immediately.— A. Midgley, Secretary.

SALFORD ROYAL HOSPITAL.—Applications are invited for the post of HOUSE PHYSICIAN (B1), vacant September 15. Salary £175 per annum, plus the usual residential emoluments. Appointment is for six months. R practitioners holding B2 posts, also those holding B1 and rejected by the R.A.M.C. may apply. Applications to be made on the prescribed form, obtainable from the General Superintendent at the hospital.

SWANSEA GENERAL AND EYE HOSPITAL.—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON to the Opthalmic and Aural Departments (B2), now vacant, including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months. Salary is at the rate of £220 per annum, with full residential emoluments.

Applications are also invited from registered medical practitioners, male and female, for the appointment of two HOUSE SURGEONS (A), now vacant, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by practitioners who are liable under these Acts, appointments will be for a period of six months. Salary is at the rate of £165 per annum, with full residential emoluments.

Applications are also invited from registered medical practitioners, male and female, for the appointment of CASUALTY OFFICER (B2), now vacant, including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months. The salary is at the rate of £192 10s. per annum, with full residential emoluments.—O. C. Howells, Secretary-Superintendent.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone Road, London, N.W.1.—Applications are invited from registered medical practitioners (male and female) for the appointment of RESIDENT GYNAECOLOGICAL REGISTRAR (B1) for a period of six months, commencing October 1, 1945. Applications from R practitioners who now hold B1 posts cannot be considered unless they have been rejected by the R.A.M.C. R and W practitioners now holding B2 posts may apply. Salary at the rate of £300 per annum, with board, lodging, and laundry. Applications should be sent to the Secretary at the Hospital on or before September 7, 1945.—G. H. Hawkins, Secretary.

ST. ALBANS AND MID HERTS HOSPITAL, St. Albans, Herts. (75 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of ASSISTANT RESIDENT MEDICAL OFFICER (A). Salary at the rate of £150 p.a., with full residential emoluments. Practitioners within 3 months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of 6 months. Applications should be sent to P. R. Battison, Secretary.

STIRLING DISTRICT MENTAL HOSPITAL, Larbert.—ASSISTANT MEDICAL OFFICER (temporary) (B1) required. Applications from R practitioners who now hold B2 or B1 posts cannot be considered unless they have obtained the sanction of the Scottish Central War Committee to their application. Previous mental hospital experience essential. Salary £500 per annum, plus war bonus, with additional £50 if holder of D.P.M., and with the usual residential emoluments. Applications to the Medical Superintendent.

SEAMEN'S HOSPITAL SOCIETY.—The Committee of Management invite applications for the appointment of whole-time male CLINICAL PATHOLOGIST at the Devonport Pathological Laboratories of the Dreadnought Seamen's Hospital, Greenwich, falling vacant at an early date, at the salary of £1,000 p.a. Applications will be welcome from officers anticipating release from the Armed Forces. Applications to be forwarded as soon as possible to the undersigned, from whom further particulars may be obtained.—F. A. Lyon, Administrator and Secretary, Seamen's Hospital Society, Greenwich, S.E.10.

SALISBURY GENERAL INFIRMARY. (Voluntary Hospital, 225 beds).—Applications are invited from registered medical practitioners for the appointment of a HOUSE SURGEON (A). Salary at the rate of £150 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when appointment will be for a period of six months. Applications should be sent to John Williams, Superintendent and Secretary.

TAUNTON AND SOMERSET HOSPITAL (136 beds, plus 30 E.M.S., 3 residents).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. Salary £175 p.a. with full residential emoluments. If held by a practitioner liable under these Acts, appointment will be for six months. Applications to the Secretary-Superintendent, Taunton and Somerset Hospital, Taunton.

VICTORIA HOSPITAL, Blackpool (normal complement 200 beds, war-time complement 500 beds). —Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (B2) to the Orthopaedic Department and S.U.1, now vacant, including R practitioners who now hold A posts. The appointment is for a period of six months and the salary is at the rate of £200 per annum, with full residential emoluments.

Applications are also invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (B2) to the Eye, Ear, Nose, and Throat Departments, and ASSISTANT ANAESTHETIST, now vacant, including R practitioners who now hold A posts. The appointment is for a period of six months and the salary is at the rate of £200 per annum, with full residential emoluments.

Applications for each post should be sent to the undersigned immediately.—Walter R. Smith, General Superintendent.

WALSALL GENERAL HOSPITAL (181 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of CASUALTY OFFICER AND ORTHOPAEDIC HOUSE SURGEON (B2), including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months. Salary is at rate of £200 a year, with full residential emoluments. Applications should be forwarded immediately to the undersigned.—W. H. Harper, Honorary House Governor.

WARNEFORD GENERAL HOSPITAL, Leamington Spa.—Applications are invited from registered medical practitioners, male and female, for the post of CASUALTY OFFICER AND HOUSE SURGEON (B2) to one of the surgeons and V.D. officer. Salary is at the rate of £180 per annum, with full residential emoluments. R and W practitioners now holding A posts may apply. If held by an R practitioner the appointment will limited to six months. Applications should be sent to the undersigned as soon as possible.—J. R. Long, House Governor and Secretary.

WATFORD AND DISTRICT PEACE MEMORIAL HOSPITAL (256 beds).—Applications are invited from registered medical practitioners for the post of RESIDENT SURGICAL OFFICER (B2), vacant in the middle of September. R and W practitioners who hold A posts may also apply, when appointment will be limited to six months. Salary will be at the rate of £200 per annum, with full residential emoluments. Applications should be sent to the undersigned immediately.—H. M. Maskell, Administrator.

WINWICK HOSPITAL, Warrington.—Applications are invited from registered medical practitioners, male and female, for the appointments of JUNIOR HOUSEMEN (A), including practitioners within three months of qualification who are liable to service under the National Service Acts.. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary is at the rate of £120 per annum, with full residential emoluments.

WEYMOUTH AND DISTRICT HOSPITAL, Weymouth, Dorset.—The appointment of HONORARY PHYSICIAN will become vacant at the end of August. Applications are invited for the appointment, which will be a temporary one for an unspecified period and subject to review at intervals of six months. Applications, giving full details, should be received not later than August 16 by the Secretary and Superintendent.

WOKING VICTORIA HOSPITAL (64 beds).—Applications are invited from registered medical practitioners, male and female (British or alien), for the appointment of a HOUSE SURGEON (B2), vacant August 30. Salary £250, with full residential emoluments. R and W practitioners holding A posts may apply, when appointment will be limited to six months. Applications to be made to the Honorary Secretary.

INDIAN MEDICAL SERVICE. Recruitment c WOMEN MEDICAL OFFICERS.—The Government of India are prepared to recruit a limited number of women medical officers for service with th Indian Medical Service for the duration of the wa Applicants must be British subjects, of not mor than 45 years of age, and those selected will b appointed in the rank of Lieutenants. Antedate o seniority may be granted up to a minimum perio of 6½ years in respect of resident hospital appoin ments, higher qualifications, and/or profession experience. The antedate will count for pay an promotion, but, in the case of candidates recruite in this country, higher rank will not be assume until the date of disembarkation in India. O termination of service, a minimum gratuity is guar anteed to those officers who complete one year o service, viz., Rs. 2,000 to officers whose registrabl medical qualification is dated before January 1940, and Rs. 1,000 to those who qualified afte that date, plus one month's pay for each furthe completed year of Army Service. Further particula regarding rates of pay etc., may be obtained fror the Medical Adviser, India Office, London, S.W. or from the Secretary, Military Department, Indi Office, to whom all inquiries should be addressed.

LORD MAYOR TRELOAR CRIPPLES' HOSP TAL, Alton, Hants (330 beds).—Applications ar invited from medical practitioners of either sex fo the post of RESIDENT MEDICAL OFFICER (B1, now vacant R and W practitioners now holdin B2 posts may apply. Applications from R pract tioners now holding B1 posts cannot be considere unless they have been rejected by the R.A.M.C Post provides useful experience in orthopaedic an plastic surgery and surgical tuberculosis The pos is tenable for a year. Salary at the rate of £350 £550 per annum (according to experience) with fu board residence. Applications should be sent t the Secretary.

WILLESDEN GENERAL HOSPITAL, Harlesde Road, N.W.10.—Applications are invited for th following posts: (1) TEMPORARY HONORAR PHYSICIAN. Wartime appointment only. Can didates must be M.D. and F.R.C.P. or M.R.C.P Lond. and not engaged in general practice. (2 MEDICAL REGISTRAR. Part-time for six ses sions per week. Candidates must be M.D. c M.R.C.P.Lond. or preparing for such highe qualification, and not engaged in general prac tice. Salary £350 per annum, non-resident. Appli cations stating full particulars and giving names o three referees to be forwarded to the undersigned from whom copies of the regulations can b obtained. To provide opportunity for those servin in H.M. FORCES to apply, applications will b received up to November 30, 1945.—J. N. Drake Secretary.

WORTHING HOSPITAL (Voluntary Hospita (217 beds).—Applications are invited from registere medical practitioners for the appointment c HOUSE PHYSICIAN (A), vacant September The post also provides for experience in minor sur gery. Salary at the rate of £175 p.a. Practitione within three months of qualification and liab under the National Service Acts may also apply Residential emoluments are payable. To R pract tioners the appointment is limited to six months Applications should be addressed to A. V. Oakton House Governor.

YORK COUNTY HOSPITAL (222 beds).—Appl cations are invited from registered medical pract tioners, male and female, for the appointment c a HOUSE PHYSICIAN (B2), vacant September 23 1945, including R and W practitioners who no hold A posts. If held by an R practitioner, th appointment will be limited to six months. Th salary is at the rate of £175 per annum, with fu residential emoluments.

Applications are also invited from registere medical practitioners, male and female, for th appointment of an ORTHOPAEDIC HOUSE SUR GEON AND CASUALTY OFFICER (B2), vaca on September 27, 1945, including R and V practitioners who now hold A posts. If held b an R practitioner, the appointment will be limite to six months. The salary is at the rate of £175 pe annum, with full residential emoluments.

Applications for each post to be sent to th undersigned by August 20, 1945.—J. R. Mackril Secretary.

YORK COUNTY HOSPITAL (222 beds).—Appl cations are invited from registered medical pract tioners, male or female, for the appointment o HOUSE SURGEON (A), vacant September 22 1945, whose main duties are in the Eye, Ear, Nos and Throat Department (37 beds with busy Ou patient Clinics), but who will share in the genera work of the hospital, also Casualty Duty, includin practitioners within three months of qualificatio who are liable to service under the National Servic Acts. If held by a practitioner who is liabl under these Acts, appointment will be for a perio of six months. Salary is at the rate of £175 pe annum, with full residential emoluments. This pos is recognized for D.O.M.S. and D.L.O. examina tions. Applications to be sent to the undersigne by August 20, 1945.—J. R. Mackrill, Secretary.

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SUPPLEMENT TO THE
BRITISH MEDICAL JOURNAL

LONDON SATURDAY AUGUST 18 1945

THE CONSTITUTION OF THE B.M.A.

Before the war the B.M.A. used to publish every autumn an *Annual Handbook*, mainly for the use of Division secretaries. It included lists of officers, an account of the machinery of the Association, and a summary of the policy of the Association on matters that often arose in the course of a Division secretary's work. Owing to shortage of paper and lack of staff publication has had to be suspended during the war, but it is hoped to issue as soon as possible an up-to-date "directory" section. It is also thought that the following summary of the Association's constitution and machinery in the British Isles may be useful to members who have joined during the past six years.

Objects of the Association

The Association has for its objects the promotion of medical and allied sciences and the maintenance of the honour and interests of the medical profession.

General Framework of Constitution

Division.—A Division comprises all the members in a defined area. The Association is in effect a federation of Divisions or local medical societies. For certain administrative purposes Divisions are grouped into Branches.

Representative Body.—Each year Divisions elect Representatives according to their numerical strength, and these form collectively the Representative Body. The Representative Body, which meets annually, is the governing body of the Association and decides its policy.

The Council, which is elected mainly by members in the Divisions and Branches and by the Representative Body, is the central executive body.

The British Medical Journal is the official organ of the Association, and its *Supplement* is one of the main channels of communication between the executive and individual members.

The Division

The vitality of the Association depends to a large extent on the activity of the Division. It works within a defined area, and all members of the Association in that area are *ipso facto* members of the Division. The Division elects its own chairman, secretary, and treasurer—all honorary officers—and makes its own rules of organization. Uniform rules governing procedure in ethical matters are in operation in every Division.

The main duties of the Division are: (1) To promote by meetings and other means professional collaboration and social relationships among its members; (2) to afford opportunities for the discussion of scientific matters; (3) to assist its members in maintaining a standard of ethics worthy of the profession; (4) to maintain locally the interests of the profession and to represent the profession in its relations with local authorities and other public bodies; (5) to make reports to the Central Council. Each Division appoints an Executive Committee to conduct its business, and an Ethical Committee. Other committees may be appointed to deal with particular subjects; most Divisions also have a Public Relations Committee with a public relations secretary.

At the time of the Annual Meeting of the Association a Conference of Honorary Secretaries is held to give Division and Branch secretaries an opportunity of exchanging views and making suggestions for the improvement of the Association's local machinery.

The Branch

Divisions are grouped in Branches for certain administrative purposes, which include the election of new members, the provision of funds for the Divisions, the management of those interests of Divisions which have become unorganized or inactive, and the arrangement of periodical scientific and social meetings for the members of all the Divisions in the area. A president, secretary, and treasurer are elected, and the executive work of the Branch is undertaken by a Branch Council composed of the Branch officers, members of the Central Council who represent the Branch or are resident in the Branch area, members elected by the respective Divisions of the Branch, a Public Health Service member or members, and representatives of the Local Medical and Panel Committees and of other local medical societies at the discretion of the Branch. The Branch Council appoints an Ethical Committee and such other committees as it desires.

The Representative Body

Except for certain matters relating to company law for which a general meeting of members is required, the governing body of the Association is the Representative Body, which meets once a year and may be convened as a Special Representative Meeting at other times. The Representative Body is composed of Representatives elected by constituencies made up of Divisions or groups of Divisions, members of Council for the time being in office or elected to take office, four representatives elected by Public Health Service members of the Association, and the Chairman and Immediate Past-Chairman of the Representative Body *ex officio*. It determines the policy of the Association and deals with questions of alteration of the Articles and By-laws. It considers the Annual Report of the Council, the annual financial statement, and motions submitted by the Divisions and Branches. Any resolution of the Representative Body relating to the policy of the Association in matters affecting the honour or interests of the profession or of the Association must, if the resolution is to rank as a decision of the Association, be carried by a majority of not less than two-thirds of the votes given. At least two months' notice in the *Journal* is required for motions proposing material alteration of, or addition to, the constitution or policy of the Association which are brought by Divisions or Branches before an Annual Representative Meeting, or a fortnight's notice if brought before a Special Representative Meeting.

The Representative Body elects the President of the Association, the Chairman and Deputy Chairman of the Representative Body, the Treasurer, 12 members of Council in grouped constituencies, 8 members of Council (elected by the Representative Meeting as a whole), and certain members of Standing Committees.

The Council

The Council is the central executive of the Association. It is responsible for the management of the affairs of the Association, including the *Journal*, subject to the decisions of Representative Meetings. Matters come before the Council on instructions from Representative Meetings, in reports of Committees, as representations from Divisions and Branches, as motions by members of Council, and in questions submitted by other bodies. It presents to the Annual Representative Meeting a report of its work during the year.

The Council, which is reconstituted each year, consists of up to a maximum of 68 members made up as follows:

(*a*) 10 members *ex officio*—namely: President, Immediate Past-President, and President-Elect of the Association, Chairman, Immediate Past-Chairman, and Deputy Chairman of the Representative Body, Chairman and Past-Chairman of the Council, Treasurer and Past-Treasurer;

(*b*) 22 members elected by the members of the Branches in Great Britain and Northern Ireland grouped for the purpose;

(*c*) 9 members similarly elected by the Branches not in Great Britain or Northern Ireland;

(*d*) 12 members elected at the A.R.M. by the grouped Representatives of the constituencies in Great Britain and Northern Ireland;

(*e*) 8 members elected at the A.R.M. by the Representatives acting together;

(*f*) 4 Service members, representing respectively the Royal Naval Medical Service, R.A.M.C., Medical Branch of the Royal Air Force, and Indian Medical Service, elected by the A.R.M. as a whole;

(*g*) 2 members elected by the Public Health Service members of the Association;

(*h*) 1 woman member elected by the women members of the Association.

The Council elects its own Chairman. It normally holds four meetings a year, and, in addition, two during the Annual Meeting of the Association.

Central Committees

Central committees are appointed by the Representative Body, by the Council, or by the two bodies jointly. Certain standing committees are appointed and constituted by by-law—e.g., General Practice, Special Practice, Hospitals, Insurance Acts, Public Health, Ethical. Most of the standing committees appoint subcommittees. Other special committees are appointed from time to time for particular purposes—e.g., to investigate a particular problem or to prepare a memorandum of evidence for a Government inquiry. All committees report periodically on their work to the Council and make recommendations.

Annual Meeting

At the time of the A.R.M. an Annual General Meeting is held to fulfil certain requirements of company law and to discuss scientific matters. It is open to all members of the Association. The scientific sections are an important event in the medical year. A section is devoted to each of several specialties or special topics and provides for one or more opening papers and a discussion. A president and secretary are appointed for each section. In addition, social functions and excursions are arranged for Representative and other members attending the meeting, which is held at a different place each year. Both the sections and the social functions have been suspended during the war, and all meetings have been held in London.

Groups of Members

The Council has power to form Groups of members of the Association who have in common professional interests sufficiently distinct from those of the general body of members, and who, by reason of their small numbers and/or nature of distribution, are not able to meet to discuss those interests or to express their opinion on them adequately through the Divisions and Branches. Each Group appoints a Group Committee to conduct its business. This committee reports to the Special Practice Committee of the Association, which in its turn reports to the Council. At present there are nine groups: for Consultants and Specialists, Spa Practitioners, Consulting Pathologists, Practitioners of Physical Medicine, Radiologists, Practitioners of Psychological Medicine, Full-time Non-professorial Medical Teachers, Ophthalmic Medical Practitioners, and Orthopaedic Surgeons.

Panel Conference

The Insurance Acts Committee of the Association calls an annual conference of representatives of Local Medical and Panel Committees, which are statutory bodies set up under the National Health Insurance Acts. The I.A.C. is the executive of the Panel Conference and is so recognized by the Ministry of Health. It consists of 42 members: 6 elected by the Representative Body, 27 by Local Medical and Panel Committees on a territorial basis, 6 by the Conference of Representatives of Local Medical and Panel Committees, and 3 nominees of outside bodies.

Negotiating Committee

The Association has co-operated with the Royal Colleges and other bodies to form a Negotiating Committee representative of the profession as a whole to conduct negotiations with the Government on the proposals for a National Health Service. The committee is composed as follows: 16 representatives of the B.M.A.; 3 of the Royal College of Physicians; 3 of the Royal College of Surgeons; 2 of the Royal College of Obstetricians and Gynaecologists; 3 of the Royal Scottish Medical Corporations; 2 of the Society of Medical Officers of Health; 1 of the Medical Women's Federation; 1 of the Society of Apothecaries. The Negotiating Committee reports from time to time to its constituent bodies to obtain approval of the action it has taken and observations on its report. It appoints subcommittees to consider special aspects of the health services.

Correspondence

Medical Demobilization

SIR,—May I add one more letter on the subject of release of doctors from the Services, so that I may give you my own experiences.

Being in age-and-service group 14, and having read the statement by the Secretary of the Central Medical War Committee (*Supplement*, June 23, p. 127), I was naturally under the impression that I should be released on some date between Sept. 10 and 22, when other Army officers and men will be released. Consequently I got a colleague to give me my medical examination and complete the necessary Army form. This form was sent to the A.D.M.S. with a covering letter asking for a definite date of release so that I may make arrangements for my refresher course, and so that I may inform my former patients of my return to my practice.

I have received a letter stating that it is regretted that the date of release cannot be given at present. The War Office have authorized the release of medical officers in age-and-service groups 1 to 11 only at the present time. Now, does this agree with the statement made by the Secretary of the C.M.W.C.? The C.M.W.C. should obtain a clear statement from the War Office on this subject of release so that serving officers might at least know where they stand.—I am, etc.,

WILLIAM J. LEDGERWOOD,
Captain, R.A.M.C.

SIR,—At a meeting of the Portsmouth Local Medical War Committee held on July 23 the following resolution was carried unanimously:

"1. This committee regards with great indignation the continued presence in this country, and particularly in the E.M.S., of many young men who are fit for recruitment."

"2. This committee would draw attention to the fact that there are many practitioners of military age who, suffering from minor disabilities, are not liable for general service, but who are quite competent to undertake duties in the Services at home or in the occupied countries, and that this reserve of medical man-power should be used in order to release long-service men in the Services.—I am, etc.,

E. COWPER TAMPLIN,
Hon. Secretary, Portsmouth Local Medical War Committee.

SIR,—What about ship surgeons? After service in ships carrying food, ammunition, troops, petrol, and passengers since January, 1943, I find that I have no "demob. group," I can expect no gratuity, and that I am apparently excluded from various schemes of medical "resettlement." I was recently offered my discharge from the Merchant Navy, but the C.M.W.C. informs me that if I accept it I shall be recruited for the R.A.M.C. Does anyone know how long I shall have to wait before I can accept my discharge?—I am, etc.,

"SHIP SURGEON."

SIR,—On this vexed question of medical demobilization I should like to make the following pertinent observations.

Those of us who have served in the Forces 4 to 5 years or more were predominantly volunteers. I myself, as many others did in those earlier years, agitated and worried my local B.M.A. secretary day after day until I was accepted for the Service of my choice—the Royal Navy. It would have been only too easy at that time, after only 6 months of house appointments, to have carried on with further such appointments until one became a so-called indispensable. I am quite certain every Service M.O. knows of several such cases. I am well aware of the fact that all young graduates were circularized with the information that after 6 months they would be classified. Those of us who volunteered expected this regulation to be enforced rigidly, but this was not so.

I can well appreciate the most difficult job that the Central Medical War Committee has to undertake at this time, and I am grateful for the efforts being made on our behalf. It indeed must be a nightmare keeping check of all young civilian doctors. In my opinion this should not be necessary; young doctors of "conscience and character" should *volunteer* and relieve their colleagues in the Services, who, in spite of less work to do, have borne "the burden and heat of the day" in the Services.

I am now nearly 30 years old; my knowledge of medicine is deteriorating; I have seen little of my wife and family, and, to crown everything, I am now told that our demobilization must lag behind our age-and-service groups. As one who volunteered I ask for fair play.

"VOLUNTEER."

SIR,—"Life Sentence's" letter (*Supplement*, July 14, p. 8) is couched in most moderate and restrained terms. At this stage in the war he is about to embark on a further unspecified length of oversea service in the Tropics after nearly 6 years of service away from home and family, 4 of these over-seas. When some of his civilian colleagues of similar age have, so far, not been separated at all from their families during the whole course of the war, the treatment meted out to this temporary medical officer constitutes a gross miscarriage of justice.

It is the prospect of such further continuous separation from their families and the possibility of not being released with their age-and-service group which make Service medical officers feel after so many years away from home that it is now the turn of others to experience such separation, if, indeed, the strength of the medical service of the armed Forces cannot substantially be diminished at the present time.

The difficulty of achieving release with age-and-service group has been alluded to by the Secretary of the Central Medical War Committee, who emphasizes that all possible avenues are being followed to realize this aim. He has, however, referred to the "irreplaceable" nature of certain doctors who have hitherto been deferred from military service. In point of fact very few doctors, including those in specialist, administrative, and even educational and academic spheres, can really be regarded as irreplaceable in a professional sense.—I am, etc.,

"FAIR PLAY."

The Medical Situation in India

SIR,—As medical superintendent of the Punjab Mental Hospital from 1922 until my retirement from the Indian Medical Service in 1941, and as the lecturer in mental diseases to the Medical College at Lahore for nearly the whole of that period, I beg that you will permit me to join in the correspondence initiated by Dr. M. N. Pai's article in the *Supplement* of June 2 (p. 100) and carried on by Dr. Rasheed Ahmad (June 16, p. 119).

It is undoubtedly true that the standard of education in "Western" medicine is very much below the standards in British medical schools. This was fully endorsed by the findings of the late Dr. G. C. Anderson and Sir Norman Walker when they inspected the medical schools of India a dozen years ago. Since then, for reasons indicated in Dr. Pai's article, the standards have been lowered rather than raised. It is also true that many Government officials, such as professors, medical superintendents of hospitals, public health officers, civil surgeons, etc., are appointed for political or communal reasons instead of on their individual merits. Moreover, as Dr. Rasheed Ahmad points out, many private practitioners with better qualifications and of greater experience struggle for existence, and have to compete with indigenous *vaids* and *hakims*. I do not think that Dr. Pai intended to convey the impression that scientific medicine is being carried out only by a small band of missionary doctors. He merely stressed the fact that the large attendance at their free clinics justified his belief that "the Indian masses demand medicine, not magic."

In the British Isles 1 in 800 of the population is a registered medical practitioner. The proportion in India is nearer 1 in 10,000. So it does seem, at first sight, that another of Dr. Pai's assertions has been sustained—namely, that the number of medical schools is insufficient: medical schools, that is to say, in the sense in which we understand them. The important point, however, is whether the general public or the politicians who rule India at present really want Western medicine. The issue is clouded by two factors, to which Dr. Pai, and also Beverley Nichols in his excellent *Verdict on India*, refer. These are the vilification of everything British and the elevation of everything indigenous to an altogether absurd degree in each case. One must also consider the element of self-interest. It is so easy to become a fully qualified *vaid* or *hakim* and so cheap. One can easily delude oneself into the conviction that the Indian really does want indigenous treatment.

During my service in the Punjab it certainly did appear that there was a demand for such treatment. Accordingly, an Ayurvedic School of Medicine was set up in Lahore, and the grant for maintaining that institution was provided from the Government allotment (already pathetically inadequate) for public health and medical services. The Punjab is a Muslim Province, and it was politically intolerable that a Hindu medical school should have been established in its capital; so honour could only be appeased by the inauguration of a Unani School of Medicine. Colonel Broome, a former professor of anatomy at the King Edward Medical College, used to relate the entertaining tale of how he was asked to recommend a professor of anatomy for this new school, as no *hakim* in the Punjab had ever seen a cadaver dissected! He said: "There's Banghi Khan, the sweeper who stitches up the bodies at the post-mortems, and clears up the mess!" This illiterate untouchable had his salary raised from 13 to 20 rupees a month (30s.), and was duly installed in the chair of anatomy as a brother professor!

With regard to my own branch of medicine, here are a few instances of the difficulties which confronted me during the two decades in which I struggled to ameliorate the lot of the Indian insane. As I was cycling down the private road which led to my mental hospital, I found one of my attendants fixing large yellow and black sheets of metal to the trees at regular intervals. These were the advertisements of a local *hakim*, urging misguided relatives to bring their mentally afflicted patients to the advertiser, instead of admitting them to the Government *paghalkhana* (madhouse). So much for the ignorant and uncultured, but do the intelligentzia want Western psychiatry? I believe the answer is in the negative. I have treated the wives of many Indian graduates, two or three of whom have taken higher medical qualifications in the U.K. In nearly every case indigenous methods had been given a "fair trial" first. The *vaid*, the *hakim*, the devil driver had all failed! One doctor (a former student of mine) naively remarked: "Sir, when I saw that fellow twist her long and beautiful black hair round his hand, and bang her head over and over again upon the stone floor, I thought that nothing my dear old professor could do would be worse than this, so I have brought her to you at last."

I agree with Dr. Pai that much requires to be done, but no British Governor would or could (as he suggests) declare the practice of indigenous medicine a criminal offence. The Vedas constitute the standard textbooks of the Ayurvedists, and the Vedas mean far more to a religious Hindu than the Holy Bible means to the average Christian: enough, at any rate, to create a very considerable outcry that the obnoxious British Governor is interfering with the religious rights which were guaranteed to Indians by Queen Victoria in 1858. The Governor of a Province is very much in the hands of his Ministers in matters of this sort; and, in the Punjab, so far from suppressing indigenous medicine, it has been encouraged. The same is true to an even greater extent in other Provinces.

The King Edward Medical College, to which Dr. Rasheed Ahmad refers, is a very grand building indeed, and it is certainly well equipped; but he ought to have seen the *paghalkhana*, as it was in 1922. It was as bad as the Bicêtre and Salpêtrière Asylums when Philippe Pinel reformed them in 1793, and worse than any of the British madhouses described in the Parliamentary Commissions' reports of a hundred years ago. I found the great majority of my patients naked and cowering behind bars, more like wild animals in a zoo than fellow human beings suffering from the saddest of afflictions. So far as conditions would permit, relatively modern methods of treatment were carried out forthwith, but it was 15 years before I could persuade the Government to build a hospital which could be called a modern mental hospital, and not a madhouse or menagerie. Fifteen years of ceaseless endeavour! And then they stirred. The new blocks of the Punjab Mental Hospital have been built without a single bolt or bar, and are probably the best in India or the Far East. I have heard recently that my "dream child" (with its gestation period of 15 years) was still going strong, and that no iron bars had yet been installed. However, there was a snag. The Government coveted the new buildings, and intended using them as Government offices! As I heard this I felt I could weep. And then I laughed instead. Physicians who have served their country have had many distinctions conferred upon them, but surely none has had the distinction of building a mental hospital into which an obtuse and obstructive Indian Government has decided, voluntarily and not inappropriately, to admit itself!—I am, etc.,

C. J. LODGE PATCH, *M.C.*,
London, W.1. Lieut.-Col., I.M.S. (retd.).

War Gratuities

SIR,—I have been glad to read in recent copies of the *Journal* letters pointing out the inequality between the gratuity granted to regular short-service commissioned officers and emergency commissioned officers. In case some serving doctors are not aware of the position I shall restate it.

In peacetime a doctor could join the R.A.M.C. with a short-service commission which entitled him to retire at the end of 3 years' service with a gratuity of £500, or at the end of 5 years' service with a gratuity of £1,000. The short-service commissioned officer has gone on earning this gratuity during wartime. In wartime a doctor who joins the R.A.M.C. is given an emergency commission, and at the end of 3 or 5 years' service is entitled to a gratuity which is a fraction of that offered to the short-service commissioned officer for the same period. It is a great tribute to the lack of self-interest in our profession that we have accepted this strange state of affairs so quietly. It is not, however, a tribute to the interest which the B.M.A. takes in our affairs that it appears to have done nothing to correct this anomaly. It tends to make one have doubts about the results of its negotiations over the remuneration of doctors under a State medical service.

Doctors as a rule have a rather poor grasp of economics. It is therefore probably worth while pointing out just what is involved in this gratuity business. The gratuities and terms of service offered to R.A.M.C. doctors by the Government during peacetime are not offered because the Government likes doctors or thinks they are good chaps. They are the minimum rates of pay and gratuities which the Government can offer to maintain the requisite numbers of the R.A.M.C. in peacetime. It was a very finely calculated rate; in fact, it had been made rather too finely, as the authorities were just failing to get the requisite numbers. It represents the value to the Government of a fairly inexperienced young doctor. When the war is on, either because doctors volunteer for service or because they are compelled to serve, the Government is able to satisfy the Army's demand for doctors without any reference to the value of doctors. The result is that although the authorities have fixed a peacetime value of doctors, they immediately depart from that standard simply because they can force the supply.

It does not give one the impression that the Government is much interested in fair treatment of doctors. It does give a very fair indication of the methods which would be employed if the Government had full control of doctors in peacetime. The situation could be righted if the B.M.A. was really interested in remuneration of doctors and if it was prepared to resist unfairness of this kind, instead of at the best making a weak protest.

I would like to say a few words about the letter written by Surg. Lieut.-Cmdr. C. J. Robarts (*Supplement*, March 31), as, superficially, it appears reasonable. He is correct in saying that it is no good agitating because someone else is better off than oneself if the only result is that both parties are reduced to the lower level, but, as he has really shown, that danger does not exist in this case, as the short-service officers have a definite contract. He says that the raising of the gratuity of emergency-commissioned officers R.A.M.C. would give non-medical officers and men a legitimate grievance. This is a common argument, but those who put it forward should consider further. If this is a legitimate grievance it is an old-standing one. Regular commissioned officers other than R.A.M.C. officers had no opportunity of retiring at the end of 5 years' service with £1,000 gratuity, but I cannot remember this grievance being aired, and certainly not by short-term commissioned R.A.M.C. officers. The basic fact is the economic one already mentioned. The Government could get an adequate supply of general officers and men for the Army on much cheaper terms than it could get doctors. It therefore gave them those terms. An interesting point is that in all these cases it has improved those terms during wartime; in the R.A.M.C. alone has the remuneration been lowered during the war.

This comparison of different branches of the Services is, however, not really to the point. By the standards of the infantryman, risking his life daily slogging through Burma, I, sitting in relative comfort 20 miles behind him, am grossly overpaid; so also is Surg. Lieut.-Cmdr. Robarts, but we cannot do much about it. Our claim should not be stated as a comparison with other branches of the Services or with other individuals in the same branch, but in the question to the Government: You have laid down terms of remuneration for doctors in peacetime; why have you reduced those terms in wartime?

In conclusion I would like to point out how valuable this gratuity would be for post-war study. Much has been written about refresher courses. Personally I have maintained a good up-to-date library throughout the war; even in Burma I have had leisure for reading, so that I have maintained my theoretical knowledge at a higher level than I would have in hospital or general practice. I have also had opportunities to practise the art of medicine, so that I neither need nor want a refresher course, but I would like a wider view of medicine, especially that got from study abroad, and I feel certain that those who feel like me and those who want refresher courses will be able to arrange these things for themselves with the £1,000 gratuity in a much more satisfactory way than by using the Government post-war medical education scheme.—I am, etc.,

EDGAR RENTOUL.

Mileage Payments to Doctors

SIR,—I am sorry if I appear to be rather hammering on this point, but it appears that all official mileage payments are still calculated on the basis of 6d. a mile "one way," without any payment for the first 2 miles—i.e., 1s. 6d. for 5 miles distant, a 10-mile journey. My definite expenditure last year, not including depreciation or the equivalent saving towards buying new cars, worked out to the figure of a fraction under 5d. a mile.

The only reference which I can find to this matter in the *Journal* is a vague promise or suggestion that travelling expenses should be 10% more than pre-war. My motoring is 100% more expensive than it was before the war. This is a statement of fact. In the meantime, because of the dilatory recognition of this obvious injustice, we are quickly piling up a debt against all those who are employing us outside our private practice which will never be repaid.

When will the absurd contention that journeys within a 2-mile radius cost nothing be refuted? A car would still be just as necessary and cost just the same if doctors worked in a circle of 4 miles in diameter: and, further, the first 2 miles is by far the most expensive part of a journey by car. There is no point in answering me by assuming that our journeys are often shared between several calls—because the same rate is offered for emergency calls. Our mileage payments ought to be double the pre-war rate.

There is one way in which the Government could repay us what is owed—that is, by making cars available to us without purchase tax. After all, we are performing the duties of an essential service, and have done so, under great difficulties, all through the war. It would not be and is not fair to put the extra expenses to which we have been subjected on to the fee-paying patients, but this appears to be the only way in which to compensate ourselves at present.

If the emoluments which the profession are to receive under a National Health Service are to be calculated in the same kind of way as I have indicated, we are truly in for a very bad time indeed.—I am, etc.,

Coldingham. F. O. TAYLOR.

MEDICAL WAR RELIEF FUND

SEVENTIETH LIST

Amount previously acknowledged £57,748 5s. 7d. and £100 3½% Conversion Stock and £40 3% Defence Bonds.

Individual Subscriptions

£20.—Dr. E. J. Bradley, Margate (2nd donation).

£11 11s.—Mr D. N. Rocyn-Jones, Cardiff (4th donation).

£2 2s.—Surg. Lieut. P. D. MacLellan, R.N.V.R. (2nd donation); Dr. W. H. Steele, Newton Abbot (6th donation).

£1 1s.—Dr. R. Cochran, Paisley (3rd donation); Dr. Jean A. Ross, London (2nd donation).

£25.—Blyth Division Unaccompanied Children's Evacuation Fund (amount already acknowledged £14 8s.).

£12 12s.—Hartlepools Division (amount already acknowledged £10 10s.).

£5 7s. 9d.—Macclesfield and East Cheshire Division (amount already acknowledged £53 5s.).

Local Medical and Panel Committees

£278.—Surrey (11th donation).

£44 17s. 6d.—Newcastle-upon-Tyne (16th donation).

£43 16s. 2d.—County of Ayr (18th donation).

£33 3s. 10d.—Midlothian (18th donation).

£20 10s 5d.—Dunbarton County (18th donation).

£18 10s. 2d.—East Lothian (17th donation).

Total.—£58,268 0s. 5d. and £100 3½% Conversion Stock and £40 3% Defence Bonds.

Sums for Books for Prisoners of War

Amount previously acknowledged £216 14s. 6d.

Cheques, payable to the Medical War Relief Fund, should be sent to the Hon. Treasurer of the Fund, British Medical Association, Tavistock Square, London, W.C.1.

RETURN TO PRACTICE

The Central Medical War Committee announces that Mr. A. Hedley Whyte, F.R.C.S., has resumed practice at Moorfield House, Upper Claremont, Newcastle-upon-Tyne; and that Mr. W. E. Tucker, F.R.C.S., will resume at 21, Grosvenor Square, W.1, on Sept. 17.

H.M. Forces Appointments

ARMY

Major-Gen. O. W. McSheehy, C.B., D.S.O., O.B.E. K.H.S., late R.A.M.C., has retired on retired pay.

Lieut.-Col. R. F. Walker, C.B.E., M.C., from R.A.M.C., to be Col.

TERRITORIAL ARMY

ROYAL ARMY MEDICAL CORPS

Major H. W. Featherstone, O.B.E., has relinquished his commission on account of disability and has been granted the honorary rank of Lieut.-Col.

LAND FORCES: EMERGENCY COMMISSIONS

ROYAL ARMY MEDICAL CORPS

War Subs. Capts. T. G. Boyle, H. E. Gleave, and M. M. A. El Mishad have relinquished their commissions on account of disability, and have been granted the honorary rank of Capt.

The notification regarding War Subs. Capt. St. G. E. Harris, O.B.E., in a *Supplement* to the *London Gazette* dated June 12, has been cancelled.

WOMEN'S FORCES

EMPLOYED WITH THE R.A.M.C.

War Subs. Capt. (Mrs.) L. J. W. Forbes has relinquished her commission.

Lieut. (Miss) M. D. Dixon has relinquished her commission on account of disability.

ROYAL AIR FORCE

ROYAL AIR FORCE VOLUNTEER RESERVE

Squad. Ldr. A. A. Butler has relinquished his commission on appointment to the R.C.A.F.

Fl. Lieut. J. G. K. Dean has relinquished his commission on account of medical unfitness for Air Force service, retaining his rank.

POSTGRADUATE NEWS

An intensive course in industrial health will be held at the Birmingham Accident Hospital and Rehabilitation Centre from Monday, Aug. 27, to Saturday, Sept. 8, with lectures at 9.30 a.m., 10.20 a.m., 11.30 a.m., and 2 p.m. until 5 p.m. (approximately) from Monday to Friday each week. On Sept. 1 there will be a discussion on the week's work and on Sept. 8 a final discussion on the whole course, the fee for which is £10 10s. The course is primarily intended for Service medical officers on leave, for those recently demobilized, and for others who wish to take up the industrial health branch of medicine, and will be for the most part practical in nature. Numbers are limited and applications to join the course should be sent to the hospital secretary (A. A. MacIver, Bath Row, Birmingham, 15), from whom full particulars may be obtained.

B.M.A.: Branch and Division Meetings to be Held

SOUTHERN BRANCH.—At the Castle, Winchester, Thursday, Aug. 30, 3 p.m. 69th annual general meeting. Agenda: Election of President-Elect, etc.

WAKEFIELD, PONTEFRACT, AND CASTLEFORD DIVISION.—At Clayton Hospital, Sunday, Aug. 26, 11 a.m., Postgraduate Lecture by Dr. Leslie Watson: Benign Circumscribed Pneumonia; Pneumokoniosis.

BIRTHS, MARRIAGES, & DEATHS

The charge for an insertion under this head is 10s. 6d. *for* 18 *words or less. Extra words* 3s. 6d. *for each six or less. Payment should be forwarded with the notice, authenticated by the name and permanent address of the sender, and should reach the Advertisement Manager not later than first post Monday morning.*

BIRTHS

COOKE.—On July 11, 1945, to Dr. H. B. J. Cooke (*née* Rose), wife of Dr. M. A. Cooke, of Selborne Villas, Bradford, a daughter.

HORTON.—On July 20, 1945, at Connaught Road Nursing Home, Cardiff, to Daphne (*nee* Payne), wife of Capt. E. H. Horton, R.A.M.C., a son.

LYONS.—On July 27, 1945, to Maisie (*née* McSparran), wife of S. E. C. Lyons, M.B., D.P.H., Newtown Street, Strabane, Co. Tyrone, a son.

MARRIAGE

STAREY—HORTON.—On July 14, 1945, at Chilham, Kent, Christopher J. H. Starey, B.M., to Phyllis M. Horton, S.R.N., of Shottenden.

DEATH

DAVIES.—On Aug. 2, 1945, John Davies, M.D., M.R.C.P., Surg. Cmdr., R.N.V.R., beloved husband of Gwladys, 308, Finchley Road, N.W.3, and father of David and Shirley.

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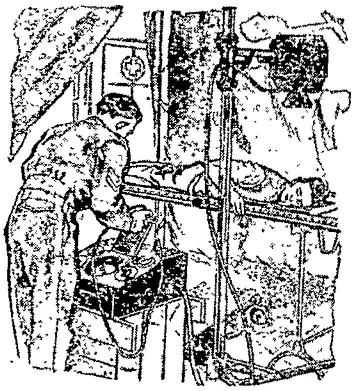

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NOTICE—Applications for vacancies advertised should, except where otherwise specified, state name, address, age, nationality, qualifications, and be accompanied by copies of three recent testimonials with short statement of experience and appointments held. Unless closing date is stated applications should be sent at once.

R—Male, W—Women practitioners, liable to military service under the National Service Acts.

B1—Whole-time appointments, usually resident within the senior establishment—e.g., Registrar, R.S.O., etc.

A—Whole-time resident house appointments open to practitioners without previous experience.

B2—Whole-time house appointments not within the senior establishment, usually resident, and usually held by practitioners with six months' experience.

APPOINTMENTS

MINISTRY OF PENSIONS. Queen Mary's (Roehampton) Hospital, London, S.W.15.—Applications are invited from registered medical practitioners, men and women, including R and W practitioners who already hold A posts, for appointment as HOUSE SURGEON (B2) at the above hospital. The appointment offers opportunities for experience in general and orthopaedic surgery. If held by an R practitioner the appointment will be limited to six months. Salary £300 per annum, plus Civil Service war bonus and free board and lodging or an allowance of £100 if permission is given to live out. Applications should be addressed to the Secretary, Ministry of Pensions, Medical Services Division, Norcross, Blackpool, Lancs.

PRISON SERVICE—MEDICAL STAFF.—Applications are invited for the post of WOMAN MEDICAL OFFICER at H.M. Prison, Holloway, London, to assist the other medical officers. Salary is £650 per annum plus a temporary war bonus of (at present) £48 per annum. Annual leave, normally six weeks but rstricted at present to 24 days. The post is unestablished, but this will be subject to review after the war. Forms of application may be obtained from the Prison Commission (Establishment Branch), Kensington Mansions, Trebovir Road, Earl's Court, London, S.W.5.

BOROUGH GENERAL HOSPITAL, Shirley Warren, Southampton. JUNIOR RESIDENT MEDICAL OFFICER (LOCUM TENENS) (A).—Applications are invited from medical practitioners, male and female, for appointment as Locum Tenens Junior Resident Medical Officer, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months, otherwise it will not exceed one year. The fees payable will be £8 8s. per week, plus board-residence. Applications should be addressed to the undersigned immediately.—H. C. Maurice Williams, Medical Officer of Health, Civic Centre, Southampton.

CORPORATION OF GLASGOW. MEDICAL OFFICER OF HEALTH.—Applications are invited for the post of Medical Officer of Health for the City of Glasgow from qualified medical practitioners who are registered in the *Medical Register* as holders of a Diploma in Sanitary Science, Public Health, or State Medicine. The Medical Officer of Health is also Port Medical Officer for the Port of Glasgow. The duties comprise the administration of all the statutory health and sanitary services of the Corporation. The post is due to fall vacant at the end of March, 1946, and the new Medical Officer of Health will be expected to take up duty at the beginning of April, 1946, or as soon thereafter as possible. Salary at the rate of £1,500 per annum, rising by annual increments of £50 to £2,000 per annum, plus war increase, and with £50 per annum additional for Port duties. The appointment is subject to the provisions of the Corporation's Superannuation Scheme, and the successful candidate will be required to pass a medical examination. In order to allow time for candidates now abroad or in H.M. Forces to apply, the last date for receipt of applications has been fixed for October 1, 1945.—William Kerr, Town Clerk, City Chambers, Glasgow.

CITY OF BIRMINGHAM. Yardley Green Road Sanatorium (335 beds). TEMPORARY ASSISTANT RESIDENT MEDICAL OFFICER (B1).—Applications are invited from registered male medical practitioners for the above appointment. In addition to his duties at the Sanatorium, the successful candidate will be required to undertake duties at the Anti-tuberculosis Centre. Candidates should have held a resident hospital appointment and an appointment in some institution recognized for the treatment of tuberculosis. Suitably qualified R practitioners now holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. The commencing salary will be at the rate of £450 per annum, rising by £25 to £600 per annum, plus emoluments. Applications should be addressed to the Chief Clinical Tuberculosis Officer, 151, Great Charles Street, Birmingham, 3, not later than August 31, 1945.

CITY OF CHESTER. City Hospital.—Applications are invited from registered medical practitioners for the appointment of RESIDENT MEDICAL OFFICER (B2) at the above hospital. Salary at the rate of £200 per annum, with full residential emoluments and temporary war bonus. R practitioners holding A posts may also apply, when appointment will be limited to six months, otherwise will not exceed one year. Applications for this appointment should be sent immediately to the Medical Officer of Health, Town Hall, Chester.

BRITISH MEDICAL ASSOCIATION. ASSISTANT SECRETARIES.—The Council of the British Medical Association invites applications from registered medical practitioners, including those serving with H.M. Forces, for two appointments of Assistant Secretary. The practitioners appointed will at the outset work at B.M.A. House in London, but they may subsequently be transferred to regional offices outside London. The salary for each post will be at the rate of £1,000 a year, rising by annual increments of £50 to £1,500 a year, plus cost-of-living bonus. The Association's superannuation scheme will apply to the posts. The successful candidates will be expected to take up duty on February 1, 1946, or on demobilization. There is no special form of application, and applications, with full particulars of qualification, experience, age, etc., together with the names and addresses of three persons to whom reference may be made, should be sent to the Secretary of the British Medical Association, Tavistock Square, London, W.C.1, to arrive not later than December 8, 1945.—Charles Hill, Secretary.

COUNTY BOROUGH OF WEST HAM. Whipps Cross Hospital. TEMPORARY RESIDENT ASSISTANT MEDICAL OFFICER.—Applications are invited from registered medical practitioners, male and female, for the post of Temporary Resident Assistant Medical Officer (B1) at Whipps Cross Hospital, Leytonstone, E.11. Suitably qualified R and W practitioners holding B2 appointments may apply. R practitioners holding B1 appointments cannot apply unless they have been rejected by the R.A.M.C. Salary for the post is £350 per annum, rising by annual increments of £25 to a maximum of £450 p.a., plus a temporary war bonus, with apartments, board and laundry, valued for superannuation purposes at £100 per annum. The salary is inclusive, and all fees received from whatever source must be paid to the Council. Candidates must be fully qualified registered medical practitioners, and should have held a previous resident hospital appointment. Preference will be given to candidates with practical experience of surgical operations, and the person appointed must give his or her whole time to the service of the Council, and will be required, should the occasion arise, to act in any of the Council's other institutions. The appointment will be subject to the Council's regulations as made from time to time regarding holidays, sick pay, etc., and the successful candidate will be required to pass a medical examination. Forms upon which application must be made can be obtained from Dr. E. Ashworth Underwood, Medical Officer of Health, 223-225, Romford Road, West Ham, E.7, on receipt of a stamped addressed envelope, and returned to him not later than September 3, 1945. Canvassing members of the Council is prohibited and will disqualify.—Charles E. Cranfield, Town Clerk, Town Hall, West Ham, E.15.

CITY OF MANCHESTER. Crumpsall Hospital (1,400 beds.) (Recognized under the regulations for the F.R.C.S.). RESIDENT ASSISTANT MEDICAL OFFICER (B2).—Applications are invited from registered medical practitioners, male or female, for the above-mentioned post, which is vacant now, including R practitioners who now hold A posts. If held by an R practitioner the appointment will be for a period of six months, otherwise it will be for a period of twelve months. The duties of the post are entirely medical. The basic salary for the appointment is £250 per annum, with board, residence and laundry in addition, subject to the Manchester Corporation conditions of service. A temporary cost-of-living wages addition is payable in addition to the salary stated, and the present annual cash remuneration is £280 in the case of a male officer, and £274 2s. 6d. in the case of a female officer. Applications are to be addressed to the Medical Superintendent, Crumpsall, Manchester, 8, at once. Canvassing in any form, oral or written, direct or indirect, is prohibited.—Philip B. Dingle, Town Clerk, Town Hall, Manchester, 2.

YORK COUNTY HOSPITAL (222 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (A), vacant September 22, 1945, whose main duties are in the Eye, Ear, Nose and Throat Department (37 beds with busy Outpatient Clinics), but who will share in the general work of the hospital, also Casualty Duty, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary is at the rate of £175 per annum, with full residential emoluments. This post is recognized for D.O.M.S. and D.L.O. examinations. Applications to be sent to the undersigned immediately.—J. R. Mackrill, Secretary.

CITY OF MANCHESTER. Withington Hospital (1,150 beds). TEMPORARY RESIDENT SURGICAL OFFICER (B1).—Applications are invited from registered medical practitioners, male or female, for the appointment of Temporary Resident Surgical Officer (B1), which will become vacant towards the end of 1945 at the above-mentioned hospital, when the present officer is expected to be recruited into H.M. Forces. Candidates should hold a higher qualification in surgery and have had previous experience in resident hospital posts. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Basic salary £475 per annum, but further increments of £25 to a maximum of £550 may be granted at the discretion of the Council. Full residential emoluments valued at £150 are additional to the salary stated. A temporary cost-of-living wages addition, amounting at present to £60 p.a. in the case of a male officer and £48 5s. p.a in the case of a female officer, is also payable in addition to the salary stated, but will be apportioned as between cash salary and emoluments. The appointment is subject to the Manchester Corporation conditions of service. Full information and forms of application may be obtained from the Medical Officer of Health, Hospitals Administration Section, G.P.O. Box 399, Town Hall, Manchester, 2. Applications for the post must be forwarded to me only, and not to members of the Committee or the Council, not later than August 30, 1945. Canvassing in any form, oral or written, direct or indirect, is prohibited.—Philip B. Dingle, Town Clerk, Town Hall, Manchester, 2.

COUNTY BOROUGH OF WEST HARTLEPOOL. Public Assistance Committee. Howbeck Infirmary and Emergency Medical Services Hospital (350 beds).—The Public Assistance Committee invite applications from registered male or female medical practitioners for the appointment of ASSISTANT MEDICAL OFFICER (resident) (B1). Salary will commence at £350 per annum, and will rise by annual increments of £25 to a maximum of £450 per annum, together with usual residential emoluments valued for superannuation purposes at £125 per annum. Suitably qualified R or W practitioners holding B2 appointments are invited to apply. Applications from R or W practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. The successful candidate will be required to devote his or her whole time to the service of the Corporation and to carry out the instructions of the Medical Superintendent. Applications should be received by the Public Assistance Officer, Avenue Road, West Hartlepool, as soon as possible.— E. J. Waggott, Town Clerk, Town Clerk's Office, West Hartlepool.

CORNWALL COUNTY COUNCIL.—Applications are invited from registered medical practitioners for the whole-time appointment of a TEMPORARY ASSISTANT COUNTY MEDICAL OFFICER to reside in or near the City of Truro. The person appointed will be required to work under the direction of the County Medical Officer, and must be qualified to treat patients suffering from venereal disease. The duties will include the taking of such venereal disease clinics as the County Medical Officer may direct, the supervision of the Rural Practitioners' Scheme for the treatment of venereal disease, and any other work not necessarily connected with venereal disease treatment as may be required from time to time by the County Medical Officer. The commencing salary will be £750 per annum, rising by three biennial increments of £50 and one of £37 10s. to £937 10s. per annum, together with a travelling allowance in accordance with the County scale. The duties of the person appointed will be reviewed within two years of the appointment. Persons already in whole-time Public Health employment by local authorities are not eligible to apply. Applications should reach the County Medical Officer, County Hall, Truro, not later than September 1, 1945. The appointment is approved by the Ministry of Health.—L. P. New, Clerk of the County Council, County Hall, Truro.

CAMBRIDGE COUNTY COUNCIL. County Hospital.—Applications are invited for the post of RESIDENT OBSTETRIC OFFICER (B2) at the above hospital. The appointment is limited to six months. Salary is at the rate of £250 a year, with full residential emoluments. R and W practitioners holding A posts may apply.

Applications are also invited from registered medical practitioners, male and female, for the post of HOUSE PHYSICIAN (A). Salary £150 a year, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months, otherwise not exceeding one year. Applications should be sent at once to the Clerk of the Cambridgeshire County Council, Shire Hall, Castle Hill, Cambridge.

IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page 10.

COUNTY BOROUGH OF WALSALL, Manor Hospital (400 beds).—Applications are invited from registered medical practitioners, male and female, for the appointments of:

RESIDENT ANAESTHETIST (B2). The salary is at the rate of £350 per annum, rising by £25 to £425 per annum, with full residential emoluments. R practitioners who now hold A posts may apply, when appointment will be limited to six months, otherwise it will be for a period not exceeding four years.

JUNIOR ASSISTANT MEDICAL OFFICER (A). Salary is at the rate of £200 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months, otherwise twelve months.

The officers appointed will act under the direction of the Medical Superintendent, and perform such other duties as may be required. Applications should be sent to the undersigned not later than August 31, 1945.—James A. M. Clark, Medical Officer of Health, Council House, Walsall.

COUNTY COUNCIL OF THE STEWARTRY OF KIRKCUDBRIGHT.—Applications are invited for the temporary post of ASSISTANT MEDICAL OFFICER OF HEALTH, male or female, in the Public Health Department of the County Council of the Stewartry of Kirkcudbright. Applicants should be registered medical practitioners, and preference will be given to applicants holding the Diploma in Public Health. Salary £600 per annum, with, in addition cost-of-living bonus, at present £60 per annum (male) or £48 per annum (female). The person appointed will require to provide and maintain a motor car, in respect of which a travelling allowance will be paid. Applications should be lodged with the County Clerk, Kirkcudbright, not later than August 31, 1945.

EAST RIDING COUNTY COUNCIL. Driffield Emergency Hospital (324 beds).—Applications are invited from registered medical practitioners for the appointment of RESIDENT SURGICAL OFFICER (B1), vacant immediately. The hospital provides experience in general surgery. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary from £350 to £550 per annum according to qualifications and experience, together with full residential emoluments. Applications should be forwarded so as to reach the undersigned as soon as possible.—T. Stephenson, Clerk of the Council, County Hall, Beverley.

SOUTH-EASTERN COUNTIES OF SCOTLAND JOINT SANATORIUM BOARD, East Fortune Sanatorium.—Applications are invited for the temporary post of RESIDENT MEDICAL SUPERINTENDENT of East Fortune Sanatorium (meantime accommodated at the Annexe, Bangour). Salary scale £1,000 to £1,200, plus J.I.C. bonus, free house, etc. The post is normally a permanent one, but, in terms of the approval granted by the Secretary of State for Scotland, the appointment will, in the first place, be on a temporary basis. The person appointed will be eligible for the permanent post at a later date. Terms and conditions of the appointment may be obtained from the subscriber, with whom applications, giving full particulars as to age, qualifications, and experience in tuberculosis work should, along with 15 copies of not more than three testimonials, be lodged not later than Sept. 4, 1945.—James McBoyle, Secretary, County Rooms, George IV Bridge, Edinburgh.

WEST RIDING OF YORKSHIRE HOSPITALS BOARD. Pinderfields Emergency Hospital, Wakefield. RESIDENT HOUSE SURGEON (A and B2).—Applications are invited from registered medical practitioners, male and female, for the appointment of a House Surgeon (A), the position now vacant, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, the appointment will be for a period of six months, otherwise it will be for a period not exceeding one year. The salary, together with full residential emoluments, will be at the rate of £120 per annum.

Applications are also invited from registered medical practitioners, male and female, for the appointment of a RESIDENT HOUSE SURGEON (B2), the position now vacant, including R practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months, otherwise it will be for a period not exceeding one year. The salary, together with full residential emoluments, will be at the rate of £200 per annum.

The hospital can accommodate some 1,300 service and civilian patients and, in addition to pro- a special Thoracic Surgery and large Orthopaedic centre. The main duties will be undertaken in the Ear, Nose and Throat, Orthopaedic, and Casualty Departments.

Applications to be submitted to the Medical Superintendent, Pinderfields Emergency Hospital, Wakefield, forthwith.—G. L. Banner, Clerk of the Board, Board Offices, Victoria Chambers, Wood Street, Wakefield.

MIDDLESEX COUNTY COUNCIL. TEMPORARY DISTRICT MEDICAL OFFICER and PUBLIC VACCINATOR, Yiewsley and West Drayton Medical Relief district.—The County Council invites applications from registered medical practitioners for the above appointment. District Medical Officer (average number of cases 6 per annum). Salary at least £50 per annum, and as a wartime measure only a payment equivalent to 20% of salary in respect of additional practice expenses, plus cost of expensive drugs, confinement fees and for services of another medical practitioner to administer short anaesthetics for minor operations. Duties in accordance with the Public Assistance Order, 1930, of the Minister of Health, reside in the district unless the Council otherwise determines, and nominate a deputy to act in his unavoidable absence. Public Vaccinator. Must produce to the Council a certificate of proficiency in vaccination, except in a case in which such certificate was required as a condition of obtaining any diploma, licence, or degree which he possesses; will be required to enter into a contract with the Council in accordance with the Vaccination Order, 1930, of Minister of Health. Contract will provide for the payment of the scale of fees laid down by the County Council. Applications must reach the undersigned by September 1, 1945.—C. W. Radcliffe, "Z," Clerk of the County Council, Middlesex Guildhall, Westminister, S.W.1.

MIDDLESEX COUNTY COUNCIL.—SURGEON REQUIRED at ASHFORD COUNTY HOSPITAL, Middx. (late Staines County Hospital). Applicants must be registered medical practitioners with higher degree or diploma in surgery, who have devoted their time wholly or chiefly to practice of surgery. Commencing salary between £650 and £950 p.a. according to experience, plus war bonus (now £60 p.a.). Non-resident, but surgeon appointed must live near hospital. Whole-time unestablished appointment, subject to medical examination and three months' notice Salary is inclusive; any fees received must be paid to County Council. Surgeon appointed will take share in general-surgery of hospital, his duties, such as Council may require, will be, under general supervision of Medical Director, and may include teaching. Post vacant early September. Application to the undersigned. Application forms not provided. Closing date August 25, 1945.—C. W. Radcliffe, "Z," Clerk of the County Council, Middlesex Guildhall, Westminster, S.W.1.

MIDDLESEX COUNTY COUNCIL. JUNIOR ASSISTANT MEDICAL OFFICER (Anaesthetist (B2), Resident), required at CHASE FARM HOSPITAL, Enfield, Middx.—Applications invited from registered medical practitioners, including R practitioners now holding A posts. Salary £350 p.a. Board, lodging and laundry. War bonus (now £60 p.a., proportion only in cash). Whole-time duties such as Council may direct, under supervision of Medical Director. Appointment, subject to medical examination and one month's notice, is for six months, with possibility of extension to twelve months (except R practitioners). Post now vacant. Applications to Medical Director, "Z," of hospital. Application forms not provided. Closing date September 1, 1945.—C. W. Radcliffe, Clerk of the County Council, Middlesex Guildhall, Westminster, S.W.1.

NOTTINGHAMSHIRE COUNTY COUNCIL. County General Hospital, Worksop. RESIDENT SURGICAL OFFICER (B1).—Applications are invited from registered medical practitioners for the appointment of Resident Surgical Officer (B1), to become vacant shortly. Applicants should have held house appointments and had surgical experience. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. The salary will be at the rate of £350 per annum, with £75 per annum in lieu of emoluments.

HOUSE SURGEON (B2).—Applications are also invited from registered medical practitioners, male and female, for the appointment of House Surgeon (B2), now vacant, including R and W practitioners who now hold A posts. If held by an R or W practitioner the appointment will be limited to six months, otherwise it will be for a period of twelve months, but may be terminated in the meantime by one month's notice. The salary is at the rate of £300 per annum, with full residential emoluments.

Applications for each post should be submitted forthwith to the County Medical Officer, Shire Hall, Nottingham.—K. Tweedale Meaby, Clerk of the County Council.

SURREY COUNTY COUNCIL. Kingston County Hospital (500 beds), Wolverton Avenue, Kingston-on-Thames.—Applications are invited from registered medical practitioners, male and female, for the appointment of ANAESTHETIST (B1). The position is temporary and is subject to one month's notice on either side. Preference will be given to candidates holding D.A. qualification. Suitably qualified R and W practitioners now holding B2 posts are invited to apply. Applications from R practitioners holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £550 per annum plus war bonus plus full residential emoluments. Apply to Medical Superintendent by September 7, 1945.

KENT COUNTY COUNCIL. County Hospital, Pembury (750 beds). HOUSE SURGEON (A).—Applications are invited from registered medical practitioners, male, for the above appointment. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months, otherwise it will not exceed one year. The salary is £200 a year, plus a temporary war addition of £29 19s. 7d., with full residential emoluments. Superannuation can be arranged, and the successful candidate will be required to pass a medical examination.

REGISTRAR FOR CHILDREN'S UNIT (B1).—Applications are invited from registered medical practitioners, male, for the above appointment. Applicants should have had previous hospital experience. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. The salary is £350 to £450 a year by increments of £25, with full residential emoluments, plus a temporary war addition at present £29 19s. 7d. a year.

Applications for each post should be addressed to the County Medical Officer, County Hall, Maidstone so as to reach him by August 28, 1945.—W. L. Platts, Clerk of the County Council, County Hall, Maidstone.

LANCASHIRE COUNTY COUNCIL. Wrightington Hospital, near Wigan.—Applications are invited for JUNIOR MEDICAL OFFICER (B2) at the Wrightington Hospital, containing 370 beds (260 beds for non-pulmonary tuberculosis (adults and children), 20 beds for "combined" pulmonary and non-pulmonary cases, and 70 beds for pulmonary cases). The medical staff consists of medical superintendent, three assistants, two consultant orthopaedic surgeons, other visiting surgeons and visiting physician. Excellent facilities for reading for M.D. Salary £300 per annum, plus bonus, together with board, single quarters, and laundry valued at £146. R and W practitioners who now hold A posts may apply, when appointments will be limited to six months, otherwise one year. Forms of application and conditions of appointment from Central Tuberculosis Officer, County Offices, Preston. Mark letters "Wrightington M.O."

ADDENBROOKE'S HOSPITAL, CAMBRIDGE. HOUSE PHYSICIAN (A).—Applications are invited from registered medical practitioners, male and female, for the appointment of House Physician (A), to become vacant on October 1, 1945, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts appointment will be for a period of six months only, which is the normal period of appointment. Salary is at the rate of £130 per annum, with full residential emoluments. Applications should be sent to the undersigned not later than Wednesday, August 29, 1945.—J. A. Beardsall, Secretary-Superintendent.

ASHINGTON HOSPITAL, Ashington, Northumberland.—Applications are invited from registered medical practitioners for the appointment of two HOUSE SURGEONS (A), now vacant, including practitioners within three months of qualification who are liable to serve under the National Service Acts. If held by practitioners who are liable under these Acts, the appointment will be for a period of six months. Salary is at the rate of £100 per annum, with full residential emoluments. Applications to be made to the undersigned.—A. Anderson Bonar, F.R.C.S.Ed., Medical Superintendent.

ATKINSON MORLEY EMERGENCY HOSPITAL, S.W.20.—Applications are invited for the post of THIRD SURGICAL ASSISTANT to the Neurosurgical Unit at the above hospital. The post is a B2 one with salary at the rate of £200 per annum and board and lodging. R and W practitioners now holding A posts may apply. The appointment is for six months, with eligibility for a higher appointment at the end of that time. Applications should be sent as soon as possible to the Secretary, St. George's Hospital, Hyde Park Corner, S.W.1.

ALTRINCHAM GENERAL HOSPITAL, Near Manchester (100 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (A). Salary at the rate of £150 p.a., with full residential emoluments. The appointment will be for a period of six months. Practitioners within three months of qualification and liable under the National Service Acts, may apply. Address applications to the General Superintendent.

BRADFORD ROYAL INFIRMARY.—Applications are invited from registered medical practitioners, male, single, for the following appointments:
HOUSE SURGEON (B2), vacant October 1, 1945;
HOUSE SURGEON (B2), vacant October 17, 1945;
HOUSE PHYSICIAN (A), vacant October 17, 1945.
Six months' appointment. For the B2 posts R practitioners now holding A posts may also apply. For the A post practitioners within three months of qualification who are liable to service under the National Service Acts may apply. Salary £150 per annum, with full residential emoluments. There are 372 beds and eight resident officers. Applications should be sent immediately to H. Trusson, House Governor and Secretary.

IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page 10

BIRMINGHAM AND MIDLAND EAR AND THROAT HOSPITAL, Edmund Street, Birmingham, 3 (105 beds).—Applications are invitited for the appointment of a HOUSE SURGEON (A). Practitioners within three months of qualification who are liable to service under the National Service Acts may apply. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Duties to commence in September. Salary at the rate of £250 per annum, with full residential emoluments. Applications should be forwarded to the undersigned immediately.—W. H. Lomas, House Governor.

BECKETT HOSPITAL AND DISPENSARY, Barnsley. HOUSE SURGEON (A).—Applications are invited from registered medical practitioners for this appointment. Salary is at the rate of £225 per annum with full residential emoluments. Practitioners within three months of qualification may also apply when the appointment will be for six months. Applications should be sent immediately to Arthur L. Bourne, Secretary-Superintendent.

BROMPTON HOSPITAL SANATORIUM, Frimley, Surrey.—The Committee of Management of the Hospital for Consumption and Diseases of the Chest, Brompton, S.W.3, invite applications for the post of TEMPORARY MEDICAL SUPERINTENDENT at the Sanatorium. Salary £1,000 per annum, with residence, fuel, light, and water. Candidates must be a Fellow or a Member of the Royal College of Physicians, a Fellow of the Royal College of Surgeons, or a Doctor of Medicine of a British University. The appointment is for one year, with eligibility for reappointment. Applications must be sent in not later than Monday, September 10, 1945. Further particulars may be obtained upon application to the Secretary at the Hospital.—F. G. Rouvray, Secretary, Brompton, S.W.3.

BURTON-ON-TRENT GENERAL INFIRMARY (200 beds normal).—Applications are invited from registered medical practitioners for the appointments of CASUALTY OFFICER AND HOUSE SURGEON (A). Salary at the rate of £200, with the usual residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months. Applications to be sent to the Secretary-Superintendent.

BURSLEM HAYWOOD AND TUNSTALL WAR MEMORIAL HOSPITAL, High Lane, Tunstall, Stoke-on-Trent.—Applications are invited from registered medical practitioners, male and female, including R and W practitioners who now hold A posts, for the post of HOUSE SURGEON (B2). If held by an R practitioner the appointment will be limited to six months. Salary is at the rate of £225 per annum, with full residential emoluments. Applications should be forwarded as soon as possible to C. E. Lowndes, Secretary.

CAMBORNE-REDRUTH MINERS' AND GENERAL HOSPITAL.—With the formation of a special department, a vacancy occurs for a physician for diseases of children. A higher qualification, preferably membership of the Royal College of Physicians, is essential Experience in paediatrics would be an additional advantage. Candidates must be prepared to engage solely in consulting practice in this sphere. Full particulars may be obtained from the undersigned. Applications from Service candidates are specially invited. It is not proposed to make an appointment before December, 1945, in order that serving practitioners may receive full consideration.—J. C. Field, Secretary-Superintendent.

CONNAUGHT HOSPITAL, Walthamstow, London, E.17. CASUALTY OFFICER (A).—Applications are invited from registered medical practitioners, male and female, for the appointment of Casualty Officer, now vacant, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under the Acts, the appointment will be for a period of six months. Salary at the rate of £120 per annum, with full residential emoluments. Applications to be sent as soon as possible to R. Halton Harrison, General Secretary.

THE CORBETT HOSPITAL, Stourbridge, Worcs. (106 beds and special departments).—Applications are invited from registered medical practitioners for the appointment of RESIDENT HOUSE PHYSICIAN (A), which becomes vacant on November 1, 1945, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary is at the rate of £175 per annum, with full residential emoluments. Applications should be sent to the undersigned forthwith.—W. G. H. Weston, House Governor and Secretary.

DEVON MENTAL HOSPITAL, Exminster, Nr. Exeter.—Male or female TEMPORARY ASSISTANT MEDICAL OFFICER (B1) required immediately. R and W practitioners holding B2 appointments, also R practitioners holding B1 appointments and rejected by the R.A.M.C., may apply. Salary £9 9s. per week, plus full residential emoluments. Apply to the Medical Superintendent.

CORNELIA AND EAST DORSET HOSPITAL, Poole, Dorset. (204 beds.) HOUSE SURGEON (B2) and HOUSE PHYSICIAN (A).—Applications are invited from registered medical practitioners, male and female, for the following appointments, vacant now: HOUSE SURGEON (B2). R and W practitioners now holding A posts may apply, when appointment will be limited to six months. Salary £250 per annum.

HOUSE PHYSICIAN (A). Practitioners within three months of qualification who are liable to service under the National Service Acts may apply, when appointment will be for a period of six months. Salary £150 per annum. Full residential emoluments in both cases. This hospital is recognized by the Royal College of Surgeons. Applications should be sent to the undersigned.—E. A. Hart, Secretary.

CAMBORNE-REDRUTH MINERS' AND GENERAL HOSPITAL, Redruth, Cornwall.—Applications are invited from registered medical practitioners, male and female, for the appointment of a HOUSE SURGEON (A), to become vacant on October 19, 1945. Practitioners within three months of qualification who are liable to service under the National Service Acts may apply when appointment will be for a period of six months. Salary at the rate of £200 per annum, with the usual residential emoluments. Applications to be addressed to the undersigned.—J. C. Field, Secretary-Superintendent.

CHESTER ROYAL INFIRMARY (normal capacity 225 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A), to become vacant early September, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, the appointment will be for a period of six months. Salary is at the rate of £175 per annum, with full residential emoluments. Applications should be sent to the Secretary, not later than September 1, 1945.

CITY OF YORK GENERAL HOSPITAL, York.—Applications are invited from registered medical practitioners, male and female, for the appointment of a HOUSE PHYSICIAN (A), including R practitioners within three months of qualification. If held by an R practitioner the appointment will be for six months, otherwise it will not exceed one year. Salary is at the rate of £200 per annum, with full residential emoluments. Applications should be sent to the Medical Superintendent on or before August 25, 1945.

CHELMSFORD AND ESSEX HOSPITAL, London Road, Chelmsford, Essex (186 beds).—Applications are invited for the post of HOUSE SURGEON (A), male or female, to commence September 1. Salary £175 per annum, plus board, lodging, and laundry. Apply to the undersigned. Practitioners within three months of qualification who are liable to service under the National Service Acts may apply when appointment will be for a period of six months.—R. G. Morrish, House Governor and Secretary.

DERBYSHIRE ROYAL INFIRMARY, Derby (Voluntary Hospital, 416 beds plus 115 E.M.S.).—Applications are invited from registered medical practitioners, male or female, for the appointment of ACCIDENT AND CASUALTY OFFICER (A). Duties will be in the Casualty Department, Hand Clinic, and Accident Wards. The position is now vacant. Salary is at the rate of £200 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when the appointment will be for a period of six months. Applications should be sent as soon as possible.—Arthur Taylor, Superintendent and Secretary.

DONCASTER ROYAL INFIRMARY.—Applications are invited from registered medical practitioners (male) for the appointment of SENIOR HOUSE PHYSICIAN (B1). Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £250 per annum, with usual emoluments. Applications should be forwarded to the undersigned immediately.—R. Lancaster, Secretary-Superintendent.

ELIZABETH GARRETT ANDERSON HOSPITAL, Euston Road, N.W.1.—The Managing Committee invite applications from qualified medical women for the Staff appointment of part-time RADIOLOGIST in charge of the diagnostic work. Honorarium £200 per annum. Applications, with full particulars and copies of three recent testimonials, should be sent to the Secretary by August 31. Out of consideration for medical officers now in the Services this appointment will not be made on a permanent basis at present.

EAST HAM MEMORIAL HOSPITAL, Shrewsbury Road, London, E.7.—Applications are invited for the post of TEMPORARY HONORARY NEUROLOGICAL SURGEON. Applications, stating full particulars, together with copies of three recent testimonials, should be forwarded to the undersigned. Candidates will be expected to send copies of their applications and testimonials to, and call upon, members of the Honorary Medical Staff.—Reginald Perry, Secretary-Superintendent.

ELIZABETH GARRETT ANDERSON HOSPITAL, Euston Road, N.W.1. At Oster House E.M.S. Hospital, St. Albans.—Applications are invited from registered medical practitioners for the appointment of full-time SURGICAL REGISTRAR (B1). Suitably qualified W practitioners now holding B1 or B2 appointments are invited to apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Candidates should have had some operative experience, and the Fellowship would be an advantage. Appointment under E.M.S. Salary £350 to £550, according to experience and qualifications, and billeting allowance. Duties to commence September 1 or as soon after as possible. Applications should be sent to the Medical Officer-in-Charge, Oster House E.M.S. Hospital, by Aug. 23.

FALMOUTH AND DISTRICT HOSPITAL.—Applications are invited from registered medical practitioners, male, including practitioners within three months of qualification who are liable to service under the National Service Acts, for the position of HOUSE SURGEON (A). Salary £26 per annum, with full residential emoluments. If held by a practitioner liable under the above Acts appointment will be for a period of six months. Applications should be sent to the undersigned.—Norman O. Deans, Secretary.

GLOUCESTERSHIRE ROYAL INFIRMARY (Voluntary Hospital, 250 normal beds).—Applications are invited from registered medical practitioners, male or female, for the following appointments:

1 HOUSE SURGEON (A) to the General Surgeon now vacant.

1 HOUSE SURGEON (A) to the Orthopaedic and General Surgeon, now vacant.

1 HOUSE PHYSICIAN (A), vacant now. Practitioners within three months of qualification who are liable to service under the National Service Acts may apply, when appointment will be for a period of six months. Salary £150 per annum.

CASUALTY HOUSE SURGEON (B2) now vacant. R and W practitioners now holding A posts may apply. If held by an R practitioner appointment will be limited to six months. Salary £200 per annum. All appointments carry full residential emoluments, and may be terminated by one month's notice on either side. Applications should be addressed to—C. J. Adams, House Governor and Secretary, Royal Infirmary, Gloucester.

GENERAL HOSPITAL, Nottingham. Ear, Nose and Throat Department (40 beds) and large Out-patient Department.—Applications are invited from registered medical practitioners, male and female for the appointment of a HOUSE SURGEON (B2 for the above Department, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts appointment will be for a period of six months Salary at the rate of £200 per annum, with full residential emoluments. Applications to be addressed to the undersigned. Duties to commence on September 1, 1945. Henry M. Stanley, House Governor and Secretary.

GREAT YARMOUTH GENERAL HOSPITAL (9 beds).—Applications are invited from registered medical practitioners, male, for the appointment of RESIDENT SURGICAL OFFICER (B1). Candidates must hold the Fellowship diploma of one of the Royal Colleges of Surgeons. Salary £750 per annum, with residential emoluments (or if married a living-out allowance). Suitably qualified R practitioners now holding B2 posts may apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Information should be furnished regarding liability under National Service Acts Applications to be sent immediately to the undersigned.—John S. Egerton, Secretary.

GENERAL HOSPITAL, Nottingham. (712 beds including E.M.S. beds.)—Applications are invited from registered medical practitioners for the appointment of HOUSE SURGEON (B1). Duties to commence on September 22. R practitioners now holding B2 posts may apply. Applications from R practitioners who now hold B1 posts cannot be considered unless they have been rejected by the R.A.M.C. The appointment will be for a period of six months. The salary is at the rate of £300 per annum, with full residential emoluments. Applications to be sent to H. M. Stanley, House Governor and Secretary.

GLASGOW ROYAL INFIRMARY. RESIDENT ASSISTANT MEDICAL SUPERINTENDENT.—The Managers invite applications from registered medical practitioners for the post of Resident Assistant Medical Superintendent (B1). Salary £450 per annum. Particulars as to duties, etc., may be obtained from the Superintendent, Glasgow Royal Infirmary, 84 Castle Street, Glasgow, C.4. R practitioners holding B2 or B1 posts who have obtained the sanction of the Scottish Medical War Committee may apply. Practitioners rejected by the R.A.M.C. may also apply. Candidates are informed that no canvassing is allowed, and they are requested to lodge applications with the undersigned.—R. Morrison Smith, C.A., F.H.A., Secretary and Cashier, Glasgow Royal Infirmary. Office: 135, Buchanan Street, Glasgow, C.1.

IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page 10

GLOUCESTERSHIRE JOINT BOARD FOR TUBERCULOSIS. Standish House Sanatorium, Stonehouse, Glos. ((250 beds with Orthopaedic Block). TEMPORARY ASSISTANT MEDICAL OFFICER (B1) AND ASSISTANT TUBERCULOSIS OFFICER.—With the approval of the Minister of Health, the Board invite applications from registered male practitioners for the above joint appointment. In addition to his duties at the Sanatorium the successful candidate will be required to undertake duties at dispensaries, etc. The commencing salary will be at the rate of £450 p.a. plus bonus, and will rise by annual increments of £25 to £600 p.a. plus bonus, with emoluments of a total value of £150, and travelling and subsistence allowances in accordance with the Board's scale will be paid. Candidates should have held a resident hospital appointment and an appointment in some institution recognized for the treatment of tuberculosis, and suitably qualified R practitioners holding B2 appointments are invited to apply. R practitioners now holding B1 appointments and rejected by the R.A.M.C. may also apply. The appointment is subject to the approval of the Minister of Health and will be determined by three months' notice in writing on either side, and the person appointed must satisfactorily pass a medical examination. Applications should be addressed to the Clerk of the Joint Board for Tuberculosis, Shire Hall, Gloucester, and should reach him not later than September 1, 1945.—Guy H. Davis, Clerk of the Joint Board for Tuberculosis.

GENERAL INFIRMARY AT LEEDS, Department for Treatment of Venereal Diseases.—Applications are invited from registered medical practitioners for the post of MEDICAL OFFICER in charge of the above Department. Consent of the Ministry of Health has been received to the making of this appointment. Candidates must have special experience in the treatment of venereal diseases in accordance with Local Government (Qualifications of Medical Officers and Health Visitors) Regulations, 1930. Salary will be at the rate of £1,000 per annum, with the right to engage in private consulting practice in venereal diseases. The successful candidate may also be appointed Clinical Lecturer in Venereal Diseases in the University of Leeds. Suitably qualified practitioners serving with His Majesty's Forces are invited to apply. Canvassing, either direct or indirect, will be a disqualification. Applications to be received by the undersigned not later than November 30, 1945.—S. Clayton Fryers, House Governor and Secretary.

HIGH WYCOMBE AND DISTRICT WAR MEMORIAL HOSPITAL (100 beds).—Applications are invited for the following posts:

(1) RESIDENT MEDICAL OFFICER (B2). Salary £200 per annum, vacant November 1.

(2) HOUSE SURGEON (A). Salary £175 per annum, vacant September 24.

Both plus residential emoluments. For the B2 post R and W practitioners holding A posts may apply, when appointment will be for six months. For the A post practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for six months. Applications to E. Barber, Secretary.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, London, W.C.1.—Vacancies for a HOUSE PHYSICIAN (B2) and two HOUSE SURGEONS (B2) will occur on October 8, 1945. Salary £100 per annum, with full residential emoluments. One House Surgeonship is tenable at the Children's Unit at the Sector Hospital, Hemel Hempstead, and the others at the above address. The appointments are for six months. R and W practitioners now holding A posts and practitioners of either sex ineligible for military service or rejected by the R.A.M.C. may apply. Further particulars and form of application, which must be returned not later than September 20, 1945, are obtainable from the undersigned.—H. F. Rutherford, Secretary.

HULL ROYAL INFIRMARY.—Applications are invited from registered medical practitioners for the appointment of RESIDENT SURGICAL OFFICER (B1), vacant September. Preference will be given to candidates holding Diploma of F.R.C.S. Suitably qualified R practitioners holding B2 appointments, also those holding B1 and rejected by R.A.M.C., may apply. The holder of the post will be required also to undertake temporarily the duties of Senior House Surgeon. Salary £250 per annum, with full residential emoluments. Applications to R. J. Carless, House Governor.

HEREFORDSHIRE GENERAL HOSPITAL, Hereford (210 beds).—Applications are invited from registered medical practitioners (male), including practitioners within three months of qualification and liable under the National Service Acts, for the appointment of HOUSE PHYSICIAN (A). The appointment will be limited to six months. Salary is at the rate of £150 p.a., with full residential emoluments. Applications should be sent to T. W. Upton, Secretary.

HUNTINGDON COUNTY HOSPITAL (76 beds). —Wanted, middle of September, HOUSE SURGEON (A), good anaesthetist, salary £250 p.a., with board, lodging and laundry. Practitioners within three months of qualification may apply, when appointment will be for a period of six months. —Apply to Medical Superintendent.

HOVE GENERAL HOSPITAL.—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (B2). Salary at the rate of £200-£250 per annum; according to experience, with full residential emoluments. R and W practitioners who now hold A posts may apply, when appointment will be limited to six months, otherwise may be extended. Applications should reach the undersigned as soon as possible, stating when free. The position is now vacant.—J. V. Roe, Secretary-Superintendent.

HUDDERSFIELD ROYAL INFIRMARY (321 beds).—CASUALTY OFFICER (B2) required, to commence immediately. R and W practitioners who now hold A posts may apply. If held by an R or W practitioner appointment will be limited to six months. Salary at the rate of £200, with full residential emoluments. Applications to be sent to the undersigned as soon as possible.—H. J. Johnson, General Superintendent and Secretary.

KINGSTON - UPON - HULL CORPORATION HEALTH DEPARTMENT. Anlaby Road Hospital (581 beds). TEMPORARY ASSISTANT MEDICAL OFFICER (B1).—Applications are invited for the above temporary appointment from registered medical practitioners of either sex. Salary £350 per annum, plus war bonus, together with an allowance at the rate of £150 per annum in lieu of board, residence and laundry outside the hospital. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C.. Forms of application, etc., may be obtained from, and should be returned to, the Medical Officer of Health, Guildhall, Kingston-upon-Hull, at the earliest possible moment.

KETTERING AND DISTRICT GENERAL HOSPITAL. HOUSE SURGEON (A); HOUSE PHYSICIAN (A).—Applications are invited from registered medical practitioners, male and female, for the above appointments, which are now vacant, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by practitioners who are liable under these Acts, appointments will be for a period of six months. Salary is at the rate of £250 and £200 per annum respectively, with full residential emoluments.—G. W. Jackson, Secretary-Superintendent.

LEICESTER ROYAL INFIRMARY (940 beds).—Vacancies, October 1, 1945. RESIDENT MEDICAL OFFICER (B1). Salary £250. ORTHOPAEDIC AND FRACTURE HOUSE SURGEON (B2). Salary according to experience with minimum of £200. Two RESIDENT ANAESTHETISTS (B2). Salary £150 per annum. GYNAECOLOGICAL AND OBSTETRIC HOUSE SURGEON (A). Salary £125 per annum. CASUALTY OFFICER (A). Salary £150 per annum. Two HOUSE PHYSICIANS (A). Salary £150 per annum. OBSTETRIC HOUSE SURGEON (A). Salary £150 per annum. This vacancy is at the Leicester and Leicestershire Maternity Hospital, Causeway Lane, Leicester. Six months' appointments, all with full residential emoluments. For the B1 post suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. For the B2 posts R and W practitioners holding A posts may apply. For the A posts practitioners within three months of qualification and liable under the National Service Acts may apply. Appointments will be made on September 5, 1945. Applications should be forwarded on or before August 27.—H. T. Plowman, House Governor and Secretary.

LEEDS PUBLIC DISPENSARY AND HOSPITAL. —Applications are invited for the post of HONORARY OPHTHALMIC SURGEON. Candidates must be Fellows of the Royal College of Surgeons of England. The appointment to be on a temporary basis during the period of war, and for a period of twelve months thereafter. Applications to be addressed to the undersigned.—Charles F. J. Maury, Secretary and Superintendent.

LONGTON HOSPITAL, Stoke-on-Trent, Staffs. HOUSE SURGEON (A).—Applications are invited from registered medical practitioners, male and female, for the appointment of House Surgeon (A), including practitioners within three months of qualification who are liable under the National Service Acts. If held by a practitioner who is liable under these Acts the appointment will be for a period of six months. Salary is at the rate of £200 per annum, plus bonus of £75 on completion of the first six months' service, with full residential emoluments. Applications to B. Pitt, Secretary.

MERTHYR GENERAL HOSPITAL (115 beds).—Applications are invited from registered medical practitioners for the appointment of a RESIDENT HOUSE SURGEON, male or female (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. The appointment will be for a period of six months. Salary at the rate of £200 per annum, with board and lodging.—Applications to the Secretary, Merthyr General Hospital, Merthyr Tydfil.

MILLER GENERAL HOSPITAL, Greenwich High Road, S.E.10.—Applications are invited from registered medical practitioners, male, for the appointment of HOUSE PHYSICIAN (B2), to become vacant on September 8, 1945, including R practitioners who now hold A posts. If held by an R practitioner, the appointment will be limited to six months. Salary is at the rate of £120 per annum, with full residential emoluments.

Applications are also invited from registered medical practitioners, male, for the appointment of HOUSE SURGEON (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary is at the rate of £120 per annum, with full residential emoluments. Duties to commence on September 11, 1945.

Applications for each post to be sent to the Secretary not later than August 23, 1945.

NUNEATON GENERAL HOSPITAL (104 normal beds). RESIDENT SURGICAL OFFICER (B1).—Applications are invited from registered medical practitioners for the appointment of Resident Surgical Officer (B1), vacant on September 1, 1945 Applicants should have held house appointments and have had surgical experience. Preference will be given to candidates holding Diploma of F.R.C.S. Suitably qualified R and W practitioners holding B2 appointments are invited to apply Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C.. The appointment is for twelve months. Salary at the rate of £450 per annum,, with full residential emoluments. Applications should be addressed to Douglas S. Pracy, Honorary Secretary, Medical Board.

NORTH STAFFORDSHIRE ROYAL INFIRMARY, Stoke-on-Trent.—Applications are invited from registered medical practitioners, male and female, including R and W practitioners who now hold A posts, for the post of HOUSE SURGEON (B2) to Ear, Nose and Throat, and Eye Departments. If held by an R practitioner appointment will be limited to six months. Salary is at the rate of £185 per annum, with full residential emoluments. Applications to be sent as soon as possible to the House Governor

NATIONAL SANATORIUM, Benenden, Kent (156 beds). — Applications are invited from registered medical practitioners, male and female, including practitioners within three months of qualification who are liable to service under the National Service Acts, for the appointment of a HOUSE PHYSICIAN (A) for the above Sanatorium. Duties to commence September. The appointment will be for a period of six months. Salary at the rate of £200 per annum, with full residential emoluments. Applications to be sent to the Honorary Secretary.

NORTH STAFFORDSHIRE ROYAL INFIRMARY, Stoke-on-Trent.—Applications are invited from registered medical practitioners, male and female, for the following posts: GENERAL HOUSE SURGEON (A), ORTHOPAEDIC HOUSE SURGEON (A). Practitioners within three months of qualification who are liable to service under the National Service Acts may apply, when appointment will be for a period of six months. Salary will be at the rate of £185 per annum, with full residential emoluments. Applications to be forwarded as soon as possible to the House Governor

NORTH ORMESBY HOSPITAL, Middlesbrough —Applications are invited from the registered medical practitioners for the appointment of two HOUSE SURGEONS (A). Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for six months. Salary £120 per annum rising by £20 per annum after each six months' service to a maximum of £160 per annum with board, residence and laundry. Applications to be sent to the undersigned.—George Watts, Secretary-Superintendent.

NORTH HERTS AND SOUTH BEDS HOSPITAL, Hitchin, Herts (76 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of RESIDENT HOUSE OFFICER (B2) (duties of House Physician, House Surgeon and Casualty Officer), now vacant, including R and W practitioners who now hold A posts. If held by an R or W practitioner appointment will be limited to six months. Salary is at the rate of £200 per annum with full residential emoluments.

NOTTINGHAM GENERAL HOSPITAL (712 beds, including E.M.S. beds).—Applications are invited from registered medical practitioners, male and female, including practitioners within three months of qualification who are liable to service under the National Service Acts, for the appointment of a RESIDENT CASUALTY OFFICER (A) for the above hospital. Duties to commence about August 10. If held by a practitioner who is liable under these Acts appointment will be for a period of six months. Salary at the rate of £200 per annum, with full residential emoluments. Applications to be sent to the undersigned.—Henry M. Stanley, House Governor and Secretary

IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page 10

NELSON HOSPITAL, Merton, S.W.20.—Applications are invited from registered medical practitioners for the appointment of HOUSE SURGEON (B2), to act as Casualty Officer and Anaesthetist, now vacant. Salary at the rate of £250 per annum, with full residential emoluments. R practitioners holding A posts may apply, when the appointment will be limited to six months, otherwise may be extended. Apply to the Secretary.

OLDHAM ROYAL INFIRMARY (203 beds). DEPUTY RESIDENT SURGICAL OFFICER, who will act as Casualty Officer and Orthopaedic House Surgeon (B2).—Applications are invited from registered medical practitioners, male and female, for the appointment of Deputy Resident Surgical Officer, to take charge of the Casualty Department and to work under the Orthopaedic Surgeon, to become vacant September 24. R and W practitioners who now hold A posts may apply, when the appointment will be limited to six months, otherwise it will be for a period of twelve months. Salary is at the rate of £200 per annum, with full residental emoluments. Applications should be forwarded to the undersigned immediately.—F. W. Barnett, General Superintendent and Secretary.

PERTH AND KINROSS JOINT COUNTY COUNCIL. DEPUTY COUNTY MEDICAL OFFICER OF HEALTH.—Applications are invited from duly qualified medical practitioners for the above appointment. The salary will be at the rate of £750 to £900 per annum by annual increments of £25, plus war bonus at J.I.C. rates (at present £60). A car allowance will be paid The person appointed will be required to assist the County Medical Officer in the general work of the department, and to carry out such duties as may be allocated. Clinical experience in infectious disease, including tuberculosis, is desirable. The post is normally a permanent one, but in accordance with the desire of the Department of Health for Scotland, the appointment will be, in the first place, of a temporary nature. The person appointed will be eligible to apply for the permanent post at a later date. The appointment is subject to the Local Government Superannuation (Scotland) Act, 1937. Suitably qualified R practitioners are invited to apply, but they must be able to state that they have obtained the sanction of the Secretary of State and the Scottish Central Medical War Committee to their application. Applications should be sent to the County Medical Officer, County Health Department, York Place, Perth, on or before September 15, 1945.—T. B. Marshall, County Clerk, Perth.

POOLE JOINT SANATORIUM BOARD. Poole Sanatorium, Nunthorpe, near Middlesbrough (315 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of JUNIOR ASSISTANT MEDICAL OFFICER (B2). The salary will be £250 p.a., with full residential emoluments, plus war bonus. R practitioners who now hold A posts may apply, when the appointment will be limited to six months, otherwise it will be for one year. Applications should be sent to the Medical Superintendent, Poole Sanatorium, Nunthorpe, near Middlesbrough, on or before August 30, 1945.—G. S. McIntire, Clerk to Board.

PAPWORTH VILLAGE SETTLEMENT, near Cambridge.—Applications are invited from registered medical practitioners (B1) for the post of JUNIOR ASSISTANT MEDICAL OFFICER. Suitably qualified R practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary at the rate of £300 p.a., rising to £400 by £50 p.a., with full residential emoluments. Applications should be sent to the Medical Director, Papworth Village Settlement, Papworth Hall, Cambridge.

PETERBOROUGH AND DISTRICT MEMORIAL HOSPITAL (154 normal beds, E.M.S. beds 75, total 229). RESIDENT SURGICAL OFFICER (B1).—Applications are invited for the post of Resident Surgical Officer (B1) as from September 1, 1945. Salary at the rate of £350 per annum, with board and lodging. Suitably qualified R and W practitioners holding B2 posts, also those holding B1 posts and rejected by the R.A.M.C., may apply. Applications should be sent immediately to F. A. C. Taylor, House Governor and Secretary.

POPLAR HOSPITAL, East India Dock Road, Poplar, E.14. HOUSE SURGEON (A).—Applications are invited from registered male medical practitioners for the appointment of a House Surgeon (A), now vacant, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary is at the rate of £175 per annum, with full residential emoluments. Applications should be sent to the undersigned.—D. H. Lindsay, House Governor and Secretary.

PRINCE OF WALES'S GENERAL HOSPITAL, London, N.15.—Applications are invited for the appointment of HONORARY CLINICAL ASSISTANT to the Medical Department. Applications should reach the undersigned as soon as possible.—J. C. Burdett, Director and House Governor.

PETERBOROUGH AND DISTRICT MEMORIAL HOSPITAL (normal 154 beds, E.M.S. 75 beds, total 229 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of a HOUSE SURGEON (A), now vacant, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary is at the rate of £200 per annum, with full residential emoluments.

PRESTON ROYAL INFIRMARY. CASUALTY OFFICER (B2). Vacant August 20.—Applications are invited for the post of Casualty Officer (B2) in busy department from registered medical practitioners, including R and W practitioners now holding A posts. If held by R practitioner, the appointment will be for six months Salary £200 per annum, with full residential emoluments. Applications to be sent to the Superintendent.

RADCLIFFE INFIRMARY, Oxford.—The Radcliffe Infirmary, Oxford, invites applications for the post of TEMPORARY NEUROLOGIST. The holder of the appointment will also be attached, in a consulting capacity, to associated hospitals in the Oxford area, and he will be expected to teach in the Oxford University Medical School. He will also assist the Ministry of Pensions in connexion with a scheme for the treatment and rehabilitation of Service patients suffering from the effects of head injuries. Emoluments, including payments from the Ministry of Pensions, supplemented by a contribution from the Nuffield Provincial Hospitals Trust, will amount to £2,000 per annum, with superannuation. Private practice for personal gain will not be permitted. The Nuffield Provincial Hospitals Trust propose to make a grant in support of research and ancillary services in connexion with the scheme. Applicants must be under 50 years of age, and preference will be given to those with special experience of head injuries. Applications should reach the Administrator of the Radcliffe Infirmary, Oxford, by September 15, 1945, accompanied by the names of referees. Applications by cablegram will be accepted from Service personnel. Further information can be obtained from the Administrator.

RADCLIFFE INFIRMARY, Oxford.—Applications are invited from registered medical practitioners for the post of GRADUATE ASSISTANT IN PATHOLOGY. Applicants should have held house appointments, and postgraduate experience in pathology, although desirable, is not essential. The appointment is for one year in the first instance, with the possibility of renewal, and the salary will be on a scale between £350 and £500 per annum, according to qualifications and experience. R practitioners should obtain the approval of the Central Medical War Committee to their application. Applications must reach the undersigned not later than the first post on Monday, August 27, and must be accompanied by a full statement of qualifications and the names of not more than three referees. Testimonials are not required. Preference will be given to candidates discharged from H.M. Forces.—A. G. E. Sanctuary, Administrator.

ROTHERHAM HOSPITAL, Doncaster Gate, Yorkshire. General Voluntary Hospital (150 beds). HOUSE PHYSICIAN (A), salary £225 per annum, with full residential emoluments. Applications are invited from registered medical practitioners, male or female, for the above appointment, which will become vacant shortly. Practitioners within three months of qualification who are liable to service under the National Service Acts may also apply, when the appointment will be for six months. Applications should be sent at once to the Secretary-Superintendent.

ROYAL WEST OF ENGLAND SANATORIUM AND E.M.S. HOSPITAL, Weston-super-Mare, Somerset (172 beds).—Applications are invited from medical practitioners for the appointment of HOUSE PHYSICIAN (A). Duties to commence September 1. Salary is at the rate of £200 p.a., with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when the appointment will be for a period of six months. Applications should be addressed to Leslie J. Fursland, Secretary.

ROYAL HALIFAX INFIRMARY (Class 1A, E.M.S.) (250 beds).—Applications are invited for the post of RESIDENT SURGICAL OFFICER (B1), male. Salary £250 per annum, with residence, board and laundry. Preference given to one holding the F.R.C.S. R practitioners who now hold B2 posts may apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Applications should be sent to the undersigned immediately.— A Midgley, Secretary.

ROYAL PORTSMOUTH HOSPITAL, Portsmouth. —Applications are invited from registered medical practitioners (male) for the appointment of HOUSE PHYSICIAN AND HOUSE SURGEON (B2), now vacant. The salary is at the rate of £200 per annum, with full residential emoluments. R and W practitioners who now hold A posts may apply. Six months' appointment. Applications to be sent to B. Wagstaff, Secretary.

ROYAL MASONIC HOSPITAL, Ravenscourt Park, London, W 6. Vacancies on the Medical and Surgical Staff.—The Board of Management of the Royal Masonic Hospital give notice that there will be several vacancies on the Medical and Surgical Staff, caused by retirements by reason of age of some members of the present staff. The new appointments will be made at the end of 1945, and applications are invited from Fellows of the Royal College of Physicians of London or Fellows of the Royal College of Surgeons of England, as the case may be. The candidates must be engaged in consulting practice, be well established in their profession, and be members of the staff of a recognized London teaching hospital or special hospital. Applications are required to be received at the latest by the end of October, 1945, and this slightly extended date should be noted. They should be made informally, without detailed copies of either testimonials or applications. They may be sent in the form of a cablegram should the candidate be at present serving over-seas. If a successful candidate was serving actively in one of His Majesty's Forces, or was a prisoner of war, the Board of Management would be willing to arrange for him to take up his appointment at the Royal Masonic Hospital when he was released from the Services. The vacancies to be filled are as follows: PHYSICIAN, GENERAL SURGEON, GYNAECOLOGICAL SURGEON, GENITO-URINARY SURGEON, ORTHOPAEDIC SURGEON, and a PHYSIOTHERAPIST. There will also be a vacancy for an ANAESTHETIST. Candidates for the vacant post of Anaesthetist must be devoting themselves entirely to the practice of Anaesthesia. The retiring age for all these posts is 60. The number of beds in the hospital is 200 to 220, of which 150 beds during the war were given over to Service cases. Applications should be made to the Joint Honorary Secretaries at the Hospital.

ROYAL SHEFFIELD INFIRMARY AND HOSPITAL. Royal Hospital Unit.—Applications are invited from registered medical practitioners, male and female, for the following appointments at the Royal Hospital, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts appointment will be for a period of six months, otherwise it may be extended. Salary is at the rate of £80 per annum, with full residential emoluments. A bonus of £20 will be payable after six months' satisfactory service, and a further bonus of £10 after a second six months' satisfactory service: OPHTHALMIC HOUSE SURGEON (A). This post is recognized for the D.O.M.S. ASSISTANT CASUALTY OFFICER, with Orthopaedic Duties (A). EAR, NOSE AND THROAT HOUSE SURGEON (A).

Applications are also invited from registered medical practitioners for the appointment of RESIDENT CASUALTY OFFICER (B1) at the Royal Hospital. Suitably qualified R and W practitioners holding B2 appointments are invited to apply Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £150 per annum.

Applications for each post to be forwarded to the undersigned immediately.—Percy N. Glass, General Superintendent.

ROYAL HOSPITAL, Wolverhampton (Incorporated under Royal Charter).—The Board of Management invite applications for the post of HONORARY ASSISTANT GYNAECOLOGIST AND OBSTETRICIAN. Candidates must be Fellows of the Royal College of Surgeons of England (or Edinburgh) and preferably Members of the Royal College of Obstetricians and Gynaecologists, and will be required to confine their private work to consulting obstetrical and gynaecological practice only. The appointment will be for the period of the war, in accordance with the B.M.A. recommendation. Applications should be sent not later than September 3 to the undersigned from whom further particulars may be obtained.—W. Cockburn House Governor.

ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY, Wigan.—Applications are invited from registered medical practitioners for the appointment of a HOUSE SURGEON (A), now vacant. Salary £150 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months; otherwise it may be extended for a further period. Appications should be sent to the undersigned as soon as possible.—A. Stanley Brunt, General Supt. and Secretary.

ROYAL LANCASTER INFIRMARY. Lancaster (311 beds.) Hospital recognized by the Royal College of Surgeons (England) for two Senior Posts. —Applications are invited from registered medical practitioners, male and female, for the post of SECOND HOUSE SURGEON (B2), Orthopaedic and Casualty, vacant immediately. Salary £210 per annum, with full residential emoluments. R and W practitioners holding A posts may apply, when the appointment will be limited to six months, otherwise it may be extended. Applications should be sent to the undersigned.—C. H. Grimshaw, Superintendent-Secretary.

IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page 10

ROYAL LIVERPOOL CHILDREN'S HOSPITAL, Heswall, Cheshire. RESIDENT MEDICAL OFFICER (B1).—Applications are invited from registered medical practitioners for the appointment of Resident Medical Officer (B1), vacant on October 1, at the Heswall (Country) Branch (242 beds). Applicants should have held house appointments and had special experience in diseases of children. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £500 per annum. Applications should be sent to the Secretary, Royal Liverpool Children's Hospital, Myrtle Street, Liverpool, 7, by August 31.

ROYAL SHEFFIELD INFIRMARY AND HOSPITAL.—Applications are invited from registered medical practitioners, including medical officers recently demobilized from H.M. Forces, for the following appointment (B1), vacant November: FIRST ASSISTANT to the Ophthalmic Department, Royal Infirmary Unit. Suitably qualified R and W. practitioners now holding B2 posts may apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £650 p.a., non resident. Applications should reach the undersigned not later than September 1, 1945.—P. N. Glass, General Superintendent, Royal Infirmary, Sheffield, 6.

ROTHERHAM HOSPITAL, Doncaster Gate, Rotherham (General Voluntary Hospital — 150 beds).—SECOND CASUALTY OFFICER (A). Salary £225 per annum, with full residential emoluments. Applications are invited from registered medical practitioners, male and female, for the above appointment, now vacant. Practitioners within three months of qualification liable to service under the National Service Acts may also apply, when the appointment will be for six months. Applications should be sent at once to the Secretary-Superintendent.

SOUTH LONDON HOSPITAL FOR WOMEN, Clapham Common, S.W.4.—Applications are invited from registered medical female practitioners for the appointment of RESIDENT MEDICAL OFFICER (B1), with care of obstetric department, some gynaecological beds, out-patient clinics and administrative work, from October 1, 1945. Applicants should have held house appointments. Suitably qualified W practitioners holding B2 appointments are invited to apply. Minimum salary at the rate of £150 a year, with full residential emoluments.

Applications are also invited from registered medical female practitioners for the undermentioned appointments, to become vacant on October 1, 1945: HOUSE PHYSICIAN (A), including practitioners within three months of qualification who are liable for service under the National Service Acts. GYNAECOLOGICAL HOUSE SURGEON (B2), including W practitioners who now hold A posts. This appointment is recognized for M.R.C.O.G. Both appointments are for a period of six months with salary at the rate of £100 per annum, plus full residential emoluments.

Applications for each post should be sent to the Secretary at the Hospital by Saturday, September 16, 1945.

SCUNTHORPE AND DISTRICT WAR MEMORIAL HOSPITAL, Scunthorpe, Lincs. (234 beds).—Applications are invited from registered medical practitioners for the appointment of RESIDENT SURGICAL OFFICER (B1), now vacant. Applicants should have held house appointments and had surgical experience. Preference will be given to candidates holding Diploma of F.R.C.S.. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C.. Salary is at the rate of £400 per annum, with full emoluments.—S. Lord, Secretary-Superintendent.

SOUTHAMPTON CHILDREN'S HOSPITAL (55 beds).—Applications are invited from registered medical practitioners, men or women, for the appointment of RESIDENT MEDICAL OFFICER (B2), now vacant. Salary is at the rate of £200 p.a., with full residential emoluments. R and W practitioners who now hold A posts may apply. If held by an R practitioner appointment will be limited to six months. Applications should be sent immediately to Ella K. Matthews, Secretary.

IMPORTANT NOTICE

APPOINTMENTS

Medical practitioners are requested not to apply for any appointment referred to in this notice without first having communicated with the Secretary to the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of the Australian appointment, with the Secretary at B.M.A. House, or the Hon. Secretary, Western Australian Branch, Shell House, 205, St. George's Terrace, Perth).

GOVERNMENT SERVICE

COMMISSIONER OF PUBLIC HEALTH, Perth, Western Australia.

CONTRACT PRACTICE

ABERTYSSWG MEDICAL AID SOCIETY.—*(Medical Officer.)*

LLWYNYPIA, CLYDACH VALE, PEN-Y-GRAIG, GLAMORGAN.—*(Workmen's Medical Scheme.)*

MID-RHONDDA MEDICAL AID SOCIETY.—*(Assistant Medical Officer.)*

NEATH AND DISTRICT.—*(Medical Aid Association.)*

OGMORE VALLEY, GLAMORGAN.—*(Wyndham Colliery Medical Aid Society) (Workmen's Medical Scheme.)*

PUBLIC ASSISTANCE

CITY AND COUNTY OF BRISTOL. PUBLIC ASSISTANCE COMMITTEE.—*(District Medical Officer.)*

By Order of the Council.

CHARLES HILL,
Secretary.

August 14, 1945.

SOUTHEND GENERAL HOSPITAL.—Applications are invited from registered medical practitioners for the post of RESIDENT ANAESTHETIST (B2). Salary will be at the rate of £200 per annum, with full residential emoluments. This post is recognized for the Diploma in Anaesthetics. R and W practitioners holding A posts may also apply, when the appointment will be limited to six months. The post falls vacant on or about September 1. Applications to be sent immediately to the undersigned. —P. H. Constable, House Governor and Secretary.

SUTTON AND CHEAM GENERAL HOSPITAL, Sutton, Surrey (117 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of RESIDENT MEDICAL OFFICER (B2), be become vacant on September 15, including R and W practitioners who now hold A posts. The appointment will be limited to six months. The salary is at the rate of £200 p.a., with full residential emoluments. Applications should be sent to the Secretary not later than August 31, 1945.

SALFORD ROYAL HOSPITAL.—Applications are invited for the post of HOUSE PHYSICIAN (B1), vacant September 15. Salary £175 per annum, plus the usual residential emoluments. Appointment is for six months. R practitioners holding B2 posts, also those holding B1 and rejected by the R.A.M.C. may apply. Applications to be made on the prescribed form, obtainable from the General Superintendent at the hospital.

SUSSEX MATERNITY HOSPITAL, Buckingham Road, Brighton (65 beds and Districts).—HOUSE SURGEON (B2) required immediately, appointment for six months. Salary £250 per annum. R and W practitioners now holding A posts may apply. Apply to Secretary.

TILBURY HOSPITAL, Tilbury, Essex.—The Committee of Management of the Seamen's Hospital Society invite applications for the temporary wartime post of VISITING ANAESTHETIST. Remuneration 3 guineas per session, two half-day sessions per week. Applications to be sent to the Resident Secretary, Tilbury Hospital, Tilbury, Essex, from whom further particulars may be obtained.—F. A. Lyon, Administrator and Secretary, Seamen's Hospital Society, Greenwich, S.E.10.

TORBAY HOSPITAL, Torquay.—Notice is hereby given, in accordance with Rule 8, that the Court of Governors will meet on or about December 21, 1945, to elect an HONORARY OPHTHALMIC SURGEON. Candidates are required to be registered under the Medical Act. Applications (three copies) should be received by the undersigned on or before Wednesday, December 12, 1945.—E. L. Grist, Secretary.

VICTORIA HOSPITAL, Blackpool (normal complement 200 beds, war-time complement 500 beds) —Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (B2) to the Orthopaedic Department and S.U.1, now vacant, including R practitioners who now hold A posts. The appointment is for a period of six months and the salary is at the rate of £200 per annum, with full residential emoluments.

Applications are also invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (B2) to the Eye, Ear, Nose, and Throat Departments, and ASSISTANT ANAESTHETIST, now vacant, including R practitioners who now hold A posts The appointment is for a period of six months and the salary is at the rate of £200 per annum, with full residential emoluments.

Applications for each post should be sent to the undersigned immediately.—Walter R Smith, General Superintendent.

VICTORIA CENTRAL HOSPITAL, Wallasey.—Applications are invited for the post of HONORARY ASSISTANT GYNAECOLOGIST. In accordance with the recommendations of the British Medical Association the position will be regarded as a wartime temporary post in the first place. Applications should be addressed to the undersigned.—Arthur S. Clark, Secretary-Supt.

WESTERN OPHTHALMIC HOSPITAL, 155, Marylebone Road, N.W.1.—Applications are invited from registered medical practitioners, male or female, for the appointment of:

(1) SENIOR HOUSE SURGEON (B2), including R and W practitioners who now hold A posts Previous ophthalmic experience desirable. Salary £150 per annum, with full residential emoluments.

(2) JUNIOR HOUSE SURGEON (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. Salary £100 per annum, with full residential emoluments.

Both appointments are for six months. The hospital is recognized for the D.O.M.S. examinations.—Arthur N. Tyler, Secretary.

WILLESDEN GENERAL HOSPITAL, Harlesden Road, N.W.10.—Applications are invited for the following posts: (1) TEMPORARY HONORARY PHYSICIAN. Wartime appointment only. Candidates must be M.D. and F.R.C.P. or M.R.C.P Lond. and not engaged in general practice. (2) MEDICAL REGISTRAR. Part-time for six sessions per week. Candidates must be M.D. or M.R.C.P.Lond. or preparing for such higher qualification, and not engaged in general practice. Salary £350 per annum, non-resident. Applications stating full particulars and giving names of three referees to be forwarded to the undersigned from whom copies of the regulations can be obtained. To provide opportunity for those serving in H.M. FORCES to apply, applications will be received up to November 30, 1945.—J. N. Drake, Secretary.

WARNEFORD GENERAL HOSPITAL, Leamington Spa.—Applications are invited from registered medical practitioners, male and female, for the post of CASUALTY OFFICER AND HOUSE SURGEON (B2) to one of the surgeons and V.D officer. Salary is at the rate of £180 per annum, with full residential emoluments. R and W practitioners now holding A posts may apply. If held by an R practitioner the appointment will limited to six months. Applications should be sent to the undersigned as soon as possible.—J. R. Long, House Governor and Secretary.

WREXHAM AND EAST DENBIGHSHIRE WAR MEMORIAL HOSPITAL.—Applications are invited for the post of CLINICAL ASSISTANT to Mr. R. D. Aiyar in the E.N.T. Department. Honorarium of £100 per annum. The post is a temporary one for a term of one year, but may be renewed for a further period. Applications to Leslie Spencer, Secretary.

WEST KENT GENERAL HOSPITAL (Incorporated), Maidstone (150 beds—105 civilian, 45 E.M.S.)—Applications are invited from registered medical practitioners, male and female, for the following appointment: CASUALTY OFFICER (B2), now vacant, including R and W practitioners who now hold A posts The appointment will be limited to six months. Salary at the rate of £200 per annum, with residential emoluments. Applications should reach the undersigned forthwith.—Edward J. Gregg, House Governor and Secretary.

(*Continued on page* 18)

THE Medical Defence Union

Established 1885

MUSeum 1337

Annual Subscription £1 **MEMBERSHIP EXCEEDS 27,500** *Assets exceed £150,000*

Unlimited indemnity provided against damages and costs in any case undertaken by the Union.

Full particulars from the Secretary (Dr. ROBERT FORBES), The Medical Defence Union, Ltd., 49, Bedford Sq., London, W.C.1

CHARGES FOR CLASSIFIED ADVERTISEMENTS

Circulation 53,000

Advertisements should reach the Advertisement Manager not later than the THURSDAY, ten clear days before publication.

Cancellation cannot be accepted after 10 a.m. MONDAY for current week's issue.

To economize in accounting, postage, and collection, **all advertisements should be paid for at time of order.** Publication will be in the earliest possible issue, but delay is unavoidable in present circumstances.

1. TO MEMBERS OF THE ASSOCIATION the cost of advertisements for Assistants, Dispensers, Locums, Partnerships, *Practices, Secretaries, is ten shillings for 24 words, including name and address. When a Box Number is used, it must be reckoned as six of the total number of words in each advertisement.

1s. *extra* should be added for each insertion to cover the Box fee and postage of replies.

Additional words 2s. 6d. for every six, or part.

Please mark advertisements clearly, *MEMBER.*

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* SALE OF PRACTICE. The name and address of owner and of the firm negotiating the sale must accompany the advertisement These details are not for publication.

3. Consulting rooms, Dietetic, Duplicating, Hotels, Houses, Miscellaneous, Motor Cars, Typing, the charge is same as para. 2.

Personal, Notices, University and Industrial Appointments, minimum charge is 20s. for 24 words, including name and address. When a Box Number is used, it must be reckoned as six of the total number of words in each advertisement.

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Educational, Hospitals, Public Health Appointments, 3s a line, minimum charge 15s.

Births, Marriages, and Deaths.—The charge for an insertion under this head is 10s 0d. for 18 words or less. Extra words 3s. 6d. for each six or less. Payment should be forwarded with the notice, authenticated by the name and permanent address of the sender, and should reach the Advertisement Manager not later than first post Monday morning.

BOX NUMBERS.—A Box number is used in place of name and address to conceal identity of advertiser. In no circumstances will this information be divulged by this office. Separate applications should be written to each, addressed Box—, c/o B.M.J. (address as below). All applications are forwarded to the advertiser in plain closed envelopes.

TRADE ANNOUNCEMENTS. 20s. minimum 24 words. Extra words 5s. for six, or less.

Every effort is made to ensure the accuracy of advertisements appearing in the Journal. No recommendation is implied by acceptance, and the British Medical Association reserves the right to refuse or interrupt the insertion of any advertisement

Advertisement Manager, British Medical Journal,
B.M.A. House, Tavistock Square, London, W.C.1.
Telephone: Euston 2111.
Telegrams: Articulate, Westcent, London.

APPOINTMENTS—Hospitals and Public Health, commence at page 10

PERSONAL

F.R.C.S.Ed. STUDENT sitting this October, would like to MEET another for MUTUAL REVISION WORK in Edinburgh this September.—Box 1276, B.M.J.

NOTICES

APPLICANTS ARE ADVISED not to send original testimonials when replying to advertisements. Copies will answer the purpose quite as well, and in the event of their being lost or mislaid no inconvenience will ensue.

THE CLINICAL RESEARCH ASSOCIATION, LIMITED, Watergate House, 15, York Buildings, Adelphi, W.C.2, and South Road, Haywards Heath, Sussex.—A complete pathological service is provided for the medical profession, hospitals, and public health authorities. Specimens may be collected either at the Watergate House consulting rooms, the patient's house, or at a nursing home. Cardiographic, *X*-ray, and Basal Metabolic Investigations arranged. Telephones: Temple Bar 8993-4-5-6; Haywards Heath 576. Telegrams: "Tubercle, Rand, London."—M. Candelet, Sec.

QUEEN'S UNIVERSITY OF BELFAST. PARLIAMENTARY REGISTER.—Notice is hereby given that the Register of Parliamentary Electors of the Queen's University of Belfast is now being revised, and existing electors who have changed their address or state since the last revision are requested to notify such change before August 31, 1945, if they have not already done so. Graduates of the University who are not registered and who desire to become Parliamentary Electors should make claims for registration to the undersigned, from whom forms of claim may be obtained.—Richard H. Hunter, Secretary.

UNIVERSITY AND INDUSTRIAL APPOINTMENTS

EXAMINING SURGEONS: Factories Act, 1937.—The following appointments as Examining Surgeons under the Factories Act, 1937, are vacant: Horsforth, in the County of the West Riding of York; Tring, in the County of Hertford; Wiveliscombe, in the County of Somerset. Applications, which should be received not later than September 3, should be sent to the Chief Inspector of Factories, 8, St. James's Square, London, S.W.1.

IODINE EDUCATIONAL BUREAU, London, invites applications for the post of MEDICAL SCIENTIST to study the use of iodine and its compounds in preventive and curative medicine with a view to developing knowledge in this field. The work will involve contact with recognized centres of nutritional, biochemical, and pharmacological research, and the planning and supervision of research on problems concerning the biological and therapeutic role of iodine. Candidates should possess a medical qualification and preferably should have special experience in pharmacological, nutritional, or physiological science. Appointment will be temporary in the first instance. Salary in the range of £800 to £1,200 per annum, according to qualifications (pension scheme).—Apply to Dr. Francis C. Kelly, Director, Iodine Educational Bureau, Stone House, Bishopsgate, London, E.C.2.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH. RESEARCH LABORATORY.—The Council of the College invite applications from registered medical practitioners for the post of HISTOPATHOLOGIST. The successful applicant will be expected to assume duties towards the end of this year. The work consists of research, routine reporting on specimens, and haematology. Salary £750 per annum. Applications, with the names of referees or with three testimonials, to be sent to the Secretary, Royal College of Physicians, 9, Queen Street, Edinburgh, 2, before November 10, 1945. Applications by cable from those serving over-seas will be considered.

THE WELSH NATIONAL SCHOOL OF MEDICINE (University of Wales).—Applications are invited for the full-time posts of (I) LECTURER IN BACTERIOLOGY; (II) LECTURER IN CLINICAL PATHOLOGY. The salary of each appointment will be at the rate of £875 per annum. The persons appointed will be required to commence duty as soon as possible. Further particulars of the appointments may be obtained from the undersigned.—S. C. Edwards, Secretary, The Welsh National School of Medicine, 10, The Parade, Cardiff.

UNIVERSITY OF LIVERPOOL.—Applications are invited for the post of a full-time DEMONSTRATOR IN PHYSIOLOGY for Session 1945-6, at a salary of £350 per annum. Further particulars may be obtained from the Registrar. The University will consider applications from candidates who are still serving in the Forces or are engaged upon other National Service, and leave of absence can be given to a successful candidate until some time after the date of release from the Forces or other National Service. Applications, giving details of qualifications and career, accompanied by testimonials and/or references, should be forwarded to the undersigned not later than August 31, 1945.—Stanley Dumbell, Registrar.

UNIVERSITY OF ABERDEEN. ASSISTANT IN ANATOMY.—An Assistant is required in the Department of Anatomy in the University of Aberdeen, to commence duty on October 1, 1945. Salary £300 to £350, according to experience and qualifications. Applications, with one name for reference, to be submitted to the undersigned by September 15, 1945.—H. J. Butchart, Secretary, the University, Aberdeen.

UNIVERSITY OF LONDON.—The Senate invite applications for the CHAIR OF PSYCHIATRY, tenable at the Maudsley Hospital (salary not less than £2,000). Applications must be received not later than November 5, 1945, by the Academic Registrar, University of London, Richmond College, Richmond, Surrey, from whom further particulars should be obtained.

UNIVERSITY OF EDINBURGH.—The University invite applications for a Grade B LECTURER IN PHYSIOLOGY. The salary will be at the rate of £550, rising to £650 per annum, and the Lecturer will be required to join the Federated Superannuation Scheme. Applications should reach the undersigned by November 10, 1945.—W. A. Fleming, Secretary to the University.

UNIVERSITY OF OTAGO, Dunedin, New Zealand DIRECTOR OF SCHOOL OF DENTISTRY.—Applications are invited for the position of Professor of Dentistry and Director of the Dental School in the University of Otago. Salary £1,500 rising to £1,700 per annum (N.Z. currency). Full particulars may be obtained on application by September 15 to the High Commissioner for New Zealand, 415, Strand, London, W.C.2.

EDUCATIONAL

F.R.C.S.(EDIN.)

POSTAL AND ORAL COURSES continued as usual. Full details.—H. C. Orrin, F.R.C.S., Surgeons' Hall, Edinburgh.

BIRMINGHAM ACCIDENT HOSPITAL AND REHABILITATION CENTRE.
COURSE IN INDUSTRIAL HEALTH.

The Birmingham Accident Hospital, which acts largely as a service department to Industry's Workpeople, proposes to run a fortnight's intensive course in industrial health from Monday, August 27, to Saturday, September 8, 1945. This course is primarily intended for doctors in the Services who can obtain leave, for recently demobilized doctors, and for others who wish to take up this branch of medicine. The course will be in the charge of Dr. Donald Stewart, and will be for the most part practical in nature. The following have agreed to act as visiting lecturers: Dr. A. J. Amor, Chief Medical Officer, Ministry of Supply, London; Dr. Donald Hunter, London Hospital; and Prof R. E. Lane, Manchester. In addition, Mr. Wm. Gissane, Clinical Director of the Hospital, will take part in the training, together with Prof W. H. Wynn and other members of the Birmingham University teaching staff. The fee for the course will be £10. 10s., and numbers will be limited. Applications to join the course should be sent to the Hospital Secretary, from whom full particulars can be obtained.—A. A. MacIver, Secretary, Bath Row, Birmingham, 15.

L.M.S.S.A: FINAL EXAMINATIONS. Surgery, Oct. 8, Nov. 12, Dec. 10. Medicine, Pathology, Oct. 15, Nov. 19, Dec. 17. Midwifery, Oct. 16, Nov. 20, Dec. 18.—For particulars apply Registrar, Apothecaries Hall, Black Friars Lane, E.C.4.

POSTAL COACHING for all Medical Examinations. Some successes from 1901-1944: M.D.Lond. 440; M.B., B.S.Lond., final 386; M.R.C.S.Eng., primary, 332; F.R.C.S.Eng., final, 262; M.R.C.P. Lond., 365; M.R.C.S., L.R.C.P., final, 815; D.A. (1936-44), 72; F.R.C.S.Edin, and D.R.C.O.G., many successes. Assistance with M.D. thesis Special arrangements for medical officers with Forces. Medical prospectus (24 pp.) gratis, along with list of Tutors, etc., on application to the Principal.—University Examination Postal Institution, 17, Red Lion Square London W.C.1. Phone: HOLborn 6313.

POSTGRADUATE STUDY. Diploma of Anaesthetics; Diploma in Psychological Medicine. Diploma in Ophthalmology; Diploma in Radiology; Diploma in Laryngology; Diploma in Child Health. F.R.C.S.Eng. and all Surgical Examinations: M.R.C.P.Lond and all Medical Examinations: M.D. Thesis of all Universities No interruption of Postal Courses during the war. Complete Guide to Medical Examinations sent free on application. Applicants should state in which qualification they are interested Address: Secretary Medical Correspondence College, 19, Welbeck St., London, W.1.

POSTGRADUATE STUDY. Instruction is arranged in medical, surgical, and special subjects, as circumstances permit. Information and advice obtainable from the Fellowship of Postgraduate Medicine. 1, Wimpole St., London, W.1. Langham 4266

TAVISTOCK CLINIC (Institute of Medical Psychology).—Two courses of lectures for general practitioners will be held concurrently on (1) Clinical Problems in Psychological Medicine, and (2) Social Psychiatry, in the Hastings Hall, B.M.A. House, under the auspices of this Clinic. The lectures will take place on Thursdays at 5 p.m. and 6 p.m. commencing on October 4. Further details may be obtained on application to the Educational Secretary, Tavistock Clinic, Kidderpore Avenue, N.W.3, or, after September 1, 2-4, Beaumont Street, W.1.

UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL (University of London). University Street, W.C.1
WINTER SESSION commences TUESDAY, October 2, 1945.

Scholarships and Prizes exceeding £1,000 awarded annually, and numerous vacancies for House Appointments, also Senior Posts for Registrars, etc.

DENTAL SCHOOL DEPARTMENT
(National Dental Hospital, Great Portland St., W.)

Full particulars can be had on application to the Dean.

ASSISTANTSHIPS VACANT

WANTED urgently, ASSISTANT with VIEW partnership, well-established mixed practice Durham-Yorkshire border, excellent unfurnished flat, garage, etc., available.—Box 1232, B.M.J.

WANTED, ASSISTANT, in North-West Coast town, furnished house and garage, salary by arrangement.—Box 1208, B.M.J.

WANTED, for October 1, ASSISTANT, mixed general practice in semi-rural area, with or with-VIEW, small furnished house available, salary according to experience.—Dr. S. N. Browne, Dawley, Shropshire.

WANTED immediately outdoor ASSISTANT, British, good prospects suitable applicant, urban and rural district 18 miles Birmingham, excellent furnished rooms, £800 per annum, car or car allowance.—Box 1273, B.M.J.

WANTED, ASSISTANT, Monmouthshire, immediately if possible, cottage hospital, no evening surgery, little or no midwifery, no distances, time for reading, £700 indoor.—Box 870, B.M J.

WANTED, young lady doctor ASSISTANT in lady doctor's good-class country practice South-West England, experience not as essential as good qualifications, health, and cheerfulness.—Box 1198, B.M.J.

WANTED, ASSISTANT for about nine months from September, British, country practice near West Country city, indoor or part furnished house, suit married man, car provided or allowance, salary by arrangement.—Box 980, B M.J.

WANTED, indoor male ASSISTANT for non-colliery practice in town in South Wales.—Box 1234, B.M.J

WANTED, ASSISTANT with VIEW, modern growing town 20 miles north of London, pleasant country, unfurnished house or part of house available, £600 and extras.—Box 1231, B.M.J.

WANTED ASSISTANT, single, large mixed practice Cardiff; good accommodation at surgery, car provided, salary £550-£650 all found.—Box 1230, B.M.J.

WANTED indoor ASSISTANT, Manchester, car provided, all found, £600 per annum to start, preferably with view.—Box 1233, B.M.J.

WANTED, an ASSISTANT for good-class mixed practice, unfurnished house obtainable, 8 miles from Manchester, Salary £700.—Box 1271, B.M.J.

WANTED, an ASSISTANT with VIEW to partnership or succession to old-established practice, South Wales area.—Box 1266, B.M.J.

WANTED, ASSISTANT, male or female, with or without VIEW, Northern cathedral city, £700 outdoor, car allowance by arrangement.—Box 828, B M J.

WANTED, outdoor ASSISTANT, woman (or man), for semi-rural practice beginning August, September, or October, rota, car and board and lodgings provided, small flat possible if preferred, £550.— Drs Fairweather and Royle, Clitheroe.

WANTED, ASSISTANT, under 40, either sex, pleasant small South Midland town, salary £700 and small house rent free, own car preferred with allowance.—Box 757, B.M.J.

WANTED, immediately, indoor and outdoor ASSISTANTS for town and country practices with and without view to partnership, also Locums, good salaries offered, state full particulars.—British Medical Bureau, 33, Cross Street, Manchester, 2

ASSISTANT WANTED, male or female, for October 1, furnished flat available.—Harris and McMullan, Shipston-on-Stour.

ASSISTANT REQUIRED, delightful part of Sussex, 10 miles from Brighton.—Details Box 1209, B.M.J.

ASSISTANT REQUIRED for small practice South London, no midwifery, time for reading, salary by arrangement. Please give particulars.—Box 1199, B.M.J.

ASSISTANT WANTED immediately, South Wales town, general practice in agricultural district.—Write, stating particulars, to Box 1251, B.M.J.

ASSISTANT WANTED, British, male, for large mixed practice near Manchester, secretary-dispenser employed, good hospital facilities, including local cottage hospital, salary according to experience.—Apply Box 1189, B.M.J.

ASSISTANT REQUIRED, must be keen and energetic, able to drive, furnished rooms and car provided, good-class mixed practice rural district North-West, salary by arrangement.—Box 1188, B.M.J.

ASSISTANT REQUIRED, with or without VIEW, furnished flat available if required, good salary, Chester.—Box 983, B.M.J

ASSISTANT WANTED for good mixed practice in East Midlands town, modern house and garage rent free, salary according to experience, state fullest particulars.—Box 982, B.M.J.

ASSISTANT WANTED, man or woman, in Birmingham, salary £800 to £900, outdoor, according to experience, car provided.—Box 1029, B.M.J.

ASSISTANT, mixed panel and private practice Midlands, indoor or outdoor, commencing September or October, dispenser kept, salary by arrangement.—Box 1005, B.M J.

ASSISTANT, English or Scottish REQUIRED, for general practice South of England town, four partners (one absent on war service), secretary, three dispensers, and maid kept, central surgery, regular duties, VIEW for suitable man, car available, suitable accommodation outdoor, salary £800.—Box 1003, B.M.J

ASSISTANT REQUIRED, must be keen and energetic, able to drive, single male preferred good-class mixed non dispensing practice, East Yorkshire, VIEW to partnership if required salary by arrangement.—Box 607, B M J

FULL-TIME indoor ASSISTANT required immediately for North-East practice, with or without VIEW, good salary, all found.—Box 1200, B.M.J.

OPHTHALMIC ASSISTANT WANTED immediately for about six months, Midland town, varied duty, salary according to experience.—Box 1272, B M.J.

PRELIMINARY ASSISTANTSHIP with VIEW to partnership in a busy practice in an attractive Cornish village.—Box 1265, B.M.J.

SOUTH COAST practice, male indoor ASSISTANT required October, preferably car owner, partnership later, good scope for keen physician.—Box 1193, B.M.J.

ASSISTANTSHIPS WANTED

WANTED a permanent ASSISTANTSHIP by experienced graduate, had own practice, has own car and furniture, unfurnished house essential.—Box 1224, B.M.J.

ASSISTANTSHIP with VIEW to Partnership required by experienced doctor who has had own practice, married, own car and furniture, good house and garden essential.—Box 1201, B.M J

ASSISTANTSHIP with VIEW, payable out of income, desired by Edinburgh-trained graduate, aged 38, married, at present in G.P. as war duration assistant, G.P. and hospital experience, anaesthetist, house, partly furnished preferred, and car essential, available October.—Box 1223, B.M.J.

EXPERIENCED woman doctor with 2-year-old child wishes ASSISTANTSHIP in S.E. England, accommodation preferred where there is young child, husband R.A.M.C. over-seas.—Box 1254, B.M.J.

EXPERIENCED general practitioner, available after September 1 1945, to TAKE CHARGE of practice or branch, arrangements by interview.—Box 1252, B.M.J

KEEN energetic practitioner, experienced N.H.I, offers SERVICES (outdoor), no midwifery, accommodation optional, London or South Coast preferred.—Box 1202, B.M.J.

PART-TIME WORK wanted in London by post-graduate, long hospital and panel experience, accommodation essential.—Doctor, 20, Effra Road, Rathmine, Dublin.

WOMAN DOCTOR, good experience, desires ASSISTANTSHIP, with or without VIEW, seaside practice, North England preferred but not essential, small house or flat required.—Box 1253, B.M.J.

LOCUMS

WANTED LOCUM, mixed general practice, Hertfordshire town, September 3 to 15 inclusive, preferably own car.—Box 1191, B.M.J.

WANTED, LOCUM (preferably woman), for about six months from October 1, midwifery and pediatric experience an advantage, salary by arrangement — Dr. Kathleen McClintock, c/o Drs Bates, Hamilton, and Goodwin, West Malling, Kent.

WANTED, LOCUM, Yorkshire Dales, sole charge 2 to 3 weeks, September or October.—Box 1212, B M.J.

WANTED, LOCUM (woman), London, W., August or September part-time.—Box 1211, B.M.J.

WANTED, LOCUM, September 14 for one month, own car if possible country partnership near hospital town, N Yorks.—Box 1235, B.M J.

EXPERIENCED G P., Scotsman, requires LOCUM two weeks September, rural England or Coast, with hospitality for wife, own car.—Box 1213, B.M.J.

EXPERIENCED G.P. FREE two weeks from August 25, own car if necessary.—Box 1197, B.M.J.

DOCTOR (own practice) willing do LOCUM in pleasant South Coast district for 10 days from September 6, hospitality for wife.—Box 1225, B.M.J.

LOCUM WANTED immediately, pleasant rural practice with hospital, replace one partner, 10 guineas weekly, car and all found.—Drs Cox and Irwin, Winchcombe, Glos.

LOCUM WANTED, September 1, three weeks, easy country practice Cheshire, driver, car provided, fourteen guineas, hospitality for wife.—Box 1190 B.M.J.

M.B., 5 years, aged 30, married, free October 1, desires LOCUM 6 to 8 weeks, or assistantship with view in rural practice, N.W. England, Borders, Scotland, preferably, furnished house and car essential.—Box 1203, B.M.J.

SOUTHAMPTON CHILDREN'S HOSPITAL.—Applications are invited from registered medical practitioners, men or women, for three weeks from August 16 to September 5, as LOCUM TENENS (B2) (Acting Resident Medical Officer) Salary nine guineas per week, with full residential emoluments Applications should be sent to Ella K. Matthews, Secretary.

WILTS, County Mental Hospital, Devizes.—LOCUM TENENS MEDICAL OFFICER required, salary £10 10s. per week, with full residential emoluments. Apply to the Medical Superintendent.

PARTNERSHIPS

FOR SALE, 1/4 SHARE in mixed practice in East Midland town, average gross receipts over past three years £8,000, purchaser should be experienced in general surgery, 1½ years' purchase, payments can be arranged.—Box 763, B.M.J.

MEDICAL WOMEN required as PARTNER in old-established women's practice, private and panel, anaesthetic experience highly desirable, Midlands, mid-September, gross receipts last year about £2,800.—Box 1216, B.M.J.

PARTNER (British) wanted in first-class old-established practice in Kent, applicant must be well qualified, preference for one holding F R C.S., or M.D., or M.R.C.P., or M.R C.O.G. qualification, excellent modern house and garden available, share producing £1,500 suggested to commence with.—Apply Box 773, B M.J.

FOR SALE, 1/3 share, receipts £8,000, N.E. Coast resort, to succeed senior of three partners after short assistantship, incoming man must be free within two weeks.—Box 1218, B.M J.

PARTNERSHIP, by assistantship with VIEW, 1/3 share approx. £4,500 at two years, old-established country practice, main line, 30 miles London, in Chilterns, with attractive flat, garage and garden —Box 1194, B.M.J.

PARTNER OR ASSISTANT WITH VIEW, to replace senior partner, retiring, in rural practice in S.W Midlands, receipts over £4,000, panel over 2,000, cottage hospital with opportunity for surgery, share for disposal 1/3 to 1/2 at 1½ years' purchase —Box 273, B M.J.

PARTNER REQUIRED (British), good mixed practice, Midland city, commencing 1/3 share worth £1,100, 1½ years' purchase, good house and garden, sale or rent, furnished or unfurnished, suit family man, prelim. assistantship.—Box 1219, B.M.J.

PARTNERSHIP, SALARIED.—Correspondence invited by G.P. in active practice requiring above, VIEW eventual purchase of share or succession, Devon or Cornwall, adjacent sea, house and garden essential.—Box 1226, B.M.J.

PARTNER WANTED, North-West town, near Lakes, old-established practice, share relinquished by one partner for sale, access to hospital, opportunity for surgery, preliminary assistantship essential.—Box 836 B M J.

SEASIDE TOWN near Liverpool, senior partner retiring on demobilization of junior, HALF SHARE £4,500 and freehold house and surgery, inclusive price £7,500.—Box 1261, B.M.J.

MEDICAL POSTS

DOCTOR awaiting reinstatement offers his SERVICES in a suitable capacity, highest references obtainable.—Apply Box 1262, B.M.J

PRACTICES

WANTED, September, PRACTICE or partnership £1,200-£1,800 gross, W., S.W. England, and house to rent preferred.—Box 1204, B M.J.

WANTED, small to medium sized PRACTICE London, suburbs, or South Wales, small partnership with prospects considered, house essential, cash available.—Box 1205, B.M.J.

WANTED to purchase, a small seaside PRACTICE or nucleus.—Box 1206, B.M.J.

WANTED, PRACTICE in Northern England by Service doctor due early release.—Box 986, B.M.J.

BUSY PRACTICE, South Coast, average gross takings exceed £4,000 half share for sale, two years' purchase.—Box 856, B M.J

WANTED, panel and private PRACTICE, East, North-East, or North-West Coast, panel 1,000 approx., income £1,500 to £2,000.—Box 1256, B.M.J.

ENGLAND, N.W., urban (inland), old-established compact mixed PRACTICE, receipts £2,500 (certified), 1½ years purchase, also excellent house.—Box 767, B.M.J.

DEATH VACANCY, Sheffield housing estate, panel 2,156, income approx. £2,700, modern house with surgery attached, £4,700 complete.—Box 1192 B.M.J.

FOR SALE, growing PHYSIOTHERAPY PRACTICE in Oxford, established 15 years, tenancy of house available.—Box 1227, B.M.J.

FOR SALE, PRACTICE in Edinburgh, well established, panel approximately 2,000, substantial private, limited maternity, no night work, average receipts approximately £1,800, attractive detached house with garden and garage residential area.—For further particulars apply to J. & R. A. Robertson, W.S., 15, Great Stuart Street, Edinburgh.

FOR SALE, unopposed OPHTHALMIC PRACTICE N.W. Lancs., hospital and other appointments, vendor is critically ill, locum in charge.—Box 1214, B.M.J.

FOR SALE, industrial PRACTICE, near Newcastle-upon-Tyne, panel 1,800, income over £2,000, good house with surgery and garage attached.—Apply Box 1255, B.M.J.

FOR SALE, old-established PRACTICE in Staffordshire, panel £1,673, P.M.S. £1,223, two cars, good partly furnished freehold house containing surgeries, suitable for two friends or husband and wife.—Write Box 1259, B.M.J.

FOR DISPOSAL in large S.W. town, a non-panel non-dispensing PRACTICE, appointments £300, pre-war receipts £2,700 (audited), partnership introduction six months, good house to rent, premium £3,000.—Box 1258, B.M.J

FOR SALE, owing to ill-health, mixed PRACTICE, London area, estimated receipts current year £800 or more, scope for expansion, preliminary partnership entertained.—Box 1260, B.M.J.

FOR SALE, old-established country town PRACTICE in Home Counties, good and middle class, panel 900, increasing rapidly, average receipts last three years £1,500 convenient, easily run house at rental of £40, premium £2,500.—Box 966, B.M.J

FOR SALE, Doctor's HOUSE and SMALL PANEL (death vacancy), cheap for quick sale.—Apply Mrs. Frendo, 15, Belle Vue Road, Sunderland.

NORTH WALES, unopposed seaside and compact country PRACTICE, £1,300 £1,400 increasing (panel £250), ample scope, modern freehold house facing sea, garden, garage, fishing, shooting.—Box 1217, B.M J.

PRACTICE for SALE in South-West rural and industrial area near large town and sea, panel and private £2,500, good house with garden, rent or purchase.—Apply Smith & Bateman, Chartered Accountants, Lionel Street, Birmingham, 3.

MEDICAL PRACTICE, mostly non-panel, for sale in very attractive residential area near Glasgow, excellent house, present practitioner retiring, income £1,500 per annum, good educational facilities, practice easily run.—For further particulars apply Crawford, Herron & Cameron, Solicitors, 257, West George Street, Glasgow, C.2.

OFFERS are invited for purchase of established medical PRACTICE and dwelling-house in North-East Scotland, good private and panel practice and public appointments, if desired household furniture may be taken over, all particulars from the subscribers, to whom offers may be sent.—Mitchell & Middleton, Solicitors, 26, Castle Street, Huntly.

OLD-ESTABLISHED MEDICAL PRACTICE, private and panel, in South-West town in Scotland for sale, receipts over £2,000, substantial panel, excellent modern house with garden, garage, etc.—For further particulars apply to Crawford, Herron & Cameron, Solicitors, 257, West George Street, Glasgow.

OPHTHALMIC SURGEON, F.R.C.S.(Eng.), D.O.M.S., wishes to hear of OPHTHALMIC PRACTICE with hospital appointment, good provincial town.—Box 1267, B.M.J.

PRACTICE, in charge of an outdoor assistant, for sale in North-West Midlands district is industrial and agricultural, good house available, for sale or to rent, vendor is the owner, panel and appointments.—Box 1215, B.M.J.

PRACTICE FOR SALE, would suit two friends, receipts for last (audited) years £3,600, houses available if required, mortgages could be arranged, established over 25 years, the practice has changed hands only once, price same as paid pre-war, £7,300.—Box 1257, B.M.J.

SMALL S.W. LANCS. TOWN, easily worked G P. (old-established), panel 1,600 units, income average £2,200 about, house to rent £60 p.a., premium goodwill 1½ years—Box 967, B.M.J.

SHEFFIELD, old-established PRACTICE for sale, panel 1,850, receipts £2,000, commodious house £1,500, premium 1½ years (cash).—Box 988, B.M.J.

URGENT - SALE, old-established better-class PRACTICE in Lancashire, panel 1,800 cash receipts 1944 £3,000 (chartered accountant's figures), excellent house, sale or rent, easy terms, preliminary Assistantship if desired, excellent opportunity for F.R.C.S., latter not essential.—Box 1042, B.M.J.

DIETETIC, DISPENSING, TYPING, SECRETARIAL, RECEPTION, ETC.

None of the vacancies for women advertised in these columns relates to a woman between the ages of 18 *and* 40 *inclusive, unless she is exempted from the provisions of the Control of Engagement Order,* 1945, *or the vacancy is for employment excepted from the provisions of that Order.*

WANTED, experienced DISPENSER, country town, 30 miles north of London.—Box 1220, B.M.J.

WANTED, in busy mixed practice in Hampshire coast town, experienced lady DISPENSER-BOOKKEEPER, references, £5 per week.—Box 1180, B.M.J.

WANTED, October 1, SECOND LADY DISPENSER for large partnership, modern surgery, experience not essential, no secretarial duties.—Write stating age and full particulars, Dr. Eberlie and Partners, 163, Dunstable Road, Luton.

WANTED immediately, DISPENSER AND BOOKKEEPER for general practice.—Apply 39 London Road, Newark-on-Trent.

WANTED, September 1, LADY DISPENSER-BOOKKEEPER, market town, Lincs, please state age, experience, etc.—Box 978, B.M.J.

WANTED, RESIDENT RECEPTIONIST by partnership of general practitioners, knowledge of nursing an advantage but not essential, no secretarial duties two receptionists employed.—Box 1268, B.M.J.

ASSISTANT DIETITIAN REQUIRED to work in special diet kitchens—Apply Lady Superintendent, Bradford Royal Infirmary.

DISPENSER-BOOKKEEPER, Hall Cert., requires PART-TIME POST (about 4 hours daily) in or near Croydon.—Box 1182, B.M.J.

EXPERIENCED DISPENSER-BOOKKEEPER required for mixed general practice immediately.—Write, giving particulars, Drs. Reynolds, Wilson & Ellis, 4, Priory Road, High Wycombe, Bucks.

LADY DISPENSER-SECRETARY-BOOKKEEPER wanted end August, good salary.—Apply Dr. Thorn, 28, College Road, Harrow.

LOCUM DISPENSER, for one month, wanted immediately.—Apply Dr. Graham-Campbell, Portway, Warminster, Wilts.

QUALIFIED SHORTHAND TYPIST experienced in medical secretarial work requires POST, preferably West End.—Box 1275, B.M.J.

QUALIFIED experienced lady dispenser and bookkeeper requires POST with doctor within easy travelling distance of Hove.—Box 1183, B.M.J.

TIME-EXPIRED Captain Quartermaster, R.A.M.C., requires POSITION as early as possible, qualified in nursing, dispensing, clerical, and administrative duties, great experience of medical stores and steward's work, highest integrity and initiative, 26 years' practical experience in the R.A.M.C.—Box 1263, B.M.J.

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(*Continued from page* 15)

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HEARD AT HEADQUARTERS

The New Council

The new members of Council of the B.M.A. are not as numerous as usual, but they include several who have made their voices heard to good effect at Representative Meetings and have done much work for the Association in other ways—Dr. W. E. Dornan of Sheffield, Dr. Talbot Rogers of Bromley, Dr. Smith Pool of Glasgow, and Dr. W. V. Howells of Swansea. A newcomer elected by the Public Health Service representatives, in place of Provost Picken, is Dr. R. H. H. Jolly, medical officer of health for Wolverhampton. At the first formal meeting of the new Council eleven special committees were reappointed, and one new committee was formed (to consider the question of medical services under the new Education Act). Three special committees—the one which has drawn up the "Charter for Health," and those which considered the question of "equal pay" and the Goodenough report—having completed their references, were discharged.

Long Service Record

The Council at its last meeting placed on record its great appreciation of the services of Dr. J. C. Matthews, of Downton, Wiltshire, who is no longer one of its members. Dr. Matthews has done very great work for the Association, especially on its organization side. For twelve years he has been chairman of the Organization Committee, and there is nothing about Divisions and Branches and the tribulations of local honorary secretaries that he does not know. He began his work in the far-off days as honorary secretary of the Lancashire and Cheshire Branch, an office which he held for seven years, and he was also chairman of the Liverpool Division. For twenty years he was a member of the Central Council, and many committees at headquarters have had the benefit of his knowledge and experience.

Association Scholarships

Under the increasing body of its medico-political work the scientific work of the Association is always in danger of being overshadowed. Therefore it is worth noting again that the Association scholarships are to be increased. Normally the Association provides two scholarships, each of an annual value of £200, and three, each of an annual value of £150. One additional £150 scholarship is now to be awarded, making six scholarships in all. They are to be awarded for the nine-months period from January 1 next, subject to renewal for a further one or two years at the discretion of the Council. No Association science grants are to be made in the ensuing year, owing to the difficulty of allocating them, but the money so saved is devoted to the additional scholarship. The general purpose of both scholarships and grants is to encourage research into the causation, prevention, and treatment of disease. Special measures are being taken to bring them to the knowledge of medical officers serving in the Forces.

Requisitioning of Doctors' Houses

The requisitioning of doctors' houses is a matter on which headquarters continues to receive letters. This is not a local matter; the protests come from several different parts of the country. Doctors' houses in many cases have been taken over, especially by the Ministry of Health for such purposes as wartime nurseries, and while requisitioning, apparently, is the easiest of processes, "derequisitioning" is not. The result is seriously to hamper the efforts of the profession to provide an adequate medical service for the public. The requisitioning is still going on. One member at the A.R.M. mentioned a case known to him in which a doctor returning from service was told that he was just in time; had he been three weeks later his house would have been requisitioned. Many others are not so lucky. The elementary fact seems to be overlooked by many of those in authority that a doctor's house is not, like most people's houses, merely a place to live in, but is the headquarters of a busy professional practice, and that in very many cases the doctor has cramped his own domestic accommodation in order to provide a waiting-room and other facilities for his patients. The A.R.M. passed a resolution on this subject in very definite terms, and the matter is being urgently pressed upon the Ministry of Health.

The *New Statesman and Nation* is one of the best informed of the weeklies, and it should know better than to allow a correspondent in its columns to describe the *Medical World* as the "paper" of the B.M.A., and to quote some remarks from that journal as a peg for criticism of the Association.

Two new scales of benefit have been made available to members of the Yorkshire Provident Society during the last year, one of them (Scale B) extending the original Scale A to include specialists' fees and treatment other than as in-patient of hospital or nursing home; the other combining the two existing scales with 50% higher benefits. The contributions for these benefits are not greatly increased; nevertheless membership of the society has not gone up as much as the general committee of the society had hoped—a state of affairs attributed to uncertainty regarding the future of the health services. There are now 540 members and 627 dependants, a total of 1,167 potential beneficiaries. Contributions received amounted to £2,214, claims to £1,103, leaving a surplus less expenses of £944, to be added to the funds of the Central Provident Association at Oxford, which guarantees the benefits.

Correspondence

Medical Demobilization

SIR,—The gist of what I have to say has appeared previously on several occasions in letters from other Service medical officers, but it would appear that the only hope of any action being taken is constant reiteration until it is realized that there is a growing discontent among members of the profession in the Services at the lack of information about medical demobilization.

There is no forecast as to when age-and-service groups over 16 are to be demobilized, and this information, even though only a forecast, is of great importance in making arrangements for practices and return to civil life. Surely there has been sufficient time for a plan to be worked out for the medical services and notified to all concerned.

It has been stated that in order to facilitate medical demobilization there is to be a transfer of suitable E.M.S. personnel to the Services, and that general practitioners up to the age of 35 are to be conscripted. There would appear to be no reason why this age should not be raised to 40, and thus allow a bigger interchange between Service and civilian doctors. It is granted that civilian doctors have had their fill of hard work during the war years, but now seems the time to give them a rest in the Services.

If they are below Category A, there are many jobs in the B.L.A., in L. of C. or general hospitals, which would be well within their physical capabilities. There are few medical officers who would decline the chance of coming home to take over this hard work.

There are many doctors who have now served up to six years, during which time their medical work has been negligible, with a resulting deterioration in their medical knowledge. Some of these doctors still have no prospects of return to civil practice. I quote my own case as an example.

It is now stated by the War Office that medical officers of age-and-service groups 16 and over with less than 2½ years' operational service over-seas are eligible for service in the Far East. My age-and-service group is 20. I have served in the Army since Sept. 3, 1939, and have spent almost three years in oversea operational service with an Infantry Division in the B.E.F., M.E.F., B.N.A.F., C.M.F., and B.L.A. Because my oversea service was split by an interval of six months and one week in the U.K. training for the landings in Normandy, it ceases to count against eligibility for further service in the Far East. Accordingly I now find myself under orders to proceed to S.E.A.C., even although I do not come under the heading of specialist. I can scarcely imagine that my tour of duty will be less than two years, and this will mean a total of eight years away from my practice. I consider that this is an injustice, but I am by no means the only one to find himself in such a position. Any attempts to obtain satisfaction on the matter result merely in being passed from one department to another, and no definite answer being produced.

In spite of what has been said in official replies in Parliament and elsewhere, there are still surplus medical officers in some branches of the Services, and this will be borne out by the large majority of medical officers. It is felt that medical demobilization could keep pace with, or at least approach, the general demobilization of the Army, and that there would be no necessity to send doctors in age-and-service groups under 27 to the Far East, if the recruitment of civilian practitioners up to the age of 40 and E.M.S. medical officers was really pressed, and if there was a combing-out of medical personnel from jobs where they are not required. Unfortunately it would appear that these plans are still not far past the discussion stage, and are being approached in a very half-hearted manner.—I am, etc.,

"R.A.M.C. OFFICER."

SIR,—I would be grateful for an opportunity to add yet one more voice to the correspondence on medical demobilization. I speak particularly as an officer in the intermediate groups, say, 20–30, who may have the best part of two years' service to look forward to.

We are, many of us, very deeply concerned over the uncertainty of our future; the absence of any definite statement from the Government or the Service Departments as to possible release dates, with the exception of the first few groups, is particularly disquieting. There are Service needs that still have to be met; but we, who have some years' experience of Service life, well know that "general duty" medical officers *do* waste a very large proportion of their time either in wasteful boring inactivity or in duties of a non-professional nature. Many of us have little or nothing of our original practices left to go back to; many of us have had no opportunity to make a start in practice before this war "caught us up." We shall have to make up for lack of clinical experience and loss of connexions. We shall have to compete in the "open market" with men fresh from the medical schools anything up to ten years younger than ourselves. Many of us have commitments and liabilities which place a heavy and increasing strain on a Service income, which, while adequate for a young man with no liabilities, is far from generous for the man who has, for example, £60 per annum to pay out in life assurance premiums.

The Service Departments may show a tendency to hang on to officers who have a few years' experience of Service customs and routine; in the same way the E.M.S. may tend to hang on to people they know (there are even cases of men being "up-graded" in order that their services can be retained). This tendency, if manifested by either the Service Departments, or the E.M.S., or the Local Medical War Committees, should be firmly opposed.

Most of us will need considerable teaching in midwifery, gynaecology, and child health. These are probably the most important branches of medical knowledge for the general practitioner, yet these are just the branches of knowledge in which the experience of the last few years has left us deficient. Every returning Service medical officer should be provided with adequate re-education in these subjects, both practical and theoretical; a two-weeks "refresher" will not solve this problem. Finally, the medical students in the Forces. There are many of these: young men still of student age; they are men with a broadened experience of life and would make excellent doctors. Surely if arts and theological students are to be released from the Forces then something should be done for the medical students.

There is our position; surely it is thought-provoking enough. We know that the country is desperately undermanned with general practitioners, yet we have the prospect of one or two more years of—doing nothing mostly.—I am, etc.,

F. P. S. MALONE-BARRETT,
Surg. Lieut., R.N.V.R.

SIR,—The recent correspondence on the subject of demobilization seems to reflect too much the viewpoint of the individual; it seems to me that second only to the needs of the Forces comes the need of the child for his father, and that of the older boy in particular. There is every sympathy with the young doctor who, shortly after qualification, was called up (or volunteered) and now sees many others—of whom some are certainly of military age and physically fit—remaining behind with the overwhelming advantage of pursuing (whether in general practice, hospital, or clinic) their profession: the attaining of additional qualifications must be especially galling to him; but is not sympathy due far more to the rising generation?

And if this be so, is it not better that demobilization should take into account the need in the "home" before that of the individual, however hard the latter may be? There is no getting away from the fact that much of the root cause of the increase in juvenile delinquency and of the excess of work in the child guidance clinics (to say nothing of the many troubled children who do not attend these) is due to the tragedy of the absent father. Surely there must be some of us who are of military age and unmarried, or without a family, who have not yet served with the Forces?—I am, etc.,

St. Albans. MAURICE YOUNG.

Release of Medical Officers

SIR,—The information supplied by the Director-General of Medical Services of the R.A.F. to the Central Medical War Committee on the question of the release of medical officers and published in the *Journal* of Aug. 4 (p. 162) is unsatisfactory inasmuch as it is indefinite in the case of Groups 1–8. If Groups 9 and 10 are to be released "during September" it should be stated that Groups 1–8 are to be released "by the end of August." "By September" is a vague statement and allows for manipulation.

I am in Group 8, and so far there is no indication that any release is forthcoming. I am a station medical officer, and until a relief is supplied for me by the medical authorities at the Air Ministry no start on release action in my case can be made. As it takes about 10 to 14 days after notification before the actual release comes about, unless a substitute is provided within the next few days my release will be taking place "during September." Time is a valuable commodity to the volunteer reservist.

Will the Central Medical War Committee please obtain a definite statement that Groups 1–8 are to be released "by the end of August" and make certain that this applies to all of us in those groups.—I am, etc.,

"VOLUNTEER RESERVIST."

⁂ The Secretary of the Central Medical War Committee writes: The C.M.W.C. is informed that the release of R.A.F. medical officers below the rank of Group Captain in Groups 7 and 8 was originally planned for the period Aug. 1 to Sept. 30, but that an amending signal was issued to all Commands on Aug. 10, stating that these groups were to be brought forward for release during August.

Released Doctors and Official Appointments

SIR,—"Appointments. His Majesty's Colonial Service. . . . The maintenance of an efficient Colonial Medical Service constitutes a vital part of the national war effort, and it is most important . . . adequate supply of doctors . . . invites applications from doctors . . . *who are under 35 years of age*. . . ." The quotation is from the *Journal* of Aug. 4 (p. 10 of advertisements), but the italics are mine. Week by week similar advertisements appear: also personal application to other official bodies elicits the gratuitous information that there is an age limit for appointments.

This age limit is as unfair as it is an insult to the returned and returning Service doctors who are above the arbitrarily fixed limit. All of them have been playing "a vital part" in "the national war effort," some for as long as six years. Not a few are over 50, and a considerable proportion are over 35; very many have served under more exacting and difficult conditions—and for long periods—than those that would be demanded of them by service under the Colonial Office, the Ministry of Health, the L.C.C., and the like.

Any medical man deemed fit enough to serve his King and country in the Navy, the Army, or the Air Force should be deemed fit enough to serve any official body at any age. In my opinion it is the bounden duty of the B.M.A., as the representative body for all the doctors in the United Kingdom, to insist that no doctor shall be debarred from any public appointment (or, indeed, from any appointment whatsoever) by reason of his age alone.—I am, etc.,

"OLD SOLDIER."

Release of Doctors

SIR,—I have followed the correspondence on this subject with keen interest, and venture to put forward my own views—i.e., those of a woman doctor employed with the A.T.S.

1. The reason for the so-called shortage of medical officers—at least in the R.A.M.C.—is that they are not fully employed. My own post well illustrates this fact. The morning's work—including health inspections (a great and time-consuming feature of work with the A.T.S.), sick parade, round in the C.R.S., and replies to letters—is invariably finished at 11 a.m. There is then a gap until 2 p.m., when a sanitary round is carried out on requisitioned houses. This in my opinion is a complete waste of a doctor's time. The point is well illustrated by a recent experience. I recom-

mended condemnation of some A.T.S. sleeping accommodation; the final inspection and recommendation were made by a warrant officer in the hygiene section not even a doctor. So much for the day's work of a qualified doctor. I might add that in my two years' service in the R.A.M.C. I have only had a post requiring a full day's work on one occasion, and that only lasted for three months. Since there appears to be no remedy for this state of affairs—and I have been assured by a reasonably sensible doctor of higher rank than myself that there is none—may I make my second point?

2. I have many times thought that an underworked M.O. could be of great value to some hardworked G.P. in the district—at least in taking an evening surgery and doing some visits. Why cannot this be arranged? I do not think any serving medical officer would be liable to neglect his or her Service commitments on account of participation in some civilian medical work, and I can foresee benefit to both the community and the M.O. If this is not feasible why not demobilize a large number of medical officers and let them act as C.M.P.s to the Forces? Who could be better qualified to do such work?

3. Finally, I think something of this kind would assist in alleviating that terrible sense of frustration from which many of us in the Forces are suffering. The ambitious may apply to become "trainees" in some specialty, volunteer to go abroad—anything to feel that their professional lives are not being wasted; but I have found from personal experience that it is of no avail.—I am, etc.,

"A.T.S. M.O."

Release of Students

SIR,—Arts and Divinity students, we hear, are to be released from the Services to return to the universities in time for the October term, after three years' service, whether this be at home or abroad. What about medical students and others who have served for four, five, and, by Sept. 3, six years? Many of these—i.e., still surviving—have three, four, or more years' active service abroad to their credit, perhaps with a debit on the health and fitness state. The War Office ruling is that no exceptions may be made, although some are due for release early in 1946.

Since universities cannot very well alter their curricula to suit all the vagaries of the age-and-service group releases, is it asking too much to suggest that a modicum of common sense be applied to the bureaucratic machine, and that these men should be released in order to restart their careers where and when they left off. Even if this be restricted to those with six years' service it is asking very little, although, with the cry of shortage of doctors, it would appear reasonable to release those with five, four, or three years' service, especially if that has largely been in an operational theatre. Most of these men will be 30 years of age before they are qualified and able to earn a living—an age when the average man should be supporting a family.

I hesitate to raise another point, but it is true nevertheless. The long time necessary to qualify in medicine has been used to evade service by some who otherwise would not have taken up medicine as a career. Surely we can ill afford to impede those who had taken it up as a calling but felt the call of service to their country stronger still. Unselfish devotion appears to be at a discount these days. There are men who have started medicine since the war, have qualified, and are still not in the Services. How this may be I know not; perhaps once more a case of the slow emptying of the duodenal cap.

Generosity is extended by the home country to our allies—namely, Egypt, whose students, with no service, are given a welcome. I do not know how the Dominions treat their students, but even our late enemy is faring better, since arrangements were well in hand some time ago for German medical students to be released by us from the military Forces in order to resume their studies.

It is a poor tribute to the medical students of 1939 and 1940 who joined up and have paid the supreme sacrifice, that their one-time colleagues should now be disheartened and therefore hesitant as to whether they can or dare contemplate a return, at their present ages, to take up once more the career of their choice.—I am, etc.,

London, S.W.2. JAMES MELVIN.

Release and Recruitment

SIR,—As a Service M.O. recently returned from oversea service I view with dismay the number of doctors still employed in civil practice who have only been qualified for a few years. I know several of these people personally, and some of them have already been medically examined and placed in Category A. The longer these people in B1 jobs hold them, then the more certain are they of getting specialist appointments if and when they are eventually called to the Services. This is in contrast to the practitioner who is called up within a year or so of qualifying. He, of course, usually goes to a field ambulance or other field unit as M.O., and may do all his service in the field. He, then, is the person who will require rehabilitation before venturing into civilian practice again.

One last point is that several medical officers not physically fit are retained in the Services in low medical categories. Surely these individuals should be discharged and fit men brought in. These men discharged from the Services could replace those called up.

I hope this letter will not be interpreted by some as the writing of a jealous and disgruntled M.O. But let the young civilian practitioner please remember that the longer he remains out of the Services the longer will a Service M.O. have to remain in. The B.M.A. circular on release of May, 1945, states: "In short, the key to the problem of releasing Service doctors lies in the recruitment of civilian doctors."—I am, etc.,

"R.M.O., EX-S.E.A.C."

Civilian Practice

SIR,—Dr. Guy Neely (*Supplement*, July 28, p. 20) says: "Nonsense is still being written about overworked doctors. The amount of work a doctor can do . . . depends on the help he can find for his patient." Without this home help, he says, he cannot look after anyone who must stay in bed, and implies that all such patients are sent into hospital, so that the "work of the G.P. is restricted and the hospitals overfilled." He goes so far as to say that a demobilized man would only have certificates to fill up, consultations, and "a single visit."

I find this rather cryptic. Anyhow, Dr. Neely must be extraordinarily lucky in his hospitals. Here, as in most places I have heard of, hospitals are understaffed, overworked, and can take in fewer patients, not more. My experience is that, desperate as the domestic help-and-nursing situation is, vast numbers of patients have to be ill in bed at home who ought to be in hospital under observation, through no fault of the hospitals or doctors. And who is to visit these patients in their homes if the doctor does not?—I am, etc.,

Stowmarket. H. S. GASKELL.

Discontinuance of Compulsory Recruitment of Medical Women

SIR,—The Medical Women's Federation wrote to the Minister of Labour and National Service on June 21 calling attention to the decision to discontinue the compulsory recruitment of medical women, and asking that the matter should be reconsidered. The Minister has now replied stating that he does not think there is sufficient justification for applying compulsion to women doctors at a time when the recruitment of women for the Forces is otherwise on a purely voluntary basis. The Federation greatly deplores this decision, especially in view of the probable delay in the demobilization of some medical men and women.—I am, etc.,

JANET M. CAMPBELL,
President,
Bromley, Kent. Medical Women's Federation

General Medical Council

SIR,—There must be many members who read with surprise the report (*Supplement*, July 28, p. 16) of the special session of the above body. One is accustomed to read of cases brought before this tribunal involving adultery where there has been previous professional relationship, drunkenness in charge of cars, and instances of fraud. Such are well understood by the majority to require investigation as to the propriety of the person concerned to continue to hold the right to practise. But in the present series of cases it would seem that the G.M.C. is adjudicating in a different field altogether.

In the first case, that of a practitioner who failed in his obligations as an N.H.I. practitioner in that he did not give the necessary attention to patients when called upon to do so, it is obvious from the report that the case has already been dealt with through the usual channels—namely, Insurance Committee and, finally, the Minister of Health, the latter no doubt inflicting a monetary penalty or further causing the removal of the practitioner's name from the N.H.I. list. Is not that enough? Is the offender to be subjected to the risk of having his source of livelihood taken from him?

In the third case, that of the unlawful use of petrol, the offender again was very severely dealt with by the bench, but again this is not enough; he also is to run the risk of his earning capacity being removed from him. Surely this could hardly be construed as "infamous conduct in a professional respect."

Whilst holding no brief for either offender, one cannot escape the view that the inquisitorial powers of the G.M.C. are being taken far beyond the scope intended by those responsible for the creation of this altogether autocratic body.—I am, etc.,

Dudley, Worcs. A. W. WESTON.

Majority Decision by Plebiscite

SIR,—Dr. S. F. Logan Dahne (*Supplement*, July 28, p. 17) has championed the cause of the freedom, liberty, and honour of the individual. Presumably, therefore, he expects those members of the medical profession who believe in State medical service to accept it when the time comes and the others to refuse it, and so accentuate the division and strife in our ranks. But the liberty of the individual often has to be subordinated to the good of the community, and changes of organization and administration have to be made to meet changing conditions of life. It is surely essential that these changes should be made in an orderly and democratic way, and this is not assisted by invoking passions and emotions and raising bogies about threats to the eternal verities.

I would therefore like to support Dr. Guy Bousfield's suggestion (p. 18) that when the Government's final plan is produced the members of the profession should be allowed to vote for or against acceptance of it, and should promise to abide by the decision of the majority. May I ask if it is the intention of the B.M.A. to carry out this plebiscite when the time comes?—I am, etc.,

Reading. ERIC BEALE.

Sight-testing Opticians

SIR,—Mr. David Rankine (*Supplement*, July 7, p. 3) must be singularly unfortunate and circumscribed in his experience of consulting opticians; otherwise he would be aware that they have no medical aspirations whatsoever. On the contrary, they merely desire to be allowed to continue to develop their work of dealing with the defects of non-pathological eyes—work which has been their specialization for several decades more than it has been performed as a minor function by Mr. Rankine's profession.

Mr. Rankine must surely know, too, that members of my profession statutorily carry out the vast majority of eye examinations under the National Health Insurance Acts. He may have heard, also, of the high praise publicly bestowed by the medical officers of the great ordnance factories—members of his own profession—upon the work done by consulting opticians in those factories. Nor can he really be ignorant of the fact that consulting opticians throughout the country are daily working in close, amicable, and responsible collaboration with general medical practitioners and with ophthalmic surgeons.

One of my close friends is an ophthalmic surgeon, and I am in regular and friendly contact with two or three more. I personally, therefore, cannot be misled into regarding the peculiar and rancorous doctrine of Mr. Rankine as the policy of his profession as a whole; which policy I know to be the more commendable one of co-operation for the public good.—I am, etc.,

Welwyn Garden City. JOHN COLE.

RETURN TO PRACTICE

The Central Medical War Committee announces that the following have resumed civilian practice: Dr. R. F. T. Grace, M.R.C.P., at 50, Wimpole Street, London, W.1; Dr. Gerald Slot, M.R.C.P., at 2, Harley Street, London, W.1.

BRITISH MEDICAL ASSOCIATION

Meetings of Branches and Divisions

MONMOUTHSHIRE DIVISION

The report of its Executive Committee was presented to the Monmouthshire Division at its annual meeting at Newport on June 16, when Mr. W. J. Roche presided. Two political meetings were held during the year, to which the Monmouthshire members of Parliament were invited, and Sir Charles Edwards, Sir Reginald Clarry, and Mr. Arthur Jenkins attended. At the second meeting Dr. L. S. Potter, Assistant Secretary of the B.M.A., gave an address on B.M.A. policy, and later answered many questions. In addition there were six clinical meetings, when the speakers and their subjects were as follows: Dr. Graham Jones, peptic ulcer; Dr. Arthur Watkins, diseases of infancy; Dr. D. A. Williams, asthma; Mr. Emlyn Lewis, plastic surgery; Dr. Stanley White, sex hormones; and Dr. R. Drummond, haemolytic diseases of the newborn. The last meeting took the form of a "brains trust." The average attendance was 40. The Division arranged a very successful dance at the Westgate Hotel, and as a result £50 was sent to a medical charity.

The meeting elected the following officers for the coming year: chairman, Dr. G. R. Strong; vice-chairman, Dr. W. F. Mulvey; secretaries, Mr. J. T. Rice Edwards and Dr. A. G. Buick; Representatives, Dr. R. J. S. Verity and Mr. Roche. The concluding business was a discussion of the Annual Report of Council.

Branch and Division Meetings to be Held

WAKEFIELD, PONTEFRACT, AND CASTLEFORD DIVISION.—At Clayton Hospital, Sunday, Sept. 2, 11 a.m., Postgraduate Lecture by Dr. Leslie Watson: Autonomic Imbalance.

H.M. Forces Appointments

ARMY

Col. (Temp. Major-Gen.) E. A. Sutton, C.B.E., M.C., late R.A.M.C., to be Major-Gen.

Col. H. G. Winter, M.C., late R.A.M.C., having completed four years in the rank, is retained on the Active List, supernumerary.

Col. F. D. Annesley, M.C., late R.A.M.C., having attained the age for retirement, is retained on the Active List, supernumerary.

Lieut.-Cols. W. D. Anderton, M.C., E. M. Townsend, M.C., and D. W. Beamish, M.C., from R.A.M.C., to be Cols.

ROYAL ARMY MEDICAL CORPS

Lieut.-Col. D. Cran, having attained the age for retirement, is retained on the Active List, supernumerary.

Majors W. H. Carter, W. R. C. Spicer, R. T. P. Tweedy, and A. Sachs to be Lieut.-Cols.

The following officers, holding short service commissions, have been appointed to permanent commissions: Capts. J. N. Threlfall, J. Duguid, A. D. Young, D.S.O., T. E. Field, D. R. H. Montgomery, M.C., I. Macphail, N. D. Lance, P. B. Longden, D. H. D. Burbridge, G. R. Marshall, D.S.O., A. M. Buchanan, G. S. Caithness, E. J. Bowmer, M.C., H. O. P. McSheehy, M.C.

TERRITORIAL ARMY

Col. (Temp. Major-Gen.) P. H. Mitchiner, C.B., C.B.E., T.D., K.H.S., late R.A.M.C., to be Major-Gen. (Substituted for the notification in a *Supplement* to the *London Gazette* dated July 31.)

TERRITORIAL ARMY RESERVE OF OFFICERS: ROYAL ARMY MEDICAL CORPS

Capt. D. E. Denny-Brown, O.B.E., to be a Consultant, and has been granted the local rank of Brig.

LAND FORCES: EMERGENCY COMMISSIONS

ROYAL ARMY MEDICAL CORPS

War Subs. Capts. J. J. Murphy, J. McMaster, S. Livingstone, and R. S. Wathes have relinquished their commissions on account of disability, and have been granted the honorary rank of Capt.

War Subs. Capt. J. A. Dowds has resigned his commission.

Lieut. T. N. V. Potts has relinquished his commission on account of disability, and has been granted the honorary rank of Lieut.

To be Lieuts.: T. Standring, J. M. Anderson, C. A. Baggley, T. E. Bairstow, M. D. Caplan, I. F. Collie, C. V. Donnelly, V. B. J. Edwards, A. M. Epstein, A. D. Evans, R. L. M. Ferrari, R. M. Hardisty, E. W. Heining, F. A. Holden, D. B. Kennedy, H. O. Jones, F. W. Lapage, L. N. Lightstone, J. L. F. Maine, V. C. S. Majmudar, R. H. Merrick, R. Macl. Millen, C. M. Monro, W. H. Oesterlein, T. D. S. Oswald, A. K. Pardhy, J. R. Prentice, N. E. Rankin, J. T. Scales, J. R. T. Selby, H. J. Shuttleworth, R. Spencer, J. T. Sweetnam, J. L. Taylor, M. N. Tempest, R. Thomas, C. H. Todd, and J. D. A. Whitelaw.

WOMEN'S FORCES

EMPLOYED WITH THE R.A.M.C.

War Subs. Capt. M. W. Bowen has relinquished her commission. (Substituted for the notification in a *Supplement* to the *London Gazette* dated June 29.)

The following M.O.s have been granted commissions in the rank of Lieut.: Phyllis M. Neil, Audrey F. Roberts, Catherine G. Simpson, and Sybil M. Williams.

ROYAL AIR FORCE

ROYAL AIR FORCE VOLUNTEER RESERVE

Wing. Cmdr. (Temp.) R. N. Ironside has been granted the rank of War Subs. Wing Cmdr.

To be Flying Officers (Emergency): N. A. G. Covell and H. Harris.

INDIAN MEDICAL SERVICE

Col. W. C. Spackman has retired.

ARMY IN BURMA RESERVE OF OFFICERS

Capts. M. N. Ameen and D. R. Lewis to be Majors.

EMERGENCY COMMISSIONS

To be Lieuts.: P. M. C. Peacock, H. Sharma, D. M. Misra, and S. C Paul.

COLONIAL MEDICAL SERVICE

The following appointments are announced: L. A. Duncan, M.R.C.S., L.R.C.P., Medical Officer, St. Helena; J. R. Reid, M.B., Ch.B., Medical Officer, Fiji; J. K. Tate, M.B., Ch.B., Assistant Medical Officer, Jamaica; S. E. Croskery, M.D., Medical Officer, Aden; J. S. Brown, M.D., D.M.R.E., Specialist in Radiology, Uganda; E. Cochrane, M.B., Ch.B., D.P.H., Director of Medical Services, Aden; D. K. Cowan, L.R.C.P., L.R.C.S., Medical Officer, Nigeria; H. S. Evans, M.R.C.S., L.R.C.P., Assistant Director of Medical Services, Fiji; S. Forrest, M.B., Ch.B., Deputy Director of Medical Services, Tanganyika; G. Holmes, M.B., B.S., Specialist in Midwifery and Gynaecology, Uganda; A. McKenzie, M.B., B.S., Senior Medical Officer, Tanganyika; G. Maclean, M.B., Ch.B., Director of Medical Services, Trinidad; K. A. T. Martin, M.D., D.P.H., Assistant Director of Medical Services, Kenya; P. B. Robinson, M.B., B.Ch., D.P.H., Deputy Director of Medical Services, Uganda; F. J. Sladen, M.R.C.S., L.R.C.P., Senior Medical Officer, Falkland Islands; P. A. T. Sneath, M.D., D.P.H., Director of Medical Services, Tanganyika; K. R. Steenson, M.B., Ch.B., Medical Officer, Grade I, Fiji; J. Williamson, M.B., Ch.B., Senior Medical Officer, Tanganyika; W. A. Young, B.M., B.Ch., Senior Specialist in Venereal Diseases, Tanganyika.

POSTGRADUATE NEWS

The Fellowship of Medicine announces the following courses: (1) Revision course in anaesthetics at Royal Cancer Hospital, Oct. 8 to 20, with lectures and/or demonstrations daily. (2) Course in children's diseases, at the Princess Louise Hospital, Kensington, all day Sat. and Sun., Sept. 29 and 30. (3) Course in rheumatism, at Rheumatic Unit, St. Stephen's Hospital, Fulham Road, all day Sat. and Sun., Oct. 20 and 21.

WEEKLY POSTGRADUATE DIARY

EDINBURGH POSTGRADUATE LECTURES.—At Edinburgh Royal Infirmary, *Thurs.*, 4.30 p.m., Prof. D. M. Lyon: The Basis of Prognosis.

DIARY OF SOCIETIES AND LECTURES

FELLOWSHIP OF MEDICINE, 1, Wimpole Street, W.—*Royal Cancer Hospital*, S.W., Mon., Wed., and Fri., 6 to 8.15 p.m., Primary F.R.C.S. Course. *West End Hospital for Nervous Diseases*, Welbeck Street, W., Mon., Tues., and Fri., 2 30 p.m., M.R.C.P. Course in Neurology.

BIRTHS, MARRIAGES, & DEATHS

The charge for an insertion under this head is 10s. 6d. for 18 words or less. Extra words 3s. 6d. for each six or less. Payment should be forwarded with the notice, authenticated by the name and permanent address of the sender, and should reach the Advertisement Manager not later than first post Monday morning.

BIRTH

CROSS.—On Aug. 15, 1945, at Braunton Nursing Home, Devon, to Mary, wife of Fl. Lieut. W. George Cross, R.A.F.V.R., a daughter.

MARRIAGE

SWYER—NASH.—On July 24, 1945, in London, Gerald Isaac Macdonald Swyer, M.A., D.Phil., B.M., M.R.C.P., to Lynda Irene Nash, M.S.R.

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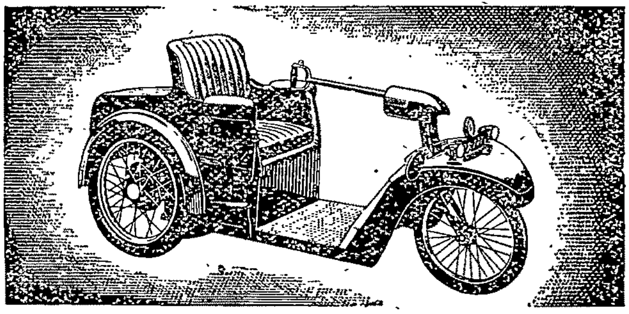

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R—Male, W—Women practitioners, liable to military service under the National Service Acts.

B1—Whole-time appointments, usually resident within the senior establishment—e.g., Registrar, R.S.O., etc.

A—Whole-time resident house appointments open to practitioners without previous experience.

B2—Whole-time house appointments not within the senior establishment, usually resident, and usually held by practitioners with six months' experience.

APPOINTMENTS

INDIAN MEDICAL SERVICE. Recruitment of WOMEN MEDICAL OFFICERS.—The Government of India are prepared to recruit a limited number of women medical officers for service with the Indian Medical Service for the duration of the war Applicants must be British subjects, of not more than 45 years of age, and those selected will be appointed in the rank of Lieutenants. Antedate of seniority may be granted up to a minimum period of 6½ years in respect of resident hospital appointments, higher qualifications, and/or professional experience. The antedate will count for pay and promotion, but, in the case of candidates recruited in this country, higher rank will not be assumed until the date of disembarkation in India. On termination of service, a minimum gratuity is guaranteed to those officers who complete one year of service, viz., Rs. 2,000 to officers whose registrable medical qualification is dated before January 1, 1940, and Rs. 1,000 to those who qualified after that date, plus one month's pay for each further completed year of Army Service. Further particulars regarding rates of pay etc., may be obtained from the Medical Adviser, India Office, London, S.W.1, or from the Secretary, Military Department, India Office, to whom all inquiries should be addressed.

AUCKLAND HOSPITAL BOARD, New Zealand.—Applications addressed to the undersigned and closing at noon on Monday, September 17, 1945, are invited from registered medical practitioners for two appointments as SENIOR RADIOLOGISTS at the Board's Institutions, at commencing salaries of £1,000 per annum, rising by two annual increments of £100 to £1,200 per annum, living out. (New Zealand currency.) Applicants must hold Diploma of Radiology. The appointments are whole-time and are for diagnostic radiology only. The Board's Institutions include: (1) The Auckland Hospital of 1,000 beds (with a Director of Radiology and an Assistant Radiologist already appointed). (2) The Green Lane Hospital of 600 beds, including a Chest Diseases Department. (3) The Middlemore Hospital of 300 beds, including an Orthopaedic Department. New *X*-ray Departments are being opened in the two latter hospitals this year. Conditions and memorandum of appointment may be obtained from the office of the High Commissioner for New Zealand, New Zealand House, the Strand, London, W.C.2. Applications should be endorsed "Senior Radiologist" and sent to New Zealand direct by air mail.—R. F. Galbraith, Secretary.

MUNICIPAL COUNCIL OF NAIROBI (Kenya Colony). ASSISTANT MEDICAL OFFICER OF HEALTH.—The Municipal Council of Nairobi in the Colony of Kenya invites applications from qualified and experienced persons for the post of Assistant Medical Officer of Health. Candidates must possess a diploma in Public Health. The salary attached to the post is £840 per annum, rising by annual increments of £40 to £920 per annum, but a candidate with special qualifications may be allowed to enter the scale at an appropriate point higher than the initial salary. After a probationary period of six months, the person appointed, if confirmed in the appointment, will be required to contribute 7½% of his salary to the Municipal Provident Fund, into which the Council will contribute a similar amount. The person appointed will be entitled to six months' oversea leave on full pay with passages paid after each period of four years' service. Eighteen days annual local leave is also granted. Applications, stating age, experience and qualifications and accompanied by a recent photograph, medical certificate, and certified copies (not originals) of testimonials, should be addressed to the undersigned.—W. W. Ridout, Town Clerk, Town Hall, Nairobi, Kenya Colony.

CITY OF PLYMOUTH EDUCATION COMMITTEE. TEMPORARY ASSISTANT SCHOOL MEDICAL OFFICER.—With the consent of the Ministry of Health, applications are invited from registered medical practitioners, male or female, for the above whole-time appointment. Medical officers at present employed on public health by a local authority are not eligible. The salary will be at the rate of £500 per annum, rising by annual increments of £25 to £700 per annum, plus war bonus. Previous experience in a similar capacity with a local authority will be taken into consideration in fixing the commencing salary within this scale. Applications should be forwarded as soon as possible to the Medical Officer of Health, Seven Trees, Lipson Road, Plymouth.—Andrew Scotland, Director of Education, Education Offices, Cobourg Street, Plymouth.

CITY OF LEEDS. St. James's Hospital (1,296 beds).—LOCUM TENENS HOUSE PHYSICIAN required immediately for holiday duty (4 to 6 weeks). Fee £5 5s. per week, with full residence and board in addition. Apply Medical Officer of Health, Public Health Dept. (Hospitals Administration Section), 12, Market Buildings, Vicar Lane, Leeds, 1.

NEW ZEALAND.—The New Zealand Government invites applications from medical practitioners for VACANCIES in the Mental Hospitals Department in New Zealand. Salary £700 to £850 (New Zealand currency), in addition to free house, fuel, light, and laundry, with prospects of advancement. Free passage and half salary on voyage. Further particulars may be obtained from the High Commissioner for New Zealand, 415, Strand, London, W.C.2, with whom applications must be lodged by August 31.

CITY OF BIRMINGHAM. Yardley Green Road Sanatorium (335 beds). TEMPORARY ASSISTANT RESIDENT MEDICAL OFFICER (B1).—Applications are invited from registered male medical practitioners for the above appointment. In addition to his duties at the Sanatorium, the successful candidate will be required to undertake duties at the Anti-tuberculosis Centre. Candidates should have held a resident hospital appointment and an appointment in some institution recognized for the treatment of tuberculosis. Suitably qualified R practitioners now holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. The commencing salary will be at the rate of £450 per annum, rising by £25 to £600 per annum, plus emoluments. Applications should be addressed to the Chief Clinical Tuberculosis Officer, 151, Great Charles Street, Birmingham, 3, not later than August 31, 1945.

COUNTY BOROUGH OF WEST HAM. Whipps Cross Hospital. TEMPORARY RESIDENT ASSISTANT MEDICAL OFFICER.—Applications are invited from registered medical practitioners, male and female, for the post of Temporary Resident Assistant Medical Officer (B1) at Whipps Cross Hospital, Leytonstone, E.11. Suitably qualified R and W practitioners holding B2 appointments may apply. R practitioners holding B1 appointments cannot apply unless they have been rejected by the R.A.M.C. Salary for the post is £350 per annum, rising by annual increments of £25 to a maximum of £450 p.a., plus a temporary war bonus, with apartments, board and laundry, valued for superannuation purposes at £100 per annum. The salary is inclusive, and all fees received from whatever source must be paid to the Council. Candidates must be fully qualified registered medical practitioners, and should have held a previous resident hospital appointment. Preference will be given to candidates with practical experience of surgical operations, and the person appointed must give his or her whole time to the service of the Council, and will be required, should the occasion arise, to act in any of the Council's other institutions. The appointment will be subject to the Council's regulations as made from time to time regarding holidays, sick pay, etc., and the successful candidate will be required to pass a medical examination. Forms upon which application must be made can be obtained from Dr. E. Ashworth Underwood, Medical Officer of Health, 223-225, Romford Road, West Ham, E.7, on receipt of a stamped addressed envelope, and returned to him not later than September 3, 1945. Canvassing members of the Council is prohibited and will disqualify.—Charles E. Cranfield, Town Clerk, Town Hall, West Ham, E.15.

COUNTY BOROUGH OF WEST HARTLEPOOL. Public Assistance Committee. Howbeck Infirmary and Emergency Medical Services Hospital (350 beds).—The Public Assistance Committee invite applications from registered male or female medical practitioners for the appointment of ASSISTANT MEDICAL OFFICER (resident) (B1). Salary will commence at £350 per annum, and will rise by annual increments of £25 to a maximum of £450 per annum, together with usual residential emoluments valued for superannuation purposes at £125 per annum. Suitably qualified R or W practitioners holding B2 appointments are invited to apply. Applications from R or W practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. The successful candidate will be required to devote his or her whole time to the service of the Corporation and to carry out the instructions of the Medical Superintendent. Applications should be received by the Public Assistance Officer, Avenue Road, West Hartlepool, as soon as possible.— E. J. Waggott, Town Clerk, Town Clerk's Office, West Hartlepool.

CITY AND COUNTY OF NEWCASTLE-UPON-TYNE, Shotley Bridge Emergency Hospital (900 beds). HOUSE SURGEON (B2) to the Department of Thoracic Surgery.—Applications are invited from registered medical practitioners, male or female, for the above post, including R and W practitioners now holding A posts. The appointment is tenable for a period of six months and salary is at the rate of £250 per annum, plus cost-of-living bonus and full residential emoluments. Applications to be forwarded immediately to the Medical Officer of Health, Town Hall, Newcastle-upon-Tyne, 1.

COUNTY BOROUGH OF WALSALL, Manor Hospital (400 beds).—Applications are invited from registered medical practitioners, male and female, for the appointments of:

RESIDENT ANAESTHETIST (B2). The salary is at the rate of £350 per annum, rising by £25 to £425 per annum, with full residential emoluments. R practitioners who now hold A posts may apply, when appointment will be limited to six months, otherwise it will be for a period not exceeding four years.

JUNIOR ASSISTANT MEDICAL OFFICER (A). Salary is at the rate of £200 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months, otherwise twelve months.

The officers appointed will act under the direction of the Medical Superintendent, and perform such other duties as may be required. Applications should be sent to the undersigned not later than August 31, 1945.—James A. M. Clark, Medical Officer of Health, Council House, Walsall.

COUNTY BOROUGH OF EAST HAM. TEMPORARY ASSISTANT MEDICAL OFFICER OF HEALTH AND MEDICAL OFFICER, Harts Sanatorium.—Applications are invited from men or women for the whole-time appointment stated above. The salary scale is £500 per annum, rising by annual increments of £25 to a maximum of £700, plus war bonus, at present £59 16s. per annum for men and £48 2s. for women, but the commencing salary will be fixed in accordance with qualifications and experience. The duties comprise the medical care of patients at Harts Tuberculosis Sanatorium and the Infectious Diseases Block Woodford Green, attendance at the Tuberculosis and Chest Clinic, and such other duties as may be assigned by the Medical Officer of Health, under whose direction the successful candidate will work Candidates must have experience in such work, but persons already in whole-time public health employment as defined by Paragraph 3 of Ministry of Health Circular 2818, 1943, will not be eligible for appointment.. Applications should be returned to my office forthwith.—C. V. Thornley, Town Clerk Town Hall, East Ham, E.6.

COUNTY BOROUGH OF ROTHERHAM. Municipal General Hospital. RESIDENT ASSISTANT MEDICAL OFFICER (A).—Applications are invited from fully registered medical practitioners with the necessary knowledge and experience of hospital work, including practitioners within three months of qualification and who are liable for service under the National Service Acts, for the above appointment. The appointment will be for a period of six months. Salary is at the rate of £200 per annum, together with full residential emoluments and a temporary cost-of-living bonus in accordance with the Council's scale. Forms of application may be obtained from the Medical Superintendent, Municipal General Hospital, Moorgate, Rotherham, and must be returned to the undersigned endorsed "Assistant Medical Officer" not later than Sept 12, 1945.—Charles Des Forges, Town Clerk, Municipal Offices, Rotherham.

COUNTY BOROUGH OF DERBY. Derby City Hospital. RESIDENT MEDICAL OFFICER (B2).—Applications are invited from registered medical practitioners, male or female, for the appointment of Resident Medical Officer (B2), including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months, otherwise it may be extended to twelve months. The salary is at the rate of £200 per annum, with full residential emoluments, plus war bonus. The hospital is a 1A Casualty Hospital with a normal complement of 312 beds, plus casualty beds for acute medical and surgical cases, and with a large obstetrical department. Applications should be sent to the Medical Superintendent, City Hospital Derby, as early as possible.—C. Ashton, Town Clerk, Town Hall, Derby.

CITY OF PLYMOUTH, City General Hospital.—Applications are invited from duly qualified and registered medical practitioners, male and female including practitioners within three months of qualification and liable under the National Service Acts, for the appointment of CASUALTY OFFICER AND ASSISTANT RESIDENT (A) in the Maternity and Gynaecological Department at the City General Hospital. The appointment will be for a period of six months, but terminable by one month's notice on either side at any time. Salary is at the rate of £250 per annum, plus war bonus and full residential emoluments. All fees received by the officer must be refunded to the Council Further details may be obtained from the Medical Superintendent of the Hospital. Forms of application are not provided. Applications must be addressed to the undersigned as soon as possible.—T. Peirson, Medical Officer of Health, Seven Trees Lipson Road, Plymouth.

IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page 10

CITY OF PLYMOUTH. Mount Gold Orthopaedic and Tuberculosis Hospital (200 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of ASSISTANT RESIDENT SURGICAL OFFICER (B2) at Mount Gold Hospital. Salary is at the rate of £250 per annum, plus war bonus, with full residential emoluments. All other fees received by the officer must be refunded to the Council. Married quarters are not provided. Preference will be given to applicants who have had some experience of orthopaedic and fracture work. The duties are mainly in the orthopaedic and E.M.S. sections of the Hospital, but may include some duties in the pulmonary tuberculosis wards. R and W practitioners who now hold A posts may apply, when the appointment will be limited to six months, otherwise it will be renewable for a further period of six months, terminable by one month's notice on either side at any time. Applications should be sent as soon as possible to T. Peirson, Medical Officer of Health, Seven Trees, Lipson Road, Plymouth.

CITY OF LEEDS. Public Health Department. St. Mary's Infirmary. RESIDENT MEDICAL OFFICER (B2).—Applications are invited from registered medical practitioners, male, for the post of Resident Medical Officer (B2) for the above hospital, including R practitioners who now hold A posts. If held by an R practitioner, the appointment will be limited to six months, otherwise it will be for a period of twelve months. Preference will be given to candidates who have held an A post in a maternity hospital. The salary is at the rate of £250 per annum, plus a cost-of-living bonus, together with full residential emoluments. The hospital comprises a maternity unit of 98 beds and 102 beds for chronic sick. It is a Part 1 Training School under the regulations of the C.M.B., and the duties of the officer will include instruction of pupil midwives. All fees received by the officer must be paid into City funds. Applications, endorsed "R.M.O.," to be forwarded to the undersigned.—J. Johnstone Jervis, Medical Officer of Health, Public Health Department (Hospitals Administration Section), 12, Market Buildings, Leeds, 1.

CITY OF SHEFFIELD. King Edward VII Hospital for Crippled Children, Sheffield, 6. RESIDENT MEDICAL OFFICER (B1), female.—Applications are invited from registered medical practitioners for the appointment of Resident Medical Officer to the above Hospital (140 beds), which is for the treatment of surgical tuberculosis and other orthopaedic conditions. Suitably qualified W practitioners holding B2 appointments are invited to apply. Salary £350 p.a., rising by £25 to £550, with residential emoluments valued £150. Post vacant September 1, 1945, or as soon as possible after. Applications should be sent immediately to the Medical Superintendent.

CITY OF STOKE-ON-TRENT. CITY GENERAL HOSPITAL. ASSISTANT RESIDENT MEDICAL OFFICER (B2).—Applications are invited from registered medical practitioners (single, male or female), including R and W practitioners who now hold A posts, for the appointment of Assistant Resident Medical Officer (B2), at the City General Hospital, Stoke-on-Trent. If offered to an R or W practitioner the appointment will be limited to a period of six months, otherwise will be for a period of one year. The salary is at the rate of £250 per annum, plus bonus, with full residential emoluments. The Hospital, which is an Emergency Hospital, has approximately 1,200 beds, and there is excellent scope for medical, surgical, and obstetrical work.—Applications endorsed "Medical Officer, City General Hospital," to be sent to the undersigned immediately.—Harry Taylor, Town Clerk.

GLAMORGAN COUNTY COUNCIL. Mid-Glamorgan County Hospital, Quarella Road, Bridgend.—Applications are invited from registered medical practitioners with obstetrical experience who have held a house appointment for the appointment of a FEMALE TEMPORARY RESIDENT ASSISTANT MEDICAL OFFICER (B1) for the above-named hospital. Salary £350 per annum, rising by annual increments of £25 to £550, plus prevailing cost-of-living bonus and residential emoluments. All fees whatsoever received by the successful applicant whilst holding the appointment must be handed over to the County Council. The appointment will be terminable by one month's notice on either side. Applications should be sent to the County Medical Officer, County Hall, Cardiff, within ten days of the publication of this advertisement.—D. J. Parry, Clerk of the County Council, Glamorgan County Hall, Cardiff.

NORTHAMPTONSHIRE COUNTY COUNCIL, Park Hospital, Wellingborough (120 Service beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of JUNIOR RESIDENT MEDICAL OFFICER (A), vacant early in September, 1945. Salary is at the rate of £200 per annum, with full residential emoluments. There is a staff of visiting specialists. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months, otherwise not exceeding one year. Applications should be sent as soon as possible to J. Alan Turner, Clerk of the County Council, County Hall, Northampton.

HERTFORDSHIRE COUNTY COUNCIL. (Medical Department). King Street Maternity Home, Watford.—Applications are invited for the post of RESIDENT OBSTETRIC OFFICER (B1) at the King Street Maternity Home, Watford. This home is a Part II Training School for Midwives. The accommodation, at present 35, is being increased to 51 beds. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. The salary will be from £350 per annum, rising by £25 to £500 per annum, plus the usual residential emoluments. The commencing salary will depend on qualifications and experience. This vacancy is re-advertised owing to the indisposition of the person appointed. Application forms and particulars can be obtained from the County Medical Officer, County Hall, Hertford, to whom they should be returned by September 22, 1945.—Elton Longmore, Clerk of the County Council.

HERTS COUNTY COUNCIL, Wellhouse Hospital, Barnet (600 beds). HOUSE PHYSICIANS (A).—Applications are invited from registered medical practitioners, male and female, for the appointment immediately of two House Physicians (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts the appointment will be for a period of six months. Salary is at the rate of £150 per annum, will full residential emoluments. Applications to Medical Superintendent.

KINGSTON-UPON-HULL CORPORATION HEALTH DEPARTMENT. City Hospital and Sanatorium.—Applications are invited for the appointment of a TEMPORARY RESIDENT MEDICAL OFFICER (B1) at the above. The appointment is open to registered medical practitioners of either sex, who must be single and have had experience in general hospital work. Possession of the Diploma in Public Health, or similar qualification, and previous experience in a fever hospital or sanatorium will be regarded as additional qualifications. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R A M.C. The appointment is for a period of one year and the salary is £350 per annum, together with board, laundry, and residence. The appointment may be extended for more than one year, in which case the salary, subject to satisfactory service, will be increased by annual increments of £25 to a maximum of £450 per annum, plus increased cost-of-living bonus. Application forms may be obtained from, and should be returned to, the Medical Officer of Health, Guildhall, Kingston-upon-Hull, as early as possible.

MIDDLESEX COUNTY COUNCIL. JUNIOR ASSISTANT MEDICAL OFFICER (Anaesthetist (B2), Resident), required at CHASE FARM HOSPITAL, Enfield, Middx.—Applications invited from registered medical practitioners, including R practitioners now holding A posts. Salary £350 p.a. Board, lodging and laundry. War bonus (now £60 p.a., proportion only in cash). Whole-time duties such as Council may direct, under supervision of Medical Director. Appointment, subject to medical examination and one month's notice, is for six months, with possibility of extension to twelve months (except R practitioners). Post now vacant. Applications to Medical Director, "Z," of hospital. Application forms not provided. Closing date September 1, 1945.—C. W. Radcliffe, Clerk of the County Council, Middlesex Guildhall, Westminster, S.W.1.

MIDDLESEX COUNTY COUNCIL. LOCUM TENENS MEDICAL OFFICER (B1) at SHENLEY MENTAL HOSPITAL, nr. St. Albans (man or woman), required for long or short term. Experience in psychiatry preferable but not essential. Facilities for out-patient clinic experience and tuition. Salary £10 10s. per week, and emoluments consisting of full residential facilities. Suitably qualified R and W practitioners holding B2 appointments, also those holding B1 and rejected by the R.A.M.C., may apply. Applications to the Medical Superintendent.—C. W. Radcliffe, Clerk of the County Council.

BIRMINGHAM MATERNITY HOSPITAL (Associated to the Faculty of Medicine of the Birmingham University). HONORARY OBSTETRICIAN.—The Board of Management invites applications for the position of Honorary Obstetrician to fill the vacancy caused by the death of Sir Beckwith Whitehouse, M.S., F.R.C.S. Candidates must be registered medical practitioners, and must hold the Fellowship of the Royal College of Surgeons (England) or the Membership of the Royal College of Obstetricians and Gynaecologists. The appointment will be an annual one and the holder will be eligible for reappointment. The post is open to persons at present serving in H.M. Forces. Conditions and terms of appointment, together with a list of the members of the Appointing Committee to whom copies of the application should be sent, may be obtained on request from the undersigned. The last day for applications will be December 31, 1945.—Bernard Sylvester, House Governor, Birmingham Maternity Hospital, Loveday Street, Birmingham, 4.

NORTHUMBERLAND COUNTY COUNCIL. Wooley Sanatorium, Nr. Hexham.—Applications are invited from registered medical practitioners for the appointment of TEMPORARY MEDICAL SUPERINTENDENT at Wooley Sanatorium (184 beds). Applicants should have had special experience in the diagnosis and treatment of pulmonary tuberculosis and in institutional administration. The candidate appointed will also be required to act as Tuberculosis Officer for the Hexham Division of the County. The salary will be £650, rising by biennial increments of £50 to £850 per annum, with emoluments, house, coal, and light, valued for superannuation purposes at £150 per annum. The commencing salary on this scale will be determined according to experience. The appointment is subject to the provisions of the Local Government Superannuation Act, 1937, and the successful candidate will be required to pass a medical examination. The appointment will be determinable by three months' notice on either side. This is a temporary appointment, but there is a vacancy on the permanent establishment. Applications, accompanied by copies of three recent testimonials, upon forms to be obtained from the County Medical Officer at the address below, should be returned to him not later than September 28, 1945.—C. Harold Carter, Clerk of the County Council, County Hall, Newcastle-uupon-Tyne, 1.

SURREY COUNTY COUNCIL. Kingston County Hospital (500 beds), Wolverton Avenue, Kingston-on-Thames.—Applications are invited from registered medical practitioners, male and female, for the appointment of ANAESTHETIST (B1). The position is temporary and is subject to one month's notice on either side. Preference will be given to candidates holding D.A. qualification. Suitably qualified R and W practitioners now holding B2 posts are invited to apply. Applications from R practitioners holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £550 per annum plus war bonus plus full residential emoluments. Apply to Medical Superintendent by September 7, 1945.

YORK COUNTY HOSPITAL (222 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A), vacant September 22, 1945, whose main duties are in the Eye, Ear, Nose, and Throat Department (37 beds with busy Out-patient Clinics), but who will share in the general work of the hospital, also Casualty Duty, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary is at the rate of £175 per annum, with full residential emoluments. This post is recognized for D.O.M.S. and D.L.O. examinations. Applications to be sent to the undersigned immediately.—J. R. Mackrill, Secretary.

ALTRINCHAM GENERAL HOSPITAL, nr. Manchester (100 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (B2). Salary at the rate of £150 per annum, with full residential emoluments. R practitioners now holding A posts may apply, when appointment is limited to six months. Address applications to the General Superintendent.

BURTON-ON-TRENT GENERAL INFIRMARY (200 beds normal).—Applications are invited from registered medical practitioners for the appointment of CASUALTY OFFICER AND HOUSE SURGEON (A). Salary is at the rate of £200, with the usual residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months. Applications to be sent to the Secretary-Superintendent.

BOOTLE GENERAL HOSPITAL, Linacre Lane, Bootle, Liverpool, 20. CASUALTY OFFICER (A).—Applications are invited from registered medical practitioners, male and female, for the above appointment, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be made for a period of six months, otherwise it will be for six months with the possibility of extension. Salary is at the rate of £200 per annum, with full residential emoluments. Applications should be sent immediately to the Superintendent.

BOSTON GENERAL HOSPITAL, Lincolnshire.—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (B2). R and W practitioners who now hold A posts may apply, when appointment will be limited to six months. Salary at the rate of £250 per annum resident. Applications should be sent to the undersigned immediately.—B. Haines, Secretary.

BIRMINGHAM AND MIDLAND HOSPITAL FOR WOMEN.—Applications are invited from registered medical practitioners (male or female), including R and W practitioners who now hold A posts, for the appointment of HOUSE SURGEON (B2). The appointment is for six months from October 1, 1945. Salary at the rate of £100 p.a., with full residential emoluments. Applications to be sent immediately to Bernard Sylvester, House Governor.

IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page 10

BRISTOL ROYAL INFIRMARY (Branch of the Bristol Royal Hospital).—Applications are invited for the post of SENIOR RESIDENT MEDICAL OFFICER (B1) Salary £400 per annum, with full residential emoluments. Suitably qualified R and W practitioners holding B2 appointments, also R practitioners holding B1 appointments and rejected by the R.A.M.C., may apply. Applications to be made on forms to be obtained from the undersigned.—Ellis C. Smith, F.C.I.S., Secretary and House Governor.

BRADFORD ROYAL INFIRMARY.—Applications are invited from registered medical practitioners, male, single, for the following appointments: HOUSE SURGEON (B2), vacant October 1, 1945; HOUSE SURGEON (B2), vacant October 17, 1945; HOUSE PHYSICIAN (A), vacant October 17, 1945. Six months' appointment. For the B2 posts R practitioners now holding A posts may also apply. For the A post practitioners within three months of qualification who are liable to service under the National Service Acts may apply. Salary £150 per annum, with full residential emoluments. There are 372 beds and eight resident officers. Applications should be sent immediately to H. Trusson, House Governor and Secretary.

BECKETT HOSPITAL AND DISPENSARY, Barnsley. HOUSE SURGEON (A).—Applications are invited from registered medical practitioners for this appointment. Salary is at the rate of £225 per annum with full residential emoluments. Practitioners within three months of qualification may also apply when the appointment will be for six months. Applications should be sent immediately to, Arthur L. Bourne, Secretary-Superintendent.

CLAYTON HOSPITAL, Wakefield.—Applications are invited immediately from registered medical practitioners for the following appointment: RESIDENT ORTHOPAEDIC OFFICER with Casualty Duties (B2), male. Salary £200 per annum, with full residential emoluments. R practitioners who now hold A posts may apply, when appointment will be limited to six months, otherwise it may be extended for a further period. Applications should be sent to the undersigned as soon as possible.—W. Read, Superintendent and Secretary.

CHESTERFIELD AND NORTH DERBYSHIRE ROYAL HOSPITAL (beds—hospital 289, annexe 108).—Applications are invited from registered medical practitioners for the appointment of SECOND CASUALTY OFFICER (A). Salary £225 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months. Applications to be sent as soon as possible to M. H. Boone, House Governor and Secretary.

CHILDREN'S HOSPITAL, SHEFFIELD (Inc.) (157 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A), now vacant. Salary at the rate of £100 per annum, including full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months. Applications should be sent to the undersigned. The successful applicant must be a member of a Medical Defence Society.—T. H. G. Gartland, Superintendent and Secretary.

THE CORBETT HOSPITAL, Stourbridge, Worcs. (106 beds and special departments).—Applications are invited from registered medical practitioners for the appointment of RESIDENT HOUSE PHYSICIAN (A), which becomes vacant on November 1, 1945, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary is at the rate of £175 per annum, with full residential emoluments. Applications should be sent to the undersigned forthwith.—W. G. H. Weston, House Governor and Secretary.

CAMBORNE-REDRUTH MINERS' AND GENERAL HOSPITAL.—With the formation of a special department, a vacancy occurs for a physician for diseases of children. A higher qualification, preferably membership of the Royal College of Physicians, is essential. Experience in paediatrics would be an additional advantage. Candidates must be prepared to engage solely in consulting practice in this sphere. Full particulars may be obtained from the undersigned. Applications from Service candidates are specially invited. It is not proposed to make an appointment before December, 1945, in order that serving practitioners may receive full consideration.—J. C. Field, Secretary-Superintendent.

DONCASTER ROYAL INFIRMARY.—Applications are invited from registered medical practitioners (male) for the appointment of SENIOR HOUSE PHYSICIAN (B1). Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £250 per annum, with usual emoluments. Applications should be forwarded to the undersigned immediately.—R. Lancaster, Secretary-Superintendent.

CAMBORNE-REDRUTH MINERS' AND GENERAL HOSPITAL, Redruth, Cornwall.—Applications are invited from registered medical practitioners, male and female, for the appointment of a HOUSE SURGEON (A), to become vacant on October 19, 1945. Practitioners within three months of qualification who are liable to service under the National Service Acts may apply when appointment will be for a period of six months. Salary at the rate of £200 per annum, with the usual residential emoluments. Applications to be addressed to the undersigned.—J. C. Field, Secretary-Superintendent.

CHESTER ROYAL INFIRMARY (normal capacity 225 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A), to become vacant early September, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, the appointment will be for a period of six months. Salary is at the rate of £175 per annum, with full residential emoluments. Applications should be sent to the Secretary, not later than September 1, 1945.

DERBYSHIRE ROYAL INFIRMARY, Derby (Voluntary Hospital, 416 beds plus 115 E.M.S.).—Applications are invited from registered medical practitioners, male or female, for the appointment of ACCIDENT AND CASUALTY OFFICER (A). Duties will be in the Casualty Department, Hand Clinic, and Accident Wards. The position is now vacant. Salary is at the rate of £200 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when the appointment will be for a period of six months. Applications should be sent as soon as possible.—Arthur Taylor, Superintendent and Secretary.

DEVON MENTAL HOSPITAL, Exminster, Nr. Exeter.—Male or female TEMPORARY ASSISTANT MEDICAL OFFICER (B1) required immediately. R and W practitioners holding B2 appointments, also R practitioners holding B1 appointments and rejected by the R.A.M.C., may apply. Salary £9 9s. per week, plus full residential emoluments. Apply to the Medical Superintendent.

FREE EYE HOSPITAL, Southampton, requires the services of a REFRACTIONIST to attend three or more morning sessions each week. Terms 30s. a session. For conditions of appointment please apply in writing to the Secretary.

GENERAL HOSPITAL, Nottingham. Ear, Nose, and Throat Department (40 beds) and large Outpatient Department.—Applications are invited from registered medical practitioners, male and female, for the appointment of a HOUSE SURGEON (B2) for the above Department, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts appointment will be for a period of six months. Salary at the rate of £200 per annum, with full residential emoluments. Applications to be addressed to the undersigned. Duties to commence on September 1, 1945. Henry M. Stanley, House Governor and Secretary.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, London, W.C.1.—Vacancies for a HOUSE PHYSICIAN (B2) and two HOUSE SURGEONS (B2) will occur on October 8, 1945. Salary £100 per annum, with full residential emoluments. One House Surgeonship is tenable at the Children's Unit at the Sector Hospital, Hemel Hempstead, and the others at the above address. The appointments are for six months R and W practitioners now holding A posts and practitioners of either sex ineligible for military service or rejected by the R.A.M.C. may apply. Further particulars and form of application, which must be returned not later than September 20, 1945, are obtainable from the undersigned.—H. F. Rutherford, Secretary.

GATESHEAD MENTAL HOSPITAL, Stannington, near Morpeth, Northumberland.—Applications are invited for the post of TEMPORARY ASSISTANT MEDICAL OFFICER (B1), man or woman. Previous experience in a mental hospital is desirable but not essential. Salary £525 p a., plus the usual residential emoluments valued at £150, or, for a married man, £575 p.a., together with an unfurnished house, with fuel, light, and laundry valued at £100 p.a., plus £50 for D.P.M. Suitably qualified R practitioners holding B2 appointments, also those holding B1 and rejected by R.A.M.C., may apply. Applications to be sent to the Medical Superintendent at the above address.—J. W. Porter, Clerk of the Visiting Committee, Town Hall, Gateshead, August 18, 1945.

HULL ROYAL INFIRMARY.—Applications are invited from registered medical practitioners for the appointment of RESIDENT SURGICAL OFFICER (B1), vacant September. Preference will be given to candidates holding Diploma of F.R.C.S. Suitably qualified R practitioners holding B2 appointments, also those holding B1 and rejected by R.A.M.C., may apply. The holder of the post will be required also to undertake temporarily the duties of Senior House Surgeon. Salary £250 per annum, with full residential emoluments. Applications to R. J. Carless, House Governor.

GLOUCESTERSHIRE JOINT BOARD FOR TUBERCULOSIS. Standish House Sanatorium, Stonehouse, Glos. ((250 beds with Orthopaedic Block). TEMPORARY ASSISTANT MEDICAL OFFICER (B1) AND ASSISTANT TUBERCULOSIS OFFICER.—With the approval of the Minister of Health, the Board invite applications from registered male practitioners for the above joint appointment. In addition to his duties at the Sanatorium the successful candidate will be required to undertake duties at dispensaries, etc The commencing salary will be at the rate of £450 p.a. plus bonus, and will rise by annual increments of £25 to £600 p.a. plus bonus, with emoluments of a total value of £150, and travelling and subsistence allowances in accordance with the Board's scale will be paid. Candidates should have held a resident hospital appointment and an appointment in some institution recognized for the treatment of tuberculosis, and suitably qualified R practitioners holding B2 appointments are invited to apply. R practitioners now holding B1 appointments and rejected by the R.A.M.C. may also apply. The appointment is subject to the approval of the Minister of Health and will be determined by three months' notice in writing on either side, and the person appointed must satisfactorily pass a medical examination. Applications should be addressed to the Clerk of the Joint Board for Tuberculosis, Shire Hall, Gloucester, and should reach him not later than September 1, 1945.—Guy H. Davis, Clerk of the Joint Board for Tuberculosis.

GENERAL INFIRMARY AT LEEDS, Department for Treatment of Venereal Diseases.—Applications are invited from registered medical practitioners for the post of MEDICAL OFFICER in charge of the above Department. Consent of the Ministry of Health has been received to the making of this appointment. Candidates must have special experience in the treatment of venereal diseases in accordance with Local Government (Qualifications of Medical Officers and Health Visitors) Regulations, 1930. Salary will be at the rate of £1,000 per annum, with the right to engage in private consulting practice in venereal diseases. The successful candidate may also be appointed Clinical Lecturer in Venereal Diseases in the University of Leeds. Suitably qualified practitioners serving with His Majesty's Forces are invited to apply. Canvassing, either direct or indirect, will be a disqualification. Applications to be received by the undersigned not later than November 30, 1945.—S. Clayton Fryers, House Governor and Secretary.

HUDDERSFIELD ROYAL INFIRMARY (321 beds).—Applications are invited for the post of RESIDENT SURGICAL OFFICER (B1). Applicants should have held house appointments, and preference will be given to candidates holding diploma of F.R.C.S. Salary at the rate of £350 per annum, with full residential emoluments. Suitably qualified R and W practitioners holding B2 appointments, and also R practitioners holding B1 appointments and rejected by the R.A.M.C., may apply. Applications should be addressed to H. J. Johnson, Gen. Supt. and Secretary.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.3.—Applications are invited from registered medical practitioners, male and female, including suitably qualified R and W practitioners who now hold B2 posts, for the appointment of RESIDENT SURGICAL OFFICER (B1), for which there are two vacancies. Applicants must have held a resident hospital appointment, and R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. The appointment is for six months, commencing on November 1. Salary at the rate of £150 p.a., with board and residence, and an additional £25 p.a. for services in connexion with paying patients.

Applications are also invited for the following appointments from registered medical practitioners, male and female, including R and W practitioners who now hold A posts:

ASSISTANT RESIDENT MEDICAL OFFICER (B2). Experience in artificial pneumothorax essential, and in the ear, nose, and throat work desirable. Salary at the rate of £150 per annum, with board aned residence. The appointment is for six months, commencing November 1, 1945.

HOUSE PHYSICIAN (B2). The duties include work in the Out-patient Department as well as in the wards, and the appointment is for six months, commencing on November 1, with an honorarium of £50 and board and residence.

HOUSE PHYSICIAN (B2) at the Sanatorium at Frimley. The appointment is for six months, commencing on November 1, with an honorarium of £50 and board and residence.

Applications should reach the undersigned not later than Saturday September 8, 1945.—F. G. Rouvray, Secretary, Brompton.

KETTERING AND DISTRICT GENERAL HOSPITAL. HOUSE SURGEON (A); HOUSE PHYSICIAN (A).—Applications are invited from registered medical practitioners, male and female, for the above appointments, which are now vacant, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by practitioners who are liable under these Acts, appointments will be for a period of six months. Salary is at the rate of £250 and £200 per annum respectively, with full residential emoluments.—G. W. Jackson, Secretary-Superintendent.

IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page 10

HIGH WYCOMBE AND DISTRICT WAR MEMORIAL HOSPITAL (100 beds).—Applications are invited for the following posts:

(1) RESIDENT MEDICAL OFFICER (B2). Salary £200 per annum, vacant October 1.

(2) HOUSE SURGEON (A). Salary £175 per annum, vacant September 24.

Both plus residential emoluments. For the B2 post R and W practitioners holding A posts may apply, when appointment will be for six months. For the A post practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for six months. Applications to E. Barber, Secretary.

ISOLATION HOSPITAL, Clatterbridge, Wirral. RESIDENT MEDICAL OFFICER (B1).—Applications are invited from registered medical practitioners for the appointment of Resident Medical Officer (B1), vacant shortly. The hospital is a training school, and applicants must be prepared to lecture to nurses. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. The hospital is within easy distance of the Liverpool Medical School, and time will be allowed, as the work of the hospital permits, for attendance at higher qualification classes. Salary £265 p.a. (including war bonus), with full residential emoluments. The appointment is for one year only, and is not renewable. Applications should be sent immediately to the Clerk to the Wirral Joint Hospital Board, Isolation Hospital, Clatterbridge, Wirral.

INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY, South Shields.—Applications are invited from medical practitioners, male or female, for the post of HOUSE SURGEON (A). The appointment is for a period of six months. Salary at the rate of £175 per annum, with full residential emoluments. Applications to be sent to the undersigned immediately.—Henry F. Pitt, House Governor and Secretary.

KING GEORGE HOSPITAL, Ilford.—Applications are invited for the appointment of an HONORARY PHYSICIAN in charge of the Department of Physical Medicine. Applications from Service candidates are invited. Applications should reach the undersigned not later than December 8, 1945. G. Austin Hepworth, Secretary and Superintendent.

KINGSTON - UPON - HULL CORPORATION HEALTH DEPARTMENT. Anlaby Road Hospital (581 beds). TEMPORARY ASSISTANT MEDICAL OFFICER (B1).—Applications are invited for the above temporary appointment from registered medical practitioners of either sex. Salary £350 per annum, plus war bonus, together with an allowance at the rate of £150 per annum in lieu of board, residence and laundry outside the hospital. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C.. Forms of application, etc., may be obtained from, and should be returned to, the Medical Officer of Health, Guildhall, Kingston-upon-Hull, at the earliest possible moment.

KIDDERMINSTER AND DISTRICT GENERAL HOSPITAL.—Applications are invited from registered medical practitioners, male and female, for the following appointments: SENIOR HOUSE SURGEON (B2). R and W practitioners now holding A posts may apply. If held by an R practitioner the appointment will be limited to six months. Salary from £200 per annum according to experience. Applications should be sent to the undersigned immediately.—C. M. Smith, House Governor and Secretary.

LONDON HOSPITAL, E.1.—There will be the following vacancies (B1) at the above hospital on October 1, 1945:

SURGICAL FIRST ASSISTANT AND REGISTRAR, non-resident, £450 per annum. Candidates must be Fellows of the Royal College of Surgeons.

SURGICAL FIRST ASSISTANT to the Accident and Orthopaedic Department, resident, £350 per annum. Preference will be given to candidates who are Fellows of the Royal College of Surgeons.

JUNIOR RESIDENT ANAESTHETIST, resident, £200 per annum.

R practitioners now holding B2 posts may apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. The appointments in the first place will be for one year. Applications to be sent to the House Governor, from whom further particulars may be obtained, should arrive not later than the first post on Monday, September 10, 1945.—Henry Brierley, House Governor.

LONGTON HOSPITAL, Stoke-on-Trent, Staffs. HOUSE SURGEON (A).—Applications are invited from registered medical practitioners, male and female, for the appointment of House Surgeon (A), including practitioners within three months of qualification who are liable under the National Service Acts. If held by a practitioner who is liable under these Acts the appointment will be for a period of six months. Salary is at the rate of £200 per annum, plus bonus of £75 on completion of the first six months' service, with full residential emoluments. Applications to B. Pitt, Secretary.

LEICESTER ROYAL INFIRMARY (940 beds).—Vacancies, October 1, 1945. RESIDENT MEDICAL OFFICER (B1). Salary £250. ORTHOPAEDIC AND FRACTURE HOUSE SURGEON (B2). Salary according to experience with minimum of £200. Two RESIDENT ANAESTHETISTS (B2). Salary £150 per annum. GYNAECOLOGICAL AND OBSTETRIC HOUSE SURGEON (A). Salary £125 per annum. CASUALTY OFFICER (A). Salary £150 per annum. Two HOUSE PHYSICIANS (A). Salary £150 per annum. OBSTETRIC HOUSE SURGEON (A). Salary £150 per annum. This vacancy is at the Leicester and Leicestershire Maternity Hospital, Causeway Lane, Leicester. Six months' appointments, all with full residential emoluments. For the B1 post suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. For the B2 posts R and W practitioners holding A posts may apply. For the A posts practitioners within three months of qualification and liable under the National Service Acts may apply. Appointments will be made on September 5, 1945. Applications should be forwarded on or before August 27.—H. T. Plowman, House Governor and Secretary.

LEEDS PUBLIC DISPENSARY AND HOSPITAL.—Applications are invited for the post of HONORARY OPHTHALMIC SURGEON. Candidates must be Fellows of the Royal College of Surgeons of England. The appointment to be on a temporary basis during the period of war, and for a period of twelve months thereafter. Applications to be addressed to the undersigned.—Charles F. J. Maury, Secretary and Superintendent.

LLANDUDNO AND DISTRICT HOSPITAL, Llandudno (70 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (A), vacant now, including practitioners within three months of qualification who are liable for service under the National Service Acts. If held by a practitioner liable under these Acts appointment will be for a period of six months. Salary £150 per annum, with full residential emoluments. Applications should be addressed to the Secretary.

MERTHYR GENERAL HOSPITAL (115 beds).—Applications are invited from registered medical practitioners for the appointment of a RESIDENT HOUSE SURGEON, male or female (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. The appointment will be for a period of six months. Salary at the rate of £200 per annum, with board and lodging.—Applications to the Secretary, Merthyr General Hospital, Merthyr Tydfil.

MONMOUTHSHIRE MENTAL HOSPITAL, Abergavenny.—Applications are invited from registered medical practitioners, male or female, for the post of RESIDENT ASSISTANT MEDICAL OFFICER (B1) at the above Mental Hospital. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R and W practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary £400 per annum, rising by annual increments of £25 to £450 (with an additional £50 per annum for those in possession of the D.P.M.), with rooms, board, attendance, and laundry. The appointment is subject to the provisions of the Asylums Officers' Superannuation Act, 1909. Applications should be sent to the Medical Superintendent immediately.

MOUNT VERNON HOSPITAL AND THE RADIUM INSTITUTE, Northwood, Middlesex.—Applications are invited from registered medical practitioners for the appointment of HOUSE SURGEON (A) in the Cancer Department, vacant October 1. Salary is at the rate of £200 p.a., with full residential emoluments. Practitioners within three months of qualifications and liable under the National Service Acts may apply, when the appointment will be for a period of six months. Applications to be forwarded to the Secretary by Sept. 7, 1945.

MONTAGU HOSPITAL, Mexborough, Yorkshire (123 beds).—Applications are invited from registered medical practitioners, male, for the appointment of HOUSE SURGEON (A). Commencing salary at the rate of £200 p.a., with usual residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when appointment will be for a period of six months.—Applications to A. W. Youngs, F.C.I.S., Secretary-Superintendent.

NORTH WALES COUNTIES MENTAL HOSPITAL, Denbigh. HOUSE PHYSICIAN (B2).—Applications are invited from registered medical practitioners, male and female, for the appointment of House Physician, now vacant, including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months, otherwise it will be for a period not exceeding one year. The salary is at the rate of £200 per annum, with full residential emoluments. The post is suitable for applicants wishing to obtain experience of modern psychiatric practice. Applications to be sent to Medical Superintendent.

NATIONAL TEMPERANCE HOSPITAL, Hampstead Road, N.W.1.—Applications are invited for the post of CASUALTY OFFICER (A) under the E.M.S. The appointment is for a period of six months, commencing October 1. Salary £150 per annum, with board, residence and laundry allowance. Applications by September 5, addressed to the Secretary.

NORTHAMPTON GENERAL HOSPITAL (408 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A). Salary at rate of £150 p.a., with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointments will be for a period of six months. Applications should be sent to Gordon S. Sturtridge

NOTTINGHAM AND MIDLAND EYE INFIRMARY.—A vacancy has occurred in the office of HONORARY ASSISTANT SURGEON. The Committee of Management invites applications for the appointment, which will be a temporary one, in accordance with the B.M.A. recommendations. Applications with proof of qualifications and testimonials should reach the undersigned at the Ropewalk, Nottingham, not later than September 5. Candidates should submit 30 copies of their applications and testimonials for the information of the Election Committee. The election will be held on Sept. 14, 1945.—T. Russell Moore, Sec.

NORTH STAFFORDSHIRE ROYAL INFIRMARY, Stoke-on-Trent.—Applications are invited from registered medical practitioners, male and female, including R and W practitioners who now hold A posts, for the post of HOUSE SURGEON (B2) to Ear, Nose and Throat, and Eye Departments. If held by an R practitioner appointment will be limited to six months. Salary is at the rate of £185 per annum, with full residential emoluments. Applications to be sent as soon as possible to the House Governor

NATIONAL SANATORIUM, Benenden, Kent (156 beds). — Applications are invited from registered medical practitioners, male and female, including practitioners within three months of qualification who are liable to service under the National Service Acts, for the appointment of a HOUSE PHYSICIAN (A) for the above Sanatorium. Duties to commence September. The appointment will be for a period of six months. Salary at the rate of £200 per annum, with full residential emoluments. Applications to be sent to the Honorary Secretary.

NORTH ORMESBY HOSPITAL, Middlesbrough.—Applications are invited from the registered medical practitioners for the appointment of two HOUSE SURGEONS (A). Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for six months. Salary £120 per annum rising by £20 per annum after each six months' service to a maximum of £160 per annum with board, residence and laundry. Applications to be sent to the undersigned.—George Watts, Secretary-Superintendent.

NOTTINGHAM GENERAL HOSPITAL (712 beds, including E.M.S. beds).—Applications are invited from registered medical practitioners, male and female, including practitioners within three months of qualification who are liable to service under the National Service Acts, for the appointment of a RESIDENT CASUALTY OFFICER (A) for the above hospital. Duties to commence immediately. If held by a practitioner who is liable under these Acts appointment will be for a period of six months. Salary at the rate of £200 per annum, with full residential emoluments. Applications to be sent to the undersigned.—Henry M. Stanley, House Governor and Secretary.

OLDHAM ROYAL INFIRMARY (203 beds). DEPUTY RESIDENT SURGICAL OFFICER, who will act as Casualty Officer and Orthopaedic House Surgeon (B2).—Applications are invited from registered medical practitioners, male and female, for the appointment of Deputy Resident Surgical Officer, to take charge of the Casualty Department and to work under the Orthopaedic Surgeon, to become vacant September 24. R and W practitioners who now hold A posts may apply, when the appointment will be limited to six months, otherwise it will be for a period of twelve months. Salary is at the rate of £200 per annum, with full residental emoluments. Applications should be forwarded to the undersigned immediately.—F. W. Barnett, General Superintendent and Secretary.

PONTYPOOL AND DISTRICT HOSPITAL, Pontypool, Mon.—Applications are invited from registered medical practitioners, male and female, for the appointment of RESIDENT MEDICAL OFFICER (B2), medical and surgical beds, including R and W practitioners who now hold A posts. If held by an R practitioner, the appointment will be limited to six months, otherwise it may be extended for a further period. The salary is at the rate of £250 per annum, with full residential emoluments. Applications should be sent to N. A. Ball, Secretary.

IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page 10

POPLAR HOSPITAL, East India Dock Road, Poplar, E.14. HOUSE SURGEON (A).—Applications are invited from registered male medical practitioners for the appointment of a House Surgeon (A), now vacant, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary is at the rate of £175 per annum, with full residential emoluments. Applications should be sent to the undersigned.—D. H. Lindsay, House Governor and Secretary.

PERTH AND KINROSS JOINT COUNTY COUNCIL. DEPUTY COUNTY MEDICAL OFFICER OF HEALTH.—Applications are invited from duly qualified medical practitioners for the above appointment. The salary will be at the rate of £750 to £900 per annum by annual increments of £25, plus war bonus at J.I.C. rates (at present £60). A car allowance will be paid The person appointed will be required to assist the County Medical Officer in the general work of the department, and to carry out such duties as may be allocated. Clinical experience in infectious disease, including tuberculosis, is desirable. The post is normally a permanent one, but in accordance with the desire of the Department of Health for Scotland, the appointment will be, in the first place, of a temporary nature. The person appointed will be eligible to apply for the permanent post at a later date. The appointment is subject to the Local Government Superannuation (Scotland) Act, 1937. Suitably qualified R practitioners are invited to apply, but they must be able to state that they have obtained the sanction of the Secretary of State and the Scottish Central Medical War Committee to their application. Applications should be sent to the County Medical Officer, County Health Department, York Place, Perth, on or before September 15, 1945.—T. B. Marshall, County Clerk, Perth.

POOLE JOINT SANATORIUM BOARD. Poole Sanatorium, Nunthorpe, near Middlesbrough (315 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of JUNIOR ASSISTANT MEDICAL OFFICER (B2). The salary will be £250 p.a., with full residential emoluments, plus war bonus. R practitioners who now hold A posts may apply, when the appointment will be limited to six months, otherwise it will be for one year. Applications should be sent to the Medical Superintendent, Poole Sanatorium, Nunthorpe, near Middlesbrough, on or before August 30, 1945.—G. S. McIntire, Clerk to Board.

PETERBOROUGH AND DISTRICT MEMORIAL HOSPITAL (154 normal beds, E.M.S. beds 75, total 229). RESIDENT SURGICAL OFFICER (B1).—Applications are invited for the post of Resident Surgical Officer (B1) as from September 1, 1945. Salary at the rate of £350 per annum, with board and lodging. Suitably qualified R and W practitioners holding B2 posts, also those holding B1 posts and rejected by the R.A.M.C., may apply. Applications should be sent immediately to F. A. C. Taylor, House Governor and Secretary.

PRESTON ROYAL INFIRMARY · CASUALTY OFFICER (B2). Vacant now.—Applications are invited for the post of Casualty Officer (B2) in busy department from registered medical practitioners, including R and W practitioners now holding A posts. If held by R practitioner, the appointment will be for six months Salary £200 per annum with full residential emoluments. Applications to be sent to the Superintendent

QUEEN CHARLOTTE'S MATERNITY HOSPITAL, Goldhawk Road, Hammersmith, London, W.6.—Applications are invited from registered medical practitioners for the following appointments:

ASSISTANT RESIDENT MEDICAL OFFICER (B1) for three months, vacant October 1, 1945. Applicants should have held house appointments and had obstetric experience. Preference will be given to candidates holding the diploma of F.R.C.S. Salary is at the rate of £80 per annum, with full residential emoluments. On completion of the three months, the selected applicant will be expected to apply for the post of Senior Resident Medical Officer (B1), also for three months. Salary at the rate of £100 per annum. Suitably qualified R and W practitioners holding B2 appointments, also R practitioners holding B1 appointments and rejected by the R.A.M.C., may apply.

Also DISTRICT RESIDENT MEDICAL OFFICER (B2) for six months, vacant October 1, 1945. Salary at the rate of £90 per annum, with full residential emoluments. R and W practitioners holding A posts may also apply.

Applications should be sent to the Secretary by Sept. 2.—H. B. Stokes, Secretary-Superintendent.

ROTHERHAM HOSPITAL, Doncaster Gate, Yorkshire, General Voluntary Hospital (150 beds). HOUSE PHYSICIAN (A), salary £225 per annum, with full residential emoluments. Applications are invited from registered medical practitioners, male or female, for the above appointment, which will become vacant shortly Practitioners within three months of qualification who are liable to service under the National Service Acts may also apply, when the appointment will be for six months. Applications should be sent at once to the Secretary-Superintendent.

QUEEN ELIZABETH HOSPITAL FOR CHILDREN, Hackney Road, London, E.2. HOUSE PHYSICIAN (A).—Applications are invited from registered medical practitioners, including practitioners within three months of qualification who are liable to serve under the National Service Acts, for the appointment of House Physician (A), to become vacant on October 1, 1945. Salary at the rate of £150 per annum, with full residential emoluments. Appointment will be for six months. Application forms may be obtained from the undersigned, and should be returned with copies of not more than three testimonials on or before September 5, 1945.—Charles H. Bessell, General Secretary.

QUEEN MARY'S HOSPITAL FOR THE EAST END, Stratford, London, E.15.—Applications are invited for the post of TEMPORARY HONORARY ASSISTANT OTO-RHINO-LARYNGOLOGIST to the above hospital. The appointment is of a temporary nature as no permanent appointments are being made for the time being. Candidates must be Fellows of the Royal College of Surgeons and be engaged in consulting practice in the specialty. Further particulars can be obtained from the undersigned, and applications must be received not later than September, 15, 1945.—M. J. Huntley, House Governor and Secretary.

RADCLIFFE INFIRMARY, Oxford.—The Radcliffe Infirmary, Oxford, invites applications for the post of TEMPORARY NEUROLOGIST. The holder of the appointment will also be attached, in a consulting capacity, to associated hospitals in the Oxford area, and he will be expected to teach in the Oxford University Medical School. He will also assist the Ministry of Pensions in connexion with a scheme for the treatment and rehabilitation of Service patients suffering from the effects of head injuries. Emoluments, including payments from the Ministry of Pensions, supplemented by a contribution from the Nuffield Provincial Hospitals Trust, will amount to £2,000 per annum, with superannuation. Private practice for personal gain will not be permitted. The Nuffield Provincial Hospitals Trust propose to make a grant in support of research and ancillary services in connexion with the scheme. Applicants must be under 50 years of age, and preference will be given to those with special experience of head injuries. Applications should reach the Administrator of the Radcliffe Infirmary, Oxford, by September 15, 1945, accompanied by the names of referees. Applications by cablegram will be accepted from Service personnel. Further information can be obtained from the Administrator.

ROYAL WEST OF ENGLAND SANATORIUM AND E.M.S. HOSPITAL, Weston-super-Mare, Somerset (172 beds).—Applications are invited from medical practitioners for the appointment of HOUSE PHYSICIAN (A). Duties to commence September 1. Salary is at the rate of £200 p.a., with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when the appointment will be for a period of six months. Applications should be addressed to Leslie J. Fursland, Secretary.

ROYAL SHEFFIELD INFIRMARY AND HOSPITAL. Royal Hospital Unit.—Applications are invited from registered medical practitioners, male and female, for the following appointments at the Royal Hospital, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts appointment will be for a period of six months, otherwise it may be extended. Salary is at the rate of £80 per annum, with full residential emoluments. A bonus of £20 will be payable after six months' satisfactory service, and a further bonus of £10 after a second six months' satisfactory service OPHTHALMIC HOUSE SURGEON (A). This post is recognized for the D.O.M.S. ASSISTANT CASUALTY OFFICER, with Orthopaedic Duties (A). EAR, NOSE AND THROAT HOUSE SURGEON (A).

Applications are also invited from registered medical practitioners for the appointment of RESIDENT CASUALTY OFFICER (B1) at the Royal Hospital. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £150 per annum.

Applications for each post to be forwarded to the undersigned immediately.—Percy N. Glass, General Superintendent.

ROYAL HALIFAX INFIRMARY (Class 1A, E.M.S.) (250 beds).—Applications are invited for the post of RESIDENT SURGICAL OFFICER (B1) male. Salary £250 per annum, with residence, board and laundry. Preference given to one holding the F.R.C.S. R practitioners who now hold B2 posts may apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Applications should be sent to the undersigned immediately.— A. Midgley, Secretary.

ROYAL HOSPITAL, Wolverhampton (Incorporated under Royal Charter).—The Board of Management invite applications for the post of HONORARY ASSISTANT GYNAECOLOGIST AND OBSTETRICIAN. Candidates must be Fellows of the Royal College of Surgeons of England (or Edinburgh) and preferably Members of the Royal College of Obstetricians and Gynaecologists, and will be required to confine their private work to consulting obstetrical and gynaecological practice only. The appointment will be for the period of the war, in accordance with the B.M.A recommendation. Applications should be sent not later than September 3 to the undersigned from whom further particulars may be obtained.—W. Cockburn, House Governor.

ROYAL LANCASTER INFIRMARY. Lancaster (311 beds.) Hospital recognized by the Royal College of Surgeons (England) for two Senior Posts. —Applications are invited from registered medical practitioners, male and female, for the post of SECOND HOUSE SURGEON (B2), Orthopaedic and Casualty, vacant immediately. Salary £210 per annum, with full residential emoluments. R and W practitioners holding A posts may apply, when the appointment will be limited to six months, otherwise it may be extended. Applications should be sent to the undersigned.—C. H Grimshaw, Superintendent-Secretary.

ROYAL SHEFFIELD INFIRMARY AND HOSPITAL.—Applications are invited from registered medical practitioners, including medical officers recently demobilized from H.M. Forces, for the following appointment (B1), vacant November: FIRST ASSISTANT to the Ophthalmic Department, Royal Infirmary Unit. Suitably qualified R and W. practitioners now holding B2 posts may apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £650 p.a., non resident. Applications should reach the undersigned not later than September 1, 1945.—P. N. Glass, General Superintendent, Royal Infirmary, Sheffield, 6.

ROTHERHAM HOSPITAL, Doncaster Gate, Rotherham (General Voluntary Hospital — 150 beds).—SECOND CASUALTY OFFICER (A). Salary £225 per annum, with full residential emoluments. Applications are invited from registered medical practitioners, male and female, for the above appointment, now vacant. Practitioners within three months of qualification liable to service under the National Service Acts may also apply, when the appointment will be for six months. Applications should be sent at once to the Secretary-Superintendent.

ROBERT JONES AND AGNES HUNT ORTHOPAEDIC HOSPITAL, Oswestry (380 beds plus 160 E.M.S. beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of RESIDENT HOUSE SURGEON (B2), vacant October 17, 1945. Salary £200 p.a., with full residential emoluments. R and W practitioners who now hold A posts may apply. If held by an R practitioner appointment will be limited to six months. Applications to be forwarded at once to John C. Menzies, Secy.-Superintendent.

ROYAL CANCER HOSPITAL (FREE) (Incorporated under Royal Charter), Fulham Road, London, S.W.3.—Applications are invited from registered medical practitioners for the appointment of HOUSE SURGEON (B2), to commence duties on October 1, 1945, including R and W practitioners who now hold A posts. The appointment is for six months and subject to rules, a copy of which can be obtained from the Secretary. Salary £200 per annum, with full residential emoluments. Applications, to be made on a form which will be supplied by the Secretary, with copies only of not more than three recent testimonials, to be sent to the Secretary not later than the first post on Wednesday, September 12, 1945.—Victor H. Pinkham, Secretary.

ROYAL FREE HOSPITAL, Gray's Inn Road, London, W.C.1.—Applications are invited from registered medical practitioners for the appointment of OBSTETRIC HOUSE SURGEON (B2) (with some gynaecological work), including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be for six months from October 1. Salary £200 p.a., payable by the E.M.S. Applications should be sent to the undersigned on or before September 8.—Richard T. Bartley, Secretary.

ROYAL SHEFFIELD INFIRMARY AND HOSPITAL.—Applications are invited from registered medical practitioners, including medical officers recently demobilized from H.M. Forces, for the appointment of ASSISTANT PATHOLOGIST (B1) at the Royal Infirmary, now vacant. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £450 per annum, non-resident. Applications should be forwarded to the undersigned forthwith.—P. N. Glass, General Superintendent, Royal Infirmary, Sheffield, 6.

IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page 10

ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY, Wigan.—Applications are invited from registered medical practitioners for the appointment of a HOUSE SURGEON (B2), male, vacant October 1, 1945. Salary £175 per annum, with full residential emoluments. R practitioners who now hold A posts may apply, when appointment will be limited to six months: otherwise it may be extended for a further period. Applications should be sent to the undersigned as soon as possible.—A. Stanley Brunt, General Supt. and Secretary.

ROYAL GWENT HOSPITAL, Newport, Mon. (255 beds. — Applications are invited for the appointment of HOUSE SURGEON (A), vacant now. Salary at the rate of £175 per annum, with full residential emoluments, including practitioners within three months of qualification liable to service under the National Service Acts. If held by a practitioner liable under these Acts, appointment will be for a period of six months. Applications should be sent to the undersigned immediately.—Alan Ruddle, Secretary-Superintendent.

ROYAL BERKSHIRE HOSPITAL, Reading.—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE PHYSICIAN (A), vacant October 23, 1945. Salary is at the rate of £150 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when the appointment will be for a period of six months. Applications should be sent immediately to H. E. Ryan, Secretary and House Governor.

ROYAL HOSPITAL, Wolverhampton (Incorporated under Royal Charter) (500 beds). DERMATOLOGIST.—Notice is hereby given that the Board of Management of the Royal Hospital, Wolverhampton, wish to let it be known that a vacancy will shortly occur on the Honorary Staff of the Royal Hospital for a Dermatologist.

PAEDIATRICIAN. Notice is also given that the Board of Management of the Royal Hospital, Wolverhampton, wish to let it be known that it has been decided to create the post of Paediatrician on the Honorary Staff of the Royal Hospital.

The Royal Hospital, Wolverhampton, is an Associated Hospital of the University of Birmingham Medical Faculty for Clinical Teaching.

Inquiries will be welcomed from prospective candidates (including Serving officers), who must hold a higher qualification in medicine, and have had experience in the above departments of medicine.—W. Cockburn, House Governor.

ST ALBANS AND MID-HERTS HOSPITAL, Church Crescent, St. Albans, Herts. (75 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of RESIDENT MEDICAL OFFICER (B2), vacant in October. Salary at the rate of £200 p.a., with full residential emoluments. R and W practitioners holding A posts may apply. If held by an R practitioner the appointment will be limited to six months. Applications should be sent to P. R. Battison, Secretary.

ST. JOHN'S HOSPITAL, LEWISHAM, S.E.13.—There is an immediate vacancy for a TEMPORARY HONORARY GYNAECOLOGIST, for which applications are invited from candidates holding the English F.R.C.S. The successful applicant will have charge of beds, and take one out-patient clinic weekly. Further particulars may be obtained from the undersigned.—J. C. Gilbert, Sec.-Supt.

SALISBURY GENERAL INFIRMARY.—Applications are invited from registered medical practitioners for the appointment of RESIDENT MEDICAL OFFICER (B1). Applicants must have held house appointments and had surgical experience. Suitably qualified R and W practitioners now holding B2 posts may apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. The salary is at the rate of £350 per annum, with full residential emoluments. Applications to John Williams, Supt. and Secretary.

SOUTH SHIELDS GENERAL HOSPITAL.—Applications are invited from registered medical practitioners, male and female, for the appointment of a HOUSE SURGEON (A), including practitioners within three months of qualification and liable under the National Service Acts, when appointment will be for six months, otherwise twelve months. Salary is at the rate of £200 per annum, with full residential emoluments and cost-of-living bonus, at present at the rate of £29 18s. per annum. Applications should be sent to the Medical Officer of Health, Public Health Department, Stanhope Road, South Shields.—Harold Ayrey, Town Clerk.

IMPORTANT NOTICE

APPOINTMENTS

Medical practitioners are requested **not to apply** for any appointment referred to in this notice without first having communicated with the Secretary to the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of the Australian appointment, with the Secretary at B.M.A. House, or the Hon. Secretary, Western Australian Branch, Shell House, 205, St. George's Terrace, Perth).

GOVERNMENT SERVICE

COMMISSIONER OF PUBLIC HEALTH. Perth, Western Australia.

CONTRACT PRACTICE

ABERTYSSWG MEDICAL AID SOCIETY.—*(Medical Officer.)*

LLWYNYPIA, CLYDACH VALE, PEN-Y-GRAIG, GLAMORGAN.—*(Workmen's Medical Scheme.)*

MID-RHONDDA MEDICAL AID SOCIETY.—*(Assistant Medical Officer.)*

NEATH AND DISTRICT.—*(Medical Aid Association.)*

OGMORE VALLEY, GLAMORGAN.—*(Wyndham Colliery Medical Aid Society)* *(Workmen's Medical Scheme.)*

PUBLIC ASSISTANCE

CITY AND COUNTY OF BRISTOL. PUBLIC ASSISTANCE COMMITTEE.—*(District Medical Officer.)*

By Order of the Council.

CHARLES HILL,
August 21, 1945. *Secretary.*

STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A). Salary £196 per annum, with board residence. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when appointment will be for six months. Applications to be forwarded to the undersigned.—A E. Collins, Secretary.

SCARBOROUGH HOSPITAL, Yorkshire (normally 140 beds).—Applications are invited from registered medical practitioners for the post of HOUSE SURGEON (A). The appointment is for six months, commencing September 1, 1945, and the salary is at the rate of £175 per annum, with board, residence, laundry, etc. Practitioners within three months of qualification and liable under the National Service Acts may also apply. Applications to be sent immediately to the Secretary.

SOUTH LONDON HOSPITAL FOR WOMEN, Clapham Common, S.W.4.—Applications are invited from registered medical female practitioners for the appointment of RESIDENT MEDICAL OFFICER (B1), with care of obstetric department, some gynaecological beds, out-patient clinics and administrative work, from October 1, 1945. Applicants should have held house appointments. Suitably qualified W practitioners holding B2 appointments are invited to apply. Minimum salary at the rate of £150 a year, with full residential emoluments.

Applications are also invited from registered medical female practitioners for the undermentioned appointments, to become vacant on October 1, 1945: HOUSE PHYSICIAN (A), including practitioners within three months of qualification who are liable for service under the National Service Acts. GYNAECOLOGICAL HOUSE SURGEON (B2), including W practitioners who now hold A posts. This appointment is recognized for M.R.C.O.G. Both appointments are for a period of six months with salary at the rate of £100 per annum, plus full residential emoluments.

Applications for each post should be sent to the Secretary at the Hospital by Saturday, September 16, 1945.

TAUNTON AND SOMERSET HOSPITAL (136 beds, plus 30 E.M.S., 3 residents).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. Salary £175 p.a. with full residential emoluments. If held by a practitioner liable under these Acts, appointment will be for six months Applications to the Secretary-Superintendent, Taunton and Somerset Hospital, Taunton.

SOUTHAMPTON CHILDREN'S HOSPITAL (55 beds).—Applications are invited from registered medical practitioners, men or women, for the appointment of RESIDENT MEDICAL OFFICER (B2), now vacant. Salary is at the rate of £200 p.a., with full residential emoluments. R and W practitioners who now hold A posts may apply. If held by an R practitioner appointment will be limited to six months. Applications should be sent immediately to Ella K. Matthews, Secretary.

SUSSEX MATERNITY HOSPITAL, Buckingham Road, Brighton (65 beds and Districts).—HOUSE SURGEON (B2) required immediately, appointment for six months. Salary £250 per annum. R and W practitioners now holding A posts may apply. Apply to Secretary.

SALVATION ARMY. The Mothers' Hospital, Clapton, E.5.—Applications are invited from medical women for the post of JUNIOR RESIDENT MEDICAL OFFICER (B2), vacant October 1, 1945. Salary £110 per annum, with board, residence, and laundry. The appointment is for six months. W practitioners who now hold A posts may also apply. Applications to be sent to the Secretary-Superintendent, Col. Fred Hammond, and must be received by September 7, 1945.

VICTORIA CENTRAL HOSPITAL, Wallasey.—Applications are invited for the post of HONORARY ASSISTANT GYNAECOLOGIST. In accordance with the recommendations of the British Medical Association the position will be regarded as a wartime temporary post in the first place. Applications should be addressed to the undersigned.—Arthur S. Clark, Secretary-Supt.

VICTORIA HOSPITAL, Burnley (183 beds).—Applications are invited from registered medical practitioners for the appointment of HOUSE PHYSICIAN (A), now vacant. Salary at the rate of £200 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when appointment will be for a period of six months. Applications should be sent to the undersigned.—J. E. Wheatcroft, Secretary.

WILLESDEN GENERAL HOSPITAL, Harlesden Road, N.W.10.—Applications are invited for the following posts: (1) TEMPORARY HONORARY PHYSICIAN. Wartime appointment only. Candidates must be M.D. and F.R.C.P. or M.R.C.P Lond. and not engaged in general practice. (2) MEDICAL REGISTRAR. Part-time for six sessions per week. Candidates must be M.D. or M.R.C.P.Lond. or preparing for such higher qualification, and not engaged in general practice. Salary £350 per annum, non-resident. Applications stating full particulars and giving names of three referees to be forwarded to the undersigned from whom copies of the regulations can be obtained. To provide opportunity for those serving in H.M. FORCES to apply, applications will be received up to November 30, 1945.—J. N. Drake, Secretary.

WATFORD AND DISTRICT PEACE MEMORIAL HOSPITAL (256 beds).—Applications are invited from registered medical practitioners for the post of RESIDENT ANAESTHETIST AND CASUALTY OFFICER (B2), recognized for the diploma of Anaesthetics, vacant in the middle of September. R and W practitioners who hold A posts may also apply. If held by an R practitioner appointment will be limited to six months. Salary will be at the rate of £200 per annum, with full residential emoluments. Applications should be sent to the undersigned immediately.—H. M. Maskell, Administrator.

WALSALL GENERAL HOSPITAL (181 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of CASUALTY OFFICER AND ORTHOPAEDIC HOUSE SURGEON (B2), including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months. Salary is at the rate of £200 a year, with full residential emoluments. Applications should be forwarded immediately to the undersigned.—W. H. Harper, Honorary House Governor.

WORCESTER ROYAL INFIRMARY.—Applications are invited for the position of HOUSE SURGEON (A). The salary will be at the rate of £120 a year, with full residential emoluments. Practitioners within three months of qualification and liable under National Service Acts may apply, when the appointment will be for six months. Applications should be addressed to the undersigned.—Harold Wigg, Acting Supt.-Secretary.

Founded 1892. THE LONDON AND COUNTIES Assets exceed £100,000.
MEDICAL PROTECTION SOCIETY
Members receive advice and assistance in all matters affecting the practice of their profession and are afforded COMPLETE INDEMNITY against costs and damages in cases undertaken on their behalf.
Subscription, £1. No entrance fee to those joining within twelve months of registration. Entrance fee, 10/-.
Full Particulars from the Secretary, VICTORY HOUSE, LEICESTER SQUARE, W.C.2. Gerrard 4553 and 4814.

CHARGES FOR CLASSIFIED ADVERTISEMENTS

Circulation 53,000

Advertisements should reach the Advertisement Manager not later than the THURSDAY, ten clear days before publication.

Cancellation cannot be accepted after 10 a.m. MONDAY for current week's issue.

To economize in accounting, postage and collection, **all advertisements should be paid for at time of order.** Publication will be in the earliest possible issue, but delay is unavoidable in present circumstances.

1. TO MEMBERS OF THE ASSOCIATION the cost of advertisements for Assistants, Dispensers, Locums, Partnerships, *Practices, Secretaries, is ten shillings for 24 words, including name and address. When a Box Number is used, it must be reckoned as six of the total number of words in each advertisement.

1s. *extra* should be added for each insertion to cover the Box fee and postage of replies

Additional words 2s. 6d. for every six, or part.

Please mark advertisements clearly, *MEMBE.*

2. To all other (private) advertisers the charge under the headings specified above, para. 1, is 12s. (minimum) for 24 words, including name and address. When a Box Number is used, it must be reckoned as six of the total number of words in each advertisement.

1s. *extra* should be added for each insertion to cover the Box fee and postage of replies

Additional words 3s. for every six, or part.

* SALE OF PRACTICE. The name and address of owner and of the firm negotiating the sale must accompany the advertisement. These details are not for publication.

3. Consulting rooms, Dietetic, Duplicating, Hotels, Houses, Miscellaneous, Motor Cars, Typing, the charge is same as para. 2.

Personal, Notices, University and Industrial Appointments, minimum charge is 20s. for 24 words, including name and address. When a Box Number is used, it must be reckoned as six of the total number of words in each advertisement.

1s. *extra* should be added for each insertion to cover the Box fee and postage of replies.

Additional words 5s. for every six or less

Educational, Hospitals, Public Health Appointments. 3s a line, minimum charge 15s.

Births, Marriages, and Deaths.—The charge for an insertion under this head is 10s. 6d. for 18 words or less. Extra words 3s. 6d. for each six or less. Payment should be forwarded with the notice, authenticated by the name and permanent address of the sender, and should reach the Advertisement Manager not later than first post Monday morning.

BOX NUMBERS.—A Box number is used in place of name and address to conceal identity of advertiser. In no circumstances will this information be divulged by this office. Separate applications should be written to each, addressed Box—, c/o B.M.J. (address as below). All applications are forwarded to the advertiser in plain closed envelopes.

TRADE ANNOUNCEMENTS. 20s. minimum 24 words. Extra words 5s. for six, or less.

Every effort is made to ensure the accuracy of advertisements appearing in the Journal No recommendation is implied by acceptance, and the British Medical Association reserves the right to refuse or interrupt the insertion of any advertisement

Advertisement Manager, British Medical Journal,
B.M.A. House, Tavistock Square, London W.C.1
Telephone: Euston 2111.
Telegrams: Articulate, Westcent, London

APPOINTMENTS—Hospitals and Public Health, commence at page 10

UNIVERSITY AND INDUSTRIAL APPOINTMENTS

CORNWALL WORKS DISPENSARY, Smethwick. —Applications are invited from registered medical practitioners for the appointment of MEDICAL OFFICER, mixed practice, approximately 1,000 panel, 900 private members. Salary £600 per annum plus substantial bonus. Application with copies of recent testimonials to Secretary as soon as possible.

EXAMINING SURGEONS: FACTORIES ACT, 1937.—The following appointment as Examining Surgeon under the Factories Act, 1937, is vacant: Hull in the County of York (East Riding). Applications, which should be received not later than September 12, 1945, should be sent to the Chief Inspector of Factories, 8, St. James's Square, London, S.W.1.

UNIVERSITY OF LONDON.—The Senate invite applications for the CHAIR OF PSYCHIATRY, tenable at the Maudsley Hospital (salary not less than £2,000). Applications must be received not later than November 5, 1945, by the Academic Registrar, University of London, Richmond College, Richmond, Surrey, from whom further particulars should be obtained.

OVERSEAS EMPLOYMENT.—MEDICAL STOREKEEPER required for Medical Department of large company operating in the Middle East, should be a pharmacist and have had previous experience as medical storekeeper in a general hospital and possess an all-round knowledge of medical stores and surgical appliances as required both for hospital and dispensary work, should also be able to act as medical secretary in addition to his other duties. Age 30 to 40. Salary (in sterling) plus allowances in local currency not less than £600 p.a., with free bachelor accommodation, passages out and home and kit allowance. Written applications (no interviews), giving the following essential details: (1) Full name, (2) date of birth, (3) National Service Registration number and Local Office shown on Registration Card, N.S.2., (4) medical grade if known, (5) if discharged from the Forces, particulars of service, number, rank, unit, and reasons for discharge, (6) qualifications and experience, (7) name and address of present employers, (8) details of present work, should be sent to the Secretary, Overseas Manpower Committee (Ref. 480/51), Ministry of Labour and National Service, York House, Kingsway, London, W.C.2. Applications cannot be acknowledged.

UNIVERSITY OF OTAGO, Dunedin, New Zealand. DIRECTOR OF SCHOOL OF DENTISTRY. —Applications are invited for the position of Professor of Dentistry and Director of the Dental School in the University of Otago. Salary £1,500 rising to £1,700 per annum (N.Z. currency). Full particulars may be obtained on application by September 15 to the High Commissioner for New Zealand, 415, Strand, London, W.C.2.

UNIVERSITY OF LONDON.—The Senate invite applications for the University CHAIR OF ANATOMY, tenable at St. Bartholomew's Hospital Medical College (salary not less than £1,150). Applications must be received not later than November 30, 1945, by the Academic Registrar, University of London, Richmond College, Richmond, Surrey, from whom further particulars should be obtained.

UNIVERSITY OF LIVERPOOL. GEORGE HOLT CHAIR OF PATHOLOGY.—The Council of the University invites applications for the George Holt Chair of Pathology at a salary of £1,500 per annum, together with superannuation within the Federated Superannuation System for Universities. The appointment will date from January 1, 1946, or as soon thereafter as may be practicable. Leave of absence may be granted to the professor-elect who is engaged upon National Service. Further particulars may be obtained from the undersigned, by whom applications (12 copies) should be received not later than October 31, 1945. Candidates who are over-seas may make application by cablegram, naming three referees.—Stanley Dumbell, Registrar.

NOTICES

MEDICAL REGISTRATION COUNCIL
NOTICE OF ELECTION
MEDICAL PRACTITIONERS' ACT, 1927

1. Notice is hereby given, pursuant to the Medical Practitioners' Act, 1927, and the Rules thereunder, that the Returning Officer will at 68, Fitzwilliam Square, Dublin, on Monday, the 3rd day of September, 1945, now next ensuing, between the hours of 10 a.m. and 12 noon, proceed to the nomination, and, if there is no opposition, to the election of two direct representatives to be members of the Medical Registration Council. Every registered medical practitioner resident in Ireland is qualified to be nominated as a candidate. Each candidate must be nominated by a separate nomination paper. Every registered medical practitioner resident in Ireland is entitled to take part in nominating two candidates, but no more. Every nomination paper must state the names, address, and registered qualification or qualifications of the candidate nominated; it must be signed by not less than twelve registered medical practitioners resident in Ireland, as nominating such candidate, and the address and registered qualification or qualifications of each medical practitioner so signing must be appended to his signature. Every nomination paper must contain a declaration in writing, signed by the person nominated, acknowledging that such person consents to be nominated.

2. Forms of nomination paper may be obtained at 68, Fitzwilliam Square, Dublin, between the hours of 10 a.m. and 12 noon on any day (not being a Sunday or public holiday) before the said 3rd day of September, 1945. Any application for a nomination paper to be sent by post must be accompanied by a prepaid addressed envelope. Every nomination paper must be delivered to the Returning Officer by post or otherwise either at the place above appointed for the purpose between the hours of 10 a.m. and 12 noon on the 3rd day of September, 1945, or at any place at which the Returning Officer may be found at any time at any day before the said 3rd day of September, 1945. In the event of the election being contested voting papers will be issued to the persons entitled to vote thereat as soon as practicable after the said 3rd day of September, 1945, and the day for the counting of the votes will be Saturday, the 13th day of October, 1945. Votes cast by voting papers received by the Returning Officer on or after the said 13th day of October, 1945, will not be counted.

Dated this 21st day of August, 1945.—Joseph W. Bigger, Returning Officer.

APPLICANTS ARE ADVISED not to send original testimonials when replying to advertisements. Copies will answer the purpose quite as well, and in the event of their being lost or mislaid no inconvenience will ensue.

THE FACT THAT GOODS made of raw materials in short supply owing to war conditions are advertised in this Journal should not be taken as an indication that they are necessarily available for export.

EDUCATIONAL

F.R.C.S.(EDIN)

POSTAL AND ORAL COURSES continued as usual. Full details.—H. C. Orrin, F.R.C.S Surgeons' Hall, Edinburgh.

THE BEDFORD PHYSICAL TRAINING COLLEGE, 37, Lansdowne Road, Bedford. Principal, Miss Stansfeld, O.B.E.; Vice-Principal, Miss Petit. Students are trained to become teachers in Gymnastics and Games, and the training, which extends over three years, includes Educational and Medical Gymnastics, Massage, Games, Dancing, and Swimming. Fees: £165 per annum. Two scholarships of £50 and two of £25 are offered annually.—For particulars, apply Secretary.

DIPLOMA IN PUBLIC HEALTH. THE ROYAL INSTITUTE of PUBLIC HEALTH AND HYGIENE.—The Course of Instruction may be commenced at any time. A prospectus and full particulars can be obtained from the Secretary, 28, Portland Place, London, W.1., Telephone: LANgham 2731-2.

EXAMINING BOARD IN ENGLAND
by the
ROYAL COLLEGE OF PHYSICIANS OF LONDON
and the
ROYAL COLLEGE OF SURGEONS OF ENGLAND

Notice is hereby given that the following examination will commence on the date stated below:

DIPLOMA IN CHILD HEALTH,
Monday, September 24.

Candidates who have fulfilled the necessary conditions and who desire to present themselves for examination must give notice in writing to the Secretary, Examination Hall, 8-11, Queen Square, London, W.C.1, at least twenty-one days before the date of the examination, transmitting at the same time such certificates as may be required by the regulations of the Board, together with the amount of the fee due (£6 6s.).—Horace H. Rew, Sec.

LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN, 8, Hunter Street, London, W.C.1. NOTICE. A. M. BIRD POSTGRADUATE SCHOLARSHIP IN PATHOLOGY. —Applications are invited for the above Scholarship, which is available from September 12, 1945, tenable for one year. The Scholarship is of the value of £200, with board-residence provided in addition, and is open to former students of the School only, to enable them to spend full-time in the Pathology Unit for general work in all branches of Pathology. Applicants should have held at least one house post, preferably medical. They must be prepared to work in the Pathology Unit at the Three Counties Emergency Hospital, Arlesey. Applications should be addressed to the undersigned at the School before August 30, 1945.—Nancie Moller, Warden and Secretary.

L.M.S.S.A. FINAL EXAMINATIONS. Surgery, Oct. 8, Nov. 12, Dec. 10. Medicine, Pathology, Oct. 15, Nov. 19, Dec. 17. Midwifery, Oct. 16, Nov. 20, Dec. 18.—For particulars apply Registrar, Apothecaries Hall, Black Friars Lane, E.C.4.

POSTAL COACHING for all Medical Examinations. Some successes from 1901-1944: M.D.Lond., 440; M.B., B.S.Lond., final, 386; M.R.C.S.Eng., primary, 332; F.R.C.S.Eng., final, 262; M.R.C.P Lond., 365; M.R.C.S., L.R.C.P., final, 815; D.A. (1936-44), 72; F.R.C.S.Edin. and D.R.C O.G., many successes. Assistance with M.D thesis. Special arrangements for medical officers with Forces. Medical prospectus (24 pp.) gratis, along with list of Tutors, etc., on application to the Principal.— University Examination Postal Institution, 17, Red Lion Square London W.C.1 Phone: HOLborn 6313.

MEDICAL CORRESPONDENCE COLLEGE, 19, Welbeck Street, London, W.1, provides Coaching for all Medical Examinations: D.A., D.P.M., D.O.M.S. D.L.O., D.C.H., M.R.C.P., F.R.C.S., M.D thesis, and all qualifying exams. by a staff of highly qualified Tutors, Honoursmen, and Gold Medallists. No interruption of Postal Courses during the war. Complete Guide to Medical Examinations sent free on application Applicants should state in which qualification they are interested.

NORTH-EAST LONDON POSTGRADUATE COLLEGE AND UNDERGRADUATE REVISION WORK. Prince of Wales's General Hospital, N.15.—Particulars from J. Browning Alexander, M.D., F.R.C.P., Dean.

POSTGRADUATE STUDY Instruction is arranged in medical, surgical, and special subjects, as circumstances permit Information and advice obtainable from the Fellowship of Postgraduate Medicine, 1, Wimpole St., London, W.1. Langham 4266

UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL (University of London). University Street, W.C.1

WINTER SESSION commences TUESDAY, October 2, 1945

Scholarships and Prizes exceeding £1,000 awarded annually, and numerous vacancies for House Appointments, also Senior Posts for Registrars, etc.

DENTAL SCHOOL DEPARTMENT

(National Dental Hospital, Great Portland St., W.)

Full particulars can be had on application to the Dean.

ASSISTANTSHIPS VACANT

WANTED urgently, ASSISTANT with VIEW partnership, well-established mixed practice Durham-Yorkshire border, excellent unfurnished flat, garage, etc., available.—Box 1232, B.M.J.

WANTED male ASSISTANT in N.E. Scotland, mixed town and country, salary according to experience.—Box 1475, B.M.J.

WANTED ASSISTANT, 5 miles Birmingham, private and panel practice, car and furnished flat provided, active principal, £700 p.a., suit ex-Service or recently qualified.—Box 1474, B.M.J.

WANTED, outdoor ASSISTANT, within 40 miles of London, in a non-panel practice.—Box 1420, B.M.J.

WANTED, indoor ASSISTANT, male, for non-colliery town in South Wales.—Box 1457, B.M.J.

WANTED on October 1, keen ASSISTANT, male or female, married or single, for large urban and rural practice, Midlands, excellent opportunity learn general practice work, surgery major and minor, anaesthetics, etc., accommodation outdoor, partnership considered subsequently, car provided, experience unnecessary, salary by agreement.—Box 1425, B.M.J.

WANTED immediately, LADY ASSISTANT, indoor, for general practice in Coventry, salary £500 plus car allowance, experience in midwifery an advantage.—Apply Box 1424, B.M.J.

WANTED, ASSISTANT, male or female, for general practice in Midland city, good accommodation provided, furnished or unfurnished, suit married man, experience in midwifery an advantage, own car essential, salary by arrangement.—Apply Box 1423, B.M.J.

WANTED, ASSISTANT, in pleasant urban Leicestershire practice, salary £1,000 per annum, definite VIEW to partnership for suitable applicant, two dispensers, no clerical work, car available if necessary.—Box 1422, B.M.J.

WANTED, married ASSISTANT for busy general practice near Newcastle-upon-Tyne, salary £720 and free house.—Box 1419, B.M.J.

WANTED, ASSISTANT, male or female, town West Midlands, indoor, house later, car provided, good salary, light work, with or without VIEW.—Box 1402, B.M.J.

WANTED immediately, outdoor ASSISTANT, British, good prospects suitable applicant, urban and rural district 18 miles Birmingham, excellent furnished rooms, £800 per annum, car or car allowance.—Box 1273, B.M.J.

WANTED, ASSISTANT with VIEW, modern growing town 20 miles north of London, pleasant country, unfurnished house or part of house available, £600 and extras.—Box 1231, B.M.J.

WANTED ASSISTANT, single, large mixed practice Cardiff, good accommodation at surgery, car provided, salary £550-£650 all found.—Box 1230, B.M.J.

WANTED, immediately, indoor and outdoor ASSISTANTS for town and country practices with and without view to partnership, also Locums, good salaries offered, state full particulars.—British Medical Bureau, 33, Cross Street, Manchester, 2.

ASSISTANT WANTED, male or female, for October 1, furnished flat available.—Harris and McMullan, Shipston-on-Stour.

ASSISTANT WANTED, British, male, for large mixed practice near Manchester, secretary-dispenser employed, good hospital facilities, including local cottage hospital, salary according to experience.—Apply Box 1189, B.M.J.

ASSISTANT REQUIRED for small industrial practice, owned disabled.—Box 1458, B.M.J.

ASSISTANT, English or Scottish REQUIRED, for general practice South of England town, four partners (one absent on war service), secretary, three dispensers, and maid kept, central surgery, regular duties, VIEW for suitable man, car available, suitable accommodation outdoor, salary £800.—Box 1003, B.M.J.

ASSISTANT, with VIEW, Norfolk market town, £750, house, furnished or unfurnished, free, car.—Box 1403, B.M.J.

ASSISTANT WANTED for about six months from November or December in woman's practice York, live in, one child no objection.—Box 1439, B.M.J.

ASSISTANT WANTED at once in general and surgical practice in Lincolnshire, furnished house and car provided, salary £600.—Box 1421, B.M.J.

ASSISTANT WANTED, man or woman, in Birmingham, salary £800 to £900, outdoor, according to experience, car provided.—Box 1029, B.M.J.

CEYLON MEDICAL MAN required for APPOINTMENT with practice (capable of doing major surgery). Retaining fee £520 p.a., applicants must be British or Colonial (white), age under 45. —Apply British Medical Bureau, Tavistock House South, Tavistock Square, London, W.C.1.

FULL-TIME indoor ASSISTANT required immediately for North-East practice, with or without VIEW, good salary, all found.—Box 1200, B.M.J.

INDOOR ASSISTANT REQUIRED shortly for pleasant rural practice within 40 miles London, single man or woman preferred, British.—Box 1405, B.M.J.

KEEN ENERGETIC ASSISTANT, indoor, wanted, busy mixed rural practice South Hampshire, good experience, comfortable warm house, good food, driver essential, own car advantage, dispensing, no surgical work, £50 month inclusive.—Box 754, B.M.J.

MONMOUTHSHIRE, WANTED experienced ASSISTANT, married, salary £60 per month, allowance for own car, free unfurnished house, usual bond.—Box 1438, B.M.J.

OUTDOOR ASSISTANT wanted for practice in modern colliery village South Yorks, salary £600 per annum, all found, car provided.—Box 1476, B.M.J.

PRELIMINARY ASSISTANTSHIP with VIEW to partnership in a busy practice in an attractive Cornish village.—Box 1265, B.M.J.

SOUTH WALES, pleasant district, reliable trustworthy ASSISTANT, £1,000 per annum to include car allowance, with free unfurnished house. After preliminary partnership if suitable salaried partnership of at least 1/3 will be offered without capital, usual bond, age, fullest particulars.—Box 1437, B.M.J.

YOUNG ASSISTANT, preferably with VIEW to partnership, for a firm of four in Chelmsford, unfurnished house available, applicant must be British and of cheerful disposition.—Box 1401, B.M.J.

ASSISTANTSHIPS WANTED

WANTED, in Elgin, Morayshire, PART-TIME WORK, surgeries, routine visiting, by experienced woman practitioner, special experience psychiatry, neurology, available interview after September 15 in Elgin.—Box 1446, B.M.J.

WANTED, permanent ASSISTANTSHIP by fully experienced Scotsman, driver, active, strictly temperate, furnished or unfurnished house an advantage, open for locums till fixed, free now.—Box 1443, B.M.J.

EXPERIENCED general practitioner, available after September 1 1945, to TAKE CHARGE of practice or branch, arrangements by interview.—Box 1252, B.M.J.

WANTED PART-TIME WORK by demobilized practitioner within 30 minutes of Charing Cross.—Box 1408, B.M.J.

ASSISTANTSHIP REQUIRED, with VIEW to partnership (when medical outlook more settled) by experienced doctor, married, own car and furniture, house and garden essential, southern half of England preferred.—Box 1447, B.M.J.

ASSISTANTSHIP, with VIEW, wanted by energetic reliable doctor, 5 years' hospital and G.P. experience, excellent testimonials and references, London suburb or pleasant district preferred.—Box 1441, B.M.J.

EDINBURGH graduate, married, aged 39, requires ASSISTANTSHIP with VIEW, hospital and G.P. experience, S. or S.W. England preferred, unfurnished house with garden and car essential, available October.—Box 1445, B.M.J.

EXPERIENCED BRITISH G.P., 38, free for EVENING SURGERIES month of September, London area.—Box 1406, B.M.J.

M.B., Ch.B., Irish, aged 28, unmarried, ex-R.A.F., keen, able to drive, seeks ASSISTANTSHIP, preferably with VIEW, in good-class practice, Home or Southern Counties, free first week September.—Box 1444, B.M.J.

LADY DOCTOR, recently qualified (T.C.D.), requires ASSISTANTSHIP, South England, immediately.—Box 1459, B.M.J.

MEDICAL WOMAN, experienced G.P., requires outdoor ASSISTANTSHIP in country practice near Cardiff, no midwifery, driver.—Box 1472, B.M.J.

M.R.C.S., L.R.C.P., Indian, wants PART-TIME ASSISTANTSHIP from September 15 around Nottingham.—Box 1407, B.M.J.

WOMAN DOCTOR anxious to do PART-TIME WORK or DAILY SURGERIES at short notice if necessary, in London or suburbs.—Box 1440, B.M.J.

WOMAN DOCTOR, good experience, desires ASSISTANTSHIP, with or without VIEW, seaside practice, North England preferred but not essential, small house or flat required.—Box 1253, B.M.J.

YOUNG M.R.C.O.G., British, possessing highest testimonials, desires opening as an ASSISTANT to an established consultant in provincial town.—Box 1442, B.M.J.

LOCUMS

WANTED LOCUM TENENS, British, male or female, for two or three weeks within the next few days.—Apply Dr. Cameron, 4, St. Michael's Road, Maidstone, Kent. Telephone: Maidstone 3580.

WANTED, LOCUM, for month of September, car provided, good salary, country district, live in doctor's house.—Goddard, Templecombe, Somerset.

WANTED, LOCUM, indoor, either sex, unmarried, for three to six months, to take charge of general practice in Cornwall.—Box 1429, B.M.J.

WANTED LOCUM, mixed general practice, Hertfordshire town, September 3 to 15 inclusive, preferably own car.—Box 1191, B.M.J.

WANTED, LOCUM, either sex, fortnight September, Hampshire country practice, all found, and car.—Box 1427, B.M.J.

ADDENBROOKE'S HOSPITAL, CAMBRIDGE.—LOCUM TENENS required for the post of RESIDENT SURGICAL OFFICER for a period of one month from September 10, 1945. Applicants should send particulars of experience, etc., to the undersigned immediately.—J. A. Beardsall, Secretary-Superintendent.

EXPERIENCED LOCUM wanted immediately until October pending partner's demobilization, country practice East Sussex, good salary, live in, car provided if necessary.—Apply Box 1426, B.M.J.

LOCUM REQUIRED for three weeks from September 15, own car preferred, not essential, dispenser employed.—Dr. A. Deane, 60, London Rd., Newark, Notts.

M.D., aged 28, requires LOCUM or ASSISTANTSHIP London area, with Tuesday, Wednesday mornings free for hospital work.—Box 1409, B.M.J.

RADIOLOGIST LOCUM wanted week or ten days early September, private and hospitals, seaside resort, North-West.—Box 1428, B.M.J.

PARTNERSHIPS

WANTED, PARTNERSHIP, PRACTICE or NUCLEUS with scope, surburban residential district, progressive clean town, South and Home Counties preferred, house with good professional position.—Box 1413, B.M.J.

CHRISTIAN PARTNER wanted next year in first-class non-panel practice, county town, easy access to London, 1/3 share of over £5,000, ophthalmic experience an advantage.—Box 1448, B.M.J.

EDINBURGH GRADUATE, Scotch, ex-Service, wanted as PARTNER in North Lincolnshire Coast town, preliminary assistantship if desired, working and middle-class practice.—Box 1415, B.M.J.

HALF SHARE in mixed practice 13 miles south-east Charing Cross, receipts 1939 £4,800, good house, good introduction given.—Box 1431, B.M.J.

M.B.(T.C.D.), 35, expecting demobilization early 1946, would like to contact practitioner Northern Ireland VIEW-PARTNERSHIP or succession, country district preferred.—Box 1466, B.M.J.

PARTNERSHIP, or ASSISTANTANTSHIP with early VIEW, desired by Glasgow M.B., Ch.B., ex-R.A.M.C., age 33, married, good hospital and G.P. experience, Jewish, own car.—Box 1414, B.M.J.

PARTNER WANTED in old-established practice in pleasant Midland town, share producing £1,500 to commence with, house and garden to rent, good scope.—Box 1467, B.M.J.

PARTNERSHIP REQUIRED by woman doctor with 6 years' general practice and 3 years' hospital experience in a general practice in West or S.W. London area or adjacent country, Bristol or South or S.E. Manchester and adjacent country.—Box 1451, B.M.J.

PARTNERSHIP WANTED by released doctor, Army surgical specialist, pre-war 9 years' hospital honorary surgeon, South or South-West England.—Box 1449, B.M.J.

PARTNER (British) wanted in first-class old-established practice in Kent, applicant must be well qualified, preference for one holding F.R.C.S., or M.D., or M.R.C.P., or M.R.C.O.G. qualification, excellent modern house and garden available, share producing £1,500 suggested to commence with.—Apply Box 773, B.M.J.

MEDICAL POSTS

DOCTOR, on disability pension, seeks POST where administrative experience combined with medical knowledge could usefully be employed.—Write Box 1416, B.M.J.

ISLAND OF SARK, GENERAL PRACTITIONER WANTED, retaining fee £200 per annum.—Particulars from La Dame de Serk, Sark, via Guernsey.

M.R.C.S., M.R.C.P. (Bart's.), aged 50, requires APPOINTMENT, 9 a.m. to 5.30 p.m., industrial or general practice, Leicester-Loughborough district, good organizing ability and used to large surgeries, state full details and terms.—Box 1468, B.M.J.

MEDICAL OFFICER REQUIRED, married, salary £600 plus £150 car allowance, together with free use of house and garage, vaccination and midwifery fees extra, appointment vacant September 10, 1945. Applications by August 31, 1945, to the Secretary, Kidderminster Medical Aid Association, 17, Oxford Street, Kidderminster.

PRACTICES

BOX 834, August 11, thanks responders and regrets practice then advertised is not now available.

WANTED to purchase, a small seaside PRACTICE or nucleus.—Box 1206, B.M.J.

WANTED mixed PRACTICE in London, income £2,000 or over, substantial panel, house for rent or sale, take over in October.—Box 1465, B.M.J.

WANTED, spring, 1946, PRACTICE, South Devon, purchaser willing to pay £200 deposit immediately, and cash on taking over.—Box 1450, B.M.J.

WANTED, county or country town PRACTICE about £1,500 p.a. by experienced practitioner just released.—Box 1463, B.M.J.

WANTED PRACTICE in rural district in either Northumberland, Durham, Cumberland, or Westmorland, with income of £1,500 or over, and suitable house with garden.—Box 1462, B.M.J.

WANTED, mixed panel and private PRACTICE in vicinity of, or in residential area of, Edinburgh, £1,800 to £2,000 approx., good house and garden essential.—Box 1461, B.M.J.

WANTED soon, PRACTICE outskirts of or near Edinburgh or Glasgow, pleasant district, income £1,600 to £1,800, convenient house to rent, particulars in confidence.—Box 1453, B.M.J.

EAR, NOSE, AND THROAT PRACTICE for sale in two neighbouring towns, terms, buy house, practice, free in one town, rent rooms and buy small practice in neighbouring town.—Apply Box 1410, B.M.J.

FOR SALE, growing PHYSIOTHERAPY PRACTICE in Oxford, established 15 years, tenancy of house available.—Box 1227, B.M.J.

FOR SALE, PRACTICE in Edinburgh, well established, panel approximately 2,000, substantial private, limited maternity, no night work, average receipts approximately £1,800, attractive detached house with garden and garage residential area.—For further particulars apply to J. & R. A. Robertson, W.S., 15, Great Stuart Street, Edinburgh.

FOR SALE, old-established PRACTICE in Staffordshire, panel £1,673, P.M.S. £1,223, two cars, good partly furnished freehold house containing surgeries, suitable for two friends or husband and wife.—Write Box 1259, B.M.J.

NORTH WALES, unopposed seaside and compact country PRACTICE, £1,300-£1,400 increasing (panel £250), ample scope, modern freehold house facing sea, garden, garage, fishing, shooting.—Box 1217, B.M.J.

OPHTHALMIC SURGEON, F.R.C.S.(Eng.), D.O.M.S., wishes to hear of OPHTHALMIC PRACTICE with hospital appointment, good provincial town.—Box 1267, B.M.J.

PRACTICES AND SHARES for disposal in various parts town and county, incomes £800 upwards, also vacancies for Assistants and Locums.—Apply Percival Turner, Ltd., 25, Maiden Lane, Strand, W.C.2. Telephone: TEMple Bar 9011.

PRACTICES AND PARTNERSHIP SHARES for sale, town and country.—Full details free on request.—British Medical Bureau, 33, Cross Street, Manchester, 2.

FOR SALE, PRACTICE, private and panel over 1,000, receipts £1,500, increasing, and modern house facing main road, Midlands.—Box 1430, B.M.J.

LANCASHIRE old-established PRACTICE, panel 1,600, receipts £2,000 (accountant's figures), attractive house, garden, tennis court, separate surgery.—Box 1477, B.M.J.

LONDON, S.E.12, nucleus of deceased doctor's PRACTICE for sale, large house, surgery, garage, tennis court, etc., also rented fully equipped surgery. Practice run under Protection of Practices Scheme during war, price £3,500.—Box 1464, B.M.J.

PRACTICE REQUIRED by woman doctor with approximately £2,000 per annum gross turnover in West or S.W. London area or adjacent country, Bristol, or South or S.E. Manchester and adjacent country.—Box 1452, B.M.J.

SHEFFIELD, private and panel PRACTICE for sale, average receipts for the last three years £1,380, receipts from panel approximately £400, the house on lease, rent £60 p.a., separate entrance to surgery, owner retiring, premium to be arranged at interview at a reasonable price.—Box 1455, B.M.J.

SMALL S.W. LANCS. TOWN, easily worked G.P. (old-established), panel 1,600 units, income average £2,200 about, house to rent £60 p.a., premium goodwill 1¼ years.—Box 967, B.M.J.

SALE COUNTRY PRACTICE near Scarborough, £1,800 p.a., panel 760, nice house £80 p.a., premium 1¼ years.—Box 1411, B.M.J.

SHEFFIELD, old-established PRACTICE for sale, panel 1,850, receipts £2,000, commodious house £1,500, premium 1½ years (cash).—Box 988, B.M.J.

URGENT SALE, old-established better-class PRACTICE in Lancashire, panel 1,800, cash receipts 1944 £3,000 (chartered accountant's figures), excellent house, sale or rent, easy terms, preliminary Assistantship if desired, excellent opportunity for F.R.C.S., latter not essential.—Box 1042, B.M.J.

WEST RIDING CITY, old-established good mixed PRACTICE, average gross receipts for the last three years £2,293, panel £740, audited figures, appointments, which are transferable, good introduction given, vendor leaving general practice, house on rental £35 p.a.—Box 1454, B.M.J.

DIETETIC, DISPENSING, TYPING, SECRETARIAL, RECEPTION, ETC.

None of the vacancies for women advertised in these columns relates to a woman between the ages of 18 and 40 inclusive, unless she is exempted from the provisions of the Control of Engagement Order, 1945, or the vacancy is for employment excepted from the provisions of that Order

WANTED, for Harley Street consultant, a full-time SECRETARY, good shorthand and typing essential, must have personal reference.—Apply by letter, Hoskin, 112, Harley Street, W.1.

WANTED immediately, DISPENSER - BOOKKEEPER, references essential.—Drs. Hall and Roberts, Dunmow, Essex.

WANTED immediately, DISPENSER for large general practice, no secretarial duties.—Apply Drs. Grellet, Grellet and James, Hitchin, Herts.

WANTED, experienced DISPENSER, country town, 30 miles north of London.—Box 1220 B.M.J.

WANTED, October 1, SECOND LADY DISPENSER for large partnership, modern surgery, experience not essential, no secretarial duties.—Write stating age and full particulars, Dr. Eberlie and Partners, 163, Dunstable Road, Luton.

WANTED immediately, DISPENSER AND BOOKKEEPER for general practice.—Apply 39 London Road, Newark-on-Trent.

WANTED, September 1, LADY DISPENSER-BOOKKEEPER, market town, Lincs, please state age, experience, etc.—Box 978, B.M.J.

ASSISTANT DIETITIAN REQUIRED to work in special diet kitchens.—Apply Lady Superintendent, Bradford Royal Infirmary.

DOCTOR'S SECRETARY, at present in Midlands, desires similar situation London, Coast, or any part of Scotland, good knowledge of medical referee work.—Box 1434, B.M.J.

DISPENSER, lady, Apothecaries Hall certified, requires POSITION with doctor, hospital, etc., London or Home Counties.—Write Box 1432, B.M.J.

DISPENSER-SECRETARY for a country practice (2 doctors) wanted as soon as possible in a N. Devon market town, salary £4 to £5 weekly, according to experience, present dispenser leaving to get married.—Box 1478, B.M.J.

DISPENSER - BOOKKEEPER wanted, general medical practice, good salary for capable person.—Reply, giving particulars and references, to Dr. Clarke, 148, Pear Tree Road, Derby.

EX-W.A.A.F. OFFICER requires post as SECRETARY-RECEPTIONIST to London consultant.—Write Box 1418, B.M.J.

EXPERIENCED DISPENSER-SECRETARY requires post in London area or within thirty miles.—Box 1473, B.M.J.

EX-COLLEGE-TRAINED CHILDREN'S NURSE seeks post as RECEPTIONIST to doctor or dentist, age 27, can drive car.—Box 1417, B.M.J.

LADY requires post as SECRETARY-RECEPTIONIST with doctor or consultant, London, no shorthand.—Box 1404, B.M.J.

LADY DISPENSER-BOOKKEEPER wanted by mid-September, usual references.—Drs. Johns, Rolt and Strang, Amersham, Bucks.

LONDON COLLEGE OF PHARMACY for Women supplies Dispenser-Bookkeeper or Laboratory Technician. Training for Apothecaries Hall Assistants' Examination, and in Clinical Pathology.—Secretary, 7, Westbourne Park Road, W.2 (Bayswater 0969).

MEDICAL SECRETARY, lady, educated, and with sound knowledge of accounts, secretarial duties, and medical terminology, seeks whole-time POST, any reasonable location.—Box 1433, B.M.J.

POSITION with doctor required by experienced secretary-bookkeeper, testimonials from medical men supplied.—Apply Miss E. Duggan-Rees, Brampton, Llandrindod Wells. Telephone 2314.

SECOND DISPENSER-BOOKKEEPER required.—Drs. Holland and Lavery, 37, Regent Circus, Swindon, Wilts.

SECOND SECRETARY required for busy doctor's practice in N.W. suburb, bookkeeping and typing, shorthand an advantage.—Box 1221, B.M.J.

MISCELLANEOUS

WANTED, LABORATORY BENCH, taps, E1 sterilizers, incubators, glassware, bacterial apparatus, Watson's microscope stand, good prices paid.—Bulac, Downderry, Cornwall.

FOR SALE, STOCK OF INSTRUMENTS, drugs, surgery fittings, microscope, sunlight lamps, portable *X*-ray, Kromayer lamp, cautery, massage, infra-red lamps, instrument cabinet.—Box 1471, B.M.J.

FOR SALE, LEITZ MICROSCOPE, usual accessories, 1/12th and dark-ground condenser, operation table, urogenital chair and instruments, haemocytometer, centrifuge, chemical balance, prices on request.—Box 1470, B.M.J.

FOR SALE, medium and long wave DIATHERMY MACHINES, static machine, etc., the property of the late Dr. Turrell of Oxford.—Box 1229, B.M.J.

WATSON MICROSCOPE, perfect condition, 2 in., 1/2 in., 1/6 in. 1/12 in. (oil-immersion) objectives, two eyepieces, dark-ground condenser, movable graduated stage, in mahogany case, also travelling case, offers over £50.—Box 1456, B.M.J.

STERILIZING PLANT, consisting of two water, one bowl, one instrument, and one dressing sterilizers, and dressing drums, electrically heated, perfect, condition as new.—Write Box 1412, B.M.J.

WANTED, SECOND-HAND SURGICAL INSTRUMENTS, furniture for surgery and consulting room, blood pressure apparatus, electric diagnostic sets, ophthalmoscopes, auriscopes microscopes, etc.—Particulars to A. Fleming & Co (Succrs.), 51, Mortimer Street, London, W.1 Telephone: Mus 6292)

WANTED TO PURCHASE.—Cameras, enlargers, and all photographic apparatus, exposure meters, tripods, etc., microscopes, binoculars, cine cameras, and projectors. Prompt cash and high prices offered.—Wallace Heaton, Ltd., 127, New Bond Street, London, W.1.

COMPRI-VENA (1937), Ltd.—The care and after care of Varicose Veins.—In the treatment of Varicose Veins where leg support is prescribed Compri-Vena gives meticulous attention to instructions. They will gladly supply particulars of Surgical Stockings and the service they provide.—38, South Molton Street, W.1. MAYfair 0732.

DOCTORS' WATCHES.—Franklands can still supply Gold Watches. Write for particulars.—E. J. Frankland & Co., Ltd., Marle House, South Godstone, Surrey; or London Showroom, New Bridge Street House, 30-34, New Bridge Street, Ludgate Circus, E.C.4.

MEDICAL PHOTOGRAPHS and drawings for illustration, records, etc.—Write for particulars Eric O. Sonntag, 159, Bickenhall Mansions, Baker Street, London W.1. WELbeck 8860.

QUEEN NON-IRRITANT TOILET RANGE for prescription in allergic cases. Leaders of the profession have found these of great use as an alternative to beauty preparations and cosmetics suspected of giving rise to allergic symptoms or other irritants. Small supplies of "QUEEN" non-allergic skin soap are now available, 1s. 3d tablet.—Boutalls Ltd., 150, Southampton Row, London, W.C.1.

STRAWSON'S OPEN-AIR REVOLVING SHELTERS (against doctor's certificate) for tubercular and other medical cases. Stamp for List B.M.J 45—G. F. Strawson & Son, Horley, Surrey

TOILET ROLLS (Gordon's Thintex) for sale, prices, carriage paid and including cost of cartons, 1 gross £9, 6 dozen £4 13s. 6d., 3 dozen £2 8s. 6d.; early delivery in rotation, cheaper lines if required—Cash with order to J. Gordon (Dept. 7), 33, Connaught Gardens, Muswell Hill, London, N.10

WIGMORE'S, LTD., 63, Baker St., London, W.1 (Welbeck 5668). DISPENSING OPTICIANS by appointment to Western Ophthalmic Hospital, Marylebone Road, London, N.W.1. Doctors' prescriptions accurately dispensed.

MOTOR CARS

WANTED, MOTOR CAR, 1939 or earlier, small mileage, state price.—Box 1436, B.M.J.

AUSTIN 18, elegant Gordon coachwork, first licensed 1936, one careful owner, 33,000 miles, stored since March, 1940, excellent condition, new tyres, best offer over £400, seen Harpenden.—Box 1479, B.M.J.

ROLLS 21.5 h.p. coupé, seating three in front, new battery, excellent tyres, recently repainted, very smart, economical, £325.—Seen Haslemere Motor Co., Haslemere, Surrey.

HOUSES, CONSULTING ROOMS

CLIFTONVILLE, beautiful detached HOUSE for sale, pre-war nucleus medical practice, commanding position overlooking sea, fitted modern conveniences built 1936, early possession.—Box 1270, B.M.J.

TORQUAY, FREEHOLD RESIDENCE, or suitable Nursing or Convalescent Home, Private Hotel, south-west views, Warberry District, central heating, passenger lift, 3 reception rooms and dining hall, 5 double bedrooms, 5 single, 3 baths, orchard, flower and kitchen garden, verandah terrace, garage, vacant possession, £8,000 freehold.—Cox and Son, F.A.I., 8, Strand, Torquay.

WIMPOLE STREET, part-time furnished CONSULTING ROOM with reception and secretarial service, etc.—Box 1435, B.M.J.

NURSING HOMES

REGISTERED NURSING HOME run like private house for rest cures, nervous exhaustion, and convalescent patients, guests also received, resident medical man and wife, certificated nurse, lovely country 20 miles N.W. London (good train service).—Dr. Claud Fothergill, Hensol, Chorley Wood, Herts. (Phone: Chorley Wood 24.)

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BRITISH MEDICAL JOURNAL
LONDON SATURDAY SEPTEMBER 1 1945

BRITISH MEDICAL ASSOCIATION

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Dr. J. Riddell, Edinburgh.
Dr. C. O. Stallybrass, Liverpool.

Two Members of Council elected by Public Health Service Members :
Dr. J. Fenton, London.
Dr. R. H. H. Jolly, Wolverhampton.

2 members to be nominated by the Society of Medical Officers of Health.
1 member to be appointed by the General Practice Committee.
1 member to be appointed by the Hospitals Committee.
With power to co-opt 3 additional members.

Science Committee

Mr. A. Lawrence Abel, London.
Prof. R. S. Aitken, Aberdeen.
Mr. V. Zachary Cope, London.
Sir Henry H. Dale, London.
Dr. R. P. St. L. Liston, Manchester.
Mr. A. M. A. Moore, London.
Mr. L. S. Pyrah, Leeds.
Mr. Eric Steeler, London.
Prof. R. J. Willan, Newcastle-upon-Tyne.
Mr. A. Dickson Wright, London.

Scottish Committee

Members of Council who represent Scottish Branches :
Dr. P. Martin Brodie, Edinburgh.
Dr. W. D. Frew, Kilmarnock.
Dr. I. D. Grant, Glasgow.
Mr. I Simson Hall, Edinburgh.
Dr. G. MacFeat, Douglas, Lanarkshire.
Mr. John H. Otty, Aberdeen.

23 Members elected by Divisions in Scotland.
1 nominated by Royal College of Physicians, Edinburgh.
1 nominated by Royal College of Surgeons, Edinburgh.
1 nominated by Royal Faculty of Physicians and Surgeons of Glasgow.
With power to co-opt not more than 2.

Special Practice Committee

Prof. A. H. Burgess, Cheadle, Cheshire.
Mr. Hugh Carson, Birmingham.
Dr. H. Gainsborough, London.
Mr. A. M. A. Moore, London.
Mr. D. Watson, Bradford.
Dr. A. Lucas Young, Eastbourne.
3 appointed by the Consultants and Specialists Group Committee for England and Wales.
1 appointed by the Consultants and Specialists Group Committee for Scotland.
1 appointed by the Consultants and Specialists Group Committee for Northern Ireland.
1 appointed by the General Practice Committee.
1 appointed by the Public Health Committee.
1 appointed by the Hospitals Committee.
1 appointed by the Insurance Acts Committee.
Each committee of any other Special Group of which the members are engaged predominantly in private consulting or specialist practice shall have power to appoint 1 additional member—namely, Radiologists, Full-time Non-Professorial Medical Teachers, Laboratory and Research Workers, Ophthalmic, Pathologists, Psychological Medicine, Orthopaedic, Spa Practitioners, Physical Medicine.

Welsh Committee

Members of Council representing Branches in Wales and Monmouthshire :
Dr. H. R. Frederick, Port Talbot.
Dr. W. V. Howells, Swansea.
Dr. J. A. Ireland, Shrewsbury.

Secretaries of the Welsh Branches :
Mr. D. N. Rocyn Jones, Cardiff.
Dr. L. W. Jones, Llanfairpwll.

Chairman and Secretaries of Welsh Standing Contract Practice Subcommittee.
1 member appointed by each Division wholly situate in Wales, including Monmouthshire.
With power to co-opt not more than 2.

GROUP COMMITTEES

Consultants and Specialists Group Committee

England and Wales :
Mr. D. A. Abernethy, Oxford.
Dr. R. H. Balfour Barrow, Winchester.
Dr. Geoffrey Bourne, London.
Mr. R. St. L. Brockman, Sheffield.
Dr. J. M. H. Campbell, London.
Prof. P. C. P. Cloake, Birmingham.
Dr. S. Whately Davidson, Newcastle-upon-Tyne.
Dr. C. J. Fuller, Exeter.
Prof. W. MacAdam, Leeds.
Mr. H. J. McCurrich, Hove.
Mr. S. A. S. Malkin, Nottingham.
Mr. J. T. Morrison, Liverpool.
Prof. J. A. Nixon, Bristol.
Mr. L. E. C. Norbury, London.
Dr. B. T. Parsons-Smith, London.
Prof. H. Platt, Manchester.
Dr. F. Roberts, Cambridge.
Prof. G. I. Strachan, Cardiff.

Scotland :
Prof. R. C. Alexander, Dundee.
Dr. G. A. Allan, Glasgow.
Mr. R. L. Beveridge, Dumfries.
Dr. John Eason, Edinburgh.
Dr. A. Garrow, Glasgow.
Dr. John Henderson, Glasgow.
Dr. F. K. Smith, Aberdeen.

Northern Ireland :
Dr. F. M. B. Allen, Belfast.
Dr. Sloan M. Bolton, Portrush.
Prof. P. T. Crymble, Belfast.
Mr. S. T. Irwin, Belfast.
Prof. C. G. Lowry, Belfast.
Mr. C. H. G. Macafee, Belfast.
Dr. I. H. McCaw, Belfast.
Dr. F. P. Montgomery, Belfast.
Prof. W. W. D. Thomson, Belfast.
Mr. J. R. Wheeler, Belfast.

Full-time Non-professorial Medical Teachers, Laboratory and Research Workers Group Committee

Dr. D. P. Cutherbertson, London.
Dr. M. Grace Eggleton, Leatherhead.
Dr. F. S. Fowweather, Leeds.
Capt. A. D. T. Govan, Birmingham.
Dr. H. L. H. H. Green, Cambridge.
Dr. W. E. Gye, London.
Dr. A. C. Lendrum, Glasgow.
Dr. W. Susman, Manchester.

Ophthalmic Group Committee

(*Shortly to be elected*)

Orthopaedic Group Committee

Mr. W. Rowley Bristow, West Byfleet.
Mr. B. H. Burns, London.
Mr. N. St. J. G. D. Buxton, London.
Mr. V. H. Ellis, London.
Mr. F. W. Holdsworth, Sheffield.
Mr. S. A. S. Malkin, Nottingham.
Prof. H. Platt, Manchester.
2 vacancies.

Pathologists Group Committee

Dr. S. C. Dyke, Tettenhall.
Dr. J. S. Faulds, Carlisle.
Dr. F. S. Fowweather, Leeds.
Dr. G. W. Goodhart, London.
Dr. J. G. Greenfield, Enfield.
Dr. A. G. Shera, Eastbourne.
Dr. A. F. S. Sladden, Swansea.
Dr. F. B. Smith, Preston.
Dr. Janet M. Vaughan, Slough.

Physical Medicine Group Committee

Dr. P. Bauwens, London.
Dr. C. W. Buckley, Buxton.
Dr. F. S. Cooksey, Epsom.
Dr. J. Cowan, Stockport.
Dr. J. Mennell, London.
Sir Morton Smart, London.
Sir R. Stanton Woods, London.
Capt. H. Burt, Kingston-on-Thames.
1 vacancy.
President for the time being of the Physical Medicine Section of the Royal Society of Medicine.
Representative of Spa Practitioners Group Committee.
Representative of Radiologists Group Committee.

Psychological Medicine Group Committee

Dr. N. M. H. Burke, St. Albans.
Prof. Millais Culpin, London.
Dr. R. Eager, Exeter.
Dr. T. Lindsay, Caterham.
Prof. J. H. MacDonald, Luss.
Dr. W. G. Masefield, Brentwood.
Dr. Doris M. Odlum, Bournemouth.
Lieut.-Col. A. A. W. Petrie, Sutton.
Dr. R. M. Stewart, Leavesden.

Radiologists Group Committee

Dr. M. H. Jupe, London.
Lieut.-Col. R. Boulton-Myles, Worthing.
Dr. Ralston-Paterson, Manchester.
Dr. R. E. Roberts, Liverpool.
Dr. S. Cochrane Shanks, London.
Dr. C. G. Teall, Birmingham.

Spa Practitioners Group Committee

Dr. L. H. H. Boys, Woodhall Spa.
Dr. J. B. Burt, Bath.
Dr. F. Clayton, Leamington.
Dr. E. C. Cosgrove, Buxton.
Dr. A. R. Neligan, Droitwich.
Dr. W. Yeoman, Harrogate.

OTHER COMMITTEES

Joint Committee of B.M.A. and Trades Union Congress

B.M.A. Representatives :
Dr. H. Guy Dain, Birmingham (Chairman of Council).
Prof. A. H. Burgess, Cheadle, Cheshire.
Dr. R. W. Cockshut, London.
Dr. J. Fenton, London.
Dr. E. A. Gregg, London.
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Mr. R. L. Newell, Cheadle, Cheshire.
Dr S Wand, Birmingham.

Building Committee

Mr. H. S. Souttar, London (President).
Dr. J. B. Miller, Bishopbriggs (Chairman of Representative Body).
Dr. H. Guy Dain, Birmingham (Chairman of Council).
Dr. J. W. Bone, Luton (Treasurer).
Mr. L. Dougal Callander, Doncaster.
Dr. O. C. Carter, Bournemouth.
Mr. A. Staveley Gough, Watford.
Mr. A. M. A. Moore, London.
Dr. J. G. Thwaites, Brighton.
Mr. A. Dickson Wright, London.

Care of Children Committee

Dr. H. Guy Dain, Birmingham (Chairman of Council).
Dr. Janet K. Aitken, London.
Dr. W. Mary Burbury, Manchester.
Dr. J. Fenton, London.
Dr. W. F. Gaisford, Rowington, Warwicks.
Dr. H. C. Gilmore, London.
Dr. R. G. Gordon, Limpley Stoke.
Prof. L. G. Parsons, Birmingham.
Dr. C. O. Stallybrass, Heswall.
Dr. J. G. Thwaites, Brighton.

Compensation and Superannuation Committee

Mr. H. S. Souttar, London (President).
Dr. H. Guy Dain, Birmingham (Chairman of Council).
Dr. G. F. Buchan, London.
Dr. E. A. Gregg, London.
Dr. J. A. L. Vaughan Jones, Leeds.
Dr. A. T. Rogers, Bromley.
Dr. S. Wand, Birmingham.

Committee re Education Act

Mr. H. S. Souttar, London (President).
Dr. J. B. Miller, Bishopbriggs (Chairman of Representative Body).
Dr. H. Guy Dain, Birmingham (Chairman of Council).
Dr. J. W. Bone, Luton (Treasurer).
Dr. J. M. H. Campbell, London.
Dr. W. E. Dornan, Sheffield.
Dr. J. Fenton, London.
Mr. A. M. A. Moore, London.
Mr. O. G. Morgan, London.
Mr. R. L. Newell, Manchester.
Dr. Doris Odlum, Bournemouth.
Mr. F. C. Ormerod, London.
Dr. J. A. Pridham, Weymouth.
Dr. S. Wand, Birmingham.
Mr. N. E. Waterfield, Little Bookham.

International Relations Committee

Mr. H. S. Souttar, London (President).
Dr. J. B. Miller, Bishopbriggs (Chairman of Representative Body).
Dr. H. Guy Dain, Birmingham (Chairman of Council).
Dr. J. W. Bone, Luton (Treasurer).
Dr. Alfred Cox, London.
Dr. John Clayre, Southampton.
Dr. S. C. Dyke, Wolverhampton.
Dr. J. C. Matthews, Downton.
Dr. J. A. Pridham, Weymouth.
Capt. S. Laurie Smith, Brookwood.
Dr. G. de Swiet, London.
Dr. N. E. Waterfield, Little Bookham.
Chairman of Organization Committee.
Chairman of Journal Committee.

Medical Curriculum Committee

Mr. H. S. Souttar, London (President).
Dr. J. B. Miller, Bishopbriggs (Chairman of Representative Body).
Dr. H. Guy Dain, Birmingham (Chairman of Council).
Dr. J. W. Bone, Luton (Treasurer).
Dr. Janet K. Aitken, London.
Prof. Henry Cohen, Liverpool.
Mr. V. Zachary Cope, London.
Dr. Anthony Feiling, London.
Dr. R. G. Gordon, Bath.
Dr. F. Gray, London.
Dr. E. A. Gregg, London.
Dr. G. MacFeat, Douglas, Lanarkshire.
Mr. R. L. Newell, Manchester.
Prof. L. G. Parsons, Birmingham.
Dr. F. M. Rose, Preston.

Mr. I Simson Hall, Edinburgh.
Prof. Sydney Smith, Edinburgh.
Dr. J. G. Thwaites, Brighton.
1 representative of British Medical Students Association.

Parliamentary Elections Committee

Mr. H. S. Souttar, London (President).
Dr. J. B. Miller, Bishopbriggs (Chairman of Representative Body).
Dr. H. Guy Dain, Birmingham (Chairman of Council).
Dr. J. W. Bone, Luton (Treasurer).
Mr. V. Zachary Cope, London.
Dr. H. R. Frederick, Port Talbot.
Dr. E. A. Gregg, London.
Mrs. Philippa Martin, London.
Dr. J. G. Thwaites, Brighton.
Dr. S. Wand, Birmingham.

Protection of Practices Committee

Dr. H. Guy Dain, Birmingham (Chairman of Council).
Dr. J. W. Bone, Luton (Treasurer).
Dr. B. E. A. Batt, Bury St. Edmunds.
Dr. A. Beauchamp, Birmingham.
Dr. H. C. Boyde, London.
Dr. P, Martin Brodie, Edinburgh.
Dr. Alfred Cox, London.
Dr. R. Forbes, London.
Dr. F. Gray, London.
Dr. E. A. Gregg, London.
Dr. W. V. Howells, Swansea.
Dr. J. A. L. Vaughan Jones, Leeds.
Dr. R. G. McGowan, Manchester.
Mr. Weldon P. T. Watts, Newcastle-upon-Tyne.

Public Relations Committee

Dr. H. Guy Dain, Birmingham (Chairman of Council).
Dr. J. W. Bone, Luton (Treasurer).
Mr. A. Staveley Gough, Watford.
President of Royal College of Physicians (or nominee).
President of Royal College of Surgeons (or nominee).
3 representatives of Insurance Acts Committee:
  Dr. E. A. Gregg, London.
  Dr. J. Hallam, Burslem.
  Dr. A. T. Rogers, Bromley.

Rehabilitation Committee

Dr. H. Guy Dain, Birmingham (Chairman of Council).
Mr. J. D. M. Cardell, London.
Air Commodore O. Clarke, London.
Dr. F. S. Cooksey, Epsom.
Mr. V. Zachary Cope, London.
Brigadier F. A. E. Crew, London.
Major J. J. R. Duthie, Aberdeen.
Prof. A. W. M. Ellis, Oxford.
Prof. T. Ferguson, Falkirk.
Mr. W. C. Gissane, Birmingham.
Dr. I. D. Grant, Glasgow.
Dr. E. A. Gregg, London.
Dr. F. R. G. Heaf, Berkhamsted.
Brigadier F. D. Howitt, London.
Dr. Donald Hunter, London.
Dr. J. T. Ingram, Leeds.
Dr. J. A. L. Vaughan Jones, Leeds.
Prof. R. E. Lane, Manchester.
Dr. A. J. Lewis, London.
Dr. G. MacFeat, Douglas, Lanarkshire.
Mr. A. H. McIndoe, London.
Dr. H. M. C. Macaulay, London.
Mr. A. Miller, Glasgow.
Mr. A. M. A. Moore, London.
Dr. H. B. Morgan, M.P., London.
Dr. A. R. Neligan, Droitwich.
Mr. R. L. Newell, Cheadle, Cheshire.
Mr. D. C. Norris, London.
Dr. Donald Stewart, Birmingham.
Dr. E. H. Strange, London.
Dr. S. Wand, Birmingham.
Sir Reginald Watson-Jones, London.

The Negotiating Committee

16 *Representatives of the B.M.A.*:
  Mr. H. S. Souttar, London (President).
  Dr. J. B. Miller, Bishopbriggs (Chairman of Representative Body).
  Dr. H. Guy Dain, Birmingham (Chairman of Council).
  Dr. J. A. Brown, Birmingham.
  Dr. F. Gray, London.
  Dr. E. A. Gregg, London.
  Mr. R. L. Newell, Manchester.
  Dr. S. Wand, Birmingham.
  Dr. P. Martin Brodie, Edinburgh.
  Dr. J. F. Lambie, Glasgow.
  Dr. A. T. Rogers, Bromley.
  Dr. J. A. L. Vaughan Jones, Leeds.
  Dr. G. H. Sedgwick, Rotherham.
  Dr. J. C. Arthur, Low Fell.
  Dr. S. A. Winstanley, Urmston.
  Dr. R. W. Cockshut, London.
3 Representatives of Royal College of Physicians:
  Lord Moran, London.
  Dr. H. E. A. Boldero, Stanmore.
  Prof. Henry Cohen, Liverpool.
3 Representatives of Royal College of Surgeons:
  Sir Alfred Webb-Johnson, London.
  Mr. V. Zachary Cope, London.
  Mr. A. Tudor Edwards, London.
Representatives of Royal College of Obstetricians and Gynaecologists:
  Mr. Eardley L. Holland, London.
  Mr. A. A. Gemmell, Liverpool.
3 Representatives of Royal Scottish Medical Corporations:
  Prof. C. McNeil, Edinburgh.
  Mr. H. Wade, Edinburgh.
  Dr. J. H. Macdonald, Luss.
2 Representatives of Society of Medical Officers of Health:
  Dr. G. F. Buchan, London.
  Dr. R. H. H. Jolly, Wolverhampton.
1 Representative of Medical Women's Federation:
  Dr. Mary Esslemont, Aberdeen.
1 Representative of Society of Apothecaries:
  Dr. H. Seaward Morley, Midhurst.

MEDICAL SICKNESS AND LIFE ASSURANCE

The annual general meeting of the Medical Sickness, Annuity and Life Assurance Society, Ltd., was held at the house of the Medical Society of London on July 23, Mr. R. J. McNeill Love presiding. Presenting the report of the sixtieth year of the Society's work, the chairman said that at the previous meeting he had announced further concessions concerning payment of sickness benefit to members over-seas who had become incapacitated by sickness or accident not due to enemy action. As the Government had announced it would not interfere for the present with the sale and purchase of practices, the Society was proceeding with the scheme for lending money for such purchase. The rate of interest was fixed at 5% and was independent of bank rate. Graduated payments of capital were worked out so as to lessen the cost in early years. Since the scheme was started in 1926 loans had been granted to 381 practitioners for a total of £593,255, of which the balance outstanding was £107,697. Turning to the annual accounts, Mr. McNeill Love said that the new business for life assurance fund totalled £224,840. Claims by death amounted to £19,667. In the sickness fund the premium income was £134,241, and the benefit paid £74,522. The total fund now amounted to £1,196,916. The funds of the Society had increased to over £3,000,000, of which about half was in British Government securities. The Society was still at Chesterton, Cirencester, but it was hoped that the next meeting would be held in the new offices at 7, Cavendish Square, London.

The report was adopted unanimously, and the retiring directors, Dr. G. Roche Lynch and Dr. A. Hope Gosse, were re-elected.

RETURN TO PRACTICE

The Central Medical War Committee announces that the following have resumed civilian practice: Mr. W. Muir Dickson, F.R.C.S., at 144, Harley Street, London, W.1; Dr. Hugh Morris, at 11, St. John Street, Manchester; and Mr. Hope Carlton, F.R.C.S., at 86, Brook Street, Grosvenor Square, London, W.1.

The Medical Planning Committee set up by the Council of the New Zealand branch of the B.M.A. to review the present state of the medical services in New Zealand considered that medical education came within its terms of reference, and it has now issued a first section of its report dealing with undergraduate teaching and training. This will be followed at an early date by a second section on postgraduate education, which will also make recommendations arising from both parts of the report.

Correspondence

Demobilization of Navy M.O.s

SIR,—I am just sailing to an appointment in the Pacific zone. My demobilization group is 20, and after 6 years' service in all parts of the world I am hoping to settle in practice soon. On inquiry at the Admiralty I find that there is no plan yet to release more than the first seven groups of medical officers. I can get no approximate date for my release, and the only consolation offered for this oversea appointment is that I shall probably be returned to this country a few weeks after my demobilization date. This is not good enough, and hundreds of people like myself are disgruntled. We can only hope that the C.M.W.C. and the medical members of Parliament will not forget us.—I am, etc.,

"ANOTHER SURG. LIEUT.-CMDR., R.N.V.R."

Doctors and the New Government

SIR,—On the threshold of peace the people of Britain made a great decision with a courage matching that with which they went to war. They chose a new Government and gave it power to reconstruct the basis of their national life. They rejected the more cautious method of trying to improve on all the old foundations, no doubt because they believed that many of these were too shaky.

The medical profession had already expressed its disfavour with the National Health Service proposals of the Coalition Government. Because it had done so, the Press and many people appear to believe that it will be equally anxious to reject the proposals of the new Government. Is this necessarily to be?

Doctors certainly sought to safeguard their profession in a system which condemned a planned economy and acclaimed private enterprise as the sure road to success. It does not follow that they will be slow to co-operate when most people have decided that there is a better road.

It may be some time before new proposals are made known and before the Negotiating Committee meets the new Minister of Health. Meanwhile, it would be well to ensure that the latest medical opinion will be truly represented. May I suggest that the B.M.A. might take advantage of the interval by reopening discussion among its members?—I am, etc.,

R. R. WILSON,
Edinburgh. Temp.-Surg. Lieut., R.N.V.R.

Doctors and the Election

SIR,—I do not think Dr. Cyril Sherris's letter (*Supplement*, Aug. 11, p. 44) should go unchallenged, for he asserts that the public has given a decided answer in favour of a whole-time National Health Service, as advocated by the Labour Party.

Lord Quickswood, writing in the *Sunday Times* of Aug. 12, said: "The defects of our representative system which have long been known, were vividly brought to notice. The Proportional Representation Society point out that if the Labour Party had obtained only the number of seats proportioned to the votes given to it, they would have had (out of 624 contested seats) 299 instead of 388; the Conservatives 248.

instead of 209; and the Liberal Party 57, instead of 11—that is to say, the Labour Party would just have failed to get an absolute majority."

It would seem, therefore, that the public has *not* approved of the Labour Party's idea of a National Health Service.—I am, etc.,

London, W.1. GEOFFREY DUCKWORTH.

Socialization of Medicine

SIR,—Now that the people have voted for Socialism it would seem imperative that the medical profession should at once stop considering how "to patch up the old hulk" (which is what the late Government in a White Paper declared to be its policy), and to begin to consider how to achieve a real socialization of the profession.

There are two possibilities. One is to "socialize" the doctors through a State medical service; this makes all doctors servants of the State. The disadvantage of such a procedure is that it disrupts the direct relationship between the doctor and his patient, upon which ethic medicine is based.

The alternative is to "socialize" the tools and instruments of medicine so that all doctors are provided with that which is necessary to them to carry on their profession with due efficiency and dignity. It must be remarked that every medical student is trained in the use of the tools and instruments of medicine, and that every doctor, once qualified, is denied their use unless he is lucky enough to become a specialist, or rich enough to afford to buy them for himself.

One method of socializing the tools and instruments of medicine has already been put forward by Dr. Scott Williamson in *Physician, Heal Thyself.* True, it is a very radical change in medical organization and in the organization of medical teaching that is advanced in this book. But will anything but a radical change bring medicine to that state of efficiency demanded by the people?—I am, etc.,

Coventry. K. E. BARLOW.

Short-service Commissions and Gratuities

SIR,—To the spate of correspondence about medical man-power and demobilization may I add one further comment. Many medical officers obtained short-service commissions in 1937 and 1938 and completed their five years in 1942 and 1943 respectively. Surely their "conscripted" service dates from the completion of their five years' service and not from the outbreak of war.

As has already been commented on, their gratuity is ten times that of the wartime medical officer, yet they enjoy the same privileges for demobilization, and in some cases their "conscripted" service will be shorter than that of the wartime medical officer called up in 1941 or 1942.—I am, etc.,

"M.O. BURMA."

Gratuities

SIR,—Upon joining the R.A.F. Medical Service in 1939 we were told that war gratuities would most likely be based on the same terms as those of a short-service commission. This was accepted in good faith and many medical officers looked forward to this nest-egg to come back to whatever else might happen. It came as a surprise and shock that we were only to be paid a gratuity at the same rates as a general service officer (wartime). Now extended Service commissions are announced to non-regular officers carrying with them a suitable gratuity, which seems to indicate that it was intended in 1939 to pay a gratuity for war service based on short-service terms, but something has come about to stop it.

It is very gratifying that the profession as a whole have contributed to a Medical War Relief Fund to assist men from the Services returning to civilian practice, but I suggest that it would be far better if the profession as a whole, through the B.M.A., would press for the payment of the proper gratuity. After all, it has been earned by many of us, and would go a long way towards starting again in practice without having to seek help from the relief fund. I hope that other medical officers will now take up this matter as well to press for payment of the war gratuity on short-service commission terms.—I am, etc.,

JAMES LOWTHER.

Acklington, Nr. Morpeth.

Divide and Govern

SIR,—At the Annual Representative Meeting Mr. Lawrence Abel publicly suggested that of all doctors medical officers of health ought to have the lowest scale of pay (*Supplement*, Aug. 4, p. 33). Such a remark is calculated to start disunity in the profession, especially as the 4,000 doctors in the existing public health services are fully aware that their training is far longer than that of most practitioners: the D.P.H. course alone occupies a year, and it takes several years to obtain the necessary postgraduate experience in fevers, tuberculosis, V.D., children's diseases, etc.

Mr. Abel seems to despise those who are not clinicians. It is worth while to remember that, except in large cities and counties, medical officers of health have numerous clinical duties. For example, in a town of about 50,000 inhabitants I devote about 30 hours weekly to clinical work (fever hospital, fever consultations, infant welfare clinics, school medical examinations, etc.) and about 30 hours to administrative duties. It is also worth while to remember that people who combine administrative and clinical duties do not find that the former are easier and less exacting.

Consider what would happen if, as a result of Mr. Abel's remarks, the salaries of medical officers of health remained low. Obviously the salaries of assistant medical officers of health (many of whom reach the retiring age while still in that category) would have to be still lower. But most assistant medical officers of health are engaged mainly or wholly in clinical work: their main difference from general practitioners lies in the length of training. Hence the salaries of practitioners would fall correspondingly. Indeed, having fixed the salaries of public health workers at a low level, the Government could argue that it must keep practitioners' salaries equally low to prevent the younger assistant medical officers of health from switching over to general practice.

This is no time for internal strife in the profession. Beware of the old motto, *Divide et impera.* To secure decent conditions for the whole profession it is vital that all of us—surgeons and gynaecologists, physicians and medical officers of health, research workers, factory doctors, and (the backbone of the profession) general practitioners—should stand firmly united. In unity lies strength; in sectional feuds lies the ruin of the profession and of the medical services of Britain.—I am, etc.,

Mansfield. I. A. G. MACQUEEN.

Insurance Practitioner's Failure to Visit

SIR,—I trust that the action of the G.M.C. in erasing the name of a practitioner for failure to visit, as reported in the *Supplement* of July 28 (p. 16), will not pass without comment. Although in your reports only an outline of the proceedings is possible, on several occasions lately it has appeared that the livelihood of medical men has been taken away on comparatively trivial pretexts. Certification has played a large part in the proceedings, which is very ominous in view of the State medical service with which we are now faced. It is a serious thing that the G.M.C. is a court against which there is no appeal. There is no other body in our corporate life which has the power to take away summarily a man's power to support himself and his family. As medical men we have no other trade to which to turn our hand. It appears to me that this power should only be exercised in cases where a man is obviously unfit for the profession. We accept the G.M.C.'s rulings with never a protest.

In the case in point each of these panel patients—and they were all panel patients—had their remedy. They could have transferred to the list of another doctor or they could have called in another doctor whose fees would have been deducted from Dr. Flatley's remuneration. Dr. Flatley's contract was not with his patients but with the panel committee. The panel committee could have had him removed from the panel. But even at the time of the hearing Dr. Flatley was still on the Salford panel. The neglect of patients cannot be defended, but if these had been private patients the question of taking away Dr. Flatley's livelihood would not have occurred to them. I frankly do not consider that Dr. Flatley acted in an "infamous" way. From his own evidence he is a sick man, and not only that, he was surrounded with unusual difficulties. There may have been other relevant evidence which contributed to the decision of the G.M.C., but on the evidence reported I submit that an injustice has been done to Dr. Flatley, of whom, by the way, I have not the slightest acquaintance. It is a pity in my judgment that there is no court of appeal.—I am, etc.,

Histon, Cambs. A. E. MOORE.

Doctors' Cars

SIR,—The two letters on doctors' cars by Dr. T. Cradock Henry and Dr. Ian M. Jefferiss (*Supplement,* July 21, p. 13) prompt me to write not only to say I concur but to add some things they omit.

During the six weary war years the cars of civilian doctors have given hard service, through black-out and blitz, day and night, week-days and Sundays, summer and winter. They have had little or no servicing as we knew it in pre-war days. Indeed, in those bygone happy days a car was designed for about two years' work, after which it was traded in for a new one. Great credit is due to the motor designers for giving us cars that would render such faithful mechanical service as we have had from them.

But there is a limit. Our cars are wearing out; indeed, some of them, like us, are actually worn out. For the past six years we have been unable to put our cars into dock, even if we could find a dock into which to put them. Garages, formerly efficient and obliging are now scarce and almost uncivil; if you are foolish enough to run out of petrol or, worse, break down after 5 p.m., Heaven help you, for there is no garage that will. Moreover, the conditions which prevailed during the war years look like persisting. To-day a doctor's car may need re-boring and other vital replacements and adjustments to be made to it; yet a doctor cannot get these important matters attended to for at least two reasons. First, it is well-nigh impossible to get the loan of a replacement car temporarily, and, secondly, the time lag is insufferable, complicated by the introduction of basic petrol and labour shortage.

Yet, during all the war years and even up to the time of writing, I know of no organized effort on the part of either the B.M.A. or any other authoritative body to get matters ameliorated. I remember a poster in the early days of the war: "Your freedom is in peril, defend it with all your might." Now I think it will be conceded that civilian doctors have rallied to this call, but what about the freedom? Before the days of this poster I could buy what car I liked, when I liked, where I liked. I could have as much petrol as I could afford by day or by night; I could have repairs, replacements, additions, necessary or otherwise, at competitive prices and with minimum of delay; and when you have contrasted that picture with the one of to-day, you can come to only one conclusion—the motoring doctor can "go to . . . Jericho."

I am hoping that other doctors will give voice and ask the Association to act, and to act quickly and effectively.—I am, etc.,

Petts Wood. B. RICHARDSON BILLINGS.

⁂ The B.M.A. has obtained from the Ministry of War Transport an assurance that a very high priority is given to members of the profession in the allocation of new cars now being released to civilian users. Similarly, through its regional machinery, the Ministry is prepared to expedite repairs and replacements for doctors' cars (*Supplement*, March 24, p. 45). Throughout the war the supply of petrol to doctors has been under the supervision of medical advisers to Divisional Petroleum Officers.—ED., *B.M.J.*

Illogical

SIR,—Two paragraphs from a political correspondent's notes in a Sunday paper are significant in showing the illogical attitude of those who support the new Government. "Mr. Shinwell," the paper says, "before taking final decisions" (on the matter of nationalization of the coal mines) "*will be guided by the views of* [among others] *the National Union of Mineworkers.*" So far so good, but in the matter of a National Health Service the paper says: "Whether the amendments sought by the medical profession will be accepted by the Government is doubtful at the moment." Why should the views of the workers in one phase of national life be taken as guidance and the views of another group be considered in a different light? Is it because the medical profession can never enforce its views by a "go-slow" campaign?—I am, etc.,

London, N.6. W. LEES TEMPLETON.

Regional Medical Officer

SIR,—I have been trying in vain to obtain help in my practice for many months, so you can imagine that it is with disgust and despair for the future of the G.P. that I note the return to duty of that superfluous individual—the R.M.O. Has the B.M.A. made any protest against this glaring misuse of medical man-power?—I am, etc.,

Bristol. D. KIPPAX.

Medical Benefit under Police Regulations

SIR,—This week I have come across a class of worker not covered by the National Health Insurance Act yet employed by the State. This man, a member of the local police force, is suffering from a duodenal ulcer, and, by virtue of his not being incapacitated for duty, is not entitled to medical benefit as approved by the police authorities. It is to be hoped that police regulations will be corrected in the near future.—I am, etc.,

Dunstable. J. KELSALL THOMAS.

Health Centres and the Scientific Method

SIR,—If ever one was justified in making use of the platitude "It all depends on what you mean" it is surely when discussing health centres. With the help of a mathematician I attempted to calculate the various types of health centres which could be established, depending on the scope, technique of staff, equipment, etc. Taking only reasonable probabilities into account, there are over a thousand different varieties, and significant difference of data might be looked for from each institution.

With the modern development of specialization there have grown up two schools of thought amongst practitioners: "How can I make use of my hospital training in the treatment of this patient?" and the other: "What is the best that can be done for this patient?" The cynic calls the one school "mercenary" because he "hangs on to his patient," and the other "lazy" because he "always tries to send his patients into hospital." I belong to the latter. As there are these two schools of thought and as there can be all these varieties of institutions, it is necessary to make a careful study of the White Paper and the Goodenough report to discover what is in the mind of the Ministry and what function the general practitioner is expected to fulfil in the new scheme.

The White Paper (p. 57) expresses the need for a new attitude in patient and doctor. That, I assume, means prevention rather than cure. In my article (*Supplement*, Jan. 6, p. 1) I showed that for major disabilities the distance of the patient from the consulting-room of his panel doctor does not affect medical statistics, but that for minor disabilities it does. Whether a doctor happens to be a single practitioner or one of a group does not affect this rule, but as the grouping of doctors in health centres must increase the average distance which patients have to travel so the total number of maladies seen by the doctors will fall.

So far as individual illnesses are concerned this may be unimportant: the major illnesses are seen and the minor recover without medical attention. But social medicine is certainly affected. Might I give a simple example? Dr. Percy Stocks estimated that during the 1943 epidemic about 24% of the population aged 16 to 65 "suffered an illness regarded by them as influenzal." Assuming the accuracy of this statement, I found that in the small circle within five minutes' walk of my surgery 90% of the patients were seen. So that to all intents and purposes if the service is convenient respiratory complaints can be seen in all their variations. Now, whether or not influenza and colds are separate entities, influenza epidemics are heralded by a sudden astonishing increase in the incidence of colds.

If these respiratory complaints during an epidemic period are inherently associated and are signs of a social illness, then surely the greatest opportunity to study the warning symptoms and what leads to them should be the aim of a Ministry of Health. These first symptoms are so trifling that the doctors must be handy if the people are to take the trouble to consult them. The doctors will be handier scattered in single practices than congregated in health centres. Therefore, from the point of view of preventive medicine, health centres will suffer from a serious inherent functional defect.—I am, etc.,

Halifax. A. GARVIE.

Injustice to Physiotherapists

SIR,—Will you allow me to draw the attention of the profession to an apparent injustice being done to the members of one of our medical auxiliary services. My daughter, a fully qualified chartered physiotherapist, has now, following qualification and one year's civilian hospital experience, been for three years a physiotherapist in the R.A.F. At the time of joining she was officially informed that she could not work in an R.A.F. hospital except by joining the W.A.A.F., so she and friends of similar experience did so, and on being posted to an R.A.F. hospital were given the rank of Sergeant.

Now, after three years, these physiotherapists are still N.C.O.s, apart from a very few who have been granted commissions as heads of R.A.F. departments. Meanwhile, however, times have changed, and it appears that the R.A.F. is employing civilian physiotherapists, very often to work in the same department as the W.A.A.F.s. These civilians are given officer status, they live in officers' billets, and are in every way better treated than the W.A.A.F. physiotherapists, although most of them have had much less experience, being in some cases just newly qualified.

The solution for this anomalous state of affairs, which, I understand, is causing much dissatisfaction, would appear to be that the W.A.A.F. physiotherapists should now be released from the Service on the condition that they return to an R.A.F. hospital as civilians. They would then receive their proper status, their length of service with the R.A.F. being also taken into account, and the anomaly of their working with others of less experience but higher rank would thus be obviated.—I am, etc.,

North Queensferry. A. J. BROCK.

Unemployed Doctors in Britain

SIR,—A friend just forwarded to me Prof. J. A. Ryle's timely letter on unemployed doctors (*Supplement*, July 28, p. 17). I would like to inform Prof. Ryle of some more cases similar to those mentioned in his letter. Several refugee doctors—about 60 to 80 so far as I know—are serving as M.O.s in H.M. Forces. A return to their country of origin can hardly be considered for obvious reasons, while no preparations for emigration to other countries can be made by them owing to their present Service obligations, as well as to the uncertainty of their release dates. Most of them are on the temporary part of the *Register* only and will therefore be unable to practise medicine in England once the Emergency Powers Act has been repealed.

While on leave in London some two months ago I was informed that these cases were too few to justify an exception being made, and that it was not contemplated to grant any special facilities to ex-M.O.s to acquire a British degree. The difficulties of this side of the question have already been mentioned in Prof. Ryle's letter. It is also quite possible that the temporary registration will cease shortly after the demobilization of these M.O.s, so that they will be unable to avail themselves of the professional rehabilitation scheme open to all other M.O.s, or, to accept hospital positions in order to get once more in touch with modern medicine.

The official policy of facilitating the return of ex-Service men to civilian life does not seem to apply to these M.O.s at the moment.—I am, etc.,

"CAPTAIN, B.L.A."

Reference of Patients to Tuberculosis Officer

SIR,—Will you allow me a little space to refer to the paragraph headed "Reference of Patients to Tuberculosis Officer" in the Proceedings of Council published in the *Supplement* of Aug. 11 (p. 39). I am sure everybody will support the strongest possible opposition to the circular suggesting that the Divisional Medical Officer should send a patient referred to him for opinion direct to the tuberculosis officer. But I must disagree entirely with the sentence which begins "Only if . . ." This can only mean that the D.M.O. will be empowered to say to the practitioner, "I suggest you refer this man to the tuberculosis officer. If you don't it will be done for and in spite of you." I quite admit that a sensible man will for his own protection send the patient to the T.O., even if he is strongly of opinion that it is not necessary, but I do resent the element of compulsion which is to be brought to bear and to which Dr. Gregg would appear to assent. In my humble view this is an example and a warning of what we may expect on a much greater scale if we allow ourselves to be dragooned into a State service under a Socialist Government.—I am, etc.,

Middlesbrough. G. H. LOWE.

Country Panel Practice

SIR,—I hope that the future of the medical profession is never to depend upon the ability of "the public" to read notices or directions printed upon a "form." Unless the panel patient of the past and present really requires the doctor's service, the average time of presenting his card may be anything up to six years. The law of average may be comforting, but the number of "floating" patients is not.

There is another curse to the country doctor just now. For a matter of 7s. 3d. we have convalescent or temporary patients foisted upon us who may require *one* to *forty* visits and perhaps the supply of expensive drugs all the time. Personally, I am getting tired of the muddling methods which merely cost me money and effort, as I have plenty to do without these "gifts." One unfortunate man, who left town without informing his doctor, was incurable, did not wish to die here, and, all for a whim, cost me about £15; and his family rather double that amount.—I am, etc.,

Coldingham. F. O. TAYLOR.

H.M. Forces Appointments

ROYAL NAVY

Surg. Capt. H. E. Y. White, C.V.O., O.B.E., to be Surg. Rear-Admiral.

Acting Surg. Lieut.-Cmdr. L. G. Topham to be Surg. Lieut.-Cmdr.

Surg. Lieuts. P. S. Fuller, D. J. O'Donoghue, and R. T. Smith to be Surg. Lieut.-Cmdrs.

TERRITORIAL ARMY

ROYAL ARMY MEDICAL CORPS

War Subs. Major G. A. Kane, T.D., to be Major.

War Subs. Capt. E. E. Evans to be Capt.

Capt. W. A. Bellamy has relinquished his commission on account of disability, and has been granted the honorary rank of Major.

War Subs. Capt. J. R. Milligan has relinquished his commission on account of disability, and has been granted the honorary rank of Capt.

LAND FORCES: EMERGENCY COMMISSIONS

ROYAL ARMY MEDICAL CORPS

War Subs. Capt. J. Collins has relinquished his commission on account of disability, and has been granted the honorary rank of Capt.

To be Lieuts.: J. E. P. G. Godenne, J. Gorman.

WOMEN'S FORCES

EMPLOYED WITH THE R.A.M.C.

War Subs. Capt. E. M. Henderson has relinquished her commission on account of disability.

ROYAL AIR FORCE

Group Capt. (Temp. Air Vice-Marshal) A. F. Rook, O.B.E., to be Air Cdre.

ROYAL AIR FORCE VOLUNTEER RESERVE

Fl. Lieut. T. L. P. Harries has relinquished his commission on account of medical unfitness for Air Force service, and retains the rank of Squad. Ldr.

Flying Officer R. H. C. Conyngham has relinquished his commission on account of medical unfitness for Air Force service, and retains his rank.

RESERVE OF AIR FORCE OFFICERS

Fl. Lieut. (Temp. Squad. Ldr.) W. J. Fowler has relinquished his commission on account of medical unfitness for Air Force service, and retains the rank of Squad. Ldr.

INDIAN MEDICAL SERVICE

Capts. B. H. Sayed, R. J. Henderson, C. W. A. Searle, and L. M. Kelly to be Majors.

EMERGENCY COMMISSIONS

Capts. G. A. Flann and K. J. L. Scott to be Majors.

COLONIAL MEDICAL SERVICE

The following appointments are announced: Margaret D. Miller, M.B., Ch.B., Medical Officer, Tanganyika Territory; H. A. Munro, L.R.C.P. & S.Ed., Medical Officer, St. Vincent, B.W.I.

B.M.A. LIBRARY

The following books were added to the Library during March and April, 1945:

Andrews, H. R., and Lack, V.: Midwifery for Nurses. Ninth edition. 1945.
Barker, F. A.: Modern Prison System of India. 1944.
Bierman, W.: Physical Medicine in General Practice. 1944
Brady, M. Y.: Having a Baby Easily. 1944.
Cluver, E. H.: Public Health in South Africa. Fourth edition. 1944.
Dobbin, L., and Mackenzie, J. E.: Salts and their Reactions. Seventh edition. 1944.
Duffy, B. J.: Food for Thought. 1944.
Evans, B.: The Psychiatry of Robert Burton. 1944.
Fisher, R. A.: Statistical Methods for Research Workers. Ninth edition. 1944.
Giles, G. H.: Practice of Orthoptics. 1943.
Gration, H. M.: Practice of Nursing. 1944.
Gruneberg, H.: Genetics of the Mouse. 1943.
Grundy, F.: A Handbook of Social Medicine. 1945.
Hartwell, D.: Dogs Against Darkness. 1944.
Herms, W. B., and Gray, H. F.: Mosquito Control. Second edition, revised. 1944.
Hill, D. W.: The Impact and Value of Science. 1944.
Horsley, J. S.: Narco-Analysis. 1943.
Houghton, M., and Harding, M.: Aids to Theatre Technique. 1944.
Jensen, F., and Weiskotten, H. G.: Medical Care of Discharged Hospital Patient. 1944.
Kudo, R. R.: Manual of Human Protozoa. 1944.
Linton, R. G., and Williamson, G.: Animal Nutrition and Veterinary Dietetics. 1943.
Loeb, L.: Biological Basis of Individuality. 1945.
Lowy, S.: Man and His Fellowmen. 1944.
Lyons, Sir Henry: The Royal Society, 1660-1940. 1944.
McCleary, G. F.: Race Suicide? 1945.
Myerson, M. C.: Tuberculosis of Ear, Nose and Throat. 1944.
Newns, G. H.: Aids to Materia Medica. Third edition, 1944.
Oakes, L.: Illustrations of Bandaging and First Aid. Third edition. 1944.
Pavey, A. E.: Clinical Procedures and their Background. 1944.
Pearce, E.: Medical and Nursing Dictionary and Encyclopaedia. Seventh edition. 1944.
Spaeth, E. B.: Principles and Practice of Ophthalmic Surgery. Third edition. 1944.
Thomas, E. W. C.: Synopsis of Forensic Medicine and Toxicology. Second edition. 1945.
Tobias, N.: Essentials of Dermatology. Second edition. 1944.
White, M. M.: Symptomatic Diagnosis and Treatment of Gynaecological Disorders. 1944.
Whiting, M. H.: Ophthalmic Nursing. Fourth edition. 1945.

B.M.A.: Branch and Division Meetings to be Held

WAKEFIELD, PONTEFRACT, AND CASTLEFORD DIVISION.—At Clayton Hospital, Sunday, Sept. 9, 11 a.m. Postgraduate Lecture by Dr. Leslie Watson: The Criteria for the Diagnosis of Organic Heart Disease: Neuro-circulatory Asthenia.

POSTGRADUATE NEWS

The Fellowship of Medicine announces the following courses: (1) Revision course in anaesthetics at Royal Cancer Hospital, Fulham Road, S.W., Oct. 8 to 20, with lectures and/or demonstrations daily. (2) All-day course in children's diseases at Princess Louise Hospital, Kensington, Sat. and Sun., Sept. 29 and 30. (3) All-day course in rheumatism at Rheumatic Unit, St. Stephen's Hospital, Fulham Road, S.W., Sat. and Sun., Oct. 20 and 21.

WEEKLY POSTGRADUATE DIARY

FELLOWSHIP OF MEDICINE, 1, Wimpole Street, W.—*Royal Cancer Hospital*, S.W.: Mon., Tues., and Wed., 6 p.m. to 8.15 p.m., Primary F.R.C.S. course. *West End Hospital for Nervous Diseases*, Welbeck Street, W.: Mon., Tues., and Fri., 2.30 p.m., M.R.C.P. course in neurology.

BIRTHS, MARRIAGES, & DEATHS

The charge for an insertion under this head is 10s. 6d. *for* 18 *words or less. Extra words* 3s. 6d. *for each six or less. Payment should be forwarded with the notice, authenticated by the name and permanent address of the sender, and should reach the Advertisement Manager not later than first post Monday morning.*

BIRTH

WILSON.—On July 30, 1945, at Alexandria, Dr. Barbara E. Wilson (*née* Clapham), wife of Dr. J. V. Wilson, M.R.C.P., a son.

ENGAGEMENT

HARGREAVES—THOMPSON.—The engagement is announced between John E. Hargreaves, Surgeon, Merchant Navy, only son of the late Dr. Robert Hargreaves and Mrs. Hargreaves, 30, Stumperlowe Hall Road, Sheffield, and Merle Elisabeth, eldest daughter of Mr. and Mrs. Hugh A. Thompson, Hastings, New Zealand.

MARRIAGES

GILLINGHAM—JUDE.—On Aug. 30, 1945, at Oxford, Francis John Gillingham, Major, R.A.M.C., to Irene Jude.

SHAW—HART.—On Aug. 17, 1945, at North Walsham, Norfolk, Capt. Richard Emmott Shaw, to Jean Hart, of North Walsham.

DEATHS

BARROWMAN.—On July 23, 1945, in India, Hamish Barrowman, M.B., Ch.B., D.P.H., Major, R.A.M.C., beloved husband of Margaret I. Yuille, 5, Marywood Square, Gasgow, S.1.

BROWN.—On Aug. 16, 1945, Alexander Brown-M.B.Lond., of Bartholomew Road, N.W.5.

O'SULLIVAN.—On Aug. 8, 1945, Kingsley Louis, L.R.C.P.&S.I., L.M.R., Major, R.A.M.C. (ret.), darling husband of Maisie, Coleford House, Coleford, Nr. Bath, Somerset.

WILSON.—On Aug. 24, 1945, at Shirley, Knaresborough, Janet Mary, dearly loved wife of Stanley P. Wilson and mother of Mary and Anne, aged 45.

THE LONDON HOMOEOPATHIC HOSPITAL

(Incorporated by Royal Charter)

GREAT ORMOND STREET AND QUEEN SQUARE, W.C.1

Courses of Lectures on Homoeopathy for Postgraduates and Medical Practitioners

AUTUMN AND WINTER SESSION 1945-46

HONYMAN-GILLESPIE LECTURESHIP

Thirty-seventh Year

These lectures are intended to cover subjects required for examination for the Diploma of Membership of Faculty of Homoeopathy.

A Course of Lectures on

HOMOEOPATHIC MATERIA MEDICA AND THERAPEUTICS

Accompanied with Clinical Demonstrations

will be given at the Hospital by CHARLES E WHEELER, M.D., B.S., B.Sc.Lond., F.F.Hom., Consulting Physician to the London Homoeopathic Hospital, Mondays and Thursdays, October, 1945, to March, 1946, commencing Monday, October 15, at 1.30 p.m.; and ARTHUR D. C. MACGOWAN, M.B., Ch.B.Glasg., F.F.Hom., Physician to the London Homoeopathic Hospital on Fridays, January to March, 1946, commencing January 4, at 2.30.

A course of Lectures will also be given under the auspices of the Honyman-Gillespie Trust at the GLASGOW HOMOEOPATHIC HOSPITAL, January to March, 1946, further particulars of which can be obtained from G. LITHGOW WILSON, M.B., Ch.B.(Glas.), M.F.Hom., 6, Belgrave Terrace, Great Western Road, Glasgow, W.2.

THE COMPTON-BURNETT LECTURES

A Course of Ten Lectures on

HOMOEOPATHIC PHILOSOPHY AND PRESCRIBING

will be given by Sir JOHN WEIR, G.C.V.O., M.B., Ch.B.Glasg., F.F.Hom., Physician to His Majesty the King, Physician in Ordinary to H.M. Queen Mary, Consulting Physician to the London Homoeopathic Hospital, at the Winter Session only, on Fridays, at 2.30 p.m., October to December, commencing October 12.

TUTORIAL CLASS

A course of Ten Lectures on the Study of the Repertory will be given by AGNES MONCRIEFF, M.B., Ch.B.Glasg., F.F.Hom., Assistant Physician for Diseases of Children to the London Homoeopathic Hospital, Fridays, at 3.30 p.m., October to December, commencing October 12.

CLINICAL TUTORIALS

On Monday and Thursday afternoons at 2 o'clock throughout the year the Medical Tutors to the Hospital, J. DOUGLAS KENYON, M.B., Ch.B., B.Sc. (Vict.), M.F.Hom.; WILLIAM L. TEMPLETON, M.D., Ch.B.(Glas.), F.F.Hom., conduct an Out-patient Clinic for the purpose of instruction in the application of Homoeopathic principles.

THE SIR HENRY TYLER SCHOLARSHIP COMMITTEE

offer Scholarships to Medical Men in the Provinces desirous of taking a Postgraduate Course at the London Homoeopathic Hospital during the Ten Compton-Burnett Lectures. Prospectus and further information regarding Scholarships may be obtained on application to the Secretary, London Homoeopathic Hospital, W.C.1.

CORRESPONDENCE COURSE

For the benefit of Doctors unable to attend the Postgraduate Lectures a Postgraduate Correspondence Course has been inaugurated under the auspices of the British Homoeopathic Association. For particulars apply to the Secretary, British Homoeopathic Association, 43, Russell Square, London, W.C.1.

THE INSTITUTE OF LARYNGOLOGY AND OTOLOGY

330/332, Gray's Inn Road, London, W.C.1

in association with

THE ROYAL NATIONAL THROAT, NOSE AND EAR HOSPITAL

(Golden Square, W.1, and Gray's Inn Road, W.C.1)

FOUR WEEKS' COURSE IN LARYNGOLOGY, RHINOLOGY, AND OTOLOGY (29th October to 30th November, 1945), for senior post-graduate students—especially those taking Part II of the D.L.O. Examination. Full syllabus from the Secretary. Fee £15 15s.

DEMONSTRATION AND DISCUSSION OF CLINICAL CASES on Friday afternoons, open to all medical practitioners without fee; list of dates from the Secretary.

CLINICAL ASSISTANTSHIPS AND OUT-PATIENT ASSISTANTSHIPS are available at both Gray's Inn Road and Golden Square Hospitals.

These appointments offer valuable opportunities to general practitioners and senior post-graduates of acquiring an extended clinical knowledge of the speciality. Further particulars may be obtained from the Secretary.

THE QUEEN'S UNIVERSITY OF BELFAST

FACULTY OF MEDICINE SESSION 1945-46

Vice-Chancellor: D. LINDSAY KEIR, M.A.

Dean: Professor W. J. WILSON

Anatomy: T. Walmsley, M.D., F.R.S.E. *Operative Surgery and Applied Anatomy:* H. P. Malcolm, M.B., M.Ch. *Physiology:* H. Barcroft, M.A., M.D. *Medicine:* W. W. D. Thomson, M.D., B.Sc., F.R.C.P.(Lond.). *Surgery:* P. T. Crymble, M.B., F.R.C.S.(Eng.). *Materia Medica and Therapeutics:* J. T, Lewis, M.D., B.Sc., F.R.C.P.(Lond.). *Midwifery and Gynaecology:* C. G. Lowry, M.D., F.R.C.S.I. *Pathology:* J. H. Biggart, M.D., D.Sc. *Medical Jurisprudence:* J. H. Biggart, M.D., D.Sc. *Ophthalmology and Otology:* J. R. Wheeler, M.B., F.R.C.S.(Edin.). *Public Health Administration:* C. S. Thompson, M.D., D.P.H. *Public Health:* W. J. Wilson, B.A., D.Sc., M.D., D.P.H. *Physics:* K. G. Emeleus, M.A., Ph.D.; R. H. Sloane, D.Sc. *Zoology:* T. T. Flynn, D.Sc.; G. Williams, M.Sc. *Botany:* James Small, D.Sc.; Mary J. Lynn, D.Sc. *Chemistry:* A. W. Stewart, D.Sc. *Biochemistry:* D. C. Harrison, D.Sc., Ph.D. *Organic Chemistry:* H. Graham, D.Sc. *Vaccination:* S. R. Armstrong, M.D. *Bacteriology:* N. C. Graham, M.B. *Psychological Medicine:* Dorothy Gardner, M.B., D.P.H. D.P.M. *Infant Hygiene and Diseases of Children:* F. M. B. Allen, M.D., F.R.C.P.(Lond.).

The Lectures of Winter Session 1945-46 will commence on Tuesday, October 2. The Fees for a complete Medical Course (including Hospital Fees) amount to about £250. Scholarships will be open for competition at the Winter and Summer Professional Examinations. The Entrance Scholarship Examinations are held in June of each year.

RIDDEL HALL, situated a short distance from the University, offers residence for women students Full particulars can be obtained from the Warden, Riddel Hall, Stranmillis, Belfast.

HOSPITALS RECOGNISED FOR CLINICAL INSTRUCTION

Royal Victoria Hospital, Mater Infirmorum Hospital, Belfast Union Infirmary, City Fever Hospitals, Purdysburn, and Union Fever Hospital, Royal Maternity Hospital, Belfast Hospital for Sick Children, Ulster Hospital for Diseases of Children and Women, Belfast Ophthalmic Hospital and Eye and Ear Dispensary, Benn Ulster Eye, Ear and Throat Hospital, Samaritan Hospital, Forster Green Hospital for Diseases of the Chest, Belfast Hospital for Diseases of the Skin, Belfast Mental Hospital.

The Calendar, containing full information regarding the new Regulations for Courses, Fees, Scholarships, etc., can be had on application to the Bursar, Queen's University, Belfast, price 3s., postage 6d. extra.

RICHARD H. HUNTER, M.D., M.Ch., Ph.D.,
Secretary.

THE MIDDLESEX HOSPITAL MEDICAL SCHOOL

(UNIVERSITY OF LONDON.)

The Hospital and Medical School are fully equipped for teaching the entire medical curriculum, including instruction in Maternity Wards and all Special Departments.

SCHOLARSHIPS AND PRIZES

Two ENTRANCE SCHOLARSHIPS, value £100 each, and Four UNIVERSITY SCHOLARSHIPS, value £100 each, are awarded annually. In addition numerous Prizes are also awarded each year and exceed £1,000 in value.

The Tutors assist all Students, especially those who are preparing for Examinations, without extra fee.

Special attention is given to Students studying for Higher Degrees and Diplomas.

Common Rooms, a Gymnasium, and a Restaurant are provided in the School Buildings. A Squash Racquets Court is available in the Hospital.

Athletic Ground: Chislehurst, Kent.

The Students' Amalgamated Clubs include Rugby and Association Football, Golf, Cricket, Hockey, Sailing, Fencing, etc., etc.

SESSIONS 1945-46

Classes begin on October 1. Clinical Appointments are made every three months, beginning on November 1, and are held at the Middlesex Hospital, and at the Sector Hospitals at Aylesbury, Mount Vernon Hospital, Northwood, and Central Middlesex Hospital, Acton Lane, London.

Further particulars, Scholarship Regulations, and detailed Prospectus may be obtained on application to R. A. FOLEY, F.C.C.S., School Secretary, Middlesex Hospital, W.1.

H. E. A. BOLDERO, M.A., D.M., F.R.C.P.,
Dean of the Medical School.

UNIVERSITY COLLEGE HOSPITAL DENTAL SCHOOL

NATIONAL DENTAL HOSPITAL, GREAT PORTLAND STREET, W.1.

LECTURERS

DENTAL SURGERY AND PATHOLOGY: ALAN SHEFFORD, O.B.E., L.D.S., R.C.S.Eng. SPECIAL ANATOMY: ALAN SHEFFORD, O.B.E. L.D.S., R.C.S.Eng. ORTHODONTICS: A. C. MCLEOD, D.D.S., B.Sc. (Dent.), L.D.S. DENTAL MECHANICS: J. A. SNAREY WRIGHT, H.D.D. (Ed.), L.D.S., R.C.S. DENTAL MATERIA MEDICA: H. DAVIS, B.Sc., Ph.D., A.I.C., Ph.C. BACTERIOLOGY OF THE MOUTH: Sir KENNETH GOADBY, K.B.E., D.P.H., L.R.C.P., M.R.C.S., L.D.S., R.C.S. BACTERIOLOGY: L. E. GLYNN, M.B., B.S.(Lond.). DENTAL HISTOLOGY: A. K. INCE-JONES, L.R.C.P., M.R.C.S., L.D.S., R.C.S. DENTAL METALLURGY: H. W. THORPE, B.Sc., M.I.Chem.I. ANAESTHETICS: M. W. P. HUDSON, M.B., B.S., D.A. RADIOLOGY: D. A. IMRIE, M.D.Laus., L.R.C.P.E., L.R.C.S.E., D.M.R.E., L.D.S. SPECIAL MEDICINE LECTURES: A. J. MORLAND, M.D., F.R.C.P. SPECIAL SURGERY LECTURES: A. J. GARDHAM, M.S., F.R.C.S.Eng.

THE WINTER SESSION COMMENCES
TUESDAY, OCTOBER 2, 1945

This Hospital and School, situated in the centre of a large population, and within a few minutes of University College Hospital, is admirably adapted for the teaching of students in every branch of the Science and Art of Dental Surgery. The mechanical laboratory, conservation room, and X-ray departments are replete with all the latest approved appliances.

Students (men and women) enter as students of University College Hospital, and attend classes in anatomy and physiology at University College Hospital Medical School.

Each student serves as a dresser in the extraction, anaesthetic, conservation and X-ray departments, which provides him with the opportunity of observing and actually carrying out the methods of work in all branches.

Four House Surgeons are appointed half-yearly.

The Calendar, containing full information as to lectures, fees, prizes, etc., may be had on application to the Sub-Dean of Dental Students, who attends the University College Hospital Medical School, University Street, Gower Street, W.C.1, on Fridays at 11 a.m.

UNIVERSITY OF EDINBURGH

FACULTY OF MEDICINE

The University grants the Degrees of Bachelor of Medicine and Bachelor of Surgery (M.B., Ch.B.), Doctor of Medicine (M.D.), and Master of Surgery (Ch.M.).

Opportunities for Hospital Practice are afforded in Hospitals in the City, and upwards of 3,800 beds are available for Clinical Instruction of Students of the University.

The approximate cost of the course, extending over five years, for the Degrees of M.B., Ch.B., is £275. Prospective students are normally required to make application for admission on a prescribed form not later than July 1 of the year in which they wish to enter, but men students who will reach the age of 18 years and women students who will reach the age of 19 years between January 1 and August 31 of the year in which they wish to begin the course should apply by the middle of December of the previous year.

The University also grants a Diploma in Medical Radiology, and a full course of instruction for the Diploma is provided.

In the various Departments of the Faculty of Medicine provision is made for research by students of graduate standing.

A copy of the Faculty Programme may be obtained from the Dean of the Faculty of Medicine, University, Edinburgh, 8. Programmes regarding Degrees in other Faculties may be obtained from the Matriculation Office, University, South Bridge, Edinburgh 8.

W. A FLEMING, Secretary to the University.

INCORPORATED 1505

ROYAL COLLEGE OF SURGEONS OF EDINBURGH

COPIES OF REGULATIONS for the Fellowship, Licence, Higher Dental Diploma, and Licence in Dental Surgery, containing Dates of Examinations, may be had on application to

Surgeon's Hall,
18, Nicholson Street,
Edinburgh, 8.

DAVID THOMSON,
Clerk of the College.

UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL

TELEPHONE EUSTON 5050 (7 lines)
UNIVERSITY OF LONDON) UNIVERSITY
STREET, GOWER STREET, W.C.1

THE WINTER SESSION
WILL COMMENCE ON TUESDAY,
OCTOBER 2, 1945

The School is for Final Students only. Students are prepared for the degrees of the Universities of—Oxford, Cambridge, London, and Durham, and for the Diplomas of other qualifying bodies.

FEES. The fees for the complete Clinical Course are £135 9s. 0d. Oxford or Cambridge Students who have completed their Course in Pathology, £120 9s. 0d. The fees are payable, if desired, in three annual instalments of £45 3s. 0d. or £40 3s. 0d. respectively. There are no extras as the fees include: (1) Courses of instruction in Pharmacy, Vaccination, and Fevers; (2) Life Subscription to the Medical Society; (3) Subscription to the U.C.H. Magazine.

SCHOLARSHIPS, EXHIBITIONS and Prizes (value over £1,000) are awarded annually. Among the most important are:

I. Goldsmid Entrance Scholarships, entitling the holder to the Final Course of Medical Study, are offered for competition annually in July, and are open to Students who are preparing for the Degrees of the Universities of London, Oxford, Cambridge, Durham, or other British Universities, or for the Diplomas of the Royal Colleges of Physicians and Surgeons.

II. Goldsmid Entrance Exhibition (value £80), entitling the holder to a reduction by £80 of the fees due for the Full Course of Final Medical Study.

III. Filliter Entrance Scholarship in Pathology (value £52 10s.), entitling the holder to a reduction by £52 10s. of the fees due for the Full Course of Final Medical Study.

Candidates will be examined in any two of the following subjects: Anatomy, Physiology, General Pathology, and Biochemistry. Candidates need take the examination in Pathology alone if they desire to enter only for the Filliter Entrance Scholarship in Pathology.

All further information and Prospectus can be obtained from the Secretary, and the Dean can be interviewed at any time by appointment.

Dean: S. Cochrane Shanks, M.D., F.R.C.P., F.F.R.

Vice-Dean: Prof. S. J. Cowell, M.B., F.R.C.P.

Sub-Dean for Dental Students: Alan Shefford, O.B.E., L.D.S.R.C.S.Eng.

Secretary: R. Slolfy.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH

The EXAMINATIONS for the LICENCE of the College (as a single qualification) for the ensuing year will be held on the *First Wednesday* and the following days of every month (except September and October).

Candidates must be registered medical practitioners. Applications must be lodged with the Secretary one week before the date of the examination at which they propose to appear.

The EXAMINATIONS for the MEMBERSHIP of the College are held *quarterly during the second week of January, April, July* and *October.*

Candidates for the MEMBERSHIP must submit their applications and testimonials to the Secretary one month before the date at which they wish to appear for Examination.

For the Regulations in regard to the various qualifications granted by the College and all other information, application may be made to the Secretary.

LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN

(University of London)
Hunter St., Brunswick Square, London, W.C.1.
ELIZABETH BOLTON, C.B.E., M.D., B.S., Dean

FULL COURSES are arranged for the London M.B., B.S. Degrees, and certain Examinations of other qualifying bodies.

The CLINICAL COURSE is pursued at the Royal Free Hospital, and at present at its Emergency Medical Service Base Hospital, Arlesey, Beds, with additional experience at some special hospitals.

Appointments at the Hospital and Medical School are open to Students after qualification.

Scholarships, Bursaries and Prizes of the value of £2,000 are awarded annually.

The SESSION begins on OCTOBER 1, each year

Application for admission on the prescribed form must be made before January 1 for the following October.

The Prospectus and full information can be obtained from the Warden and Secretary.

WESTMINSTER HOSPITAL MEDICAL SCHOOL

(UNIVERSITY OF LONDON)

The new and enlarged School was completed in May 1939, in order to meet the demands of the latest developments in medical education. The buildings offer all the facilities required by the student for his social life, and the lecture theatres, class rooms, and laboratories are specially designed for his instruction.

SCHOLARSHIPS.—The David de Souza Scholarship to the value of £25 per annum is awarded on the results of an examination in Applied Physiology held in September. Four Scholarships to the value of £75 each are awarded on the result of an examination held in May of each year in First Year Subjects. Four Scholarships are also awarded annually as the result of examinations in Anatomy and Physiology in April and September.

FEES.—Entrance fee, 13 guineas (for those taking Clinical studies only, 8 guineas). Annual fee, 44 guineas, which includes membership to the Sports Union Club with its various branches—football, cricket, tennis, hockey, swimming, fencing, boxing, sailing, squash rackets, rowing, and Guthrie Society. The Sports Ground is within 20 minutes of the Hospital.

RESIDENT APPOINTMENTS.—Paid appointments as Medical, Surgical, and Obstetric Registrars, Casualty Officers, House Physicians, House Surgeons, and Anaesthetist are available for Students upon qualification. There are excellent opportunities for research work in the endowed Carlill Laboratories. The number of students is strictly limited to ensure the maximum advantages of individual clinical teaching and to afford the large majority of those who qualify the opportunity to secure one of these very valuable appointments.

The Dean or Sub-Dean will be pleased to arrange for intending Students and Parents to inspect the Hospital and Medical School at any time.

Only male students are admitted.

A Prospectus and full particulars may be obtained on application to the Dean—G. H. MacNab, M.B., Ch.B., F.R.C.S., Westminster Hospital Medical School, Horseferry Road, Westminster, London, S.W.1. *Telephone:* VICtoria 6041-2.

KING'S COLLEGE HOSPITAL MEDICAL SCHOOL

(UNIVERSITY OF LONDON)

Dean: JOHN B. HUNTER, *M.C.*, M.Ch., F.R.C.S.

THE NEW MEDICAL SCHOOL contains Lecture Rooms, Lecture Hall, Museum, Research Rooms and Laboratories, Bio-Chemical Research Laboratory, Common Rooms, and Refectory. Two Squash Rackets Courts adjoin the School.

FOURTEEN ENTRANCE SCHOLARSHIPS, total value £1,530, are awarded annually.

RESIDENT HOSPITAL APPOINTMENTS, numbering forty-one, are made during each year.

ATHLETIC GROUND. The Athletic Ground of the Medical School is within ten minutes' walk of the Hospital, and has accommodation for cricket, football, hockey, and lawn tennis.

SCHOOL HOSTEL. "The Platanes," standing in large grounds, with three lawn tennis courts, provides residence for 80 students, and is within five minutes' walk of the Hospital.

The Dental School provides full Courses in preparation for Dental Degrees and Diplomas.

For Particulars, Calendar of the School, and Appointments to see the School and Hospital, application should be made to the Secretary, S. C. RANNER, M.A., King's College Hospital Medical School, Denmark Hill, London, S.E.5.

THE ROYAL DENTAL HOSPITAL OF LONDON

SCHOOL OF DENTAL SURGERY

(University of London), Leicester Square, London, W.C.2.

Men and Women Students are admitted for the Curriculum for the B.D.S. Degree and the L.D.S. Diploma in October, January, and May.

HOSPITAL PRACTICE.—The school is furnished with modern equipment, and the Clinic of the Hospital is unrivalled. Students may attend the operations in the In-patient Department, and chair-side instruction is given in Advanced Operative Technique and Orthodontics.

DENTAL PROSTHETICS.—The Mechanical Laboratory is a spacious and fully equipped department under the direction of the Lecturer in Prosthetics.

HOUSE APPOINTMENTS—Six Senior House Surgeons and fifteen ordinary House Surgeons are appointed every year.

SCHOLARSHIPS.—A number of Scholarships, Bursaries, and Prizes are awarded annually, including an open Entrance Scholarship of £50.

Applications for further particulars and School Calendar are invited by THE DEAN.

ST. BARTHOLOMEW'S HOSPITAL AND COLLEGE

UNIVERSITY OF LONDON

WINTER SESSION BEGINS OCTOBER 1, 1945

WAR-TIME ARRANGEMENTS

All the pre-clinical Departments of the College are now temporarily established at Cambridge, where full courses have been arranged to meet the requirements of the Regulations of the University of London, and are carried out by St. Bartholomew's teachers.

The clinical work of the senior students continues to be based on St. Bartholomew's Hospital, but is also carried on in two large Hospitals in Sector III of the Emergency Medical Service, viz., at New Southgate and St. Albans, which provide a larger number of beds than normally. Adequate facilities for the teaching of Pathology and Midwifery have been arranged. All Out-Patient Departments at St. Bartholomew's are open.

Special arrangements are made for the housing of students.

A full Staff of clinical teachers is distributed over the Hospitals. Lecture courses are arranged in all Hospitals.

STUDENTS' UNION

The Union possesses a Club Ground of seventeen acres at Chislehurst, and athletic amenities are available in the newly-purchased site in Charterhouse Square, five minutes' walk from the Hospital.

HIGHER EXAMINATIONS

Special Classes are held for Primary F.R.C.S., etc.

For further particulars apply, personally or by letter, to The Dean of the Medical College, St. Bartholomew's Hospital, London, E.C.1.

UNIVERSITY OF LONDON

OPHTHALMIC HOSPITAL MEDICAL SCHOOL ROYAL LONDON OPHTHALMIC HOSPITAL (Moorfields Eye Hospital)

City Road, E.C.1

Qualified Medical Practitioners and Registered Medical Students may enter on the Practice of the Royal London Ophthalmic Hospital (Moorfields) at any time, and are, on certain conditions, eligible for appointment as Chief Clinical Assistant, Clinical Assistant, and Junior Assistant.

Courses of Instruction, extending over a period of five months, begin in October and March.

DIPLOMA IN OPHTHALMIC MEDICINE AND SURGERY AND OTHER DEGREES IN OPHTHALMOLOGY

A complete curriculum is specially designed to meet the requirements of candidates entering for these examinations.

Fees for the Practice of the Hospital: Perpetual, £5 5s. 0d.; three to six months, £3 3s. 0d.; two months, £2 2s. 0d.; one month, £1 1s. 0d.

Clinical work begins at 9 a.m. daily. Operations are performed between 10 a.m. and 1 p.m.

For further particulars apply to the Secretary to the Medical School at the Royal London Ophthalmic Hospital, City Road, E.C.1; or to the Dean, Robert Davenport, M.B., B.S., F.R.C.S.

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL

(UNIVERSITY OF LONDON)
HYDE PARK CORNER, S.W.

The Hospital and Medical School occupy the finest site in London and are readily accessible from all parts of the Metropolis.

The entire teaching in the School is devoted to the subjects of the Final Examination; in other words, is specially adapted to the interests of men from the Universities who have passed their Examination in Anatomy and Physiology.

St. George's students attend at King's College for tuition in the Preliminary and Intermediate subjects.

SEVEN ENTRANCE SCHOLARSHIPS IN ANATOMY AND PHYSIOLOGY, AND GENERAL PATHOLOGY, of the value of £120, £80 (3), £60 (2) and £50 respectively, and MANY VALUABLE PRIZES ARE AWARDED EACH YEAR.

The ST. GEORGE'S HOSPITAL CLUB incorporates the RUGBY FOOTBALL, CRICKET, LAWN TENNIS, BOXING, RIFLE and other Clubs, and possesses an ATHLETIC GROUND within easy reach of the Hospital, and Smoking and Luncheon Rooms on the School Premises.

Annual Composition Fee, which covers all courses lectures, etc., in the Hospital and School, £42 Annual Club Subscription, £3 13s. 6d.

The Winter Session will begin on October 1, but students can enter at any time.

Further information may be obtained from the Dean of the Medical School.

H. W. GORDON, *M.C.*, B.Ch., F.R.C.P.
Dean.

NOTICE—Applications for vacancies advertised should, except where otherwise specified, state name, address, age, nationality, qualifications, and be accompanied by copies of three recent testimonials with short statement of experience and appointments held. Unless closing date is stated applications should be sent at once.

R—Male, W—Women practitioners, liable to military service under the National Service Acts.

B1—Whole-time appointments, usually resident within the senior establishment—e.g., Registrar, R.S.O., etc.

A—Whole-time resident house appointments open to practitioners without previous experience.

B2—Whole-time house appointments not within the senior establishment, usually resident, and usually held by practitioners with six months' experience.

APPOINTMENTS

HIS MAJESTY'S COLONIAL SERVICE. The Colonial Medical Service. Vacancies for MEDICAL OFFICERS. The maintenance of an efficient COLONIAL MEDICAL SERVICE constitutes a vital part of the national war effort, and it is most important that the Service should be assured of an adequate supply of doctors. The Secretary of State for the Colonies therefore invites applications from doctors possessing a medical qualification registrable in the United Kingdom who are British subjects and who are under 35 years of age. Medical Officers are appointed in the first instance for general service, but there are ample opportunities for work in special branches of medicine and surgery, in public health, and in medical research. The normal salary scale is from £600 to between £1,000 to £1,120. There are large numbers of super-scale posts to which promotion is made on merit and which carry higher salaries. Government quarters, in many cases free of rent, and first-class passages to and from the Colonies are provided, and an adequate pension scheme is in force. Selected candidates are normally required to attend a course of instruction in Tropical Medicine and Hygiene, either before or after proceeding overseas or during their first period of leave. Further particulars, including the regulation governing admission to the Colonial Medical Service, may be obtained from the *Director of Recruitment (Colonial Service)*, 2, Park Street, London, W.1.

AUCKLAND HOSPITAL BOARD, New Zealand.—Applications addressed to the undersigned and closing at noon on Monday, September 17, 1945, are invited from registered medical practitioners for two appointments as SENIOR RADIOLOGISTS at the Board's Institutions, at commencing salaries of £1,000 per annum, rising by two annual increments of £100 to £1,200 per annum, living out. (New Zealand currency.) Applicants must hold Diploma of Radiology. The appointments are whole-time and are for diagnostic radiology only. The Board's Institutions include: (1) The Auckland Hospital of 1,000 beds (with a Director of Radiology and an Assistant Radiologist already appointed). (2) The Green Lane Hospital of 600 beds, including a Chest Diseases Department. (3) The Middlemore Hospital of 300 beds, including an Orthopaedic Department. New *X*-ray Departments are being opened in the two latter hospitals this year. Conditions and memorandum of appointment may be obtained from the office of the High Commissioner for New Zealand, New Zealand House, the Strand, London, W.C.2. Applications should be endorsed "Senior Radiologist" and sent to New Zealand direct by air mail.—R. F. Galbraith, Secretary.

MUNICIPAL COUNCIL OF NAIROBI (Kenya Colony). ASSISTANT MEDICAL OFFICER OF HEALTH.—The Municipal Council of Nairobi in the Colony of Kenya invites applications from qualified and experienced persons for the post of Assistant Medical Officer of Health. Candidates must possess a diploma in Public Health. The salary attached to the post is £840 per annum, rising by annual increments of £40 to £920 per annum, but a candidate with special qualifications may be allowed to enter the scale at an appropriate point higher than the initial salary. After a probationary period of six months, the person appointed, if confirmed in the appointment, will be required to contribute 7½% of his salary to the Municipal Provident Fund, into which the Council will contribute a similar amount. The person appointed will be entitled to six months' oversea leave on full pay with passages paid after each period of four years' service. Eighteen days annual local leave is also granted. Applications, stating age, experience and qualifications and accompanied by a recent photograph, medical certificate, and certified copies (not originals) of testimonials, should be addressed to the undersigned.—W. W. Ridout, Town Clerk, Town Hall, Nairobi, Kenya Colony.

CITY OF PLYMOUTH, City General Hospital.—Applications are invited from duly qualified and registered medical practitioners, male and female, including practitioners within three months of qualification and liable under the National Service Acts, for the appointment of CASUALTY OFFICER AND ASSISTANT RESIDENT (A) in the Maternity and Gynaecological Department at the City General Hospital. The appointment will be for a period of six months, but terminable by one month's notice on either side at any time. Salary is at the rate of £250 per annum, plus war bonus, and full residential emoluments All fees received by the officer must be refunded to the Council. Further details may be obtained from the Medical Superintendent of the Hospital. Forms of application are not provided. Applications must be addressed to the undersigned as soon as possible—T. Peirson, Medical Officer of Health, Seven Trees, Lipson Road, Plymouth.

THE OTAGO HOSPITAL BOARD. University of Otago and Dunedin Hospital, New Zealand.—Applications are invited for the following positions, viz:

(A) FULL-TIME TUBERCULOSIS OFFICER, at a salary at the rate of £1,500 per annum (plus travelling allowance), plus £100 per annum payable by the Otago University Council for teaching duties.

(B) FULL-TIME PSYCHIATRIC PHYSICIAN, at a salary at the rate of £1,500 per annum (plus travelling allowance), plus £100 per annum payable by the Otago University Council for teaching duties.

Applications are also invited for the position of RESIDENT SURGICAL OFFICER (Senior). Candidates must hold a degree in Medicine of a British University, must have been qualified for three years, and have held reesident hospital appointments for at least one year. Preference given to unmarried applicants. The duties will be those of superintending house surgeons with, in addition, certain tutorial work under the direction of the Professor of Surgery. Salary to be at the rate of £600 (N.Z. currency) per annum, with board and residence.

Full details may be obtained on application to the High Commissioner's Office, New Zealand Govt., 415, Strand, London.—John Jacobs, Secretary, Otago Hospital Board, Dunedin.

PAPWORTH VILLAGE SETTLEMENT, Nr. Cambridge.—Applications are invited from registered medical practitioners for the appointment of a RESIDENT SURGICAL OFFICER (B1). Applicants should have held house appointments and had experience in tuberculosis and thoracic surgery. Preference will be given to candidates holding the Diploma of F.R.C.S. Suitably qualified R practitioners now holding B2 posts may apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. The appointment is for one year in the first place, salary £600 p.a., rising to £800 p.a. by £100, with board, lodging, and laundry. Applications should be sent to the Medical Director, Papworth Village Settlement, Papworth Hall, Cambridge.

CITY AND COUNTY OF BRISTOL. Department of Public Health. ASSISTANT RESIDENT MEDICAL OFFICER (B2).—Applications are invited from registered medical practitioners, male or female, for the appointment of Assistant Resident Medical Officer (B2), which is vacant now at Ham Green Hospital, including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months, otherwise it will be held for a period of one year. Salary £200 per annum, plus full residential emoluments. Application forms may be obtained from the undersigned, to whom they must be returned, accompanied by copies of not more than three recent testimonials, forthwith.—R. H. Parry, Medical Officer of Health, Kenwith Lodge, Westbury Park, Bristol, 6.

COUNTY BOROUGH OF BOLTON. Townleys Hospital, Farnworth. TEMPORARY ASSISTANT RESIDENT MEDICAL OFFICER (B1).—Applications are invited from registered male medical practitioners for the above appointment. Suitably qualified R practitioners holding B2 appointments, also R practitioners now holding B1 appointments and rejected by the R.A.M.C., may apply. An interest in obstetrics is desirable. The salary will be £350 per annum, plus bonus, with emoluments valued at £130 per annum. Applications must be made on a form which may be obtained from the Medical Officer of Health, Civic Centre, Bolton, accompanied by copies of two recent testimonials, and must reach the undersigned as soon as possible.—Philip S. Rennison, Town Clerk, Town Hall, Bolton.

COUNTY BOROUGH OF ROTHERHAM. Municipal General Hospital. RESIDENT ASSISTANT MEDICAL OFFICER (A).—Applications are invited from fully registered medical practitioners with the necessary knowledge and experience of hospital work, including practitioners within three months of qualification and who are liable for service under the National Service Acts, for the above appointment. The appointment will be for a period of six months. Salary is at the rate of £200 per annum, together with full residential emoluments and a temporary cost-of-living bonus in accordance with the Council's scale. Forms of application may be obtained from the Medical Superintendent, Municipal General Hospital, Moorgate, Rotherham, and must be returned to the undersigned endorsed "Assistant Medical Officer" not later than Sept. 12, 1945.—Charles Des Forges, Town Clerk, Municipal Offices, Rotherham.

CITY OF LEEDS. St. James's Hospital (1,296 beds).—LOCUM TENENS HOUSE PHYSICIAN required immediately for holiday duty (4 to 6 weeks). Fee £5 5s. per week, with full residence and board in addition. Apply Medical Officer of Health, Public Health Dept. (Hospitals Administration Section), 12, Market Buildings, Vicar Lane, Leeds, 1.

CITY OF MANCHESTER. Public Health Department. Crumpsall Hospital (1,400 beds). TEMPORARY VISITING CONSULTANT EAR, NOSE, AND THROAT SURGEON (PART-TIME).—The Public Health Committee invites applications for the above-mentioned appointment at the Crumpsall Hospital (adult, general), Manchester, 8, which will become vacant on October 12, 1945. It does not carry with it right of entry into the Corporation Superannuation Fund. The remuneration will be £250 per annum. Two normal sessions at the hospital will be required each week with emergency sessions in addition, as required. Forms of application and copies of a memorandum on the terms and conditions of the appointment may be obtained from the Medical Officer of Health, Hospitals Administration Section, G.P.O. Box 399, Town Hall, Manchester 2, by whom applications must be received not later than September 15, 1945. Canvassing in any form, oral or written, direct or indirect, is prohibited.—Philip B. Dingle, Town Clerk, Town Hall, Manchester, 2.

CITY OF CARLISLE. City General and Fusehill Emergency Hospitals, Carlisle (100 civilian beds, 200 E.M.S. and reserve beds).—Applications are invited for the following appointment: RESIDENT MEDICAL OFFICER (B1), vacant September 1, for the care of civilian beds. The chief duties are in the Maternity and Gynaecological Wards, and the appointment offers excellent experience of abnormal midwifery. The person appointed will also have charge of some medical and surgical wards. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless rejected by R.A.M.C. Salary at the rate of £350 per annum, plus full residential emoluments. The appointment is for six months in the first instance. Applications should be sent to the Acting Medical Officer of Health, 22, Fisher Street, Carlisle, as early as possible.

CITY OF PLYMOUTH. Mount Gold Orthopaedic and Tuberculosis Hospital (200 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of ASSISTANT RESIDENT SURGICAL OFFICER (B2) at Mount Gold Hospital. Salary is at the rate of £250 per annum, plus war bonus, with full residential emoluments. All other fees received by the officer must be refunded to the Council. Married quarters are not provided. Preference will be given to applicants who have had some experience of orthopaedic and fracture work. The duties are mainly in the orthopaedic and E.M.S. sections of the Hospital, but may include some duties in the pulmonary tuberculosis wards. R and W practitioners who now hold A posts may apply, when the appointment will be limited to six months, otherwise it will be renewable for a further period of six months, terminable by one month's notice on either side at any time. Applications should be sent as soon as possible to T. Peirson, Medical Officer of Health, Seven Trees, Lipson Road, Plymouth.

CITY OF LEEDS. Public Health Department. St. Mary's Infirmary. RESIDENT MEDICAL OFFICER (B2).—Applications are invited from registered medical practitioners, male, for the post of Resident Medical Officer (B2) for the above hospital, including R practitioners who now hold A posts. If held by an R practitioner, the appointment will be limited to six months, otherwise it will be for a period of twelve months. Preference will be given to candidates who have held an A post in a maternity hospital. The salary is at the rate of £250 per annum, plus a cost-of-living bonus, together with full residential emoluments. The hospital comprises a maternity unit of 98 beds and 102 beds for chronic sick. It is a Part 1 Training School under the regulations of the C.M.B., and the duties of the officer will include instruction of pupil midwives. All fees received by the officer must be paid into City funds. Applications, endorsed "R.M.O.," to be forwarded to the undersigned.—J. Johnstone Jervis, Medical Officer of Health, Public Health Department (Hospitals Administration Section), 12, Market Buildings, Leeds, 1.

COUNTY BOROUGH OF DERBY. Derby City Hospital. RESIDENT MEDICAL OFFICER (B2).—Applications are invited from registered medical practitioners, male or female, for the appointment of Resident Medical Officer (B2); including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months, otherwise it may be extended to twelve months. The salary is at the rate of £200 per annum, with full residential emoluments, plus war bonus. The hospital is a 1A Casualty Hospital with a normal complement of 312 beds, plus casualty beds for acute medical and surgical cases, and with a large obstetrical department. Applications should be sent to the Medical Superintendent, City Hospital, Derby, as early as possible.—C. Ashton, Town Clerk, Town Hall, Derby

IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page 11

AMENDED ADVERTISEMENT

BOROUGH OF WIMBLEDON. TEMPORARY ASSISTANT MEDICAL OFFICER.—Applications are invited from suitably qualified persons, men or women, for the above appointment. Candidates already holding a whole-time Public Health appointment under a local authority are not eligible. The successful candidate will also be required to carry out the duties of an Assistant School Medical Officer in the Borough of Wimbledon, for which area the County Council are the responsible authority. The commencing salary will be between £650 and £700 per annum, according to qualifications and experience A car allowance at the rate of £75 per annum will be paid in addition. Further particulars and forms of application may be obtained from the Medical Officer of Health, to whom applications should be returned by first post on Wednesday, September 12, 1945.—Edwin M. Neave, Town Clerk, Town Hall, Wimbledon, S.W.19.

COUNTY BOROUGH OF WEST HAM. Whipps Cross Hospital, Leytonstone, E.11 (1,300 beds).—The Council invite applications from registered medical practitioners, including those serving in H.M. Forces, for the post of MEDICAL SUPERINTENDENT of the above general hospital. In accordance with the Council's resolution the post will be designated temporary until the conclusion of the war, but if satisfactory service has been given the post will be made permanent. The consent of the Minister of Health has been obtained to the making of the appointment. The salary for the post is £1,100 per annum, together with a house valued for superannuation purposes at £100 per annum. On the publication of the revised "Askwith Scale" the Council will amend the salary in accordance with that scale. Candidates must have had both wide clinical and administrative experience, and the possession of higher degrees will be considered an advantage. Preference will be given to candidates who have held already the post of Medical Superintendent to a general hospital. The appointment will be subject to the Council's regulations as made from time to time regarding holidays, sick pay, etc., and the successful candidate will be required to pass a medical examination. Forms upon which application must be made can be obtained from the Medical Officer of Health, 223-225, Romford Road, West Ham, E.7, on receipt of a stamped addressed envelope, and returned to him not later than October 8, 1945. Canvassing members of the Council is prohibited and will disqualify.—Charles E. Cranfield, Town Clerk, Town Hall, West Ham, E.15.

CORPORATION OF DUNDEE. Public Health Department. Dundee Mental Hospital.—Applications are invited from registered medical practitioners for the appointment of SENIOR ASSISTANT MEDICAL OFFICER (B1). Salary is at the rate of £500 p.a., with war bonus and full residential emoluments. Suitably qualified R and W practitioners holding B2 or B1 appointments are invited to apply, but they must have obtained the sanction of the Scottish Central Medical War Committee, Edinburgh, to their application. Applications should be sent to the Medical Superintendent, Mental Hospital, Westgreen, Dundee. No married quarters are available.

CITY OF NORWICH. Woodlands Hospital (311 beds). ASSISTANT RESIDENT MEDICAL OFFICER (B2).—Applications are invited from registered medical practitioners for the appointment of Assistant Resident Medical Officer (B2), including R and W practitioners who now hold A posts. If held by an R practitioner, the appointment will be limited to six months, otherwise it will be for a period of one year. The salary is at the rate of £250 per annum, with full residential emoluments. Further particulars of appointment to be obtained from the Senior Medical Officer, Woodlands Hospital, Bowthorpe Road, Norwich, and to whom applications should be sent.—Bernard D. Storey, Town Clerk, City Hall, Norwich.

CITY OF SHEFFIELD. King Edward VII Hospital for Crippled Children, Sheffield, 6. RESIDENT MEDICAL OFFICER (B1), female.—Applications are invited from registered medical practitioners for the appointment of Resident Medical Officer to the above Hospital (140 beds), which is for the treatment of surgical tuberculosis and other orthopaedic conditions. Suitably qualified W practitioners holding B2 appointments are invited to apply. Salary £350 p.a., rising by £25 to £550, with residential emoluments valued £150. Post vacant now. Applications should be sent immediately to the Medical Superintendent.

WEST SUSSEX COUNTY COUNCIL.—Applications are invited for the appointment of PART-TIME PSYCHIATRISTS (approximately 4 sessions a week) for Child Guidance Clinics. Candidates should have recognized medical qualifications and the Diplomas in Psychological Medicine. They should have had a training in Child Psychiatry and Child Guidance work. Remuneration on a sessional basis at £2 12s. 6d. per session or more, according to experience and qualifications, plus reasonable travelling expenses from London. Applications should be forwarded to the undersigned as soon as possible.—T. C. Hayward, Clerk of the County Council, County Hall, Chichester.

KINGSTON-UPON-HULL CORPORATION HEALTH DEPARTMENT. City Hospital and Sanatorium.—Applications are invited for the appointment of a TEMPORARY RESIDENT MEDICAL OFFICER (B1) at the above. The appointment is open to registered medical practitioners of either sex, who must be single and have had experience in general hospital work. Possession of the Diploma in Public Health, or similar qualification, and previous experience in a fever hospital or sanatorium will be regarded as additional qualifications. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. The appointment is for a period of one year and the salary is £350 per annum, together with board, laundry, and residence. The appointment may be extended for more than one year, in which case the salary, subject to satisfactory service, will be increased by annual increments of £25 to a maximum of £450 per annum, plus increased cost-of-living bonus. Application forms may be obtained from, and should be returned to, the Medical Officer of Health, Guildhall, Kingston-upon-Hull, as early as possible.

KENT COUNTY COUNCIL. Public Health Department. SENIOR MEDICAL OFFICER (B1).—Applications are invited for the above appointment at the County Hospital, Sheppey, which has 150 beds. Applicants should have had previous surgical experience and be capable of undertaking major surgical work. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. The salary will be £600 a year, and if the successful candidate possesses a higher qualification in surgery will rise, subject to satisfactory service, by annual increments of £50 to £750 a year. A temporary war addition in accordance with the County Council scale is paid in addition, together with a payment of £120 a year to cover living out. Superannuation can be arranged, if necessary, and the successful candidate will be required to pass a medical examination. Applications, stating age, qualifications, experience, nationality, and the names and addresses of two responsible persons to whom reference may be made as to professional ability, should be sent to the County Medical Officer, County Hall; Maidstone, not later than September 18, 1945.—W. L. Platts, Clerk to the County Council, County Hall, Maidstone.

KENT COUNTY COUNCIL. County Hospital, Dover (130 beds). ASSISTANT MEDICAL OFFICER (B1).—Applications are invited from suitably qualified registered practitioners for the above appointment. Applicants should have had previous hospital experience. Suitably qualified R and W practitioners holding B2 appointments are invited to apply, but applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary £350 to £450, by increments of £25, with full residential emoluments, plus a temporary war addition at present £29 19s. 7d. a year. Married quarters for wife can be provided if necessary, in which case a charge of 25s a week would be made for the board-residence provided for wife. Superannuation can be arranged, in which event medical examination will be necessary. The successful candidate will, from time to time, be required to undertake relief work in the hospitals administered by the Council in the Ashford and Folkestone areas. Applications, stating age, qualifications, experience, nationality, and the names and addresses of two responsible persons to whom reference may be made as to professional ability, to be sent to the County Medical Officer, County Hall, Maidstone, by September 18, 1945.—W. L. Platts, Clerk of the County Council, County Hall, Maidstone.

NORFOLK COUNTY COUNCIL. Attleborough Emergency Hospital. TEMPORARY RESIDENT MEDICAL OFFICER (B1).—Applications are invited from registered medical practitioners of either sex. Salary £500, rising by £25 to £550 per annum, together with board, residence and laundry, valued at £100 per annum. Preference will be given to applicants reading for the Fellowship. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. The practitioner appointed may also be required to do work outside the hospital. Applications should be addressed to the County Medical Officer, 29, Thorpe Road, Norwich, Norfolk.

UNIVERSITY COLLEGE HOSPITAL. Radiotherapy Department.—Applications are invited for the post of PART-TIME ASSISTANT RADIOTHERAPIST for five afternoon sessions per week at a salary of £400 per annum. Applicants must have had experience in Radiotherapy and hold the Diploma of Radiology. Applications from R practitioners now holding B1 appointments cannot be considered unless they are medically unfit. Details of the duties are available on application. Applications to the Secretary, University College Hospital, Gower Street, W.C.1 not later than Sept. 22, 1945.

GLAMORGAN COUNTY COUNCIL. West Glamorgan County Hospital, Neath. — Applications are invited for the post of TEMPORARY JUNIOR RESIDENT ASSISTANT MEDICAL OFFICER (B2), male or female, including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months, otherwise will be for a period not exceeding one year. Inclusive salary of £225 per annum, rising by annual increments of £25 to £325, plus prevailing cost-of-living bonus and residential emoluments. All fees whatsoever received by the successful applicant whilst holding the appointment must be handed over to the County Council. The appointment will be terminable by one month's notice on either side. Applications should be sent to the County Medical Officer, County Hall, Cardiff, within ten days of the publication of this advertisement.—D. J. Parry, Clerk of the County Council, Glamorgan County Hall, Cardiff.

NORTHUMBERLAND COUNTY COUNCIL. Wooley Sanatorium, Nr. Hexham.—Applications are invited from registered medical practitioners for the appointment of TEMPORARY MEDICAL SUPERINTENDENT at Wooley Sanatorium (184 beds). Applicants should have had special experience in the diagnosis and treatment of pulmonary tuberculosis and in institutional administration. The candidate appointed will also be required to act as Tuberculosis Officer for the Hexham Division of the County. The salary will be £650, rising by biennial increments of £50 to £850 per annum, with emoluments, house, coal, and light, valued for superannuation purposes at £150 per annum. The commencing salary on this scale will be determined according to experience. The appointment is subject to the provisions of the Local Government Superannuation Act, 1937, and the successful candidate will be required to pass a medical examination. The appointment will be determinable by three months' notice on either side. This is a temporary appointment, but there is a vacancy on the permanent establishment. Applications, accompanied by copies of three recent testimonials, upon forms to be obtained from the County Medical Officer at the address below, should be returned to him not later than September 28, 1945.—C. Harold Carter, Clerk of the County Council, County Hall, Newcastle-uupon-Tyne.

SURREY COUNTY COUNCIL. St. Luke's Hospital, Guildford (500-600 beds). WHOLE-TIME PATHOLOGIST.—Applications are invited from suitably qualified practitioners, male and female, for the appointment of Whole-time Pathologist to the St. Luke's Hospital, Guildford (which includes the large B.M.S. Radiotherapy Unit). Applicants should have had wide pathological experience and be of senior standing in the profession. The person appointed will be in charge of the work of the Pathological Laboratory at the hospital, where there are at present two Technicians employed, and will be required to perform all autopsies. The appointment will be temporary and subject to three months' notice on either side, but any Local Government Superannuation rights will be preserved. The permanent appointment will be re-advertised later in order to give doctors at present serving with H.M. Forces an opportunity to apply after their discharge. Commencing salary according to experience on the grade £1,000 by £50 to £1,500 p.a. Apply to the County Medical Officer, County Hall, Kingston-upon-Thames, by October 15, 1945. This temporary appointment is advertised by permission of the Ministry of Health.

SURREY COUNTY COUNCIL. Epsom County Hospital, Dorking Road, Epsom (350 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of ASSISTANT MEDICAL OFFICER (B2), including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months, otherwise it will not exceed one year. Applicants must have held house appointment, with general experience, and should be capable of administering anaesthetics. Salary at the rate of £250 p.a., plus full residential emoluments and war bonus. Apply to the Medical Superintendent at the hospital by September 12, 1945.

ROYAL SUSSEX COUNTY HOSPITAL, Brighton. Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (B2), now vacant. There will be opportunities for gaining experience in general surgery, fractures and orthopaedic work. The salary is at the rate of £200 per annum, with full residential emoluments. R and W practitioners who now hold A posts may apply, when appointment will be limited to six months, otherwise may be extended. Applications to L. L. W. Lancaster-Gaye, Secretary-Superintendent.

ALTRINCHAM GENERAL HOSPITAL (100 beds), Nr. Manchester.—Applications are invited for the appointment of RESIDENT SURGICAL OFFICER (B1). The post offers considerable scope in operative surgery, and the holder must have had experience to enable him to undertake the work. Salary £250 p.a., with full residential emoluments. Suitably qualified R practitioners holding B2 appointments, those holding B1 appointments and rejected by the R.A.M.C., and those discharged from the Forces may apply. Applications to General Superintendent.

IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page 11

ALTRINCHAM GENERAL HOSPITAL, nr. Manchester (100 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (B2). Salary at the rate of £150 per annum, with full residential emoluments. R practitioners now holding A posts may apply, when appointment is limited to six months. Address applications to the General Superintendent.

BECKETT HOSPITAL AND DISPENSARY, Barnsley. HOUSE SURGEON (A).—Applications are invited from registered medical practitioners for this appointment. Salary is at the rate of £225 per annum, with full residential emoluments. Practitioners within three months of qualification may also apply when the appointment will be for six months. Applications should be sent immediately to Arthur L. Bourne, Secretary-Superintendent.

BRISTOL ROYAL HOSPITAL (Incorporating the Bristol Royal Infirmary and Bristol General Hospital).—Applications are invited for the post of CASUALTY OFFICER (B1). Salary at the rate of £150 per annum. War bonus at the rate of £20 per annum will also be paid, with full residential emoluments. R and W practitioners holding B2 posts may apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Applications to be made on application forms to be obtained from Ellis C. Smith, F.C.I.S., Secretary and House Governor, Bristol Royal Infirmary.

BURTON-ON-TRENT GENERAL INFIRMARY, (200 beds normal).—Applications are invited from registered medical practitioners for the appointment of CASUALTY OFFICER AND HOUSE SURGEON (A). Salary is at the rate of £200, with the usual residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months. Applications to be sent to the Secretary-Superintendent.

BOOTLE GENERAL HOSPITAL, Linacre Lane, Bootle, Liverpool, 20. CASUALTY OFFICER (A).—Applications are invited from registered medical practitioners, male and female, for the above appointment, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be made for a period of six months, otherwise it will be for six months with the possibility of extension. Salary is at the rate of £200 per annum, with full residential emoluments. Applications should be sent immediately to the Superintendent.

BOSTON GENERAL HOSPITAL, Lincolnshire.—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (B2). R and W practitioners who now hold A posts may apply, when appointment will be limited to six months. Salary at the rate of £250 per annum resident. Applications should be sent to the undersigned immediately.—B. Haines, Secretary.

BIRMINGHAM AND MIDLAND HOSPITAL FOR WOMEN.—Applications are invited from registered medical practitioners (male or female), including R and W practitioners who now hold A posts, for the appointment of HOUSE SURGEON (B2). The appointment is for six months from October 1, 1945. Salary at the rate of £100 p.a., with full residential emoluments. Applications to be sent immediately to Bernard Sylvester, House Governor.

BRISTOL ROYAL INFIRMARY (Branch of the Bristol Royal Hospital).—Applications are invited for the post of SENIOR RESIDENT MEDICAL OFFICER (B1) Salary £400 per annum, with full residential emoluments. Suitably qualified R and W practitioners holding B2 appointments, also R practitioners holding B1 appointments and rejected by the R.A.M.C., may apply. Applications to be made on forms to be obtained from the undersigned.—Ellis C. Smith, F.C.I.S., Secretary and House Governor.

CHILDREN'S HOSPITAL, SHEFFIELD (Inc.) (157 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A), now vacant. Salary at the rate of £100 per annum, including full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months. Applications should be sent to the undersigned. The successful applicant must be a member of a Medical Defence Society.—T. H. G. Gartland, Superintendent and Secretary.

CAMBORNE-REDRUTH MINERS' AND GENERAL HOSPITAL, Redruth, Cornwall.—Applications are invited from registered medical practitioners, male and female, for the appointment of a HOUSE SURGEON (A), to become vacant on October 19, 1945. Practitioners within three months of qualification who are liable to service under the National Service Acts may apply when appointment will be for a period of six months. Salary at the rate of £200 per annum, with the usual residential emoluments. Applications to be addressed to the undersigned.—J. C. Field, Secretary-Superintendent.

IMPORTANT NOTICE

APPOINTMENTS

Medical practitioners are requested **not to apply** for any appointment referred to in this notice without first having communicated with the Secretary to the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of the Australian appointment, with the Secretary at B.M.A. House, or the Hon. Secretary, Western Australian Branch, Shell House, 205, St. George's Terrace, Perth).

GOVERNMENT SERVICE

COMMISSIONER OF PUBLIC HEALTH, Perth, Western Australia.

CONTRACT PRACTICE

ABERTYSSWG MEDICAL AID SOCIETY.—*(Medical Officer.)*

LLWYNYPIA, CLYDACH VALE, PEN-Y-GRAIG, GLAMORGAN.—*(Workmen's Medical Scheme.)*

MID-RHONDDA MEDICAL AID SOCIETY.—*(Assistant Medical Officer.)*

NEATH AND DISTRICT.—*(Medical Aid Association.)*

OGMORE VALLEY, GLAMORGAN.—*(Wyndham Colliery Medical Aid Society) (Workmen's Medical Scheme.)*

PUBLIC ASSISTANCE

CITY AND COUNTY OF BRISTOL. PUBLIC ASSISTANCE COMMITTEE.—*(District Medical Officer.)*

MENTAL HOSPITAL SERVICE

SOMERSET AND BATH MENTAL HOSPITAL, COTFORD.—*Medical Superintendent*

By Order of the Council,

CHARLES HILL,
August 28, 1945. *Secretary.*

CHESTERFIELD AND NORTH DERBYSHIRE ROYAL HOSPITAL (beds—hospital 289, annexe 108).—Applications are invited from registered medical practitioners for the appointment of SECOND CASUALTY OFFICER (A). Salary £225 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months. Applications to be sent as soon as possible to Mr. H. Boone, House Governor and Secretary.

CLAYTON HOSPITAL, Wakefield.—Applications are invited immediately from registered medical practitioners for the following appointment: RESIDENT ORTHOPAEDIC OFFICER with Casualty Duties (B2), male. Salary £200 per annum, with full residential emoluments. R practitioners who now hold A posts may apply, when appointment will be limited to six months, otherwise it may be extended for a further period. Applications should be sent to the undersigned as soon as possible.—W. Read, Superintendent and Secretary.

CHARING CROSS HOSPITAL. PHYSICIAN TO CHILDREN'S DEPARTMENT.—The Council invite applications for the post of Physician to the Children's Department. Practitioners serving in H.M. Forces are invited to apply. Candidates, who must be Members of the Royal College of Physicians of London, should send in their applications to the undersigned not later than Tuesday, January 1, 1946.—George J Jones, Secretary, Charing Cross Hospital.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Judd Street, St. Pancras, London, W.C.1.—Applications are invited from registered medical practitioners, including R and W practitioners who now hold A posts, for the position of JUNIOR HOUSE SURGEON (B2). Salary £150 per annum, with full residential emoluments. If held by an R practitioner appointment will be limited to six months, otherwise renewable. Applications should be sent to the undersigned not later than September 20. The successful applicant must be a member of a Medical Defence Society.—W. Merrill, Secretary.

CAMERON HOSPITAL, West Hartlepool (86 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A). Duties to commence as soon as possible. Salary at the rate of £200 p.a., with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months. Applications should be sent as soon as possible to Miss P. M. Betts, Secretary.

HUDDERSFIELD ROYAL INFIRMARY (321 beds).—Applications are invited for the post of RESIDENT SURGICAL OFFICER (B1). Applicants should have held house appointments, and preference will be given to candidates holding diploma of F.R.C.S. Salary at the rate of £350 per annum, with full residential emoluments. Suitably qualified R and W practitioners holding B2 appointments, and also R practitioners holding B1 appointments and rejected by the R.A.M.C., may apply. Applications should be addressed to H. J. Johnson, Gen. Supt. and Secretary.

CORNELIA AND EAST DORSET HOSPITAL, Poole, Dorset (204 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of SENIOR HOUSE SURGEON (B1), for immediate appointment. Applicants should have held house appointments and had major surgical experience. This hospital is recognized by the Royal College of Surgeons. Suitably qualified R practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by R.A.M.C. Salary is at commencing rate of £300 per annum, or according to qualifications, with full residential emoluments. The appointment will be for 12 months, with possible renewal.—E. A. Hart, Secretary.

DEVON MENTAL HOSPITAL, Exminster, Nr. Exeter.—Male or female TEMPORARY ASSISTANT MEDICAL OFFICER (B1) required immediately. R and W practitioners holding B2 appointments, also R practitioners holding B1 appointments and rejected by the R.A.M.C., may apply. Salary £9 9s. per week, plus full residential emoluments. Apply to the Medical Superintendent.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.3.—Applications are invited from registered medical practitioners, male and female, including suitably qualified R and W practitioners who now hold B2 posts, for the appointment of RESIDENT SURGICAL OFFICER (B1), for which there are two vacancies. Applicants must have held a resident hospital appointment, and R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. The appointment is for six months, commencing on November 1. Salary at the rate of £150 p.a., with board and residence, and an additional £25 p.a. for services in connexion with paying patients.

Applications are also invited for the following appointments from registered medical practitioners, male and female, including R and W practitioners who now hold A posts:

ASSISTANT RESIDENT MEDICAL OFFICER (B2). Experience in artificial pneumothorax essential, and in the ear, nose, and throat work desirable. Salary at the rate of £150 per annum, with board aned residence. The appointment is for six months, commencing November 1, 1945.

HOUSE PHYSICIAN (B2). The duties include work in the Out-patient Department as well as in the wards, and the appointment is for six months, commencing on November 1, with an honorarium of £50 and board and residence.

HOUSE PHYSICIAN (B2) at the Sanatorium at Frimley. The appointment is for six months, commencing on November 1, with an honorarium of £50 and board and residence.

Applications should reach the undersigned not later than Saturday September 8, 1945.—F. G. Rouvray, Secretary, Brompton.

HORTON GENERAL HOSPITAL, Banbury, Oxon. (Associated with Oxford and District Joint Hospitals Board).—Applications are invited for the post of HOUSE SURGEON (A), male or female. Salary at the rate of £150 per annum, with full residential emoluments. Practitioners within three months of qualification who are liable to service under the National Service Acts may also apply, when appointments will be for six months. Post is now vacant. Applications to Richard H. Prescott, Secretary and House Governor.

HIGH WYCOMBE AND DISTRICT WAR MEMORIAL HOSPITAL (100 beds).—Applications are invited for the following posts:

(1) RESIDENT MEDICAL OFFICER (B2). Salary £200 per annum, vacant October 1.

(2) HOUSE SURGEON (A). Salary £175 per annum, vacant September 24.

Both plus residential emoluments. For the B2 post R and W practitioners holding A posts may apply, when appointment will be for six months. For the A post practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for six months. Applications to E. Barber, Secretary.

INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY, South Shields.—Applications are invited from medical practitioners, male or female, for the post of HOUSE SURGEON (A). The appointment is for a period of six months. Salary at the rate of £175 per annum, with full residential emoluments. Applications to be sent to the undersigned immediately.—Henry F. Pitt, House Governor and Secretary.

NEW SUSSEX HOSPITAL FOR WOMEN, Windlesham Road, Brighton.—Applications are invited from registered medical practitioners, female, including W practitioners who now hold A posts, for the appointment of a HOUSE SURGEON (B2), to become vacant in the middle of October. The appointment is for a period of six months. Salary at the rate of £150 per annum, with full residential emoluments.

Applications are also invited from registered medical women for the posts of HON. CLINICAL ASSISTANTS to the Out-patients Department as follows: Surgical, Tuesday evenings. Gynaecological Thursday afternoons.

Applications for each post to be sent as soon as possible to Mr. P. F. Spooner, Secretary.

(Continued on page 17)

CHARGES FOR CLASSIFIED ADVERTISEMENTS

Circulation 53,000

Advertisements should reach the Advertisement Manager not later than the THURSDAY, ten clear days before publication

Cancellation cannot be accepted after 10 m. MONDAY for current week's issue

To economize in accounting, postage and collection, all advertisements should be paid for at time of order. Publication will be in the earliest possible issue, but delay is unavoidable in present circumstances.

1. TO MEMBERS OF THE ASSOCIATION the cost of advertisements for Assistants, Dispensers, Locums, Partnerships, *Practices, Secretaries, is ten shillings for 24 words, including name and address. When a Box Number is used, it must be reckoned as six of the total number of words in each advertisement.

1s. *extra* should be added for each insertion to cover the Box fee and postage of replies

Additional words 2s. 6d. for every six, or part

Please mark advertisements clearly, *MEMBE:.*

2. To all other (private) advertisers the charge under the headings specified above, para. 1, is 12s. (minimum) for 24 words, including name and address. When a Box Number is used, it must be reckoned as six of the total number of words in each advertisement.

1s. *extra* should be added for each insertion to cover the Box fee and postage of replies

Additional words 3s. for every six, or part.

* SALE OF PRACTICE. The name and address of owner and of the firm negotiating the sale must accompany the advertisement These details are not for publication.

3. Consulting rooms, Dietetic, Duplicating, Hotels, Houses, Miscellaneous, Motor Cars, Typing, the charge is same as para. 2.

Personal, Notices, University and Industrial Appointments, minimum charge is 20s. for 24 words, including name and address. When a Box Number is used, it must be reckoned as six of the total number of words in each advertisement.

1s. *extra* should be added for each insertion to cover the Box fee and postage of replies.

Additional words 5s. for every six or less

Educational, Hospitals, Public Health Appointments, 3s a line, minimum charge 15s.

Births, Marriages, and Deaths.—The charge for an insertion under this head is 10s. 0d. for 18 words or less. Extra words 3s. 6d. for each six or less. Payment should be forwarded with the notice, authenticated by the name and permanent address of the sender, and should reach the Advertisement Manager not later than first post Monday morning.

BOX NUMBERS.—A Box number is used in place of name and address to conceal identity of advertiser. In no circumstances will this information be divulged by this office. Separate applications should be written to each, addressed Box—, c/o B.M.J. (address as below). All applications are forwarded to the advertiser in plain closed envelopes.

TRADE ANNOUNCEMENTS. 20s. minimum 24 words. Extra words 5s. for six, or less.

Every effort is made to ensure the accuracy of advertisements appearing in the Journal. No recommendation is implied by acceptance, and the British Medical Association reserves the right to refuse or interrupt the insertion of any advertisement

Advertisement Manager, British Medical Journal,
B.M.A House, Tavistock Square, London. W.C.1.
Telephone: Euston 2111.
Telegrams: Articulate, Westcent, London.

APPOINTMENTS—Hospitals and Public Health, commence at page 11

NOTICES

HANOVIA LTD.—All persons having in use any Alpine Sun or other Hanovia lamps which incorporate quartz burners having liquid pool mercury electrodes ("K" type, air-cooled, started by tilting) are asked to note that as from September 1, 1945, and for an indefinite period thereafter the makers will be unable to undertake any repairs or exchanges of such burners. This notice affects Hanovia Lamps manufactured prior to and during the year 1934. Physicians and others using such lamps are advised to continue their operation whilst available burners operate satisfactorily, but to communicate promptly with their accustomed electro-medical suppliers or with the undersigned whenever such burners wear out.—Dated this 20th day of August, 1945, HANOVIA LTD., Slough, Bucks.

PERSONAL

LADY CHAUFFEUSE requires POSITION to surgeon or physician, war years, driving for E.M.S., previously for Canadian surgeon, excellent personal and driving references, London area preferred.—Box 1633, B.M.J.

DOCTOR'S WIFE offers good HOME in pleasant district Southport to lady who will share home duties, two school-children, no surgeries, suit doctor's widow.—Box 1688, B.M.J.

RESIDENT PATIENT received doctor's house, North-West coastal resort, good accommodation, delightful garden, garage, 12 guineas weekly, inclusive.—Box 1663, B.M.J.

UNIVERSITY AND INDUSTRIAL APPOINTMENTS

APPLICATIONS are invited for an appointment of MEDICAL INSPECTOR (man or woman) in the Children's Branch of the Home Office. Candidates should hold a diploma in Public Health and be under 40 years of age. Previous experience of medical work among young people will be regarded as a special qualification. The person appointed will be stationed in London and the duties will include the medical inspection of approved schools and other similar institutions. The salary will be in the range of £700-£850 per annum, plus Civil Service war bonus (at present £60 per annum men, or £48 per annum women). Applications, which must be in writing, stating date of birth, full details of qualifications and experience (including a list in chronological order of posts held), and quoting Reference Number PM361 should be received by the Ministry of Labour and National Service, Appointments Department, Sardinia Street, Kingsway, London, W.C.2., not later than September 15, 1945.

CORNWALL WORKS DISPENSARY, Smethwick.—Applications are invited from registered medical practitioners for the appointment of MEDICAL OFFICER, mixed practice, approximately 1,000 panel, 900 private members. Salary £600 per annum plus substantial bonus. Application with copies of recent testimonials to Secretary as soon as possible.

EXAMINING SURGEONS: FACTORIES ACT, 1937.—The following appointments as Examining Surgeon under the Factories Act, 1937, are vacant: Wilton, in the County of Wilts; Crickhowell, in the County of Brecknock. Applications, which must be received not later than September 17, should be sent to the Chief Inspector of Factories, 8, St. James's Square, London, S.W.1.

LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN (University of London), 8, Hunter Street, Brunswick Square, W.C.1.—Applications are invited from men and women holding degrees in Physiology or Medicine for the post of DEMONSTRATOR in the Physiology Department, from October 1, 1945, at an initial salary of not less than £300 per annum, with superannuation benefits. Further particulars may be obtained from the Warden and Secretary, to whom applications should be sent by September 10, 1945.

MORRIS MOTORS LIMITED urgently require fully qualified PHYSIOTHERAPIST, salary according to experience. — Apply Personnel Manager, Morris Motors Limited, Cowley, Oxford.

UNIVERSITY OF LONDON.—The Senate invite applications for the University CHAIR OF ANATOMY, tenable at St. Bartholomew's Hospital Medical College (salary not less than £1,150). Applications must be received not later than November 30, 1945, by the Academic Registrar, University of London, Richmond College, Richmond, Surrey, from whom further particulars should be obtained.

UNIVERSITY OF ABERDEEN. LECTURESHIP IN MIDWIFERY AND GYNAECOLOGY.—Applications are invited for the post of temporary full-time Lecturer in Midwifery in the University of Aberdeen, with duties in the Aberdeen Royal Infirmary, the Aberdeen Maternity Hospital, and the Ante-natal Annexe. The salary will be £650. Preference will be given to men on Service. Persons desirous of being considered for the office are requested to lodge their names with the Secretary to the University by September 30, 1945. The conditions of appointment may be obtained from the undersigned. —H. J. Butchart, Secretary, The University, Aberdeen.

EDUCATIONAL

CRANLEIGH SCHOOL, SURREY.
ENTRANCE SCHOLARSHIPS, £100-£30; INSTRUMENTAL AND CHORAL, £50-30, are offered in March and June. At each examination one close SCHOLARSHIP of not less than £50 per annum will be awarded to the son of a member of the MEDICAL or DENTAL profession. Details from Bursar.

L.M.S.S.A. FINAL EXAMINATIONS. Surgery, Nov. 12, Dec. 10, Jan. 14. Medicine, Pathology, Nov. 19, Dec. 17, Jan. 21. Midwifery, Nov. 20, Dec. 18, Jan. 22.—For particulars apply Registrar, Apothecaries Hall, Black Friars Lane, E.C.4.

THE BEDFORD PHYSICAL TRAINING COLLEGE, 37, Lansdowne Road, Bedford. Principal, Miss Stansfeld, O.B.E.; Vice-Principal, Miss Petit. Students are trained to become teachers in Gymnastics and Games, and the training, which extends over three years, includes Educational and Medical Gymnastics, Massage, Games, Dancing, and Swimming. Fees: £165 per annum. Two scholarships of £50 and two of £25 are offered annually.—For particulars, apply Secretary.

F.R.C.S.(EDIN.)
POSTAL AND ORAL COURSES continued as usual. Full details.—H. C Orrin, F.R.C.S Surgeons' Hall, Edinburgh.

POSTGRADUATE STUDY. Diploma of Anaesthetics; Diploma in Psychological Medicine; Diploma in Ophthalmology; Diploma in Radiology; Diploma in Laryngology; Diploma in Child Health; F.R.C.S.Eng. and all Surgical Examinations; M.R.C.P.Lond. and all Medical Examinations; M.D. Thesis of all Universities; Courses for all Qualifying Examinations. Complete Guide to Medical Examinations sent free on application Applicants should state in which qualification they are interested. Address: Secretary, Medical Correspondence College, 19, Welbeck St., London, W.1

POSTAL COACHING for all Medical Examinations. Some successes from 1901-1944: M.D.Lond 440: M.B., B.S.Lond., final 386: M.R.C.S.Eng primary, 332; F.R.C.S.Eng., final, 262: M.R.C.P Lond., 365; M R.C.S., L.R C P, final, 815; D., (1936-44), 72; F.R.C.S.Edin, and D.R.C.O.G many successes. Assistance with M D thesis Special arrangements for medical officers with Forces. Medical prospectus (24 pp.) gratis, along with list of Tutors, etc., on application to the Principal.— University Examination Postal Institution, 17, Red Lion Square, London W.C.1 Phone: HOLborn 6313.

POSTGRADUATE STUDY. Instruction is arranged in medical, surgical, and special subjects, as circumstances permit. Information and advice obtainable from the Fellowship of Postgraduate Medicine 1 Wimpole St., London, W 1. Langham 4266

ROYAL COLLEGE OF SURGEONS OF ENGLAND. RESEARCH SCHOLARSHIPS.—One or more Research Scholarships will shortly be awarded by the Royal College of Surgeons of England. The Scholarships will be for one year in the first instance, but renewable at the discretion of the Council. Scholars may be male or female, and must hold a medical qualification registrable in the United Kingdom or a University degree Scholars must devote themselves to the investigation of some biological or clinical problem of disease as it occurs in man, with a view to the extension of surgical knowledge. Facilities for laboratory research will be provided in the Bernhard Baron laboratories in the Royal College of Surgeons or at the Buckston Browne Farm, Downe, Kent. Applications, stating the nature of the proposed research and accompanied by a recommendation from a member of the staff of the applicant's Medical School or University, should be sent to the Bernhard Baron Research Professor, at Royal College of Surgeons, Lincoln's Inn Fields, London, W.C. 2, before September 24 1945. Kennedy Cassels, Secretary.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.
ROYAL COLLEGE OF SURGEONS OF EDINBURGH.
ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

COPIES OF REGULATIONS for the TRIPLE QUALIFICATION (L.R.C.P.Ed., L.R.C.S.Ed and L.R.F.P. and S.G.), containing Dates of Professional Examinations for the year 1945-1946. Curriculum, etc., may be had on application to the Registrar, Surgeons' Hall, 18, Nicholson Street, Edinburgh, 8. or to the Registrar, 242, St. Vincent Street, Glasgow, C.2.

THE POLYTECHNIC, Regent Street, London, W.1. DEPARTMENT OF CHEMISTRY AND BIOLOGY. Head of Department: H. Lambourne, M.A., M.Sc., F.R.I.C. Session 1945-6 will commence on September 18. There will be full-time day courses suitable for the following examinations: 1st M.B., PRE-MEDICAL, INTERMEDIATE (Pharmaceutical Society). Evening classes for these examinations will begin on September 24. Prospectuses, giving full particulars of courses, fees, etc., may be obtained on application to the undersigned, J. C. Jones, Director of Education, The Polytechnic, 309, Regent Street, London, W.1.

UNIVERSITY OF LONDON,
KING'S COLLEGE.
FACULTY OF MEDICAL SCIENCE.

The Medical Faculty at this College of the University gives instruction in the subjects of medical science for all the usual pre-medical and intermediate examinations in medicine, surgery, and dentistry. Through the four associated hospitals, students of the College have clinical facility of over 1,000 beds. The Medical Faculty of the College provides a *general university education* in touch with other faculties, classes of which medical students are permitted to attend. There are many college societies, clubs, and functions, in which students of all faculties have opportunity of meeting each other. The College has an excellent athletic ground at Mitcham with a new and well-equipped pavilion. The first year subjects are taught in the departments of the Faculty of Natural Science and those for the second and third years in the Faculty of Medical Science. This consists of the Hambleden Department of Anatomy and the extensive Department of Physiology. The buildings of these Departments provide the College with a complete Medical Faculty which embodies the newest up-to-date ideas in laboratory construction and equipment. Valuable scholarships and prizes are awarded on the results of examinations held annually.—S. T. Shovelton, M.A., Secretary, Strand, W.C.2.

ASSISTANTSHIPS VACANT

WANTED. ASSISTANT with VIEW or Salaried Position, for good mixed class practice on Northern outskirts of London, good preparatory schools and three golf courses in locality, salary by arrangement.—Box 1602, B.M.J.

WANTED outdoor ASSISTANT for Breconshire country practice until return of recruited partner, pleasant working conditions, salary by arrangement. —Box 1665, B.M.J.

WANTED immediately, ASSISTANT with VIEW to two very active partners in semi-rural practice in West Riding, cottage hospital, good salary.—Box 1664, B.M.J.

WANTED. OUTDOOR ASSISTANT, Nov., 1 to Feb. 28, for small town and country practice in East Midlands, suit recently demobilized or qualified, car provided, but prefer car allowance, all found, 12 guineas per week, expenses for interview. —Box 1604, B.M.J.

WANTED immediately indoor ASSISTANT for country practice, car and dispenser provided, salary £650 p.a., plus board.—Apply Dr. Hine, The Ivies, Newark, Notts.

WANTED, long period, ASSISTANT, indoor, private and panel, £600 per annum, during partner's ill-health.—Drs. Bennison and Weston, 63, Boscombe Road, Southend-on-Sea.

WANTED, PART-TIME ASSISTANT (either sex), North Wales Coast, £400 p.a. with unfurnished house rent free, car provided.—Box 1679, B.M.J.

WANTED, ASSISTANT with VIEW to partnership in a good-class practice in a Midland market town, Oxford or Cambridge man preferred, must be interested in minor surgery, P. and H.S., etc., house with separate surgery available.—Reply Box 1681, B.M.J.

WANTED, young single male or female ASSISTANT for mixed practice, market town in Essex, 12 miles from Southend, two partners, own car essential, salary outdoor £650, car allowance £100, repatriated P.O.W. or partially disabled ex-Serviceman welcomed, excellent working conditions.—Box 1689, B.M.J.

WANTED urgently, ASSISTANT with VIEW partnership, well-established mixed practice Durham-Yorkshire border, excellent unfurnished flat, garage, etc., available.—Box 1232, B.M.J.

WANTED male ASSISTANT in N.E. Scotland, mixed town and country, salary according to experience.—Box 1475, B.M.J.

WANTED on October 1, keen ASSISTANT, male or female, married or single, for large urban and rural practice, Midlands, excellent opportunity learn general practice work, surgery major and minor, anaesthetics, etc., accommodation outdoor, partnership considered subsequently, car provided, experience unnecessary, salary by agreement.—Box 1425, B.M.J.

WANTED, ASSISTANT, in pleasant urban Leicestershire practice, salary £1,000 per annum, definite VIEW to partnership for suitable applicant, two dispensers, no clerical work, car available if necessary.—Box 1422, B.M.J.

WANTED, immediately, indoor and outdoor ASSISTANTS for town and country practices with and without view to partnership, also Locums, good salaries offered, state full particulars.—British Medical Bureau, 33, Cross Street, Manchester, 2

ASSISTANT, male, British, mixed practice Gloucestershire town, modern unfurnished house provided, car essential, £700 inclusive, partnership if suitable.—Box 1634, B.M.J.

ASSISTANT WANTED, British, single, male, to take charge of branch in a pleasant non-colliery, South Derbyshire, village, work light, time for reading, board, lodging, car provided, salary £500 to start.—Box 1639, B.M.J.

ASSISTANT WANTED, British, Midland county town, no midwifery, car provided.—Box 1635, B.M.J.

ASSISTANT REQUIRED, good-class mixed practice, rural district, West Somerset, single, male or female, able to drive car, salary by arrangement.—Box 1637, B.M.J.

ASSISTANT WANTED, October, small county town Midlands, salary £850 p.a. or £650 plus furnished house and car, or more to experienced man, prospects if university degree.—Box 1680, B.M.J.

ASSISTANT WANTED at once in general and surgical practice in Lincolnshire, furnished house and car provided, salary £600.—Box 1421, B.M.J.

ASSISTANTSHIP with VIEW to succession, correspondence invited by G.P. desirous of disposing of large practice in Midland town, established 30 years, panel 2,300, would suit two partners or principal and assistant.—Box 1603, B.M.J.

OUTDOOR ASSISTANT, male or female, single, own car, required in medium-sized mixed practice Coventry district, £1,000 per annum, British preferred, Chinese or Eire citizen considered.—Box 1638, B.M.J.

OUTDOOR ASSISTANT WANTED for county town in South Midlands, able to drive car provided, dispensers kept, salary according to experience.—Box 1636, B.M.J.

OPHTHALMIC ASSISTANT wanted immediately with VIEW, Midland town, applicant should be British, male, with necessary qualifications and experience.—Box 1629, B.M.J.

OUTDOOR ASSISTANT wanted for practice in modern colliery village South Yorks, salary £600 per annum, all found, car provided.—Box 1476, B M J

ASSISTANTSHIPS WANTED

WANTED ASSISTANTSHIP, preferably with VIEW, by young married Irish graduate, teaching hospital, R.M.O., maternity (Rotunda), and general practice experience, excellent references, own car but furnished house essential, Southern counties preferred.—Box 1667, B.M.J.

WANTED immediately ASSISTANTSHIP, with view early succession, for lady doctor and husband shortly to be released from Forces, Lancs. or Cheshire preferred, available house.—Box 1611, B.M.J.

WANTED LONG-TERM ASSISTANTSHIP, married practitioner, 34, starting mid-October, last post held 2½ years with prominent surgeon, good testimonials, furnished house essential.—Box 1666, B.M.J.

ASSISTANTSHIP, M.B., 30, well experienced industrial and upper-class practices, medical, surgical, obstetrical, hospital appointments, excellent testimonials, married, car, accommodation essential, preferably with M.D. or M.R.C.P. with hospital facilities, South.—Box 1682, B.M.J.

ASSISTANTSHIP with definite VIEW, or salaried appointment, required by young doctor, experienced hospital, G.P., and surgical work, North or Midlands preferred.—Box 1605, B.M.J.

ASSISTANTSHIP with VIEW partnership required by experienced doctor, married, aged 34, ex-Services, car and furnished house essential.—Johnston, "Windward," Worsley Road, Worsley, Manchester.

ASSISTANTSHIP with VIEW early partnership or succession, wanted by Service doctor, due early demobilization, South-Western area preferred.—Box 1610, B.M.J.

DOCTOR, 29, ex-R.A.M.C., experienced hospital, general practice, available for FULL or PART-TIME EMPLOYMENT London area.—Box 1609, B.M.J.

EXPERIENCED E.N.T. surgeon, early release, Fellowship, requires OPENING, preferably with VIEW.—Box 1683, B.M.J.

EXPERIENCED PRACTITIONER available to take EVENING SURGERIES in South London area.—Write Box 1607, B.M.J.

LADY DOCTOR requires PART-TIME ASSISTANTSHIP near Worcester, furnished house available, would do full time except night-work.—Box 1601, B.M.J.

M.R.C.S., L.R.C.P. (Guy's), aged 40, married, with family, wants ASSISTANTSHIP with VIEW or partnership in mixed rural practice, West Country or East Anglian market town near coast preferred, good educational facilities for girls required, cottage hospital desirable, free to start at once.—Box 1606, B M J.

SURG. LIEUT.-CMDR., R.N.V.R., M.B., Ch.B., demob group 30, desires well-paid ASSISTANTSHIP with definite VIEW, aged 31, single, hospital tice experience, wants ADMINISTRATIVE POSITION.—Box 1644, B.M.J.

SEMI-RETIRED medical man requires PART-TIME WORK, one or two surgeries, or half days weekly, Brighton area.—Box 1640, B.M.J.

SERVICE M.O. studying major qualification requires PART-TIME ASSISTANTSHIP Edinburgh, preferably living in, beginning shortly when demobilized.—Box 1608, B.M.J.

WOMAN DOCTOR would like ASSSISTANTSHIP, outdoor, pref. country, driver, experienced hospital and G.P., no midwifery, testimonials—Hillside, Buckfastleigh, Devon.

LOCUMS

WANTED LOCUM TENENS, British, male or female, for two or three weeks within the next few days.—Apply Dr. Cameron, 4, St. Michael's Road, Maidstone, Kent. Telephone: Maidstone 3580.

WANTED urgently and immediately, LOCUM for Maternity and Child Welfare work, including attendance at Clinics and Municipal Maternity Home, with scope for practical midwifery, salary £10 10s. per week.—Apply to Acting Medical Officer of Health, 1, Bargate, Grimsby.

WANTED, LOCUM, for month of September, car provided, good salary, country district, live in doctor's house.—Goddard, Templecombe, Somerset.

DOCTOR, free early September, own car, wishes to do LOCUMS or PART-TIME WORK in the London area.—Reply Box 1616, B.M.J.

DOCTOR, M.D., 27, specializing, extensive hospital practice, unmarried, desires LOCUM from last week of September onwards, accommodation essential.—Box 1684, B.M.J.

ELDERLY retired physician, available for LIGHT LOCUMS, from October 1, London, Home Counties, or West Country preferred.—Box 1618, B.M.J.

LOCUM WANTED for six months, country practice, Southern county, car provided, salary by arrangement.—Box 1617, B.M.J.

LOCUM, urgently REQUIRED for well-established working middle-class practice which is for sale in Leeds.—Box 1690, B.M.J.

PLYMOUTH MENTAL HOSPITAL, Blackadon, Ivybridge, Devon.—LOCUM TENENS (B1) required immediately and up to September 28, 1945, salary £10 10s. per week, with apartments, board, laundry, etc.—Apply Medical Superintendent.

WHITTINGHAM COUNTY MENTAL HOSPITAL, nr. Preston, Lancs.—LOCUM TENENS MEDICAL OFFICER (B1) required, salary £10 10s. per week; with full residential emoluments. —Apply to the Medical Superintendent.

PARTNERSHIPS

WANTED PARTNER, to take over in two years practice semi-rural S.E. England, gross receipts £3,000, panel 1,500, 1½ years' purchase, option of two houses let or sell.—Box 1645, B.M J

WANTED young woman PARTNER for general practice, S.W.3, well qualified, small capital outlay, join senior woman partner specializing —Box 1658, B.M.J.

DOCTOR recommends capable lady assistant for PARTNERSHIP who has successfully managed practice during war, Southern England preferred.—Box 1630, B.M.J.

DOCTOR, aged 33, due demobilization by November 11, would welcome opportunity of PARTNERSHIP in country practice South-West England or Cotswolds, wife, also doctor, would like rent unfurnished house any size.—Box 1685, B.M.J.

FOR SALE, 1/4 SHARE in mixed practice in East Midland town, average gross receipts over past three years £8,000, purchaser should be experienced in general surgery, 1½ years' purchase, payments can be arranged.—Box 763, B.M.J.

PARTNER (British) WANTED in large Midland practice after preliminary assistantship, applicant must be experienced, house and garage with good garden, pleasant district, capital essential.—Box 1614, B.M.J.

PARTNER required, expanding practice Birmingham, share worth £1,000, 1½ years' purchase, panel over 2,000, house sale or rent.—Box 1642, B.M.J.

PARTNERSHIP, one-third share in flourishing industrial practice in N.E. London suburb, averaging £6,000 p.a., incoming partner should be interested in midwifery and children and aged about 40 years, two years' purchase, plus 1/3 value of instruments, furniture, drugs, etc., preliminary assistantship, accommodatieon available at reasonable rent.—Box 1615, B.M.J.

PARTNER WANTED in old-established practice in pleasant Midland town, share producing £1,500 to commence with, house and garden to rent, good scope.—Box 1467, B.M.J.

19 YEARS experienced general practitioner, aged 43, just released, is seeking PARTNERSHIP in established practice.—Box 1643, B.M J.

MEDICAL POSTS

BACTERIOLOGIST (temporary).—A medically qualified gentleman is required in Birmingham on an approximate half-time basis in a Department of Bacteriology already established.—Box 1632, B.M.J.

LIEUT.-COLONEL, R.A.M.C., aged 43, released, over 6 years' administrative and 16 general practice experience, wants ADMINISTRATIVE POSITION.—Box 1644, B.M.J.

NEUROPSYCHIATRIST, 20 years' experience, desires PART-TIME POST, preferably in London or Home Counties.—For full particulars write Box 1691, B.M.J.

SCOTTISH woman doctor available for SURGERIES, public health sessions, and industrial post, London area preferred, energetic, capable, reliable—Telephone morning early, evening Edgware 0606.

PRACTICES

WANTED, PRACTICES AND PARTNERSHIPS in all parts, specially London, South, South-West, and Western Counties, purchasers waiting.—Write Percival Turner, Ltd., 25, Maiden Lane, Strand, W.C.2.

WANTED by experienced practitioner, M.D., aged 56, recently demobilized, SMALL PRACTICE or partnership, coast or country, South of England, capital available, modernized house essential.—Box 1613, B.M.J.

WANTED, a country PRACTICE in South or Home Counties, about £1,500 p.a.—Box 1671, B.M.J.

WANTED country or country town PRACTICE South or South-East London £1,500 p.a. approx., small panel, house to rent or purchase, cash available, ex-R.A.M.C.—Box 1670, B.M.J.

WANTED PRACTICE, South or South-East England town, near coast, £2,000 upwards, reasonable panel, nice house essential, cash.—Box 1668, B.M.J.

WANTED PRACTICE or partnership over £1,500, good house and garden essential, North England or Scotland market-town preferred.—Box 1619, B.M.J.

WANTED to purchase, a small seaside PRACTICE or nucleus.—Box 1206, B.M.J

EAR, NOSE, AND THROAT PRACTICE for sale in two neighbouring towns, terms, buy house, practice, free in one town, rent rooms and buy small practice in neighbouring town.—Apply Box 1410, B.M.J.

FOR SALE, expanding PRACTICE in Essex, working-class suburb taking well over £2,000 p.a., panel 1,450 and increasing, ample scope, good house for sale or rent, price £2,500 for practice.—Write Box 1621, B.M.J.

FOR SALE large, exceptionally compact, and unopposed country PRACTICE in the County of Angus, with attractive easily worked house and garden.—Apply to J. M. & J. H. Robertson, Solicitors, 120, Bath Street, Glasgow.

GOOD-CLASS PRACTICE, nice house and large garden, freehold, about £1,100 per annum, £4,000.—Box 1612, B.M.J.

OLD-ESTABLISHED PRACTICE, Oxford district, good class, panel 1,000, in town and country, propects very good, average income £1,800 to £1,900, good house to rent, vendor retiring.—Box 1631 B.M.J

LEICS. Mixed Country PRACTICE, receipts £2,000, panel 1,000, house to rent, scope increase, premium £2,500.—Box 1647, B.M.J.

LANCASHIRE old-established PRACTICE, panel 1,600, receipts £2,000 (accountant's figures), attractive house, garden, tennis court, separate surgery.—Box 1477, B.M.J.

LONDON AREA, wanted good-class PRACTICE or partnership by M.B., ex-R.N.V.R., preliminary assistantship desirable, partly furnished house essential.—Box 1673, B.M.J.

MEDICAL PRACTICE, mixed rural and industrial, Western Scotland, panel 1,450, several appointments, excellent opportunity for active practitioner.—Box 1672, B.M.J.

NORTH WALES, unopposed seaside and compact country PRACTICE, £1,300-£1,400 increasing (panel £250), ample scope, modern freehold house facing sea, garden, garage, fishing, shooting.—Box 1217, B.M.J.

N.W. COAST.—Long established non-panel medical and surgical PRACTICE, receipts about £5,000, would suit man and wife, or practice could be divided, good house, owner retiring.—Box 1674, B.M.J.

OLD-ESTABLISHED PRACTICE in Hertfordshire (radius 5 miles), with good residence, garden, garage and surgery, two branch surgeries can be taken over at rental, net income about £900 per annum, owner retiring.—Apply F. Humphris, Accountant, Royston, Herts. (Phone 2178.)

OPHTHALMIC SURGEON in North-East England, busy, desires SUCCESSOR, hospital appointment is beng advertized.—Box 1676, B.M.J.

OLD-ESTABLISHED middle and working class PRACTICE, prosperous Lancashire town, 10 miles Manchester, cash receipts (average 3 years) £1,759, income-tax figures, panel units 1,161, good house, sale or rent.—Box 1620, B.M.J.

PRACTITIONER with hospital and general experience, desires contact with retiring practitioner with VIEW to succession, South Coast town preferred, suggest purchase on annuity basis.—Box 1669, B.M.J.

PRACTICE just outside London area, no branch, panel nearly 1,700, income over £1,800, no midwifery, immense scope for increase, 1¼ years, freehold with nice garden, cash.—Box 1650, B.M.J.

PANEL and club PRACTICE, £1,600, rent and rates £80, expenses light, 1½ years, cash.—Box 1649, B.M.J.

SOUTH WALES.—Urgent sale, private and panel PRACTICE producing average £3,100, good scope increase, freehold house available, open negotiation.—Box 1675, B.M.J.

SALE, mixed country PRACTICE eight miles from Leeds, £3,000 gross, premium 1¼ years, panel 1,000, excellent house.—Box 1648, B.M.J.

SOUND PRACTICE Yorkshire city, panel over 1,800, income approx. £2,000, premium one year's purchase, good house, £1,000.—Box 1646, B.M.J.

DIETETIC, DISPENSING, TYPING, SECRETARIAL, RECEPTION, ETC.

None of the vacancies for women advertised in these columns relates to a woman between the ages of 18 and 40 inclusive, unless she is exempted from the provisions of the Control of Engagement Order, 1945, or the vacancy is for employment excepted from the provisions of that Order.

WANTED immediately DISPENSER - BOOKKEEPER, preferably nursng experience.—Apply Dr. Philip, Station Road, Leigh-on-Sea, Essex. Phone: 76376.

WANTED immediately, DISPENSER for large general practice, no secretarial duties.—Apply Drs. Grellet, Grellet and James, Hitchin, Herts.

WANTED qualified DISPENSER for large East Midlands practice, two partners, secretary-bookkeeper kept, salary according to experience.—Box 1623, B.M.J.

WANTED DISPENSER - BOOKKEEPER after September 1, for general practice, North Wales Coast.—Apply Dr. Thomas Bellis, Wernto, Llanfairfechan.

WANTED immediately, DISPENSER AND BOOKKEEPER for general practice.—Apply 39 London Road, Newark-on-Trent.

WANTED for North Wales, DISPENSER-BOOKKEEPER, £4 to £5 weekly, according to experience, good rooms available.—Dr. Trevor Hughes, The Manor House, Ruthin.

CAPTAIN (Q.M.) R.A.M.C., 18 years' service, requires appointment as HOSPITAL STEWARD, demobilized September, aged 38, qualified dispenser, nursing orderly and clerk, good education, all-round sportsman, thoroughly conversant, hospital and administrative duties, stores and hospital cooking.—Box 1626, B.M.J.

DISPENSER REQUIRED immediately for general practice, no secretarial duties, apply giving age and full particulars.—Drs. McOuat, Goode and Norman, 28 Leicester Road, Loughborough.

DOCTOR'S WIDOW, experience in husband's surgeries, Red Cross, V.A.D., 2 years' full time war work, slight knowledge of bookkeeping, can use typewriter and drive own car, could TAKE CHARGE of outside surgery resident, free in September, references.—Box 1654, B.M.J.

EXPERIENCED SECRETARY-RECEPTIONIST available for post with West End surgeon or specialist.—Box 1625, B.M.J.

EDUCATED LADY requires ACCOMMODATION, any district London, flat preferred, return for RECEPTIONIST - CARETAKER duties.—Swanston, 18, Thornash Close, Horsell, Woking, Surrey.

LADY DISPENSER WANTED, country town.—Write stating age and full particulars to Drs. Duncan and Smith, 15, Bridge Street, Evesham, Worcestershire.

LADY CLERK requires a CLERICAL POST one or two evenings a week in West End or S.W.19 districts.—B. H., 44, Merton Mansions, S.W.20.

LADY DISPENSER (Apothecaries' Hall) requires POST in the Beverley and Hull district.—Box 1651, B.M.J.

MEDICAL PRACTITIONERS, London, S.W.19, require October, well-educated young lady as SECRETARY-RECEPTIONIST, shorthand-typing essential, previous experience desirable, preference given to ex-Forces.—Write, giving full particulars, Box 1652, B.M.J.

MARRIED NURSE, S.R.N., free for RECEPTIONIST or part-time nursing duties, London.—Box 1653, B.M.J.

QUALIFIED LADY PHARMACIST, experienced, seeks PART-TIME POST with doctor, Surrey preferred.—Apply Miss Winser, 67, High Street, Addlestone, Surrey.

RECEPTIONIST POST required in London, 5½ years' secretarial experience in W.R.N.S., thoroughly accustomed to dealing with correspondence and appointments.—Flatman, 71, Chelverton Road, Putney.

RECEPTIONIST requires POST with doctor, part or whole time, London.—Box 1686, B.M.J.

SECRETARY-RECEPTIONIST, experienced medical work, seeks POST with West End specialist, free early September.—Box 1677, B.M.J.

SECRETARY REQUIRED by West End specialist in applied physiology and biochemistry, good shorthand-typing speeds and knowledge of scientific terminology essential, some nursing training desirable, and one foreign language an advantage, good salary and varied scope.—Box 1624, B.M.J.

SECRETARY-RECEPTIONIST, experienced, requires POSITION, preferably Scotland.—White, 2 Birch Road, Meols, Cheshire.

V.A.D. DISPENSER released early September seeks position as SECRETARY-RECEPTIONIST to consultant, previous experience.—Box 1622, B.M.J.

MISCELLANEOUS

WANTED. One new or second-hand copy Woodworth's "*Psychology*" and Myer's "*Practical Psychology*," latest eds.—Write Lawrence Gameson, De-la-Pole Hospital, Willerby, Hull.

COMPLETE HALF SKELETON, purchased new 1944, perfect condition, unmarked, £7 10s., standard pattern stethoscope, new, 15s.—Lomas, 26, Downsview Road, Norwood.

DOCTOR requires MORTAR AND PESTLE, also large desk, blotting pad with cover(s), inkstand (2 wells), pocket pencil (eversharp type).—Write Box 1659, B.M.J.

ELECTRIC REFRIGERATOR, silent, British, perfect, voltage 200-250, capacity 5 cu. ft., best offer over £50. Electrolux vacuum cleaner, brushes and parts, as new, best offer.—Box 1656, B.M.J.

FOR SALE, PERRY MICROSCOPE, 2/3, 1/6, 1/12, Otto Siebert oil-immersion, condenser, 2 eyepieces, Magnification 840, private owner.—Box 1627, B.M.J.

FOR SALE, set of OPHTHALMIC TESTING LENSES, complete in case.—Morgan, Laurel Cottage, Fairlight, Sussex.

FOR SALE, TEST CASE, 300 Lenses, large glass instrument cupboard, weighing scales, gas fire, electric fan.—Apply Mrs. Carmalt, 3, Sandwell Road, Birmingham 21.

FOR SALE, late R.A.M.C. officer's COMPLETE G.P. OUTFIT (instruments, couch and cupboard).—Write Berger, 133, Geary Road, N.W.10.

FOR SALE, STOCK OF INSTRUMENTS, drugs, surgery fittings, microscope, sunlight lamps, portable *X*-ray, Kromayer lamp, cautery, massage, infra-red lamps, instrument cabinet.—Box 1471, B.M.J.

FOR SALE, Siemen's ULTRA-THERM, Dean's medical and surgical diathermy, Schall's portable diathermy, lamps, Kromayer, Alpine lens, radiant heat, infra-red polystat, complete with surger, 1 set Schnee baths, D'Arsonnval high frequency, also portable, 3 medical couches.—Box 1661, B.M.J.

HANOVIA ALPINE SUN LAMP, standard medical model, little used, £25.—Boulton, 7, St. Mary Abbotts Court, Kensington, W.14. Phone Western 5823.

MICROSCOPE for sale (Swift), one objective, 2/3, 1/6, and 1/12 oil immersion lenses, triple nose piece, Abbé condenser, in mahogany case, £25.—Box 1660, B.M.J.

SALE (London), INSTRUMENT CASE, steel frame (white), plate glass, 32×20×16 in., £12, also Hospital Bed (adjustable), Davidson, 6 feet, £13.—Phone Kensington 0776.

SPARE CASE of unmounted OPHTHALMIC LENSES, and luminous ophthalmoscope and retinoscope for sale, excellent condition, reasonable offer accepted, also ultra-violet lamp.—Box 1662, B.M.J.

30 M.A. X-RAY TRANSFORMER SET by Watsons, with control table and foot switch. Siemens upright screening stand with 6 k.w. metallix tube and Levy-West fluorescent screen 15×12, complete unit for upright radiography, nearest offer to £100 accepted; also many X-ray accessories for disposal.—Dr. Sankey, 29, Banbury Road, Oxford.

WANTED TO PURCHASE.—Cameras, enlargers, and all photographic apparatus, exposure meters, tripods, etc., microscopes, binoculars, cine cameras, and projectors. Prompt cash and high prices offered.—Wallace Heaton, Ltd., 127, New Bond Street, London, W.1.

HOUSES, CONSULTING ROOMS

DOCTOR'S GOOD CORNER HOUSE and garage with small PRACTICE plenty of scope, bargain for quick sale, S.W.4.—Box 1657, B.M.J.

FEW CONSULTING ROOMS (use fully equipped operating theatres) in modern centrally heated house with lift, best end Harley Street, available surgical specialists preferably.—Box 1655, B.M.J.

HARLEY STREET, SMALL HOUSE containing consulting rooms, maisonette, and basement flat, short lease, for sale.—Box 1678, B.M.J.

PHYSICIAN requires part-time CONSULTING ROOM in Harley Street district, Wednesday or Friday afternoon.—Box 365, B.M.J.

WIMPOLE STREET, part-time furnished CONSULTING ROOM with reception and secretarial service, etc.—Box 1435, B.M.J.

TO BE SOLD. LLANNERCH PARK, St. Asaph.—A well known mansion house situated amidst beautiful scenery in the Vale of Clwyd, North Wales. Most suitable for a school, medical institution, high class hotel, or service flats. Ample accommodation. 100 acres of park available if required, for golf links, fishing over one mile of River Clwyd, excellent walled garden, own swimming pool, tennis lawns, etc. Central heating, main water and electricity. Eight miles from well-known seaside resort. Excellent bus service, station one mile. Order to view by permit only.—Apply R. E. Birch, Estate Office, Coed Bedw, Abergele.

UNIQUE opportunity to secure FREEHOLD HOUSE with 2 acres garden on South Coast, standing on high ground overlooking sea, ideal for nursing home or sanatorium, pre-war price.—Box 1687, B.M.J.

40 YEARS LEASE FOR SALE with vacant possession, £3,500, ground rent £5 per annum, well-built corner property in a quiet road off Old Brompton Road, no war damage. Containing, lounge hall (oak floor) leading to 2 rooms, one overlooking garden, and a ground-floor lavatory. 1st floor—large drawing room (parquet floor) and library, 8 bedrooms, 2 bath, separate lavatory on floors above, large light basement (separate entrance), containing kitchen, scullery, butler's pantry, servants' hall (ideal boiler fitted), garden frontage to road, space and permission to erect double garage if required.—Box 1628, B.M.J.

NURSING HOMES

REGISTERED NURSING HOME run like private house for rest cures, nervous exhaustion, and convalescent patients, guests also received, resident medical man and wife, certificated nurse, lovely country 20 miles N.W. London (good train service).—Dr. Claud Fothergill, Hensol, Chorley Wood, Herts. (Phone: Chorley Wood 24.)

PRIVATE MENTAL HOME for disposal, established three quarters of a century, thirty beds, fully licensed.—Apply Messrs. Mayhew and Co., Solicitors, 57, Calthorpe Road, Edgbaston, Birmingham, marking envelopes P.M.H.

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Particulars and Forms of Application can be obtained from the Secretaries at the above address.

IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page 11

LEICESTER ROYAL INFIRMARY. HON. ASSISTANT SURGEON.—The Board invites applications for this position, arisen as the result of the death of the Senior Honorary Surgeon. Candidates must be Fellows or Members by examination of the Royal College of Surgeons of England or Graduates in Surgery of one of the universities of the United Kingdom or Ireland. Service candidates are eligible to apply for the appointment, which will be made on January 16, 946, on which date candidates will be asked to interview the board. One hundred guineas annually is granted by the Board for out of pocket expenses. This matter is under revision. Applications, with recent testimonials, to reach the undersigned by first post on Saturday, December 1, 1945.—H. T. Plowman, House Governor and Secretary.

LUTON AND DUNSTABLE HOSPITAL. (Fracture A Hospital—214 beds). HOUSE SURGEON (A) to the Accident Service.—Applications are invited from registered medical practitioners for the above appointment, vacant October 1, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner liable under these Acts appointment will be for a period of six months. Salary will be at the rate of £175 per annum, with full residential emoluments. Applications should be sent to the undersigned not later than September 5, 1945.—R. E. Lingard, Secretary.

LONDON HOSPITAL, E.1.—There will be the following vacancies (B1) at the above hospital on October 1, 1945:

SURGICAL FIRST ASSISTANT AND REGISTRAR, non-resident, £450 per annum. Candidates must be Fellows of the Royal College of Surgeons.

SURGICAL FIRST ASSISTANT to the Accident and Orthopaedic Department, resident, £350 per annum. Preference will be given to candidates who are Fellows of the Royal College of Surgeons.

JUNIOR RESIDENT ANAESTHETIST, resident, £200 per annum.

R practitioners now holding B2 posts may apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. The appointments in the first place will be for one year. Applications to be sent to the House Governor, from whom further particulars may be obtained, shtould arrive not later than the first post on Monday, September 0, 1945.—Henry Brierley, House Governor.

LONGTON HOSPITAL, Stoke-on-Trent, Staffs. HOUSE SURGEON (A).—Applications are invited from registered medical practitioners, male and female, for the appointment of House Surgeon (A), including practitioners within three months of qualification who are liable under the National Service Acts. If held by a practitioner who is liable under these Acts the appointment will be for a period of six months. Salary is at the rate of £200 per annum, plus bonus of £75 on completion of the first six months' service, with full residential emoluments. Applications to B. Pitt, Secretary.

MOUNT VERNON HOSPITAL AND THE RADIUM INSTITUTE, Northwood, Middlesex.—Applications are invited from registered medical practitioners for the appointment of HOUSE SURGEON (A) in the Cancer Department, vacant October 1. Salary is at the rate of £200 p.a., with full residential emoluments. Practitioners within three months of qualifications and liable under the National Service Acts may apply, when the appointment will be for a period of six months. Applications to be forwarded to the Secretary by Sept. 7, 1945.

MONTAGU HOSPITAL, Mexborough, Yorkshire (123 beds).—Applications are invited from registered medical practitioners, male, for the appointment of HOUSE SURGEON (A). Commencing salary at the rate of £200 p.a., with usual residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when appointment will be for a period of six months.—Applications to A. W. Youngs, F.C.I.S., Secretary-Superintendent.

NORTHAMPTON GENERAL HOSPITAL (408 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A). Salary at rate of £150 p.a., with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointments will be for a period of six months. Applications should be sent to Gordon S. Sturtridge

NEWBURY DISTRICT HOSPITAL. HOUSE SURGEON (A).—Applications are invited from registered medical practitioners, male and female, for the appointment of a House Surgeon (A), to become vacant at once, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months, otherwise it will be for an indefinite period. Salary is at the rate of £150 per annum, with full residential emoluments. Applications should be addressed to the Secretary.

NORTH DEVON INFIRMARY, Barnstaple (95 beds).—Applications are invited from registered medical practitioners for the post of JUNIOR RESIDENT MEDICAL OFFICER (A) (woman), vacant immediately. Practitioners within three months of qualification and liable to service under the National Service Acts may also apply, when appointment will be for six months. Salary is at the rate of £170 per annum, with full residential emoluments. Applications with full particulars to A. W. Bond, Secretary.

NUNEATON GENERAL HOSPITAL (Voluntary Hospital) (104 beds). HOUSE SURGEON (CASUALTY) (A).—Applications are invited from registered medical practitioners, male and female, for the appointment of House Surgeon (A), which is now vacant, including practitioners within three months of qualification who are liable to service under the National Service Acts. The appointment will be for a period of six months. Salary is at the rate of £200 per annum, with full residential emoluments. Applications should be addressed to Douglas S. Pracy, Honorary Secretary, Medical Board.

NATIONAL TEMPERANCE HOSPITAL, Hampstead Road, N.W.1.—Applications are invited for the post of CASUALTY OFFICER (A) under the E.M.S. The appointment is for a period of six months, commencing October 1. Salary £150 per annum, with board, residence and laundry allowance. Applications by September 5, addressed to the Secretary.

PRINCE OF WALES'S HOSPITAL, Plymouth.—Applications are invited from registered medical practitioners for the appointment of RESIDENT SURGICAL OFFICER (B1), to become vacant on September 29. Applicants should have held house appointments and had surgical experience. Preference will be given to candidates holding the Diploma of F.R.C.S. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £312 per annum.—Arthur R. Cash, General Superintendent.

PRINCE OF WALES'S HOSPITAL, Greenbank Road, Plymouth.—Applications are invited from registered medical practitioners for the appointment of CASUALTY OFFICER (A), for duty at Greenbank Road, vacant October 6, including practitioners within three months of qualification who are liable for service under the National Service Acts. If held by a practitioner who is liable under these Acts appointment will be for a period of six months. Salary is at the rate of £175 per annum, with full residential emoluments.—Arthur R. Cash, General Superintendent.

PECKHAM HOUSE (Private Mental Hospital), 112 Peckham Road, London, S.E.15.—Applications are invited from registered medical practitioners, male, for the post of SECOND ASSISTANT MEDICAL OFFICER (B1). Salary £400 p.a., with full emoluments. Suitably qualified R practitioners now holding B2 posts may apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Apply to Medical Superintendent.

QUEEN ELIZABETH HOSPITAL FOR CHILDREN, Hackney Road, London, E.2. HOUSE PHYSICIAN (A).—Applications are invited from registered medical practitioners, including practitioners within three months of qualification who are liable to serve under the National Service Acts, for the appointment of House Physician (A), to become vacant on October 1, 1945. Salary at the rate of £150 per annum, with full residential emoluments. Appointment will be for six months. Application forms may be obtained from the undersigned, and should be returned with copies of not more than three testimonials on or before September 5, 1945.—Charles H. Bessell, General Secretary.

ROYAL SHEFFIELD INFIRMARY AND HOSPITAL.—Applications are invited from registered medical practitioners, including medical officers recently demobilized from H.M. Forces, for the appointment of ASSISTANT PATHOLOGIST (B1) at the Royal Infirmary, now vacant. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £450 per annum, non-resident. Applications should be forwarded to the undersigned forthwith.—P. N. Glass, General Superintendent, Royal Infirmary, Sheffield, 6.

ROYAL CANCER HOSPITAL (FREE) (Incorporated under Royal Charter), Fulham Road, London, S.W.3.—Applications are invited from registered medical practitioners for the appointment of HOUSE SURGEON (B2), to commence duties on October 1, 1945, including R and W practitioners who now hold A posts. The appointment is for six months and subject to rules, a copy of which can be obtained from the Secretary. Salary £200 per annum, with full residential emoluments. Applications, to be made on a form which will be supplied by the Secretary, with copies only of not more than three recent testimonials, to be sent to the Secretary not later than the first post on Wednesday, September 12, 1945.—Victor H. Pinkham, Secretary.

ROYAL BERKSHIRE HOSPITAL, Reading.—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE PHYSICIAN (A), vacant October 23, 1945. Salary is at the rate of £150 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when the appointment will be for a period of six months. Applications should be sent immediately to H. E. Ryan, Secretary and House Governor.

ROYAL FREE HOSPITAL, Gray's Inn Road, London, W.C.1.—Applications are invited from registered medical practitioners for the appointment of OBSTETRIC HOUSE SURGEON (B2) (with some gynaecological work), including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be for six months from October 1. Salary £200 p.a., payable by the E.M.S. Applications should be sent to the undersigned on or before September 8.—Richard T. Bartley, Secretary.

ROBERT JONES AND AGNES HUNT ORTHOPAEDIC HOSPITAL, Oswestry (380 beds plus 160 E.M.S. beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of RESIDENT HOUSE-SURGEON (B2), vacant October 17, 1945. Salary £200 p.a., with full residential emoluments. R and W practitioners who now hold A posts may apply. If held by an R practitioner appointment will be limited to six months. Applications to be forwarded at once to John C. Menzies, Secy.-Superintendent.

ROTHERHAM HOSPITAL, Doncaster Gate, Yorkshire. General Voluntary Hospital (150 beds). HOUSE PHYSICIAN (A), salary £225 per annum, with full residential emoluments. Applications are invited from registered medical practitioners, male or female, for the above appointment, which will become vacant shortly. Practitioners within three months of qualification who are liable to service under the National Service Acts may also apply, when the appointment will be for six months. Applications should be sent at once to the Secretary-Superintendent.

ROYAL GWENT HOSPITAL, Newport, Mon. (255 beds. — Applications are invited for the appointment of HOUSE SURGEON (A), vacant now. Salary at the rate of £175 per annum, with full residential emoluments, including practitioners within three months of qualification liable to service under the National Service Acts. If held by a practitioner liable under these Acts, appointment will be for a period of six months. Applications should be sent to the undersigned immediately.—Alan Ruddle, Secretary-Superintendent.

ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY, Wigan.—Applications are invited from registered medical practitioners for the appointment of a HOUSE SURGEON (B2), male, vacant October 1, 1945. Salary £175 per annum, with full residential emoluments. R practitioners who now hold A posts may apply, when appointment will be limited to six months, otherwise it may be extended for a further period. Applications should be sent to the undersigned as soon as possible.—A. Stanley Brunt, General Supt. and Secretary.

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IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page I

ROTHERHAM HOSPITAL, Doncaster Gate, Rotherham (General Voluntary Hospital — 150 beds).—SECOND CASUALTY OFFICER (A). Salary £225 per annum, with full residential emoluments. Applications are invited from registered medical practitioners, male and female, for the above appointment, now vacant. Practitioners within three months of qualification liable to service under the National Service Acts may also apply, when the appointment will be for six months. Applications should be sent at once to the Secretary-Superintendent.

RUNWELL EMERGENCY HOSPITAL, near Wickford, Essex (180 beds).—Applications are invited from registered medical practitioners, male and female, for the post of HOUSE SURGEON (A). Salary £200 p.a., with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months, otherwise not exceeding one year. Applications to the Medical Superintendent as soon as possible.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, Waterloo Road, S.E.1.—Applications are invited from registered medical practitioners for the appointment of RESIDENT HOUSE PHYSICIAN (B2), including R and W practitioners who now hold A posts. If held by an R practitioner appointment will be limited to six months. Appointment becomes vacant on October 1. Salary £200 per annum, including full residential emoluments. Applications should be sent immediately to J. H. Teasdale, Secretary.

ROYAL FREE HOSPITAL, Gray's Inn Road, London, W.C.1.—Applications are invited from registered medical practitioners for the appointment of SENIOR CASUALTY OFFICER (B1). Salary £150 per annum. Duties to commence from date of appointment. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Applications should be sent to the undersigned on or before September 8.—Richard T. Bartley, Secretary.

ST ALBANS AND MID-HERTS HOSPITAL, Church Crescent, St. Albans, Herts. (75 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of RESIDENT MEDICAL OFFICER (B2), vacant in October. Salary at the rate of £200 p.a., with full residential emoluments. R and W practitioners holding A posts may apply. If held by an R practitioner the appointment will be limited to six months. Applications should be sent to P. R. Battison, Secretary.

SALISBURY GENERAL INFIRMARY.—Applications are invited from registered medical practitioners for the appointment of RESIDENT MEDICAL OFFICER (B1). Applicants must have held house appointments and had surgical experience. Suitably qualified R and W practitioners now holding B2 posts may apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. The salary is at the rate of £350 per annum, with full residential emoluments. Applications to John Williams, Supt. and Secretary.

SOUTH SHIELDS GENERAL HOSPITAL.—Applications are invited from registered medical practitioners, male and female, for the appointment of a HOUSE SURGEON (A), including practitioners within three months of qualification and liable under the National Service Acts, when appointment will be for six months, otherwise twelve months. Salary is at the rate of £200 per annum, with full residential emoluments and, cost-of-living bonus, at present at the rate of £29 18s. per annum. Applications should be sent to the Medical Officer of Health, Public Health Department, Stanhope Road, South Shields.—Harold Ayrey, Town Clerk.

STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A). Salary £196 per annum, with board residence. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when appointment will be for six months. Applications to be forwarded to the undersigned.—A E. Collins, Secretary.

TAUNTON AND SOMERSET HOSPITAL (136 beds, plus 30 E.M.S., 3 residents.)—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. Salary £175 p.a., with full residential emoluments If held by a practitioner liable under these Acts, appointment will be for six months. Applications to the Secretary-Superintendent, Taunton and Somerset Hospital, Taunton.

SOUTHAMPTON CHILDREN'S HOSPITAL (55 beds).—Applications are invited from registered medical practitioners, men or women, for the appointment of RESIDENT MEDICAL OFFICER (B2), now vacant. Salary is at the rate of £200 p.a., with full residential emoluments. R and W practitioners who now hold A posts may apply. If held by an R practitioner appointment will be limited to six months. Applications should be sent immediately to Ella K. Matthews, Secretary.

SALVATION ARMY. The Mothers' Hospital, Clapton, E.5.—Applications are invited from medical women for the post of JUNIOR RESIDENT MEDICAL OFFICER (B2), vacant October 1, 1945. Salary £110 per annum, with board, residence, and laundry. The appointment is for six months. W practitioners who now hold A posts may also apply. Applications to be sent to the Secretary-Superintendent, Col. Fred Hammond, and must be received by September 7, 1945.

ST. JOHN'S HOSPITAL, LEWISHAM, S.E.13.—There is an immediate vacancy for a TEMPORARY HONORARY GYNAECOLOGIST, for which applications are invited from candidates holding the English F.R C.S. The successful applicant will have charge of beds, and take one out-patient clinic weekly. Further particulars may be obtained from the undersigned.—J. C. Gilbert, Sec.-Supt.

SCARBOROUGH HOSPITAL, Yorkshire (normally 140 beds).—Applications are invited from registered medical practitioners for the post of HOUSE SURGEON (A). The appointment is for six months, vacant now, and the salary is at the rate of £175 per annum, with board, residence, laundry, etc. Practitioners within three months of qualification and liable under the National Service Acts may also apply. Applications to be sent immediately to the Secretary.

THE OLD MANOR, Salisbury.—TEMPORARY ASSISTANT MEDICAL OFFICER (B1) required for mental hospital. Bachelor quarters and board provided. R practitioners who now hold B2 posts may apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Salary £550.

VICTORIA HOSPITAL, Burnley (183 beds).—Applications are invited from registered medical practitioners for the appointment of HOUSE PHYSICIAN (A), now vacant. Salary at the rate of £200 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when appointment will be for a period of six months. Applications should be sent to the undersigned.—J. E. Wheatcroft, Secretary.

WALSALL GENERAL HOSPITAL (181 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of CASUALTY OFFICER AND ORTHOPAEDIC HOUSE SURGEON (B2), including R and W practitioners who now hold A posts If held by an R practitioner the appointment will be limited to six months. Salary is at the rate of £200 a year, with full residential emoluments. Applications should be forwarded immediately to the undersigned.—W. H. Harper, Honorary House Governor.

WESTERN OPHTHALMIC HOSPITAL, 155, Marylebone Road, N.W.1.—Applications are invited from registered medical practitioners, male or female, for the appointment of:

(1) SENIOR HOUSE SURGEON (B2), including R and W practitioners who now hold A posts. Previous ophthalmic experience desirable. Salary £150 per annum, with full residential emoluments.

(2) JUNIOR HOUSE SURGEON (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. Salary £100 per annum, with full residential emoluments.

Both appointments are for six months. The hospital is recognized for the D.O.M S. examinations.—Arthur N. Tyler, Secretary.

WARNEFORD GENERAL HOSPITAL, Leamington Spa.—Applications are invited from registered medical practitioners, male or female, for the post of CASUALTY OFFICER AND HOUSE SURGEON (B2) to one of the surgeons and V.D. officer. Salary is at the rate of £200 per annum, with full residential emoluments. R and W practitioners now holding A posts may apply. If held by an R practitioner the appointment will be limited to six months. Applications should be sent to the undersigned as soon as possible.—J. R. Long, House Governor and Secretary.

WIMBLEDON HOSPITAL, Thurston Road, Copse Hill, S.W.20.—Applications are invited from registered medical practitioners, male and female, including R and W practitioners who now hold A posts, for the appointment of RESIDENT MEDICAL OFFICER (B2). If held by an R or W practitioner the appointment will be limited to six months. The salary is at the rate of £250 per annum, with full residential emoluments. Position vacant September. Applications to the Honorary Secretary.

WHITEHAVEN AND WEST CUMBERLAN HOSPITAL (Voluntary General Hospital—110 bec with Maternity Unit, Modern Fracture Clinic, R habilitation Centre, Out-patient and Casual Depts.).—Applications are invited from registere medical practitioners, male and female, for t appointment of HOUSE SURGEON (A), po vacant September 21, including practitioners with three months of qualification who are liable to se vice under the National Service Acts. Appointme will be for a period of six months at a salary c £200 per annum, with full residential emolument Applications should be sent to the undersigned.— T. W. Lymer, Secretary-Superintendent.

YORK COUNTY HOSPITAL (222 beds).—Appl cations are invited from registered medical pract tioners, male and female, for the appointment HOUSE SURGEON (A), vacant September 2 1945, whose main duties are in the Eye, Ear, Nos and Throat Department (37 beds with busy Ou patient Clinics), but who will share in the gener work of the hospital, also Casualty Duty, includi practitioners within three months of qualificati who are liable to service under the National Servic Acts. If held by a practitioner who is liab under these Acts, appointment will be for a perio of six months. Salary is at the rate of £175 p annum, with full residential emoluments. This po is recognized for D.O.M.S. and D.L.O. examin tions. Applications to be sent to the undersign immediately.—J. R. Mackrill, Secretary.

AGENTS

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3. DEATH VACANCY.—Somerset. Receipt about £1,200 p.a. Panel £650 p.a. Appointmen £100.
4. DEATH VACANCY —Hereford town. Receipt £1,700. Panel about £600 p.a.
5. DEATH VACANCY.—Hants. town. £9/1.00 p.a. Panel 450. Rent £75 p.a.
6. WEST OF ENGLAND TOWN.—Receipts 194 £4,894. Panel 2,300. House to rent.
7. SCOTLAND. — Market town. Receip £8/900 p.a. Panel £230 p.a. One year's purchase
8. S. COAST TOWN.—1/3 to 1/2 share in near £4 000 Panel 1,600. Flat.
9. NOTTS —Town. 1/3 share in £5,900. Pan 2,700 House to rent.
10. CAMBS —Whole practice or share. Receip over £7,000 Panel 4,500. House for sale.
11. WILTS.—Country town. Share between £1,00 £1,500. Panel 2,900 Prely. Assp. if desired.
12. WORCS.—Country town. 1/3 in over £4,00 p a. Panel 1,640 Prely Assp.
13. SURREY.—Share in non-panel practice. Receipts about £4,000. Prely. Assp Good flat.
14. GLOS —Country. Receipts 1944 £1,949. Pan 1,100. Good house. Freehold, £2,000. Prem. £2,80
15. BUCKS —Town. Whole practice or sha Receipts £4,000 p a. Panel 3,000. Choice of house
16. KENT —Residential town. Receipts £14/1,50 p a Panel and appointments £1,100. Prem. 2 year
17. LONDON, S.E.—Receipts 1944 £1,127. Pan 1,200 House to rent Premium £1,250
18. SURREY—Suburb £1,200 p.a. Panel 97 Modern house for sale. Premium £1,650.
19. SOM —Country town. 1/2 share in £4,03 House for sale. Premium 1½ years'.
20. W. OF ENGLAND.—Town. Receipts 194 £1,069. Panel 10/1,100. Premium 1½ years'.
21. S. WALES.—Town. £1,200 p a. Panel 1,00 Modern house to rent. Premium 1½ years.
22. SURREY.—Medical woman's practice. 194 £1,875. Panel 807. House to rent. Prem. £2,000.
23. SURREY.—1/2 share in about £4,000 f medical woman. House (5 bedrooms) for sale.
24. W. OF ENGLAND.—Country town. 1/ share in over £4,000. Non-panel
25. LANCS.—Town practice. Receipts 1945 £2,97 Panel 2,091. House for sale. Prem. £3,500.
26. CAMBS.—Town. Share about £1,800. Pan 4,000. House for sale.
27. WORCS.—1/3 to 1/2 share in £4,377. Pan 2,000 Prely. a'ship if desired.
28. BUCKS.—Whole or half-share with successio Receipts 1945 £2,899. Prem. 1½ years.

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SUPPLEMENT TO THE

BRITISH MEDICAL JOURNAL

LONDON SATURDAY SEPTEMBER 8 1945

HEARD AT HEADQUARTERS

Committee for Northern Ireland

A B.M.A. Standing Committee for Northern Ireland, after the pattern of the Scottish Committee, is being inaugurated. Its members will consist of the principal central officers of the Association, the president and secretary of the Northern Ireland Branch, members of the Council who are resident in Northern Ireland (two at the moment), and one representative from each of the Divisions. Three members specially qualified to assist the business of the committee may be added, and these co-opted members will have full voting powers. The committee may elect any of its members as chairman, but if the chairman is not a member of the central Council someone who is a member of the Council must be appointed as deputy.

The business of the committee will be to consider all matters that concern Northern Ireland and to deal with them in conformity with the decisions of the Representative Body, or, on matters raising new points of principle or new policy, to make a recommendation to the Council. It will also be required to report to the Council on its work.

The Northern Ireland Branch was constituted in 1878, four years later than the South of Ireland Branch.

Medical Insurance in the U.S.A.

During the past seven years the enrolment of U.S. citizens in what is known as the Blue Cross hospital plan—a sort of mammoth Hospital Saving Association—has reached the impressive total of 17,500,000. These people make small regular payments of from 8 to 10 dollars a year for each person or from 18 to 24 dollars for each family, and then the haunting fear of hospital expense is lifted from their minds. But the hospital is only one of the major costs of illness, the other being the fees of doctor or surgeon, and this side of the question has not been dealt with to the same extent. There are not more than 4,000,000 subscribers insured against the charges of a physician or surgeon. In some areas, however, the idea has “ caught on ” more widely, and in Michigan, for a payment of rather less than half a dollar a week per family, over three-quarters of a million people are insured for surgical and obstetric care.

The L.C.C. and the Education Act

The L.C.C. is completing its arrangements for the medical treatment of schoolchildren under the new Education Act. An existing regulation provides that fee-paying pupils from (former) secondary schools may receive medical treatment at the school treatment centres provided the parents cannot afford to make the necessary private arrangements. The payment is the average full cost of the case. Under this regulation a few fee-paying pupils from secondary schools have been treated, mainly for visual dental defects. It is considered now that there will probably be some demand for similar facilities for pupils attending non-maintained schools, and it has been decided that, provided accommodation and staff are available at the centres, this arrangement should be continued and extended to all pupils (including fee-paying pupils) attending any recognized school.

The Education Act allows the local education authority to make such arrangements with the proprietors of any school or educational establishment in its area which is not maintained by the authority. It also empowers an authority to make arrangements for the medical inspection of pupils attending non-maintained schools; and the county council proposes that, on request by the proprietors, the council school medical and nursing staff shall carry out such inspection.

Postgraduate Correspondence Courses

The idea of postgraduate correspondence courses has been taken up rather enthusiastically in Australia during the war. From a publication of the New South Wales Postgraduate Committee in Medicine, which it attached to the University of Sydney and receives a grant from the N.S.W. Government, it appears that a whole series of such courses—primarily for members of the Services—has been started and has proved of real educational value in the special circumstances and disabilities in which most of the candidates have been placed. One of the courses is in medicine suitable for candidates for examination for membership of the Royal Australasian College of Physicians. A course in anatomy has been given in the same way, with a set of 25 *x*-ray films, followed by about 40 dossiers, sent to each candidate, each dossier containing numerous drawings to illustrate its text. There are correspondence courses in physiology, in neurology, and in biochemistry, and one correspondence course is being started for general practitioners who are at present on service. Another correspondence course is arranged for examination for the diploma in psychological medicine, and yet another for candidates seeking the diploma in anaesthesia. There is also a composite correspondence course suitable for candidates for examination for Part I of the M.S. degree.

RETURN TO PRACTICE

The Central Medical War Committee announces that the following have resumed civilian practice: Dr. William Brockbank, F.R.C.P., at 2, St. John Street, Manchester, 3; Dr. Douglas McAlpine, F.R.C.P., at 27, Harley Street, London, W.1; Mr. J. Leslie Orr, F.R.F.P.S., at 15, Royal Terrace, Glasgow, C.3; Dr. George Riddoch, F.R.C.P., at 16, Devonshire Place, W.1; Mr. Everard Williams, at 97, Harley Street, London, W.1; and Mr. Geoffrey Keynes, F.R.C.S., at 31, Weymouth Street, London, W.1.

E.M.S. BEDS IN VOLUNTARY HOSPITALS

The Minister of Health has now reviewed the position concerning the beds held at voluntary hospitals for the purposes of the Emergency Hospital Scheme, and hospitals are being notified in a circular letter either that they will not be required to reserve any beds for E.M.S. purposes after October 1 or that only a reduced number need be so held after that date. Each hospital is being individually informed according to the decision taken in its particular case.

The circular also contains a statement on the financial position of the hospitals after this reduction or cancellation has taken effect, and we quote below the relevant paragraphs:

> “ The Minister understands that there may be cases in which the reduction or cancellation of these emergency bed reservations may so affect a voluntary hospital financially as to make it difficult for it to continue to provide proper hospital services of the type and on the scale needed from it by the public. As is well known, the Government have under consideration the long-term arrangements for hospital services in the future National Health Service, including the financial arrangements affecting voluntary hospitals participating in that service. These arrangements, clearly, cannot come into operation in the immediate future. Equally clearly, the present scale of bed reservations and consequent payments to hospitals from public funds should not be artificially prolonged beyond the proper needs of the diminishing Emergency Scheme. There is, therefore, bound to be an interim period during which the emergency arrangements contract or disappear before the new long-term arrangements begin to operate.
>
> “ To assist the hospitals during this interim period, the Minister proposes to seek Parliamentary authority to make Exchequer grants during the financial year beginning in April, 1946, to such voluntary hospitals as establish their need for such assistance in order to maintain proper services. The details of these grants, and of the machinery for their administration, are under consideration.
>
> “ The Minister contemplates that in establishing their individual needs for this interim grant assistance it will be for the hospitals to indicate *inter alia* the arrangements proposed by them for the payment of medical staff and generally for the maintenance of any new or improved services developed in them during the working of the Emergency Scheme. It is important, in the Minister's view, not only that the continuance of the present standards of hospital service should be assured, but that the improved facilities and valuable new developments of the wartime period be fully kept in being until the long-term reorganization of hospital services can absorb and enlarge them. In particular the Minister attaches importance to the continuance and development of the practice, which the Emergency Scheme has fostered, of the remuneration of both visiting and other specialist medical staff in hospitals. It seems certain that this practice will be a feature of any long-term hospital reorganization, and the

Minister trusts that during the interim period hospitals will make adequate arrangements to this end in substitution for any payments which have hitherto been made to such staff under the Emergency Scheme and which might otherwise cease with the reduction of the Scheme's requirements. It would be appropriate, for the interim period, that such arrangements might accord with the scales and conditions applicable within the Emergency Medical Service."

Correspondence

The New Government and the Negotiations

SIR,—We have every reason to be grateful to Mr. Greenwood and Mr. Bevan for making it perfectly plain that agreements entered into by any Minister have no binding power on his successor. If there are any left who imagine that things would have been different had a National Health Service Act been actually on the Statute Book, it is only necessary to remind them that Acts of Parliament can be quite easily repealed in whole or in part.' The present Government has already announced its intention of thus dealing with the Trades Disputes Act, and it is fresh within all our memories how one of Mr. Bevan's predecessors by unilateral action dealt with the N.H.I. Act. Indeed, we should have been in a far worse case had a N.H.S. Act been already in force, for we should then have been reduced to an ineffectual protest as we were in the case of the N.H.I. Act mentioned above. As it is we are still free men and women with power to fight for our freedom.

Another illuminating remark of Mr. Greenwood's is that Mr. Willink made "unnecessary concessions" to us. It is obvious to the meanest intelligence that no National Health Service can be worked without our aid. That being so, one would have thought that any Minister would go to very great lengths to obtain our co-operation. Apparently Mr. Greenwood does not think so, and is prepared, if necessary, to order us in. It would be interesting to know what methods of compulsion he proposes to adopt. It is thus very necessary for us to reconsider our own attitude, always bearing in mind that any "concessions" that may be made to us now have only temporary value, and can be revoked at any time by any Minister with a Parliamentary majority behind him. In that case, obviously, the less we commit ourselves the better.

There was a very useful motion passed at the December meeting of the R.B. which was then allowed quietly to drop. I suggest that it should be brought out of cold storage and re-presented as a *sine qua non*. It is so important that I will quote it in full from the Minutes (No. 95). "That health legislation should proceed by evolution, and the R.B. is of the opinion that the objects aimed at will be achieved by completion of the N.H.I. service to embrace institutional, specialist, and all auxiliary services; and when this is accomplished the expansion and extension of N.H.I. to dependants of those insured and to others of similar economic status." That would at any rate give us breathing space. Another good motion passed at the same meeting, which advocated separate legislation for health services and for social security (No. 241), could also well be dug out again. The proposal that people should be allowed to "contract out" of the new scheme would be much more effective if it was reversed and the scheme made voluntary with permission to anybody to "contract in."

Lastly, while I am convinced that with discipline and unity we need not fear the odds against us, without them we can accomplish nothing. The danger is grave, not only to our own liberties but to those of the community at large. If we are subjected to State control, our patients must necessarily be likewise, at least to a certain extent. It is therefore not only in our interests, but also in theirs, that we should defend our position with determination against both blandishments and threats. As I read it, Dr. Hill's article in the *Daily Mail* of Aug. 29 is in agreement with this, but it is a point which cannot be too much or too often stressed, for I do not believe that the nation at large realizes that with our freedom theirs goes also.—I am, etc.,

Andover. J. A. BALCK-FOOTE.

Medical Demobilization

SIR,—On what would appear to be the eve of victory this communication may seem to be outside the prevailing mood of the moment, but it states what I have felt for some time.

I should like to associate myself with the opinions expressed in recent numbers of the *Supplement* by serving Naval medical officers. I refer to the letter by Surg. Lieut. R. Alexander (June 23, p. 127) and one by "Two Naval Doctors" (April 28, p. 70). The accusation of "window-dressing" is, I think, a fair one. I feel that in Naval shore establishments there is medical overmanning, and I can call to mind many tiny establishments in the United Kingdom with complements of 300 men, but each with its medical officer employed solely for these numbers.

I am serving in the East Indies, although in Group 20, and there are numerous medical officers of this and lower groups in like case. Most of us were volunteers in 1939, and have served upwards of five years. Most of my colleagues with whom I have discussed this are agreed on the point of over-manning, always excepting the case of ships, where the position is different. Another feature which is a source of some discontent is that those of us who are temporary serving officers, even of considerable experience before the war, have in most cases served throughout without having hospital appointments. On the other hand, it is relatively common for medical officers within three years of qualification (I can think of one within 18 months) to be employed as "specialists." Most of us fear our retention for an unnecessarily long time after hostilities cease, for one reason or another. There is no doubt that relief work will be necessary, and one does not grudge that, but all the same the feeling of insecurity for those of us who have lost our practices and must start afresh grows daily.

I feel, Sir, and am confident that my feelings are shared by the majority of my colleagues among temporary officers, that a more energetic investigation into Service medical manning is long overdue. There is so much dead wood to be cut away.—I am, etc.,

"NAVAL M.O., EAST INDIES FLEET."

The Army Specialist and Release

SIR,—You have printed a large number of letters on demobilization. I would like to point out that there is a good chance of many Army specialists being victimized owing to the fact that conscription is not as rigidly applied as it should be. I am one of the unfortunates who have been informed that I am to be retained on the grounds of military necessity. I have been given no date of possible demobilization; all I know is that I am retained in spite of the fact that my release was applied for under Class B, and refused. I am not to be allowed out even in my normal Class A group because a replacement cannot be found.

I do feel that this is unfair to us, most of whom are "old-timers" and many Territorials. We do feel that conscription must go on and should be in higher age groups than at present.—I am, etc.,

"TERRITORIAL."

A Debt to the R.M.O.

SIR,—I have read with interest the majority of the letters in the *Supplement* on the forcible retention of medical officers in the Forces (the so-called demobilization scheme and/or reallocation of man-power), and as I have an axe to grind may I be allowed a little space in the already overburdened columns of the *Supplement*.

Even a superficial analysis of the letters reveals that the medical officers—the majority regimental medical officers—chiefly concerned are of two types: (*a*) the recently (1939 and early war) qualified; and (*b*) the middle-aged general practitioner. A few months ago I asked a very young-looking captain in the R.A.M.C. how old he was when he qualified. "Twenty-four," he replied, and startled me when he went on grimly, "But I am over 30 now." He had spent the time between qualifying and conscription as a locum-tenent. During his entire Army life he had been living a healthy open-air existence as R.M.O. to an "Ack-Ack" regiment which had disbanded without ever going into action, so that he looked no older than 25. He lamented the fact that on demobilization he would have neither the time nor the money to specialize, and all he could hope for was an assistantship in a practice.

The doctor between the ages of 35 and 40 who, for one reason or another, joined the Forces on or shortly after the outbreak of war is now middle-aged. The majority, never having achieved any specialist qualifications, must necessarily have remained captains (other than the small number who were fortunate, or unfortunate, enough to be promoted D.A.D.M.S., or those who achieved a "crown" by being posted to, and remaining in, a field ambulance unit), and how they, mostly married men with families, have managed to exist on their captain's pay and meet their commitments (mess bills, insurance, house, schooling, clothes, etc.) will either remain a mystery or will emerge later as an interesting or (possibly to some) a sordid story.

A few years ago Sir Henry Tidy wrote a letter to you, Sir, eulogizing the splendid work of the modern regimental medical officer. The contents of this letter were thought to be so important that copies of the full text were circulated to R.A.M.C. officers serving anywhere in the world. My copy arrived in the Desert, where I was then stationed, in the form of Appendix B to D.M.S. Administrative Instructions No. 89 of 1942. A few quotations from this encomium will not be out of place.

> "The health and physical efficiency of the Army lies not in the hands of the hospital surgeon and physician or others of higher rank, but in those of the regimental medical officers. To perform their duties efficiently requires considerable judgment and knowledge. . . . A good regimental medical officer can do more for man-efficiency and man-power than any other officer in the R.A.M.C. The duties of a regimental medical officer are laid down in the Regulations for the Medical Services of the Army. The pages form a somewhat bald and unconvincing narrative, for no touch of human nature is discernible. . . . I repeat, the health and physical efficiency of the Army lie in the hands of the regimental medical officers."

Quite recently I read an account in the *Journal* of a special medical meeting (in India) called to put on record the excellent work done by regimental medical officers. The meeting voted the regimental medical officers as being the backbone of the R.A.M.C., thus comparing them with the Infantry soldiers in the last war. It may be that the Infantry have been soothed by the abracadabra of the capital "I" as recently allowed to them and by hypocritical speeches in the House by members with an eye on their constituencies, but no such cabalistic signs nor unctuous rhetoric will serve to mollify the angry mood of the more intelligent regimental medical officers. For not the 8th Army alone became aware of the invaluable work done by the R.A.M.C. in general and the untiring and persistent efforts of the regimental medical officers in particular. Rommel and his Afrika Corps must also have realized, too late, the colossal dividends those efforts had brought us: first, in the dust and torrid heat of the Western Desert, where not the superior guns, tanks, and planes, nor yet the courage and bravery of our troops were alone responsible for victory, but the effective control of flies trailing dysentery, the prevention of which spelt that essential health and physical fitness to which Sir Henry Tidy referred, and which is the prerequisite for the high morale of a successful campaign; and later in Sicily, where the Hun, not yet having learnt his lesson, treated the ubiquitous mosquito with the same unhealthy contempt.

After six years of such effort a grateful Government is showing its intense appreciation by offering the medical officer, a professional man, the gigantic sum of a few hundred pounds for services rendered. America, Australia, Canada, and South Africa appear to have arranged to pay their regimental medical officers in a manner more commensurate with their knowledge and work.

This letter has been written in the mood of the moment. A return to that high dignity normally associated with the medical profession will recur when those high-ranking representatives of the Government receive another letter, written by another with the same shrewd perception and profound knowledge of men and medicine as Sir Henry Tidy, (is it too much to hope that he himself will write such a letter?) who with Socratic wisdom might counsel: "You owe a debt to Aesculapius; see that it is paid"—in hard cash.—I am, etc.,

Washford. J. B. LURIE, Capt., R.A.M.C.

Terms of Service

SIR,—As one who, on the grounds of ill-health, is leaving the Services after ten years and views the future of the profession with something akin to horror, may I be permitted to add my voice to those crying in the wilderness of apathy and "gutlessness" into which so many of our brethren seem to have strayed. More power to J. A. Balck-Foote, W. R. E. Harrison, Guy Bousfield, and others. Who is the Minister of Health to dictate to the medical profession the terms on which they shall live and work? Agree, yes; dictate, no. If we are to be Government servants let us demand now a full public statement of the proposed terms of service, the proposals for the selection of both patient and doctor, the hours of work, the selection of areas, etc. This secret Nazi type of dictatorship and boot-licking is not good enough. Let the Ministry try such tactics on a trade union and see the answer that would be returned. We doctors need something of that type to protect our interests. Why does not the G.M.C. take it up, get the proposals, and then circularize all on the *Register* and all medical students for their opinions? Make the filling up of the form obligatory if necessary. United the medical men could defy any Ministry, and the public would support us if they were made to see the full implications of such a service. As civil servants let us demand a closed shop, a 46-hour week, holidays with pay, the right to strike if our few remaining privileges are curtailed by some future Ministry, and other similar claims. The labour machine from which we have suffered so often might be no bad thing for us to copy now in this hour of democracy.—I am, etc.,

"MAJOR, I.M.S."

First Things First

SIR,—In the welter of controversy over details the medical profession bids fair to lose sight of fundamentals in the planning of a medical service. Those fundamentals, rarely formulated, are instinct in the tradition of medicine, and have informed the whole of the profession's past behaviour. Few could be found to deny that the medical profession, in its record of devoted service to the community, in its outstanding scientific and clinical progress, and in its response to the appeal *ad misericordiam*, is equalled by few professions and by no trades. And that record is the result of individual effort and of self-developed co-operation.

The fundamentals remain, and will remain so long as medical men are powered by conscience and the sense of vocation. Because they will remain, because the profession is still true to the spirit of the Hippocratic oath, any medical service planned and imposed from without will work, in the sense that the sick will continue to be treated. But the inevitable sequel of bureaucratic control is the progressive atrophy of the conscience, and the time is not far distant, if medicine is governed by regulation, when the appeal *ad misericordiam* will go unanswered. Then, Sir, we shall be no longer a profession but a trade.

Can there not be put in the forefront of our councils, be read and subscribed to by each of our negotiating bodies at every meeting, be observed in the spirit in all our deliberations, these fundamental principles of the medicine that all have respected in the past?

A. The adequate treatment of the sick is our pre-eminent care and duty and a privilege that we guard jealously.

B. The principle of justice applies, equally with others, to the medical profession.

C. Freedom, which is the individual's right to have justice, is still worth fighting for.

D. In unity alone is strength, and to unity much must be sacrificed.—I am, etc.,

Southsea. NIGEL CRIDLAND.

Question and Answer

SIR,—I would like to add my support to the letter of Dr. Guy Bousfield (*Supplement*, July 28, p. 18). I feel very strongly that we are in danger of drifting into a State medical service, which, once instituted, will be irrevocable, when there has been insufficient opportunity offered to practitioners to vote either for or against such a service.

My own particular case is no doubt typical of many other medical practitioners. I returned to this country in 1944 after a period of oversea service in the R.A.M.C. to find a White Paper being published which formulated proposals for a State medical service. As a doctor, and consequently a very interested person in this revolutionary scheme with all its implications regarding my future career, I would have expected to receive a copy of the White Paper and also to have an opportunity to vote either for or against State medicine. It was not, however, until some months later that, feeling my name had been overlooked, I made written inquiry about the matter, and I received a copy of the White Paper and the questionary, which, I believe, was to have been sent to all members of the profession.

What I wish to point out are the two following facts: (1) With my own case as an example, a great many doctors, especially those in the Services, have never had an opportunity to express their opinion either for or against a State medical service. (2) The results of the questionary, which will presumably be used as a basis for discussion with the Ministry of Health if the proposal for State medicine goes forward, are themselves unsatisfactory and inconclusive, since the document was too bulky, and many of the questions were incapable of being answered sincerely by younger doctors who had qualified either just before or during the war years, and who, consequently, could have insufficient knowledge of the detailed answers demanded, their time heretofore having been spent in the Services and not in general practice.

I certainly consider with Dr. Guy Bousfield that for the present one question only should be submitted to every member of the profession: "Are you or are you not in favour of a State medical service?" And each doctor should be placed under a moral obligation to answer "Yes" or "No." A majority vote one way or the other having thus been obtained, negotiations with the Government could either proceed or be dropped according to the expressed wish of the profession as a whole. Those of us who had hitherto been forgotten would at least have the satisfaction of knowing that we had been allowed to express an opinion on a matter which affects our future so vitally.—I am, etc.,

Harrogate. HARRY R. W. HAWSON.

Medical Man-power

SIR,—Most of us appreciate the difficulties encountered by the Central Medical War Committee in its negotiations to ensure a just and speedy demobilization of serving medical officers. I hesitate to add to its burden, but I would like to suggest that it again stresses the need for a thorough search of the Service Departments to check the gross wastage of medical man-power as revealed in your correspondence columns.

May I add a further instance. At the present time a large number of doctors are engaged in the medical examination and disposal of all returned prisoners of war. Each man is seen by no fewer than five medical officers—one on arrival in this country, two whilst on leave, and two on return to an Army unit. Any man requiring a specialist's opinion is examined by more than five. Even taking into account the prolific clerical duties required of these medical officers it is difficult to see the reason why this wealth of medical opinion should be necessary. Now that the war is ended there would appear to be no justification for continuing to retain large numbers of medical officers either as a potential "reserve" or employed in reduplicating each other's work.

Some of us, about to enter our seventh year of service in the junior ranks, would do so more willingly if there were any evidence that the higher Service authorities were prepared to listen to reasonable suggestions of economy from those of us directly concerned. I regret that I can find no such evidence, with the result that urgent civil medical requirements will remain unsatisfied this winter, while many of us in the Services will be wasting our time.—I am, etc.,

"WRITER'S CRAMP."

War Gratuities

SIR,—Dr. Edgar Rentoul (*Supplement*, Aug. 18, p. 47) queries my contention that it is unfair to give a larger gratuity to medical officers than to others. As he points out, the short-service gratuity was given not on grounds of justice but purely to satisfy the laws of supply and demand. At the outbreak of war patriotism, the National Service Acts, or a mixture of both, replaced the gratuity as an incentive to recruitment.

If justice is to be invoked then all branches should get the same war gratuity, but, as we have seen, there was never any question of justice. Expediency was the only reason for giving the short-service gratuity, and it is no longer expedient. In any event the argument is purely academic. Even if one converted the Treasury no politician would give preferential treatment to 26,000 men leaving 7,000,000 unsatisfied.

The only constructive suggestion I can make is that in addition to the gratuity surplus war stores should be distributed amongst all Reserve and Territorial officers and men. There are obvious drawbacks to such a scheme, but it might be made workable, and a car and/or drugs and instruments might well be almost as valuable as the ready cash.—I am, etc.,

C. J. ROBARTS,
Surg. Lieut.-Cmdr., R.N.

It has been announced by the War Office that the release of medical officers will be proceeded with up to Group 23 by Jan. 20, 1946, in step with the rest of the Army.

BRITISH MEDICAL ASSOCIATION

Election of Member of Council by the Metropolitan Counties Branch

The following candidates have been nominated for the vacancy in the Council (Group I):

C. G. Martin (Lambeth).
R. Scott Stevenson (Marylebone).

Voting papers will be issued to all members of the Metropolitan Counties Branch on Sept. 15, 1945.

CHARLES HILL,
Secretary.

Branch and Division Meetings to be Held

WAKEFIELD, PONTEFRACT, AND CASTLEFORD DIVISION.—At Clayton Hospital, Sunday, Sept. 16, 11 a.m., Postgraduate Lecture by Dr. Leslie Watson: Assessment of Albuminuria.

H.M. Forces Appointments

ROYAL ARMY MEDICAL CORPS

Lieut. (War Subs. Capt.) B. S. Powell, from Emergency Commission, to be Lieut. (Nov. 29, 1941) and to be Capt. (Nov. 29, 1942).

TERRITORIAL ARMY

ROYAL ARMY MEDICAL CORPS

War Subs. Capt. G. S. Seed to be a Consultant and is granted the local rank of Brigadier.

War Subs. Major W. H. Bradfield to be Major.

War Subs. Capt. H. D. Crosswell has relinquished his commission on account of disability, and has been granted the honorary rank of Capt.

TERRITORIAL ARMY RESERVE OF OFFICERS: ROYAL ARMY MEDICAL CORPS

Capt. F. J. Whitelaw has relinquished his commission on account of disability, and has been granted the honorary rank of Major.

LAND FORCES: EMERGENCY COMMISSIONS

ROYAL ARMY MEDICAL CORPS

War Subs. Capt. W. K. Chalmers has relinquished his commission on account of disability, and has been granted the honorary rank of Major.

War. Subs. Capts. S. Ross and R. A. Morea have relinquished their commissions on account of disability, and have been granted the honorary rank of Capt.

REGULAR ARMY RESERVE OF OFFICERS

ROYAL ARMY MEDICAL CORPS

War Subs. Major A. W. Woolley, from Supplementary Reserve of Officers, to be War Subs. Major.

ROYAL AIR FORCE

Wing Cmdrs. (Temp. Group Capts.) G. P. O'Connell and A. Dickson to be Group Capts.

Wing Cmdrs. J. D'I. Rear and C. J. S. O'Malley, C.B.E., to be Group Capts. (Temp.).

Squad. Ldrs. (Temp. or War Subs. Wing Cmdrs.) J. F. Sandow and A. M. Weston to be Wing Cmdrs.

Squad. Ldrs. J. C. Bowe, F. L. Whitehead, and C. E. G. Wickham to be Wing Cmdrs. (Temp.).

RESERVE OF AIR FORCE OFFICERS

Squad. Ldr. A. Muir to be Wing Cmdr. (Temp.).

ROYAL AIR FORCE VOLUNTEER RESERVE

Squad. Ldr. J. H. Hunt to be Wing Cmdr. (Temp.).

Squad. Ldr. (Temp.) J. B. Shield to be War Subs. Squad. Ldr.

Fl. Lieuts. to be Squad. Ldrs. (Temp.): J. H. O'Connell, R. Piper, D. S. Young, H. F. S. Beadles, S. J. Hadfield, H. Halson, B. S. Kent, W. J. Lawrence, J. H. McIlrath, R. W. K. Purser, C. R. Savage, A. G. Leigh, E. J. Blair, J. D. Jenkins, T. Fenwick, W. B. Waterfall, A. T. M. Roberts, C. H. Stewart-Hess, J. P. Bentley, R. S. Carpenter, C. H. George, M. J. Greenberg, J. Whitehead, M. N. Phillips, J. M. Sword, C. A. Dowding, D. N. Matthews.

Flying Officers J. H. Playne, C. H. Gattie, D. A. Patel, and B. C. Smith to be War Subs. Fl. Lieuts.

AUXILIARY AIR FORCE

Squad. Ldr. W. D. Coltart to be Wing Cmdr. (Temp.).

WOMEN'S FORCES

EMPLOYED WITH MEDICAL BRANCH, R.A.F.

Flying Officers V. Auld, J. I. M. Macauley, E. E. McGuinness, E. M. McKechnie, E. C. S. Williams, M. Williams, M. Armstrong, A. B. Lornie, and E. C. Strang to be War Subs. Fl. Lieuts.

SCOTTISH COMMITTEE, SESSION 1945–6

Election of three representatives by the Group of seven Divisions comprising Orkney, Shetland, Caithness and Sutherland, Inverness, Outer Islands, Ross and Cromarty, and Argyllshire.

In accordance with the Standing Orders of the Scotish Committee nominations for these three vacancies shall be in writing, and may be (*a*) made by a Division or (*b*) signed by not fewer than three members of the group. Nomination forms have been sent to the Hon. Secretaries of the Divisions in the Group, and can also be obtained on application to the Scottish Office.

If more than three members are nominated the election shall be by voting papers sent by post from the Scottish Office to each member of every Division in the Group.

Nominations should be sent to me at the Scottish Office, 7, Drumsheugh Gardens, Edinburgh, not later than Sept. 22, 1945.

R. W. CRAIG,
Scottish Secretary.

POSTGRADUATE NEWS

The Fellowship of Medicine announces the following courses: (1) Revision course in anaesthetics at Royal Cancer Hospital, Fulham Road, S.W., Oct. 8 to 20, with lectures and/or demonstrations daily. (2) All-day course in children's diseases at Princess Louise Hospital, Kensington, Sat. and Sun., Sept. 29 and 30. (3) All-day course in rheumatism at Rheumatic Unit, St. Stephen's Hospital, Fulham Road, S.W., Sat and Sun., Oct. 20 and 21.

The Institute of Laryngology and Otology (330–332, Gray's Inn Road, London, W.C.), in association with the Royal National Throat, Nose and Ear Hospital, has arranged a four-weeks course in laryngology, rhinology, and otology for senior postgraduate students, especially those taking Part II of the D.L.O. examination, from Oct. 29 to Nov. 30. The fee for the course is £15 15s., and the full syllabus may be obtained from the secretary of the institute. Demonstrations and discussions of clinical cases are held on Friday afternoons, and are open to all medical practitioners without fee. A list of dates may be had from the secretary. Clinical assistantships and out-patient assistantships are available at both the Gray's Inn Road and the Golden Square Hospitals.

WEEKLY POSTGRADUATE DIARY

EDINBURGH POSTGRADUATE LECTURES.—At Edinburgh Royal Infirmary, *Thurs.*, 4.30 p.m., Dr. W. Levinthal: The Problem of Bacterial Variability

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BIRTHS, MARRIAGES, & DEATHS

The charge for an insertion under this head is 10s. 6d. *for* 18 *words or less. Extra words* 3s. 6d. *for each six or less. Payment should be forwarded with the notice, authenticated by the name and permanent address of the sender, and should reach the Advertisement Manager not later than first post Monday morning.*

BIRTH

BENNIE.—At Stobhill Hospital, Glasgow, on Aug. 29, 1945, to Janet Todd, M.B., D.A., wife of Capt. Thomas Y. Bennie, R.A.M.C., a son.

DEATHS

CARRELL.—On Aug. 28, 1945, suddenly, at his home, Cranbrook, Kingswood, Surrey, G. N. P. Carrell, M.R.C.S., L.R.C.P., aged 89.

POWELL.—On Aug. 2, 1945, James Powell, M.R.C.S., L.R.C.P., D.P.H., much-loved husband of Bess Powell, Hillcrest, Senny Bridge, Breconshire.

READDIE.—On Aug. 27, 1945, very suddenly, at War Memorial Hospital, Scunthorpe, Lincs, Dr. David Readdie, the beloved husband of Hilda (*née* Garside) and dearly loved and only son of Dr. Andrew F. and Mrs. Readdie, of "Danecourt," Lee Mount, Halifax, aged 25 years. Interred at Dukinfield Cemetery, Cheshire, Wednesday, Aug. 29.

The Central Medical War Committee is informed that the rate of release of medical officers from the Royal Air Force has been accelerated. The following age and service groups will be released by the dates shown: By Oct. 31, Groups 13 and 14 (i.e., additional to Groups 11 and 12); by Nov. 30, Groups 15 and 16; by Dec. 31, Groups 17 and 18; by Jan. 31, 1946, Group 19; by Feb. 28, 1946, Group 20.

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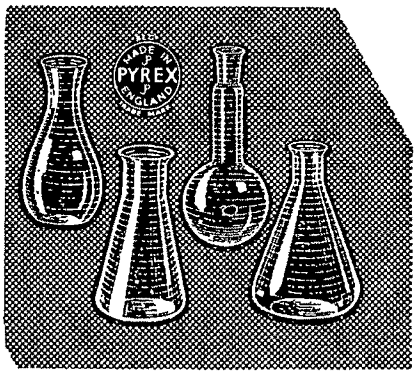

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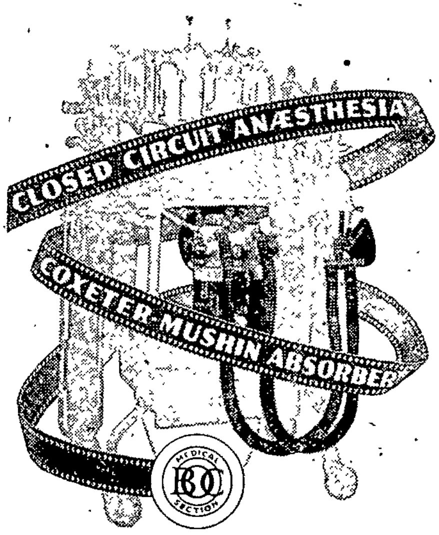

The new 16 mm Coloured Film (Silent) has been distributed to all B.O.C. Medical Branches throughout the British Isles, and is now available on application.

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NOTICE.—Applications for vacancies advertised should, except where otherwise specified, state name, address, age, nationality, qualifications, and be accompanied by copies of three recent testimonials with short statement of experience and appointments held. Unless closing date is stated applications should be sent at once.

R—Male, W—Women practitioners, liable to military service under the National Service Acts.

B1—Whole-time appointments, usually resident within the senior establishment—e.g., Registrar, R.S.O., etc.

A—Whole-time resident house appointments open to practitioners without previous experience.

B2—Whole-time house appointments not within the senior establishment, usually resident, and usually held by practitioners with six months' experience.

APPOINTMENTS

INDIAN MEDICAL SERVICE. Recruitment of WOMEN MEDICAL OFFICERS.—The Government of India are prepared to recruit a limited number of women medical officers for service with the Indian Medical Service for the duration of the war. Applicants must be British subjects, of not more than 45 years of age, and those selected will be appointed in the rank of Lieutenants. Antedate of seniority may be granted up to a minimum period of 6½ years in respect of resident hospital appointments, higher qualifications, and/or professional experience. The antedate will count for pay and promotion, but, in the case of candidates recruited in this country, higher rank will not be assumed until the date of disembarkation in India. On termination of service, a minimum gratuity is guaranteed to those officers who complete one year of service, viz., Rs. 2,000 to officers whose registrable medical qualification is dated before January 1, 1940, and Rs. 1,000 to those who qualified after that date, plus one month's pay for each further completed year of Army Service. Further particulars regarding rates of pay etc., may be obtained from the Medical Adviser, India Office, London, S.W.1, or from the Secretary, Military Department, India Office to whom all inquiries should be addressed

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AUCKLAND HOSPITAL BOARD, New Zealand.—Applications addressed to the undersigned and closing at noon on Monday, October 15, 1945, are invited from registered medical practitioners for two appointments as SENIOR RADIOLOGISTS at the Board's Institutions, at commencing salaries of £1,000 per annum, rising by two annual increments of £100 to £1,200 per annum, living out. (New Zealand currency.) Applicants must hold Diploma of Radiology. The appointments are whole-time and are for diagnostic radiology only. The Board's Institutions include: (1) The Auckland Hospital of 1,000 beds (with a Director of Radiology and an Assistant Radiologist already appointed). (2) The Green Lane Hospital of 600 beds, including a Chest Diseases Department. (3) The Middlemore Hospital of 300 beds, including an Orthopaedic Department. New *X*-ray Departments are being opened in the two latter hospitals this year. Conditions and memorandum of appointment may be obtained from the office of the High Commissioner for New Zealand, New Zealand House, the Strand, London, W.C.2. Applications should be endorsed "Senior Radiologist" and sent to New Zealand direct by air mail.—R. F. Galbraith, Secretary.

ADMINISTRATIVE COUNTY OF ESSEX. MEDICAL STAFF.—The County Council invite applications for the appointment at the Oldchurch County Hospital, Romford, of a temporary resident Junior Assistant Medical Officer (B2). Salary £200 a year, plus residential emoluments, valued at £160 a year. R and W practitioners now holding A posts may apply. If held by an R practitioner the appointment will be limited to six months, otherwise it will be for a period of one year. Details of duties can be obtained from the Medical Superintendent of the Hospital. All applications, which must contain full information as to the applicant's position in relation to military service, should be addressed to Mr. G. E. Pegram, Administrative Offices, Laurie Square, Romford.—John E. Lightburn, Clerk of the County Council, County Hall, Chelmsford.

GLOUCESTERSHIRE JOINT BOARD FOR TUBERCULOSIS. Standish House Sanatorium, Stonehouse, Glos.—Applications are invited from registered medical men or women, including R and W practitioners who now hold A posts, for the post of JUNIOR ASSISTANT MEDICAL OFFICER (B2) at the above institution. No previous professional experience is necessary. There are at present 250 beds, including men, women, and children. There is an orthopaedic block. Salary £250 per annum, plus bonus, with board, furnished apartments, and laundry in addition. The appointment is for six months and may be terminable within that period by one month's notice on either side. Closing date Sept. 21, 1945.—Guy H. Davis, Clerk of the Joint Board, Shire Hall, Gloucester.

CITY OF MANCHESTER. Public Health Department. Booth Hall Hospital for Sick Children (760 beds). TEMPORARY VISITING EAR, NOSE, AND THROAT SURGEON (PART-TIME).—The Corporation invites applications for the appointment of Temporary Visiting Ear, Nose, and Throat Surgeon (part-time) at Booth Hall Hospital, Blackley, Manchester, 9, in connexion with the scheme of operative treatment of tonsils and adenoids in school-children. The salary for the appointment will be at the rate of £125 per annum in respect of one weekly session. Forms of application may be obtained from the Medical Officer of Health, Hospitals Administration Section, P.O. Box 399, Town Hall, Manchester, 2, by whom all applications must be received on or before September 26, 1945. Canvassing in any form, oral or written, direct or indirect, is prohibited.—Philip B. Dingle, Town Clerk, Town Hall, Manchester, 2.

THE OTAGO HOSPITAL BOARD. University of Otago and Dunedin Hospital, New Zealand.—Applications are invited for the following positions, viz:

(A) FULL-TIME TUBERCULOSIS OFFICER, at a salary at the rate of £1,500 per annum (plus travelling allowance), plus £100 per annum payable by the Otago University Council for teaching duties.

(B) FULL-TIME PSYCHIATRIC PHYSICIAN, at a salary at the rate of £1,500 per annum (plus travelling allowance), plus £100 per annum payable by the Otago University Council for teaching duties.

Applications are also invited for the position of RESIDENT SURGICAL OFFICER (Senior). Candidates must hold a degree in Medicine of a British University, must have been qualified for three years, and have held resident hospital appointments for at least one year. Preference given to unmarried applicants. The duties will be those of superintending house surgeons with, in addition, certain tutorial work under the direction of the Professor of Surgery. Salary to be at the rate of £600 (N.Z. currency) per annum, with board and residence.

Full details may be obtained on application to the High Commissioner's Office, New Zealand Govt., 415, Strand, London.—John Jacobs, Secretary, Otago Hospital Board, Dunedin.

PAPWORTH VILLAGE SETTLEMENT, Nr. Cambridge.—Applications are invited from registered medical practitioners for the appointment of a RESIDENT SURGICAL OFFICER (B1). Applicants should have held house appointments and had experience in tuberculosis and thoracic surgery. Preference will be given to candidates holding the Diploma of F.R.C.S. Suitably qualified R practitioners now holding B2 posts may apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. The appointment is for one year in the first place, salary £600 p.a., rising to £800 p.a. by £100, with board, lodging, and laundry. Applications should be sent to the Medical Director, Papworth Village Settlement, Papworth Hall, Cambridge.

READING EDUCATION COMMITTEE. TEMPORARY SCHOOL DENTIST.—Applications are invited from qualified Dental Surgeons, men or women, for the temporary post of full-time School Dentist, to replace an officer who is now on war service. Salary scale, £500 by £25 increments to £650. Commencing salary will be fixed having regard to qualifications and experience. It is possible that the appointment will eventually be made permanent. The candidate appointed will work under the administrative direction of the School Medical Officer and will be required to give his or her whole time to the duties of the post. Applications should reach the undersigned not later than fourteen days after the appearance of this advertisement.—Chief Education Officer, Education Office, Blagrave Street, Reading.

CITY OF STOKE-ON-TRENT. CITY GENERAL HOSPITAL. ASSISTANT RESIDENT MEDICAL OFFICER (B2).—Applications are invited from registered medical practitioners (single, male or female), including R and W practitioners who now hold A posts, for the appointment of Assistant Resident Medical Officer (B2), at the City General Hospital, Stoke-on-Trent. If offered to an R or W practitioner the appointment will be limited to a period of six months, otherwise will be for a period of one year. The salary is at the rate of £250 per annum, plus bonus, with full residential emoluments. The Hospital, which is an Emergency Hospital, has approximately 1,200 beds, and there is excellent scope for medical, surgical, and obstetrical work.—Applications endorsed "Medical Officer, City General Hospital," to be sent to the undersigned immediately.—Harry Taylor, Town Clerk.

CITY OF NOTTINGHAM. The Firs Maternity Hospital.—Applications are invited from registered medical practitioners, male or female, for the appointment of OBSTETRIC HOUSE SURGEON (B2), including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months, otherwise it will not exceed one year. Salary at the rate of £300 per annum, plus war bonus, with full residential emoluments. The appointment is not permanent, but may, nevertheless, be determined by either party by one month's notice at any time. Applications should be sent to J. E. Richards, Town Clerk, The Guildhall, Nottingham.

CITY OF BRADFORD. Infectious Diseases Hospitals.—Applications are invited from registered medical practitioners for the post of RESIDENT ASSISTANT MEDICAL OFFICER (B2). Salary £200 per annum, with full residential emoluments. R and W practitioners holding A posts may apply, when appointment will be limited to six months, otherwise it will be for a period not exceeding one year. Applications must be received by the Medical Officer of Health, Town Hall, Bradford, not later than September 18, 1945.—N. L. Fleming, Town Clerk, Town Hall, Bradford.

CITY OF MANCHESTER. Public Health Department. ASSISTANT TUBERCULOSIS OFFICER (TEMPORARY).—Applications are invited for the position of Assistant Tuberculosis Officer (Temporary). Candidates must be registered medical practitioners having special knowledge of medical and surgical tuberculosis, and should state whether they possess the Diploma of Public Health. The commencing basic salary is £675 per annum, but three annual increments of £25 may be granted at the discretion of the Council. A temporary cost-of-living award, which at the present time is £60 per annum, is payable in addition to the foregoing salary. The appointment is subject to the Manchester Corporation conditions of service. The consent of the Minister of Health has been obtained to the making of this appointment. Although the vacancy is on the permanent assignment of staff, the appointment will be temporary for the time being, and subsequently the officer appointed will be eligible to apply for the permanent post. Attention is drawn to Ministry of Health Circulars 2818 and 2881, which require that whole-time Public Health Officers who are of military age must, before applying for any other post, first obtain the prior permission of the Minister of Health. Applications (no special form is issued), endorsed on the envelope "Assistant Tuberculosis Officer," must be addressed to the Medical Officer of Health, Town Hall, Manchester, 2, and not to members of the Committee or Council, and must be received by him not later than September 29, 1945. The gentleman appointed will be under the administrative control of the Medical Officer of Health, and the immediate control of the Senior Tuberculosis Officer. He will be required to devote the whole of his time to the duties of his position, to execute the Deed of Service, to contribute to the Corporation Superannuation Fund, and, if under the age of 30, to the Widows and Orphans Pensions Scheme. Canvassing in any form, oral or written, direct or indirect, is prohibited.—Philip B. Dingle, Town Clerk, Town Hall, Manchester, 2.

CITY OF EDINBURGH. Public Health Department. Mass Radiography Unit.—Applications are invited for the position of JUNIOR MEDICAL OFFICER, to serve in the Mass Radiography Unit of the Corporation. Candidates should preferably have had experience in mass radiography and/or in a tuberculosis department or sanatorium. By agreement with the Department of Health the appointment in the first instance will be on a temporary basis. Salary scale £500 by £25 to £700 plus war bonus at present amounting to £60 per annum. Placing on the scale in relation to the candidate's experience may be given. Candidates already in the Public Health Service will require the consent of the Secretary of State in terms of D.H.S. Circular No. 65/1943. Candidates in England and Wales will require the permission of the Minister of Health. Applications should be sent not later than October 6, 1945, to the Medical Officer of Health, Johnston Terrace, Edinburgh, 1.

CITY OF BIRMINGHAM MENTAL HOSPITAL. Winson Green, Birmingham, 18.—Applications are invited, male or female, for the post of TEMPORARY RESIDENT ASSISTANT MEDICAL OFFICER (B1). Salary £350, rising by annual increments to £450, with full residential emoluments plus £50 for the D.P.M. and war bonus £39 4s. 8d. male, £35 11s 11d. female. Suitably qualified R and W practitioners holding B2 appointments, also R practitioners holding B1 appointments and rejected by the R.A.M.C., may apply. Applications to be sent to the Medical Superintendent by September 22, 1945.

CITY OF NORWICH. Woodlands Hospital (311 beds). ASSISTANT RESIDENT MEDICAL OFFICER (B2).—Applications are invited from registered medical practitioners for the appointment of Assistant Resident Medical Officer (B2), including R and W practitioners who now hold A posts. If held by an R practitioner, the appointment will be limited to six months, otherwise it will be for a period of one year. The salary is at the rate of £250 per annum, with full residential emoluments. Further particulars of appointment to be obtained from the Senior Medical Officer, Woodlands Hospital, Bowthorpe Road, Norwich, and to whom applications should be sent.—Bernard D. Storey, Town Clerk, City Hall, Norwich.

CORPORATION OF DUNDEE. Public Health Department. Dundee Mental Hospital.—Applications are invited from registered medical practitioners for the appointment of SENIOR ASSISTANT MEDICAL OFFICER (B1). Salary is at the rate of £500 p.a., with war bonus and full residential emoluments. Suitably qualified R and W practitioners holding B2 or B1 appointments are invited to apply, but they must have obtained the sanction of the Scottish Central Medical War Committee, Edinburgh, to their application. Applications should be sent to the Medical Superintendent, Mental Hospital, Westgreen, Dundee. No married quarters are available.

IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page 10

COUNTY BOROUGH OF WEST HAM. Whipps Cross Hospital, Leytonstone, E.11 (1,300 beds).—The Council invite applications from registered medical practitioners, including those serving in H.M. Forces, for the post of MEDICAL SUPERINTENDENT of the above general hospital. In accordance with the Council's resolution the post will be designated temporary until the conclusion of the war, but if satisfactory service has been given the post will be made permanent. The consent of the Minister of Health has been obtained to the making of the appointment. The salary for the post is £1,100 per annum, together with a house valued for superannuation purposes at £100 per annum. On the publication of the revised "Askwith Scale" the Council will amend the salary in accordance with that scale. Candidates must have had both wide clinical and administrative experience, and the possession of higher degrees will be considered an advantage. Preference will be given to candidates who have held already the post of Medical Superintendent to a general hospital. The appointment will be subject to the Council's regulations as made from time to time regarding holidays, sick pay, etc., and the successful candidate will be required to pass a medical examination. Forms upon which application must be made can be obtained from the Medical Officer of Health, 223-225, Romford Road, West Ham, E.7, on receipt of a stamped addressed envelope, and returned to him not later than October 8, 1945. Canvassing members of the Council is prohibited and will disqualify.—Charles E. Cranfield, Town Clerk, Town Hall, West Ham, E.15.

COUNTY COUNCIL OF DURHAM. Holywood Hall Sanatorium, Wolsingham (183 beds).—A LOCUM TENENS is required for the post of Assistant Resident Medical Officer (B1) at the above Sanatorium. Salary, to be fixed in accordance with qualifications and experience, will be at the rate of 10 to 12 guineas per week, payable monthly, with board, residence, and laundry in addition. Suitably qualified R and W practitioners holding B2 appointments and W practitioners holding B1 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Candidates must have held hospital and sanatorium appointments, and have had practical experience in the diagnosis and treatment of tuberculosis. Practical experience in radiology is also required. The appointment will be subject to the regulations for the time being of the County Council relative to the payment of salary in the case of sickness, and will be terminable by one calendar month's notice on either side. Applications to be sent as soon as possible to the County Medical Officer of Health, Shire Hall, Durham.—J. K. Hope, Clerk of the County Council, Shire Hall, Durham

COUNTY BOROUGH OF NEWPORT. Social Welfare Committee.—Applications are invited from registered medical practitioners, male or female, for the temporary appointment of JUNIOR RESIDENT MEDICAL OFFICER (A) at Wooloston House Emergency Hospital, Newport, Mon. Salary £150 per annum, with full residential emoluments. All fees, with the exception of coroners' fees, are payable to the Social Welfare Committee. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months, otherwise twelve months. Applications should be sent at once to Tom Kay, Director of Social Welfare, Town Hall, Newport, Mon.

CITY OF CARLISLE. City General and Fusehill Emergency Hospitals, Carlisle (100 civilian beds, 200 E.M.S. and reserve beds).—Applications are invited for the following appointment: RESIDENT MEDICAL OFFICER (B1), vacant now, for the care of civilian beds. The chief duties are in the Maternity and Gynaecological Wards, and the appointment offers excellent experience of abnormal midwifery. The person appointed will also have charge of some medical and surgical wards. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless rejected by R.A.M.C. Salary at the rate of £350 per annum, plus full residential emoluments. The appointment is for six months in the first instance. Applications should be sent to the Acting Medical Officer of Health, 22, Fisher Street, Carlisle, as early as possible.

CITY AND COUNTY OF BRISTOL. Department of Public Health. ASSISTANT RESIDENT MEDICAL OFFICER.—Applications are invited from registered medical practitioners, male or female, for the immediate appointment of Assistant Resident Medical Officer (B2) at Ham Green Hospital, including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months, otherwise it will be held for a period of one year. Salary £200 per annum, plus full residential emoluments. Application forms may be obtained from the undersigned, to whom they must be returned, accompanied by copies of not more than three recent testimonials, forthwith.—R. H. Parry, Medical Officer of Health, Kenwith Lodge, Westbury Park, Bristol, 6.

CITY OF COVENTRY. Gulson Road Municipal General Hospital, Gulson Road, Coventry.—Applications are invited from male registered medical practitioners, including practitioners within three months of qualification and liable under the National Service Acts, for the appointment of JUNIOR ASSISTANT RESIDENT MEDICAL OFFICER (A) at the above hospital. The post will be for a period of six months, but terminable at any time by one month's notice. Salary will be at the rate of £250 per annum, plus war bonus and full residential emoluments. Applications should be made at once to the undersigned.—A. Massey, Medical Officer of Health, Council House, Coventry.

COUNTY BOROUGH OF IPSWICH. Borough General Hospital.—Applications are invited from registered medical practitioners, male and female, for the appointment of RESIDENT ASSISTANT MEDICAL OFFICER (B1). Applicants should have held house appointments and had medical experience. Salary at the rate of £350 per annum, plus full residential emoluments. Suitably qualified R and W practitioners holding B2 appointments, also R practitioners holding B1 appointments and rejected by the R.A.M.C., may apply. Applications to the Medical Officer of Health, Public Health Department, Elm Street, Ipswich.

KENT COUNTY COUNCIL. County Hospital, Chatham. TEMPORARY RESIDENT MEDICAL OFFICER (B2).—Applications are invited from registered medical practitioners of either sex for the above appointment, including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months, otherwise it will not exceed one year. Applicants should have held house appointments and had surgical experience. The salary is £300 a year, with full residential emoluments, plus a temporary war addition at present £29 19s 7d a year for males and £24 2s 4d for females. Applications should state age, qualifications, experience, and the names and addresses of two responsible persons to whom reference may be made as to professional ability, and should be addressed to the County Medical Officer, County Hall, Maidstone, so as to reach him by September 18, 1945.—W. L. Platts, Clerk of the County Council, County Hall, Maidstone.

KENT COUNTY COUNCIL. County Hospital, Dartford (344 beds). TEMPORARY RESIDENT MEDICAL OFFICER (A).—Applications are invited from suitably registered medical practitioners of either sex for the above appointment. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months, otherwise it will be for a period not exceeding one year. The salary is £200 a year, plus a temporary war addition of £29 19s. 7d., with full residential emoluments. Superannuation can be arranged, and the successful candidate will be required to pass a medical examination. Applications should state age, qualifications, experience, and the names and addresses of two responsible persons to whom reference may be made as to professional ability, and should be addressed to the County Medical Officer, County Hall, Maidstone, so as to reach him by September 18, 1945.— W. L. Platts, Clerk of the County Council, County Hall, Maidstone.

MIDDLESEX COUNTY COUNCIL.—TEMPORARY ASSISTANT MEDICAL OFFICER (B1), male, required at NAPSBURY MENTAL HOSPITAL, Nr. St. Albans, Herts. Salary £440 to £510 p.a., plus war bonus according to qualifications and experience, with board, lodging, laundry and attendance. In addition £50 p.a. is paid for D.P.M. Suitably qualified R practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Applications to the Medical Superintendent, "Z."—C. W. Radcliffe, Clerk of the County Council, Middlesex Guildhall, Westminster, S.W.1.

SURREY COUNTY COUNCIL. St. Luke's Hospital, Guildford (500-600 beds). WHOLE-TIME PATHOLOGIST.—Applications are invited from suitably qualified practitioners, male and female, for the appointment of Whole-time Pathologist to the St. Luke's Hospital, Guildford (which includes the large E.M.S. Radiotherapy Unit). Applicants should have had wide pathological experience and be of senior standing in the profession. The person appointed will be in charge of the work of the Pathological Laboratory at the hospital, where there are at present two Technicians employed, and will be required to perform all autopsies. The appointment will be temporary and subject to three months' notice on either side, but any Local Government Superannuation rights will be preserved. The permanent appointment will be re-advertised later in order to give doctors at present serving with H.M. Forces an opportunity to apply after their discharge. Commencing salary according to experience on the grade £1,000 by £50 to £1,500 p.a. Apply to the County Medical Officer, County Hall, Kingston-upon-Thames, by October 15, 1945. This temporary appointment is advertised by permission of the Ministry of Health.

SURREY COUNTY COUNCIL. St. Helier County Hospital, Carshalton (862 beds). CASUALTY OFFICER (B2).—Applications are invited from registered medical practitioners, male or female, for the above appointment, including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months, otherwise it will not exceed one year. Previous experience in E.N.T. work desirable. Salary is at the rate of £250 p.a., plus war bonus, plus full residential emoluments.

Applications are also invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A), including practitioners within three months of qualification who are liable under the National Service Acts. If held by a practitioner who is liable under these Acts, the appointment will be for a period of six months, otherwise it will be for a period not exceeding one year. Salary is at the rate of £120 p.a. plus residential emoluments.

Apply to the Medical Superintendent.

SURREY COUNTY COUNCIL. Farnham County Hospital, Hale Road, Farnham (230 beds).—Applications are invited from registered medical practitioners for the appointment of RESIDENT ASSISTANT MEDICAL OFFICER (B1) to the above general hospital. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Applicants must have had previous surgical experience, preferably including orthopaedic work. The appointment will be on the Council's temporary staff and subject to one month's notice on either side, but any Local Government Superannuation rights will be preserved. Salary at the rate of £550 p.a., plus war bonus, plus full residential emoluments. Apply to the Medical Superintendent by September 20, 1945.

SURREY COUNTY COUNCIL. Epsom County Hospital, Dorking Road, Epsom (350 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of ASSISTANT MEDICAL OFFICER (B2), including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months, otherwise it will not exceed one year. Applicants must have held house appointment, with general experience, and should be capable of administering anaesthetics. Salary at the rate of £250 p.a., plus full residential emoluments and war bonus. Apply to the Medical Superintendent at the hospital by September 12, 1945.

STAFFORDSHIRE MENTAL HOSPITALS BOARD. County Mental Hospital, Burntwood, Near Lichfield. MEDICAL SUPERINTENDENT.—The Staffordshire Mental Hospitals Board invite applications for the permanent post of Medical Superintendent of the County Mental Hospital at Burntwood, near Lichfield, from duly registered male medical practitioners, who must hold the Diploma in Psychological Medicine. Applicants must be experienced in the treatment of all mental disorders and capable of controlling and administering a large mental hospital. The successful candidate must devote his whole time to the performance of his duties as Medical Superintendent, including attendance at out-patient clinics as may be required, and must not engage in any professional or other business or employment other than that of the Hospital, except with the approval of the Visiting Committtee of the Hospital, and all fees received are to be paid over to the Board. He will be required to own a car, for which he will be paid an approved mileage allowance in respect of journeys necessarily performed in the carrying out of his duties. Salary £1,400 per annum, rising by four annual increments of £50 to a maximum of £1,600 per annum, together with emoluments valued at £100 per annum, consisting only of an unfurnished house, rent and rates free. The appointment will be subject to the provisions of the Asylums Officers' Superannuation Act, 1909, and to three months' notice on either side. Applications, endorsed "Medical Superintendent, Burntwood Mental Hospital," must be received by me the undersigned not later than Friday, January 4, 1946. Candidates must state whether they are related to any member of the Mental Hospitals Board, and canvassing, directly or indirectly, will be a disqualification.—T. H. Evans, Clerk to the Mental Hospitals Board, County Buildings, Stafford.

WILTS COUNTY COUNCIL. County and Emergency Hospital, Stratton St. Margaret, nr. Swindon (300 beds). JUNIOR SURGICAL OFFICER (B1).—Applications are invited from registered medical practitioners for the appointment of Junior Surgical Officer (B1), male, now vacant. Applicants should have held house appointments, with some experience in anaesthetics. Suitably qualified R practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £350 per annum, with usual residential emoluments. Applications should be sent to the County Medical Officer, County Hall, Trowbridge, as soon as possible.

IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page 10

AMENDED ADVERTISEMENT.

BOROUGH OF WIMBLEDON. TEMPORARY ASSISTANT MEDICAL OFFICER.—Applications are invited from suitably qualified persons, men or women, for the above appointment. Candidates already holding a whole-time Public Health appointment under a local authority are not eligible. The successful candidate will also be required to carry out the duties of an Assistant School Medical Officer in the Borough of Wimbledon, for which area the County Council are the responsible authority. The commencing salary will be between £650 and £700 per annum, according to qualifications and experience. A car allowance at the rate of £75 per annum will be paid in addition. Further particulars and forms of application may be obtained from the Medical Officer of Health, to whom applications should be returned by first post on Monday, September 17, 1945.—Edwin M. Neave, Town Clerk, Town Hall, Wimbledon, S.W.19.

LANCASHIRE COUNTY COUNCIL. Jericho Hospital, Bury. RESIDENT MEDICAL OFFICER (B1).—Applications are invited from registered medical practitioners for the above appointment. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £350 per annum, together with a cost-of-living bonus and the usual residential emoluments. The appointment is subject to medical examination and is superannuable. Forms of application from the County Medical Officer of Health, Hospital and Medical Department, County Offices, Preston, to whom all applications must be forwarded to arrive not later than Monday, September 17, 1945.—R. H. Adcock, Clerk of the County Council, County Offices, Preston.

LANCASHIRE COUNTY COUNCIL. Lake Hospital and Darnton House, Ashton-under-Lyne. RESIDENT MEDICAL OFFICER (B2).—Applications are invited from registered medical practitioners, male and female, for the above appointment, including R and W practitioners who now hold A posts. If the successful applicant is an R practitioner the appointment will be limited to six months, otherwise it may be renewed for a further period of six months. Salary is at the rate of £250 per annum, together with the usual residential emoluments. Forms of application from the County Medical Officer of Health, Hospital and Medical Department, County Offices, Preston, to whom all applications must be forwarded to arrive not later than Monday, September 17, 1945.—R. H. Adcock, Clerk of the County Council, County Offices, Preston.

ABERDEEN MATERNITY HOSPITAL. TWO RESIDENT HOUSE SURGEONS (B2).—Applications are invited from registered medical practitioners, male or female, for two appointments of Resident House Surgeons (B2), to become vacant on October 5, 1945, including R and W practitioners who now hold A posts. The appointments will be limited to six months. The salary is at the rate of £75 per annum if no previous experience, £100 per annum with previous experience, with full residential emoluments. Applications should be sent to the undersigned not later than September 22. R or W practitioners must have obtained the sanction of the Scottish Central Medical War Committee to their application.—Watt & Cumine, Secretaries, 8, Golden Square, Aberdeen.

ALTRINCHAM GENERAL HOSPITAL (100 beds), Nr. Manchester.—Applications are invited for the appointment of RESIDENT SURGICAL OFFICER (B1). The post offers considerable scope in operative surgery, and the holder must have had experience to enable him to undertake the work. Salary £250 p.a., with full residential emoluments. Suitably qualified R practitioners holding B2 appointments, those holding B1 appointments and rejected by the R.A.M.C., and those discharged from the Forces may apply. Applications to General Superintendent.

BRISTOL ROYAL HOSPITAL (Incorporating the Bristol Royal Infirmary and Bristol General Hospital).—Applications are invited for the post of CASUALTY OFFICER (B1). Salary at the rate of £150 per annum. War bonus at the rate of £20 per annum will also be paid, with full residential emoluments. R and W practitioners holding B2 posts may apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Applications to be made on application forms to be obtained from Ellis C. Smith, F.C.I.S., Secretary and House Governor, Bristol Royal Infirmary.

THE CORBETT HOSPITAL, Stourbridge, Worcs. (106 beds and special departments).—Applications are invited from registered medical practitioners for the appointment of RESIDENT HOUSE PHYSICIAN (A), which becomes vacant on November 1, 1945, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary is at the rate of £175 per annum, with full residential emoluments. Applications should be sent to the undersigned forthwith.—W. G. H. Weston, House Governor and Secretary.

BURTON-ON-TRENT GENERAL INFIRMARY (200 beds normal).—Applications are invited from registered medical practitioners for the appointment of CASUALTY OFFICER AND HOUSE SURGEON (A). Salary at the rate of £200, with the usual residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months. Applications to be sent to the Secretary-Superintendent.

BRADFORD ROYAL INFIRMARY.—Applications are invited from registered medical practitioners, male, single, for the following appointment: HOUSE SURGEON (B2), vacant October 1, 1945. Six months' appointment. R practitioners now holding A posts may apply. Salary £150 per annum, with full residential emoluments. There are 372 beds and eight resident officers. Applications should be sent immediately to H. Trusson, House Governor and Secretary.

BARNSLEY HALL EMERGENCY HOSPITAL, Bromsgrove, Worcestershire.—Applications are invited from registered medical practitioners for the appointment of two B2 OFFICERS, one for Orthopaedics, and one for Medical and Neurological cases. Salary £200 per annum. If held by R or W practitioner the appointment will be limited to six months, otherwise it will be extended to a period not exceeding one year. Full residential emoluments provided. Apply to Medical Supt.

CHELMSFORD AND ESSEX HOSPITAL, London Road, Chelmsford, Essex (186 beds).—Applications are invited for the post of HOUSE SURGEON (A), male or female, to commence at once. Salary £175 per annum, plus board, lodging, and laundry. Apply to the undersigned. Practitioners within three months of qualification who are liable to service under the National Service Acts may apply, when appointment will be for a period of six months.—R. G. Morrish, House Governor and Secretary.

CHILDREN'S HOSPITAL, SHEFFIELD (Inc.) (157 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A), now vacant. Salary at the rate of £100 per annum, including full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months. Applications should be sent to the undersigned. The successful applicant must be a member of a Medical Defence Society.—T. H. G Gartland, Superintendent and Secretary.

CLAYTON HOSPITAL, Wakefield.—Applications are invited immediately from registered medical practitioners for the following appointment: RESIDENT ORTHOPAEDIC OFFICER with Casualty Duties (B2), male. Salary £200 per annum, with full residential emoluments. R practitioners who now hold A posts may apply, when appointment will be limited to six months, otherwise it may be extended for a further period. Applications should be sent to the undersigned as soon as possible.—W. Read, Superintendent and Secretary.

CHARING CROSS HOSPITAL. PHYSICIAN TO CHILDREN'S DEPARTMENT.—The Council invite applications for the post of Physician to the Children's Department. Practitioners serving in H.M. Forces are invited to apply. Candidates, who must be Members of the Royal College of Physicians of London, should send in their applications to the undersigned not later than Tuesday, January 1, 1946.—George J Jones, Secretary, Charing Cross Hospital.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Judd Street, St. Pancras, London, W.C.1.—Applications are invited from registered medical practitioners, including R and W practitioners who now hold A posts, for the position of JUNIOR HOUSE SURGEON (B2). Salary £150 per annum, with full residential emoluments. If held by an R practitioner appointment will be limited to six months, otherwise renewable. Applications should be sent to the undersigned not later than September 20. The successful applicant must be a member of a Medical Defence Society.—W. Merrill, Secretary

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CAMERON HOSPITAL, West Hartlepool (86 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A). Duties to commence as soon as possible. Salary at the rate of £200 p.a., with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months. Applications should be sent as soon as possible to Miss P. M. Betts, Secretary.

CAMBORNE-REDRUTH MINERS' AND GENERAL HOSPITAL, Redruth.—Applications are invited from registered medical practitioners male and female, for the appointment of HOUSE SURGEON (A), vacant October 19, 1945. Salary at the rate of £200 p.a., with the usual residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months. Applications to be addressed to J. C. Field, Secretary-Superintendent, Redruth.

CORNELIA AND EAST DORSET HOSPITAL, Poole, Dorset (204 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of SENIOR HOUSE SURGEON (B1), for immediate appointment. Applicants should have held house appointments and had major surgical experience. This hospital is recognized by the Royal College of Surgeons. Suitably qualified R practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by R.A.M.C. Salary is at commencing rate of £300 per annum, or according to qualifications, with full residential emoluments. The appointment will be for 12 months, with possible renewal.—E. A. Hart, Secretary.

DERBYSHIRE ROYAL INFIRMARY, Derby (Voluntary Hospital, 416 beds plus 115 E.M.S.).—Applications are invited from registered medical practitioners, male or female, for the appointment of ACCIDENT AND CASUALTY OFFICER (A). Duties will be in the Casualty Department, Hand Clinic, and Accident Wards. The position is now vacant. Salary is at the rate of £200 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when the appointment will be for a period of six months. Applications should be sent as soon as possible.—Arthur Taylor, Superintendent and Secretary.

DREADNOUGHT SEAMEN'S HOSPITAL, Greenwich.—Applications are invited for the post of TEMPORARY WARTIME CLINICAL ASSISTANT for E.N.T. Department. One weekly session at the rate of two guineas per session. Applications to be sent to the undersigned.—F. A. Lyon, Administrator and Secretary.

EAST SURREY HOSPITAL, Redhill, Surrey.—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (A), vacant September 24, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by practitioner liable under these Acts, appointment will be for six months only. Salary £150 per annum with full residential emoluments. Application to be sent to the undersigned.—E. C. Ayling, Secretary.

GLASGOW ROYAL INFIRMARY.—Applications are invited from registered medical practitioners for the post of RESIDENT MEDICAL OFFICER at Canniesburn Auxiliary Hospital (B1) (full-time). Applicants with previous hospital resident experience preferred. Salary £200 per annum, with board, lodging and laundry. Suitably qualified R and W practitioners holding B2 or B1 appointments are invited to apply, but they must have obtained the sanction of the Scottish Central Medical War Committee to their application. Particulars as to duties, etc., may be obtained from the Superintendent, Glasgow Royal Infirmary, 84, Castle Street, Glasgow, C.4. Applications to be lodged with the undersigned. No canvassing.—R. Morrison Smith, C.A., F.H.A., Secretary and Cashier, Glasgow Royal Infirmary. Office: 135, Buchanan Street, Glasgow, C.1.

GUEST HOSPITAL, Dudley. (The resident staff consists of a Resident Surgical Officer and three House Surgeons.)—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (B2), now vacant, including R and W practitioners who now hold A posts. If held by an R or a W practitioner the appointment will be limited to six months. Salary at the rate of £200 per annum, with full residential emoluments.—H. Raymond Hurst, House Governor and Secretary.

HULL ROYAL INFIRMARY.—Applications are invited from registered medical practitioners for the appointment of RESIDENT SURGICAL OFFICER (B1), vacant September. Preference will be given to candidates holding Diploma of F.R.C.S. Suitably qualified R practitioners holding B2 appointments, also those holding B1 and rejected by R.A.M.C., may apply. The holder of the post will be required also to undertake temporarily the duties of Senior House Surgeon. Salary £250 per annum, with full residential emoluments. Applications to R. J. Carless, House Governor.

HOSPITAL FOR SICK CHILDREN, Newcastle-upon-Tyne.—Applications are invited from registered medical practitioners, male and female, for the appointment of a HOUSE PHYSICIAN (B2), to become vacant on or about November 1, 1945, including R and W practitioners who now hold A posts. The appointment will be for a period of six months. Salary is at the rate of £150 per annum, with full residential emoluments. Applications to be sent to J. B. Cairncross, C.A., House Governor and Secretary.

HULL ROYAL INFIRMARY.—Applications are invited for the post of ORTHOPAEDIC HOUSE SURGEON (B2). Suitably qualified R and W practitioners who now hold A posts may apply. If held by an R practitioner the appointment will be limited to six months. Salary £200 per annum, with full residential emoluments. Applications to R. J. Carless, House Governor.

IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page 10

HUDDERSFIELD ROYAL INFIRMARY (321 beds).—Applications are invited, for the post of RESIDENT SURGICAL OFFICER (B1). Applicants should have held house appointments, and preference will be given to candidates holding diploma of F.R.C.S. Salary at the rate of £350 per annum, with full residential emoluments. Suitably qualified R and W practitioners holding B2 appointments, and also R practitioners holding B1 appointments and rejected by the R.A.M.C., may apply.

CASUALTY OFFICER (B2) required, to commence immediately. R and W practitioners who now hold A posts may apply. If held by an R or W practitioner appointment will be limited to six months. Salary at the rate of £200, with full residential emoluments.

Applications for each post to be sent to the undersigned as soon as possible.—H. J. Johnson, General Superintendent and Secretary.

HOVE GENERAL HOSPITAL.—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (B2). Salary at the rate of £200 to £250 per annum, according to experience, with full residential emoluments. R and W practitioners who now hold A posts may apply, when appointment will be limited to six months, otherwise may be extended. Applications should reach the undersigned as soon as possible, stating when free.—J. V. Roe, Secretary-Superintendent.

HUNTINGDON COUNTY HOSPITAL (76 beds).—Wanted, middle of September, HOUSE SURGEON (A), good anaestheist, salary £250 p.a., with board, lodging, and laundry. Practitioners within three months of qualification may apply, when appointment will be for a period of six months. Apply to Medical Superintendent.

LORD MAYOR TRELOAR CRIPPLES' HOSPITAL AND COLLEGE, Alton and Hayling Island, Hants (400 beds).—Applications are invited for the post of Resident MEDICAL SUPERINTENDENT of the above hospital. Candidates should be under the age of 45 and must have senior surgical qualifications and should be experienced in orthopaedic work. Salary £1,500 to £2,000, according to experience, house, lighting and fuel provided. Applicants, including those serving in H.M. Forces, are invited to write to the Secretary by December 31, 1945.

LUTON AND DUNSTABLE HOSPITAL. (Fracture A Hospital—214 beds). HOUSE SURGEON (A) to the Accident Service.—Applications are invited from registered medical practitioners for the above appointment, vacant October 1, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner liable under these Acts appointment will be for a period of six months. Salary will be at the rate of £175 per annum, with full residential emoluments. Applications should be sent to the undersigned not later than September 15, 1945.—R. E. Lingard, Secretary.

LONDON JEWISH HOSPITAL, Stepney Green, E.1 (E.M.S. Sector II.).—Applications are invited from registered medical practitioners, male and female, for the appointment of RESIDENT HOUSE OFFICER (A) (duties of House Physician, House Surgeon, and Casualty Officer), now vacant, including practitioners within three months of qualification, who are liable for service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months, otherwise it will be for a period of at least six months. Salary is at the rate of £150 per annum, with full residential emoluments.

LEEDS PUBLIC DISPENSARY AND HOSPITAL.—Applications are invited from registered medical practitioners for the appointment of HOUSE PHYSICIAN (A), to include Casualty duties. Appointment for six months. Salary at the rate of £150 p.a., with board, residence, and laundry. Practitioners within three months of qualification and liable under the National Service Acts may also apply. Applications to be addressed to Charles F. J. Maury, Secretary and Superintendent.

LIVERPOOL EYE, EAR, AND THROAT INFIRMARY.—Applications are invited from registered medical practitioners, male or female, for the appointment as HOUSE SURGEON to the Aural and Laryngological Department (B2), now vacant, including R practitioners who now hold A posts. The appointment is for a period of six months, and salary is at the rate of £126 per annum, with full residential emoluments. This post is recognized for D.O.M.A. and D.L.O examinations. Applications to be sent to George Nickson, Secretary-Superintendent.

LONGTON HOSPITAL, Stoke-on-Trent, Staffs. HOUSE SURGEON (A).—Applications are invited from registered medical practitioners, male and female, for the appointment of House Surgeon (A), including practitioners within three months of qualification who are liable under the National Service Acts. If held by a practitioner who is liable under these Acts the appointment will be for a period of six months. Salary is at the rate of £200 per annum, plus bonus of £75 on completion of the first six months' service, with full residential emoluments. Applications to B. Pitt, Secretary

IMPORTANT NOTICE

APPOINTMENTS

Medical practitioners are requested **not to apply** for any appointment referred to in this notice without first having communicated with the Secretary to the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of the Australian appointment, with the Secretary at B.M.A. House, or the Hon. Secretary, Western Australian Branch Shell House, 205, St. George's Terrace, Perth)

GOVERNMENT SERVICE

COMMISSIONER OF PUBLIC HEALTH, Perth Western Australia.

CONTRACT PRACTICE

ABERTYSSWG MEDICAL AID SOCIETY.—*(Medical Officer.)*

LLWYNYPIA, CLYDACH VALE, PEN-Y-GRAIG GLAMORGAN.—*(Workmen's Medical Scheme.)*

MID-RHONDDA MEDICAL AID SOCIETY.—*(Assistant Medical Officer.)*

NEATH AND DISTRICT.—*(Medical Aid Association.)*

OGMORE VALLEY, GLAMORGAN.—*(Wyndham Colliery Medical Aid Society) (Workmen's Medical Scheme.)*

PUBLIC ASSISTANCE

CITY AND COUNTY OF BRISTOL PUBLIC ASSISTANCE COMMITTEE.—*(District Medical Officer.)*

MENTAL HOSPITAL SERVICE

ROXBURGH DISTRICT MENTAL HOSPITAL, MELROSE.—*(Medical Superintendent).*

SOMERSET AND BATH MENTAL HOSPITAL, COTFORD.—*(Medical Superintendent and Deputy Medical Superintendent.)*

By Order of the Council,

CHARLES HILL
Secretary.

September 4, 1945.

LIVERPOOL MATERNITY HOSPITAL, Oxford Street, Liverpool.—Applications are invited from registered medical practitioners, male or female, for the appointment of two HOUSE SURGEONS (B2), to become vacant on October 1 next, including R and W practitioners who now hold A posts. If held by R or W practitioners the appointments will be limited to six months, otherwise they may be extended. Salary is at the rate of £90 per annum, with full residential emoluments. Membership of a Medical Defence Society is a condition of appointment. Applications should be addressed to the Honorary Secretary of the Medical Board at the Hospital as above not later than September 20.

MERTHYR GENERAL HOSPITAL (115 beds).—Applications are invited from registered medical practitioners for the appointment of a RESIDENT HOUSE SURGEON, male or female (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. The appointment will be for a period of six months. Salary at the rate of £200 per annum, with board and lodging.—Applications to the Secretary, Merthyr General Hospital, Merthyr Tydfil.

NUNEATON GENERAL HOSPITAL (Voluntary Hospital) (104 beds). HOUSE SURGEON (CASUALTY) (A).—Applications are invited from registered medical practitioners, male and female, for the appointment of House Surgeon (A), which is now vacant, including practitioners within three months of qualification who are liable to service under the National Service Acts. The appointment will be for a period of six months. Salary is at the rate of £200 per annum, with full residential emoluments. Applications should be addressed to Douglas S. Pracy, Honorary Secretary, Medical Board.

NORTH DEVON INFIRMARY, Barnstaple (95 beds).—Applications are invited from registered medical practitioners for the post of JUNIOR RESIDENT MEDICAL OFFICER (A) (woman), vacant immediately. Practitioners within three months of qualification and liable to service under the National Service Acts may also apply, when appointment will be for six months. Salary is at the rate of £170 per annum, with full residential emoluments. Applications with full particulars to A. W. Bond, Secretary.

NATIONAL TEMPERANCE HOSPITAL, Hampstead Road, N.W.1.—Applications are invited for the post of CASUALTY OFFICER (A) under the E.M.S. The appointment is for a period of six months, commencing October 1. Salary £150 per annum, with board, residence, and laundry allowance. Applications by September 12, addressed to the Secretary.

NORTHUMBERLAND HOUSE, Finsbury Park, N.4.—Applications are invited for the post of ASSISTANT MEDICAL OFFICER (B1), to the private mental hospital, male or female. Salary £400 per annum, with full residential emoluments. R and W practitioners now holding B2 posts may apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Applications to Medical Superintendent.

NOTTINGHAM CHILDREN'S HOSPITAL.—Applications are invited from registered medical practitioners for the appointment of RESIDENT HOUSE PHYSICIAN (B1), woman, to become vacant on November 1, 1945. Applicants should have held house appointments, and suitably qualified W practitioners holding B2 appointments are invited to apply. Salary is at the rate of £220 per annum, with apartments, board, and laundry, and the appointment is for six months. Applications to be sent to the Honorary Secretary, 1, King John's Chambers, Nottingham, on or before September 18, 1945. Selected candidates will be required to attend at the Hospital for a personal interview.

NEW SUSSEX HOSPITAL FOR WOMEN, Windlesham Road, Brighton.—Applications are invited from registered medical practitioners, female, including W practitioners who now hold A posts, for the appointment of a HOUSE SURGEON (B2), to become vacant in the middle of October. The appointment is for a period of six months. Salary at the rate of £150 per annum, with full residential emoluments.

Applications are also invited from registered medical women for the posts of HON. CLINICAL ASSISTANTS to the Out-patients Department as follows: Surgical. Tuesday evenings. Gynaecological Thursday afternoons

Applications for each post to be sent as soon as possible to Mr. P. F. Spooner, Secretary

NEWBURY DISTRICT HOSPITAL. HOUSE SURGEON (A).—Applications are invited from registered medical practitioners, male and female, for the appointment of a House Surgeon (A), to become vacant at once, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months, otherwise it will be for an indefinite period. Salary is at the rate of £150 per annum, with full residential emoluments. Applications should be addressed to the Secretary.

NOTTINGHAM GENERAL HOSPITAL (712 beds, including E.M.S. beds).—Applications are invited from registered medical practitioners, male and female, including practitioners within three months of qualification who are liable to service under the National Service Acts, for the appointment of a RESIDENT CASUALTY OFFICER (A) for the above hospital. Duties to commence immediately. If held by a practitioner who is liable under these Acts appointment will be for a period of six months. Salary at the rate of £200 per annum, with full residential emoluments. Applications to be sent to the undersigned.—Henry M. Stanley, House Governor and Secretary.

NORTHAMPTON GENERAL HOSPITAL (408 beds).—Applications are invited immediately from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A). Salary at rate of £150 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointments will be for a period of six months. Applications should be sent to Gordon S. Sturtridge.

NOTTINGHAM HOSPITAL FOR WOMEN (110 beds, including private wards. Annexe for 28 patients on outskirts of town).—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (B2), to become vacant in October. Some experience of gynaecology and obstetrics is desirable. R and W practitioners who now hold A posts may apply. The appointment will be for six months. Salary at the rate of £225 per annum. Applications to be sent as soon as possible to the Secretary, Miss R. H. Tweedie.

PETERBOROUGH AND DISTRICT MEMORIAL HOSPITAL (154 normal beds, E.M.S. 75—total 229), RESIDENT SURGICAL OFFICER (B1).—Applications are invited for the post of RESIDENT SURGICAL OFFICER (B1), now vacant. Salary at the rate of £350 per annum, with board and lodging. Suitably qualified R and W practitioners holding B2 posts, also those holding B1 posts and rejected by the R.A.M.C., may apply.—Applications should be sent immediately to F. A. C. Taylor, House Governor and Secretary.

PRINCESS LOUISE KENSINGTON HOSPITAL FOR CHILDREN. RESIDENT MEDICAL OFFICER (B2).—Applications are invited from registered medical practitioners, male and female, for the appointment of Resident Medical Officer (B2), wanted immediately, including R and W practitioners who now hold A posts. If held by an R or W practitioner the appointment will be limited to six months The salary is at the rate of £200 p.a., with full residential emoluments.—F. Hart, Secretary, St. Quintin Avenue, N. Kensington, W.10.

ROYAL VICTORIA HOSPITAL, Dover (65 beds).—Applications are invited from registered medical practitioners, male or female, including practitioners within three months of qualification and liable under the National Service Acts, for the appointment of HOUSE SURGEON (A). Salary at the rate of £200 p.a. Appointment will be for a period of six months. Applications to be sent to the Secretary.

(Continued on page 16)

CHARGES FOR CLASSIFIED ADVERTISEMENTS

Circulation 54,500

Advertisements should reach the Advertisement Manager not later than the THURSDAY, ten clear days before publication

Cancellation cannot be accepted after 10 m MONDAY for current week's issue

To economize in accounting, postage and collection, **all advertisements should be paid for at time of order.** Publication will be in the earliest possible issue, but delay is unavoidable in present circumstances.

1 TO MEMBERS OF THE ASSOCIATION the cost of advertisements for Assistants, Dispensers, Locums, Partnerships, *Practices, Secretaries, is ten shillings for 24 words, including name and address. When a Box Number is used, it must be reckoned as six of the total number of words in each advertisement.

1s. *extra* should be added for each insertion to cover the Box fee and postage of replies

Additional words 2s. 6d for every six or part

Please mark advertisements clearly, *MEMBER.*

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1s *extra* should be added for each insertion to cover the Box fee and postage of replies

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* SALE OF PRACTICE. The name and address of owner and of the firm negotiating the sale must accompany the advertisement These details are not for publication.

3 Consulting rooms, Dietetic, Duplicating Hotels Houses, Miscellaneous, Motor Cars, Typing, the charge is same as para. 2.

Personal, Notices, University and Industrial Appointments, minimum charge is 20s. for 24 words, including name and address. When a Box Number is used, it must be reckoned as six of the total number of words in each advertisement

1s. *extra* should be added for each insertion to cover the Box fee and postage of replies

Additional words 5s for every six or less

Educational, Hospitals, Public Health Appointments 3s a line, minimum charge 15s.

Births, Marriages, and Deaths.—The charge for an insertion under this head is 10s 6d. for 18 words or less. Extra words 3s. 6d. for each six or less Payment should be forwarded with the notice, authenticated by the name and permanent address of the sender.

BOX NUMBERS.—A Box number is used in place of name and address to conceal identity of advertiser. In no circumstances will this information be divulged by this office. Separate applications should be written to each, addressed Box—, c/o B.M.J. (address as below) All applications are forwarded to the advertiser in plain closed envelopes

TRADE ANNOUNCEMENTS. 20s minimum 24 words Extra words 5s for six or less

Every effort is made to ensure the accuracy of advertisements appearing in the Journal. No recommendation is implied by acceptance, and the British Medical Association reserves the right to refuse or interrupt the insertion of any advertisement.

Advertisement Manager, British Medical Journal,
B M A House, Tavistock Square, London. W C 1
Telephone: Euston 2111.
Telegrams: Articulate, Westcent, London.

APPOINTMENTS—Hospitals and Public Health, commence at page 10

NOTICES

APPLICANTS ARE ADVISED not to send original testimonials when replying to advertisements. Copies will answer the purpose quite as well, and in the event of their being lost or mislaid no inconvenience will ensue.

EXPORT to Czechoslovakia.—Chemist experts require COMMUNICATE with MANUFACTURERS or exporters of medical drugs, organic preparation, fine chemical products, oils, etc.—Write to Box 1853, B.M.J.

NATIONAL UNIVERSITY OF IRELAND APPOINTMENTS COMMITTEE can recommend a limited number of suitably qualified Medical Graduates as Locum Tenentes, Assistants, or House Surgeons. Medical men or Hospitals who require such services should apply, giving full particulars to the Secretary, Appointments Committee, N.U.I., 86. St. Stephen's Green, Dublin. Telephone 51793.

THE FACT THAT GOODS made of raw materials in short supply owing to war conditions are advertised in this Journal should not be taken as an indication that they are necessarily available for **export.**

ST. GEORGE'S HOSPITAL, S.W.1. DEPARTMENT OF RADIOTHERAPY.—The Committee of St. George's Hospital, Hyde Park Corner, London, S.W.1, regret that, pending the rebuilding of the Hospital, it is necessary, owing to lack of accommodation, to close the Radiotherapy Department on December 31 next, and that new patients for treatment in that Department cannot be accepted after November 1, 1945.—William E. Hall, Secretary and Accountant.

THE MIDDLESEX HOSPITAL MEDICAL SCHOOL has decided to resume their Annual Dinner for past and present students, which was so successful before the war, and arrangements have been made to hold the Dinner this year on September 28, 7 for 7.30 p.m., at the Savoy Hotel. The Dean suggests that early application for places should be made to the Medical School Secretary, in order to assist him in making the necessary arrangements, as the number of seats is limited. Tickets will cost 22/6 (exclusive of wine).

PERSONAL

RESIDENT PATIENT received doctor's house, North-West coastal resort, good accommodation, delightful garden, garage, 12 guineas weekly, inclusive.—Box 1663, B.M.J.

STUDENT SEEKS ACCOMMODATION as PAYING GUEST, preferably in doctor's house, within half-hour's journey of Mornington Crescent Tube.—Box 1922, B.M.J.

WILL DOCTOR ACCEPT London University student—chronic coeliac case—as PAYING GUEST. —Write Hearn, Ireby, Beechwood Road, Beaconsfield.

UNIVERSITY AND INDUSTRIAL APPOINTMENTS

EXAMINING SURGEONS: FACTORIES ACT, 1937.—The following appointments as Examining Surgeon under the Factories Act, 1937, are vacant; Castle Cary in the County of Somerset; Warboys in the County of Huntingdon; Bromyard in the County of Hereford Applications, which should be received not later than October 1, should be sent to the Chief Inspector of Factories, 8, St. James's Square, London, S.W.1.

LONDON COUNTY COUNCIL. Consultant and Specialist Services. ALLERGIST.—Applications are invited for appointment to the position of temporary part-time Consultant Allergist for service as required in the Council's general and special hospitals. Fees 2½ guineas a session of approximately 2½ hours' duration (5 guineas a session or 7½ guineas for two sessions on the same day at certain hospitals on the London outskirts or outside the County of London. Application forms containing further particulars of duties and conditions of service obtainable (stamped addressed foolscap envelope necessary) from the Medical Officer of Health (S.D.6.), County Hall, London, S.E.1, returnable by September 28, 1945. Canvassing disqualifies.

UNIVERSITY OF ABERDEEN. LECTURESHIP IN MIDWIFERY AND GYNAECOLOGY.—Applications are invited for the post of temporary full-time Lecturer in Midwifery in the University of Aberdeen, with duties in the Aberdeen Royal Infirmary, the Aberdeen Maternity Hospital, and the Ante-natal Annexe. The salary will be £650 Preference will be given to men on Service. Persons desirous of being considered for the office are requested to lodge their names with the Secretary to the University by September 30, 1945. The conditions of appointment may be obtained from the undersigned. —H. J. Butchart, Secretary, The University, Aberdeen.

EDUCATIONAL

F.R.C.S.(EDIN.)

POSTAL AND ORAL COURSES continued as usual. Full details.—H. C. Orrin, F.R.C.S., Surgeons' Hall, Edinburgh.

ANAESTHETIC COURSE, October 8 to 20. Demonstration and/or lectures daily, various London hospitals. Apply Fellowship of Postgraduate Medicine, 1 Wimpole Street, London, W.1. Langham 4266.

CHILDREN'S DISEASES WEEK-END COURSE, for general practitioners. Saturday and Sunday, September 29 and 30, at Princess Louise Kensington Hospital for Children. Apply Fellowship of Postgraduate Medicine, 1, Wimpole Street, London, W.1. Langham 4266.

DIPLOMA IN PUBLIC HEALTH. THE ROYAL INSTITUTE OF PUBLIC HEALTH AND HYGIENE.—The Course of Instruction may be commenced at any time. A prospectus and full particulars can be obtained from the Secretary, 28, Portland Place, London, W.1. Telephone: LANGham 2731-2.

GUY'S HOSPITAL MEDICAL SCHOOL. FINAL F.R.C.S. COURSE—A short intensified course of instruction extending over a period of 5 weeks in preparation for the final F.R.C.S. examination to be held in November, 1945, will commence on Monday, September 24. The fee for the course is 18 guineas. Vacancies are limited, and applications should be made immediately to the Dean, Guy's Hospital Medical School, London Bridge, S.E.1.

L.M.S.S.A. FINAL EXAMINATIONS. Surgery, Nov. 12, Dec. 10, Jan. 14. Medicine, Pathology, Nov. 19, Dec. 17, Jan. 21. Midwifery, Nov. 20, Dec. 18, Jan. 22.—For particulars apply Registrar, Apothecaries Hall, Black Friars Lane, E.C.4.

MEDICAL CORRESPONDENCE COLLEGE, 19, Welbeck Street, London, W.1, provides Coaching for all Medical Examinations: D.A., D.P.M., D.O.M.S., D.L.O., D.C.H., D.M.R.D., and D.M.R.T., M.R.C.P., F.R.C.S., M.D. thesis, and all qualifying exams, by a staff of highly qualified Tutors, Honoursmen, and Gold Medallists. Complete Guide to Medical Examinations sent free on application. Applicants should state in which qualification they are interested.

NORTH-EAST LONDON POSTGRADUATE COLLEGE AND UNDERGRADUATE REVISION WORK. Prince of Wales's General Hospital, N.15.—Particulars from J. Browning Alexander, M.D., F.R.C.P., Dean.

TUBERCULOSIS EDUCATIONAL INSTITUTE. REFRESHER COURSE FOR DOCTORS on Childhood Tuberculosis, London School of Hygiene, Keppel Street, W.C.1, September 24 to 28, 1945. Fee, 4 gns. Number limited. Particulars from Dr. Harley Williams, Tavistock House, W.C.1.

POSTAL COACHING for all Medical Examinations. Some successes from 1901-1944. M.D.Lond., 440; M.B., B.S.Lond., final, 386; M.R.C.S.Eng., primary, 365; F.R.C.S.Eng., final, 262; M.R.C.P. Lond., 365; M.R.C.S., L.R.C.P., final, 815; D.A. (1936-44), 72; F.R.C.S.Edin. and D.R.C.O.G., many successes. Assistance with M.D. thesis. Special arrangements for medical officers with Forces. Medical prospectus (24 pp.) gratis, along with list of Tutors, etc., on application to the Principal. — University Examination Postal Institution, 17, Red Lion Square, London, W.C.1. Phone: HOLborn 6313.

POSTGRADUATE STUDY Instruction is arranged in medical, surgical, and special subjects, as circumstances permit Information and advice obtainable from the Fellowship of Postgraduate Medicine, 1, Wimpole St., London, W 1 Langham 4266

ROYAL COLLEGE OF SURGEONS OF ENGLAND. ELECTION TO THE COURT OF EXAMINERS.—Notice is hereby given that the Council, on December 13, 1945, will elect a Member of the Court of Examiners. Mr. W. H. C. Romanis, the retiring Examiner, is eligible and offers himself for re-election. Fellows of the College desirous of becoming candidates for the office must make application to the Secretary on or before Monday, October 1, 1945.—Kennedy Cassels, Secretary, Lincoln's Inn Fields, W.C.2.

THE BEDFORD PHYSICAL TRAINING COLLEGE, 37, Lansdowne Road, Bedford. Principal, Miss Stansfeld, O.B.E.; Vice-Principal, Miss Petit. Students are trained to become teachers in Gymnastics and Games, and the training, which extends over three years, includes Educational and Medical Gymnastics, Massage, Games, Dancing, and Swimming. Fees: £165 per annum. Two scholarships of £50 and two of £25 are offered annually.—For particulars apply Secretary.

UNIVERSITY OF LONDON:
KING'S COLLEGE.
FACULTY OF MEDICAL SCIENCE.

The Medical Faculty at this College of the University gives instruction in the subjects of medical science for all the usual pre-medical and intermediate examinations in medicine, surgery, and dentistry. Through the four associated hospitals, students of the College have clinical facility of over 1,000 beds. The Medical Faculty of the College provides a *general university education* in touch with other faculties, classes of which medical students are permitted to attend. There are many college societies, clubs, and functions, in which students of all faculties have opportunity of meeting each other. The College has an excellent athletic ground at Mitcham with a new and well-equipped pavilion. The first year subjects are taught in the departments of the Faculty of Natural Science and those for the second and third years in the Faculty of Medical Science. This consists of the Hambleden Department of Anatomy and the extensive Department of Physiology. The buildings of these Departments provide the College with a complete Medical Faculty which embodies the newest up-to-date ideas in laboratory construction and equipment. Valuable scholarships and prizes are awarded on the results of examinations held annually.—S. T. Shovelton, M.A., Secretary, Strand W.C.2.

ASSISTANTSHIPS VACANT

WANTED immediately, ASSISTANT with VIEW to two very active partners in semi-rural practice in West Riding, cottage hospital, good salary.—Box 1664, B.M.J.

WANTED, ASSISTANT, unmarried, for general practice in pleasant Midland town with hospital, scope for surgery.—Box 1858, B.M.J.

WANTED during September an ASSISTANT with VIEW to partnership and succession in an old-established practice in the vicinity of a large town in South Wales, no collieries, average gross takings £1,500 to £1,700, panel 1,500.—Box 1925, B.M.J.

WANTED urgently, ASSISTANT with VIEW partnership, well-established mixed practice Durham-Yorkshire border, excellent unfurnished flat, garage, etc., available.—Box 1232, B.M.J.

WANTED, ASSISTANT, British or Indian, Central London practice, very light work, suit one doing further studies.—Box 1859, B.M.J.

WANTED, ASSISTANT, British, for country practice Wilts, work light, much free time, comfortable furnished accommodation for man and wife rent free, commencing salary £600 and car allowance.—Box 1860, B.M.J.

WANTED IMMEDIATELY, ASSISTANT, good class practice, attractive East Anglian coastal town, young married Oxford, Cambridge, London man much preferred, partnership considered after six months, £650 plus small well-furnished flat.—Box 1937, B.M.J.

WANTED, OUTDOOR ASSISTANT, Nov. 1 to Feb. 28, for small town and country practice in East Midlands, suit recently demobilized or qualified, car provided, but prefer car allowance, all found, 12 guineas per week, expenses for interview. —Box 1604, B.M.J.

WANTED, PART-TIME ASSISTANT (either sex), North Wales Coast, £400 p.a. with unfurnished house rent free, car provided.—Box 1679, B.M.J.

WANTED on October 1, keen ASSISTANT, male or female, married or single, for large urban and rural practice, Midlands, excellent opportunity learn general practice work, surgery major and minor, anaesthetics, etc., accommodation outdoor, partnership considered subsequently, car provided, experience unnecessary, salary by agreement.—Box 1425, B.M.J.

WANTED, immediately, indoor and outdoor ASSISTANTS for town and country practices with and without view to partnership, also Locums, good salaries offered, state full particulars.—British Medical Bureau, 33, Cross Street, Manchester, 2.

WANTED, urgent, ASSISTANT, British, either outdoor or indoor, mixed practice old established between Bradford and Leeds, car provided.—Box 1923, B.M.J.

WANTED immediately, indoor ASSISTANT, either sex, for panel and private practice, dispenser kept.—Dr. Wright, 128, New Cross Street, Bradford.

WANTED, September 16, ASSISTANT, mixed practice, S. Yorks, early partnership to suitable man, state age, experience, etc.—Box 1924, B.M.J.

WANTED, ASSISTANT with definite VIEW to partnership, married preferred, Monmouthshire, terms by arrangement, house available.—Box 1875, B.M.J.

WANTED, ASSISTANT, either sex, to replace serving partner, country town practice in Midlands, salary £800, including board and use of car.—Box 1906, B.M.J.

WANTED at once, daily MORNING ASSISTANCE (10 to 11.0), £1 1s. per session, S.E.14.—Box 1871, B.M.J.

WANTED, ASSISTANT, English or Scotch, in mixed practice in pleasant S.W. London suburb, small modern house provided, furnished or unfurnished, please give fullest particulars.—Box 1880, B.M.J.

WANTED, male ASSISTANT with VIEW to early partnership and ultimate succession in mixed practice, rural and semi-urban.—Apply Box 1881, B.M.J.

WANTED, external ASSISTANT, October 1, male or female, state age, mixed practice, town and rural, 8 miles from Liverpool, car provided, salary good. —Box 1909, B.M.J.

WANTED, outdoor ASSISTANT, male or female, for general practice, Leicester, own car essential, salary by arrangement.—Dr. Lentin, 120, Regent Road, Leicester.

ASSISTANT, single, British, wanted immediately, mixed general practice near Stafford, little night work, outdoor £800, car provided or allowance.—Box 1857, B.M.J.

ASSISTANT WANTED in mixed practice in Midland town where partner will be needed, special qualification — e.g., D.C.H. — welcome, present partners on staff of 200 bed voluntary hospital, salary according to experience, fullest particulars.—Box 1879, B.M.J.

ASSISTANT for good-class practice in pleasant seaside district of Southern England, two partners, secretary, partnership eventually to suitable man, send copies testimonials and details experience, salary by arrangement.—Box 1872, B.M.J.

ASSISTANT WANTED mid-October for industrial practice, pleasant Midland surroundings, outdoor, house and garden vacant, Scottish or English male preferred, driver, temperate, agreed salary.—Box 1910, B.M.J.

ASSISTANT REQUIRED for general practice near Manchester, good opportunity learn general practice work, midwifery, etc., good accommodation furnished or unfurnished provided, car available, excellent opportunity keen, energetic man, experience not essential, reply with references, stating full particulars, etc.—Box 1908, B.M.J.

ASSISTANT WANTED immediately, South Wales town, general practice in agricultural district.—Write stating particulars to Box 1926, B.M.J.

ASSISTANT wanted VIEW partnership later, mixed country practice Somerset, male, single, accustomed to good society, sport obtainable.—Box 1874, B.M.J.

ASSISTANT WANTED, British, single, male, to take charge of branch in a pleasant non-colliery, South Derbyshire, village, work light, time for reading, board, lodging, car provided, salary £500 to start.—Box 1639, B.M.J.

ASSISTANT REQUIRED for six months from Oct. 1, Sheffield, salary £50 per month, indoor, married or single, with or without car.—Box 1905, B.M.J.

ASSISTANT, with VIEW, unmarried, practice £2,500, photograph desirable.—Apply Dr. Elliott, 8, Stoneham Lane, Southampton.

ASSISTANT WANTED in pleasant South Coast town, mixed practice, single male, car provided.—Send particulars to Box 1911, B.M.J.

ASSISTANTSHIP with VIEW to succession, correspondence invited by G.P. desirous of disposing of large practice in Midland town, established 30 years, panel 2,300, would suit two partners or principal and assistant.—Box 1603, B.M.J.

MALE ASSISTANT, British, wanted with VIEW to purchase, large mixed practice £3,500 to £4,000 p.a., N.W. outskirts London, good house for sale, adjacent surgery for lease.—Apply Box 1877, B.M.J.

PERMANENT ASSISTANT, Scotsman preferred, good salary to experienced man.—Box 1907, B.M.J.

ASSISTANTSHIPS WANTED

WANTED, by experienced lady doctor, outdoor ASSISTANTSHIP, with or without view, Bristol, Gloucester, Somerset, Wilts, town or country practice, own car, accustomed sole charge.—Box 1912, B.M.J.

WANTED, Greater London, ASSISTANTSHIP with VIEW or partnership by ex-R.N.V.R., hospital and G.P. experience, available immediately.—Box 1913, B.M.J.

WANTED outdoor ASSISTANTSHIP with VIEW, S. or S.E. England, by ex-R.A.F. doctor, British, London trained.—Box 1929, B.M.J.

ASSISTANTSHIP with definite VIEW, or salaried appointment, required by young doctor, experienced hospital, G.P., and surgical work, North or Midlands preferred.—Box 1605, B.M.J.

ASSISTANTSHIP with VIEW partnership required by experienced doctor, married, aged 34, ex-Services, car and furnished house essential.—Johnston, "Windward," Worsley Road, Worsley, Manchester.

ASSISTANTSHIP, PART-TIME, in or near London, Nov. to Jan. inclusive, while working D.Phys.Med., R.C.P.&S.Eng., aged 39, G.P. since 1931.—Box 1883, B.M.J.

ASSISTANTSHIP WANTED, Home Counties preferred, experienced G.P., aged 45, married, own car and furniture, present war engagement ends November 30.—Box 1927, B.M.J.

EXPERIENCED woman doctor, highest references, requires ASSISTANTSHIP, with or without view, seaside or country practice Southern England.—Box 1928, B.M.J.

GLASGOW woman graduate requires ASSISTANTSHIP, Southern Scotland preferred, 6 months' midwifery (hospital) and 2 years G.P. experience.—Box 1861, B.M.J.

M.B (T.C.D.), ex R.A.F., married, aged 28, requires ASSISTANTSHIP with VIEW, hospital and G.P. experience, Home or Southern Counties, coast preferred, furnished accommodation essential.—Box 1876, B.M.J.

SURG. LIEUT.-CMDR., R.N.V.R., M.B. Ch.B., demob. group 30, desires well-paid ASSISTANTSHIP with definite view, aged 31, single, hospital and G.P. experience, keen obstetrics.—Box 1903, B.M.J.

WOMAN DOCTOR seeks PART-TIME WORK or surgeries, free after September 17, London area essential.—Box 1882, B.M.J.

WOMAN DOCTOR, good experience, requires ASSISTANTSHIP Malvern area, accommodation required, available end of September.—Box 1884, B.M.J.

LOCUMS

WANTED, LOCUM within 20 miles London, West, Scot preferred, prepared to stay until Group 31 demobilized, 10 guineas, accommodation, and car.—Fullest details to Box 1862, B.M.J.

WANTED, LOCUM six months or more, mixed practice, £600 p.a., indoor, car, surgical scope if desired.—Box 1885, B.M.J.

WANTED, LOCUM, Sept 20 to Oct. 6, Plymouth vicinity, suit doctor and family wishing seaside change.—Box 1886, B.M.J.

WANTED, soon as possible, LOCUM for 7 to 14 days, lovely country district, light work, hospitality possible.—Box 1888, B.M.J.

WANTED, LOCUM, male or female, as soon as possible, for 3 to 4 weeks.—Dr. Hinde, Mount Pleasant, Norwich.

WANTED long-term LOCUM for country practice, urgent, furnished house available, salary by arrangement.—Box 1932, B.M.J.

WANTED urgently and immediately, LOCUM for Maternity and Child Welfare work, including attendance at Clinics and Municipal Maternity Home, with scope for practical midwifery, salary £10 10s. per week.—Apply to Acting Medical Officer of Health, 1, Bargate, Grimsby.

DOCTOR, free early September, own car, wishes to do LOCUMS or PART-TIME WORK in the London area.—Reply Box 1616, B.M.J.

DEPUTY WANTED for last fortnight in Sept., usual terms offered.—Dr. Mukerji, Craghead, Co. Durham.

EXPERIENCED LOCUM wanted for a few weeks in a large industrial practice in Leicester, live in —Apply Dr. Hurwich, Knighton Park Road, Leicester.

EXPERIENCED LOCUM, retired G.P., free September 12.—Box 1931, B.M.J.

LADY LOCUM required, September 14—24, in Buxton, charming surroundings and entertainments, residence with doctor's wife.—Box 1938, B.M.J.

LOCUM, urgently REQUIRED for well-established working middle-class practice which is for sale in Leeds.—Box 1690, B.M.J.

LOCUM free shortly, prefer live out, single, car driver, panel work preferred.—Box 1914, B.M.J.

LOCUM, WOMAN, required Sept. 19 or 29 for 4 weeks, semi-rural practice, no dispensing, must drive —Box 1887, B.M.J.

M.B., B.S. 8 years would do LOCUM South Coast 1 or 2 weeks September, October, accommodation wife and child.—Box 1854, B.M.J.

PARTNERSHIPS

WANTED PARTNER to take over in two years practice semi-rural S.E. England, gross receipts £3,000, panel 1,500, 1½ years' purchase, option of two houses let or sell.—Box 1645, B.M.J.

CHRISTIAN PARTNER wanted next year in first-class non-panel practice, county town, easy access to London, 1/3 share of over £5,000, ophthalmic experience an advantage.—Box 1448, B.M.J.

DOCTOR recommends capable lady assistant for PARTNERSHIP who has successfully managed practice during war, Southern England preferred.—Box 1630, B.M.J.

DOCTOR, aged 33, due demobilization by November 11, would welcome opportunity of PARTNERSHIP in country practice South-West England or Cotswolds, wife, also doctor, would like rent unfurnished house any size.—Box 1685, B.M.J.

FOR DISPOSAL ONE-THIRD SHARE East Midland practice, surgical scope, £5,000 p.a., good panel, preliminary assistantship, accommodation single man, or temporarily for married man until house available, capital necessary approx £3,000.—Box 1866, B.M.J.

FOR SALE 1/2 SHARE mixed practice S. Yorkshire town, receipts £5,000, panel over 5,000, 1½ years' purchase, modern house, all conveniences.—Box 1897, B.M.J.

PARTNER REQUIRED in well-established practice in semi-suburban district, Piccadilly 10 miles, preliminary assistantship essential, senior qualification desirable.—Box 1867, B.M.J.

PARTNER (British) wanted in first-class old-established practice in Kent, applicant must be well qualified, preference for one holding F.R.C.S., or M.D., or M.R.C.P., or M.R.C.O.G. qualification, excellent modern house and garden available, share producing £1,500 suggested to commence with.—Apply Box 1851, B.M.J.

PARTNERSHIP, one-third share in flourishing industrial practice in N.E. London suburb, averaging £6,000 p.a., incoming partner should be interested in midwifery and children and aged about 40 years, two years' purchase, plus 1/3 value of instruments, furniture, drugs, etc., preliminary assistantship, accommodatieon available at reasonable rent.—Box 1615, B.M.J.

PARTNER WANTED in old-established practice in pleasant Midland town, share producing £1,500 to commence with, house and garden to rent, good scope.—Box 1467, B.M.J.

SEMI-RURAL Practice, residential, near Birmingham, HALF-SHARE of £3,000 after preliminary assistantship, good house and garden to rent.—Box 1915, B.M.J.

MEDICAL POSTS

APPLICATIONS are invited for a LABORATORY TECHNICIAN at the Royal Infirmary, Sunderland. Good experience in haematology essential. Salary in accordance with B.H.A. scale, B grade. Candidates must be members of the Institute of Medical Laboratory Technology. Applications invited from ex-service men.—T. F. W. Mackeown, House Governor and Secretary, Royal Infirmary, Sunderland.

DOCTOR, aged 46, experience of hospital, general practice, and tropical work, desires POST as factory M.O. or life insurance work, London area.—Box 1933, B.M.J.

DOCTOR, aged 48, wishing to give up general practice desires FULL-TIME APPOINTMENT, full particulars on application.—Box 1856, B.M.J.

MEDICAL OFFICER with over 10 years' medical and administrative experience in the Services, now holding senior rank, would like to hear of important medical ADMINISTRATIVE POSITION in the United Kingdom to take up on demobilization, release from the Service is expected shortly.—Box 1898, B.M.J.

PRACTICES

WANTED, PRACTICE or assistantship with early view, country or country town, Scots M.B., 36, early release Group 19, good hospital and G.P. experience. —Box 1917, B.M.J.

WANTED PRACTICE, S. or S.E. England, £1,200 to £2,000 gross, by ex-R.A.F. doctor, British, London trained, house to rent.—Box 1930, B.M.J.

DEATH VACANCY, housing estate, Sheffield, income approx. £2,700, panel over 2,000, good modern house, surgery attached, £4,500 complete.—Box 1891, B.M.J.

EX.-R.A.M.C. Captain, aged 37, married, seeks PRACTICE or partnership, South Coast or near, house essential, 10 years' G.P., keen and energetic, all replies treated in strictest confidence.—Box 1895, B.M.J.

FOR SALE, expanding PRACTICE in Essex, working-class suburb taking well over £2,000 p.a., panel 1,450 and increasing, ample scope, good house for sale or rent, price £2,500 for practice.—Write Box 1621, B.M.J.

FOR DISPOSAL immediately unopposed E. N. T. PRACTICE in good provincial town with hospital appointments, F.R.C.S. essential.—Box 1864, B.M.J.

FOR SALE, PRACTICE in West Midlands, good scope, low expenses, income £1,500, premium 1½ years.—Box 1863, B.M.J.

FOR SALE, high-class long-established mixed PRACTICE in pleasant N.W. cathedral town, receipts around £2,850, panel 1,350, C.A. audit for 20 years, transferable appointments, premium, 1½ years, fine house with detached surgery, garage, etc., at valuation, owner retiring, suit partners.—Box 1935, B.M.J.

FOR SALE, Manchester PRACTICE, panel 1,000, gross income £1,200, comfortable, commodious house in good condition with garage.—Box 1892, B.M.J.

FOR SALE, well-established woman's PRACTICE South-East Manchester, panel (approximately 600) and private, receipts £1,400, small modern house, garage.—Box 1855, B.M.J.

FOR SALE, PRACTICE in semi-rural district, residential, Midlands, all facilities, receipts about £3,000, audited, panel 900, suit man and wife or two friends, good house, could be converted into two flats, any length of introduction.—Box 1916, B.M.J.

FOR SALE in North of England, old-established PRACTICE, panel approx. 2,500, private and club, attractive surgery, house, and large garden.—Box, 1893, B.M.J.

FOR SALE, old-established middle-class PRACTICE Lancashire town, panel 1,600, receipts £2,600 (chartered accountant), excellent house and surgery, £1,500, premium 1½ years.—Box 1894, B.M.J.

FOR SALE large, exceptionally compact, and unopposed country PRACTICE in the County of Angus, with attractive easily worked house and garden.—Apply to J. M. & J. H. Robertson. Solicitors, 120, Bath Street, Glasgow.

LANCASHIRE old-established PRACTICE, panel 1,600, receipts £2,000 (accountant's figures), attractive house, garden, tennis court, separate surgery.—Box 1477, B.M.J.

MEDICAL PRACTICE, mixed rural and industrial, Western Scotland, panel 1,450, several appointments, excellent opportunity for active practitioner.—Box 1672, B.M.J.

NORTH WALES, unopposed seaside and compact country PRACTICE, £1,300-£1,400 increasing (panel £250), ample scope, modern freehold house facing sea, garden, garage, fishing, shooting.—Box 1217, B.M.J.

PRACTITIONER with hospital and general experience, desires contact with retiring practitioner with VIEW to succession, South Coast town preferred, suggest purchase on annuity basis.—Box 1669, B.M.J.

PRACTICE just outside London area, no branch, panel nearly 1,700, income over £1,800, no midwifery, immense scope for increase, 1½ years, freehold with nice garden, cash.—Box 1650, B.M.J.

PANEL and club PRACTICE, £1,600, rent and rates £80, expenses light, 1½ years, cash.—Box 1649, B.M.J.

PRACTICE FOR SALE, suit two friends, old-established good mixed practice in East Anglian market town 12 miles from the sea, excellent cottage hospital with surgical opportunity, average receipts for the past seven years £4,453, panel 1,900, scope, dispenser-secretary kept, good houses with gardens, both partners retiring, price £6,500.—Box 1896, B.M.J.

RELEASED DOCTOR desires purchase mixed PRACTICE in England, income £2,000 to £3,000, panel, good family house, garden, to rent preferred, but may purchase, capital available.—Box 1865, B.M.J.

SALE, rural PRACTICE, Cumberland, average receipts last 3 years £1,710, panel 660, house on lease, premium 1½ years.—Box 1890, B.M.J.

SOUTH WALES.—Urgent sale, private and panel PRACTICE producing average £3,100, good scope increase, freehold house available, open negotiation. —Box 1675, B.M.J.

SALE, mixed country PRACTICE eight miles from Leeds, £3,000 gross, premium 1½ years, panel 1,000, excellent house.—Box 1648, B.M.J.

SOUND PRACTICE Yorkshire city, panel over 1,800, income approx. £2,000, premium one year's purchase, good house, £1,000.—Box 1646, B.M.J.

URGENT SALE old-established PRACTICE semi-rural district Manchester, panel 1,000, receipts 1944 £1,200, increasing, excellent house, large garden.—Box 1934. B.M.J.

DIETETIC, DISPENSING, TYPING, SECRETARIAL, RECEPTION, ETC.

None of the vacancies for women advertised in these columns relates to a woman between the ages of 18 and 40 inclusive, unless she is exempted from the provisions of the Control of Engagement Order, 1945, or the vacancy is for employment excepted from the provisions of that Order.

WANTED, for October 1, DISPENSER-BOOKKEEPER for country practice.—Beckett, 50, High Street, Manningtree, Essex.

WANTED, LADY DISPENSER to G.P.—Apply Maybury, 391, Commercial Road, Portsmouth.

WANTED, for Somerset, experienced DISPENSER-BOOKKEEPER, small country town, two partners. —Box 1900, B.M.J.

CORNWALL, DISPENSER-SECRETARY, with knowledge of bookkeeping and shorthand, required for large country practice, no evening work, intelligence, neatness and tidiness required, good references essential.—Box 1868, B.M.J.

WANTED, ASSISTANT DISPENSER for semi-rural practice, please state age, references and full particulars.—Drs. Fairweather, Royle, and Oliver, Clitheroe.

DISPENSER-SECRETARY-BOOKKEEPER wanted at once, good salary.—Apply Dr. Thorn, 28, College Road, Harrow, Middlesex.

DISPENSER REQUIRED immediately for general practice, no secretarial duties, apply giving age and full particulars.—Drs. McOuat, Goode, and Norman, 28, Leicester Road, Loughborough.

EXPERIENCED SECRETARY desires post as SECRETARY-RECEPTIONIST with physician or surgeon, London, shorthand, typing, good ref.—Box 1919, B.M.J.

EXPERIENCED medical secretary, lady, seeks POST with London consultant, wide knowledge of consulting practice, E.N.T. terminology.—Box 1921, B.M.J.

EXPERIENCED SECRETARY-RECEPTIONIST available for post with West End surgeon or specialist.—Box 1625, B.M.J.

LADY DISPENSER WANTED, country town.—Write stating age and full particulars to Drs. Duncan and Smith, 15, Bridge Street, Evesham, Worcestershire.

LONDON COLLEGE OF PHARMACY for Women supplies Dispenser-Bookkeeper or Laboratory Technician. Training for Apothecaries Hall Assistants' Examination, and in Clinical Pathology. —Secretary, 7, Westbourne Park Road, W.2 (Bayswater 0969).

LADY DISPENSER-SECRETARY, qualified, experienced, knowledge laboratory work, car driver, desires post where unfurnished accommodation available.—Box 1899, B.M.J.

RECEPTIONISTS, linguists and non-linguists, part and full-time workers. All members ex-Censorship staff and fully qualified and competent to undertake work of confidential nature. Apply to The Secretary, The Post-War Employment Association (Licensed annually by the L.C.C.), 27, Lincoln's Inn Fields, W.C.2. Tel.: HOL. 5522, Ext. 3.

MEDICAL SECRETARY-RECEPTIONIST seeks whole-time POST with doctor or specialist, experienced shorthand-typist, bookkeeper, any location. —Box 1901, B.M.J.

SECRETARY-RECEPTIONIST desires POST with doctor in Birmingham area, 12 years' previous experience, able drive car, salary secondary consideration if congenial post.—Miss M. Harris, Southville, Priory Road, Edgbaston, Birmingham.

SECRETARY-RECEPTIONIST, experienced, requires POSITION, preferably Scotland.—White, 2 Birch Road, Meols, Cheshire.

THOROUGHLY EXPERIENCED BOOKKEEPER-DISPENSER seeks POSITION London area or within easy reach, good references, free middle September.—Box 1918, B.M.J.

V.A.D., demobilized after six years' war service, would welcome post as RECEPTIONIST to consultant, adaptable, and would take keen interest in work.—Apply Box 1920, B.M.J.

W.A.A.F. OFFICER released early November desires post as RECEPTIONIST to consultant, London preferred.—Box 1869, B.M.J.

YOUNG LADY requires post as RECEPTIONIST to Doctor or Dentist in London, knowledge of typing, capable driver, awaiting release from W.R.N.S.—Hale, Bowden Court, Notting Hill Gate, W.11.

YOUNG LADY, recently demobilized, requires position as SECRETARY to doctor in Merseyside area, experienced in medical terms and work.—Miss Cooper, 35, Lang Lane, West Kirby.

MISCELLANEOUS

NEW MICROSCOPE for sale, moving-stage condenser, 1/3, 1/6, and 1/12 oil-immersion, etc., in case, £100, seen London.—Box 1870, B.M.J.

WANTED, SECOND-HAND SURGICAL INSTRUMENTS, furniture for surgery and consulting room, blood pressure apparatus, electric diagnostic sets, ophthalmoscopes, auriscopes, microscopes, etc. —Particulars to A. Fleming & Co. (Succrs.), 51, Mortimer Street, London, W.1. Telephone: Mus 6292).

WANTED TO PURCHASE.—Cameras, enlargers, and all photographic apparatus, exposure meters, tripods, etc., microscopes, binoculars, cine cameras, and projectors. Prompt cash and high prices offered.—Wallace Heaton, Ltd 127, New Bond Street, London, W.1

COMPRI-VENA (1937), Ltd.—The care and after-care of Varicose Veins.—In the treatment of Varicose Veins where leg support is prescribed Compri-Vena gives meticulous attention to instructions. They will gladly supply particulars of Surgical Stockings and the service they provide.—38, South Molton Street, W.1. MAYfair 0732.

DOCTORS' WATCHES.—Franklands can still supply Gold Watches. Write for particulars.—E. J. Frankland & Co., Ltd., Marle House, South Godstone, Surrey; or London Showroom, New Bridge Street House, 30-34, New Bridge Street, Ludgate Circus, E.C.4

DECEASED DOCTOR'S LIBRARY for sale, over 100 volumes, mostly v.g. condition, includes 45 vols. *Practitioner*, 10 Green's *Encyclopedia*, 3 Tillman, etc., the lot, £35, carriage extra.—Ace Bookshop, 23, Marchmont Street, W.C.I.

FOR SALE, BECK MICROSCOPE, one eye-piece 1/6th and 1/3rd objectives, no accessories, £15, Morton Smart coil for graduated Faradism £30, electric clock £10, cautery set, with handle and 5 points £5, all good condition, near offer considered, view London.—Box 1902, B.M.J.

MEDICAL PHOTOGRAPHS and drawings for illustration, records, etc.—Write for particulars Eric O. Sonntag, 159, Bickenhall Mansions, Baker Street, London. W.1. WELbeck 8860.

TOILET ROLLS (Gordon's Thintex) for sale, prices, carriage paid and including cost of cartons, 1 gross £9, 6 dozen £4 13s. 6d., 3 dozen £2 8s. 6d., early delivery in rotation, cash with order to J. Gordon (Dept. 7), 33, Connaught Gardens, Muswell Hill, London, N.10.

STRAWSON'S OPEN-AIR REVOLVING SHELTERS (against doctor's certificate) for tubercular and other medical cases. Stamp for List B.M J. 45 —G. F. Strawson & Son, Horley, Surrey

STAMPS.—Good selections of BRITISH COLONIAL STAMPS sent on approval, suitable for medium to advanced collectors.—Box 1852, B.M.J.

WIGMORE'S, LTD., 63, Baker St., London, W 1 (Welbeck 5668). DISPENSING OPTICIANS by appointment to Western Ophthalmic Hospital, Marylebone Road, London, N.W.1. Doctors' prescriptions accurately dispensed.

HOUSES, CONSULTING ROOMS

WANTED, West End area, one whole-time CONSULTING ROOM, furnished or unfurnished, with use waiting room, attendance if possible.—Box 1936, B.M.J.

FEW CONSULTING ROOMS (use fully equipped operating theatres) in modern centrally heated house with lift, best end Harley Street, available surgical specialists preferably.—Box 1655, B.M.J

HARLEY STREET AND WEYMOUTH STREET, W.I.—Two excellent suites of CONSULTING ROOMS in fine modern buildings to be let.—Apply to the managing agents, Messrs. Herring, Son & Daw, 79, Lombard Street, E.C.3. Mansion House 7001-2.

NORTH-WEST LONDON.—Doctor wishes dispose of PRIVATE RESIDENCE with nucleus of practice, detached, double-fronted, Georgian property, corner position in established district, 5 bedrooms, bathroom, 3 reception rooms, dispensary, cloakroom, spacious hall, kitchen, etc., garage, excellent gardens, freehold £5,500.—H. L. G. Cosway, Chartered Surveyor, 135, The Broadway, Mill Hill, N.W.7. Mil. 2422.

TO BE SOLD. LLANNERCH PARK, St Asaph.—A well known mansion house situated amidst beautiful scenery in the Vale of Clwyd, North Wales. Most suitable for a school, medical institution, high class hotel, or service flats Ample accommodation. 100 acres of park available if required, for golf links, fishing over one mile of River Clwyd, excellent walled garden, own swimming pool, tennis lawns, etc. Central heating, main water and electricity. Eight miles from well-known seaside resort. Excellent bus service, station one mile. Order to view by permit only.—Apply R E. Birch, Estate Office, Coed Bedw, Abergele.

NURSING HOMES

PRIVATE MENTAL HOME for disposal, established three quarters of a century, thirty beds, fully licensed.—Apply Messrs. Mayhew and Co., Solicitors, 57, Calthorpe Road, Edgbaston, Birmingham, marking envelopes P.M.H.

APPOINTMENTS

(Continued from page 13)

PONTEFRACT GENERAL INFIRMARY and THE HYDES HOSPITAL (112 beds).—Applications are invited from registered medical practitioners, male, for the appointment of a HOUSE SURGEON (A), to become vacant immediately, including practitioners within three months of qualification who are liable to service under the National Service Acts, when appointment will be for a period of six months. Salary £150 per annum, with full residential emoluments. Applications should be sent to the undersigned.—D. J. Richards, Secretary-Superintendent.

IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page 10

PRINCE OF WALES'S HOSPITAL, Plymouth—Applications are invited from registered medical practitioners for the appointment of RESIDENT SURGICAL OFFICER (B1), to become vacant on September 29. Applicants should have held house appointments and had surgical experience. Preference will be given to candidates holding the Diploma of F.R.C.S. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £312 per annum.—Arthur R. Cash, General Superintendent.

PRINCE OF WALES'S HOSPITAL, Greenbank Road, Plymouth.—Applications are invited from registered medical practitioners for the appointment of CASUALTY OFFICER (A), for duty at Greenbank Road, vacant October 6, including practitioners within three months of qualification who are liable for service under the National Service Acts. If held by a practitioner who is liable under these Acts appointment will be for a period of six months. Salary is at the rate of £175 per annum, with full residential emoluments.—Arthur R. Cash, General Superintendent.

ROYAL CORNWALL INFIRMARY, Truro (330 beds, 5 residential).—Applications are invited from registered practitioners, male or female, for the appointment of HOUSE SURGEON (B2) to the General Surgical and Gynaecological Departments, vacant on or about October 25, 1945. Salary is at the rate of £200 per annum, with full residential emoluments. R and W practitioners holding A posts may also apply, when appointment is limited to six months.

Applications are also invited from registered practitioners, male or female, for the appointment of ORTHOPAEDIC AND CASUALTY HOUSE SURGEON (B2), vacant on or about October 11, 1945. Salary is at the rate of £200 per annum, with full residential emoluments. R and W practitioners holding A posts may also apply, when appointment is limited to six months.

Applications for each post should be addressed to the Secretary.

ROYAL SHEFFIELD INFIRMARY AND HOSPITAL.—Applications are invited from registered medical practitioners, including medical officers recently demobilized from H.M. Forces, for the following appointment (B1), vacant November: FIRST ASSISTANT to the Ophthalmic Department, Royal Infirmary Unit. Suitably qualified R and W practitioners now holding B2 posts may apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £650 p.a., non resident. Applications should reach the undersigned immediately.—P. N. Glass, General Superintendent, Royal Infirmary, Sheffield, 6.

ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL, Southampton (255 beds). CASUALTY OFFICER AND HOUSE SURGEON to E.N.T. Department (A).—Applications are invited from registered medical practitioners, male and female, for the appointment of a Casualty Officer and House Surgeon to the E.N.T. Department (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. The appointment will be for a period of six months. Salary is at the rate of £175 per annum, with full residential emoluments. Applications, accompanied by copies of three recent testimonials, should be sent to the undersigned immediately.—Frank Jennings, House Governor and Sec.

ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY, Wigan.—Applications are invited from registered medical practitioners for the appointment of a HOUSE SURGEON (B2), male, vacant October 1, 1945. Salary £175 per annum, with full residential emoluments. R practitioners who now hold A posts may apply, when appointment will be limited to six months, otherwise it may be extended for a further period. Applications should be sent to the undersigned as soon as possible.—A. Stanley Brunt, General Supt. and Secretary.

ROYAL SUSSEX COUNTY HOSPITAL, Brighton.—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE PHYSICIAN (B2), vacant October 20 next. The salary is at the rate of £200 per annum, with full residential emoluments. R and W practitioners who now hold A posts may apply, when appointment will be limited to six months, otherwise may be extended. Applications to L. L. W Lancaster-Gaye, Secretary-Superintendent

ROYAL CANCER HOSPITAL (FREE) (Incorporated under Royal Charter), Fulham Road, London, S.W.3.—Applications are invited from registered medical practitioners for the appointment of HOUSE SURGEON (B2), to commence duties on October 1, 1945, including R and W practitioners who now hold A posts. The appointment is for six months and subject to rules, a copy of which can be obtained from the Secretary. Salary £200 per annum, with full residential emoluments. Applications, to be made on a form which will be supplied by the Secretary, with copies only of not more than three recent testimonials, to be sent to the Secretary not later than the first post on Wednesday, September 12, 1945.—Victor H. Pinkham, Secretary.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, Waterloo Road, S.E.1.—Applications are invited from registered medical practitioners for the appointment of RESIDENT HOUSE PHYSICIAN (B2), including R and W practitioners who now hold A posts. If held by an R practitioner appointment will be limited to six months. Appointment becomes vacant on October 1. Salary £200 per annum, including full residential emoluments. Applications should be sent immediately to J. H. Teasdale, Secretary.

ROTHERHAM HOSPITAL, Doncaster Gate, Rotherham (General Voluntary Hospital — 150 beds).—SECOND CASUALTY OFFICER (A). Salary £225 per annum, with full residential emoluments. Applications are invited from registered medical practitioners, male and female, for the above appointment, now vacant. Practitioners within three months of qualification liable to service under the National Service Acts may also apply, when the appointment will be for six months. Applications should be sent at once to the Secretary-Superintendent.

ROYAL GWENT HOSPITAL, Newport, Mon. (255 beds. — Applications are invited for the appointment of HOUSE SURGEON (A), vacant now. Salary at the rate of £175 per annum, with full residential emoluments, including practitioners within three months of qualification liable to service under the National Service Acts. If held by a practitioner liable under these Acts, appointment will be for a period of six months. Applications should be sent to the undersigned immediately.—Alan Ruddle, Secretary-Superintendent.

ROYAL HALIFAX INFIRMARY (Class 1A E.M.S.) (250 beds).—Applications are invited for the post of RESIDENT SURGICAL OFFICER (B1) male. Salary £250 per annum, with residence, board and laundry. Preference given to one holding the F.R.C.S. R practitioners who now hold B2 posts may apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Applications should be sent to the undersigned immediately.— A. Midgley, Secretary.

ROTHERHAM HOSPITAL, Doncaster Gate, Yorkshire. General Voluntary Hospital (150 beds). HOUSE PHYSICIAN (A), salary £225 per annum, with full residential emoluments. Applications are invited from registered medical practitioners, male or female, for the above appointment, which will become vacant shortly. Practitioners within three months of qualification who are liable to service under the National Service Acts may also apply, when the appointment will be for six months. Applications should be sent at once to the Secretary-Superintendent.

ROYAL BERKSHIRE HOSPITAL, Reading.—Applications are invited from registered medical practitioners, male and female for the appointment of HOUSE PHYSICIAN (A), vacant October 23, 1945. Salary is at the rate of £150 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when the appointment will be for a period of six months. Applications should be sent immediately to H. B. Ryan, Secretary and House Governor.

STANNINGTON CHILDREN'S SANATORIUM, Stannington, Clifton, Morpeth, Northumberland (206 beds for pulmonary and non-pulmonary tuberculosis).—Applications are invited from registered female medical practitioners for a B1 APPOINTMENT at the above Sanatorium. Applicants should have held a house appointment and preference will be given to those having some experience in bacteriology. W practitioners now holding B2 posts may apply. Salary £300 to £350 per annum, according to experience, with residential emoluments. Applications should be forwarded immediately to the undersigned.—J. Arnold Stobbs, Medical Superintendent.

STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A). Salary £196 per annum, with board residence. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when appointment will be for six months. Applications to be forwarded to the undersigned.—A E Collins, Secretary.

SCARBOROUGH HOSPITAL, Yorkshire (normally 140 beds).—Applications are invited from registered medical practitioners for the post of HOUSE SURGEON (A). The appointment is for six months, vacant now, and the salary is at the rate of £175 per annum, with board, residence, laundry, etc. Practitioners within three months of qualification and liable under the National Service Acts may also apply. Applications to be sent immediately to the Secretary

ST ALBANS AND MID-HERTS HOSPITAL, Church Crescent, St. Albans, Herts. (75 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of RESIDENT MEDICAL OFFICER (B2), vacant in October. Salary at the rate of £200 p.a., with full residential emoluments. R and W practitioners holding A posts may apply. If held by an R practitioner the appointment will be limited to six months. Applications should be sent to P. R. Battison, Secretary.

SALISBURY GENERAL INFIRMARY (Voluntary Hospital) (225 beds).—Applications are invited from registered medical practitioners for the appointment of a HOUSE SURGEON (A). Salary at the rate of £150 p.a. with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when appointment will be for a period of six months. Applications should be sent to John Williams, Superintendent and Secretary.

TAUNTON AND SOMERSET HOSPITAL (136 beds, plus 30 E.M.S., 3 residents.)—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. Salary £175 p.a., with full residential emoluments. If held by a practitioner liable under these Acts, appointment will be for six months. Applications to the Secretary-Superintendent, Taunton and Somerset Hospital, Taunton.

THE LAWN, Lincoln (Registered Hospital for Mental and Nervous Diseases) (100 beds)—Applications are invited from registered medical practitioners for the appointment of ASSISTANT MEDICAL OFFICER (B2). R practitioners now holding A posts may apply, when appointment will be limited to six months. Experience in mental work preferable but not essential. Salary £350 p.a., plus 5% war bonus, together with emoluments including board, flatlet, attendance, and laundry. Applications should be addressed to the Chairman of Governors, The Lawn, Lincoln.

VICTORIA HOSPITAL, Worksop, Notts (158 beds)—Applications are invited from registered medical practitioners for the appointment of CASUALTY OFFICER (A). Salary is at the rate of £200 per annum, with the usual residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months. Applications to be sent to the Secretary-Superintendent.

WIMBLEDON HOSPITAL, Thurstan Road, Copse Hill, S.W.20.—Applications are invited from registered medical practitioners, male and female, including R and W practitioners who now hold A posts, for the appointment of RESIDENT MEDICAL OFFICER (B2). If held by an R or W practitioner the appointment will be limited to six months. The salary is at the rate of £250 per annum, with full residential emoluments. Position vacant September. Applications to the Honorary Secretary

WARNEFORD GENERAL HOSPITAL, Leamington Spa.—Applications are invited from registered medical practitioners, male or female, for the post of CASUALTY OFFICER AND HOUSE SURGEON (B2) to one of the surgeons and V.D. officer. Salary is at the rate of £200 per annum, with full residential emoluments. R and W practitioners now holding A posts may apply. If held by an R practitioner the appointment will be limited to six months. Applications should be sent to the undersigned as soon as possible.—J. R. Long, House Governor and Secretary.

Founded 1892. THE LONDON AND COUNTIES Assets exceed £100,000.
MEDICAL PROTECTION SOCIETY
Members receive advice and assistance in all matters affecting the practice of their profession and are afforded COMPLETE INDEMNITY against costs and damages in cases undertaken on their behalf.
Subscription, £1. No entrance fee to those joining within twelve months of registration. Entrance fee, 10/-.
Full Particulars from the Secretary, VICTORY HOUSE, LEICESTER SQUARE, W.C.2. Gerrard 4553 and 4814.

VICTORIA HOSPITAL, Accrington. HOUSE PHYSICIAN (A).—Applications are invited from registered medical practitioners, male or female, for the post of House Physician (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. Appointment will be for a period of six months. Salary at the rate of £175 per annum, with full residential emoluments.

HOUSE SURGEON (B2).—Applications are also invited from registered medical practitioners, male or female, for the post of House Surgeon (B2), including R and W practitioners who now hold A posts. Appointment will be for a period of six months. Salary at the rate of £200 per annum, with full residential emoluments. Applications to be sent to P. D. Wadsworth, Hon. Secretary.

WHITEHAVEN AND WEST CUMBERLAND HOSPITAL (Voluntary General Hospital—110 beds with Maternity Unit, Modern Fracture Clinic, Rehabilitation Centre, Out-patient and Casualty Depts.).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A), post vacant September 21, including practitioners within three months of qualification who are liable to service under the National Service Acts. Appointment will be for a period of six months at a salary of £200 per annum, with full residential emoluments. Applications should be sent to the undersigned.—T. W. Lymer, Secretary-Superintendent.

WEST HAM HOSPITAL FOR NERVOUS AND MENTAL DISORDERS, Goodmayes, Ilford.—Applications are invited for the post of TEMPORARY FIRST ASSISTANT MEDICAL OFFICER (B1), psychiatric experience essential. The salary is £475 per annum, rising by one increment of £25, plus £50 if in possession of the D.P.M., plus war bonus, at present £19 19s. 10d. per annum, together with furnished apartments, attendance, board, and laundry. Applications from R practitioners who now hold B1 posts cannot be considered unless they have been rejected by the R.A.M.C. R and W practitioners now holding B2 posts may apply. Applications should be sent to the Medical Superintendent as soon as possible.

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WEST SUSSEX COUNTY MENTAL HOSPITAL, Graylingwell, Chichester.—Applications are invited from registered medical practitioners, male or female, for the appointment of TEMPORARY ASSISTANT MEDICAL OFFICER (B1). Previous experience in psychiatry is desirable. Salary according to qualifications and experience, but not less than £475 per annum, with full residential emoluments or cash in lieu. An additional £50 per annum is payable for the possession of the D.P.M. This appointment is terminable by one month's notice. R and W practitioners now holding B2 posts, also R practitioners holding B1 posts and rejected by the R.A.M.C. may apply. Applications should be sent as soon as possible to the Medical Superintendent.

WALSALL GENERAL HOSPITAL (181 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of CASUALTY OFFICER AND ORTHOPAEDIC HOUSE SURGEON (B2), including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months. Salary is at the rate of £200 a year, with full residential emoluments. Applications should be forwarded immediately to the undersigned.—W. H. Harper, Honorary House Governor.

WALSALL GENERAL HOSPITAL (181 beds).—Applications are invited from registered medical practitioners, male and female, for the post of HOUSE PHYSICIAN (A), at a salary of £150 a year. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months. Salary is at the rate specified above, with full residential emoluments. Applications should be forwarded immediately to W. H. Harper, Honorary House Governor.

YORK COUNTY HOSPITAL (222 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of ORTHOPAEDIC HOUSE SURGEON AND CASUALTY OFFICER (B2), vacant on September 27, 1945, including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months. The salary is at the rate of £175 per annum, with full residential emoluments. Applications to be sent to the undersigned immediately.—J. R. Mackrill, Secretary.

YORK COUNTY HOSPITAL (222 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A), vacant September 22, 1945, whose main duties are in the Eye, Ear, Nose, and Throat Department (37 beds with busy Outpatient Clinics), but who will share in the general work of the hospital, also Casualty Duty, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary is at the rate of £175 per annum, with full residential emoluments. This post is recognized for D.O.M.S. and D.L.O. examinations. Applications to be sent to the undersigned immediately.—J. R. Mackrill, Secretary.

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LONDON SATURDAY SEPTEMBER 15 1945

MR. BEVAN'S HOPES FOR NATIONAL HEALTH SERVICE

The new Minister of Health, the Rt. Hon. Aneurin Bevan, M.P., made his maiden speech in that capacity at the annual dinner of the Royal Medico-Psychological Association, held at the Savoy on Sept. 5, with Col. A. W. W. Petrie, president of the association, in the chair.

Mr. Bevan said that he had noticed during the past few weeks a tendency on the part of political speakers to adopt a depressing attitude to health and housing problems. He, on the contrary, felt distinctly optimistic. He was convinced that a nation which had achieved so much during the last six years would not fail to surmount these difficulties. War, whatever evil it might entail, was good for mental health. As the late Wilfred Trotter had said, it brought men together in moral unity, concentrating their energies against an outside foe. It induced a psychological buoyancy, a dedication of the spirit. But the war was now over, and the moral unity which had sustained us was in danger of fragmentation. It was now for the Government to provide the British people not only with work, but with work informed by design, so that to the tasks of peace the same dedication might be brought.

It was not to be expected (Mr. Bevan continued) that he would say much about the National Health Service. His mind was not fully made up, and any definite conclusions he formed must first be given to his colleagues in the Cabinet and to the House of Commons. But when they got to principles and administrative details he did not think very much would be found to separate him from the medical profession. On both sides they were anxious to provide the people with the best kind of medical service. He knew that the doctors felt anxious lest there should close upon them a national machine which would obliterate their individuality.

"They need have no fear—no fear at all. I conceive it the function of the Ministry of Health to provide the medical profession with the best and most modern apparatus of medicine and to enable them freely to use it, in accordance with their training, for the benefit of the people of the country. Every doctor must be free to use that apparatus without interference from secular organizations. The individual citizen must be free to choose his doctor and the doctor must be able to treat his patient in conditions of inviolable privacy. I look upon the general practitioner as the most important man in the medical profession, but I hope—and I trust this will not be regarded as tendentious—that we shall be able to organize a service which will take general practitioners away from the isolation in which at present many of them live and work, and that more group associations will be organized amongst them."

Long Discussions

It would be necessary to have very lengthy discussions with the medical profession. He would say this without any desire to be controversial, that he hoped the general body of doctors would turn up at the meetings of their own organizations, and not allow their spokesmen to speak for silent thousands. The generality of the profession should attend the meetings of their associations and make their point of view quite clear, so that when the leaders of the B.M.A. met him they would speak for a united profession.

He knew that there were doctors who felt that with a State medical service they were likely to be too much under the control of a bureaucracy.

"After all—I need not remind you of this—I am a Socialist, and, being a Socialist, I believe in industrial democracy; and because I believe in industrial democracy I believe that doctors as a profession must have a greater and greater say in the management of their own services. I want for the miners, the railwaymen, the engineers, a far greater share in the management of their work and the policies that govern it, and I claim no less for the doctors. The doctors themselves must have a recognized status in the new service. Therefore I hope they will not come and meet me as if I were an antagonist on the other side of the table; on the contrary, I am one whose enthusiasm for democratic medicine is as great as their own.

"At the same time we are going to do some unorthodox things—a good many unorthodox things. Whatever reputation I have managed to achieve, it has not been a reputation for orthodoxy. Undoubtedly we shall try a number of experiments, but in such experiments I hope to obtain the enthusiastic co-operation of the profession. There is something seriously wrong with the health service of Great Britain when free treatment is given to the insured person, and the members of his family are left to find treatment as they can. I should have thought—indeed I am convinced—that this job of organizing a good medical and hospital service for all the people of Great Britain will inspire the idealism of all worth-while members of the profession."

After an allusion to difficulties, especially the difficulty arising from shortage of hospital nursing and domestic staff, which, he said, "haunted" the Ministry of Health, Mr. Bevan concluded by saying that he knew he would not succeed in his task by the adoption of any bullying methods.

"I have to meet doctors across the table and try to break down their suspicions, but I am satisfied that before another year is over we shall be able to lay before the people a structure of medical and hospital services which will make Great Britain the envy of all other countries in the world. I hope that you will all try to dissipate the atmosphere which has been created during the last few months by the suggestion that the new Minister is going to come into head-on collision with members of the medical profession. No such thing. We are going to show that there exists amongst us a fund of knowledge and good will upon which we shall be able to call in order to provide the people with a medical service of which we shall all be proud."

A Fully Co-operative Profession

Dr. Charles Hill, Secretary of the British Medical Association, replying to a later toast, said that Mr. Bevan's human and reassuring speech must have given great pleasure to the members of the medical profession there assembled. It would, of course, be idle to pretend that the announcement of Mr. Bevan's appointment as Minister of Health raised in the collective medical breast a confident expectation that the next few months would be a placid time. The south-west wind would blow, bringing with it cloud and rain and short bursts of sunshine. When he first read of Mr. Bevan's appointment his small daughter asked him whether he were pleased about it; he paused before replying, and, strangely enough, the line of a hymn came into his mind, "God moves in a mysterious way His wonders to perform"! Of one thing they could be sure, that they had in the Minister a man of energy, drive, and vision, and they would be ready and pleased to meet him in discussion of the problems they all had at heart.

When Mr. Bevan met the doctors he would find a group of men no less earnest than himself for the good health of the people. As a profession they had been subject to a good deal of criticism. It had become fashionable to regard individual doctors with love and respect and doctors collectively as a reactionary crowd opposed to the best public interest. They would soon, he hoped, be able to convince yet another Minister that the profession had the fullest intention and desire to co-operate in obtaining the best possible health service. He agreed that it was important to secure the widest possible expression of opinion from the profession, and he hoped that the time-table might be so arranged that it would be possible to speak for that one-third of the profession still serving in H.M. Forces. It had been found a matter of some difficulty to represent fully the views of the profession when so large a proportion—a larger proportion than in any other section of the community—was away on service. Mr. Bevan would not find in the profession a spirit of suspicion, but a cordial desire to discuss the matters at issue.

"We do not, in the main, believe that the best public interest will be served by the translation of an independent profession into a branch of central or local government. We shall seek to maintain the integrity and intellectual freedom of our profession. We shall attach ourselves to fundamental principles, and a master of penetrating criticism like the present Minister will not fail to assess the real value of the criticism we shall bring forward. I speak for the profession in wishing him, not godspeed, for that might be misunderstood, but good luck in the immensely difficult task which he will face in years to come."

Psychiatry and General Medicine

Replies to the toast of "The Guests" were also made by Dr. G. Krause (Holland) and Dr. Noel Péron (France). Sir Alfred Webb-Johnson, President of the Royal College of Surgeons, in proposing the health of the Royal Medico-Psychological Association, confessed his long personal interest in psychiatry, and said how proud he was of the fact that when he was Dean of the Middlesex Hospital he was able to arrange a psychiatric out-patient clinic and beds for psychiatric patients. He was convinced that association with a general hospital rather than with a special hospital for mental disorders was the right method of approach in dealing with the early stages of mental disease. He begged the members of the specialty not to become isolated from the general body of medicine and surgery, but to maintain their links with the Royal Colleges and with the British Medical Association, and to insist that those desiring to specialize should first have a sound training and experience in general medicine. Dr. Gordon Masefield, retiring honorary secretary of the association, responded to the toast, and pleaded for an amendment of sect. 5 of the Mental Treatment Act. Temporary treatment, he said, had proved its worth, but only for a very small proportion of mental patients. It was hedged about with so many restrictions that it could not fulfil the purpose hoped for it. If it could be extended so that a medical man in charge of mental patients was trusted still further and had all patients who were non-voluntary on a temporary basis, doing away with the certification stigma, for the first six months, he believed they would really be making progress.

MEDICAL STUDENTS AND THE HEALTH SERVICE PROPOSALS

Medical students have been discussing the Government's proposed National Health Service since the summer of 1944 at meetings in their own medical schools and at regional delegate meetings. A questionary on the subject was distributed to every school (*Supplement*, Aug. 19, 1944, p. 40), and the Minister of Health spoke and answered questions on it at the annual general meeting last November. The British Medical Students' Association has issued the following statement of its views, pointing out first that the Association's membership represents 93% of British medical students.

"We are in favour of a National Health Service based on the health centre as its fundamental unit.

"We agree with the Government's proposal for central administration: responsibility shall rest with the Minister of Health, together with the Central Medical Board, an executive body mainly medical and appointed by the Minister. Such an arrangement is necessary to ensure a national cohesion in planning. We consider it equally necessary that the Central Health Services Council, elected by the profession as an advisory body, should be free to publish its reports and recommendations. This principle, we believe, should be applied at every level; while the service is administered by elected representatives of the public as well as by professional men, and ultimate responsibility rests with Parliament and the municipal authorities, there should be independent advisory bodies of professional people free to publish their advice.

"We consider that a scheme to provide the country with health centres should be started without delay, the first centres being placed in areas where there is at present a shortage of doctors. It will be impossible immediately to build all the health centres that are needed, as indeed it may be difficult to find the doctors to staff them, but a beginning should be made with the doctors willing and able to enter the service. Where centres cannot be built, they should be set up in previously existing buildings. The fact that it is impossible to build them all immediately need be no disadvantage. This is of necessity an experimental period, and provided we lose no time in starting the experiment, the experience gained should ensure that mistakes are avoided when permanent health centres can be built. Consideration should be given to the experience of countries—e.g., Scandinavia and South Africa—where health centres exist.

"There must be no compulsion for either doctor or patient to enter the service, and private practice must therefore be allowed to continue, and with it the buying and selling of practices. There can be no question of buying and selling practices in health centres. The team of doctors working in a health centre and having at their disposal the increased facilities provided out of public funds must be in the public service. We favour payment of salary plus capitation fee.

"We are not unaware of the difficulties involved, chief among which would appear to be the impingement of a National Health Service on private practice, but we fail to see that postponement of the problem in any way alleviates the position. We would point out that many young doctors coming out of the Forces have never been in private practice and would want to enter the service, whereas if, on the other hand, no such service exists, they will be compelled to embark on private practice, and the problem of subsequently establishing a public service with the number of private practitioners thus reinforced would become even more formidable. The setting up of the first health centres where there is at present a shortage of doctors will fulfil a real need and necessitate no drastic readjustment in private practice. Such a proposal involves the direction of doctors who have chosen to enter the service to the places where they are most needed, and this we consider reasonable.

"We recognize that more can be done to improve the health of the nation by raising the standard of housing, nutrition, and conditions of work than by purely medical means. Nevertheless medical reforms should not wait upon more general changes."

HEARD AT HEADQUARTERS

Minister's Inaugural

The new Minister of Health in his first speech announced himself as unorthodox. He was right. Not one of his 13 predecessors had begun by remarking, as Mr. Aneurin Bevan did, that his permanent officials had prepared three separate speeches for him for the occasion—there they were, on the table in front of him, beautifully typewritten—but that he would have none of them. He said that such indiscretions as he might make would be his own. Thereupon Mr. Bevan spoke without a note for nearly half an hour—one of the most candid, disarming, and engaging speeches we have ever listened to from a Minister. Could this really be the stormy figure from Ebbw Vale? Of course the speech (reported on another page) was in terms of generalities, but it had its flashes of insight, more than a touch of eloquence, and abundant confidence. "I believe myself to be a good doctor," he said; "I have got a therapy—that is the word, isn't it?" He promised that within a year a structure of medical and hospital services would be laid before the people which will make Great Britain the envy of the world. He also spoke confidently of having five years at his job. The average tenure of Ministers of Health since Dr. (now Lord) Addison first took on the job in 1919 has been just over two years. The only Minister who held the portfolio for five years was Mr. Neville Chamberlain, and his tenure of the office was broken into three periods, under different Governments.

A Gleam in the Eye

One point on which Mr. Aneurin Bevan seems unduly apprehensive is lest he should be regarded as antagonistic to the medical profession. He was at pains to assure his audience more than once that quite the contrary was the case. He said that on meeting Dr. Charles Hill on that occasion he had detected a certain gleam in his eye. Dr. Hill, when it came to his turn to speak, explained that the gleam in his eye on meeting Mr. Bevan was not a sign of belligerency; nor, on the other hand, he was bound to admit, did it betoken inordinate affection. It was in fact the gleam of relief. Five minutes earlier, on arriving at the hall where the meeting was held, Dr. Hill had found that he was being treated with unusual deference, and then discovered, to his horror, that he was being mistaken for the Minister of Health himself!

Social Conscience

The Secretary of the B.M.A. has done well to refer in public to what has become known, thanks to enterprising reporters, as the "Beveridge incident." Many people continue to express various degrees of surprise and disapprobation at the action of the representatives at the A.R.M. in cheering the announcement of the defeat of Sir William Beveridge at Berwick. The circumstances seemed to give point to one of Low's recent cartoons in which the B.M.A. is depicted as a corpulent patient being examined by a doctor who says, "Don't worry, you will not die from enlargement of the social conscience."

The facts about the Beveridge episode ought to be told. The General Election results were being announced from the platform of the A.R.M., and at the end came a list of eminent politicians who had lost their seats. The final name was that of Sir William Beveridge, and at the end of the reading of the list there was an audible expression of astonishment not unmingled with dismay. It is true that from a very tiny section of the meeting there was a feeble cheer. So small a minority was concerned that had it been occasioned by anything else the cheer would not have been noticed, hardly heard. But it was enough to furnish headlines in the Press that the doctors had cheered the defeat of the architect—or should it be quantity surveyor?—of social security. It was an instance of that kind of misrepresentation in which there is enough fact to give a faint colouring of the genuine article. Whatever their views on policy, the members of the medical profession have a closer acquaintance than most with the effects of poverty and economic insecurity as affecting the health and happiness of the community, and are the last to welcome the fall of any who seriously labour to redress them.

Electing the I.A.C.

The election of direct representatives on the Insurance Acts Committee is taking place this month, the latest date for nominations being Sept. 24, and if there is a contest in any of the territorial groups the voting papers will be posted on Oct. 11. These representatives are elected from the different areas by the members of the Local Medical and Panel Committees in each area. The grouping of areas resembles, but is not the same as, the grouping of Branches for election to Council. There are 21 groups, of which Scotland has 4, Wales 2, and Northern Ireland 1, leaving 14 for England. Thus what is sometimes called the Celtic fringe is over-represented at the expense of the predominant partner, which, on the basis of doctor-population, should have 16 of the groups. The predominant partner has not been heard to complain about this, but there has been criticism of the arrangement of the English groups, though (the facts of geography being as stubborn as they are) no strictly equitable system seems possible.

The voters in this election are the individual members of the Local Medical and Panel Committees, and each vote carries a value equal to the number of insurance practitioners in the area divided by the number of members of the committee. Thus in an area with 300 practitioners and a committee of 10, the value of each vote will be 30. Which seems about as fair a method as can be devised.

Where Every Prospect Pleases

In one of the medical journals from over-seas an advertisement of a medical appointment in the Dickoya district of Ceylon holds out the prospect to a medical practitioner with experience in medicine, surgery, and gynaecology of an assured income of upwards of £4,000 a year. This sum, it is stated, was earned by the previous incumbent in the medical service there. As if that were not sufficient attraction, it is added that the Dickoya district lies 4,000 ft. above sea level and can claim the best climate in the world.

Close Sittings

The central Council of the B.M.A. sets a good example of hard work, its members travelling from all parts of the country for a long day's meeting, but some of its daughters overseas appear to be even more strenuous. I have just received 45 closely typed foolscap pages of minutes of a recent meeting of the Federal Council of the British Medical Association in Australia. The meeting began at 2 o'clock in the afternoon of Monday, and adjourned at 10 at night until 9.30 on Tuesday morning, going on until 6 in the evening, then reassembling at 9.30 on Wednesday and continuing until 10 at night, and resuming at 9.30 on Thursday until a closing hour not stated. The twelve members represented all the six States, and except the two from Victoria they must have travelled to Melbourne many hundreds of miles.

"Free Medicines" in Australia

The medical profession in Australia has been much exercised over the Pharmaceutical Benefit Act, which has inaugurated a "free medicine" scheme by the Government. The objection of the profession is that the only medicines which are "free" are those included in the list or formulary which the Government has issued; on the other hand, if a doctor prescribes for his patient a special medicine which he considers necessary for the particular case the patient has to pay for it in full. A statement has been issued for exhibition in doctors' waiting-rooms throughout Australia informing patients of the true meaning of the measure, and pointing out that "no self-respecting doctor would allow a decision as to what medicine his patient should or should not have to be taken out of his hands by Government officials. "It is this glaring injustice to yourself as a member of the public," the notice goes on, "which the medical profession is seeking to rectify. If and when the Government produces a scheme under which *all* medicines will be free, the doctors will be prepared to reconsider the position. In the meanwhile we ask for your support in the stand we have taken." The Federal Council of the B.M.A. at its last meeting resolved to make a further approach to the Commonwealth Government requesting the removal or amendment of those features of the Act which are objected to by the profession.

Dr. Haden Guest is chairman of the Medical Personnel (Priority) Committee in succession to Sir Geoffrey Shakespeare.

Correspondence

Medical Demobilization

SIR,—Among the many letters on this subject I have been surprised to see no recognition of the "medical bottleneck" as a factor in delaying demobilization of the Forces in general and of medical officers in particular. Since the group release scheme began to operate the numbers falling to be discharged daily has rapidly increased, and though no actual figures have yet been published it may be estimated that a goal of 10,000 to 15,000 discharges daily is being approached.

Each of these men is receiving a medical examination, recorded on a form A.F.B. 3149, the equivalent of a life assurance company's medical report on a proposal for insurance. (Incidentally a life assurance company would pay a fee of one or two guineas, and a practitioner would spend 40 to 60 minutes in earning that fee. To the R.A.M.C. officer it is just another chore.)

Medical officers vary in the speed with which they complete these examinations, but experience at a centre staffed by several M.O.s has shown that on the average 15 to 20 minutes are required to do the work adequately, and much longer to do it thoroughly. Now simple arithmetic shows that 15,000 times 20 minutes means 5,000 man-hours of medical work to be done each day, or rather more than 800 doctors employed full-time on this task alone. Even now there are not 800 surplus medical officers available for this employment, and as demobilization procedes the "bottleneck" will become ever more constricted.

Twenty-seven per cent. of medical officers, but only 10% of the Army, are in the first 20 age-and-service groups: if 27% of M.O.s are discharged with their groups 63% will be left to provide medical service for 90% of the Army. Whence, then, will the surplus M.O.s be found for this task of examination on discharge? In the circumstances can anything better than the "vague statements" of which your correspondents complain be expected? It is pleasant to read the forecasts for release of the age-and-service groups published in the daily press: for my part I remain sceptical.—I am, etc.,

"GROUP 20."

Release of Doctors

SIR,—The Central Medical War Committee has issued yet a further list of demobilization groups for medical officers in the R.A.F. This time it is Groups 11 to 14 in October, which still leaves the demobilization of doctors far behind any other Service trade.

Thanks to the British Medical Association, many appointments are now advertised long before they will be required to be filled, to enable serving medical officers in any theatre to apply. But how can we in the slightly higher demobilization groups apply for these posts when we have no idea when we can reasonably expect to be released from harness? Surely the C.M.W.C. has by now formed its plan for our demobilization. Then why will it not issue in advance the expected dates of demobilization of the higher groups? We in the Forces would be very grateful if they would. Obviously they cannot announce it in the lay press, but I see no reason why the information could not be passed to us through the medium of the medical journals, or even by a personal letter from the B.M.A. to all doctors in the Forces, in the same way as it did when the White Paper on a National Health Service was under discussion.

We are broad-minded and far-seeing enough to realize that any dates given far in advance could only prove very approximate, and be liable to some alterations, but it would relieve the mental tension at present being forced upon us by the mysterious silence of the C.M.W.C. It would give us some approximate idea when we might reasonably expect to return to civilian life; and then those of us who so desired would know which of the advertised posts we could apply for with a reasonable hope of being free to accept if successful.—I am, etc.,

"Higher Demob."

⁂ The Secretary of the Central Medical War Committee writes: The "plan" for demobilization is made by the Government, *not* the C.M.W.C. The B.M.A. is pressing for expedited demobilization and the announcement of a long-term plan.

Reallocation and Release

Sir,—Allow me to add my moan to that of others on the subject of reallocation of medical officers in the Forces. From recent announcements there is little doubt that the release of medical officers will be allowed to lag very much behind the releases in the vast majority of other branches. The gross unfairness of this situation does not need stressing. I am convinced not only that this is unnecessary and undesirable but that were the problem tackled properly medical officers could be released in higher age-service groups than could the majority of officers in other branches.

I deliberately refrain from speaking about other relevant factors connected with this subject; I confine myself to the equity of it. I shall, however, try to speak for others who have given reasonably long service in this war. We view the present state of affairs with despondency and almost without hope. The B.M.A. is our only mouthpiece and refuge, but to date its efforts have been unavailing. Lest, however, we should continue to be indefinitely members of a Service where soon there will be one medical officer for every 100 personnel, I write this but withhold my name and simply sign myself,

"Sixth-year R.A.F. M.O."

Slow Release

Sir,—You have recently published several letters in the *Supplement* on the subject of the disadvantageous position of Naval medical officers in the "demobilization stakes." This is further underlined by the announcement in this week's *B.M.J.* that the Army hope to release M.O.s up to Group 16 by mid-October. The best that the Navy can offer is the demobilization of Group 7 by a similar date and, so far, only a handful of elderly retired "regulars" have actually been released.

The situation is unjust and intolerable, and I hope that you will find space to publish this and other letters on the same subject in order that this justifiable grievance may be ventilated. The remedy is simple; (1) direction of all non-specialist entries into the Navy; (2) transfer of junior Army M.O.s to the Navy; (3) ruthless pruning in the medical staffs of ships and establishments; and (4) a revision of the ancient Navy superstition that it is necessary to have a fully qualified medical practitioner in the near vicinity whenever anybody has to move an object weighing more than five pounds!

Those of us who have been serving for nearly six years are downhearted indeed when we see our contemporaries in the Army returning to civilian life whilst we "soldier on" without anyone appearing to be interested in our fate. Will the C.M.W.C. please let us know what, if anything, is being done about it.—I am, etc.,

"S.M.O."

⁂ The Secretary of the Central Medical War Committee writes: The C.M.W.C. entirely sympathizes with the complaints regarding the slow rate of release. It has taken the matter up with the Government and is pressing for Government decisions on this and other release problems. The Committee is of course most willing to adjust its recruitment programme in any way that may be necessary to facilitate a fair plan of release of medical officers from the three Services. It has no authority to determine the plan, this being the responsibility of the Government

Waiting for Release

Sir,—The weeks pass and still Service medical officers are given no concrete information concerning their release from the Services. The weeks pass and the pile of letters expressing concern and dissatisfaction increase in the files of your *Journal*. These apparently have no effect, yet all that is being demanded is information, so that men may make some sort of arrangements for the future. There is no shadow of excuse for this.

It is clear that the three Services know their immediate commitments, for they have all published their release programme up to January, 1946. It is true that up to three weeks ago actual medical release was running concurrently with general release in the Army, but no official assurance has been forthcoming that this will continue. Even this has been managed with the maximum of uncertainty. There was a halt at Group 11, then a hurried release for Groups 12 and 13, followed by a quick warning to Groups 15 and 16, by which time general release group 18 had been warned, so that again medical release was lagging behind.

High-ranking visiting officers can only say that they hope that medical release will keep parallel with general release, but apparently no one is empowered to say that it will.

The Central Medical War Committee send us letters of sympathy and maintain that they also are without information. The C.M.W.C. is the body entrusted with the allocation of medical man-power; if they are unable to carry out their function by reason of lack of co-operation from the Government then they should at once resign. Should they have the courage and honesty to take this course I have no doubt that this melancholy muddle would soon be given the attention it deserves.—I am, etc.,

"Major, R.A.M.C."

British Army of the Rhine.

Colonial Medical Service

Sir,—"Old Soldier's" letter (*Supplement*, Aug. 25, p. 50) will interest many. An entrant to the Colonial Service with more postgraduate experience than the minimum necessary to secure appointment loses by just that much in salary, seniority, and pension without any compensation other than the personal satisfaction of being better equipped for his work. Men in their thirties would start at the bottom of the salary scale, be subordinate to younger men, have no chance of promotion, and not serve long enough to earn an adequate pension.

In the years 1925–9 there was a large influx (West African Service) of men who qualified in 1924–5. Of those who joined in 1925–6 very soon after qualification all who remain in the service are now S.M.O.s or higher, and are "blocking" the promotion of those who spent two or more years acquiring further postgraduate experience and joined in 1927 or later. Thus those who "responded" to the Colonial Office appeal, most of them young and inexperienced, and so escaped military service, will have a great advantage over the old soldiers.

I suggest to "Old Soldier" that, if he wishes to work over-seas, service with a mine or other commercial undertaking offers greater attractions. His age and experience would be appreciated, and remunerated accordingly; and he would be regarded and treated as a valuable member of the organization, not (the most irksome feature of most public services) merely as a subordinate official.—I am, etc.,

G. L. Alexander,
Colonial Medical Service.

Clifton.

Release of Students

Sir,—I should be grateful for an opportunity to voice my support of Dr. James Melvin's letter (*Supplement*, Aug. 25, p. 51) in which he appealed for the release of medical students from the Services. I know personally four medical and dental students who have: (1) been classified as unfit for the duties for which they entered their respective Services: (2) already been promised admission by their medical schools if only they can obtain their discharges by this October; and (3) have an average of four years' service each. Although the release of 1,500 theological students has been arranged, it appears that not a single fit medical student will be able to return to school from the Services this October.—I am, etc.,

London, S.W.1. John Ball.

Replacement and Indispensability

Sir,—On very high authority (Lord Moran's party which made a tour of the B.L.A. not so many months since) we were given to understand one of the causes (we of the B.L.A. concluded the *main* cause) of the delay in releasing doctors from the Services was the insurmountable difficulty of "replacement"; it was alleged that while nearly every mother's son of them was struggling might and main to serve in the Royal Navy, the Army, or the R.A.F. the young specialists (and others) could not leave the teaching and E.M.S. hospitals, etc., because they were indispensable.

Needless to say, this assertion caused amazement—and, among some, derision.

For my part I cannot recognize "indispensability." A man is indispensable only to himself alone—and "there are as good fish in the sea . . .": a Stalin replaces a Lenin, a Truman a Roosevelt, and an Attlee a Churchill, and yet the world goes forward. Nor can I believe that all these teachers, lecturers, etc., are so inspired and inspiring or have such transcending gifts that they could not be replaced reasonably adequately by other men. Such, at least, is my observation after my three decades in the medical business.—I am, etc.,

Coulsdon. "VETERAN."

In and Out

SIR,—Now that the excitement of VE and VJ Day has ended and we are faced with the realities of rehabilitation, the moment has arrived when Service medical officers require definite mobilization and demobilization figures to be issued by the Central Medical War Committee every month.

We have been informed in the R.A.F. that Group 10 is to be released by the end of September. The fact that only ten groups of medical officers are to be released up to this period is not fully understood, when the following factors are taken into consideration: (1) Non-active-service conditions; (2) the huge reduction of Dominion and Colonial personnel in this country; (3) large numbers of Class B releases, and releases of married W.A.A.F. The only conclusions one can draw are that there have been a large number of Class B releases from the medical service, or that the medical service is over-established. The fact that release medical examinations have to be carried out is not sufficient justification for the retention of large numbers of medical officers.

A considerable number of Service medical officers have sacrificed their professional knowledge, financial standing, and family life, and are in no mood at this stage to be "toyed with" by those wishing to cling to "establishments." It is the duty of the C.M.W.C. to look after the interests of the serving M.O. in this respect, and not to be dictated to by those in control of Service medical organization. It is obvious that those in control of Service medicine do not wish to lose doctors—nature is only human, more particularly if it strikes at a loss of income due to reduction of establishment.

The answer to the whole problem of medical demobilization is simplified by the fact that a doctor is a doctor whether he be in civilian clothes or in uniform. Hence mobilization of those doctors under 40 for service is not too much to demand. This could easily be arranged by the Local Medical War Committees—the mobilized practitioner being replaced by a demobilized practitioner from the same area. What a heaven-sent opportunity for those who have worked so hard for so much money to replace those who have worked so little for such a little money!—I am, etc.,

"FL. LIEUT., R.A.F.V.R."

Professional Secrecy

SIR,—Having recently been reading about the new proposals for the better ordering of things medical, it occurs to me that some of them are likely to come up against the Hippocratic Oath sooner or later. Personally I have always taken this old-fashioned obligation seriously, and still do. Consequently I have been up against it inconveniently on occasions. It may interest some of your readers to know how I managed.

For a good many years I practised in a town where there was a relatively large body of civil servants; a number of these were patients of mine. At the end of the first visit it was customary to hand the doctor a form to be filled up and signed. Among the statements demanded by the form was "Diagnosis." I well remember the first time that this produced an acute difficulty. I had filled in the space with "Early phthisis." My patient remarked, "But, Doctor, this will ruin my career in the Civil Service." I took the signed form back and tore it up.

Fortunately, anticipating trouble, I had already taken some steps. These were to interview three or four of the "top-row" civil servants and explain that I intended to fill in such forms as it suited myself and my patients, irrespective of the reality of the case. I asked that my intentions should be communicated to others of the "top-row" concerned. Neither then, nor at any time during the years I practised in that town, was there ever any protest as to my methods. I forget now what the substitute diagnosis was. It may have been "Dysentery."—I am, etc.,

J. F. R. GAIRDNER.

National Health Service

SIR,—It would appear that a fresh start must now be made with the negotiations regarding the proposed National Health Service. It therefore seems opportune that attention be directed once more to the fact that the Negotiating Body is not representative of our profession. It would, I think, be accurate to say that none of its members is under 40 and few, if any, under 50. There is also, so far as I am aware, nobody at all to speak for the 13,000 doctors who are or have been serving with the armed Forces. I submit that this omission should be corrected forthwith. It is, moreover, of particular importance now that we have to deal with a Minister who is himself young—younger in fact than many who have worn the King's uniform.—I am, etc.,

E. A. GERRARD,
Surg. Cmdr., R.N.V.R.

Terms of Full-time Salaried Service

SIR,—Views concerning conditions of service and remuneration for doctors are of interest to the profession, but it is obvious that these views may vary with the individual doctor. In my judgment the majority of doctors outside those already in full-time employment would prefer to be as they are at present because they fear: (1) a drastic cut in their remuneration; (2) bureaucratic control.

While the present N.H.I. conditions of service are irksome to many, men who feel that they are not adequately remunerated, the fact remains that these same men would prefer remaining in the frying-pan rather than be made to jump into the fire. On the other hand the advocates of a complete full-time salaried national medical service are of opinion that: (1) the conditions for the doctor will be better; and (2) the services obtainable by the public much improved. With regard to the above two points there is a sharp cleavage of opinion, the reasons for which are well known and need not be reiterated.

From my own point of view I am content to allow matters to remain as they are for the simple reason that in my particular case I am satisfied. This does not mean that things cannot be improved; obviously improvement is necessary, judging from the various reports one hears in many directions. On the other hand I am equally agreeable to a national medical service on a full-time salaried basis provided the following considerations are met:

1. Adequate salary based on the number of years' service which a man has already given to the profession.
2. Compensation for the capital value of his practice, which he would normally expect to dispose of for a substantial premium on his retirement.
3. A fortnight's holiday per annum with pay and a locumtenent to be supplied by the service.
4. A fortnight's postgraduate work (this should be compulsory) at a recognized institution with pay and expenses. A locumtenent to be provided as above.
5. Adequate arrangements for illness; provision of locumtenent, etc.
6. Pensions at 65, when the practitioner will retire from the service. (With the present number of doctors available I am told that 65 will be too young an age to retire any doctor; but a doctor should be permitted to retire at 65 if he so desires. If he does not retire at 65 he carries on as before, but cannot claim his pension until he does retire.)
7. Conditions of work should provide for definite hours of duty and definite off-duty time—i.e., there should be a rota arrangement in the district to which the doctor belongs, probably worked through a health centre.
8. At death there must be some provision by way of a pension for his widow.

I think that if a national service can give us these advantages a doctor would be willing to sacrifice a considerable portion of his present income in exchange.

But in spite of all that has been said there is still one aspect of the business that makes one somewhat cautious about accepting a new national service. I refer to the control of the profession. By whom are we to be controlled? There are so many serious objections to the local doctors of the town being under the control of the local councillors of the town that I can well understand the fierce antagonism of the medical profession to a procedure which, I believe, is part of the Labour Party's policy; which brings me to my final point. The Labour Party are in complete power with an absolute majority and they have already published their "National Service for Health," and, presumably, they will put this into practice. Assuming that the medical profession cannot swallow the whole of this policy, are the doctors prepared to fight as an organized compact body against the Government?—I am, etc.,

"TWENTY-FIVE YEARS' SERVICE."

The Medical Situation in India

SIR,—I should be obliged if you would allow me to reply to Lieut.-Col. C. J. Lodge Patch (*Supplement*, Aug. 18, p. 47), for whose humanitarian work at the Lahore Mental Hospital I have nothing but admiration, although I have no personal knowledge of that institution. He falls into the same psychological error into which many retired I.M.S. men, after their periods of valued service in India, fall when commenting on matters Indian. They adopt the easy path of recrimination instead of that of reconstruction.

In a large country like India, with, moreover, a long and continuous history of culture, a modern European, himself accustomed to small and excessively uniform States, will find much that appears out of date and bizarre. Further, the Indian social system is entirely different from the modern European without being necessarily inferior. If it were a precondition of progress to obliterate the past at one blow the outlook for progress would in any country be very pessimistic. The only way compatible with freedom (the democratic way) is gradually to replace the past so that it is no longer necessary.

Whether the Indian people should take the opinion of a British Commission to be final once and for all as to the standard of university medical education in India is a matter of opinion; although—in view of the fact that this education has until lately been largely controlled by British teachers (mainly recruited from the I.M.S.) the stressing of such an opinion appears a little surprising, and the blame, if any, must be shared by the British teachers themselves. In any case, no one can say —and in this I can speak from considerable experience of general practice here —that the standard of skill shown in general practice in India is lower than in this country. The main difficulty there, as Col. Lodge Patch points out, and as I did in my letter, is personnel, particularly in the rural districts. The vast majority of the poor people who attend the practitioners of old-fashioned systems do so because they either cannot find a doctor or cannot afford one. Once an extended general-practitioner and hospital service has been established the older systems will automatically disappear. This is the way of reconstruction. The example of Russia shows that once a Government is determined to carry out such a plan it can be done comparatively quickly. It is not fair to put down to prejudice or ignorance what is in reality due to lack of capital and central planning.

Not only is the extreme aptitude for science of the Indian intelligentzia well recognized, but the easy adaptability of the Indian peasant to modern conditions is also a fact of common observation. Ask those who have charge of the modern Indian armies, recruited largely as they are from among the peasants, of the ease with which they hold their own, with modern weapons, in any part of the world, East or West. Does anyone believe that the Indian peasant, with the alternatives clearly available before him at equal cost, would prefer the bullock-cart to the motor-car or the railway, the plough to the tractor, or the old-fashioned "hakim" or "ved" to the modern doctor?

The joke at the end of Col. Lodge Patch's letter about the Punjab Government wishing to commandeer and thus (according to him "appropriately") admit themselves to the mental hospital which he helped to build, and his reference to "an obtuse and obstructive Indian Government," appear to be in doubtful taste at the end of a war in which this same Government, of all the Indian Governments, sustained most consistently and vigorously the Indian war effort, and sent the sons of Punjab to fight for Britain (and, one hopes, for freedom) in every theatre of the war. This Government was referred to only the other day by the Viceroy, during the recent political conference, as the model on which he hoped the other Provinces would build up theirs. Incidentally, Col. Lodge Patch is in error in calling Punjab a "Muslim Province," as the followers of this religion form only half the population, the Government being a Coalition.

Neither the Indian Governments nor the Indian people are in general either "obtuse" or "obstructive," and I.M.S. men who served India well in their younger days can continue the good work on retirement by helping with proposals for reconstruction. The joint authors (Indian industrialists) of *A Plan of Economic Development for India* (now available in the Penguin series) have made a business-like analysis of the medical situation, and have estimated the *cost* of the minimum requirements of the medical services, which everyone knows is the crux of the matter.—I am, etc.,

Rasheed Ahmad, M.R.C.S., L.R.C.P.
Dagenham, Essex.

Doctors' Car Repairs

Sir,—Having seen the footnote to Dr. Richardson Billings's letter (*Supplement*, Sept. 1, p. 56), I think my experience of the working of the scheme to expedite repairs to doctors' cars should be known. In March this year I had to have my car rebored and the crankshaft ground. As the firm doing the work could not obtain new pistons, I applied to the Ministry of War Transport. On *Aug. 29* I received a postcard to say the Ministry had advised that the parts had been sent on *June 23* to a London firm through whom my garage had applied for pistons. On that day (Aug. 29) the firm had still not received the parts. Fortunately I had been able to obtain pistons through a patient in the meanwhile or I should still be without my car. A note at the bottom of the postcard says that in case of delay I should apply again to the Regional Officer!—I am, etc.,

G. Humphry Ward.

A Disclaimer

We have received a letter from Lieut.-Col. H. H. Broome, C.I.E., F.R.C.S., I.M.S.(ret.) disclaiming the story attributed to him in the *Supplement* of Aug. 18 (p. 47) and expressing much concern that his name should have been associated with it because it might offend his many Indian friends.

H.M. Forces Appointments

ROYAL ARMY MEDICAL CORPS

Lieut.-Col. J. M. MacKenzie, C.B.E., M.C. having attained the age for retirement, is retained on the Active List, supernumerary.

Major (War Subs. Lieut.-Col.) J. E. Rea to be Lieut.-Col. (Substituted for the notification in a *Supplement* to the *London Gazette* dated July 31.)

Major G. T. L. Archer to be Lieut.-Col.

Major H. L. Mann has relinquished his commission, and has been granted the honorary rank of Lieut.-Col.

LAND FORCES: EMERGENCY COMMISSIONS

Royal Army Medical Corps

War Subs. Capts. I. C. Middleton and J. N. Swainston have relinquished their commissions on account of disability, and have been granted the honorary rank of Major.

War Subs. Capt. P. J. Waddington has relinquished his commission on account of disability, and has been granted the honorary rank of Capt.

To be Lieuts.: P. Allebone, M. K. Alexander, J. T. D. Allen, T. J. Boag, J. W. Bullimore, J. P. Carri, B. Cashman, M. D. Cremin, G. G. Doel, E. D. Edmondson, I.-J. C. Frew, H. L. Harris, C. R. Helsby, J. Herd, J. D. Holdsworth, D. R. Humphreys, L. Jacobs, J. B. Jeffries, H. A. Jones, R. Kean, M. V. Kramer, L. W. A. Lankester, M. W. Leivers, A. H. R. Muir, J. P. Philp, H. H. Pilling, W. L. Sanders, J. V. Walker, A. G. Wolstenholme, S. R. Wood, and T. M. Wood-Robinson.

WOMEN'S FORCES

Employed with the R.A.M.C.

The following M.O.s have been granted commissions in the rank of Lieut.: Janet E. Bottomly, Mary D. G. Jones, and Margaret G. Thomson.

ROYAL AIR FORCE

Royal Air Force Volunteer Reserve

Fl. Lieuts. T. H. Whitsitt and H. Paterson have relinquished their commissions on account of medical unfitness for Air Force service, retaining their rank.

INDIAN MEDICAL SERVICE

Lieut.-Col. B. H. Singh, M.C., has retired from the Service.

POSTGRADUATE NEWS

The Fellowship of Medicine announces the following courses: (1) Revision course in anaesthetics, Oct. 8 to 20; demonstrations and/or lectures daily at various London hospitals. (2) Week-end course in diseases of children, all day, Sat. and Sun., Sept. 29 and 30. (3) Week-end course in rheumatic diseases, all day, Sat. and Sun., Oct. 20 and 21, at Rheumatic Unit, St. Stephen's Hospital, Fulham Road, S.W.

A course of instruction will open at the Middlesex Hospital Medical School on Nov. 5 for graduates intending to sit for the Primary F.R.C.S. examination. The candidates will be required to take the whole course, and will not be admitted to parts of it. Fee, 25 guineas.

A series of lectures on ophthalmology to be held in the Department of Ophthalmology of the University of Glasgow will commence on Sept. 19, at 8 p.m., and continue on Wednesdays until Oct. 24. Details of these lectures will be published in the Diary column of the *Supplement* week by week. A discussion follows each address, and the meetings are open to all medical practitioners and senior students interested in ophthalmology.

WEEKLY POSTGRADUATE DIARY

Glasgow University: Department of Ophthalmology.—*Wed.*, 8 p.m., Prof. W. J. B. Riddell: Synthetic Mydriatics.

B.M.A.: Branch and Division Meetings to be Held

Westminster and Holborn Division.—At Alhambra House, Charing Cross Road, W.C.: Thursday, Sept. 27, Meeting of the Executive Committee to follow meeting of Local Medical War Committee at 4 p.m.

BIRTHS, MARRIAGES, & DEATHS

The charge for an insertion under this head is 10s. 6d. *for* 18 *words or less. Extra words* 3s. 6d. *for each six or less. Payment should be forwarded with the notice, authenticated by the name and permanent address of the sender, and should reach the Advertisement Manager not later than first post Monday morning.*

BIRTHS

Patey.—On Sept. 4, 1945, at Middlesex Hospital, W.1, to Jean (*née* Mason), F.R.C.S.Ed., and Squad. Ldr. John Patey, a son.

Thubron.—On Aug. 3, 1945, at Plymouth, to Marjorie (*née* Furze), wife of Surg. Lieut.-Cmdr. Thubron, R.N.V.R., a son.

MARRIAGES

Kearon—Edmond.—On Sept. 8, 1945, in London, Capt. Hubert V. Kearon to Meta Helen Edmond, M.B., Ch.B., widow of the late J. J. B. Edmond, Colonial Medical Service, and only child of Mr. and Mrs. Ernest Thomson of Edinburgh.

Whitney—Bannister.—On Aug. 30, 1945, at Chester, Rupert Underwood Whitney to Freda Bury Bannister.

DEATH

White.—On Aug. 27, 1945, Cresswell FitzHerbert White, M.B., C.M.Aberd. 1887, at Bury, Sussex, aged 84.

RETURN TO PRACTICE

The Central Medical War Committee announces that the following have resumed civilian practice: Mr. E. V. Oulton, at 21, Lansdowne Place, Hove, 2; Dr. C. S. D. Don, at 24a, St. John Street, Manchester, 3; Mr. C. J. Cellan-Jones, F.R.C.S.Ed., at c/o Dr. J. D. Robertson, 2, Uplands Crescent, Swansea.

Dr. E. L. Bartleman, late of 9, Old Burlington Street, London, W.1, will resume practice on Oct. 1, at 58, Portland Place, W.1.

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APPOINTMENTS

HIS MAJESTY'S COLONIAL SERVICE. The Colonial Medical Service. Vacancies for MEDICAL OFFICERS. The maintenance of an efficient COLONIAL MEDICAL SERVICE constitutes a vital part of the national war effort, and it is most important that the Service should be assured of an adequate supply of doctors. The Secretary of State for the Colonies therefore invites applications from doctors possessing a medical qualification registrable in the United Kingdom who are British subjects and who are under 35 years of age. Medical officers are appointed in the first instance for general service, but there are ample opportunities for work in special branches of medicine and surgery, in public health, and in medical research. The normal salary scale is from £600 to between £1,000 to £1,120. There are large numbers of super-scale posts to which promotion is made on merit and which carry higher salaries. Government quarters, in many cases free of rent, and first-class passages to and from the Colonies are provided, and an adequate pension scheme is in force. Selected candidates are normally required to attend a course of instruction in Tropical Medicine and Hygiene, either before or after proceeding overseas or during their first period of leave. Further particulars, including the regulation governing admission to the Colonial Medical Service, may be obtained from the *Director of Recruitment (Colonial Service)*, 2, Park Street, London, W.1.

INDIAN MEDICAL SERVICE. Recruitment of WOMEN MEDICAL OFFICERS.—The Government of India are prepared to recruit a limited number of women medical officers for service with the Indian Medical Service for the duration of the war. Applicants must be British subjects, of not more than 45 years of age, and those selected will be appointed in the rank of Lieutenants. Antedate of seniority may be granted up to a minimum period of 6¼ years in respect of resident hospital appointments, higher qualifications, and/or professional experience. The antedate will count for pay and promotion, but, in the case of candidates recruited in this country, higher rank will not be assumed until the date of disembarkation in India. On termination of service, a minimum gratuity is guaranteed to those officers who complete one year of service, viz., Rs. 2,000 to officers whose registrable medical qualification is dated before January 1, 1940, and Rs. 1,000 to those who qualified after that date, plus one month's pay for each further completed year of Army Service. Further particulars regarding rates of pay etc., may be obtained from the Medical Adviser, India Office, London, S.W.1, or from the Secretary, Military Department, India Office to whom all inquiries should be addressed

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GOVERNMENT OF IRAQ.—The following staff is required by the Government of Iraq for the Royal College of Medicine, the Royal Hospital at Baghdad, and the larger institutes and hospitals in the Provinces: PROFESSORS of Clinical Surgery; Diseases of the Ear, Nose, and Throat; Surgery; Obstetrics and Gynaecology; Clinical Pathology; Clinical Ophthalmology; ASSOCIATE PROFESSOR of Medicine; SURGICAL SPECIALISTS (for the Provinces); DIRECTOR of the Parasitological Laboratory: SPECIALIST in Children's Diseases. Appointment will be for three years in the first instance, but a contract for a shorter period may be considered. Salary Iraq Dinars 150 a month, plus high cost-of-living allowance, at present I.D. 24 a month (I.D. 1 = £1). Free first-class passages and liberal leave on full salary. The posts are not pensionable, but there is a Provident Fund. Candidates should be Professors in possession of a professor's degree from a recognized college or alternatively specialists in their branch who have worked as such for not less than 8 years at a recognized college, institute or instructional hospital, or who have occupied a post of Assistant Professor at a recognized college for a similar period. Practitioners now serving in H.M. Forces may apply. Write, stating age and full particulars of qualifications and experience, to Overseas Manpower Committee, York House, Kingsway, London, W.C., before January 15, 1946.

CITY OF STOKE-ON-TRENT. CITY GENERAL HOSPITAL. ASSISTANT RESIDENT MEDICAL OFFICER (B2).—Applications are invited from registered medical practitioners (single, male or female), including R and W practitioners who now hold A posts, for the appointment of Assistant Resident Medical Officer (B2), at the City General Hospital, Stoke-on-Trent. If offered to an R or W practitioner the appointment will be limited to a period of six months, otherwise will be for a period of one year. The salary is at the rate of £250 per annum, plus bonus, with full residential emoluments. The Hospital, which is an Emergency Hospital, has approximately 1,200 beds, and there is excellent scope for medical, surgical, and obstetrical work.—Applications endorsed "Medical Officer, City General Hospital," to be sent to the undersigned immediately.—Harry Taylor, Town Clerk.

BRITISH POSTGRADUATE MEDICAL SCHOOL (University of London).—Applications are invited from registered medical practitioners, male and female, for the appointment of a HOUSE SURGEON (A) in Obstetrics and a HOUSE SURGEON (A) in Gynaecology, both becoming vacant on November 1, 1945. This includes practitioners liable to service under the National Service Acts who have not yet completed three months since date of qualification. The appointment is for six months. The salary is at the rate of £105 per annum, plus full residential emoluments.

Applications are also invited from registered medical practitioners, male and female, for the appointment of two HOUSE PHYSICIANS (A), both becoming vacant on November 1, 1945. This includes practitioners liable to service under the National Service Acts who have not yet completed three months since date of qualification. The appointment is for six months. The salary is at the rate of £105 per annum, plus full residential emoluments.

Apply, the Dean, British Postgraduate Medical School, Ducane Road, W.12, before September 29, 1945.

BOROUGH OF ILFORD. TEMPORARY ASSISTANT MEDICAL OFFICER OF HEALTH AND RESIDENT MEDICAL OFFICER at the Isolation Hospital and Sanatorium.—Applications are invited from qualified medical practitioners for the appointment of a Temporary Assistant Medical Officer of Health and Resident Medical Officer at the Borough Isolation Hospital and Sanatorium at a salary of £600 per annum, plus a bonus of £24 14s. per annum, with free board and residence at the Council's Isolation Hospital (valued at £100 per annum), for duties in connexion with the Isolation Hospital and general public health work as required. The consent of the Minister of Health has been obtained to the making of this temporary appointment. The person appointed will be required to work under the direction of the Medical Officer of Health, who is Medical Superintendent of the Hospital. Candidates who are already in whole-time Public Health employment by local authorities will not be eligible. The appointment will be subject to the provisions of the Local Government Superannuation Act, 1937, and to the staff regulations of the Council for the time being in force. The selected candidate will be required to pass a medical examination by and to the satisfaction of the Medical Officer of Health. The appointment will also be subject to one month's notice on either side. Applications stating age, qualifications, and experience, present employment and salary, accompanied by copies of three recent testimonials, must be received by me at the Town Hall, Ilford, not later than September 27, 1945. Canvassing directly or indirectly will be a disqualification.—Charles N. Roberts, Town Clerk, Town Hall, Ilford.

BOROUGH OF WALTHAMSTOW. Thorpe Coombe Maternity Hospital (54 beds). ASSISTANT RESIDENT MEDICAL OFFICER (B2).—Applications are invited from qualified medical women, including W practitioners who now hold A posts, for the above B2 post, at a salary of £250 plus bonus £24 2s. 4d., with board, residence, and laundry. The appointment will be for a period not exceeding one year. Forms of application, to be obtained from the undersigned, should be completed and returned with copies of three recent testimonials as soon as possible.—G. A. Blakeley, Town Clerk, Town Hall, Walthamstow, E.17.

CITY OF EDINBURGH. Public Health Department. Mass Radiography Unit.—Applications are invited for the position of JUNIOR MEDICAL OFFICER, to serve in the Mass Radiography Unit of the Corporation. Candidates should preferably have had experience in mass radiography and/or in a tuberculosis department or sanatorium. By agreement with the Department of Health the appointment in the first instance will be on a temporary basis. Salary scale £500 by £25 to £700 plus war bonus at present amounting to £60 per annum. Placing on the scale in relation to the candidate's experience may be given. Candidates already in the Public Health Service will require the consent of the Secretary of State in terms of D.H.S. Circular No. 65/1943. Candidates in England and Wales will require the permission of the Minister of Health. Applications should be sent not later than October 6, 1945, to the Medical Officer of Health, Johnston Terrace, Edinburgh, 1.

CITY OF COVENTRY. Gulson Road Municipal General Hospital, Gulson Road, Coventry.—Applications are invited from male registered medical practitioners, including practitioners within three months of qualification and liable under the National Service Acts, for the appointment of JUNIOR ASSISTANT RESIDENT MEDICAL OFFICER (A) at the above hospital. The post will be for a period of six months, but terminable at any time by one month's notice. Salary will be at the rate of £250 per annum, plus war bonus and full residential emoluments. Applications should be made at once to the undersigned.—A. Massey, Medical Officer of Health, Council House, Coventry.

MINISTRY OF PENSIONS.—Applications are invited from registered medical practitioners, men and women, including R and W practitioners who already hold A posts, for appointment as HOUSE PHYSICIANS AND SURGEONS (B2) at the following hospitals: Childwall Hospital, Liverpool (medical and surgical). Queen Alexandra Hospital, Cosham, Hants (surgical). Dunston Hill Hospital, Gateshead (surgical). Llandrindod Wells Hospital, Radnor, Wales (surgical). Newquay Hospital, Cornwall (surgical). Rookwood Hospital, Llandaff (surgical). Ronkswood Hospital, Worcester (surgical). Stoke Mandeville Hospital, Aylesbury (surgical). The appointments offer opportunities for experience in general medicine and in general and orthopaedic surgery. If held by an R practitioner, the appointment will be limited to six months. Salary £300 per annum, plus Civil Service war bonus and free board and lodging or an allowance of £100 per annum if permission is given to live out. Vacancies also exist at the above mentioned hospitals for House Surgeons (A). Applications are invited from registered medical practitioners, men and women, including practitioners within three months of qualification who are liable for service under the National Service Acts. If held by a practitioner who is liable under these Acts, the appointment will be for a period of six months. Salary £150 per annum, plus Civil Service war bonus and free board and lodging or an allowance of £100 per annum if permission is given to live out. Applications should be addressed to the Secretary, Ministry of Pensions, Medical Services Division, Norcross, Blackpool, Lancs.

CORPORATION OF GLASGOW. MEDICAL OFFICER OF HEALTH.—Applications are invited for the post of Medical Officer of Health for the City of Glasgow from qualified medical practitioners who are registered in the *Medical Register* as holders of a Diploma in Sanitary Science, Public Health, or State Medicine. The Medical Officer of Health is also Port Medical Officer for the Port of Glasgow. The duties comprise the administration of all the statutory health and sanitary services of the Corporation. The post is due to fall vacant at the end of March, 1946; and the new Medical Officer of Health will be expected to take up duty at the beginning of April, 1946, or as soon thereafter as possible. Salary at the rate of £1,500 per annum, rising by annual increments of £50 to £2,000 per annum, plus war increase, and with £50 per annum additional for Port duties. The appointment is subject to the provisions of the Corporation's Superannuation Scheme, and the successful candidate will be required to pass a medical examination. In order to allow time for candidates now abroad or in H.M. Forces to apply, the last date for receipt of applications has been fixed for October 1, 1945.—William Kerr, Town Clerk, City Chambers, Glasgow.

GLOUCESTERSHIRE JOINT BOARD FOR TUBERCULOSIS. Standish House Sanatorium, Stonehouse, Glos.—Applications are invited from registered medical men or women, including R and W practitioners who now hold A posts, for the post of JUNIOR ASSISTANT MEDICAL OFFICER (B2) at the above institution. No previous professional experience is necessary. There are at present 250 beds, including men, women, and children. There is an orthopaedic block. Salary £250 per annum, plus bonus, with board, furnished apartments, and laundry in addition. The appointment is for six months and may be terminable within that period by one month's notice on either side. Closing date Sept. 21, 1945.—Guy H. Davis, Clerk of the Joint Board, Shire Hall, Gloucester.

COUNTY COUNCIL OF INVERNESS. LOCAL MEDICAL OFFICER, Barra.—Applications are invited from registered medical practitioners for the appointment of Local Medical Officer of the Parish of Barra. An income of £420 per annum plus war supplement of £52 is available from the Highlands and Islands Medical Service Fund and County Council. In addition there is a panel practice worth approximately £170, and also club and private practice. Further particulars will be supplied on request. A suitable house (two public rooms, four bedrooms, kitchen, waiting room, and dispensary) is provided rent free at Castlebay. Applications should be lodged with the undersigned not later than October 12, 1945.—J. W. McKillop, County Clerk, County Buildings, Ardross Street, Inverness.

COUNTY OF DENBIGH. Wrexham Emergency Hospital (350 beds, excluding Annexes).—Applications are invited from registered medical practitioners for the appointment of a HOUSE PHYSICIAN (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by practitioner who is liable under these Acts, appointment will be for a period of six months, otherwise it will be for a period not exceeding one year. Salary is at the rate of £200 per annum, plus cost of living bonus, together with the usual residential emoluments. Applications to be sent immediately to Dr. H. Arwel Thomas, County Medical Officer of Health, 40, Well Street, Ruthin, Denbighshire

IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page 10

CITY OF MANCHESTER. Public Health Department. ASSISTANT TUBERCULOSIS OFFICER (TEMPORARY).—Applications are invited for the position of Assistant Tuberculosis Officer (Temporary). Candidates must be registered medical practitioners having special knowledge of medical and surgical tuberculosis, and should state whether they possess the Diploma of Public Health. The commencing basic salary is £675 per annum, but three annual increments of £25 may be granted at the discretion of the Council. A temporary cost-of-living award, which at the present time is £60 per annum, is payable in addition to the foregoing salary. The appointment is subject to the Manchester Corporation conditions of service. The consent of the Minister of Health has been obtained to the making of this appointment. Although the vacancy is on the permanent assignment of staff, the appointment will be temporary for the time being, and subsequently the officer appointed will be eligible to apply for the permanent post. Attention is drawn to Ministry of Health Circulars 2818 and 2881, which require that whole-time Public Health Officers who are of military age must, before applying for any other post, first obtain the prior permission of the Minister of Health. Applications (no special form is issued), endorsed on the envelope "Assistant Tuberculosis Officer," must be addressed to the Medical Officer of Health, Town Hall, Manchester, 2, and not to members of the Committee or Council, and must be received by him not later than September 29, 1945. The gentleman appointed will be under the administrative control of the Medical Officer of Health, and the immediate control of the Senior Tuberculosis Officer. He will be required to devote the whole of his time to the duties of his position, to execute the Deed of Service, to contribute to the Corporation Superannuation Fund, and, if under the age of 30, to the Widows and Orphans Pensions Scheme. Canvassing in any form, oral or written, direct or indirect, is prohibited.—Philip B. Dingle, Town Clerk, Town Hall, Manchester, 2.

CITY OF NORWICH. Woodlands Hospital (311 beds). ASSISTANT RESIDENT MEDICAL OFFICER (B2).—Applications are invited from registered medical practitioners for the appointment of Assistant Resident Medical Officer (B2), including R and W practitioners who now hold A posts. If held by an R practitioner, the appointment will be limited to six months, otherwise it will be for a period of one year. The salary is at the rate of £250 per annum, with full residential emoluments. Further particulars of appointment to be obtained from the Senior Medical Officer, Woodlands Hospital, Bowthorpe Road, Norwich, and to whom applications should be sent.—Bernard D. Storey, Town Clerk, City Hall, Norwich.

CITY OF BIRMINGHAM MENTAL HOSPITAL, Winson Green, Birmingham, 18.—Applications are invited, male or female, for the post of TEMPORARY RESIDENT ASSISTANT MEDICAL OFFICER (B1). Salary £350, rising by annual increments to £450, with full residential emoluments, plus £50 for the D.P.M. and war bonus £39 4s. 8d. male, £35 11s. 11d. female. Suitably qualified R and W practitioners holding B2 appointments, also R practitioners holding B1 appointments and rejected by the R.A.M.C., may apply. Applications to be sent to the Medical Superintendent by September 22, 1945.

COUNTY BOROUGH OF NEWPORT. Social Welfare Committee.—Applications are invited from registered medical practitioners, male or female, for the temporary appointment of JUNIOR RESIDENT MEDICAL OFFICER (A) at Wooloston House Emergency Hospital, Newport, Mon. Salary £150 per annum, with full residential emoluments. All fees, with the exception of coroners' fees, are payable to the Social Welfare Committee. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months, otherwise twelve months. Applications should be sent at once to Tom Kay, Director of Social Welfare, Town Hall, Newport, Mon.

COUNTY BOROUGH OF IPSWICH. Borough General Hospital.—Applications are invited from registered medical practitioners, male and female, for the appointment of RESIDENT ASSISTANT MEDICAL OFFICER (B1). Applicants should have held house appointments and had medical experience. Salary at the rate of £350 per annum, plus full residential emoluments. Suitably qualified R and W practitioners holding B2 appointments, also R practitioners holding B1 appointments and rejected by the R.A.M.C., may apply. Applications to the Medical Officer of Health, Public Health Department, Elm Street, Ipswich.

LONDON CHEST HOSPITAL, Victoria Park, E.2. HOUSE PHYSICIAN (B2), male or female, required on November 1. R and W practitioners who now hold A posts may apply. Six months' appointment. Salary at the rate of £150 per annum. Board, residence, and laundry provided:

HOUSE SURGEON (B2), male or female, required on November 1, with previous surgical experience, preferably thoracic. Salary £150 per annum, with full residential emoluments. R and W practitioners who now hold A posts may apply, when appointment will be limited to six months.

Applications for each post should be sent by September 26 to the Secretary.

COUNTY BOROUGH OF WEST HAM. Whipps Cross Hospital, Leytonstone, E.11 (1,300 beds).—The Council invite applications from registered medical practitioners, including those serving in H.M. Forces, for the post of MEDICAL SUPERINTENDENT of the above general hospital. In accordance with the Council's resolution the post will be designated temporary until the conclusion of the war, but if satisfactory service has been given the post will be made permanent. The consent of the Minister of Health has been obtained to the making of the appointment. The salary for the post is £1,100 per annum, together with a house valued for superannuation purposes at £100 per annum. On the publication of the revised "Askwith Scale" the Council will amend the salary in accordance with that scale. Candidates must have had both wide clinical and administrative experience, and the possession of higher degrees will be considered an advantage. Preference will be given to candidates who have held already the post of Medical Superintendent to a general hospital. The appointment will be subject to the Council's regulations as made from time to time regarding holidays, sick pay, etc., and the successful candidate will be required to pass a medical examination. Forms upon which application must be made can be obtained from the Medical Officer of Health, 223-225, Romford Road, West Ham, E.7, on receipt of a stamped addressed envelope, and returned to him not later than October 8, 1945. Canvassing members of the Council is prohibited and will disqualify.—Charles E. Cranfield, Town Clerk, Town Hall, West Ham, E.15.

GLAMORGAN COUNTY COUNCIL, West Glamorgan County Hospital, Neath.—Applications are invited from registered medical practitioners (including R and W practitioners now holding B2 appointments) for the appointment of TEMPORARY RESIDENT ASSISTANT MEDICAL OFFICER (B1) for the above-named Hospital. R practitioners now holding B1 appointments who have been rejected by the R.A.M.C. may also apply. Applicants should have held a house appointment, and as the work will consist mainly of obstetrics and gynaecology, obstetrical experience is necessary. The Hospital is a Training School for Midwives, ante-natal clinics are held, and confinements exceed 1,000 per annum. Salary £350, rising by annual increments of £25 to £550, plus prevailing cost-of living bonus and residential emoluments. All fees whatsoever received by the successful applicant whilst holding the appointment must be handed over to the County Council. The appointment will be terminable by one month's notice on either side. Applications should be sent to the County Medical Officer, Glamorgan County Hall, Cardiff, within ten days of the publication of this advertisement.—D. J. Parry, Clerk of the County Council, Glamorgan County Hall, Cardiff.

LANCASHIRE COUNTY COUNCIL.—Applications are invited for the following posts: Wrightington Hospital, near Wigan. JUNIOR MEDICAL OFFICER (B2) at this Hospital, containing 370 beds (260 beds for non-pulmonary tuberculosis, adults and children), 20 beds for "combined" pulmonary and non-pulmonary cases, and 70 beds for pulmonary cases). The medical staff consists of medical superintendent, deputy and two medical officers, two consultant orthopaedic surgeons, other visiting surgeons, and visiting physician. Good facilities for reading for M.D.

High Carley Sanatorium, near Ulverston. JUNIOR MEDICAL OFFICER (B2) at this sanatorium, containing 130 beds for adult pulmonary patients and (at Oubas House) 21 beds for pulmonary cases in children. The medical staff consists of medical superintendent, deputy, and medical officer.

The salary for each post is £300 per annum, plus bonus, together with board, single quarters, and laundry, valued at £146. R and W practitioners who now hold A posts may apply, and if held by an R practitioner the appointment will be limited to six months, otherwise, one year. Forms of application and conditions of appointment from Central Tuberculosis Officer, County Offices, Preston.

NORTHUMBERLAND COUNTY COUNCIL. Hexham Emergency Hospital (Regional Orthopaedic Centre) (640 beds). HOUSE SURGEON (A).—Applications for the above post are invited from registered medical practitioners, male or female, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months, otherwise it will be for a period of one year. Salary is at the rate of £120 per annum, with full residential emoluments. The hospital offers excellent training and experience in orthopaedic surgery. Applications should be sent to the undersigned immediately.—J. B. Tilley, County Medical Officer, County Hall, Newcastle-upon-Tyne.

NORTHUMBERLAND HOUSE, Finsbury Park, N.4.—Applications are invited for the post of ASSISTANT MEDICAL OFFICER (B1), to the private mental hospital, male or female. Salary £400 per annum, with full residential emoluments. R and W practitioners now holding B2 posts may apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Applications to Medical Superintendent.

MIDDLESEX COUNTY COUNCIL.—JUNIOR ASSISTANT MEDICAL OFFICER (B2, Resident, Woman) required for maternity unit of WEST MIDDLESEX COUNTY HOSPITAL, Isleworth, Middx., and Annexe at Chiswick. Applications invited from registered medical practitioners, including W practitioners who now hold A posts. Salary £250 per annum, board, lodging, and laundry. Additional cost-of-living bonus (now £60 per annum, proportion only in cash). Whole-time obstetric duties such as Council may require under supervision of Medical Director. Appointment, subject to medical examination and one month's notice, is for six months, with possibility of extension to twelve months. Post vacant October 16, 1945. Application to Medical Director, "Z," of Hospital. Closing date September 22, 1945. No forms provided.—C. W. Radcliffe, Clerk of the County Council, Middlesex Guildhall, Westminster, S.W.1.

MIDDLESEX COUNTY COUNCIL.—TEMPORARY ASSISTANT MEDICAL OFFICER (B1), male, required at NAPSBURY MENTAL HOSPITAL, Nr. St. Albans, Herts. Salary £440 to £510 p.a., plus war bonus according to qualifications and experience, with board, lodging, laundry and attendance. In addition £50 p.a. is paid for D.P.M. Suitably qualified R practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Applications to the Medical Superintendent, "Z."—C. W. Radcliffe, Clerk of the County Council, Middlesex Guildhall, Westminster, S.W 1.

SURREY COUNTY COUNCIL. St. Luke's Hospital, Guildford (500-600 beds). WHOLE-TIME PATHOLOGIST.—Applications are invited from suitably qualified practitioners, male and female, for the appointment of Whole-time Pathologist to the St. Luke's Hospital, Guildford (which includes the large E.M.S. Radiotherapy Unit). Applicants should have had wide pathological experience and be of senior standing in the profession. The person appointed will be in charge of the work of the Pathological Laboratory at the hospital, where there are at present two Technicians employed, and will be required to perform all autopsies. The appointment will be temporary and subject to three months' notice on either side, but any Local Government Superannuation rights will be preserved. The permanent appointment will be re-advertised later in order to give doctors at present serving with H.M. Forces an opportunity to apply after their discharge. Commencing salary according to experience on the grade £1,000 by £50 to £1,500 p.a. Apply to the County Medical Officer, County Hall, Kingston-upon-Thames, by October 15, 1945. This temporary appointment is advertised by permission of the Ministry of Health.

SURREY COUNTY COUNCIL. St. Helier County Hospital, Carshalton (862 beds). CASUALTY OFFICER (B2).—Applications are invited from registered medical practitioners, male or female, for the above appointment, including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months, otherwise it will not exceed one year. Previous experience in E.N.T. work desirable. Salary is at the rate of £250 p.a., plus war bonus, plus full residential emoluments.

Applications are also invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A), including practitioners within three months of qualification who are liable under the National Service Acts. If held by a practitioner who is liable under these Acts, the appointment will be for a period of six months, otherwise it will be for a period not exceeding one year. Salary is at the rate of £120 p.a plus residential emoluments.

Apply to the Medical Superintendent.

SURREY COUNTY COUNCIL. Farnham County Hospital, Hale Road, Farnham (230 beds).—Applications are invited from registered medical practitioners for the appointment of RESIDENT ASSISTANT MEDICAL OFFICER (B1) to the above general hospital. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Applicants must have had previous surgical experience, preferably including orthopaedic work. The appointment will be on the Council's temporary staff and subject to one month's notice on either side, but any Local Government Superannuation rights will be preserved. Salary at the rate of £550 p.a., plus war bonus, plus full residential emoluments. Apply to the Medical Superintendent by September 20, 1945.

W. J. SANDERSON EMERGENCY HOSPITAL, North Avenue, Gosforth, Newcastle-upon-Tyne, 3.—Applications are invited from registered medical practitioners for the appointment of a HOUSE SURGEON (A), now vacant Salary £300 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months, otherwise it may be extended for a further period. Applications should be sent to the undersigned as soon as possible.—Alexander Lawther House Governor and Secretary.

IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page 10

ABERDEEN MATERNITY HOSPITAL. TWO RESIDENT HOUSE SURGEONS (B2).—Applications are invited from registered medical practitioners, male or female, for two appointments of Resident House Surgeons (B2), to become vacant on October 5, 1945, including R and W practitioners who now hold A posts. The appointments will be limited to six months. The salary is at the rate of £75 per annum if no previous experience, £100 per annum with previous experience, with full residential emoluments. Applications should be sent to the undersigned not later than September 22. R or W practitioners must have obtained the sanction of the Scottish Central Medical War Committee to their application.—Watt & Cumine, Secretaries, 8, Golden Square, Aberdeen.

ABERDEEN ROYAL INFIRMARY.—Applications are invited for appointment as REGISTRAR in General Surgical Wards (B1). Remuneration at the rate of £350 per annum, with a living-out allowance if quarters not available. R practitioners now holding B2 or B1 posts may apply, but they must have obtained the sanction of the Scottish Central Medical War Committee to their application. Applications should be lodged with the undersigned not later than September 26, 1945.—John A. McConachie, Clerk and Treasurer, 1, Albyn Place, Aberdeen.

BRISTOL ROYAL HOSPITAL (Incorporating the Bristol Royal Infirmary and Bristol General Hospital). —Applications are invited from registered medical practitioners for the A appointments of:

(1) HOUSE SURGEON to the E.N.T. Department.

(2) SECOND CASUALTY HOUSE SURGEON.

(3) HOUSE PHYSICIAN to Dermatological and Radiological Departments.

Salary at the rate of £80 per annum. War bonus at the rate of £20 per annum will also be paid, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointments will be for a period of six months. Applications to be made on application forms to be obtained from the undersigned.—Ellis C. Smith, F.C.I.S., Secretary and House Governor, Bristol Royal Infirmary.

BELGRAVE HOSPITAL FOR CHILDREN, 1, Clapham Road, S.W.9.—The Committee of Management invite applications from registered medical practitioners, male and female, for the post of HOUSE SURGEON (B2). Salary at the rate of £150 per annum, with full residential emoluments. R and W practitioners now holding A posts may apply, when appointment is limited to six months. Applications should be forwarded as soon as possible to Thomas Clapham, Secretary.

BRITISH HOSPITAL FOR MOTHERS AND BABIES, Woolwich.—Applications from registered medical women are invited for the post of RESIDENT MEDICAL OFFICER (B2). W practitioners who now hold A posts may apply, when appointment will be limited to six months, otherwise the appointment is for the period of one year, six months as junior, at the rate of £150 per annum, followed by six months as senior at the rate of £200 per annum. Preference to a candidate intending to specialize in obstetrics. Applications to the Secretary, Samuel Street, S.E.18.

BURTON-ON-TRENT GENERAL INFIRMARY (200 beds normal).—Applications are invited from registered medical practitioners for the appointment of CASUALTY OFFICER AND HOUSE SURGEON (A). Salary at the rate of £200, with the usual residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months. Applications to be sent to the Secretary-Superintendent.

BRADFORD ROYAL INFIRMARY.—Applications are invited from registered medical practitioners, male, single, for the following appointment: HOUSE SURGEON (B2), vacant October 1, 1945. Six months' appointment. R practitioners now holding A posts may apply. Salary £150 per annum, with full residential emoluments. There are 372 beds and eight resident officers. Applications should be sent immediately to H. Trusson, House Governor and Secretary.

BARNSLEY HALL EMERGENCY HOSPITAL, Bromsgrove, Worcestershire.—Applications are invited from registered medical practitioners for the appointment of two B2 OFFICERS, one for Orthopaedics, and one for Medical and Neurological cases. Salary £200 per annum. If held by R or W practitioner the appointment will be limited to six months, otherwise it will be extended to a period not exceeding one year. Full residential emoluments provided. Apply to Medical Supt.

DERBYSHIRE ROYAL INFIRMARY, Derby (Voluntary Hospital, 416 beds plus 115 E.M.S.).—Applications are invited from registered medical practitioners, male or female, for the appointment of ACCIDENT AND CASUALTY OFFICER (A). Duties will be in the Casualty Department, Hand Clinic, and Accident Wards. The position is now vacant. Salary is at the rate of £200 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when the appointment will be for a period of six months. Applications should be sent as soon as possible.—Arthur Taylor, Superintendent and Secretary.

CHARING CROSS HOSPITAL. PHYSICIAN TO CHILDREN'S DEPARTMENT.—The Council invite applications for the post of Physician to the Children's Department. Practitioners serving in H.M. Forces are invited to apply. Candidates, who must be Members of the Royal College of Physicians of London, should send in their applications to the undersigned not later than Tuesday, January 1, 1946.—George J. Jones, Secretary, Charing Cross Hospital.

CAMBORNE-REDRUTH MINERS' AND GENERAL HOSPITAL, Redruth.—Applications are invited from registered medical practitioners male and female, for the appointment of HOUSE SURGEON (A), vacant October 19, 1945. Salary at the rate of £200 p.a., with the usual residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months. Applications to be addressed to J. C. Field, Secretary-Superintendent, Redruth.

CHELMSFORD AND ESSEX HOSPITAL, London Road, Chelmsford, Essex (186 beds).—Applications are invited for the post of HOUSE SURGEON (A), male or female, to commence at once. Salary £175 per annum, plus board, lodging, and laundry. Apply to the undersigned. Practitioners within three months of qualification who are liable to service under the National Service Acts may apply, when appointment will be for a period of six months.—R. G. Morrish, House Governor and Secretary.

CUMBERLAND INFIRMARY, Carlisle.—Applications are invited from registered medical practitioners, including practitioners within three months of qualification who are liable to service under the National Service Acts, for the post of HOUSE SURGEON (A), vacant from October 1 next. The appointment will be for a period of six months. Salary is at the rate of £160 per annum with board, etc. Applications should be sent to the Secretary-Superintendent immediately.

CHELMSFORD AND ESSEX HOSPITAL, London Road, Chelmsford, Essex (180 beds).—Applications are invited for the post of HOUSE PHYSICIAN (A), male or female, to commence October 1. Salary £175 per annum, plus board, lodging and laundry. Practitioners within three months of qualification who are liable to service under the National Service Acts may apply when appointment will be for a period of six months. Apply to the undersigned.—R. G. Morrish, House Governor and Secretary.

DREADNOUGHT SEAMEN'S HOSPITAL, Greenwich.—Applications are invited for the post of TEMPORARY WARTIME CLINICAL ASSISTANT for E.N.T. Department. One weekly session at the rate of two guineas per session. Applications to be sent to the undersigned.—F. A. Lyon, Administrator and Secretary.

ELSIE INGLIS MEMORIAL MATERNITY HOSPITAL (The Hospice), Abbeyhill, Edinburgh, 8 (65 beds).—Applications are invited from registered medical practitioners, female, for the appointment of REGISTRAR AND CLINICAL ASSISTANT (B1) at the above Hospital, to become vacant on October 1, 1945. Suitably qualified W practitioners holding B2 or B1 appointments may apply. Salary (including emoluments for additional clinics) £300 per annum, with full residential emoluments. Applications to be sent to the Secretary, 1, Bruntsfield Crescent, Edinburgh, 10

EAST SURREY HOSPITAL, Redhill, Surrey.—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (A), vacant September 24, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by practitioner liable under these Acts, appointment will be for six months only. Salary £150 per annum with full residential emoluments. Application to be sent to the undersigned.—E. C. Ayling, Secretary.

GUEST HOSPITAL, Dudley. (The resident staff consists of a Resident Surgical Officer and three House Surgeons.)—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (B2), now vacant, including R and W practitioners who now hold A posts. If held by an R or a W practitioner the appointment will be limited to six months. Salary at the rate of £200 per annum, with full residential emoluments.—H. Raymond Hurst, House Governor and Secretary.

GERMAN HOSPITAL, Ritson Road, Dalston, London, E.8 (British Voluntary Hospital under E.M.S. Scheme).—HOUSE SURGEON (B2) with some practical experience wanted. R and W practitioners who now hold A posts may apply. If held by an R practitioner appointment will be limited to six months. Commencing salary £200 per annum or more according to experience, with full board and residence. Please apply to the Secretary.

GRIMSBY AND DISTRICT GENERAL HOSPITAL (237 beds).—Applications are invited from registered medical practitioners, male, for the post of RESIDENT SURGICAL OFFICER (B1), commencing November 1. Salary at the rate of £300 per annum. Suitably qualified R practitioners holding B2 appointments, also R practitioners holding B1 appointments and rejected by the R.A.M.C., may apply. Applications to the Secretary-Superintendent.

GENERAL INFIRMARY AT LEEDS.—Applications are invited from registered medical practitioners for the post of ASSISTANT MEDICAL OFFICER (male) to the V.D. Department (B1). The appointment is a whole-time one, and will be for a period of one year, with eligibility for re-election. The commencing salary will be from £500 to £700 per annum, according to experience. Suitably qualified R practitioners holding B2 appointments, also those holding B1 and rejected by the R.A.M.C., may apply. Applications should be received by the undersigned not later than September 24, 1945.—S. Clayton Fryers, House Governor and Secretary.

HULL ROYAL INFIRMARY.—Applications are invited for the following posts:

ORTHOPAEDIC HOUSE SURGEON (B2), vacant now. Suitably qualified R and W practitioners who now hold A posts may apply. If held by an R or W practitioner the appointment will be limited to six months.

CASUALTY OFFICER (A), vacant October. Candidates may include practitioners within three months of qualification who are liable to service under the National Service Acts. If held by practitioner who is liable under these Acts appointment will be for a period of six months.

Salary for each of the above posts £200 per annum, with full residential emoluments. Applications to R. J. Carless, House Governor.

HARLOW WOOD ORTHOPAEDIC HOSPITAL, near Mansfield, Notts. (405 beds, E.M.S. and Civilian including Rehabilitation Unit), Regional Orthopaedic Centre and Peripheral Nerve Injury Unit.—Applications are invited for the post of RESIDENT SURGICAL OFFICER (B1). Salary £250 per annum. The appointment is for a period of six months. Suitably qualified R practitioners holding B2 posts, also those now holding B1 and rejected by the R.A.M.C., may apply.—Applications to be sent to the undersigned as soon as possible.—D. Roberts, Secretary-Superintendent.

HIGH WYCOMBE AND DISTRICT WAR MEMORIAL HOSPITAL (100 beds).—Applications are invited from registered medical practitioners, including R practitioners holding A posts, for the appointment of a RESIDENT MEDICAL OFFICER (B2), vacant October 1, 1945. Salary at rate of £200 per annum, plus residence and board. The appointment is for six months. Applications with details to E. Barber, Secretary.

HUDDERSFIELD ROYAL INFIRMARY (321 beds).—Applications are invited for the post of RESIDENT SURGICAL OFFICER (B1). Applicants should have held house appointments, and preference will be given to candidates holding diploma of F.R.C.S. Salary at the rate of £350 per annum, with full residential emoluments. Suitably qualified R and W practitioners holding B2 appointments, and also R practitioners holding B1 appointments and rejected by the R.A.M.C., may apply.

CASUALTY OFFICER (B2) required, to commence immediately. R and W practitioners who now hold A posts may apply. If held by an R or W practitioner appointment will be limited to six months. Salary at the rate of £200, with full residential emoluments.

Applications for each post to be sent to the undersigned as soon as possible.—H. J. Johnson, General Superintendent and Secretary.

HULL ROYAL INFIRMARY.—Applications are invited from registered medical practitioners for the appointment of RESIDENT SURGICAL OFFICER (B1), vacant September. Preference will be given to candidates holding Diploma of F.R.C.S. Suitably qualified R practitioners holding B2 appointments, also those holding B1 and rejected by R.A.M.C., may apply. The holder of the post will be required also to undertake temporarily the duties of Senior House Surgeon. Salary £250 per annum, with full residential emoluments. Applications to R. J. Carless, House Governor.

HOVE GENERAL HOSPITAL.—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (B2). Salary at the rate of £200 to £250 per annum, according to experience, with full residential emoluments. R and W practitioners who now hold A posts may apply, when appointment will be limited to six months, otherwise may be extended. Applications should reach the undersigned as soon as possible, stating when free.—J. V. Roe, Secretary-Superintendent.

HUNTINGDON COUNTY HOSPITAL (76 beds) —Wanted, middle of September, HOUSE SURGEON (A), good anaesthetist, salary £250 p.a., with board, lodging, and laundry. Practitioners within three months of qualification may apply, when appointment will be for a period of six months. Apply to Medical Superintendent.

LORD MAYOR TRELOAR CRIPPLES' HOSPITAL AND COLLEGE, Alton and Hayling Island, Hants (400 beds).—Applications are invited for the post of Resident MEDICAL SUPERINTENDENT of the above hospital. Candidates should be under the age of 45 and must have senior surgical qualifications and should be experienced in orthopaedic work. Salary £1,500 to £2,000, according to experience, house, lighting and fuel provided. Applicants, including those serving in H.M. Forces, are invited to write to the Secretary by December 31, 1945.

IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page 10

KINGSTON-UPON-HULL Corporation Health Department. TEMPORARY WHOLE-TIME ASSISTANT MEDICAL OFFICER OF HEALTH (Woman) for Maternity and Child Welfare.—Applications, with the consent of the Minister of Health, are invited for the above temporary post, from duly qualified medical women, who are not already in whole-time public health employment. Candidates must have had experience in children's diseases and in midwifery. The Diploma in Public Health, or its equivalent, will be considered an additional qualification for the office. Salary £600 per annum, rising by annual increments of £25 to £700 per annum, plus war bonus. Application forms, etc., may be obtained from, and should be returned to, the Medical Officer of Health, Guildhall, Kingston-upon-Hull, at the earliest possible moment.

LIVERPOOL HOMOEOPATHIC AND GENERAL HOSPITAL, Hope Street.—Applications, including those from practitioners serving in H.M. Forces, are invited for the post of HONORARY ASSISTANT PHYSICIAN to the above Hospital. Candidates must be members of the Faculty of Homoeopathy or become so during one year after appointment. Apply to the Registrar on or before January 5, 1946.

LEEDS PUBLIC DISPENSARY AND HOSPITAL.—Applications are invited from registered medical practitioners for the appointment of HOUSE PHYSICIAN (A), to include Casualty duties. Appointment for six months. Salary at the rate of £150 p.a., with board, residence, and laundry. Practitioners within three months of qualification and liable under the National Service Acts may also apply. Applications to be addressed to Charles F. J. Maury, Secretary and Superintendent.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Applications are invited from registered medical practitioners, male and female, for the appointment of RESIDENT HOUSE SURGEON (B2), at the St. Anne's Hospital, Bowdon, Cheshire, now vacant. R and W practitioners now holding A posts may apply. If held by an R practitioner, appointment will be limited to six months. The Hospital has 50 beds and the work is mainly ear, nose, and throat. Salary £200 per annum with full residential emoluments. Applications should be sent not later than September 21, 1945, to W. Hunt, Secretary, Manchester Hospital for Consumption and Diseases of the Throat and Chest, 45, Hardman Street, Manchester 3.

MINEHEAD AND WEST SOMERSET HOSPITAL, Minehead, Somerset.—Applications are invited immediately from registered medical practitioners, male and female, for the appointment of RESIDENT HOUSE SURGEON AND ANAESTHETIST (B2), to become vacant on October 1, 1945, including R and W practitioners who now hold A posts. The appointment is for six months. Salary is at the rate of £250 per annum, with full residential emoluments.—Walter J. Chorley, Secretary.

MONMOUTHSHIRE MENTAL HOSPITAL, Abergavenny.—Applications are invited from registered medical practitioners, male or female, for the post of TEMPORARY RESIDENT ASSISTANT MEDICAL OFFICER (B1) at the above Mental Hospital. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary £9 9s. per week (with an additional £50 per annum for those in possession of the D.P.M.), with rooms, board, attendance, and laundry. Applications should be sent to the Medical Superintendent immediately.

MERTHYR GENERAL HOSPITAL (115 beds).—Applications are invited from registered medical practitioners for the appointment of a RESIDENT HOUSE SURGEON, male or female (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. The appointment will be for a period of six months. Salary at the rate of £200 per annum, with board and lodging.—Applications to the Secretary, Merthyr General Hospital, Merthyr Tydfil.

NOTTINGHAM GENERAL HOSPITAL (712 beds, including E.M.S. beds).—Applications are invited from registered medical practitioners, male and female, including practitioners within three months of qualification who are liable to service under the National Service Acts, for the appointment of a RESIDENT CASUALTY OFFICER (A) for the above hospital. Duties to commence immediately. If held by a practitioner who is liable under these Acts appointment will be for a period of six months. Salary at the rate of £200 per annum, with full residential emoluments. Applications to be sent to the undersigned.—Henry M. Stanley, House Governor and Secretary.

NOTTINGHAM CHILDREN'S HOSPITAL.—Applications are invited from registered medical practitioners for the appointment of RESIDENT HOUSE PHYSICIAN (B1), woman, to become vacant on November 1, 1945. Applicants should have held house appointments, and suitably qualified W practitioners holding B2 appointments are invited to apply. Salary is at the rate of £220 per annum, with apartments, board, and laundry, and the appointment is for six months. Applications to be sent to the Honorary Secretary, 1, King John's Chambers Nottingham, on or before September 18, 1945. Selected candidates will be required to attend at the Hospital for a personal interview.

IMPORTANT NOTICE

APPOINTMENTS

Medical practitioners are requested **not to apply** for any appointment referred to in this notice without first having communicated with the Secretary to the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of the Australian appointment, with the Secretary at B.M.A. House, or the Hon. Secretary, Western Australian Branch, Shell House, 205, St. George's Terrace, Perth).

GOVERNMENT SERVICE

COMMISSIONER OF PUBLIC HEALTH Perth, Western Australia.

CONTRACT PRACTICE

ABERTYSSWG MEDICAL AID SOCIETY.—*(Medical Officer.)*

LLWYNYPIA, CLYDACH VALE, PEN-Y-GRAIG, GLAMORGAN.—*(Workmen's Medical Scheme.)*

MID-RHONDDA MEDICAL AID SOCIETY.—*(Assistant Medical Officer.)*

NEATH AND DISTRICT.—*(Medical Aid Association.)*

OGMORE VALLEY, GLAMORGAN.—*(Wyndham Colliery Medical Aid Society.) (Workmen's Medical Scheme.)*

PUBLIC HEALTH

NORTH ENGLAND JOINT CANCER COMMITTEE.—*(Assistant Radiotherapist.)*

PUBLIC ASSISTANCE

CITY AND COUNTY OF BRISTOL. PUBLIC ASSISTANCE COMMITTEE.—*(District Medical Officer.)*

MENTAL HOSPITAL SERVICE

ROXBURGH DISTRICT MENTAL HOSPITAL, MELROSE.—*(Medical Superintendent.)*

SOMERSET AND BATH MENTAL HOSPITAL, COTFORD.—*(Medical Superintendent and Deputy Medical Superintendent.)*

By Order of the Council.

CHARLES HILL.
September 11, 1945. *Secretary.*

NORTH DEVON INFIRMARY, Barnstaple (95 beds).—Applications are invited from registered medical practitioners for the post of JUNIOR RESIDENT MEDICAL OFFICER (A) (woman), vacant immediately. Practitioners within three months of qualification and liable to service under the National Service Acts may also apply, when appointment will be for six months. Salary is at the rate of £170 per annum, with full residential emoluments. Applications with full particulars to A. W. Bond, Secretary.

NEWBURY DISTRICT HOSPITAL. HOUSE SURGEON (A).—Applications are invited from registered medical practitioners, male and female, for the appointment of a House Surgeon (A), to become vacant at once, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months, otherwise it will be for an indefinite period. Salary is at the rate of £150 per annum, with full residential emoluments. Applications should be addressed to the Secretary.

NUNEATON GENERAL HOSPITAL (Voluntary Hospital) (104 beds). HOUSE SURGEON (CASUALTY) (A).—Applications are invited from registered medical practitioners, male and female, for the appointment of House Surgeon (A), which is now vacant, including practitioners within three months of qualification who are liable to service under the National Service Acts. The appointment will be for a period of six months. Salary is at the rate of £200 per annum, with full residential emoluments. Applications should be addressed to Douglas S. Pracy, Honorary Secretary, Medical Board.

NOTTINGHAM HOSPITAL FOR WOMEN (110 beds, including private wards. Annexe for 28 patients on outskirts of town).—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (B2), to become vacant in October. Some experience of gynaecology and obstetrics is desirable. R and W practitioners who now hold A posts may apply. The appointment will be for six months. Salary at the rate of £225 per annum. Applications to be sent as soon as possible to the Secretary, Miss R. H. Tweedie.

NELSON HOSPITAL, Merton, S.W.20.—Applications are invited from registered medical practitioners, male, for the appointment of RESIDENT ANAESTHETIST AND CASUALTY OFFICER (B2), vacant now. Salary at the rate of £250 per annum, with full residential emoluments. R practitioners holding A posts may apply, when appointment will be limited to six months, otherwise may be extended. Apply to the Secretary.

NORTHAMPTON GENERAL HOSPITAL (408 beds).—Applications are invited immediately from registered medical practitioners, male or female, for the following appointments. HOUSE PHYSICIAN (A), HOUSE SURGEON (A) Salary at the rate of £150 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months. OBSTETRICAL AND GYNAECOLOGICAL HOUSE SURGEON (B2). Salary at rate of £150 per annum, with full residential emoluments. R and W practitioners holding A posts may apply when appointment will be limited to six months Applications should be sent as soon as possible to Gordon S. Sturtridge.

NOTTINGHAM AND MIDLAND EYE INFIRMARY.—Applications are invited from registered medical practitioners (male and female) for the appointment of a HOUSE SURGEON (B1). Applicants should have had some surgical ophthalmic experience. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary £300 per annum, with full residential emoluments. Post recognised for D.O.M.S. examination. Applications should be sent to the undersigned forthwith.—T. Russell Moore, Secretary.

NUFFIELD HOUSE.—Applications are invited from qualified medical practitioners for the post of RESIDENT MEDICAL OFFICER to Nuffield House. This post is graded B2, and carries a salary at the rate of £250 per annum with full residential emoluments. R practitioners now holding A posts may apply. If held by an R practitioner appointment will be limited to six months, otherwise will be extended for a suitable applicant. Applications should be sent to the Secretary of Nuffield House, Counting House, Guy's Hospital, S.E.1, not later than October 12, 1945, and the selected applicant will be expected to take up his duties between January 1 and 14, 1946.

PETERBOROUGH AND DISTRICT MEMORIAL HOSPITAL (154 normal beds, E.M.S. 75—total 229). RESIDENT SURGICAL OFFICER (B1).—Applications are invited for the post of RESIDENT SURGICAL OFFICER (B1), now vacant. Salary at the rate of £350 per annum, with board and lodging. Suitably qualified R and W practitioners holding B2 posts, also those holding B1 posts and rejected by the R.A.M.C., may apply.—Applications should be sent immediately to F. A. C. Taylor, House Governor and Secretary.

ROYAL CORNWALL INFIRMARY, Truro (350 beds, 5 residential).—Applications are invited from registered practitioners, male or female, for the appointment of HOUSE SURGEON (B2) to the General Surgical and Gynaecological Departments, vacant on or about October 25, 1945. Salary is at the rate of £200 per annum, with full residential emoluments. R and W practitioners holding A posts may also apply, when appointment is limited to six months

Applications are also invited from registered practitioners, male or female, for the appointment of ORTHOPAEDIC AND CASUALTY HOUSE SURGEON (B2), vacant on or about October 11, 1945. Salary is at the rate of £200 per annum, with full residential emoluments. R and W practitioners holding A posts may also apply, when appointment is limited to six months.

Applications for each post should be addressed to the Secretary.

ROYAL LIVERPOOL CHILDREN'S HOSPITAL, Myrtle Street, Liverpool 7.—The Committee invite applications for the post of SURGICAL REGISTRAR (B1) for 12 months from October 1, 1945. R and W practitioners now holding B2 posts may apply Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £200 per annum. Further particulars may be obtained from the Secretary of the Hospital, to whom applications should be sent by an early post.

ROYAL MANCHESTER CHILDREN'S HOSPITAL, Pendlebury.—RESIDENT SURGICAL OFFICER (B1).—Applications are invited for the post of Resident Surgical Officer. Salary £175 per annum. The appointment is for a period of six months, commencing September 14. Suitably qualified R practitioners holding B2 posts may apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Applications to be esnt to the undersigned immediately.—By Order, H. Heardman, General Superintendent and Secretary.

ROYAL SUSSEX COUNTY HOSPITAL, Brighton (376 beds).—Applications are invited from registered medical practitioners, male or female, including practitioners within three months of qualification who are liable to service under the National Service Acts, for the post of CASUALTY HOUSE SURGEON (A), vacant on November 7 next. The salary attached to the post is £175 per annum, with full residential emoluments. If held by a practitioner who is liable under the National Service Acts, appointment will be for a period of six months. Applications should be sent to the Secretary-Superintendent.

(Continued on Inside Back Cover)

CHARGES FOR CLASSIFIED ADVERTISEMENTS

Circulation 54,500

Advertisements should reach the Advertisement Manager not later than the THURSDAY, ten clear days before publication.

Cancellation cannot be accepted after 10 m MONDAY for current week's issue.

To economize in accounting, postage and collection, all advertisements should be paid for at time of order. Publication will be in the earliest possible issue, but delay is unavoidable in present circumstances.

1. TO MEMBERS OF THE ASSOCIATION the cost of advertisements for Assistants, Dispensers, Locums, Partnerships, *Practices, Secretaries, is ten shillings for 24 words, including name and address. Four figures and £ sign count as one word (example, £2,000). When a Box Number is used, it must be reckoned as six of the total number of words in each advertisement.

1s. *extra* should be added for each insertion to cover the Box fee and postage of replies

Additional words 2s. 6d. for every six, or part.

Please mark advertisements clearly, *MEMBER*.

2. To all other (private) advertisers the charge under the headings specified above, para. 1, is 12s (minimum) for 24 words, including name and address. Four figures and £ sign count as one word (example, £2,000). When a Box Number is used it must be reckoned as six of the total number of words in each advertisement.

1s. *extra* should be added for each insertion to cover the Box fee and postage of replies

Additional words 3s. for every six, or part.

* SALE OF PRACTICE. The name and address of owner and of the firm negotiating the sale must accompany the advertisement. These details are not for publication.

3. Consulting rooms, Dietetic, Duplicating, Hotels, Houses, Miscellaneous, Motor Cars, Typing, the charge is same as para. 2.

Personal, Notices, University and Industrial Appointments, minimum charge is 20s. for 24 words, including name and address. Four figures and £ sign count as one word (example, £2,000). When a Box Number is used, it must be reckoned as six of the total number of words in each advertisement.

1s. *extra* should be added for each insertion to cover the Box fee and postage of replies.

Additional words 5s. for every six or less

Educational, Hospitals, Public Health Appointments 3s a line, minimum charge 15s.

Births, Marriages, and Deaths.—The charge for an insertion under this head is 10s 0d. for 18 words or less. Extra words 3s. 6d. for each six or less. Payment should be forwarded with the notice, authenticated by the name and permanent address of the sender.

BOX NUMBERS.—A Box number is used in place of name and address to conceal identity of advertiser. In no circumstances will this information be divulged by this office. Separate applications should be written to each, addressed Box—, c/o B.M.J. (address as below). All applications are forwarded to the advertiser in plain closed envelopes.

TRADE ANNOUNCEMENTS. 20s. minimum 24 words Extra words 5s. for six or less.

Every effort is made to ensure the accuracy of advertisements appearing in the Journal. No recommendation is implied by acceptance, and the British Medical Association reserves the right to refuse or interrupt the insertion of any advertisement.

Advertisement Manager, British Medical Journal,
B.M.A. House, Tavistock Square, London, W.C.1
Telephone: Euston 2111.
Telegrams: Articulate, Westcent, London.

APPOINTMENTS—Hospitals and Public Health, commence at page 10

PERSONAL

BACKWARD BOY, aged 14, son of doctor, information about possible EDUCATIONAL FACILITIES, preferably in South, gratefully received.—Box 2067, B.M.J.

DOCTOR, R.C., wishes to ADOPT CHILD, either sex, under 4 years, please give full particulars.—Box 2066, B.M.J.

RESIDENT PATIENT received doctor's house, North-West coastal resort, good accommodation, delightful garden, garage, 12 guineas weekly, inclusive.—Box 1663, B.M.J.

NOTICES

APPLICANTS ARE ADVISED not to send original testimonials when replying to advertisements. Copies will answer the purpose quite as well, and in the event of their being lost or mislaid no inconvenience will ensue.

NATIONAL UNIVERSITY OF IRELAND APPOINTMENTS COMMITTEE can recommend a limited number of suitably qualified Medical Graduates as Locum Tenentes, Assistants, or House Surgeons. Medical men or Hospitals who require such services should apply, giving full particulars to the Secretary, Appointments Committee, N.U.I., 86 St. Stephen's Green, Dublin. Telephone 51793.

THE FACT THAT GOODS made of raw materials in short supply owing to war conditions are advertised in this Journal should not be taken as an indication that they are necessarily available for export.

UNIVERSITY AND INDUSTRIAL APPOINTMENTS

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.—*British Pharmaceutical Codex* and *Extra Pharmacopoeia*. Applications are invited from pharmacists for the post of EDITOR of these publications. Applicants should have wide general pharmaceutical experience, and the possession of a medical qualification will be an advantage. Salary £1,000 to £1,500 per annum, according to experience. The holder of the post is required to join the Society's superannuation scheme, which is in accordance with the Federated Superannuation System for Universities. Applications should reach the Secretary, 17, Bloomsbury Square, London, W.C.1, not later than October 15.

PRISON SERVICE. Medical Staff.—Applications are invited for the post of PART-TIME WOMAN MEDICAL OFFICER at H.M. Prison, Birmingham, to assist the other Medical Officers. Salary is £250 per annum, plus a temporary war bonus of (at present) £20 16s. per annum. The post is unestablished. Forms of application and further particulars may be obtained from the Prison Commission (Establishment Branch), Kensington Mansions, Tebovir Road, Earl's Court, London, S.W.5.

UNIVERSITY OF ABERDEEN. LECTURESHIP IN MIDWIFERY AND GYNAECOLOGY.—Applications are invited for the post of temporary full-time Lecturer in Midwifery in the University of Aberdeen, with duties in the Aberdeen Royal Infirmary, the Aberdeen Maternity Hospital, and the Ante-natal Annexe. The salary will be £650. Preference will be given to men on Service. Persons desirous of being considered for the office are requested to lodge their names with the Secretary to the University by September 30, 1945. The conditions of appointment may be obtained from the undersigned. —H. J. Butchart, Secretary, The University, Aberdeen.

EDUCATIONAL

ABERDEEN UNIVERSITY VACANCY. REGIUS CHAIR OF NATURAL HISTORY.—The Secretary of State for Scotland announces that he proposes to invite applications for the office of Regius Professor of Natural History at Aberdeen University, which will become vacant on January 1, 1946. Applications for the Chair, accompanied by two copies of recent testimonials, should be addressed to the Private Secretary, Scottish Office, Fielden House, 10, Great College Street, London, S.W.1, and should reach him not later than October 15, 1945. A note of the terms and conditions of the appointment will be supplied on request.

ANAESTHETIC COURSE, October 8 to 20. Demonstrations and or lectures daily, at various London hospitals.—Apply Fellowship of Postgraduate Medicine, 1, Wimpole Street, London, W.1. Langham 4266.

D.P.M.—Medical Officer gives POSTAL COACHING for the above examination. No vacancies for Part II.—Box 2137, B.M.J.

GUY'S HOSPITAL MEDICAL SCHOOL FINAL F.R.C.S. COURSE—A short intensified course of instruction extending over a period of 5 weeks in preparation for the final F.R.C.S. examination to be held in November, 1945, will commence on Monday, September 24. The fee for the course is 18 guineas. Vacancies are limited, and applications should be made immediately to the Dean, Guy's Hospital Medical School, London Bridge, S.E.1.

EXAMINING BOARD IN ENGLAND
by the
ROYAL COLLEGE OF PHYSICIANS OF LONDON
and the
ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Notice is hereby given that the following Examinations will commence on the dates stated below:

DIPLOMA IN MEDICAL RADIODIAGNOSIS,
Monday, October 15.

DIPLOMA IN MEDICAL RADIOTHERAPY
Wednesday, October 17.

Candidates who have fulfilled the necessary conditions and who desire to present themselves for examination must give notice in writing to the Secretary, Examination Hall, 8-11, Queen Square, London, W.C.1., at least twenty-one days before the date of the Examination, transmitting at the same time such certificates as may be required by the regulations of the Board, together with the full amount of the fee for the part or parts of the Examination for which they desire to enter. Applications for Part II are due at the same time as those for Part I.—Horace H. Rew, Secretary.

F.R.C.S.(EDIN.)

POSTAL AND ORAL COURSES continued as usual. Full details.—H. C. Orrin, F.R.C.S. Surgeons' Hall, Edinburgh.

L.M.S.S.A. FINAL EXAMINATIONS. Surgery, Nov. 12, Dec. 10, Jan. 14. Medicine, Pathology, Nov. 19, Dec. 17, Jan. 21. Midwifery, Nov. 20, Dec. 18, Jan. 22.—For particulars apply Registrar, Apothecaries Hall, Black Friars Lane, E.C.4.

NATIONAL HOSPITAL, Queen Square, W.C.1.—A course of 11 CLINICAL DEMONSTRATIONS will be given on Saturday mornings at 10.30 from October 6 to December 15., inclusive These Demonstrations are open to postgraduate students at a charge of one guinea for the course and to final-year students at a charge of half a guinea. Members of His Majesty's and Allied Forces will be admitted free. Applications for tickets should be made not later than September 28, and applicants should give particulars of the examination for which they are working and the names of their Medical Schools.—J. Purdon Martin, Dean.

POSTAL COACHING for all Medical Examinations.. Some successes from 1901-1944 . M.D.Lond., 440 ; M.B., B.S.Lond., final, 386 ; M.R.C.S.Eng. primary, 365 ; F.R.C.S.Eng., final, 262 ; M.R.C.P Lond., 365 ; M.R.C.S., L.R.C.P., final, 815 ; D.A (1936-44), 72 ; F.R.C.S.Edin. and D.R.C.O.G., many successes. Assistance with M.D. thesis Special arrangements for medical officers with Forces. Medical prospectus (24 pp.) gratis, along with list of Tutors, etc., on application to the Principal.—University Examination Postal Institution, 17, Red Lion Square, London, W.C.1 Phone: HOLborn 6313.

RHEUMATIC DISEASES, WEEK-END COURSE. St. Stephen's Hospital, Fulham Road, S.W.3, on Saturday, October 20, and Sunday, October 21. Lectures and demonstrations by Lord Horder, Dr. Francis Bach, Dr. Grace Batten, Major A. C. Dalzell, Dr. Philip Ellman, Mr. Timbrell Fisher, Dr. E. A. Blake Pritchard, and members of the Staff of the Rheumatic Unit.—Apply Fellowship of Postgraduate Medicine, 1, Wimpole Street, London, W.1. Langham 4266.

TAVISTOCK CLINIC (Institute of Medical Psychology).—Two courses of LECTURES for General Practitioners will be held in Hastings Hall, B.M.A House, on Thursdays for eight weeks commencing October 4. At 5 p.m., "Clinical Problems in Psychological Medicine"; the lectures will be as follows: (1) and (2) Principles of Psychopathology (3) The Commoner Anxiety States (4) Psychosomatic Disorders (5) Fatigue, Depression and Other Affective States. (6) Hysterical Manifestations in General Practice. (7) Sexual Disorders and Aberrations. (8) The Prevention and Early Treatment of the Psychoneuroses in General Practice. At 6 p.m., "Social Psychiatry": (1) The Relation of the Individual to Society. (2) The Family as the Social Microcosm. (3) Social Dislocation—(a) The Evacuated Child Returns. (4) Social Dislocation—(b) The Ex-Service Man Comes Home. (5) The Vocational Misfit. (6) Human Problems in Industry. (7) Antisocial Behaviour. (8) The General Practitioner as a Social Psychiatrist. These Lectures are open only to fully qualified medical practitioners and fourth- and fifth-year medical students Fee for either series £1 1s., for both together £1 11s. 6d. Tickets obtainable only in advance from the Educational Secretary, Tavistock Clinic, 2, Beaumont Street, W.1.

THE BEDFORD PHYSICAL TRAINING COLLEGE, 37, Lansdowne Road, Bedford. Principal, Miss Stansfeld, O.B.E.; Vice-Principal, Miss Petit. Students are trained to become teachers in Gymnastics and Games, and the training, which extends over three years, includes Educational and Medical Gymnastics, Massage, Games, Dancing, and Swimming. Fees: £165 per annum. Two scholarships of £50 and two of £25 are offered annually.—For particulars apply Secretary.

UNIVERSITY OF LONDON.
KING'S COLLEGE.
FACULTY OF MEDICAL SCIENCE.

The Medical Faculty at this College of the University gives instruction in the subjects of medical science for all the usual pre-medical and intermediate examinations in medicine, surgery, and dentistry. Through the four associated hospitals, students of the College have clinical facility of over 1,000 beds. The Medical Faculty of the College provides a *general university education* in touch with other faculties, classes of which medical students are permitted to attend. There are many college societies, clubs, and functions, in which students of all faculties have opportunity of meeting each other. The College has an excellent athletic ground at Mitcham with a new and well-equipped pavilion. The first year subjects are taught in the departments of the Faculty of Natural Science and those for the second and third years in the Faculty of Medical Science. This consists of the Hambleden Department of Anatomy and the extensive Department of Physiology. The buildings of these Departments provide the College with a complete Medical Faculty which embodies the newest up-to-date ideas in laboratory construction and equipment. Valuable scholarships and prizes are awarded on the results of examinations held annually.—S. T. Shovelton, M.A., Secretary, Strand, W.C.2.

POSTGRADUATE STUDY. Diploma of Anaesthetics; Diploma in Psychological Medicine; Diploma in Ophthalmology; Diploma in Radiology; Diploma in Laryngology; Diploma in Child Health; F.R.C.S.Eng. and all Surgical Examinations; M.R.C.P.Lond. and all Medical Examinations; M.D. Thesis of all Universities; Courses for all Qualifying Examinations. Complete Guide to Medical Examinations sent free on application. Applicants should state in which qualification they are interested. Address: Secretary, Medical Correspondence College, 19, Welbeck St., London, W.1.

POSTGRADUATE STUDY. Instruction is arranged in medical, surgical, and special subjects, as circumstances permit. Information and advice obtainable from the Fellowship of Postgraduate Medicine 1, Wimpole St., London, W 1. Langham 4266

ASSISTANTSHIPS VACANT

WANTED during September an ASSISTANT with VIEW to partnership and succession in an old-established practice in the vicinity of a large town in South Wales, no collieries, average gross takings £1,500 to £1,700, panel 1,500.—Box 1925, B.M J.

WANTED, immediately, indoor and outdoor ASSISTANTS for town and country practices with and without view to partnership, also Locums, good salaries offered, state full particulars.—British Medical Bureau, 33, Cross Street, Manchester, 2.

WANTED immediately male ASSISTANT, country practice North of England, house available, must be able drive, ex-Service man preferred.—Box 2071, B.M.J.

WANTED ASSISTANT, permanent, compact practice North-East England, work light, furnished accommodation provided, car or, preferably, car allowance, £100, salary £600.—Box 2069, B.M.J.

WANTED, at once, ASSISTANT, mixed practice, S. Yorks, early partnership to suitable man, state age, experience, etc.—Box 1924, B.M.J

WANTED ASSISTANT, either sex, single-handed practice, indoor or outdoor, pleasant Midland town on main line, light work, time for reading, Scot preferred.—Box 2070, B.M.J.

WANTED ASSISTANT with VIEW urban and rural practice near North-West seaside resort.—Box 2073, B.M.J.

WANTED, external ASSISTANT, October 1, male or female, state age, mixed practice, town and rural, 8 miles from Liverpool, car provided, salary good.—Box 1909, B.M J.

WANTED ASSISTANT or locum tenens immediately for mixed country practice 12 miles from Manchester, salary by arrangement, car provided, principal deceased.—Box 2077, B.M.J.

WANTED young male or female ASSISTANT, permanent outdoor, for town and country practice, good accommodation, car provided, salary by arrangement.—Dr. Jones, 1, Scotch Street, Whitehaven.

WANTED, indoor ASSISTANT with VIEW, S.E. London, salary £500 p.a. all found, work light.—Apply, stating age, etc., Box 2128, B.M.J.

ASSISTANT, single, British, wanted immediately, mixed general practice near Stafford, little night work, outdoor £800, car provided or allowance.—Box 1857, B.M.J.

ASSISTANT REQUIRED with VIEW partnership in firm of two, very old-established, busy, mixed, semi-rural practice in South, no surgery but plenty of work and scope, negotiations for house progressing, own car advantage, driver essential.—Box 2068, B.M.J.

ASSISTANT, indoor, English or Scots, this winter, as preliminary to partnership in old-established mixed practice of three outskirts of Manchester, 1/4 share of £6,000, increasing, excellent house and garden on acceptance, easy terms by mutual agreement.—Box 2080, B.M.J.

ASSISTANT REQUIRED, preferably male, with VIEW to partnership, married or single, must be British, excellent opportunity.—Apply "Assistant," c/o Philip Harris, Ltd., 144, Edmund Street, Birmingham.

ASSISTANT WANTED, man or woman, for general practice in S. Wales, salary £650 to commence, car driver preferred, car provided, live in, well-equipped hospital.—Box 2129, B.M.J.

ASSISTANT REQUIRED for Monday and Thursday mornings, medical clinic, Central London; 2 guineas per session, suitable for doctor reading for higher qualifications.—Box 2127, B.M.J.

ASSISTANT with or without VIEW, for large practice in the South-West, excellent opening well-qualified man interested in medicine and clinical pathology, unfurnished house, salary according to experience, suit Service man expecting to be demobilized soon.—Box 2076, B.M.J.

ASSISTANT, male, WANTED for good-class Midland practice, English or Scotch, must be energetic and well experienced.—Box 2051, B.M.J.

ASSISTANT for good-class practice in pleasant seaside district of Southern England, two partners, secretary, partnership eventually to suitable man, send copies testimonials and details experience, salary by arrangement.—Box 1872, B.M.J.

ASSISTANT WANTED immediately, South Wales town, general practice in agricultural district.—Write stating particulars to Box 1926, B.M J.

ASSISTANT WANTED, British, single, male, to take charge of branch in a pleasant non-colliery, South Derbyshire, village, work light, time for reading, board, lodging, car provided, salary £5[illegible]0 to start!—Box 1639, B.M.J.

ASSISTANT, with VIEW, unmarried, practice £2,500, photograph desirable.—Apply Dr Elliott, 8, Stoneham Lane, Southampton.

ASSISTANT, male or female, indoor at first, mixed practice North Wales near Chester, preferably having own car, part succession if desired, salary by arrangement.—Box 2130, B.M.J.

ASSISTANT REQUIRED with VIEW to partnership or early succession, South Wales Coast town, easy terms.—Box 2079, B.M.J.

PERMANENT ASSISTANT, Scotsman preferred, good salary to experienced man.—Box 1907, B.M.J

EXPERIENCED permanent ASSISTANT required, with or without VIEW, busy good-class practice, Leics. country town, two dispensers, self-contained flat, garden, garage, salary £850 to £950, further particulars on enquiry.—Box 2074, B.M.J.

LONG-TERM ASSISTANT WANTED in mixed-class Manchester residential suburb, married, Protestant, university man about 30 preferred, salary £600 to £800 (depending age, experience) plus excellent unfurnished house, garage, garden, and car allowance, suitable partner desired later.—Box 2131, B.M.J.

OUTDOOR ASSISTANT, British, male, under 45, required for mixed practice in South Coast town, salary £750 to £950, no dispensing, car provided.—Box 2078, B.M.J.

OUTDOOR ASSISTANT WANTED, single, English or Scotch preferred, in North-West Yorkshire, partnership practice.—Box 2132, B.M.J.

PART-TIME ASSISTANT wanted, outdoor, Greater London area, approximately three days weekly, admirably suitable postgraduate, no night work, good remuneration.—Box 2075, B.M.J.

ASSISTANTSHIPS WANTED

ASSISTANTSHIP with definite VIEW, or salaried appointment, required by young doctor, experienced hospital, G.P., and surgical work, North or Midlands preferred.—Box 1605, B.M.J.

ASSISTANTSHIP REQUIRED by experienced doctor, light duties, had own practice, married, one child, Southport or Blackpool area preferred.—Box 2054, B.M.J.

ASSISTANTSHIP with VIEW partnership required by experienced doctor, married, aged 34, ex-Services, car and furnished house essential.—Johnston, "Windward," Worsley Road, Worsley, Manchester.

CAPTAIN R.A.M.C. (Jewish) expecting early demobilization would like ASSISTANTSHIP with or without VIEW, keen and energetic, excellent references.—Box 2082, B.M.J.

DOCTOR, experienced in general and hospital practice, requires indoor ASSISTANTSHIP or locum in Lancashire.—Box 2055, B.M J.

DOCTOR free to take EVENING SURGERY in or near London.—Box 2092, B.M.J.

EXPERIENCED G.P., lady, Hons. graduate Edinburgh, desires ASSISTANTSHIP with VIEW partnership or practice to buy, good country district England or Scotland.—Box 2081, B.M.J.

REGISTRAR doing postgraduate work in Cambridge would do EVENING SURGERIES and occasional week ends in return for accommodation. Box 2056, B.M.J.

LOCUMS

WANTED, LOCUM (preferably woman), for about six months from October 1, midwifery and paediatric experience an advantage, salary by arrangement.—Dr. Kathleen McClintock, c/o Drs. Bates, Hamilton, and Goodwin, West Malling, Kent.

WANTED LOCUM, to assist, for practice in Lancs. town, either sex, for two months from October 1, own car for preference, state full particulars.—Box 2085, B.M.J.

WANTED, LOCUM six months or more, mixed practice, £600 p.a., indoor, car, surgical scope if desired.—Box 1885, B.M.J.

WANTED, LOCUM, Sept 20 to Oct. 6, Plymouth vicinity, suit doctor and family wishing seaside change.—Box 1886, B.M.J.

LOCUM WANTED immediately in Manchester area for one to two weeks, Indian preferred.—Box 2084, B.M.J.

LOCUM, urgently REQUIRED for well-established working middle-class practice which is for sale in Leeds.—Box 1690, B.M.J.

SURGICAL SPECIALIST, R.A.M C., due release October, prepared to do LOCUM in good-class practice London pending hospital appointment in New Year, previous experience.—Box 2083, B.M.J.

PARTNERSHIPS

WANTED PARTNERSHIP or practice, income about £1,500, preferably Home Counties with nice house, by doctor, aged 38, keen, energetic, demobilized middle September, many years' G.P. experience.—Replies in confidence, Captain Simmons, Wharncliffe House, Grays Park, Slough.

DOCTOR recommends capable lady assistant for PARTNERSHIP who has successfully managed practice during war, Southern England preferred.—Box 1630, B.M.J.

EXCELLENT opportunity in the Colonies for PARTNERSHIP in eye, ear, nose and throat practice, candidate should have D.O.M.S. and D.L.O. or one diploma and large experience in other specialty, capital not required.—Box 2064 B.M.J.

FOR SALE HALF-SHARE at one year's purchase, of good practice in large S. Wales town, £3,000 per annum, panel 2,800.—Box 2104, B.M J.

FOR SALE, 1/4 SHARE in mixed practice in East Midland town, average gross receipts over past three years £8,000, purchaser should be experienced in general surgery, 1¼ years' purchase, payments can be arranged.—Box 763, B.M.J.

MEDICAL woman required as PARTNER in old-established woman's private and panel practice in Midlands, gross receipts last year £2,800, house to rent.—Box 2101, B.M.J.

PARTNER, retiring, THIRD-SHARE partnership for sale within 20 miles of London, panel and private practice.—Box 2106, B.M.J.

PARTNER REQUIRED. Owing to ill-health in old-established practice in Midland town 1/3 SHARE at convenient terms to be arranged, panel 4,500, average receipts £4,000 (audited), good corner house and garage to rent, excellent prospects.—Box 2100, B.M.J.

PARTNER REQUIRED in well-established practice in semi-suburban district, Piccadilly 10 miles, preliminary assistantship essential, senior qualification desirable.—Box 1867, B.M.J.

PARTNER (British) wanted in first-class old-established practice in Kent, applicant must be well qualified, preference for one holding F.R.C.S., or M.D., or M.R.C.P., or M.R.C.O.G. qualification, excellent modern house and garden available, share producing £1,500 suggested to commence with.—Apply Box 1851, B.M.J.

PARTNERSHIP, HALF-SHARE in secure, middle-class practice in outlying West London surburb, receipts £6,000 (audited), but still scope for increase, ample introduction by retiring partner, two years' purchase.—Box 2103, B.M.J.

PARTNERSHIP, 1/3 share of £2,700 p.a. with good scope, spa town in S.W., furnished house, prem. 2 yrs.' purchase, early succession if desired.—Box 2133, B.M.J.

PARTNERSHIP desired in semi-rural area West or North Riding by experienced G.P. released from Army, house with garden to rent preferred and preliminary assistantship essential, married, free November.—Box 2108, B.M.J.

PARTNERSHIP, one-third share in flourishing industrial practice in N.E. London suburb, averaging £6,000 p.a., incoming partner should be interested in midwifery and children and aged about 40 years, two years' purchase, plus 1/3 value of instruments, furniture, drugs, etc., preliminary assistantship, accommodatieon available reasonable rent.—Box 1615, B M J

RADIOLOGICAL PARTNER, D.M.R.E., British, wanted in large North England town, many hospital appointments, great scope for younger doctor, half-share £1,000. Age and particulars to Box 2107, B.M.J.

SALE HALF-SHARE partnership Nottingham, average gross receipts past 3 years £2,279, panel 2,300, 2 years' purchase.—Box 2102, B.M.J.

YOUNG PARTNER REQUIRED at once for large coastal town in Sussex, panel and private practice, also midwifery, house available, teetotaller preferred.—Box 2105, B.M.J.

MEDICAL POSTS

APPLICATIONS are invited for a LABORATORY TECHNICIAN at the Royal Infirmary, Sunderland. Good experience in haematology essential. Salary in accordance with B.H.A. scale, B grade. Candidates must be members of the Institute of Medical Laboratory Technology. Applications invited from ex-service men.—T. F. W Mackeown, House Governor and Secretary, Royal Infirmary Sunderland.

DOCTOR, 57, desires APPOINTMENT or any genuine business proposition in good social district in South-West, light work only, £2.000 available.—Box 2124, B.M.J.

DOCTOR awaiting reinstatement offers his SERVICES in a suitable capacity, highest references obtainable.—Apply Box 2125, B.M.J.

DOCTOR, aged 46, experience of hospital, general practice, and tropical work, desires POST as factory M.O. or life insurance work, London area.—Box 1933, B.M.J.

DOCTOR, aged 48, wishing to give up general practice desires FULL-TIME APROINTMENT, full particulars on application.—Box 1856, B.M.J.

EXPERIENCED BRITISH G.P., 38, free for EVENING SURGERIES month of November, London area.—Box 1406, B.M.J.

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LONDON SATURDAY SEPTEMBER 22 1945

HOSPITAL PLANNING IN SOUTH-WEST SCOTLAND

DUMFRIES AND GALLOWAY DIVISION PROPOSALS

In anticipation of the requirements of the National Health Service scheme, the Dumfries and Galloway Division of the B.M.A. has prepared a report on the post-war hospital facilities which will be necessary in its area. It is expected that the three counties of Dumfries, Kirkcudbright, and Wigtown, with the large burgh of Dumfries, which is the area of the Division, will be one of the areas of the hospital region of South-West Scotland. Its population at the last census was about 140,000. The report was prepared by a committee of 15, under the chairmanship of Mr. R. L. Beveridge, with Dr. J. G. McWhirter as secretary. The committee was constituted at a meeting of the Division to which all practitioners in the area were invited.

Large-scale Rebuilding

The first conclusion of the committee—a unanimous one—is that none of the existing hospitals in the area, with the exception of Crichton Royal, Dumfries, which is a mental hospital, and possibly some of the cottage hospitals, is capable of adaptation to satisfy modern standards. Dumfries and Galloway Royal Infirmary (115 beds) is on a cramped site and cannot be modernized. It is proposed that it should be rebuilt on a site of 80 acres, half of which would be taken up by the tuberculosis unit. The Cresswell counties maternity hospital, the infectious diseases hospitals, and the tuberculosis sanatorium all need rebuilding and should be brought together at the central hospital at Dumfries, while there would be a peripheral hospital at Stranraer.

In the new central hospital it is proposed that the medical unit should accommodate 120 beds, with a staff of one physician of consultant status, one resident medical officer, and two house-physicians, and the surgical unit 150 beds, with two operating theatres, and a staff of one senior and one junior surgeon, two anaesthetists, one resident surgical registrar, and four house-surgeons. The number of confinements in the area is about 3,000 annually; at present 30% of these take place in hospital, but it is considered that in the future this proportion may rise to 60% or even higher. It is therefore suggested that there should be a major obstetric unit of 100 beds at Dumfries, and a peripheral unit in the western part of the area, presumably at Stranraer. The service would aim at ensuring that every pregnant woman had an ante-natal clinic which she could attend within easy reach of her home. For this purpose the cottage hospitals might be used. The medical staff of the maternity service should consist of one obstetrician and gynaecologist, one anaesthetist, a resident registrar, and four house-surgeons. A paediatric unit of 80 beds for children under 12 is proposed, with a paediatrician of consultant status and a house-physician.

Infectious Diseases Hospitals

The committee's view is that the practice of treating cases of infectious disease in small district hospitals cannot be defended. The only question is whether all cases of infectious disease should be treated in a hospital for that purpose or in a unit of a general hospital. The latter alternative is favoured. About 200 beds (140 at the central and 60 at the peripheral hospital) will be required, and the staff should consist of one physician in charge of the unit, with two house-physicians. The tuberculosis unit of 200 beds, in close proximity to the general hospital, should have a resident staff of one physician, one assistant medical officer, and one house-physician. The present arrangement for venereal diseases is that four local authorities maintain an out-patient clinic at the county buildings, Dumfries. It is considered undesirable for clinics to be established elsewhere than at the central hospital, but an extension of the general practitioner service, such as is carried on in Wigtownshire, is recommended, and beds should be available at the central hospital for highly infective patients, cases complicated by pregnancy, patients suffering from side-effects of treatment, and those requiring special medical or surgical treatment or undergoing the intensive therapy which seems likely to come into more common use. The staff would consist of one venereologist. An ear, nose, and throat department in charge of one surgical specialist with a house-surgeon is projected, also a psychiatric unit with out-patient and in-patient facilities working in close liaison with Crichton Royal, and wards of 100 beds for chronic sick and incurables.

The amount of pathological work in a hospital of this size would necessitate the provision of a fully equipped laboratory, with a staff of one pathologist, one bacteriologist, who would be closely associated with the area M.O.H. for epidemiological investigations, and laboratory technicians and assistants. There should be a department for radiodiagnosis, with one radiologist and an assistant. *X*-ray therapy in Scotland is expected to be centred in the five principal towns, and a peripheral radiotherapeutic clinic at Dumfries would be served by a visiting specialist from the key hospital in Glasgow. The same would obtain in ophthalmology. The orthopaedic service also must be regional and based on an orthopaedic hospital, but out-patient and follow-up clinics must be established. Other departments would be a large one for physiotherapy and rehabilitation, a social service department under the control of a qualified almoner, a central records department, some teaching facilities for both medical students and nurses, and a certain amount of clinical research. There would also be a private-patient annexe with 50 beds. The cottage hospitals should be used as peripheral clinics, at which the advice of visiting specialists would be obtainable, and should be staffed by general practitioners of the district. The scheme also provides for three convalescent homes.

Altogether under this ambitious but well-thought-out plan there would be close upon 1,000 beds at the central hospital, Dumfries, and 60 at the peripheral hospital, Stranraer, with a medical staff of 38 and five visiting specialists. By this piece of planning Dumfries has furnished an example of what other Divisions might do in their localities.

"GRADUALNESS" IN SOUTH AFRICA

NATIONAL HEALTH SERVICE PRIORITIES

The National Health Service in South Africa, on which a Government Commission reported in the early part of the present year,[1] appears to be taking shape by instalments. The National Services Advisory Committee, set up by the Minister of Welfare and Demobilization, in whose Ministry is included the portfolio of public health, has received from the Minister a special directive that the services to receive priority should come under the following five headings: (1) A national scheme for tuberculosis. (2) A national scheme for venereal disease. (3) The establishment of a division of health education in the Department of Public Health. (4) The establishment of an institute of hygiene. (5) The regionalization of the activities of the Department of Public Health in the light of the probable development of a National Health Service.

It is agreed that these proposals are by no means the full National Health Service as envisaged in the report of the Commission, and there is as yet none of the central organization proposed in that report—a National Health Board, a Health Services Personnel Commission, and so on. Personnel so far engaged for health centres have been appointed by the same methods and are subject to the same conditions of service as obtain in the public service generally, but the appointments hitherto made are all on a temporary contract basis, which will be revised in the light of any subsequent developments in the establishment of an organized National Health Service in full conformity with the principles of the report. Meanwhile, several new types of post have been established within the public service for preventive work at health centres.

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[1] The recommendations of the Government Commission were given in the *Supplement* of April 7 (p. 52), and the reaction of the profession to the report was described in the *Supplement* of May 12 (p. 87).

The opinion in the medical profession has always been that a National Health Service can function satisfactorily only when in all its departments, particularly hospitals, it is the responsibility of the Central Government. A splitting of control between the central and provincial authorities would, in the profession's view, give rise to difficulties. The South African Prime Minister has stated, however, that the Government will not disturb provincial control of general hospitals, and therefore certain measures have been suggested for as good an arrangement as possible between the different authorities in respect of hospital services. In a guarded editorial the *South African Medical Journal* says that "whether the proposed arrangements will meet the requirements cannot at this stage be gauged or anticipated." Concerning a statement by the Advisory Committee on the whole subject the journal says, "We are not committed to it, and it will probably be fully discussed at the next meeting of Federal Council [of the Medical Association of South Africa (B.M.A.)]."

It appears that all the Provinces have accepted in principle the provisions of free hospitalization in the hospitals controlled by them, and the Government is prepared to give them increased financial assistance to carry out this policy. The Government itself will probably make provision for free hospitalization (it is already mostly free) in the hospitals for which it is responsible—namely, mental hospitals, and hospitals for tuberculosis, venereal diseases, and formidable epidemic diseases. Out-patient services, which are at present provided by general hospitals, will for the most part be transferred to health centres when and where these are established by the Government.

One matter on which an early decision will have to be taken by the Government concerns the method of payment for curative services at the health centres. The primary purpose of health-centre practice is the promotion and safeguarding of personal health by way of periodical medical examinations, and health education of individuals and families by doctors at the centres and health visitors in the home. Such services are not expected to come largely into competition with private practice; but, on the other hand, they may very well reveal, particularly at the outset, a need for curative services which the patients attending the health centre will often, if not always, desire to be carried out by the doctors working there. Thus a conflict may arise between the health-centre service and private practitioners in the areas where health centres are established. A decision on the important matters here at stake has not yet been taken by the Government, but the Advisory Committee (which, as already stated, is the Minister's appointed body) has given an assurance that great care will be taken to establish health centres only at points where this problem will not arise or will be minimal. An undertaking has also been given on the part of the committee to keep the profession informed of all significant events as they occur, and to consult the Medical Association on all points affecting the interests of its members. The Government has made available a sum of £50,000 for the establishment of health centres.

"FREE HOSPITAL" EXPERIENCE IN NEW ZEALAND

THE BURDEN ON LOCAL RATES

One of the principal features of the social security scheme which came into operation in New Zealand on April 1, 1939, was a provision that all should receive hospital treatment at no extra cost. The subsequent experience in Wellington, the capital, is instructive. In the public hospital there, which is under the control of a board representing the contributory local authority, the total number of patients treated during the year before the bringing in of social security was 11,522, and the cost of maintenance for each patient-day was 12s. 4d. Last year the number of patients was 21,645, or almost double, and the cost was 22s. 1d. The levies under social security in Wellington have risen steadily from £94,500 in 1940–1 to £210,869 in 1945–6. For every £100 of rates levied before social security came in, £13 8s. 9d. was for hospital purposes; now out of every £100 the hospital receives £25 15s. 4d.

At a recent meeting of the Wellington City Council the ever-increasing burden to the citizens of the hospital rate gave rise to a vigorous debate. It was stated that the hospital board was powerless to arrest the rising charges, though no doubt exercising economy as far as compatible with efficiency. It was demanded that the Dominion Government, which introduced social security on the plea that all would receive hospital treatment at no extra cost, should face up to the situation. One councillor said that it was important that ratepayers should realize how far they had been "let down" by the promise of an entirely free hospital service. Since social security came in the city had had to find nearly a million for "free" service. The average Wellington householder, owning a property of the value of £400, had paid during these six years £21 18s. in hospital rates—the price of his "free" hospital service. Under the guise of providing free treatment under social security the Government had imposed a special burden upon one class of the community.

It was also stated that apart from the question of free treatment there had been a tremendous increase in hospitalization. Doctors now were looking with disfavour upon home treatment for many illnesses. On the other hand, it was the view of some members of the city council that the health of New Zealand had been greatly improved by the additional services since social security came in, and that New Zealand was ahead of all other countries in this respect.

The national Government is to be asked, as the service is a national one, to finance it nationally, so that a double burden is not placed upon one section of the community—the ratepayers of the urban area in which the hospital stands.

RETURN TO PRACTICE

The Central Medical War Committee announces that the following have resumed civilian practice: Mr. C. W. Gordon Bryan, F.R.C.S., at 118, Harley Street, W.1; Dr. W. S. C. Copeman, F.R.C.P., at 41, Harley Street, W.1; Mr. R. K. Debenham, F.R.C.S., at 18, Greenfield Crescent, Edgbaston, Birmingham; Mr. George T. Hankey, M.R.C.S., L.D.S., at 79, Harley Street, W.1; Dr. H. L. Marriott, F.R.C.P., at 63, Wimpole Street, W.1; Dr. Richard R. Trail, F.R.C.P., at 55, Harley Street, W.1.

Correspondence

Medical Demobilization

SIR,—Though there has already been considerable correspondence on the subject of demobilization of medical officers, we feel that the final signing of the peace with Japan has radically altered the whole situation.

The following facts are well known to the profession, but cannot be too often repeated:

(1) In the three Services there is one medical officer per 450 men, men who have been repeatedly examined during the past six years, and from whom the unfit have been returned to civilian life. They are in consequence that section of the community least likely to require medical attention.

(2) In civilian life there is one doctor per 2,500 (approximately) members of the population; among these are numbered children and old people and those who, as already mentioned, have been discharged from the Services.

(3) The war is now unquestionably over, and as a result the necessity of keeping numerous medical officers in the Services to deal with casualties, actual or potential, has disappeared.

(4) As an obvious result of the facts stated in (1) and (2), the Service doctors have insufficient medical work to do, while at the same time their civilian colleagues, many of whom are far past the age at which they intended to retire, are grossly overworked and face the prospect of the coming winter with considerable misgiving.

While the war was in progress and while large numbers of casualties were expected, the need for a high proportion of Service medical officers was apparent. This contingency no longer exists and there can be no possible justification for maintaining the wartime strength of 2.3 M.O.s per thousand men. Despite this fact, the R.A.F. has announced (*Lancet*, Sept. 1) that this proportion of 2.3 per thousand is to be maintained and that R.A.F. medical officers are to be demobilized *pari passu* with the rest of the Service at that rate.

The early release of students, teachers, miners, and builders has already been well recognized as vital to the national interest, and has been implemented. We believe it is essential that the medical establishments of the Services are now reduced to peacetime level, so that doctors may be released to civilian life, where they, too, are so much more urgently needed in the national interest.—We are, etc.,

K. E. GUEST, S/Ldr.
M. J. GORDON, S/Ldr.
G. MACNAUGHTAN, S/Ldr.
W. H. T. SHEPHERD, S/Ldr.
J. R. BELCHER, F/Lt.
G. F. PANTON, F/Lt.
J. R. HUGHES, F/Lt.
L. NANCEKIEVILL, F/Lt.

Demobilization from the R.A.F.M.S.

SIR,—We have recently been officially informed of the demobilization plans for the R.A.F. Medical Branch. Group 18 will be demobilized by the end of December; Groups 19 and 20 will be demobilized in January and February respectively. It is intended, it is added, that R.A.F. medical officers will be released at the rate of 2.3 medical officers for every 1,000 men released, the present number of M.O.s in the R.A.F. being 2.27 per 1,000. Meantime, as we are so constantly reminded, doctors are being mobilized from civil life with greatest possible speed.

From these figures it would appear that the R.A.F. Medical Branch intends to retain medical officers up to its war establishments. There was some justification for the extravagant medical establishments during the war, but surely there is no possible justification now. It is manifestly unreasonable to expect the Service chiefs to cut establishments down to the absolute minimum. They are only human, the Service is their career, and they naturally do not wish a drop in rank any earlier than can be avoided. Let us hope that the Central Medical War Committee, as advisers to the Government, will scrutinize the suggested establishments most closely.

The greater part of a Service M.O.'s work, now that the war is over, is examination of personnel prior to release. This work will inevitably get much greater as demobilization speeds up. The point arises whether this examination is really necessary and not merely a reduplication of existing records. One assumes that the examination is intended to prevent the undeserving from obtaining pensions: it is unlikely that there is any more exalted motive behind it. Surely, if the question of a pension arises, there is a most complete medical history in the man's documents. I can speak only for the R.A.F., but its medical records, though they entail a vast amount of clerical work, are first-class. It is reasonable to expect that they would be much more useful than a single examination, made when the man's medical history was not available, as happens in every case over-seas. Cutting out these, in my opinion, unnecessary routine examinations would enable many more Service doctors to return to civil life, where they are urgently required and where they all wish to be.—I am, etc.,

"R.A.F. MEDICAL OFFICER."

Demobilization and Replacement

SIR,—With regard to the demobilization of Service medical officers, and their replacement by young practitioners from the E.M.S., I would like to raise a particular matter to which, hitherto, no attention has been drawn—namely, the conscientious objector. In this war a certain number of doctors of military age, and physically fit, have been admitted to the Register of Conscientious Objectors, and have been exempted from service with the armed Forces. Now that the war has ended, and there is no longer any question of fighting or bloodshed, there can be no justification for the continuation of the policy of exempting such people from service with His Majesty's armed Forces, as grounds for conscientious objection do not now exist. Their service would, in fact, constitute a service of mercy.

Nobody would deny that the policy of the Central Medical War Committee of recruiting young civilian practitioners to replace doctors who have already played their part with the armed Forces is justified. The rate of demobilization of Service doctors could, to some extent, be accelerated if the C.M.W.C. adopted the policy of recruiting everybody eligible for recruitment (i.e., those who have completed two years in a B1 post and general practitioners below the age of 35), whether or not their names appear in the Register of Conscientious Objectors.—I am, etc.,

"CENTRALIAN."

Release of R.N.V.R. Medical Officers

SIR,—The latest information within the Royal Navy shows that the main body of officers *should* be demobilized up to Group 17 by the end of the year, but that medical officers will *probably* lag considerably behind. For up to six years we have had to be satisfied with this "should," "probably," "maybe," "but" system of answers. Is it too much to hope that by this time we can have someone who will answer "yes" or "no"? I can only remember a definite answer on one occasion—"no"—to a series of requests for a course which was open to R.N. officers of both permanent and emergency lists.

During the whole of the war years the permanent officers have purported to represent us, but little that these seniors have done has inspired us with confidence that they have our welfare anywhere near the heart. Rather the reverse if one reviews the chaotic state of regulations applying to R.N.V.R. medical officers. Could we not now have senior R.N.V.R. officers, both temporary and permanent, co-opted into the administrative body in something like the same proportion, by numbers, as that in which we are serving, so that at least we would be sure of true representation whatever the outcome? This would, I feel, allay many of our misgivings. Many like myself, anxious as we are to return to hospital or practice, feel that we should stay to "finish the job" but know that too long we have been the "tools" of those who, time and again, have shown that they regard us as nought but a necessary evil. For that reason we have, I think, a right to demand that our demobilization shall at least keep pace with the other Services.

To avoid a fifth appointment within ten months I regret that I must sign myself,

"JUST ANOTHER SURG. LIEUT., R.N.V.R."

Blame the Department

SIR,—Having just received the *Journal* for July 21 and read the statement by the Secretary of the B.M.A. and the Central Medical War Committee, and now that the Japanese war is over, I would add one more to the numerous letters from Service doctors on the subject of demobilization. The number of letters in recent issues of the *Supplement* in itself speaks for the widespread concern felt and, I think it fair to say, for the general dissatisfaction of Service doctors with present demobilization arrangements.

The C.M.W.C. pleads that it is an advisory body only, and personally I feel that it is against the Medical Directorates of the various Services that the indignation of serving doctors should be directed. It is these authorities who have the power so to arrange their affairs, both within the Services and in association with the C.M.W.C. in so far as a further "call-up" is concerned, that a speedy release of doctors with long service could be effected. There seems to have been a complete failure to achieve anything worth mentioning in this respect. From the various statements and communications one receives, the only definite impression one gets is that the Service Medical Directorates and the C.M.W.C. are each blaming the other for the present unsatisfactory position.

If one accepts the evident fact that the senior Service administrators are reluctant to reduce establishments and so lose temporary rank as so fundamental that any immediate change in this respect is unlikely, then one can only press for a much more energetic policy of recruitment from civil life of doctors to replace those due for release. So far there has been no evidence of any such replacements appearing out here.

Now that the Japanese War is over the plea of a giant hospital base in the East precluding any but a minimum number of releases fails to be impressive. It is tempting to surmise that the Service Departments are busy thinking of some new excuse for further delay instead of sending either "late release-group" medical officers or newly recruited doctors to Commands such as Middle East, to replace those who should be released now. This applies especially in the case of specialists. There can be no reason now why doctors should not be released with the equivalent general release-group. There can equally be no reason whatever why any specialist should be retained as indispensable.

In several letters recently it has been emphasized that, "We are not unreasonable or impatient." Surely the time for patience at least is long passed; it will get us nowhere. Personally after six years of war service and four and a half years of separation from my family I am anything but patient, and reason as expounded by Service administrators is rapidly ceasing to be convincing. The arguments we, a considerable proportion of the medical profession, have hitherto accepted would never have convinced any Union in a trade dispute where no less vital interests were concerned.—I am, etc.,

E. H. TRAVERS,
Paiforce. Lieut.-Col., R.A.M.C.

Consolidation or Control?

SIR,—Political bias should be absolutely taboo in fashioning and framing a satisfactory National Health Service. Nothing but ill can come of an attitude of mind that adopts the political approach rather than that of the factual framing of a really practical and efficient service in the mutual interests of the people and the profession. For that is the goal to-day, and it is well that members of the profession should keep their eyes on it.

The fact that our profession is notorious for large minorities is largely a reflection of political bias, and any body with large minorities is bound to be weak and wavering in negotiation and open to exploitation. This indeed is ancient history. The trade unions and other important bodies of a kindred nature learnt the lesson long ago. In important questions of policy affecting their general welfare and that of individual members majority rule received general, even if sometimes tacit, assent.

With a Socialist Government now in power, and charges against Mr. Willink of secret understandings with the medical profession for the weakening down of the "White Paper," the cry is, "Back to the White Paper." It looks as though the adjustment and adaptations to meet the views of the profession's representatives are to be reviewed and revised and probably thrown overboard.

Personally, in considering these "adjustments and adaptations" and what they practically involve, I have always been conscious in the background that, in so far as concession and consideration were concerned, there was the emphatic qualification that in all matters the decision of the Minister was final—there could be no question of dual control—and that the role of all associated with him in adminstering the service was advisory and consultative only. In short and in reality Mr. Willink thereby committed neither himself nor his successor to anything that could not be amended, under the powers vested in himself or his successors, if the desirability or necessity arose.

The position which now emerges is that, whereas heretofore the medical profession had to reckon with a Coalition Government for the considerations and concessions it deemed desirable, now it has to deal with a powerful Socialist Government with a compelling majority and apparently a more negative attitude to negotiation. The answer, however, is the same in both cases. Keep politics out and let the interests and rights of the people to a really satisfactory health service be paramount and made compatible with a *sound* and *satisfied* medical profession—a profession which shall have the right and might to shape its own destiny.

Let me emphasize that *control* is the alternative to lack of consolidation. That means Government service at the quick or in the ultimate. The interests of the people will not be well served under a Government-controlled medical profession. It opens portals of possibilities that I shall leave unsaid. Let doctors (independent of politics) stand behind their great profession and demand that it shall remain free and unfettered in the best interests of people and profession alike. Let us fight with high faith and determination to confound any politics that attempt to put the stranglehold on either.

To this end the medical profession should give serious consideration to securing adequate representation in Parliament, and for this important object a substantial appropriation might be forthcoming from the swelling funds of the B.M.A.—I am, etc.,

Bournemouth. J. Ross MacMahon.

Public Medical Service

Sir,—Lieut.-Col. J. A. Balck-Foote (*Supplement*, Sept. 8, p. 60) warns us that Mr. Greenwood is prepared if necessary to try to force us into a National Health Service. Let us be prepared! I suggest that our Public Medical Services be made ready for expansion so that, if the Government should take unilateral action and terminate our N.H.I. contracts without first negotiating for an acceptable new service, we should be ready to receive the insured patients into our Public Medical Services, thus causing as little inconvenience to the public as possible. I believe that these patients, if Government cannot offer an adequately staffed new service, would then have an excellent case to claim a proportion of the employers' and of Government's contributions to add to a similar proportion of their own contributions, so that they could pay for their membership of the Public Medical Service.—I am, etc.,

Basingstoke. Charles Cobb.

BRITISH MEDICAL ASSOCIATION

SCHOLARSHIPS IN AID OF SCIENTIFIC RESEARCH

Scholarships

The Council of the British Medical Association is prepared to receive applications for research scholarships as follows: an Ernest Hart Memorial Scholarship of the value of £200 per annum, a Walter Dixon Scholarship of the value of £200 per annum, and four research scholarships, each of the value of £150 per annum. These scholarships are given to candidates whom the Science Committee of the Association recommends as qualified to undertake research in any subject (including State medicine) relating to the causation, prevention, or treatment of disease. Preference will be given, other things being equal, to members of the medical profession. The scholarships will be tenable for nine months in the first instance, commencing on Jan. 1, 1946. A scholar may be reappointed for not more than two additional terms of one year each. A scholar is not necessarily required to devote the whole of his or her time to the work of research, but may be a member of H.M. Forces, or hold a junior appointment at a university, medical school, or hospital, provided the duties of such appointment do not interfere with his or her work as a scholar.

Conditions of Award: Applications

Applications for scholarships must be made not later than Saturday, Dec. 1, 1945, on the prescribed form, a copy of which will be supplied on application to the Secretary of the Association, B.M.A. House, Tavistock Square, London. W.C.1. Applicants are required to furnish the names of three referees who are competent to speak as to their capacity for the research contemplated.

H.M. Forces Appointments

ARMY

War Subs. Major N. S. Plummer, R.A.M.C., to be a Consultant, and has been granted the local rank of Brig.

ROYAL ARMY MEDICAL CORPS

Lieut.-Col. S. D. Robertson, having attained the age for retirement, is retained on the Active List supernumerary.

Major (War Subs. Lieut.-Col.) M. R. Burke, O.B.E., to be Lieut.-Col.

Capt. C. P. Stevens, M.B.E., to be Major.

TERRITORIAL ARMY

Royal Army Medical Corps

War Subs. Major C. F. Critchley has relinquished his commission on account of disability, and has been granted the honorary rank of Lieut.-Col.

War Subs. Majors D. J. Campbell, A. B. Kerr, T.D., L. J. Beynon, T.D., and J. G. McCrie to be Majors.

War Subs. Capt. T. A. MacGibbon to be Capt.

War Subs. Capt. F. Elliott has relinquished his commission on account of disability, and has been granted the honorary rank of Major.

LAND FORCES: EMERGENCY COMMISSIONS

Royal Army Medical Corps

War Subs. Capts. C. N. S. Manson, H. I. Newman, I. E. Burton, C. E. Lacey, and G. N. Miller have relinquished their commissions on account of disability, and have been granted the honorary rank of Capt.

Lieut. F. Jackson has relinquished his commission on account of disability, and has been granted the honorary rank of Lieut.

The surname of Lieut. A. H. McKerrow is as now described, and not as stated in a *Supplement* to the *London Gazette* dated Sept. 26, 1944.

POSTGRADUATE NEWS

The Fellowship of Medicine announces: (1) Revision course in anaesthetics, Oct. 8 to 20: demonstrations and/or lectures daily at various London hospitals. (2) Week-end course in rheumatic diseases, all day, Sat. and Sun., Oct. 20 and 21, at Rheumatic Unit, St. Stephen's Hospital, Fulham Road, S.W. (3) Final F.R.C.S. demonstrations: particulars available from the Fellowship of Medicine, 1, Wimpole Street, W.

WEEKLY POSTGRADUATE DIARY

Glasgow University: Department of Ophthalmology.—*Wed.*, 8 p.m., Prof. A. J. Ballantyne: I. Small Retinal Exudates.

DIARY OF SOCIETIES AND LECTURES

Royal College of Surgeons of England, Lincoln's Inn Fields, W.C.—*Mon.*, *Wed.*, and *Thurs.*, 2.30 p.m. Prof. John Beattie, Kidney Function. *Mon.*, 3.45 p.m. Prof. R. A. Willis, Squamous-cell Carcinomas of the Skin and Lip; 5 p.m. Prof. A. J. E. Cave, Demonstration of Epiphyses. *Wed.*, 3.45 p.m. Prof. Willis, Basal-cell Tumours of the Skin; 5 p.m. Prof. Cave, Demonstration of Spinal Joints. *Thurs.*, 3.45 p.m. Prof. Willis, Mode of Origin of Tumour of Mucosal and Glandular Epithelia; 5 p.m. Prof. Cave, Demonstration of Ligaments.

Royal Sanitary Institute.—At Southern Secondary School Hall, Fawcett Road, Southsea, *Sat.* (Sept. 29), 10.45 a.m., Portsmouth Sessional Meeting. Dr. I. M. McLachlan: Mass Radiography—A Review of a First Year's Working; Surg. Capt. E. C. Holtom, R.N.: Aspects of Sanitation in the Navy.

B.M.A.: Branch and Division Meetings to be Held

Eastbourne Division.—Joint meeting with Eastbourne Medical Society at Princess Alice Memorial Hospital, Eastbourne, Tuesday, Sept. 25, 8.30 p.m. Dr. Constance M. Hall: Intrathoracic Tuberculosis in Childhood.

Macclesfield and East Cheshire Division.—At West Park Hospital, Macclesfield, Sunday, Sept. 23, 12 noon. Special Meeting. Agenda: To consider the report of the Representative on the A.R.M.

Paddington Division.—In Students' Common Room, St. Mary's Hospital Medical School, Praed Street, W., Thursday, Sept. 27, 8.30 p.m., Profs. C. A. Pannett and G. W. Pickering will open a discussion on the treatment of peptic ulcer.

BIRTHS, MARRIAGES, & DEATHS

The charge for an insertion under this head is 10s. 6d. for 18 words or less. Extra words 3s. 6d. for each six or less. Payment should be forwarded with the notice, authenticated by the name and permanent address of the sender, and should reach the Advertisement Manager not later than first post Monday morning.

BIRTHS

Chapman.—On Sept. 15, 1945, at the Middlesex Hospital, W.1, to Angela, wife of Hugh F. Chapman, M.R.C.S., L.R.C.P., a brother for Anthony.

McGowan.—On Aug. 27, 1945, in Calcutta, to Rosalind (*née* Barclay), wife of Major G. K. McGowan, a son.

McSorley.—On Sept. 13, 1945, at Radcliffe Maternity Home, Oxford, to Mary (*née* Blake), wife of Dr. J. G. A. McSorley, a son.

Meyrick.—On Sept. 11, 1945, to Peggie, wife of Squad. Ldr. Philip S. Meyrick, M.B., B.S., R.A.F.V.R., a sister for Robin—Lesley.

Myers.—On July 26, 1945, at Wellington, N.Z., to May, wife of Geoffrey Myers, F.R.C.S. (late T/Major, R.A.M.C.), a son.

Taylor.—On Sept. 8, 1945, to Ruth Howitt, M.B., B.Ch., wife of Surg. Lieut.-Cmdr. Selwyn Taylor, R.N.V.R., a son.

Townsley.—On Tuesday, Sept. 11, 1945, at the Highfield Nursing Home, Stanmore, a daughter (Rena Marion) was born to Stella (*née* Hyams), wife of Lieut. B. Townsley, R.A.M.C. (now in Italy)—a sister for Norton.

MARRIAGES

Parmenter—Baird.—On Aug. 18, 1945, at Little Baddow, Reginald H. Parmenter, Captain, R.E., to Ellice A. Baird, Barrhill, Ayrshire.

Whitney—Bannister.—On Aug. 30, 1945, at Chester, Rupert Underwood Whitney to Freda Bury Bannister.

DEATHS

Haworth.—On Sept. 2, 1945, at home, James Haworth, M.B., Ch.B., Wilfield House, Burnley, beloved husband of Betty.

Thomas.—On Sept. 7, 1945, at Westminster Hospital, William Thomas, M.B., B.S., B.Sc.(Lond.), M.R.C.S., L.R.C.P., of 31, Larkhall Rise, Clapham, S.W.4, aged 57 years.

IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page 10.

COUNTY BOROUGH OF WARRINGTON. Warrington General Hospital (340 beds). RESIDENT MEDICAL OFFICER.—Applications are invited from registered medical practitioners, male or female, for the post of Resident Medical Officer (B2), including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months, otherwise it will not exceed one year. Salary £225 per annum, together with board, residence and laundry. There are three other Medical Officers in residence. The duties are principally in connexion with the maternity section, so that preference will be given to candidates who have held a resident post in a recognized Obstetrical Unit. Applications stating date available to commence duties to be sent forthwith to the undersigned.—Stuart F. Allison, Medical Officer of Health, Health Department, Sankey Street, Warrington.

CITY AND COUNTY OF NEWCASTLE-UPON-TYNE. Shotley Bridge Emergency Hospital (900 meds).—HOUSE SURGEON (B2) to the Department of Thoracic Surgery.—Applications are invited from registered medical practitioners, male and female, for the above post, including R and W practitioners now holding A posts. The appointment is tenable for a period of six months, and salary is at the rate of £250 per annum, plus cost-of-living bonus and full residential emoluments. Applications to be forwarded immediately to the Medical Officer of Health, Town Hall, Newcastle-upon-Tyne, 1.

LONDON COUNTY COUNCIL. Public Health Department. Consultant and Specialist Services. WHOLE-TIME THORACIC SURGEONS.—Applications are invited for permanent appointment to whole-time positions of (1) Chief Thoracic Surgeon and (2) Thoracic Surgeon, in the Public Health Department of the London County Council, mainly for work in the Council's sanatoria and medical tuberculosis hospitals, but also as may be required at any of the special or general hospitals. The Chief Thoracic Surgeon, in addition to surgical work, will be responsible for organizing all thoracic surgery in the Council's hospital service. Scales of salary: Chief Thoracic Surgeon, £2,000 by £100 to £2,500 a year, Thoracic Surgeon, £1,250 by £50 to £1,500 a year, plus cost-of-living addition (at present £60 a year for men, or £48 a year for women). There are no emoluments. If warranted by the status and experience of a selected candidate, appointment at a point higher than the minimum of the scale may be recommended. Forms of application, giving particulars as to conditions of appointment and service, obtainable (stamped addressed foolscap envelope necessary) from Medical Officer of Health (S.D.6.), County Hall, London, S.E.1. To permit of candidates in H.M. Forces serving over-seas being considered the latest date for the return of application forms has been fixed for January 28, 1946. If the selected candidate is subject to any restriction on the transfer of his service, or is engaged in National or essential Local Government Service, he will not be required to take up his new appointment until the restriction is removed. Canvassing disqualifies.

LONDON COUNTY COUNCIL invites applications from registered women medical practitioners for appointment as a WHOLE-TIME ASSISTANT MEDICAL OFFICER in the Public Health Department. The duties will be primarily those in connexion with the Council's domiciliary midwifery service and the supervision of midwives generally. It will also embrace the inspection of nursing homes and mother-and-baby homes. Candidates should have a sound knowledge of modern midwifery and preferably have held a resident midwifery appointment. Salary £600 by £25 to £750, together with a cost-of-living addition, amounting at the present time to £48 a year. There are no emoluments. All appointments are at present on a temporary basis and subject to review. The candidate appointed will not be free to apply for another appointment without obtaining permission to do so from the Ministry of Health. Forms of application (stamped addressed envelope necessary) obtainable from the Medical Officer of Health (S.D.5), the County Hall, Westminister Bridge, S.E.1, and should be returned not later than October 1. Canvassing disqualifies. The consent of the Ministry of Health has been obtained to the advertising of this appointment.

LANCASHIRE COUNTY COUNCIL.—Applications are invited for the following posts: Wrightington Hospital, near Wigan. JUNIOR MEDICAL OFFICER (B2) at this Hospital, containing 370 beds (260 beds for non-pulmonary tuberculosis, adults and children), 40 beds for "combined" pulmonary and non-pulmonary cases, and 70 beds for pulmonary cases). The medical staff consists of medical superintendent, deputy and two medical officers, two consultant orthopaedic surgeons, other visiting surgeons, and visiting physician. Good facilities for reading for M.D.

High Carley Sanatorium, near Ulverston. JUNIOR MEDICAL OFFICER (B2) at this sanatorium, containing 130 beds for adult pulmonary patients and (at Oubas House) 21 beds for pulmonary cases in children. The medical staff consists of medical superintendent, deputy, and medical officer.

The salary for each post is £300 per annum, plus bonus, together with board, single quarters, and laundry, valued at £146. R and W practitioners who now hold A posts may apply, and if held by an R practitioner the appointment will be limited to six months, otherwise, one year. Forms of application and conditions of appointment from Central Tuberculosis Officer, County Offices, Preston.

MIDDLESEX COUNTY COUNCIL. MEDICAL OFFICER (B1) (Resident) required at REDHILL COUNTY HOSPITAL, Edgware, Middx.—Applications invited from registered medical practitioners, including R and W practitioners holding B2 posts, who should preferably have held previous medical appointments. R practitioners holding B1 posts ineligible unless rejected by R.A.M.C. Salary £350 p.a., plus cost-of-living bonus (now £60 p.a., proportion only in cash). Board, lodging, and laundry. Whole-time duties, entirely medical, such as Council may require, under supervision of Medical Director. Appointment, subject to medical examination and one month's notice, is for six months, with possibility of extension to twelve months. Post vacant November 8, 1945. Applications to Medical Director, "Z," of Hospital. Closing date October 6, 1945.— C. W. Radcliffe, Clerk of the County Council, Middlesex Guildhall, Westminster, S.W.1.

MIDDLESEX COUNTY COUNCIL.—TEMPORARY ASSISTANT MEDICAL OFFICER (B1), male, required at NAPSBURY MENTAL HOSPITAL, Nr. St. Albans, Herts. Salary £440 to £510 p.a., plus war bonus according to qualifications and experience, with board, lodging, laundry and attendance. In addition £50 p.a. is paid for D.P.M. Suitably qualified R practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Applications to the Medical Superintendent, "Z."—C. W. Radcliffe, Clerk of the County Council, Middlesex Guildhall, Westminster, S.W.1.

NORTHUMBERLAND COUNTY COUNCIL. Hexham Emergency Hospital (Regional Orthopaedic Centre) (640 beds). HOUSE SURGEON (A).—Applications for the above post are invited from registered medical practitioners, male or female, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months, otherwise it will be for a period of one year. Salary is at the rate of £120 per annum, with full residential emoluments. The hospital offers excellent training and experience in orthopaedic surgery. Applications should be sent to the undersigned immediately.—J. B. Tilley, County Medical Officer, County Hall, Newcastle-upon-Tyne.

BIRMINGHAM UNITED HOSPITAL. The General Hospital. The Queen Elizabeth Hospital (also incorporating the Queen's Hospital 1840-1941). —Applications are invited from registered medical practitioners, male or female, for the appointment of RESIDENT ANAESTHETIST (B2) at the General Hospital, including R and W practitioners who now hold A posts. The appointment is for six months and is a recognized resident anaesthetist post for the purpose of taking the Diploma in Anaesthetics. Candidates from the Forces will be specially considered. Salary £100 to £120 p.a., according to experience, with full residential emoluments. Applications should be sent to the undersigned at once.—G. Hurford, Secretary, Birmingham United Hospital, The Queen Elizabeth Hospital, Birmingham, 15.

BIRMINGHAM AND MIDLAND EAR AND THROAT HOSPITAL, Edmond Street, Birmingham, 3 (105 beds).—Applications are invited for the appointment of a HOUSE SURGEON (A). Practitioners within three months of qualification who are liable to service under the National Service Acts may apply. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Duties to commence immediately. Salary at the rate of £250 per annum, with full residential emoluments. Applications should be forwarded to the undersigned immediately.—W. H. Lomas, House Governor.

BURSLEM HAYWOOD AND TUNSTALL WAR MEMORIAL HOSPITAL, High Lane, Tunstall, Stoke-on-Trent.—Applications are invited from registered medical practitioners, male and female, including R and W practitioners who now hold A posts, for the post of HOUSE SURGEON (B2). If held by an R or W practitioner the appointment will be limited to six months. Salary is at the rate of £225 per annum, with full residential emoluments. Applications should be forwarded as soon as possible to C. E. Lowndes, Secretary.

BIRKENHEAD GENERAL HOSPITAL (Incorporated).—Applications are invited for the temporary appointment of HONORARY ASSISTANT EAR, NOSE, AND THROAT SURGEON, terminable within twelve months of the conclusion of hostilities. Applications should be sent to the undersigned as early as possible, but not later than September 29, 1945. The present clinical assistant to the E.N.T. Department is an applicant for the post.—W. H. Daniels, F.C.I.S., Secretary-Superintendent.

BURTON-ON-TRENT GENERAL INFIRMARY (200 beds normal).—Applications are invited from registered medical practitioners for the appointment of CASUALTY OFFICER AND HOUSE SURGEON (A). Salary at the rate of £200, with the usual residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months. Applications to be sent to the Secretary-Superintendent.

BIRMINGHAM MATERNITY HOSPITAL (Associated to the Faculty of Medicine of the Birmingham University). HONORARY OBSTETRICIAN.—The Board of Management invites applications for the position of Honorary Obstetrician to fill the vacancy caused by the death of Sir Beckwith Whitehouse, M.S., F.R.C.S. Candidates must be registered medical practitioners, and must hold the Fellowship of the Royal College of Surgeons (England) or the Membership of the Royal College of Obstetricians and Gynaecologists. The appointment will be an annual one and the holder will be eligible for reappointment. The post is open to persons at present serving in H.M. Forces. Conditions and terms of appointment, together with a list of the members of the Appointing Committee to whom copies of the application should be sent, may be obtained on request from the undersigned. The last day for applications will be December 31, 1945.—Bernard Sylvester, House Governor, Birmingham Maternity Hospital, Loveday Street, Birmingham, 4.

BRUNTSFIELD HOSPITAL (The Edinburgh Hospital for Women and Children), 1A, Whitehouse Loan, Edinburgh, 9 (80 beds).—Applications are invited from registered medical practitioners, female, for the appointment of HOUSE PHYSICIAN (A) at the above hospital, vacant October 1, 1945. Appointment is for six months. Honorarium at the rate of £100 per annum, with full residential emoluments. W practitioners who have been qualified for more than three months must have obtained the sanction of the Scottish Central Medical War Committee to their applications. Applications should be sent to the Secretary, 1, Bruntsfield Crescent, Edinburgh, 10.

BOLTON ROYAL INFIRMARY (270 beds—Resident Medical Staff, 6).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A), vacant October 21, 1945, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary £175 per annum, with full residential emoluments. Applications to be forwarded to the undersigned.—Joseph Griffith, Superintendent-Secretary.

BRISTOL ROYAL HOSPITAL (Incorporating the Bristol Royal Infirmary and Bristol General Hospital). —Applications are invited from registered medical practitioners for the A appointments of:-

(1) HOUSE SURGEON to the E.N.T. Department.

(2) SECOND CASUALTY HOUSE SURGEON.

(3) HOUSE PHYSICIAN to Dermatological and Radiological Departments.

Salary at the rate of £80 per annum. War bonus at the rate of £20 per annum will also be paid, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointments will be for a period of six months. Applications to be made on application forms to be obtained from the undersigned.—Ellis C Smith, F.C.I.S., Secretary and House Governor, Bristol Royal Infirmary.

BRADFORD ROYAL INFIRMARY.—Applications are invited from registered medical practitioners, male, single, for the following appointment: HOUSE SURGEON (B2), vacant October 1, 1945. Six months' appointment. R practitioners now holding A posts may apply. Salary £150 per annum, with full residential emoluments. There are 372 beds and eight resident officers. Applications should be sent immediately to H. Trusson, House Governor and Secretary.

BARNSLEY HALL EMERGENCY HOSPITAL, Bromsgrove, Worcestershire.—Applications are invited from registered medical practitioners for the appointment of two B2 OFFICERS, one for Orthopaedics, and one for Medical and Neurological cases. Salary £200 per annum. If held by R or W practitioner the appointment will be limited to six months, otherwise it will be extended to a period not exceeding one year. Full residential emoluments provided. Apply to Medical Supt.

CAMBORNE-REDRUTH MINERS' AND GENERAL HOSPITAL, Redruth.—Applications are invited from registered medical practitioners male and female, for the appointment of HOUSE SURGEON (A), vacant October 19, 1945. Salary at the rate of £200 p.a., with the usual residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months. Applications to be addressed to J. C. Field, Secretary-Superintendent, Redruth.

CHELTENHAM GENERAL AND EYE HOSPITALS (167 beds) (recognized for the F.R.C.S., D.L.O., and D.O.M.S. Examinations).—The Board of Management invites applications from registered medical practitioners, including practitioners within three months of qualification who are liable to service under the National Service Acts; for the post of HOUSE SURGEON (A) at the General Hospital, now vacant. If held by a practitioner under these Acts, appointment will be for a period of six months. Salary £150 p.a. with board, lodging and laundry. Applications to be sent in sealed envel[illegible] marked "House Surgeon," to the undersign[illegible] soon as possible.—J. Cumming Smith, F.[illegible] F.HA., Secretary, the General Hospital, Chelte[illegible]

IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page 10

CHILDREN'S HOSPITAL (King Edward VII Memorial), Birmingham, 16. RESIDENT SURGICAL OFFICER (B1).—Applications are invited from registered medical practitioners for the appointment of RESIDENT SURGICAL OFFICER (B1), to commence duties not later than December 1, 1945. R and W practitioners now holding B2 posts may apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Applicants should have held house appointments and had surgical experience. Preference will be given to candidates holding the diploma of F.R.C.S. The salary will be at the rate of £350 per annum, with the usual residential emoluments. Applications should be sent to the undersigned by October 27, 1945.—Arnold Tunstall, House Governor.

CLAYTON HOSPITAL, Wakefield.—Applications are invited immediately from registered medical practitioners for the following appointment: RESIDENT ORTHOPAEDIC OFFICER with Casualty Duties (B2), male. Salary £200 per annum, with full residential emoluments. R practitioners who now hold A posts may apply, when appointment will be limited to six months, otherwise it may be extended for a further period. Applications should be sent to the undersigned as soon as possible.—W. Read, Superintendent and Secretary.

CHELMSFORD AND ESSEX HOSPITAL, London Road, Chelmsford, Essex (186 beds).—Applications are invited for the post of HOUSE SURGEON (A), male or female, to commence at once. Salary £175 per annum, plus board, lodging, and laundry. Apply to the undersigned. Practitioners within three months of qualification who are liable to service under the National Service Acts may apply, when appointment will be for a period of six months.—R. G. Morrish, House Governor and Secretary.

CUMBERLAND INFIRMARY, Carlisle.—Applications are invited from registered medical practitioners, including practitioners within three months of qualification who are liable to service under the National Service Acts, for the post of HOUSE SURGEON (A), vacant from October 1 next. The appointment will be for a period of six months. Salary is at the rate of £160 per annum with board, etc. Applications should be sent to the Secretary-Superintendent immediately.

CHELMSFORD AND ESSEX HOSPITAL, London Road, Chelmsford, Essex (180 beds).—Applications are invited for the post of HOUSE PHYSICIAN (A), male or female, to commence October 1. Salary £175 per annum, plus board, lodging and laundry. Practitioners within three months of qualification who are liable to service under the National Service Acts may apply when appointment will be for a period of six months. Apply to the undersigned.—R. G. Morrish, House Governor and Secretary.

DERBYSHIRE ROYAL INFIRMARY, Derby (Voluntary Hospital, 416 beds plus 115 E.M.S.).—Applications are invited from registered medical practitioners, male or female, for the appointment of ACCIDENT AND CASUALTY OFFICER (A). Duties will be in the Casualty Department, Hand Clinic, and Accident Wards. The position is now vacant. Salary is at the rate of £200 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when the appointment will be for a period of six months. Applications should be sent as soon as possible.—Arthur Taylor, Superintendent and Secretary.

DREADNOUGHT SEAMEN'S HOSPITAL, Greenwich, S.E.10. HOUSE OFFICER (A), including duties of Casualty Officer.—Applications are invited for vacancy on October 1 from registered medical practitioners, including those within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts appointment will be for a period of six months. Salary at £150 per annum with full residential emoluments. Applications to be sent immediately to the undersigned.—F. A. Lyon, Administrator and Secretary.

DERBYSHIRE HOSPITAL FOR WOMEN, Friar Gate, Derby (60 beds, 18 cots).—Applications are invited from registered medical practitioners, male and female, including R and W. practitioners who now hold B2 posts, for the appointment of RESIDENT HOUSE SURGEON (B1), to become vacant on October 20, 1945. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Previous obstetrical experience desirable. The Hospital affords opportunities for special study for higher gynaecological and obstetrical qualifications. Salary at rate of £200 per annum, with full residential emoluments. Applications should be sent to the undersigned now.—F. T. Wilton, Superintendent and Secretary.

DISTRICT INFIRMARY, Ashton-under-Lyne (normally 200 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of CASUALTY OFFICER AND ORTHOPAEDIC HOUSE SURGEON (B2). Salary at the rate of £200 a year, with full residential emoluments. R practitioners who now hold A posts ipply, when the appointment will be limited to ths. Applications should be forwarded at the undersigned.—Frank Oliver, General endent and Secretary.

EAST SUSSEX EDUCATION COMMITTEE. Hove and Portslade Division.—OPHTHALMOLOGIST (PART-TIME), TEMPORARY, required for duties in connexion with the treatment of visual defects under the Education Act, 1944. Payment on a sessional basis of £2 12s. 6d. per session of not more than 2 hours' duration, according to B.M.A. scale. For further particulars apply Dr. N. E. Chadwick, Divisional Medical Officer, Public Health Dept., Third Avenue, Hove.

GENERAL INFIRMARY AT LEEDS.—Applications are invited for the post of RESIDENT MEDICAL OFFICER (B1), male. Commencing salary £200 per annum, with residence, board, and laundry. Candidates must be qualified medical practitioners and registered, and have held a previous resident medical post. The appointment is for twelve months, with eligibility for re-election. Suitably qualified R practitioners holding B2 appointments, also those holding B1 and rejected by the R.A.M.C., may apply. Applications should be received by the undersigned not later than September 30, 1945.—S. Clayton Fryers, House Governor and Secretary.

GENERAL INFIRMARY AT LEEDS.—Applications are invited from registered medical practitioners for the appointment of RESIDENT THORACIC SURGICAL OFFICER (B1), to become vacant on October 1, 1945. Applicants should have held house appointments and had surgical experience. Salary is at the rate of £120 per annum. The appointment is for twelve months, with eligibility for re-election. Suitably qualified R practitioners holding B2 appointments, also those holding B1 and rejected by the R.A.M.C., may apply. Applications should be received by the undersigned not later than October 1, 1945.—S. Clayton Fryers, House Governor and Secretary.

GRIMSBY AND DISTRICT GENERAL HOSPITAL (237 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of RESIDENT CASUALTY OFFICER AND HOUSE SURGEON (A), now vacant. Appointment is for six months. Salary is at the rate of £175 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts, may also apply. Applications to the Superintendent.

GRIMSBY AND DISTRICT GENERAL HOSPITAL (237 beds).—Applications are invited from registered medical practitioners, male, for the post of RESIDENT SURGICAL OFFICER (B1), commencing November 1. Salary at the rate of £300 per annum. Suitably qualified R practitioners holding B2 appointments, also R practitioners holding B1 appointments and rejected by the R.A.M.C., may apply. Applications to the Secretary-Superintendent.

GERMAN HOSPITAL, Ritson Road, Dalston, London, E.8 (British Voluntary Hospital under E.M.S. Scheme).—HOUSE SURGEON (B2) with some practical experience wanted. R and W practitioners who now hold A posts may apply. If held by an R practitioner appointment will be limited to six months. Commencing salary £200 per annum or more according to experience, with full board and residence. Please apply to the Secretary.

HULL ROYAL INFIRMARY.—Applications are invited for the following posts:

ORTHOPAEDIC HOUSE SURGEON (B2), vacant now. Suitably qualified R and W practitioners who now hold A posts may apply. If held by an R or W practitioner the appointment will be limited to six months

CASUALTY OFFICER (A), vacant October. Candidates may include practitioners within three months of qualification who are liable to service under the National Service Acts. If held by practitioner who is liable under these Acts appointment will be for a period of six months.

Salary for each of the above posts £200 per annum, with full residential emoluments. Applications to R. J. Carless, House Governor.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, London, W.C.1.—A PART-TIME SENIOR MEDICAL OFFICER is required for duty in the Out-patient Department, to attend from 9 a.m. on not less than two mornings each week. As the duties will involve the running of independent clinics, preference will be given to Members of the Royal College of Physicians and those having the Diploma in Child Health. A fee of two guineas will be paid for each session. Further particulars and form of application, which must be returned not later than Wednesday, September 26, 1945, are obtainable from the undersigned.—H. F. Rutherford, Secretary.

HUDDERSFIELD ROYAL INFIRMARY (321 beds).—CASUALTY OFFICER (B2) required, to commence immediately. R and W practitioners who now hold A posts may apply. If held by an R or W practitioner appointment will be limited to six months. Salary at the rate of £200, with full residential emoluments. Applications to be sent to the undersigned as soon as possible.—H. J. Johnson, General Superintendent and Secretary.

HUNTINGDON COUNTY HOSPITAL (76 beds). —Wanted, immediately, HOUSE SURGEON (A), male or female, salary £250 p.a., with board, lodging, and laundry. Practitioners within three months of qualification may apply, when appointment will be for a period of six months. Apply to Medical Superintendent.

HOSPITAL OF ST. CROSS, Rugby. ORTHOPAEDIC SURGEON (PART-TIME).—The Board invites applications for this post from practitioners with orthopaedic experience, preferably from those holding the F.R.C.S. or the M.Ch.Orth., to take complete charge of the Fracture and General Orthopaedic work of the Hospital. The successful candidate's first duty will be to the Hospital and to patients in Rugby and district, but private orthopaedic practice will be allowed. The successful candidate will be expected to keep up to date by liaison with a university centre, and a secondary part-time hospital appointment would be allowed. The Hospital possesses a model Open-air Orthopaedic Ward and Rehabilitation Unit. The salary will be £700 per annum. Officers serving abroad are invited to apply, and the appointment will not be made for four months from date of this advertisement. Further particulars may be obtained from the Secretary.

HUDDERSFIELD ROYAL INFIRMARY (321 beds).—Applications are invited for the post of RESIDENT SURGICAL OFFICER (B1). Applicants should have held house appointments, and preference will be given to candidates holding diploma of F.R.C.S. Salary at the rate of £350 per annum, with full residential emoluments. Suitably qualified R and W practitioners holding B2 appointments, and also R practitioners holding B1 appointments and rejected by the R.A.M.C., may women). There are no emoluments. If warranted as soon as possible.—H. J. Johnson, General Superintendent and Secretary.

HARROGATE AND DISTRICT GENERAL AND E.M.S. HOSPITAL (330 beds) (recognized by the R.C.S. for final F.R.C.S. Examination requirements). —Applications are invited from registered medical practitioners for the following appointments: (1) CASUALTY OFFICER AND HOUSE SURGEON to Special Department (E.N.T. and Eye), combined appointment (A). (2) HOUSE SURGEON (General Surgery) (A) vacant on October 31 and October 15 respectively. Practitioners within three months of qualification who are liable to service under the National Service Acts may apply, in which case the appointment will be for a period of six months Salary at the rate of £150 per annum, with full residential emoluments. Applications as soon as possible to the Secretary.

HIGH WYCOMBE AND DISTRICT WAR MEMORIAL HOSPITAL (100 beds).—The Management Committee invites applications for the appointment of TEMPORARY HONORARY CONSULTING GYNAECOLOGIST. Applications to be forwarded to the undersigned not later than October 25.—E. Barber, Secretary.

HARLOW WOOD ORTHOPAEDIC HOSPITAL, near Mansfield, Notts. (405 beds, E.M.S. and Civilian including Rehabilitation Unit), Regional Orthopaedic Centre and Peripheral Nerve Injury Unit.—Applications are invited for the post of RESIDENT SURGICAL OFFICER (B1). Salary £250 per annum. The appointment is for a period of six months. Suitably qualified R practitioners holding B2 posts, also those now holding B1 and rejected by the R.A.M.C., may apply.—Applications to be sent to the undersigned as soon as possible.—D. Roberts, Secretary-Superintendent.

INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY, South Shields.—Applications are invited from medical practitioners, male or female, for the post of HOUSE SURGEON (A). The appointment is for a period of six months. Salary at the rate of £175 per annum, with full residential emoluments. Applications to be sent to the undersigned immediately.—Henry F. Pitt, House Governor and Secretary.

KING GEORGE HOSPITAL, Ilford. HOUSE PHYSICIAN with Anaesthetic Duties (B2).—Applications are invited from registered practitioners, male and female, for the above appointment to be vacant on November 1, 1945, including R practitioners who now hold A posts. The appointment is for six months in the first instance. Salary is at the rate of £350 per annum, with full residential emoluments. Applications should be sent to the undersigned not later than October 5.—G. Austin Hepworth, Secretary and Superintendent.

KING GEORGE HOSPITAL, Ilford.—Applications are invited from registered medical practitioners, male and female, for the appointment of a HOUSE SURGEON (A), to become vacant on November 1, 1945, including practitioners within three months of qualification who are liable to service under the National Service Acts. Appointment will be for a period of six months. Salary is at the rate of £120 per annum, with full residential emoluments. Applications should be sent to the undersigned as soon as possible.—G. Austin Hepworth, Secretary and Superintendent.

LONDON CHEST HOSPITAL, Victoria Park, E.2. HOUSE PHYSICIAN (B2), male or female, required on November 1. R and W practitioners who now hold A posts may apply. Six months' appointment. Salary at the rate of £150 per annum. Board, residence, and laundry provided:

HOUSE SURGEON (B2), male or female, required on November 1, with previous surgical experience, preferably thoracic. Salary £150 per annum, with full residential emoluments. R and W practitioners who now hold A posts may apply, when appointment will be limited to six months.

Applications for each post should be sent by September 26 to the Secretary.

KINGSTON-UPON-HULL CORPORATION HEALTH DEPARTMENT. Anlaby Road Hospital (581 beds). TEMPORARY ASSISTANT MEDICAL OFFICER (B1).—Applications are invited for the above temporary appointment from registered medical practitioners of either sex. Salary £350 per annum, rising by annual increments of £25 to £450 per annum, plus war bonus, together with an allowance at the rate of £150 per annum in lieu of board, residence, and laundry outside the hospital. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Forms of application, etc., may be obtained from, and should be returned duly completed to, the Medical Officer of Health, Guildhall, Kingston-upon-Hull, at the earliest possible moment.

KINGSTON-UPON-HULL Corporation Health Department. TEMPORARY WHOLE-TIME ASSISTANT MEDICAL OFFICER OF HEALTH (Woman) for Maternity and Child Welfare.—Applications, with the consent of the Minister of Health, are invited for the above temporary post, from duly qualified medical women, who are not already in whole-time public health employment. Candidates must have had experience in children's diseases and in midwifery. The Diploma in Public Health, or its equivalent, will be considered an additional qualification for the office. Salary £600 per annum, rising by annual increments of £25 to £700 per annum, plus war bonus. Application forms, etc., may be obtained from, and should be returned to, the Medical Officer of Health, Guildhall, Kingston-upon-Hull, at the earliest possible moment.

LINCOLN COUNTY HOSPITAL (Voluntary Hospital—200 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (A) vacant middle October, 1945. Salary is at the rate of £225 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when the appointment will be for six months

Applications are also invited from registered medical practitioners, male or female, for the appointment of HOUSE PHYSICIAN (A), vacant end of October, 1945. Salary is at the rate of £225 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when the appointment will be for six months.—Arthur Moore, Secretary-Superintendent.

LEICESTER ROYAL INFIRMARY. HON. ASSISTANT SURGEON.—The Board invites applications for this position, arisen as the result of the death of the Senior Honorary Surgeon. Candidates must be Fellows or Members by examination of the Royal College of Surgeons of England or Graduates in Surgery of one of the universities of the United Kingdom or Ireland. Service candidates are eligible to apply for the appointment, which will be made on January 16, 1946, on which date candidates will be asked to interview the Board. One hundred guineas annually is granted by the Board for out of pocket expenses. This matter is under revision. Applications, with recent testimonials, to reach the undersigned by first post on Saturday, December 1, 1945.—H. T. Plowman, House Governor and Secretary.

LUTON AND DUNSTABLE HOSPITAL (Fracture A Hospital—214 beds). TEMPORARY ASSISTANT SURGEON TO THE ACCIDENT SERVICE.—Applications are invited from registered medical practitioners for the above appointment, to become vacant on January 1, 1946. The post is full-time, non-resident, and the commencing salary is at the rate of £600 per annum. Applications should be sent to the undersigned not later than December 1, 1945. Further details regarding the appointment will be sent on request.—R. E. Lingard, Secretary

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LIVERPOOL AND NORTH-WESTERN CHEST SURGICAL UNIT.—The Centre, under the direction of H. Morriston Davies, F.R.C.S., requires an R.M.O. (B1), male or female, in early October. The medical officer appointed, whose duties will be both medical and surgical, will be enrolled in the E.M.S. Class 1. Salary £350 with cost-of-living bonus on the Ministry of Health scale and with resident emoluments. Applications by September 29 addressed to the Medical Superintendent, Broadgreen Hospital, Liverpool, 14, are invited from ex-Service practitioners, from holders of B2 appointments, or from holders of B1 appointments who are unfit for service with H.M. Forces. They should be accompanied by three testimonials or three names for reference.

NORTHAMPTON GENERAL HOSPITAL (408 beds).—Applications are invited immediately from registered medical practitioners, male or female, for the following appointments. HOUSE PHYSICIAN (A), HOUSE SURGEON (A). Salary at the rate of £150 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months. OBSTETRICAL AND GYNAECOLOGICAL HOUSE SURGEON (B2). Salary at rate of £150 per annum, with full residential emoluments. R and W practitioners holding A posts may apply when appointment will be limited to six months. Applications should be sent as soon as possible to Gordon S. Sturtridge.

IMPORTANT NOTICE

APPOINTMENTS

Medical practitioners are requested **not to apply** for any appointment referred to in this notice without first having communicated with the Secretary to the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of the Australian appointment, with the Secretary at B.M.A. House, or the Hon. Secretary, Western Australian Branch, Shell House, 205, St. George's Terrace, Perth).

GOVERNMENT SERVICE

COMMISSIONER OF PUBLIC HEALTH, Perth, Western Australia.

CONTRACT PRACTICE

ABERTYSSWG MEDICAL AID SOCIETY.—*(Medical Officer.)*

LLWYNYPIA, CLYDACH VALE, PEN-Y-GRAIG, GLAMORGAN.—*(Workmen's Medical Scheme.)*

MID-RHONDDA MEDICAL AID SOCIETY—*(Assistant Medical Officer.)*

NEATH AND DISTRICT.—*(Medical Aid Association.)*

OGMORE VALLEY, GLAMORGAN.—*(Wyndham Colliery Medical Aid Society.) (Workmen's Medical Scheme.)*

PUBLIC HEALTH

NORTH ENGLAND JOINT CANCER COMMITTEE.—*(Assistant Radiotherapist.)*

PUBLIC ASSISTANCE

CITY AND COUNTY OF BRISTOL, PUBLIC ASSISTANCE COMMITTEE.—*(District Medical Officer.)*

MENTAL HOSPITAL SERVICE

ROXBURGH DISTRICT MENTAL HOSPITAL, MELROSE.—*(Medical Superintendent.)*

SOMERSET AND BATH MENTAL HOSPITAL, COTFORD.—*(Deputy Medical Superintendent.)*

By Order of the Council.

CHARLES HILL

September 18, 1945. *Secretary.*

LINCOLN COUNTY HOSPITAL.—The Board of Management invites applications for the office of TEMPORARY HONORARY SURGEON in charge of the Ear, Nose, and Throat Department, which will be vacant on January 1, 1946. The holder of the temporary appointment will be eligible to apply when the appointment is re-advertised as a permanency. Applications must be made to the undersigned.—Arthur Moore, Secretary-Superintendent.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Applications are invited from registered medical practitioners, male and female, for the appointment of RESIDENT HOUSE SURGEON (B2), at the St. Anne's Hospital, Bowdon, Cheshire, now vacant. R and W practitioners now holding A posts may apply. If held by an R practitioner, appointment will be limited to six months. The Hospital has 50 beds and the work is mainly ear, nose, and throat. Salary £200 per annum with full residential emoluments. Applications should be sent at once to W. Hunt, Secretary, Manchester Hospital for Consumption and Diseases of the Throat and Chest, 45, Hardman Street, Manchester, 3.

MINEHEAD AND WEST SOMERSET HOSPITAL, Minehead, Somerset.—Applications are invited immediately from registered medical practitioners, male and female, for the appointment of RESIDENT HOUSE SURGEON AND ANAESTHETIST (B2) to become vacant on November 1, 1945, including R and W practitioners who now hold A posts. The appointment is for six months. Salary is at the rate of £250 per annum, with full residential emoluments.—Walter J. Chorley, Secretary.

MERTHYR GENERAL HOSPITAL (115 beds).—Applications are invited from registered medical practitioners for the appointment of a RESIDENT HOUSE SURGEON, male or female (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. The appointment will be for a period of six months. Salary at the rate of £200 per annum, with board and lodging.—Applications to the Secretary, Merthyr General Hospital, Merthyr Tydfil.

NORTH DEVON INFIRMARY, Barnstaple (95 beds).—Applications are invited from registered medical practitioners for the post of JUNIOR RESIDENT MEDICAL OFFICER (A) (woman), vacant immediately. Practitioners within three months of qualification and liable to service under the National Service Acts may also apply, when appointment will be for six months. Salary is at the rate of £170 per annum, with full residential emoluments. Applications with full particulars to A. W. Bond, Secretary.

NOTTINGHAM HOSPITAL FOR WOMEN (110 beds, including private wards., Annexe for 28 patients on outskirts of town).—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (B2), to become vacant in October. Some experience of gynaecology and obstetrics is desirable. R and W practitioners who now hold A posts may apply. The appointment will be for six months. Salary at the rate of £225 per annum Applications to be sent as soon as possible to the Secretary, Miss R. H. Tweedie.

NOTTINGHAM GENERAL HOSPITAL (712 beds, including E.M.S. beds).—Applications are invited from registered medical practitioners, male and female, including practitioners within three months of qualification who are liable to service under the National Service Acts, for the appointment of a RESIDENT CASUALTY OFFICER (A) for the above hospital. Duties to commence immediately. If held by a practitioner who is liable under these Acts appointment will be for a period of six months. Salary at the rate of £200 per annum, with full residential emoluments. Applications to be sent to the undersigned.—Henry M Stanley, House Governor and Secretary.

NOTTINGHAM AND MIDLAND EYE INFIRMARY.—Applications are invited from registered medical practitioners (male and female) for the appointment of a HOUSE SURGEON (B1) Applicants should have had some surgical ophthalmic experience. Suitably qualified R and W practitioners holding B2 appointments are invited to apply Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary £300 per annum, with full residential emoluments Post recognised for D.O M S examination Applications should be sent to the undersigned forthwith.—T. Russell Moore, Secretary.

NATIONAL TEMPERANCE HOSPITAL, Hampstead Road, N.W.1.—Applications are invited from registered medical practitioners for the appointment of HOUSE SURGEON (A), vacant November 1, including practitioners within three months of qualification who are liable to service under the National Service Acts. The appointment will be for a period of six months. Salary £150 per annum, with board, residence, and laundry allowance Applications by October 6, addressed to the Secretary.

NATIONAL TEMPERANCE HOSPITAL, Hampstead Road, N.W.1.—Applications are invited from registered medical practitioners for the post of RESIDENT MEDICAL OFFICER (B1). Salary is at the rate of £250 per annum, with board, residence, etc. R and W practitioners now holding B2 posts may apply. Applications from R practitioners holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. The appointment is for a period of six months dating from October 1, 1945. Applications must be received not later than September 27, 1945, by A. C. Adams, Secretary.

NORFOLK MENTAL HOSPITAL, Thorpe, Norwich.—Applications are invited for the post of TEMPORARY ASSISTANT MEDICAL OFFICER (B1), ineligible for military service. Salary £550 per annum, with the usual residential emoluments valued at £100 per annum. In addition £50 per annum for D.P.M.. Applications to be sent to the Medical Superintendent.

OLDHAM ROYAL INFIRMARY (203 beds). DEPUTY RESIDENT SURGICAL OFFICER, who will act as Casualty Officer and Orthopaedic House Surgeon (B2).—Applications are invited from registered medical practitioners, male and female, for the appointment of Deputy Resident Surgical Officer, to take charge of the Casualty Department and to work under the Orthopaedic Surgeon, vacant now. R and W practitioners who now hold A posts may apply, when the appointment will be limited to six months, otherwise it will be for a period of twelve months. Salary is at the rate of £200 per annum, with full residential emoluments Applications should be forwarded to the undersigned immediately—F. W. Barnett, General Superintendent and Secretary.

PONTEFRACT GENERAL INFIRMARY and THE HYDES HOSPITAL (112 beds).—Applications are invited from registered medical practitioners, male, for the appointment of a HOUSE SURGEON (A), to become vacant immediately, including practitioners within three months of qualification who are liable to service under the National Service Acts, when appointment will be for a period of six months. Salary £150 per annum, with full residential emoluments. Applications should be sent to the undersigned.—D. J Richards, Secretary-Superintendent.

PONTYPOOL AND DISTRICT HOSPITAL, Pontypool, Mon.—Applications are invited from registered medical practitioners, male and female for the appointment of RESIDENT MEDICAL OFFICER (B2), medical and surgical beds, including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months, otherwise it may be extended for a further period. The salary is at the rate of £250 per annum, with full residential emoluments. Applications should be sent to N. A. Ball, Secretary.

(Continued on page 16)

CHARGES FOR CLASSIFIED ADVERTISEMENTS

Circulation 54,500

Advertisements should reach the Advertisement Manager not later than the THURSDAY, ten clear days before publication.

Cancellation cannot be accepted after 10 a.m. MONDAY for current week's issue.

To economize in accounting, postage and collection, all advertisements should be paid for at time of order. Publication will be in the earliest possible issue, but delay is unavoidable in present circumstances.

1. TO MEMBERS OF THE ASSOCIATION the cost of advertisements for Assistants, Dispensers, Locums, Partnerships, *Practices, Secretaries, is ten shillings for 24 words, including name and address. Four figures and £ sign count as one word (example, £2,000). When a Box Number is used, it must be reckoned as six of the total number of words in each advertisement.

1s. *extra* should be added for each insertion to cover the Box fee and postage of replies.

Additional words 2s. 6d. for every six or part.

Please mark advertisements clearly, *MEMBER*.

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2. To all other (private) advertisers the charge under the headings specified above, para. 1, is 12s. (minimum) for 24 words, including name and address. Four figures and £ sign count as one word (example, £2,000). When a Box Number is used it must be reckoned as six of the total number of words in each advertisement.

1s. *extra* should be added for each insertion to cover the Box fee and postage of replies.

Additional words 3s. for every six, or part.

*SALE OF PRACTICE. The name and address of owner and of the firm negotiating the sale must accompany the advertisement. Those details are not for publication.

3. Consulting rooms, Dietetic, Duplicating, Hotels, Houses, Miscellaneous, Motor Cars, Typing, the charge is same as para. 2.

Personal, Notices, University and Industrial Appointments, minimum charge of 20s for 24 words, including name and address. Four figures and £ sign count as one word (example, £2,000). When a Box Number is used, it must be reckoned as six of the total number of words in each advertisement.

1s *extra* should be added for each insertion to cover the Box fee and postage of replies.

Additional words 5s. for every six or less

Educational, Hospitals, Public Health Appointments, 3s. a line, minimum charge 15s.

Births, Marriages, and Deaths.—The charge for an insertion under this head is 10s. 6d. for 18 words or less. Extra words 3s. 6d. for each six or less. Payment should be forwarded with the notice, authenticated by the name and permanent address of the sender.

BOX NUMBERS.—A Box number is used in place of name and address to conceal identity of advertiser, in no circumstances will this information be divulged by this office. Separate applications should be written to each, addressed Box—, c/o B.M.J. (address as below). All applications are forwarded to the advertiser in plain closed envelopes.

TRADE ANNOUNCEMENTS. 20s. minimum 24 words. Extra words 5s. for six, or less.

Every effort is made to ensure the accuracy of advertisements appearing in the Journal. No recommendation is implied by acceptance, and the British Medical Association reserves the right to refuse or interrupt the insertion of any advertisement.

Advertisement Manager, British Medical Journal,
B.M.A. House, Tavistock Square, London, W.C.1.
Telephone: Euston 2111.
Telegrams: Articulate, Westcent, London.

APPOINTMENTS—Hospitals and Public Health, commence at page 10

PERSONAL

DOCTOR'S DAUGHTER, final year medical student, desperately requires ACCOMMODATION in Edinburgh from October 2. Can anyone help? —Box 2358, B.M.J.

RESIDENT PATIENT received doctor's house, North-West coastal resort, good accommodation, delightful garden, garage, 12 guineas weekly, inclusive.—Box 1663, B.M.J.

NOTICES

APPLICANTS ARE ADVISED not to send original testimonials when replying to advertisements. Copies will answer the purpose quite as well, and in the event of their being lost or mislaid no inconvenience will ensue.

UNIVERSITY OF LONDON. GRANTS FOR RESEARCH.—Applications are invited from members of the University for grants from the Central Research Fund for assisting specific projects of research and for the provision of special materials and apparatus. Applications will be considered three times a year, and must be received not later than March 31, July 31, and November 30. Forms of application and further particulars may be obtained from the Academic Registrar, University of London, at Richmond College, Richmond, Surrey.

UNIVERSITY AND INDUSTRIAL APPOINTMENTS

APPLICATIONS are invited from registered medical practitioners, including those now in H.M. Forces, aged 30 to 40 years, for the post of ASSISTANT MEDICAL DIRECTOR at the Evans Biological Institute, Runcorn, Cheshire. Candidates should have a sound knowledge of modern scientific medicine, and be interested in the development and manufacture of biological and chemotherapeutic products. Salary £1,200 to £2,000 per annum, according to qualifications, age, and experience. Applications should be sent to the Medical Director before January 31, 1946.

EDUCATIONAL

F.R.C.S.(EDIN.)

POSTAL AND ORAL COURSES continued as usual. Full details.—H. C. Orrin, F.R.C.S. Surgeons' Hall, Edinburgh.

ANAESTHETIC COURSE, October 8 to 20. Demonstrations and/or lectures daily at various London hospitals.—Apply Fellowship of Postgraduate Medicine, 1, Wimpole Street, London, W.1. Langham 4266.

DIPLOMA IN PUBLIC HEALTH. THE ROYAL INSTITUTE OF PUBLIC HEALTH AND HYGIENE.—The Course of Instruction may be commenced at any time. A prospectus and full particulars can be obtained from the Secretary, 28, Portland Place, London, W.1. Telephone: LANgham 2731-2.

L.M.S.S.A. FINAL EXAMINATIONS Surgery. Nov. 12, Dec. 10, Jan. 14. Medicine, Pathology. Nov. 19, Dec. 17, Jan. 21. Midwifery, Nov. 20. Dec. 18, Jan. 22.—For particulars apply Registrar, Apothecaries Hall, Black Friars Lane, E.C.4.

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE.—It is proposed to offer, from October 2, 1945, a qualifying COURSE for the Diploma in Public Health. This course is designed primarily for released Service men, and the numbers will be strictly limited. Application forms may be obtained from the Dean, London School of Hygiene and Tropical Medicine, Keppel Street (Gower Street), London, W.C.1.

MEDICAL CORRESPONDENCE COLLEGE, 19, Welbeck Street, London, W.1, provides Coaching for all Medical Examinations: D.A., D.P.M., D.O.M.S., D.L.O., D.C.H., D.M.R.D., and D.M.R.T., M.R.C.P., F.R.C.S., M.D. thesis, and all qualifying exams, by a staff of highly qualified Tutors, Honoursmen, and Gold Medallists. Complete Guide to Medical Examinations sent free on application. Applicants should state in which qualification they are interested.

NATIONAL HOSPITAL, Queen Square, W.C.1.—A course of 11 CLINICAL DEMONSTRATIONS will be given on Saturday mornings at 10.30 from October 6 to December 15., inclusive These Demonstrations are open to postgraduate students at a charge of one guinea for the course and to final-year students at a charge of half a guinea. Members of His Majesty's and Allied Forces will be admitted free. Applications for tickets should be made not later than September 28, and applicants should give particulars of the examination for which they are working and the names of their Medical Schools.—J. Purdon Martin, Dean.

NORTH-EAST LONDON POSTGRADUATE COLLEGE AND UNDERGRADUATE REVISION WORK. Prince of Wales's General Hospital, N.15.—Particulars from J. Browning Alexander, M.D., F.R.C.P., Dean.

POSTAL COACHING for all Medical Examinations. Some successes from 1901-1944. M.D.Lond., 440; M.B., B.S.Lond., final, 386; M.R.C.S.Eng., primary, 365; F.R.C.S.Eng., final, 262; M.R.C.P. Lond., 365; M.R.C.S., L.R.C.P., final, 815; D.A. (1936-44), 72; F.R.C.S.Edin. and D.R.C.O.G., many successes. Assistance with M.D. thesis. Special arrangements for medical officers with Forces. Medical prospectus (24 pp.) gratis, along with list of Tutors, etc., on application to the Principal. — University Examination Postal Institution, 17, Red Lion Square, London, W.C.1. Phone: HOLborn 6313.

POSTGRADUATE STUDY instruction is arranged in medical, surgical, and special subjects, as circumstances permit. Information and advice obtainable from the Fellowship of Postgraduate Medicine, 1, Wimpole St., London, W.1. Langham 4266.

REOPENING PHILOLOGICAL ASSN., Coaching for degree or general education, French, German, Latin.—Box 2263, B.M.J.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.
LICENCE IN DENTAL SURGERY.

Notice is hereby given that the Examination for the Licence in Dental Surgery will commence on commence on the dates stated below.

FINAL PROFESSIONAL EXAMINATION.
Monday, October 22.

Candidates who have complied with the necessary requirements, and who desire to present themselves for examination, must apply in writing to the Examination Hall, 8-11, Queen Square, London, W.C.1, at least twenty-one days before the date of the Examination, transmitting at the same time such certificates as may be required by the Regulations, together with the full amount of the fee due for the part or parts for which they desire to enter.

HORACE H. REW, Director of Examinations.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.
DIPLOMA OF FELLOW.

Notice is hereby given that the Examinations will commence on the dates stated below.

PRIMARY EXAMINATION
Monday, October 22.
FINAL EXAMINATION
Thursday, November 1.

Candidates who have complied with the necessary requirements and who desire to present themselves for examination must apply in writing to the Examination Hall, 8-11, Queen Square, London, W.C.1, at least twenty-one days before the date of the Examination, transmitting at the same time such certificates as may be required by the Regulations, together with the full amount of the fee due for the Examination for which they desire to enter. —Horace H. Rew, Director of Examinations.

RHEUMATIC DISEASES WEEK-END COURSE, at St. Stephen's Hospital, Fulham Road, S.W.3, on Saturday, October 20, and Sunday, October 21.—Apply Fellowship of Postgraduate Medicine, 1, Wimpole Street, London, W.1. Langham 4266.

THE MIDDLESEX HOSPITAL MEDICAL SCHOOL, W.1.
PRIMARY F.R.C.S. COURSE.

A Course of instruction will begin on November 5, 1945.

ANATOMY, EMBRYOLOGY, and HISTOLOGY. PHYSIOLOGY and BIOCHEMISTRY. PATHOLOGY.

Instruction in the above subjects will be given under the direction of Professor John Kirk, Professor Samson Wright, and Professor E. C. Dodds, and Professor James McIntosh. Fee—25 guineas. Candidates must take the whole course. Applications for admission should be made to the Medical School Secretary, The Middlesex Hospital, W.1.

THE BEDFORD PHYSICAL TRAINING COLLEGE, 37, Lansdowne Road, Bedford. Principal, Miss Stansfeld, O.B.E.; Vice-Principal, Miss Petit. Students are trained to become teachers in Gymnastics and Games, and the training, which extends over three years, includes Educational and Medical Gymnastics, Massage, Games, Dancing, and Swimming. Fees: £165 per annum. Two scholarships of £50 and two of £25 are offered annually.—For particulars apply Secretary.

ASSISTANTSHIPS VACANT

WANTED, ASSISTANT, with VIEW, male, British, young and energetic, for pleasant good-class practice, North London, house available.—Box 2270, B.M.J.

WANTED, ASSISTANT, male, with VIEW, practice, West Wilts, averages £2,550, salary £500, furnished flat provided, car allowance £50.—Box 2269, B.M.J.

WANTED, October, young British ex-Service M.O. as PART-TIME ASSISTANT in large panel practice S.W. London, 2 to 6 p.m., except Sunday, salary £350 p.a., £400 if car owner, subsequent view to permanent assistantship or possible partnership, would suit man wishing to do postgraduate work for a time.—Box 2265, B.M.J.

WANTED, urgently, ASSISTANT or LOCUM, Indian preferred, for Birmingham, £13 13s. a week, and all found, driver with car, if possible.—Apply Box 2352, B.M.J.

WANTED ASSISTANT, male or female, good mixed practice, Birmingham suburb, car provided.—Box 2267, B.M.J.

WANTED, ASSISTANT, with early VIEW, North-West seaside town. British nationality, and interview essential.—Box 2268, B.M.J.

WANTED, ASSISTANT, preferably indoor, single, male, general practice near Leeds, dispenser kept, salary by arrangement, car allowance.—Box 2311, B.M.J.

WANTED ASSISTANT, male or female, with or without VIEW for West Highland practice, indoor, all found, able to drive, work light, salary by arrangement.—Reply Box 2264, B.M.J.

WANTED, outdoor ASSISTANT, male, immediately, middle-class and industrial, work light, £700 and car allowance.—Dr. Taylor, 119, Meanwood Road, Leeds, 7.

WANTED, ASSISTANT with VIEW to succession in old-established Lancashire mixed practice, preferably recently qualified and unmarried. Moderate salary, car allowance, and all found.—Box 2348, B.M.J.

WANTED ASSISTANT, male, with VIEW partnership, old-established mixed practice, Bristol, unfurnished modern house, car, salary by arrangement, suit young married man.—Box 2313, B.M.J.

IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page 11

ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY, Wigan (189 beds).—Applications are invited from registered medical practitioners for the appointment of RESIDENT SURGICAL OFFICER (B1), to become vacant on November 1, 1945. Applicants should have held house appointments and had surgical experience. Preference will be given to candidates holding Diploma of F.R.C.S. Suitably qualified R practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £300 per annum.

Applications are also invited from registered medical practitioners for the appointment of a HOUSE SURGEON (B2), male, vacant October 1, 1945. Salary £175 per annum, with full residential emoluments. R practitioners who now hold A posts may apply, when appointment will be limited to six months, otherwise it may be extended for a further period.

Applications for each post should be sent to the undersigned as soon as possible.—A. Stanley Brunt, General Superintendent and Secretary.

ROYAL BERKSHIRE HOSPITAL, Reading.—Applications are invited from registered medical practitioners, male and female, for the appointment of RESIDENT MEDICAL OFFICER (Blagrave Branch Hospital) AND ASSISTANT to the Pathologist (A) (Joint Post), vacant October 23. Salary is at the rate of £150 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts, may apply, when the appointment will be for a period of six ments. Applications should be sent immediately to H. E. Ryan, Secretary and House Governor.

ROYAL EYE HOSPITAL, St. George's Circus, S.E.1.—Applications are invited from registered practitioners, male and female, for the appointment of THIRD HOUSE SURGEON (B2), now vacant, including R and W practitioners who now hold A posts. If held by R practitioners the appointment will be limited to six months, otherwise it will be for the period ending April 30, 1946. The salary is at the rate of £175 per annum, with the usual emoluments. Applications to be sent to the Secretary on or before Tuesday, October 2, 1945.

ROYAL INFIRMARY, Sunderland.—Applications are invited for the post of TEMPORARY ASSISTANT PATHOLOGIST. Postgraduate experience and training in hospital pathology essential. The appointment is a full-time one and the salary is £750 per annum. Applications to the House Governor and Secretary, from whom further particulars may be obtained.

RADCLIFFE INFIRMARY, Oxford.—Applications are invited from registered medical practitioners, male and female, including practitioners within three months of qualfication who are liable to service under the National Service Acts, for the following post, becoming vacant on October 31, 1945: GYNAECOLOGIST HOUSE SURGEON (A). The appointment will be for six months with a salary at the rate of £100 per annum, with full residential emoluments. Applications should be sent to the undersigned not later than Monday, October 1, 1945.—A. G. E. Sanctuary, Administrator.

ROYAL LANCASTER INFIRMARY, Lancaster (311 beds) (Hospital recognized by the Royal College of Surgeons (England) for two senior posts).—Applications are invited from registered medical practitioners, male and female, for the post of JUNIOR HOUSE SURGEON (A), vacant October 18. The salary is at the rate of £170 per annum, with full residential emoluments. Practitioners within three months of qualification who are liable to service under the National Service Acts may apply. The appointment will be limited to six months Applications should be sent to the undersigned.—C. H. Grimshaw, Superintendent-Secretary.

ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL (255 beds). HOUSE PHYSICIAN (B2). —Applications are invited from registered medical practitioners, male and female, for the appointment of House Physician (B2), including R and W practitioners who now hold A posts. The appointment will be for a period of six months. The salary is at the rate of £175 per annum, with full residential emoluments. Applications should be sent to the undersigned immediately.—Frank Jennings, House Governor and Secretary.

ROYAL UNITED HOSPITAL, Bath. HOUSE PHYSICIAN (A).—Applications are invited for the above appointment. Salary at the rate of £150 p.a., with board, residence, etc. Practitioners within three months of qualification and liable under the National Service Acts, may apply, when appointment will be for a period of six months. Applications to the undersigned.—J. Lawrence Mears, Secretary-Supt.

ROYAL WEST SUSSEX HOSPITAL, Chichester (302 beds—200 E.M.S.).—Applications are invited from registered practitioners for the appointment of CASUALTY OFFICER AND HOUSE SURGEON (A). Salary £150 p.a., with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply. To R practitioners the appointment is limited to six months. Applications should be sent to K. H. Williams, House Governor and Secretary

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ROYAL CORNWALL INFIRMARY, Truro (350 beds, 5 residential).—Applications are invited from registered practitioners, male or female, for the appointment of HOUSE SURGEON (B2) to the General Surgical and Gynaecological Departments, vacant on or about October 25, 1945 Salary is at the rate of £200 per annum, with full residential emoluments R and W practitioners holding A posts may also apply, when appointment is limited to six months

Applications are also invited from registered practitioners, male or female, for the appointment of ORTHOPAEDIC AND CASUALTY HOUSE SURGEON (B2), vacant on or about October 11 1945. Salary is at the rate of £200 per annum with full residential emoluments. R and W practitioners holding A posts may also apply when appointment is limited to six months

Applications for each post should be addressed to the Secretary

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ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL, Southampton (255 beds). CASUALTY OFFICER AND HOUSE SURGEON TO E.N.T. DEPARTMENT (A).—Applications are invited from registered medical practitioners, male and female, for the appointment of a Casualty Officer and House Surgeon to the E.N.T. Department (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. The appointment will be for a period of six months. Salary is at the rate of £175 per annum, with full residential emoluments. Applications should be sent to the undersigned immediately. —Frank Jennings, House Governor and Secretary.

ROYAL MANCHESTER CHILDREN'S HOSPITAL, Pendlebury.—RESIDENT SURGICAL OFFICER (B1).—Applications are invited for the post of Resident Surgical Officer. Salary £175 per annum. The appointment is for a period of six months commencing immediately. Suitably qualified R practitioners holding B2 posts may apply Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Applications to be esnt to the undersigned immediately.—By Order, H. Heardman, General Superintendent and Secretary.

ROYAL HALIFAX INFIRMARY (Class 1A, E.M.S.) (250 beds).—Applications are invited for the post of RESIDENT SURGICAL OFFICER (B1) male Salary £250 per annum, with residence, board and laundry. Preference given to one holding the F.R.C.S R practitioners who now hold B2 posts may apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Applications should be sent to the undersigned immediately.—A. Midgley, Secretary

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STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A). Salary £196 per annum, with board residence. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when appointment will be for six months. Applications to be forwarded to the undersigned.—A. E. Collins, Secretary.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 5, Lisle Street, Leicester Square, W.C.2.—Applications for the post of OUT-PATIENT MEDICAL REGISTRAR, PART-TIME, are invited to be sent to the undersigned on or before September 29. Remuneration at the rate of one guinea per Outpatient Clinic attended. Applicants must be duly qualified and registered medical practitioners. Particulars of the duties can be obtained on application to Leonard G. R. Turpin, Secretary.

SALFORD ROYAL HOSPITAL.—Applications are invited for the post of RESIDENT SURGICAL OFFICER (B1). Salary £250, plus the usual residential emoluments. Appointment one year. R practitioners holding B2 posts, also those holding B1 and rejected by the R.A.M.C., may apply. Applications to be made on the prescribed form obtainable from the General Superintendent at the Hospital.

SCUNTHORPE AND DISTRICT WAR MEMORIAL HOSPITAL, Scunthorpe, Lincs. (234 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of two HOUSE OFFICERS (A), now vacant, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary is at the rate of £275 per annum with full residential emoluments.—S. Lord, Secretary-Superintendent.

STANNINGTON CHILDREN'S SANATORIUM, Stannington, Clifton, Morpeth, Northumberland (206 beds for pulmonary and non-pulmonary tuberculosis).—Applications are invited from registered female medical practitioners for a B1 APPOINTMENT at the above Sanatorium. Applicants should have held a house appointment and preference will be given to those having some experience in bacteriology. W practitioners now holding B2 posts may apply. Salary £300 to £350 per annum, according to experience, with residential emoluments. Applications should be forwarded immediately to the undersigned.—J Arnold Stobbs Medical Superintendent

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SWANSEA GENERAL AND EYE HOSPITAL.—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (B2) to the Ophthalmic and Aural Departments, now vacant, including R and W practitioners who now hold A posts. If held by an R or W practitioner the appointment will be limited to six months. Salary is at the rate of £220 per annum, with full residential emoluments —O. C. Howells, Secretary-Superintendent.

TAUNTON AND SOMERSET HOSPITAL (130 beds, plus 30 E.M.S. 3 residents).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A), including practitioners within three months of qualification who are liable to service under the National Service Acts Salary £175 p.a., with full residential emoluments If held by a practitioner liable under these Acts, appointment will be for six months. Applications to the Secretary-Superintendent, Taunton and Somerset Hospital, Taunton.

VICTORIA INFIRMARY OF GLASGOW (503 beds). WHOLE-TIME RADIOLOGIST.—The Governors invite applications for the appointment of a whole-time Radiologist. Salary according to experience but not less than £1,000 per annum Further particulars may be obtained from the Medical Superintendent at the Infirmary. It will be necessary for the successful candidate to join the Infirmary's Superannuation Fund if eligible. Applications, together with the names of two persons to whom reference may be made, to be sent to the undersigned. In order to allow members of the Services stationed over-seas time to apply, the date for receiving applications has been extended until January 14, 1946.—John W. Robson, Secretary and Treasurer, 40, St. Vincent Place, Glasgow.

VICTORIA HOSPITAL, Blackpool (normal complement 200 beds, war-time complement 500 beds)—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON to the Orthopaedic Department, and S.U.1. (B2), now vacant, including R practitioners who now hold A posts. The appointment is for a period of six months, and the salary is at the rate of £200 per annum, with full residential emoluments.

Applications are also invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (B2), Eye, Ear, Nose, and Throat Departments, now vacant, including R practitioners who now hold A posts. The appointment is for a period of six months, and the salary is at the rate of £200 per annum, with full residential emoluments.

Applications for each post should be sent to the undersigned immediately.—Walter R. Smith, General Superintendent.

VICTORIA HOSPITAL, Accrington. HOUSE PHYSICIAN (A).—Applications are invited from registered medical practitioners, male or female, for the post of House Physician (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. Appointment will be for a period of six months Salary at the rate of £175 per annum with full residential emoluments

HOUSE SURGEON (B2).—Applications are also invited from registered medical practitioners, male or female, for the post of House Surgeon (B2), including R and W practitioners who now hold A posts Appointment will be for a period of six months. Salary at the rate of £200 per annum, with full residential emoluments. Applications to be sent to P. D Wadsworth, Hon. Secretary.

W. J. SANDERSON EMERGENCY HOSPITAL, North Avenue, Gosforth, Newcastle-upon-Tyne, 3.—Applications are invited from registered medical practitioners for the appointment of a HOUSE SURGEON (A), now vacant. Salary £300 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months, otherwise it may be extended for a further period. Applications should be sent to the undersigned as soon as possible.—Alexander Lawther, House Governor and Secretary.

WESTMINSTER HOSPITAL, St. John's Gardens, London, S.W.1.—Applications are invited for the post of WANDER SCHOLAR AND REGISTRAR to the Children's Department, vacant on October 1, 1945. Part-time appointment, for six months in the first instance, salary £250 per annum. The successful candidate will be required by the Central Medical War Committee to hold another approved part-time post. Applications should be submitted immediately to the House Governor.

WINGFIELD-MORRIS ORTHOPAEDIC HOSPITAL, Headington, Oxford. RESIDENT SURGICAL OFFICER (B1).—Commencing salary £350, with board and lodging. Previous experience of orthopaedics essential. R and W practitioners now holding B2 posts may apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Post vacant October 31. Applications, with names of two referees, to be sent to Prof. H. J. Seddon, Wingfield-Morris Orthopaedic Hospital, Headington, Oxford, before October 18.

IMPORTANT All applicants should read the notice about qualifications required, etc., printed at the top of page 10

WARWICKSHIRE AND COVENTRY JOINT COMMITTEE FOR TUBERCULOSIS. TEMPORARY ASSISTANT TUBERCULOSIS OFFICER.—With the consent of the Ministry of Health applications are invited from qualified and registered medical practitioners, men or women, for the post of Temporary Assistant Tuberculosis Officer. Applicants must be ineligible for, or exempt from, service with His Majesty's Forces. The person appointed must be prepared to devote the whole of his or her time to the duties of the office, and must have had experience in the diagnosis and treatment of tuberculosis. The commencing basic salary will be at the rate of £770 per annum, with a further increment of £35 after one year's service, to a maximum of £805 per annum, plus a cost-of-living bonus (£59 16s. per annum for a man and £48 2s. per annum for a woman), together with motor-car allowances in accordance with the Joint Committee's scale, and other reasonable travelling expenses. Forms of application and statement of the duties and terms of the appointment can be obtained from the undersigned. Applications, marked "Temporary Assistant Tuberculosis Officer," with copies of not more than three recent testimonials, must be received by me not later than first post on Monday, October 8, 1945.—L. Edgar Stephens, Clerk of the Joint Committee, Shire Hall, Warwick

WEST SUFFOLK GENERAL HOSPITAL, Bury St. Edmund's (191 civilian beds, 244 E.M.S. and Reserve beds).—Applications are invited from registered medical practitioners for the appointments of HOUSE SURGEON (A), with care of Ear, Nose, and Throat Department, and HOUSE PHYSICIAN (A), which will become vacant on October 15, 1945. Salary at the rate of £175 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months, otherwise for six months with a possibility of renewal at the pleasure of the Committee of Management. Applications to be sent to E. E. Hardwicke, Secretary.

WEST KENT GENERAL HOSPITAL (Incorporated), Maidstone (105—150 E.M.S. beds).—Applications are invited from registered medical practitioners, male and female, for the following appointment, CASUALTY OFFICER (B2), now vacant, including R and W practitioners who now hold A posts. The appointment will be limited to six months. Salary at the rate of £200 per annum, with residential emoluments. Applications should reach the undersigned forthwith.—Edward J Gregg, House Governor and Secretary.

WEST LONDON HOSPITAL, Hammersmith, W.6. RESIDENT ANAESTHETIST AND AURAL AND OPHTHALMIC HOUSE SURGEON (B2).—Applications are invited for the above appointment, to become vacant on November 1, from registered medical practitioners, including R and W practitioners who now hold A posts. The appointment will be for a period of six months and may be terminated by one month's notice on either side. Salary at the rate of £150 a year with the usual residential emoluments. Applications should be sent to the undersigned not later than October 5.—H. A. Madge, Secretary.

WATFORD AND DISTRICT PEACE MEMORIAL HOSPITAL (206 beds).—Applications are invited from registered medical practitioners for the post of RESIDENT ANAESTHETIST AND CASUALTY OFFICER (B2), recognized for the Diploma of Anaesthetics, vacant immediately. R and W practitioners who hold A posts may also apply, when appointment will be limited to six months. Salary will be at the rate of £200 per annum, with full residential emoluments. Application should be sent to the undersigned immediately.—H. M. Maskell, Administrator.

LONGTON HOSPITAL, Stoke-on-Trent, Staffs. HOUSE SURGEON (A).—Applications are invited from registered medical practitioners, male and female, for the appointment of House Surgeon (A), including practitioners within three months of qualification who are liable under the National Service Acts. If held by a practitioner who is liable under these Acts the appointment will be for a period of six months. Salary is at the rate of £200 per annum, plus bonus of £75 on completion of the first six months' service, with full residential emoluments. Applications to B. Pitt, Secretary.

WILSON HOSPITAL, Cranmer Road, Mitcham.—Applications are invited from registered medical practitioners, including practitioiners within three months of qualification who are liable to service in the National Service Acts, for appointment as RESIDENT MEDICAL OFFICER (A), at a salary of £150 per annum, with board, residence, and laundry. The appointment will be for a period of six months, but there will be an opportunity of applying for the post of Senior R.M.O. (B2) (salary £200 per annum) should this post become vacant. Applications to be forwarded immediately to the Chairman of the Medical Committee, Wilson Hospital, Mitcham.

WONFORD HOUSE HOSPITAL, Exeter.—Applications are invited for the post of TEMPORARY ASSISTANT MEDICAL OFFICER (B1), male. Psychiatric experience desirable. The salary is £550 a year, plus £50 if in possession of the D.P.M., together with furnished apartments, board, and laundry. Suitably qualified R practitioners now holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Applications should be addressed to the Medical Superintendent not later than October 5.

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LONDON SATURDAY, SEPTEMBER 29 1945

HEARD AT HEADQUARTERS

Medicine and the Changing Order

The New York Academy of Medicine recently set up a committee to study the economic and social changes of the present time and how these are likely to affect medicine. The committee includes many prominent medical men in New York and also representatives of labour, industry, law, and the Church. It has set about its objectives by a series of conferences held every week, at which economists, sociologists, historians, publicists, bankers, industrialists, and others, as well as doctors, deliver addresses on subjects on which they are expert. Already 54 such weekly conferences have been held. The subjects have included the Beveridge plan, the public's attitude towards the medical profession, the general problems of social change, medical education, health insurance plans, the problems of rural medicine, what labour wants in the way of medical care, the problems of the negro physician, the prospects of psychiatry, public health nursing, and many others. Only one of the speakers so far has been from this side of the Atlantic—Prof. J. M. Mackintosh, who addressed a conference on problems of rural medicine. It will be some time before the committee is able to put forward any final recommendations, but with such a background they should be weighty when they do appear.

The B.M.A. Conversations

The B.M.A. conversations with Mr. Willink still rankle with some people in the Labour movement. One speaker at the Trades Union Congress, Miss D. M. Elliott, of the General and Municipal Workers Union, in pleading the need for more health visitors, said that she hoped the new Minister of Health would never forget that the health of this country did not depend on the B.M.A. or on doctors generally. It depended on many other people, all working together in a common service—health visitors, nurses, domestic workers and auxiliary staffs of hospitals, and women public health officers. The provision of more health visitors, she said, had been delayed by the prolonged discussions of the B.M.A. with the late Minister of Health—discussions which should never have taken place or have been so prolonged. People had been waiting to go into tuberculosis institutions or had been suffering because of the long hours which nurses, especially in mental hospitals, were having to work, while the Minister of Health " dillied and dallied," discussing the new service with the doctors, as though they were the only people who mattered. That is all very well, but now the new Minister of Health, in his first speech as Minister, has forecast discussions—long discussions—with the doctors before the health scheme takes final shape.

Chairs in Industrial Medicine

At the instance of the National Union of Railwaymen the Trades Union Congress passed a resolution calling for the establishment of more chairs of industrial medicine at the universities and also for a wide extension of the medical curriculum to cover industrial diseases. The mind of Congress was evidently very much exercised on this subject. It was urged as a matter of supreme importance that examining surgeons and medical referees should be expert in the particular diseases with which they had to deal, especially industrial dermatitis. The resolution was supported by Dr. H. B. Morgan, M.P., who said that when it was complained that certifying factory surgeons and medical referees knew little about industrial diseases it ought to be remembered that they were taught nothing on the subject. There were lectureships in industrial diseases in only three of the medical schools in this country, and those who had to deal with such diseases had mostly to learn by experience. A member of the Mineworkers Union painted a dire picture of health and safety conditions in the mining industry. He said that in 1938, with 781,000 men employed in that industry, there were 131,776 cases of injury or disease incapacitating the men for more than three days, but in 1943, although in the meantime the numbers employed in the industry had fallen to 707,000, these cases had risen to 173,000.

Medical Costs

Some loose thinking on the subject of medical costs is rebuked in an American publication. It is pointed out that the real problem in the costs of medical care is often not understood. Efforts are commonly directed towards a reduction of the costs of the treatment of an active illness, generally towards a lowering of the fees paid to doctors or the charges of the hospital or other agencies involved, and it is not realized that these do not affect the more important cost factors. " In the long run real economy in medical care derives from the quality and competence of the treatment given rather than from the expenditures in a given illness." Therefore, if illness be treated competently and effectively the ultimate expenditure on medical care over a period may be appreciably reduced, even though the costs of the treatment of the immediate illness are higher. Thus it is pointed out that a reduction in the costs of medical care is not necessarily achieved by lowering the fees of those concerned, but rather by having fewer sickness expenditures on account of a lowered incidence in illness which comes about as the result of competent medical care and treatment. It seems elementary economics when stated in that way, but it is a thing too often forgotten.

T.U.C.'s Call for Research

Trade unionists are emphasizing the importance of science and research, partly with a view to combating industrial diseases, but not in the medical field alone. At the recent Trades Union Congress at Blackpool one member, Prof. P. M. S. Blackett, F.R.S., who was associated with Rutherford at the Cavendish Laboratory in the early days, pleaded for the setting up by Congress of a scientific committee to advise it on problems of scientific interest to the trade union movement, a proposal which was accepted unanimously. As an instance of the need for research, a delegate representing the Chemical Workers Union declared that as much as two-thirds of the possible output of penicillin in this country is wasted because of failure to prevent impurity, whereas in American penicillin factories, thanks to special measures such as the use of rubber mats which extract all the dust and dirt from workers' shoes, the production of a sufficiently pure penicillin is greatly increased. Congress called upon the Government to subsidize industrial research and to set up a national research and development council with powers to control patents and to improve scientific and technical education in the schools.

The late Mr. Bishop Harman

At a meeting of the National Ophthalmic Treatment Board on Sept. 14, the chairman, Dr. David Wilson, reporting the death of Mr. Bishop Harman, said that the Board would remember his long services, his enthusiasm and drive, his commanding presence and eloquence, his quickness in seizing a point and ability in argument, his gift of inventing instruments connected with his branch of the profession, and his work for the blind and the L.C.C. schools. He was an active pioneer in all he undertook. Dr. Wilson then asked the Board to stand for a moment in respect for Mr. Bishop Harman's memory, and then moved that the following be placed on the Minutes:

> " The Board places on record its sense of the irreparable loss it has sustained by the death of Mr. Bishop Harman. More responsible than any other single individual for the inception of the National Eye Service, he was its chairman and inspiration from its beginning to within a year of his death. During that time he placed freely at the disposal of the Board his great gifts and his high status and influence in the ophthalmic world and in the B.M.A. with the enthusiasm so characteristic of him. The Board gratefully pays this last tribute to one who by his long and unselfish labours earned the implicit confidence and respect of all who worked with him."

NATIONAL HEALTH INSURANCE IN CHILE

Chile claims to be the first country in the Western Hemisphere to introduce national health insurance. This it did in 1924, when a compulsory insurance fund was created to which all manual workers, both men and women, in industry, commerce, agriculture, domestic service, and self-employment were affiliated. This fund is financed by the employers, who contribute 5% of their wages bill, the wage-earners, who contribute 2½% of their wages, and the State, which contributes a further 1½%. The fund finances sickness and medical benefits, including periodical health examinations under a Preventive Medicine Act passed in 1938, and also cash benefits during maternity and sickness. The maternity cash benefit is equal to 50% of the wages during the six weeks before and the six weeks after childbirth, together with a lactation benefit, equal to 10% of the wages, payable for one year. The fund further provides old-age and death benefits.

General and special medical treatment is given under the fund, together with pharmaceutical, dental, and hospital care; the maternity benefit includes wives of insured men, and medical care is also provided for children under the age of 2. The fund is administered by a board comprising three representatives of employers, three of insured persons, and one representative of the Chilean Medical Association, which is the Chilean counterpart of the British Medical Association. The chairman of the board is the Minister of Health, who by tradition is a doctor, and the chief of the State Social Insurance Department, likewise a doctor, is also a member of the board. The medical service is directed from a headquarters whose chief medical officer not only discharges the administrative functions but also determines the policy to be followed in the different sections of the service. There is also a medical director in each province.

Chilean Health Centres

Medical care is furnished through health centres which are classified as clinics of the first, second, and third class, first-aid centres, remote rural posts, hospitals, sanatoria, convalescent centres, prophylactic centres, and other special establishments. The first-class clinics are situated in the larger cities and provide complete care for all kinds of persons, and look not only to the curative but also to the social and preventive aspects of medicine, and are equipped with ancillary technical services. The second-class clinics are established in towns with fewer than 10,000 inhabitants, and the third-class meet the local needs of small distant settlements, confining their work to general medical care and the care of mothers and infants. The rural medical posts are situated deep in the "back" areas, and are visited periodically by a general practitioner and occasionally by specialists and dentists. When a patient needs hospital care he is admitted under certificate of the clinic doctor to one of the hospitals of the Administration of Public Charities and Social Assistance, which is a public authority owning almost all the hospitals in Chile and one of the main organizations of social medicine in the country. The compulsory insurance fund is in contract with this organization and meets patients' costs.

Health insurance covers more than 1½ million people in Chile, or 90% of the working population. Medical care is furnished through 183 clinics and 519 rural medical posts, and just upon 1,000 doctors are employed.

Under the Preventive Medicine Act all persons affiliated to social insurance are compulsorily subjected to a periodical, gratuitous, and systematic medical examination. They may be ordered preventive rest—that is, abstention from work—when a doctor considers this necessary as a means of averting serious illness; during this time they receive payment of benefit, and at the end of the period they are entitled to return to their previous post. To finance this benefit 2½% is set aside from the gross revenue of the insurance fund, and the employer contributes an additional 1% on the wages.

The Doctor's Status

The medical practitioners who serve the social insurance scheme are paid salaries in proportion to the number of hours they work. Some are employed full-time. They are classified in a scale of rank, to each degree of which a specified salary attaches, and this scale of rank, together with length of service and merit, is taken into account for the purpose of granting increments of salary or filling vacancies. The basic hourly salary is increased for a chief of the clinic or one who is assigned to a rural or difficult area. Special allowances are made to tuberculosis experts, radiologists, and other specialists. Other salaried work, such as a post in the public health service or in a hospital, is allowed under certain conditions, and private practice is also permitted outside the hours of service. The doctors are themselves insured in the social insurance institution, and thus are eligible for invalidity payments and old-age and survivors' pensions, and can obtain personal loans and mortgages. Postgraduate courses are organized from time to time, and the insurance institutions arrange, when circumstances permit, for a practitioner to travel abroad for postgraduate study. Practically all the doctors in Chile to-day are officials either of social insurance, of the public health department, or of the hospital administration.

At the beginning of the social insurance scheme medical benefit was furnished by doctors, following the methods of private practice, and freedom of choice was afforded. But it was found under this arrangement that no medical care could be provided for rural areas where there were no resident doctors and the patient was unable to travel to the nearest centre of population. The system was therefore abandoned, and medical officers were appointed to semi-rural areas with the responsibility of visiting the remote districts, and finally this intermediate stage was exchanged for the organization described above.

For the information on the Chilean medical service we are indebted to an article in the *Canadian Medical Association Journal* of December, 1944, by Manuel de Viado, M.D., Chief of Vital Statistics Section, Administration of Public Welfare and Social Assistance, Chile, and Alejandro Flores, late secretary to the Minister of Health, Chile.

Correspondence

Release of Air Force M.O.s

SIR,—Why is the release of medical officers from the Services still so inordinately slow? If I am a voice crying in the wilderness please inform me, and I will cease. But I do not think I am alone, as the same question has been on the lips of all Service medical officers, whether Army or Air Force, whom I have met since Japan surrendered.

We in the Air Force have been officially notified in to-day's Station Routine Orders, nearly a month after VJ-Day, that the "Air Ministry have decided to speed up release of medical officers" to the extent of releasing up to Group 20 by February, 1946. This is the last straw to a normally submissive and peace-loving member of the profession, who has had over five years' war service in the R.A.F.V.R. I feel bound to protest against this snail-like progress in releasing medical officers, which makes a hollow mockery of the phrase "speed-up."

We have been instructed by a signal from headquarters immediately to complete medical examination prior to release (and also inevitably the accompanying Forms 2561 in duplicate) up to and including all personnel in Group 26. This indicates that in most branches and trades of the R.A.F. Group 26 may expect release in the very near future, since Forms 2561 are to be completed, as nearly as possible, just prior to release lest attributable illness or accident subsequently alters the health records of the individual and raises new possibilities of claims for pensions. But medical officers, even long after Japan has well and truly surrendered, may expect Group 20 to be released in February, 1946.

Is it not time that this discrimination against our release be removed by the firm and swift action of the Central Medical War Committee? The cry is for new medical recruits to enable M.O.s to be released. Yet I look in vain in the *Journal* for any substantial increase in strength for the R.A.F. A tiny trickle of new flying officers is occasionally listed, but gone are the days when war forced the pace and 15 to 20 new M.O.s joined the R.A.F. each fortnight. Are we not interested in winning the peace? Cannot the same urgency be employed in reverse?

Whatever Service chiefs may say about the necessity for a proportion of 2.3 doctors per 1,000 Service personnel, the fact remains that there is a gross waste of qualified medical man-power in the R.A.F. To quote the obvious example of this station and a near-by Group Headquarters which I know well, there are four M.O.s on this station of 1,200, when *one* could do all the necessary medical work *and* also have nearly every afternoon off; at Group Headquarters there are *six* M.O.s—one Group Captain, one W/Cmdr., three S/Ldrs., and one F/Lt., none of whom is a fraction as busy as the average general practitioner. Everyone knows (the lay public as well as the Central Medical War Committee) that doctors are far more urgently needed in civilian practice than in the Services. Yet here we remain, in our thousands, half employed and yet the most slowly released of all branches.

The courtesy of your columns to publish these facts and opinions would be more than usually appreciated, since serving over-seas one does tend to feel remote and powerless, and a truthful and fearless answer to the questions asked, which are of moment to us all, would be an excellent stimulus to the flagging morale of many of us in all the Services.—I am, etc.,

"SQUADRON LEADER, R.A.F.V.R."

Classification for Release

SIR,—May I suggest that, if medical officers are to be released on a different system from other members of the Forces, a method of classification is adopted which takes more account of "service" and less of "age" than the Age and Service Group does at present. Surely six years is long enough for any man to be in the Army, and if we are not to be allowed out in our proper turn then a time limit should be made, and after, say, six and a half years of military service the medical officer should be allowed out no matter what group he may belong to.—I am, etc.,

D. TURNER,
Ibadan, Nigeria. Lieut.-Col., R.A.M.C.(T.A.).

Demobilization of Doctors

SIR,—A great deal has been said in the medical and lay press on demobilization of doctors. Some excellent letters have appeared in both the *Journal* and the *Lancet*, stating the case of the serving M.O. Most of these letters point out that there are large numbers of M.O.s with little work to do—a fact which can be verified statistically (weekly returns) as well as by inquiry from unselected M.O.s. Just one more example.

This unit runs a C.R.S. in Germany. It has beds for 30-odd patients. We do sick parades for our own unit and any stray detachments of pioneers, R.A.S.C., etc., in the neighbourhood. The average number of "in-patients" is 12 to 15. On sick parades we see no more than another 10 to 15 a day, usually fewer. And we have *four* medical officers and over 80 O.R.s. We have done little to justify our existence since the end of April. The four artillery units in this area, from whom we receive our "in-patients," each has one M.O. I have done the sick parades for two of the units during the absence of the R.M.O.s on leave; average daily sick were about 6 in each case. That and "other commitments" certainly do not give more than two hours' work a day for even the most conscientious. As I have moved through a considerable area of the British zone in Germany since April I know that the position here is not exceptional.

Mr. Bevan's statement in reply to Sir John Mellor on Aug. 23 (*Journal*, Sept. 1, p. 305) should not go without comment. Really, Mr. Bevan! According to his figures the ratio of doctors in the B.L.A. compared to doctors at home is slightly more than 6:1—namely, one doctor for 2,576 civilians at home and 1 doctor for 409 troops. He states that we have "considerable additional commitments to displaced persons and others." Have we, though? The number of D.P.s is gradually dwindling, and in any case they are mostly taken care of by D.P. doctors and German doctors. By "others" I presume Mr. Bevan means German civilians. They are definitely not our responsibility, as 21 Army Group has repeatedly pointed out, and there is no shortage of German doctors in most areas. Last, but not least, I should like to point out that Mr. Bevan has apparently completely overlooked the fact that soldiers are the fittest and healthiest of the nation—in other words, say, 1,000 soldiers have a much lower sickness rate than 1,000 civilians, who include babies, pregnant mothers, aged and infirm persons.

Every M.O. I have spoken to is convinced that speedy revision of War Establishments is called for. There is no longer any need for regiments to have R.M.O.s; one M.O. could quite easily look after two or three regiments, be they infantry or artillery. As in 1940 at home, they could very easily do the "milk rounds" in an Army vehicle, and both civilian and Service needs would be satisfied, to say nothing of M.O.s themselves.—I am, etc.,

"CAPTAIN, B.A.O.R."

Emigration a Solution?

SIR,—As a serving medical officer who is more than a little tired of our Government's "Nazi" attitude to the medical profession in general and serving medical officers in particular, I would be grateful if you could, through the medium of the *Journal*, give me information relative to facilities which might be available to medical officers who wish to emigrate on their demobilization.

An account of the possibilities of practice in the U.S.A., Canada, and South Africa would be especially welcomed by myself and many of my Service colleagues who feel that the reward for our service is to have imposed on us what we fought against.—I am, etc.,

"SURG. LIEUT., R N.V.R."

The Silent Service

SIR,—I wish to express my thanks for your frequent publication of letters from doctors with demobilization depression. They must make dull reading for those who are not in chains, but each one brings a little light into the bleak outlook of the sufferers. One feels, one day, that the walls of Jericho may fall and that each and every one must blow a little on his trumpet.

I am one of the saddest cases, a Naval medical officer. I see that the War Office and the Air Ministry have announced their programme of demobilization up to the early months of next year. Knowing some of the difficulties, I congratulate them. There is an ominous silence from the Admiralty, but fortunately it is becoming conspicuous. I am disappointed that the Central Medical War Committee have not commented on the gentlemen "who are conspicuous by their absence." It gives the very wrong impression, I hope, that this can go on for ever without that body protesting. I am sure this cannot be.

Holding tightly on to my sanity, I return to look for my latest textbook, hidden under a pile of "wait for it" A.F.O.s, to read about the diseases that occur in a land so far away.—I am, etc.,

"SURG. LIEUT.-CMDR, R.N."

Balancing the Issues

SIR,—As an E.M.S. officer I do not think the Service M.O.s are being quite fair in suggesting that E.M.S. personnel could replace them in the Forces. In the first place, as stated recently in the *B.M.J.*, the number of E.M.S. officers is very small compared with the number of Service M.O.s, and could only replace a small fraction of them. We also have not had free choice of job, nor the freedom to change our job or to take the varied house-jobs in hospitals which we should have been able to do in peacetime. As to time for reading and study, I know that many Service M.O.s have very little medical work to fill in their time, and so should have more time free for study. This lack of work probably also accounts for the feeling of frustration which so many have. It is true that we have been in the U.K., but many have been away from home; and I believe many Service M.O.s have also spent a long time in U.K. hospitals. We have been treating Service patients in the same way as if we had been in the Forces.

I do not wish to be selfish, but to have each side considered fairly. Many E.M.S. officers have wished to join the Forces but have been unable to obtain permission. At the same time, now that the war is over, the needs of the Forces must decrease, as the need to cover large numbers of casualties has gone. At this time it will be hard on the civilian practitioners, except the newly qualified, to be conscripted to military service. May I suggest the following points which might solve the problem and yet be fair to all:

1. Better distribution of medical man-power in the Forces, so that the existing establishment may be reduced and all M.O.s can have sufficient *medical* work. The return of alien doctors to their own countries and the use of civilian doctors for troops billeted in their district, or the use of Service M.O.s to assist civilian G.P.s might also help, thus releasing many Service M.O.s.
2. Return of voluntary recruitment for all doctors except perhaps the newly qualified; the latter could be asked to do a maximum of one or two years' military service.
3. Use of E.M.S. hospitals to absorb the overflow from civilian hospitals until better hospital accommodation is provided for all.

—I am, etc.,

Cheshire. "E.M.S. OFFICER."

Women Doctors in the R.A.M.C.

SIR,—In the *Supplement* of Aug. 25 (p. 51) Dr. Janet Campbell made known the Minister of Labour's decision to discontinue compulsory conscription of women doctors. During the war years women doctors have, so far as possible, been treated on an equal basis with the men, and this has included compulsory conscription. Consequently those of us attached to the R.A.M.C. were not surprised to find that we were to be demobilized as doctors and not as women. Although this involves a considerably slower rate of demobilization, we considered it to be perfectly fair.

Now, however, we learn that there is to be no further compulsory conscription for women. This not only reduces the number of civilian doctors available to replace Army medical officers and thus speed up demobilization, but it places the younger men and women of the R.A.M.C. at an unfair disadvantage. Our contemporaries who have remained in civilian life are already far ahead of us in experience and higher qualifications. This is the luck of war, and as many of us are volunteers it is inevitable. In one or two years' time, however, when the men and women who were conscripted within a few months of qualification do finally return to civilian life, it will be very hard for them to find that they have to compete with young women doctors qualifying now, after the cessation of hostilities.

and having the advantage of two years' normal medical experience.

May we women doctors with the R.A.M.C. plead that all women doctors should be treated in the same way. If civilian medical women are now to be treated as women, may women members of the R.A.M.C. also be treated as women and demobilized accordingly.—We are, etc.,

J. W. PAUL, Capt., R.A.M.C.
C. P. LARKINS, Capt., R.A.M.C.
K. E. RYMER, Capt., R.A.M.C.
M. P. ELMAN, Capt., R.A.M.C.

110 (BR) General Hospital,
B.A.O.R.

The Doctor at Home

SIR,—This morning an E.N.T. surgeon informed me that the R.A.M.C. doctors whom he had met were under the impression that the civilian doctors did not want them back as they wanted to keep the "magnificent" fees they had earned, that there were no practices for them, and that their services were belittled. I feel very strongly this erroneous idea should be contradicted at once. I believe I am expressing the opinion of the great majority of general practitioners when I say that we do want them back badly; we have shared with those on service the "magnificent" fees we have earned by the sweat of our brow. There are many aged medical men "hanging on by their eyelids," longing to retire and be relieved by younger men from the Forces, and those of us around 60 years of age are tired out and require a respite. We have applied to our Alma Mater for a young energetic doctor to join us, and we are informed that they are snapped up as soon as they are demobilized.

With reference to belittling their services, etc., many of us served in World War No. 1. We remember the tedium of having little or no clinical work to do, then the rush of a battle, the red tape, the separation from wife and children, and the working under trying conditions: probably their conditions were worse than ours. No, I repeat we do not belittle their services, and we want them back.—I am, etc.,

"G.P., 58."

How Many for How Much?

SIR,—The Spens Committee will shortly be issuing their report. We shall then be informed how much a doctor has been earning and, presumably, how much he should be allowed to earn in the future. This may or may not be helpful to the Minister of Health responsible for the new Act, but if the new health service is to be of any real value to the community there is another aspect of the question of remuneration which must be faced.

Why is it that any suggestion that the new health service should be based on the National Health Insurance Act is not well received in official circles? Surely it is because there is a very definite opinion in the country to-day that the insured person is not getting the best medical service that it is possible for him to get. Those of us who have been trying to give it him, if we will face the facts honestly, will agree with this contention. We know through bitter experience that it is a physical impossibility to carry out our work honestly and conscientiously under the system of "mass medicine" into which the National Health Service has degenerated.

The Spens Committee may tell us how much we may expect to earn, but if the new Act is to succeed there must be a strict limitation of the number of patients any doctor is allowed to take on his list, and the capitation fee must be adjusted to this figure.—I am, etc.,

Oswestry. W. B. A. LEWIS.

BRITISH MEDICAL ASSOCIATION

Election of Member of Council by the Metropolitan Counties Branch

The following is the result of the election for the vacancy in the Council by the Metropolitan Counties Branch:

C. G. Martin (Lambeth)	402	*Elected*
R. Scott Stevenson (Marylebone)	391	
No. of voting papers issued	4,144	
No. returned	793	
Spoiled paper	1	

CHARLES HILL,
Secretary.

H.M. Forces Appointments

ROYAL ARMY MEDICAL CORPS

Lieut.-Col. H. R. Sheppard, O.B.E., having attained the age for retirement, is retained on the Active List supernumerary.

Major J. H. Anderson to be Lieut.-Col.

TERRITORIAL ARMY

ROYAL ARMY MEDICAL CORPS

War Subs. Majors H. F. Apthorpe-Webb, E. F. Baines, F. S. Mitchell-Heggs, and R. W. Nevin to be Majors.

War Subs. Capt. G. H. Brown has relinquished his commission on account of disability, and has been granted the honorary rank of Capt.

Supernumerary for Service with Training Corps.—War Subs. Capt. E. G. Murphy has relinquished his commission on account of disability, and has been granted the honorary rank of Capt. (Substituted for the notification in a *Supplement* to the *London Gazette* dated July 17.)

LAND FORCES: EMERGENCY COMMISSIONS

ROYAL ARMY MEDICAL CORPS

War Subs. Capt. J. K. C. Megahy has relinquished his commission on account of disability, and has been granted the honorary rank of Major.

War Subs. Capts. K. Tatz and C. E. Powell have relinquished their commissions on account of disability, and have been granted the honorary rank of Capt.

J. P. Fehily to be Lieut.

ROYAL AIR FORCE

Wing Cmdr. A. E. Barr-Sim has retired, and has been re-employed.

Squad. Ldr. R. Macpherson has been transferred to the Reserve and called up for Air Force service.

ROYAL AIR FORCE VOLUNTEER RESERVE

Fl. Lieut. (Temp. Squad. Ldr.) F. J. C. Matthews has relinquished his commission on account of medical unfitness for Air Force service, retaining the rank of Squad. Ldr.

Fl. Lieut. A. A. Macgibbon has relinquished his commission on appointment to the R.N.Z.A.F.

G. T. G. Thomas to be Fl. Lieut. (Emergency).

Flying Officer H. O'Flanagan to be War Subs. Fl. Lieut.

J. P. Haile to be Flying Officer (Emergency).

WOMEN'S FORCES

EMPLOYED WITH THE MEDICAL BRANCH OF THE R.A.F.

Flying Officers M. E. McClelland, A. H. Reade, and E. H. Stern to be War Subs. Fl. Lieuts.

RETURN TO PRACTICE

The Central Medical War Committee announces that the following have resumed civilian practice: Dr. Rex Binning, at 18, Brunswick Square, Hove, Sussex; Mr. A. L. d'Abreu, F.R.C.S., at The Surgical Unit, Royal Infirmary, Cardiff; Dr. Stephen Coffin, at 52, Upper Brook Street, W.1; Dr. J. Norman Cruickshank, F.R.C.P., at 4, Newton Place, Charing Cross, Glasgow, C. 3; Dr. Bernard Schlesinger, F.R.C.P., at Hospital for Sick Children (Private Wing), Great Ormond Street, W.C.1; and Mr. R. Ogier Ward, F.R.C.S., at 149, Harley Street, W.1.

POSTGRADUATE NEWS

The regulations for the Diploma in Medical Radiotherapy of the English Conjoint Board require a course of study extending over two years. During the first nine months candidates are required to attend a course of systematic instruction; the rest of the time must be spent in the radiotherapeutic department of a recognized hospital. To meet these requirements a course of instruction will begin at the Holt Radium Institute, Manchester, early in January, 1946. Lectures and practical demonstrations will be given in the following subjects: Physics as applied to radiotherapy, biological effects of radiation, pathology in relation to radiotherapy, principles and practice of radiotherapy. Inclusive fee 50 guineas. Thereafter it is hoped that paid posts will be found for candidates in radiotherapeutic departments where they may complete the attendance required by these regulations. Further information may be had from the Dean of the Medical School, University of Manchester. All applicants must attend for interview before being accepted for the course. Special consideration will be given to practitioners being demobilized.

WEEKLY POSTGRADUATE DIARY

GLASGOW UNIVERSITY: DEPARTMENT OF OPHTHALMOLOGY.—*Wed.*, 8 p.m., Prof. A. J. Ballantyne: II. Massive Retinal Exudates.

DIARY OF SOCIETIES AND LECTURES

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—*Mon.*, *Wed.*, and *Fri.*, 2.30 p.m., Prof. John Beattie, Kidney Function; 5 p.m., Prof. A. J. E. Cave, Evolution and Structure of the Vertebrate Tongue. *Mon.*, 3.45 p.m., Prof. R. A. Willis, Some Properties of Tumour Cells. *Wed.*, 3.45 p.m., Prof. Willis, Endocrine Tumours and their Endocrine Results. *Fri.*, 3.45 p.m., Prof. Willis, Paths of Invasion by Tumours.

ROYAL SOCIETY OF MEDICINE.—*Wed.*, 2.30 p.m., Section of History of Medicine. *Thurs.*, 8 p.m., Section of Neurology.

CHADWICK TRUST.—At 26, Portland Place, W., *Tues.*, 2.30 p.m., Mr. A. F. Russell: Planning for New Housing Standards.

B.M.A.: Branch and Division Meetings to be Held

NORTHERN IRELAND BRANCH.—At Whitla Medical Institute, Belfast, Thursday, Oct. 11, 4.30 p.m. Presidential address, etc.

SHROPSHIRE AND MID-WALES BRANCH.—At Royal Salop Infirmary, Shrewsbury, Tuesday, Oct. 9, 3.30 p.m. Annual general meeting. Agenda: Consideration of Report of Representatives to A.R.M., etc.

WAKEFIELD, PONTEFRACT, AND CASTLEFORD DIVISION.—(1) At Clayton Hospital, Sunday, Sept. 30, 11 a.m., Dr. C. W. Vining: Interpretation of Common Symptoms during Childhood. (2) At Strafford Arms, Wakefield, Thursday, Oct. 4, 8.15 p.m., Mr. J. T. Blackburn, F.R.C.S.: Advances in Surgery during the Five Years of War. (3) At Clayton Hospital, Wednesday, Oct. 10, 8.15 p.m., Mr. G. Armitage: Cancer of the Breast.

WESTMINSTER AND HOLBORN DIVISION.—At Westminster City Hall, W.C., Thursday, Oct. 4, 2.30 p.m. Agenda: Consideration of (1) Supplementary Report of Council for 1944–5; (2) Report of Representatives to A.R.M., etc.

BIRTHS, MARRIAGES, & DEATHS

The charge for an insertion under this head is 10s. 6d. for 18 words or less. Extra words 3s. 6d. for each six or less. Payment should be forwarded with the notice, authenticated by the name and permanent address of the sender, and should reach the Advertisement Manager not later than first post Monday morning.

BIRTHS

BAPTY.—On Sept. 18, 1945, at Toronto, to Stella (*née* Mervyn-Smith) and Leonard Bapty, *M.C.*, M.B., Ch.B., of Victoria, B.C., Canada, a son—David.

HORSFALL.—On Sept. 21, 1945, at the Hammersmith Hospital, W.12, to Mary (*née* Sidgwick), M.B., wife of Surg. Lieut. W. R. Horsfall, R.N.V.R., a daughter.

MARRIAGES

GIDLEY—MERRY.—On August 25, 1945, at Goodmayes, Essex, Claude Gidley, of Langley, Birmingham, to Edith S. M. Merry, M.B., B.S.

HUGHES—JONES.—On Sept. 20, 1945, at Caernarvon, John H. Hughes (Captain R.A.M.C.), son of Alderman W. J. Hughes, J.P., and Mrs. Hughes, Ty Croes, Anglesey, to Mair E. Jones (Captain R.A.M.C.), daughter of Mr. and Mrs. J. E. Edmund Jones, Llanwnda, Caernarvonshire.

NEW BOOKS **SAUNDERS BOOKS** NEW EDITIONS

Major's Physical Diagnosis
By RALPH H. MAJOR, M.D., Professor of Medicine in the University of Kansas. 444 pages, 6" x 9", with 457 illustrations. 25s. New (3rd) edition.

Herrell's Penicillin and Other Antibiotic Agents
By WALLACE E. HERRELL, M.D., The Mayo Clinic. 348 pages, 6" x 9", illustrated. 25s. New.

Boyd's Preventive Medicine
By MARK F. BOYD, M.D., M.S., C.P.H., Field Staff Member, International Health Division, Rockefeller Foundation, New York. 588 pages, 6" x 9¼", with 168 illustrations. 27s. 6d. New (7th) edition.

Surgical Anatomy
By TOM JONES and W. C. SHEPARD. 195 pages, 7⅝" x 10⅜", profusely illustrated, many in colour. 25s. New.

Moorhead's Traumatic Surgery
By JOHN J. MOORHEAD, B.S., M.D., D.Sc., F.A.C.S., (D.S.M.), formerly Professor of Clinical Surgery New York Post-Graduate Medical School. 747 pages, 6¼" x 9¼", with 823 illustrations on 500 figures 50s. New.

Bulbulian's Facial Prosthesis
By ARTHUR H. BULBULIAN, M.S., D.D.S., F.A.C.S., The Mayo Foundation, Rochester, Minn. 241 pages, 6" x 9", 202 illustrations. 25s. New—Available soon.

Gifford's Ophthalmology
By SANFORD R. GIFFORD, M.A., M.D., formerly Professor of Ophthalmology at Northwestern University Medical School. 457 pages, 5" x 7½", with 380 illustrations, 47 in colours. 20s. New (3rd) edition.

Manual of Tropical Medicine
By Col. THOMAS T. MACKIE, *M.C.*, Major GEORGE W. HUNTER, III, Sn.C., and Capt. C. BROOKE WORTH, *M.C.*, A.U.S. 727 pages, 6" x 9", illustrated. 30s. New.

Felsen's Dysentery, Colitis and Enteritis
By JOSEPH FELSEN, B.A., M.D., Bronx Hospital, New York. 618 pages, 5¼" x 7¾", 145 illustrations. 30s. New—Available soon.

Wohl's Dietotherapy
Edited by MICHAEL G. WOHL, M.D., Temple University School of Medicine, Philadelphia. 1,029 pages, 6" x 9", illustrated. 50s. New.

Peripheral Nerve Injuries
By Capt. WEBB HAYMAKER, M.C., and MAJOR BARNES WOODHALL, M.C., A.U.S. 227 pages, 6" x 9", with 225 illustrations. 22s. 6d. New.

Stokes, Beerman and Ingraham's Syphilology
By JOHN H. STOKES, M.D., HERMAN BEERMAN, M.D., and NORMAN R. INGRAHAM, Jr., M.D., University of Pennsylvania Medical School. 1,332 pages, 6¼" x 9½", with 634 illustrations on 503 figures, and 453 summaries. 50s New (3rd) edition.

Janney's Medical Gynecology
By JAMES C. JANNEY, M.D., Boston University School of Medicine. 389 pages, 6" x 9", illustrated. 25s. New.

American Illustrated Medical Dictionary
1,668 pages, 6" x 9", 885 illustrations. Flexible binding. Plain, 42s. Thumb indexed, 45s. New (20th) edition.

Levine's Clinical Heart Disease
By SAMUEL A. LEVINE, M.D., Harvard Medical School. 462 pages, 6" x 9", illustrated. 30s. New (3rd) edition.

Moore's Pathology
By ROBERT A. MOORE, M.D., Washington University School of Medicine, St. Louis. 1,338 pages, 6¼" x 9½", with 603 illustrations on 513 figures, 34 in colours. 60s. New.

W. B. SAUNDERS COMPANY, Ltd., 7, Grape Street, London, W.C.2

October, 1945 **November, 1945**

ADVANCES IN TREATMENT (PARTS 1 & 2)

The issues of THE PRACTITIONER for October and November, 1945, will deal with Recent Advances in Treatment. Single copies of these issues, whilst still available, may be purchased at 4s. each, post free. Annual subscriptions at £2 2s. post free at home and abroad, which are still being accepted, may begin with either issue.

Contents of the October Issue (Part 1)

Medicine. By A. P. Thomson, M.C., M.D., F.R.C.P., and John Malins, M.B., M.R.C.P.
Cardiology. By William Evans, M.D., F.R.C.P.
Diseases of the Liver. By Professor L. J. Witts, M.D., F.R.C.P.
Pædiatrics. By A. G. Watkins, M.D., F.R.C.P.
Dysenteric Disorders. By C. C. Chesterman, O.B.E., M.D., M.R.C.P., D.T.M.&H.
Venereal Diseases. By Col. L. W. Harrison, D.S.O., M.B., F.R.C.P.ED.
Pulmonary Tuberculosis. By L. E. Houghton, M.D.
Child Health, XVI—The Care of the Crippled Child. By M. Forrester-Brown, M.D., M.S.

Contents of the November Issue (Part 2)

Surgery. By W. H. Ogilvie, F.R.C.S.
Chemotherapy. By Sir Lionel Whitby, C.V.O., M.C., M.D., F.R.C.P.
Intestinal Infestations. By E. H. Vere Hodge, C.I.E., M.D., F.R.C.P.
Allergy. By David Harley, M.D., F.I.C.
Arthritis and Chronic Rheumatism. By Douglas H. Collins, M.D.
Physical Medicine. By F. S. Cooksey, M.D.
Industrial Medicine. By Donald Hunter, M.D., F.R.C.P.
Rehabilitation. By Harold Balme, O.B.E., M.D., F.R.C.S., D.P.H.
Child Health, XVII—Physical Education and Health of the Child. By Doris M. Baker, M.D., M.R.C.P.

These two numbers will also contain the usual features—*Practical Notes, Reviews of the latest Books and Notes and Queries.*

The December, 1945, issue will deal with DISEASES OF THE BLOOD. Price 4s. post free.

Orders and remittances should be sent to:

The Publisher,
THE PRACTITIONER
5, Bentinck Street, London, W.1

Telephone: WELbeck 0121. *Telegrams: Practilim, Wesdo, London.*

NOTICE—Applications for vacancies advertised should, except where otherwise specified, state name, address, age, nationality, qualifications, and be accompanied by copies of three recent testimonials with short statement of experience and appointments held. Unless closing date is stated applications should be sent at once.

R—Male. W—Women practitioners, liable to military service under the National Service Acts.
B1—Whole-time appointments, usually resident within the senior establishment—e.g., Registrar, R.S.O., etc.
A—Whole-time resident house appointments open to practitioners without previous experience.
B2—Whole-time house appointments not within the senior establishment, usually resident, and usually held by practitioners with six months' experience.

APPOINTMENTS

NORTH OF ENGLAND JOINT CANCER COMMITTEE.—The above named Joint Committee is prepared to receive applications for the appointment of ASSISTANT RADIOTHERAPIST from registered medical practitioners. In accordance with the present practice of constituent authorities the post is of a temporary character. The person appointed will work under the direction of the Director of the Organisation. The commencing salary is within the scale £900 to £1,200 according to experience, rising by annual increments of £100 to a maximum of £1,200. The appointment is whole time, and private practice will not be permitted. Terminable by three months previous notice in writing by either side. The appointment is conditional upon the successful candidate passing a medical examination for the purposes of the Local Government Superannuation Act, 1937. Applications giving particulars of experience and names of not more than three persons to whom reference may be made as to the suitability of the applicant for the post, should reach me within 14 days of the date of appearance of this advertisement. Canvassing, either directly or indirectly, will disqualify a candidate.—John Atkinson, Town Clerk and Hon. Secretary of the Joint Cancer Committee, Town Hall, Newcastle-upon-Tyne.

CORPORATION OF ABERDEEN. Woodend Hospital.—LABORATORY ASSISTANT, male or female, required to undertake routine clinical biochemistry and haematology at Woodend Hospital, Aberdeen. Salary, £215 per annum, rising by annual increments of £10 to £235 per annum, with war bonus in addition. The present rates of bonus are: male £60 per annum, female £48 per annum. The post is superannuable. Applications should be lodged with Dr. J. Smith, Public Health Laboratories, City Hospital, Aberdeen, on or before October 13, 1945.—D. B. Gunn, Town Clerk, Town House, Aberdeen.

COUNTY BOROUGH OF SOUTHEND-ON-SEA. Southend Municipal Hospital, Rochford, Essex. RESIDENT HOUSE MEDICAL OFFICER (A).—Applications are invited from registered medical practitioners, male or female, for the appointment of Resident House Medical Officer (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be tenable for a period of six months, otherwise for a period of one year. Salary is at the rate of £200 per annum, with full residential emoluments, valued at £100 per annum, plus cost-of-living bonus. The person appointed will be liable to pay superannuation contributions if the provisions of the Local Government Officers' Superannuation Acts are applicable. The post will become vacant on November 1, 1945, and forms of application can be obtained from the Medical Superintendent, Southend Municipal Hospital, Rochford, Essex.—H. J. Worwood, Town Clerk, Town Clerk's Office, Southend-on-Sea.

COUNTY BOROUGH OF IPSWICH. TEMPORARY ASSISTANT MEDICAL OFFICER OF HEALTH.—Applications are invited from registered medical practitioners for the above appointment. The possession of the Diploma in Public Health or an equivalent qualification will be an advantage. The salary scale is £600 p.a. rising by annual increments of £25 to £700, plus war bonus, and the successful candidate will devote the whole of his or her time to the duties of the office, under the direction of the Medical Officer of Health. The approval of the Minister of Health has been obtained for the appointment, and candidates should submit with their applications full information as to their liability for military service, medical fitness, and position as regards deferment. Applications, endorsed "Assistant Medical Officer of Health," should be forwarded to the Medical Officer of Health, Elm Street, Ipswich, at once.—A. Moffat, Town Clerk, Town Hall, Ipswich.

THE HERTFORDSHIRE COUNTY COUNCIL. The Lister Emergency Hospital, Hitchin, Herts (400 beds).—Applications are invited from registered medical practitioners for the following appointments—HOUSE PHYSICIAN (A), vacant November 3, 1945, and HOUSE SURGEON (A) vacant October 23, 1945. Salary at the rate of £150 per annum with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months, otherwise it will be for a period not exceeding one year.

HOUSE PHYSICIAN and RESIDENT ANAESTHETIST (B2), vacant November 3, 1945. Salary at the rate of £200 per annum with full residential emoluments. R practitioners holding A posts may apply. The appointment will be for a period of six/months.

Applications should be sent immediately to Dr. P. J. W. Mills, Medical Superintendent.—P. Elton Longmore, Clerk of the County Council.

COUNTY BOROUGH OF SOUTHEND-ON-SEA.—Applications are invited from registered medical practitioners of either sex, including R and W practitioners who now hold A posts, for the following appointment at the Southend Municipal Hospital, Rochford, Essex: RESIDENT ASSISTANT MEDICAL OFFICER, (B2), duties mainly Obstetrics and Anaesthetics. The salary is at the rate of £325 p.a., with full residential emoluments, plus war bonus. The person appointed will be liable to pay superannuation contributions if the provisions of the Local Government Officer's Superannuation Acts are applicable. The appointment will be limited to six months for R practitioners, otherwise for a period of one year, and subject to one months' notice on either side. This post becomes vacant on November 1, 1945. Application forms, obtainable from the Medical Superintendent, Southend Municipal Hospital, Rochford, Essex, should be returned to him as soon as possible.—D. G. Fincham, Deputy Town Clerk, Town Clerk's Office, Southend-on-Sea.

COUNTY BOROUGH OF SOUTHEND-ON-SEA, Southend Municipal Hospital, Rochford. ASSISTANT RESIDENT OBSTETRIC OFFICER (B1).—Applications are invited from women practitioners for the post of Assistant Resident Obstetric Officer at the Council's Municipal Hospital, Rochford, (four miles from Southend-on-Sea), salary scale £400 × £25 to £500, together with full residential emoluments and war bonus amounting to £24 1s. per annum. Candidates should have had post-graduate experience in midwifery, and preference will be given to those possessing a senior qualification. In fixing the commencing salary, regard will be had to previous experience and qualifications. The Local Government Superannuation Act, 1937, will apply. Application forms obtainable from the Medical Superintendent, Southend Municipal Hospital, Rochford, Essex.—D. G. Fincham, Deputy Town Clerk, Town Clerk's Office, Southend-on-Sea.

COUNTY BOROUGH OF BOLTON. Townleys Hospital, Farnworth. TEMPORARY ASSISTANT RESIDENT MEDICAL OFFICER (B1).—Applications are invited from registered male medical practitioners for the above appointment. Suitably qualified R practitioners holding B2 appointments also R practitioners now holding B1 appointments and rejected by the R.A.M.C. may apply. An interest in obstetrics is desirable The salary will be at the rate of £350 p.a., plus bonus, with emoluments valued at £130 p.a. Application forms, which may be obtained from the Medical Officer of Health, Public Health Department, Civic Centre, Bolton, to be completed and returned, together with copies of two recent testimonials, to the undersigned as soon as possible.—Philip S. Rennison, Town Clerk, Town Hall, Bolton.

COUNTY BOROUGH OF BURNLEY. TEMPORARY ASSISTANT MEDICAL OFFICER OF HEALTH.—Applications are invited from medical practitioners, either sex, for the above temporary position. Persons already in whole-time public health employment by local authorities will not be eligible to apply. The duties will be mainly in connexion with the School Medical Service but will include maternity and infectious diseases. Salary £500 per annum rising by £25 per annum to a maximum of £700 per annum plus bonus of at present £59 16s. Conditions of appointment and forms of application may be obtained from the Medical Officer of Health, St. James's Street, Burnley, to whom applications must be returned as soon as possible.—Archibald Glen, Town Clerk, Town Hall, Burnley.

COUNTY COUNCIL OF THE WEST RIDING OF YORKSHIRE. County and Emergency Hospital, Otley (296 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of a RESIDENT MEDICAL OFFICER (B2), vacant now, including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months, otherwise it will be for a period not exceeding one year. The salary is at the rate of £200 per annum, with full residential emoluments. Applications should be submitted to the Deputy Medical Officer, County Hall, Wakefield.—Bernard Kenyon, Clerk of the County Council, County Hall, Wakefield.

CITY OF NORWICH. Woodlands Hospital (311 beds). ASSISTANT RESIDENT MEDICAL OFFICER (B2).—Applications are invited from registered medical practitioners for the appointment of Assistant Resident Medical Officer (B2), including R and W practitioners who now hold A posts. If held by an R practitioner, the appointment will be limited to six months, otherwise it will be for a period of one year. The salary is at the rate of £250 per annum, with full residential emoluments. Further particulars of appointment to be obained from the Senior Medical Officer, Woodlands Hospital, Bowthorpe Road, Norwich, and to whom applications should be sent.—Bernard D. Storey, Town Clerk, City Hall, Norwich.

CITY OF STOKE-ON-TRENT. City General Hospital. Appointment of SENIOR ASSISTANT RESIDENT MEDICAL OFFICER (B1).—Applications are invited from registered medical practitioners for the appointment of Senior Assistant Resident Medical Officer (B1) at the City General Hospital, Stoke-on-Trent (1,200 beds). Applicants should have held house appointments and had surgical experience. Suitably qualified R practitioners, holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary £350 per annum rising by annual increments of £25 per annum to £450 per annum, plus bonus and residential emoluments. Local Government Superannuation Act, 1937, applies. Appointment subject to one month's notice on either side. All fees receivable to be paid to the Corporation. Applications endorsed "Senior Assistant Resident Medical Officer, City General Hospital," to be sent to the undersigned as soon as possible.—Harry Taylor, Town Clerk.

CITY OF LEEDS. Public Health Department. St. Mary's Infirmary. RESIDENT MEDICAL OFFICER (B2).—Applications are invited from registered medical practitioners, male, for the post of Resident Medical Officer (B2) for the above hospital, including R practitioners who now hold A posts. If held by an R practitioner, the appointment will be limited to six months, otherwise it will be for a period of twelve months. Preference will be given to candidates who have held an A post in a maternity hospital. The salary is at the rate of £250 per annum, plus a cost-of-living bonus, together with full residential emoluments. The Hospital comprises a maternity unit of 98 beds and 102 beds for chronic sick. It is a Part I Training School under the regulations of the C.M.B., and the duties of the officer will include instruction of pupil midwives. All fees received by the officer must be paid in to the City funds. Applications, endorsed "R.M.O.," to be forwarded to the undersigned.—J. Johnstone Jervis, Medical Officer of Health, Public Health Department (Hospitals Administration Section), 12, Market Buildings, Leeds, 1.

CITY OF LEICESTER. City General Hospital, Gwendolen Road.—Applications are invited from registered medical practitioners, for the appointment of RESIDENT HOUSE SURGEON (A). Duties, obstetrical, gynaecological and surgical. Salary is at the rate of £200 p.a. with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months, otherwise will not exceed one year. Applications (on forms supplied) must be submitted as soon as possible, endorsed "House Surgeon, City General Hospital" and addressed to, E. K, Macdonald, Medical Officer of Health, City Health Department, Grey Friars, Leicester.

COUNTY BOROUGH OF HALIFAX. Isolation Hospital (100 beds). RESIDENT MEDICAL OFFICER (B1) (Temporary Appointment).—Applications are invited from registered medical practitioners for the above temporary appointment at a commencing salary of £350 per annum, rising, by annual increments of £25 to a maximum of £450, together with the usual residential allowances, valued at £150 per annum, and a temporary cost-of-living bonus of £29 18s. Candidates should be over military age or otherwise exempt from service with the Forces. The appointment is subject to the provisions of the Local Government Superannuation Act. The appointment will also be subject to one month's notice on either side. Applications must be received by the undersigned not later than Friday October 12, 1945.—G. C. F. Roe, Medical Officer of Health, Public Health Department, Powell Street, Halifax.

EAST RIDING COUNTY COUNCIL.—Driffield Emergency Hospital (324 beds).—Applications are invited from registered medical practitioners for the appointment of RESIDENT SURGICAL OFFICER (B1), vacant immediately. The Hospital provides experience in general surgery. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary from £350 to £550 per annum according to qualifications and experience, together with full residential emoluments.

Beverley Emergency Hospital.—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (B2) (general duties), vacant November 1, 1945, including R and W practitioners who now hold A posts. If held by an R practitioner, the appointment will be limited to six months, otherwise it will be for a period not exceeding one year, subject to one month's notice on either side. The salary is at the rate of £200 per annum, with full residential emoluments.

Applications for each post to be made as soon as possible to the undersigned.—T. Stephenson, Clerk of the Council, County Hall, Beverley.

IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page 10

LONDON COUNTY COUNCIL.—Medical Practitioners required for the undermentioned positions:

(1) TEMPORARY ASSISTANT MEDICAL OFFICER, Class I (B1). Salary £350 a year, rising by £25 to £425 a year, plus temporary cost-of-living addition. (*a*) Lambeth Hospital, Brook Drive, Kennington Road, S.E.11, surgical; (*b*) St. James' Hospital, Ouseley Road, Balham, S.W.12, medical, children and anaesthetics; (*c*) Infectious Hospitals Service, experience in children's or infectious diseases desirable; (*d*) King George V Sanatorium, Godalming, Surrey, pulmonary tuberculosis. Suitably qualified R and W practitioners holding B2 appointments, also R and W practitioners holding B1 appointments and rejected by the R.A.M.C. may apply.

(2) TEMPORARY ASSISTANT MEDICAL OFFICER, Class II (B2). Salary £250 a year, plus temporary cost-of-living addition. (*a*) Grove Park Hospital, Lee, S.E.12, experience in pulmonary tuberculosis desirable; (*b*) High Wood Hospital for Children, Brentwood, Essex, chest cases, mostly tuberculosis; (*c*) Infectious Hospitals Service, persons appointed to the Infectious Hospitals Service are eligible for promotion to Class I (B1) (temporary rank) in that service after a minimum period of six months; (*d*) Lewisham Hospital, Lewisham, S.E.13, obstetrics and gynaecology; (*e*) St. Giles' Hospital, St. Giles' Road, Camberwell, S.E.5, obstetrics and gynaecology; (*f*) St. George-in-the-East Hospital, Raine Street, Wapping, E.1, casualty officer; (*g*) St. Leonard's Hospital, Nuttall Street, Kingsland Road, N.1, casualty officer; (*h*) St. Nicholas' Hospital, 79, Tewson Road, Plumstead, S.E.18, casualty officer. R and W practitioners who now hold A posts may apply when appointment will be limited to six months. All the above positions are with board, lodging and washing. Married quarters are not available.

Medical practitioner required as TEMPORARY VISITING MEDICAL OFFICER. St. George's Home, Milman's Street, Chelsea, S.W.10. Salary £200 a year, plus temporary cost-of-living addition, average attendance, one hour daily. Applicants must reside within easy access of Home, which accommodates 50 adult women suffering from pulmonary tuberculosis.

Application forms obtainable from the Medical Officer of Health (S.D.2), County Hall, S.E.1. Stamped foolscap envelope necessary, returnable by October 8, 1945. Canvassing disqualifies.

LONDON COUNTY COUNCIL. Public Health Department. Consultant and Specialist Services. WHOLE-TIME THORACIC SURGEONS.—Applications are invited for permanent appointment to whole-time positions of (1) Chief Thoracic Surgeon and (2) Thoracic Surgeon, in the Public Health Department of the London County Council, mainly for work in the Council's sanatoria and medical tuberculosis hospitals, but also as may be required at any of the special or general hospitals. The Chief Thoracic Surgeon, in addition to surgical work, will be responsible for organizing all thoracic surgery in the Council's hospital service. Scales of salary: Chief Thoracic Surgeon, £2,000 by £100 to £2,500 a year, Thoracic Surgeon, £1,250 by £50 to £1,500 a year, plus cost-of-living addition (at present £60 a year for men, or £48 a year for women). There are no emoluments. If warranted by the status and experience of a selected candidate, appointment at a point higher than the minimum of the scale may be recommended. Forms of application, giving particulars as to conditions of appointment and service, obtainable (stamped addressed foolscap envelope necessary) from Medical Officer of Health (S.D.6.), County Hall, London, S.E.1. To permit of candidates in H.M. Forces serving over-seas being considered the latest date for the return of application forms has been fixed for January 28, 1946. If the selected candidate is subject to any restriction on the transfer of his service, or is engaged in National or essential Local Government Service, he will not be required to take up his new appointment until the restriction is removed. Canvassing disqualifies.

LANCASHIRE COUNTY COUNCIL. Public Health Committee. Abbotsfield Hospital, Flixton, Manchester. ASSISTANT MEDICAL OFFICER (B2).—Applications are invited from registered medical practitioners, male or female, for the above appointment including R and W practitioners who now hold A posts. If the successful applicant is an R practitioner the appointment will be limited to six months, otherwise it may be renewed for a further period of six months. Salary is at the rate of £300 per annum, together with an allowance of £150 per annum in lieu of residential emoluments. Forms of application may be obtained from the County Medical Officer of Health, Hospital and Medical Department, County Offices, Preston, to whom all applications must be forwarded immediately.—R. H. Adcock, Clerk of the County Council County Offices, Preston

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BURSLEM HAYWOOD AND TUNSTALL WAR MEMORIAL HOSPITAL, High Lane, Tunstall, Stoke-on-Trent.—Applications are invited from registered medical practitioners, male and female, including R and W practitioners who now hold A posts, for the post of HOUSE SURGEON (B2). If held by an R or W practitioner the appointment will be limited to six months. Salary is at the rate of £225 per annum, with full residential emoluments. Applications should be forwarded as soon as possible to O. E. Lowndes, Secretary.

MIDDLESEX COUNTY COUNCIL. MEDICAL OFFICER (B1) (Resident) required at REDHILL COUNTY HOSPITAL, Edgware, Middx.—Applications invited from registered medical practitioners, including R and W practitioners holding B2 posts, who should preferably have held previous medical appointments. R practitioners holding B1 posts ineligible unless rejected by R.A.M.C. Salary £350 p.a., plus cost-of-living bonus (now £60 p.a., proportion only in cash). Board, lodging, and laundry. Whole-time duties, entirely medical, such as Council may require, under supervision of Medical Director. Appointment, subject to medical examination and one month's notice, is for six months, with possibility of extension to twelve months. Post vacant November 8, 1945. Applications to Medical Director, "Z," of Hospital. Closing date October 6, 1945.— C. W. Radcliffe, Clerk of the County Council, Middlesex Guildhall, Westminster, S.W.1.

METROPOLITAN BOROUGH OF FULHAM. TEMPORARY ASSISTANT MEDICAL OFFICER.—Applications are invited from qualified medical practitioners of either sex for the position of temporary Assistant Medical Officer and second Resident Medical Officer at the Council's Maternity Home. Salary £350 × £25 – £550 per annum, plus emoluments valued at £150 per annum, plus cost-of-living bonus. The commencing salary will be fixed at a point on the scale according to the previous experience of the successful candidate. Candidates already in whole-time public health employment by local authorities are not eligible for this position. Applications, setting out in tabular form particulars with regard to age, education, nationality, training, qualifications, and present and past appointments, with particular reference to obstetric experience and the salaries received in each case, accompanied by not more than three recent testimonials and endorsed "Temporary Assistant Medical Officer", must be received by me not later than than October 13.—Cyril F. Thatcher, Town Clerk, Town Hall, Fulham, S.W.6.

KINGSTON-UPON-HULL CORPORATION HEALTH DEPARTMENT. Anlaby Road Hospital (581 beds). TEMPORARY ASSISTANT MEDICAL OFFICER (B1).—Applications are invited for the above temporary appointment from registered medical practitioners of either sex. Salary £350 per annum, rising by annual increments of £25 to £450 per annum, plus war bonus, together with an allowance at the rate of £150 per annum in lieu of board, residence, and laundry outside the hospital. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Forms of application, etc., may be obtained from, and should be returned duly completed to, the Medical Officer of Health, Guildhall, Kingston-upon-Hull, at the earliest possible moment.

ASHINGTON HOSPITAL, Ashington, Northumberland.—Applications are invited from registered medical practitioners for the appointment of RESIDENT SURGICAL OFFICER (B1). Applicants must be unmarried and have had a previous surgical house post, and preference will be given to candidates holding a F.R.C.S. degree. Salary will be according to experience and qualifications, with a minimum of £350 per annum. R practitioners holding B2 posts may also apply. Applications from practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Applications to be sent to the undersigned.—A. Anderson Bonar, F.R.C.S.Ed., Ashington Hospital.

BARNSLEY HALL EMERGENCY HOSPITAL, Bromsgrove, Worcestershire.—Applications are invited from registered medical practitioners, male and female, for the appointment of a B1 MEDICAL OFFICER to the Spinal Unit. Suitably qualified R practitioners holding B2 appointments are invited to apply. Applications from male R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. The salary is at the rate of £350 per annum with full residential emoluments. Applications should be addressed to the Medical Superintendent.

BRADFORD ROYAL INFIRMARY.—Applications are invited from registered medical practitioners, male single, for the posts of HOUSE SURGEON (B2), vacant now, and HOUSE PHYSICIAN (A), vacant October 17, 1945. Six months' appointment. In the case of the B2 post, R practitioners who now hold A posts may apply and for the A post practitioners within three months of qualification and liable under the National Service Acts may also apply. Salary £150 per annum, with full residential emoluments. There are 372 beds and 8 resident officers. Applications should be sent immediately to H. Trusson, House Governor and Secretary.

BURTON-ON-TRENT GENERAL INFIRMARY (200 beds normal).—Applications are invited from registered medical practitioners for the appointment of CASUALTY OFFICER AND HOUSE SURGEON (A). Salary at the rate of £200, with the usual residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months. Applications to be sent to the Secretary-Superintendent.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN (usually known as the Children's Hospital).—Applications are invited for the post of RESIDENT MEDICAL OFFICER (B2) from registered medical practitioners, including R practitioners who now hold A posts. Part of the duties of the Resident Medical Officer will be spent at Eastern House E.M.S. Children's Hospital, Weston-super-Mare. Salary according to experience, with a minimum of £125 per annum. If held by an R practitioner appointment will be limited to six months. Duties to commence immediately. Applications to be sent to the undersigned not later than October 6, 1945.—Reginald C. Thomas, F.C.I.S., Secretary.

BIRMINGHAM UNITED HOSPITAL. The General Hospital. The Queen Elizabeth Hospital (also incorporating the Queen's Hospital 1840-1941).—Applications are invited from registered medical practitioners, male or female, for the appointment of RESIDENT ANAESTHETIST (B2) at the General Hospital, including R and W practitioners who now hold A posts. The appointment is for six months and is a recognized resident anaesthetist post for the purpose of taking the Diploma in Anaesthetics. Candidates from the Forces will be specially considered. Salary £100 to £120 p.a., according to experience, with full residential emoluments. Applications should be sent to the undersigned at once.—G. Hurford, Secretary, Birmingham United Hospital, The Queen Elizabeth Hospital, Birmingham, 15.

BIRMINGHAM AND MIDLAND EAR AND THROAT HOSPITAL, Edmond Street, Birmingham, 3 (105 beds).—Applications are invited for the appointment of a HOUSE SURGEON (A). Practitioners within three months of qualification who are liable to service under the National Service Acts may apply. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Duties to commence immediately. Salary at the rate of £250 per annum, with full residential emoluments. Applications should be forwarded to the undersigned immediately.—W. H. Lomas, House Governor

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BOLTON ROYAL INFIRMARY (270 beds—Resident Medical Staff, 6).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A), vacant October 21, 1945, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months Salary £175 per annum, with full residential emoluments. Applications to be forwarded to the undersigned.—Joseph Griffith, Superintendent-Secretary.

CHILDREN'S HOSPITAL (King Edward VII Memorial), Birmingham, 16. RESIDENT SURGICAL OFFICER (B1).—Applications are invited from registered medical practitioners for the appointment of RESIDENT SURGICAL OFFICER (B1), to commence duties not later than December 1, 1945. R and W practitioners now holding B2 posts may apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Applicants should have held house appointments and had surgical experience. Preference will be given to candidates holding the diploma of F.R.C.S. The salary will be at the rate of £350 per annum, with the usual residential emoluments. Applications should be sent to the undersigned by October 27, 1945.—Arnold Tunstall, House Governor.

CHELMSFORD AND ESSEX HOSPITAL, London Road, Chelmsford, Essex (180 beds).—Applications are invited for the post of HOUSE PHYSICIAN (A), male or female, to commence immediately. Salary £175 per annum, plus board, lodging and laundry. Practitioners within three months of qualification who are liable to service under the National Service Acts may apply when appointment will be for a period of six months Apply to the undersigned.—R. G. Morrish, House Governor and Secretary.

CROYDON GENERAL HOSPITAL, SURREY (200 beds). Applications are invited for the following appointments.—ASSISTANT RESIDENT SURGICAL OFFICER (B1) wanted at once. R and W practitioners now holding B2 posts may apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Salary £300 per annum. The appointment is for a period of six months. This post is recognized for applicants wishing to sit for the Fellowship examination.

HOUSE PHYSICIAN (B2). Locum required for a month to six weeks. Salary £7 7s. per week.

Both the above posts are with residential emoluments. Applications should be sent to, George A. Paines, House Governor.

CORNELIA AND EAST DORSET HOSPITAL, Poole, Dorset (204 beds).—HOUSE SURGEON (B2).—Applications are invited from registered medical practitioners, male and female, for the appointment of House Surgeon, vacant immediately. R and W practitioners now holding A posts may apply. If held by an R practitioner the appointment will be limited to six months. The salary is at the rate of £250 per annum, with full residential emoluments. This hospital is recognized by the Royal College of Surgeons. Applications should be sent to the undersigned.—E. A. Hart, Secretary.

IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page 10

CHRISTIE HOSPITAL AND HOLT RADIUM INSTITUTE, Withington, Manchester, 20.—Applications are invited from suitably qualified GENITO-URINARY SURGEONS, including those at present serving in H.M. Forces, to undertake the work of this special department. Further particulars may be obtained from the General Superintendent, to whom candidates are requested to submit applications (not printed) with the names of three referees on or before January 31, 1946.

CLAYTON HOSPITAL, Wakefield.—Applications are invited immediately from registered medical practitioners for the following appointment: RESIDENT ORTHOPAEDIC OFFICER with Casualty Duties (B2), male. Salary £200 per annum, with full residential emoluments. R practitioners who now hold A posts may apply, when appointment will be limited to six months, otherwise it may be extended for a further period. Applications should be sent to the undersigned as soon as possible.—W. Read, Superintendent and Secretary.

GENERAL HOSPITAL, NOTTINGHAM (664 beds including E.M.S. beds).—Applications are invited from registered medical practitioners (male and female) including practitioners within three months of qualification who are liable to service under the National Service Acts for the appointment of a HOUSE SURGEON (A) for the above hospital. Duties to commence as soon as possible. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary at the rate of £200 per annum with full residential emoluments. Applications to be sent to the undersigned.—Henry M. Stanley, House Governor and Secretary.

GATESHEAD MENTAL HOSPITAL, Stannington, near Morpeth, Northumberland.—Applications are invited for the post of TEMPORARY ASSISTANT MEDICAL OFFICER (B1) man or woman. Previous experience in a Mental Hospital is desirable but not essential. Salary £525 p.a., plus the usual residential emoluments valued at £150, or, for a married man, £575 p.a., together with an unfurnished house, with light, fuel, and laundry valued at £100 p.a., plus £50 for D.P.M. Suitably qualified R practitioners holding B2 appointments, also those holding B1 and rejected by the R.A.M.C., may apply, or in place of T.A.M.O., Locum Tennens, salary £10 10s. p.w. with apartment, board, laundry. Applications to be sent to the Medical Superintendent at the above address.

GERMAN HOSPITAL, Ritson Road, Dalston, London, E.8. (British Voluntary Hospital under E.M.S. Scheme).—HOUSE PHYSICIAN (B2) with some practical experience wanted immediately. R and W practitioners who now hold A posts may apply. If held by an R practitioner appointment will be limited to six months. Commencing salary £200 per annum or more according to experience, with full board and residence. Please apply to the Secretary.

GLASGOW EYE INFIRMARY.—Applications are invited for the post of RESIDENT HOUSE SURGEON (A). Salary £150. If the person appointed is an R practitioner, appointment will be for six months. R and W practitioners who have been qualified for more than three months must have obtained the consent of the Scottish Central Medical War Committee to their application. Applications to be sent to the Secretary, 174, Berkeley Street, Glasgow, C.3.

GRIMSBY AND DISTRICT GENERAL HOSPITAL (237 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of RESIDENT CASUALTY OFFICER AND HOUSE SURGEON (A), now vacant. Appointment is for six months. Salary is at the rate of £175 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts, may also apply. Applications to the Superintendent.

HUNTINGDON COUNTY HOSPITAL (76 beds).—Wanted, immediately, HOUSE SURGEON (A), male or female, salary £250 p.a., with board, lodging, and laundry. Practitioners within three months of qualification may apply, when appointment will be for a period of six months. Apply to Medical Superintendent.

HARROW HOSPITAL.—It is desired to appoint an additional E.N.T. SURGEON to the honorary specialist staff, to attend fortnightly on a regular appointed day. Candidates must be Fellows of the Royal College of Surgeons and engaged only in consulting practice. The appointment is to be regarded as temporary in accordance with the recommendation contained in B.M.A. letter D.14/1945. Applications, with duplicate copies of three recent testimonials, should be sent as soon as possible.—Sydney Garbutt, Secretary, Harrow Hospital, Roxeth Hill, Harrow, Middlesex.

HEREFORDSHIRE GENERAL HOSPITAL, Hereford (204 beds).—Applications are invited from registered medical practitioners, male, including practitioners within three months of qualification and liable under the National Service Acts, for the appointment of JUNIOR HOUSE SURGEON (A), including House Surgeon to Ear, Nose and Throat Department. The appointment will be limited to six months. Salary is at the rate of £150 p.a., with residential emoluments. Applications should be sent to T. W. Upton, Secretary.

HOSPITAL OF ST. CROSS, Rugby. ORTHOPAEDIC SURGEON (PART-TIME).—The Board invites applications for this post from practitioners with orthopaedic experience, preferably from those holding the F.R.C.S. or the M.Ch.Orth., to take complete charge of the Fracture and General Orthopaedic work of the Hospital. The successful candidate's first duty will be to the Hospital and to patients in Rugby and district, but private orthopaedic practice will be allowed. The successful candidate will be expected to keep up to date by liaison with a university centre, and a secondary part-time hospital appointment would be allowed. The Hospital possesses a model Open-air Orthopaedic Ward and Rehabilitation Unit. The salary will be £700 per annum. Officers serving abroad are invited to apply, and the appointment will not be made for four months from date of this advertisement. Further particulars may be obtained from the Secretary.

HUDDERSFIELD ROYAL INFIRMARY (321 beds).—CASUALTY OFFICER (B2) required, to commence immediately. R and W practitioners who now hold A posts may apply. If held by an R or W practitioner appointment will be limited to six months. Salary at the rate of £200, with full residential emoluments. Applications to be sent to the undersigned as soon as possible.—H. J. Johnson, General Superintendent and Secretary.

HAMPSTEAD GENERAL HOSPITAL, Haverstock Hill, N.W.3.—Applications are invited from registered medical practitioners, male and female, for the following three resident posts vacant December 1, tenable for six months, salaries £133 6s. 8d. p.a., with board, lodging and laundry.

Main Hospital, N.W.3.—JUNIOR MEDICAL OFFICER (B2) includes medical and surgical work. Main Out-Patient Dept., Camden Town, N.W.1.—CASUALTY MEDICAL OFFICER (B2) also CASUALTY SURGICAL OFFICER (B2). R and W practitioners holding A posts and practitioners within 3 months of qualification and liable under the National Service Acts may apply. Applications on the prescribed form with copies of three recent testimonials to be returned not later than October 18.—Kenneth A. F. Miles, House Governor.

HARLOW WOOD ORTHOPAEDIC HOSPITAL, Nr. Mansfield, Notts (355 beds, E.M.S. and Civilian including Rehabilitation Unit), Regional Orthopaedic Centre and Peripheral Nerve Injury Unit.—Applications are invited from registered medical practitioners for the appointment of RESIDENT HOUSE SURGEON (B2), including R and W practitioners who now hold A posts. Appointment will be for a period of six months at the rate of £200 p.a., with full residential emoluments.

INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY, South Shields.—Applications are invited from medical practitioners, male or female, for the post of HOUSE SURGEON (A). The appointment is for a period of six months. Salary at the rate of £175 per annum, with full residential emoluments. Applications to be sent to the undersigned immediately.—Henry F. Pitt, House Governor and Secretary.

LINCOLN COUNTY HOSPITAL (Voluntary Hospital—200 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (A) vacant middle October, 1945. Salary is at the rate of £225 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when the appointment will be for six months.

Applications are also invited from registered medical practitioners, male or female, for the appointment of HOUSE PHYSICIAN (A), vacant end of October, 1945. Salary is at the rate of £225 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when the appointment will be for six months.—Arthur Moore, Secretary-Superintendent.

LIVERPOOL MATERNITY HOSPITAL, Oxford Street, Liverpool, 7.—Applications are invited for the post of PAEDIATRIC CLINICAL ASSISTANT and REGISTRAR (non-resident). The appointment will be reviewed annually and regarded as temporary for a period of twelve months following the duration of the war. The successful applicant will be required to prepare the Paediatric Section of the Clinical Report; take charge of a Consultative Baby Clinic each Thursday afternoon, and undertake such regular ward duties under the direction of the Medical Board and the Honorary Consulting Paediatric Physician, Professor Norman B. Capon, from whom fuller details of the duties may be obtained on request. The position carries a salary of £250 per annum. Applications to be addressed to the Honorary Secretary of the Medical Board by not later than Friday, October 19, next.

MONMOUTHSHIRE MENTAL HOSPITAL, Abergavenny.—Applications are invited from registered medical practitioners, male or female, for the post of TEMPORARY RESIDENT ASSISTANT MEDICAL OFFICER (B1) at the above Mental Hospital. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary £9 9s. per week (with an additional £50 per annum for those in possession of the D.P.M.), with rooms, board, attendance and laundry. Applications should be sent to the Medical Superintendent immediately.

LUTON AND DUNSTABLE HOSPITAL (Fracture A Hospital—214 beds). TEMPORARY ASSISTANT SURGEON TO THE ACCIDENT SERVICE.—Applications are invited from registered medical practitioners for the above appointment, to become vacant on January 1, 1946. The post is full-time, non-resident, and the commencing salary is at the rate of £600 per annum. Applications should be sent to the undersigned not later than December 1, 1945. Further details regarding the appointment will be sent on request.—R. E. Lingard, Secretary.

LONGTON HOSPITAL, Stoke-on-Trent, Staffs. HOUSE SURGEON (A).—Applications are invited from registered medical practitioners, male and female, for the appointment of House Surgeon (A), including practitioners within three months of qualification who are liable under the National Service Acts. If held by a practitioner who is liable under these Acts the appointment will be for a period of six months. Salary is at the rate of £200 per annum, plus bonus of £75 on completion of the first six months' service, with full residential emoluments. Applications to B. Pitt Secretary.

LEEDS PUBLIC DISPENSARY AND HOSPITAL.—Applications are invited from registered medical practitioners for the appointment of HOUSE SURGEON (A), mainly Casualty duties. Appointment for six months. Salary at the rate of £150 p.a., with board, residence, and laundry. Practitioners within three months of qualification and liable under the National Service Acts may also apply. Applications to be addressed to Charles F. J. Maury, Secretary and Superintendent.

MINISTRY OF PENSIONS HOSPITAL, Childwall, Liverpool.—Applications are invited from registered medical practitioners for the appointment of SENIOR PHYSICIAN at the above mentioned Ministry of Pensions Hospital. Salary £700 per annum with Civil Service war bonus and free board and lodging, or an allowance of £100 per annum in lieu thereof if permission is given to live out. Preference will be given to applicants who hold a higher medical qualification and in this connexion suitably qualified R practitioners holding B1 posts who have been rejected by the R.A.M.C. are invited to apply. Applications should be addressed to the Secretary, Ministry of Pensions, Medical Services Division, Norcross, Blackpool, Lancs.

MANCHESTER NORTHERN HOSPITAL (General hospital—113 beds), Cheetham Hill Road, Manchester, 8.—Applications are invited from registered medical practitioners for the appointment of RESIDENT HOUSE SURGEON (A). Salary £150 p.a., with board and residence. This appointment is for 6 months. Practitioners within 3 months of qualification and liable under the National Service Acts may apply. Applications should be sent to Mr. James C. Daniels, Secretary, 38, Barton Arcade, Manchester, 3, by October 8.

MILDMAY MISSION HOSPITAL, Austin Street, Bethnal Green, E.2.—Applications are invited for the temporary post of GYNAECOLOGIST (woman), which will become vacant on or about October 1, 1945. Applicants should be Fellows of the Royal College of Surgeons of England, and preferably Fellows or Members of the College of Obstetricians and Gynaecologists. The Council is anxious that all Members of the Hospital Staff should be in sympathy with the religious work of the Hospital. Applications should be sent in as soon as possible to the Medical Superintendent.

MANCHESTER ROYAL INFIRMARY.—The Board of Management invite applications from registered medical practitioners, male and female, for the post of SENIOR HOUSE SURGEON to Orthopaedic Department (B2), now vacant. R and W practitioners holding A posts may apply. The appointment is for six months at a salary of £150 per annum with residence. Applications to be sent to the Chairman of the Medical Board.—By order, F. J. Cable, Gen. Superintendent and Secretary.

MINEHEAD AND WEST SOMERSET HOSPITAL. Minehead, Somerset.—Applications are invited immediately from registered medical practitioners, male and female, for the appointment of RESIDENT HOUSE SURGEON AND ANAESTHETIST (B2) to become vacant on November 1, 1945, including R and W practitioners who now hold A posts. The appointment is for six months. Salary is at the rate of £250 per annum, with full residential emoluments.—Walter J. Chorley, Secretary.

MERTHYR GENERAL HOSPITAL (115 beds).—Applications are invited from registered medical practitioners for the appointment of a RESIDENT HOUSE SURGEON, male or female (A), including practitioners within three months of qualification who are liable to service under the National Service Acts The appointment will be for a period of six months. Salary at the rate of £200 per annum, with board and lodging.—Applications to the Secretary, Merthyr General Hospital, Merthyr Tydfil.

NORTH CAMBRIDGESHIRE HOSPITAL, Wisbech.—Applications are invited from registered medical practitioners, including practitioners within three months of qualification who are liable to service under the National Service Acts, for appointment of HOUSE SURGEON (A), now vacant. Appointment will be for a period of six months. Salary £200 to £250, with full residential emoluments. Applications to the Secretary.

NORTH RIDING INFIRMARY, Middlesbrough (158 beds).—Applications are invited from registered medical practitioners, male or female, for the undermentioned appointments: SENIOR HOUSE SURGEON (B2). Salary £225 per annum. CASUALTY HOUSE SURGEON (A). Salary £200 per annum. THIRD HOUSE SURGEON (A). Salary £200 per annum. R and W practitioners who now hold A posts may apply for the B2 appointment which will be limited to six months, and practitioners within three months of qualification who are liable to service under the National Service Act may apply for the A posts which will be for a period of six months. Applications should be sent to the undersigned.—Gerald A. Kenyon, Secretary-Superintendent.

NOTTINGHAM GENERAL HOSPITAL (712 beds, including E.M.S. beds).—Applications are invited from registered medical practitioners, male and female, including practitioners within three months of qualification who are liable to service under the National Service Acts, for the appointment of a RESIDENT CASUALTY OFFICER (A) for the above hospital. Duties to commence immediately. If held by a practitioner who is liable under these Acts appointment will be for a period of six months. Salary at the rate of £200 per annum, with full residential emoluments. Applications to be sent to the undersigned.—Henry M. Stanley, House Governor and Secretary.

NOTTINGHAM AND MIDLAND EYE INFIRMARY.—Applications are invited from registered medical practitioners (male and female) for the appointment of a HOUSE SURGEON (B1). Applicants should have had some surgical ophthalmic experience. Suitably qualified R and W practitioners holding B2 appointments are invited to apply Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary £300 per annum, with full residential emoluments. Post recognised for D.O.M.S. examination. Applications should be sent to the undersigned forthwith.—T. Russell Moore. Secretary..

THE NELSON HOSPITAL, Merton, S.W.20.—Applications are invited from registered medical practitioners for the appointment of HOUSE SURGEON (B2) becoming vacant on November 1, 1945 Salary at the rate of £250 per annum, with full residential emoluments. R practitioners holding A posts may apply, when the appointment will be limited to six months, otherwise may be extended.

Applications are also invited from registered medical practitioners for the appointment of a HOUSE SURGEON (A) becoming vacant on November 1, 1945. Salary is at the rate of £200 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when appointment will be for a period of six months otherwise it will be for a period of six months in the first instance.

Apply to the Secretary.

OLDHAM ROYAL INFIRMARY (203 beds) DEPUTY RESIDENT SURGICAL OFFICER, who will act as Casualty Officer and Orthopaedic House Surgeon (B2).—Applications are invited from registered medical practitioners, male and female, for the appointment of Deputy Resident Surgical Officer, to take charge of the Casualty Department and to work under the Orthopaedic Surgeon, vacant now. R and W practitioners who now hold A posts may apply, when the appointment will be limited to six months, otherwise it will be for a period of twelve months. Salary is at the rate of £200 per annum, with full residential emoluments. Applications should be forwarded to the undersigned immediately.—F. W. Barnett, General Superintendent and Secretary.

PONTYPOOL AND DISTRICT HOSPITAL, Pontypool, Mon.—Applications are invited from registered medical practitioners, male and female, for the appointment of RESIDENT MEDICAL OFFICER (B2), medical and surgical beds, including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months, otherwise it may be extended for a further period. The salary is at the rate of £250 per annum, with full residential emoluments. Applications should be sent to N. A. Ball, Secretary.

PADDINGTON GREEN CHILDREN'S HOSPITAL. London, W.2 (33 beds). — HOUSE PHYSICIAN. — Applications are invited from registered medical practitioners, male and female, for the appointment of a House Physician (B2), to become vacant on November 1, 1945, including R and W practitioners who now hold A posts. The appointment will be for a period of six months. Salary at the rate of £150 per annum, with full residential emoluments.

HOUSE SURGEON. Applications are invited from registered medical practitioners, male and female, for the appointment of a House Surgeon (A), to become vacant on November 1, 1945, including practitioners within three months of qualification who are liable to service under the National Service Acts. The appointment will be for a period of six months. Salary at the rate of £150 per annum, with full residential emoluments.

Applications for each post should reach the undersigned as soon as possible.—James A. Hamlin, Secretary.

IMPORTANT NOTICE

APPOINTMENTS

Medical practitioners are requested **not to apply** for any appointment referred to in this notice without first having communicated with the Secretary to the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of the Australian appointment, with the Secretary at B.M.A. House, or the Hon. Secretary, Western Australian Branch, Shell House, 205, St. George's Terrace, Perth).

GOVERNMENT SERVICE

COMMISSIONER OF PUBLIC HEALTH, Perth, Western Australia.

CONTRACT PRACTICE

ABERTYSSWG MEDICAL AID SOCIETY.—*(Medical Officer.)*

LLWYNYPIA, CLYDACH VALE, PEN-Y-GRAIG, GLAMORGAN.—*(Workmen's Medical Scheme.)*

MID-RHONDDA MEDICAL AID SOCIETY.—*(Assistant Medical Officer.)*

NEATH AND DISTRICT.—*(Medical Aid Association.)*

OGMORE VALLEY, GLAMORGAN.—*(Wyndham Colliery Medical Aid Society.) (Workmen's Medical Scheme.)*

PUBLIC ASSISTANCE

CITY AND COUNTY OF BRISTOL. PUBLIC ASSISTANCE COMMITTEE.—*(District Medical Officer.)*

MENTAL HOSPITAL SERVICE

ROXBURGH DISTRICT MENTAL HOSPITAL, MELROSE.—*(Medical Superintendent.)*

SOMERSET AND BATH MENTAL HOSPITAL, COTFORD.—*(Deputy Medical Superintendent.)*

By Order of the Council.

CHARLES HILL.
September 25, 1945. *Secretary.*

QUEEN MARY'S HOSPITAL FOR THE EAST END, Stratford, London, E.15.—TEMPORARY ANAESTHETIST—Applications are invited for the above post for two sessions a week, Monday afternoons and Friday mornings. The appointment carries with it an honorarium at the rate of 1 guinea per session. Applications should be sent to the undersigned.—M. J. Huntley, House Governor and Secretary.

ROYAL BERKSHIRE HOSPITAL, Reading.—Applications are invited from registered medical practitioners, male and female, for the appointment of RESIDENT MEDICAL OFFICER (Blagrave Branch Hospital) AND ASSISTANT to the Pathologist (A) (Joint Post), vacant October 23. Salary is at the rate of £150 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts, may apply, when the appointment will be for a period of six ments. Applications should be sent immediately to H. E. Ryan, Secretary and House Governor.

ROYAL INFIRMARY, Sunderland.—Applications are invited for the post of TEMPORARY ASSISTANT PATHOLOGIST. Postgraduate experience and training in hospital pathology essential. The appointment is a full-time one and the salary is £750 per annum. Applications to the House Governor and Secretary, from whom further particulars may be obtained.

ROYAL LANCASTER INFIRMARY, Lancaster (311 beds) (Hospital recognized by the Royal College of Surgeons (England) for two senior posts).—Applications are invited from registered medical practitioners, male and female, for the post of JUNIOR HOUSE SURGEON (A), vacant October 18. The salary is at the rate of £170 per annum, with full residential emoluments. Practitioners within three months of qualification who are liable to service under the National Service Acts may apply. The appointment will be limited to six months Applications should be sent to the undersigned.—C. H. Grimshaw, Superintendent-Secretary.

ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL (255 beds). HOUSE PHYSICIAN (B2).—Applications are invited from registered medical practitioners, male and female, for the appointment of House Physician (B2), including R and W practitioners who now hold A posts. The appointment will be for a period of six months. The salary is at the rate of £175 per annum, with full residential emoluments. Applications should be sent to the undersigned immediately.—Frank Jennings, House Governor and Secretary.

ROYAL UNITED HOSPITAL, Bath. HOUSE PHYSICIAN (A).—Applications are invited for the above appointment. Salary at the rate of £150 p.a., with board, residence, etc. Practitioners within three months of qualification and liable under the National Service Acts, may apply, when appointment will be for a period of six months. Applications to the undersigned.—J. Lawrence Mears, Secretary-Supt.

ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY, Wigan (189 beds).—Applications are invited from registered medical practitioners for the appointment of RESIDENT SURGICAL OFFICER (B1), to become vacant on November 1, 1945. Applicants should have held house appointments and had surgical experience. Preference will be given to candidates holding Diploma of F.R.C.S. Suitably qualified R practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £300 per annum.

Applications are also invited from registered medical practitioners for the appointment of a HOUSE SURGEON (B2), male, vacant October 1, 1945. Salary £175 per annum, with full residential emoluments. R practitioners who now hold A posts may apply, when appointment will be limited to six months, otherwise it may be extended for a further period.

Applications for each post should be sent to the undersigned as soon as possible.—A. Stanley Brunt, General Superintendent and Secretary.

ROYAL CORNWALL INFIRMARY, Truro (350 beds, 5 residential).—Applications are invited from registered practitioners, male or female, for the appointment of HOUSE SURGEON (B2) to the General Surgical and Gynaecological Departments, vacant on or about October 25, 1945. Salary is at the rate of £200 per annum, with full residential emoluments. R and W practitioners holding A posts may also apply, when appointment is limited to six months

Applications are also invited from registered practitioners, male or female, for the appointment of ORTHOPAEDIC AND CASUALTY HOUSE SURGEON (B2), vacant on or about October 11, 1945. Salary is at the rate of £200 per annum, with full residential emoluments. R and W practitioners holding A posts may also apply, when appointment is limited to six months.

Applications for each post should be addressed to the Secretary.

ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL, Southampton (255 beds). CASUALTY OFFICER AND HOUSE SURGEON TO E.N.T. DEPARTMENT (A).—Applications are invited from registered medical practitioners, male and female, for the appointment of a Casualty Officer and House Surgeon to the E.N.T. Department (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. The appointment will be for a period of six months. Salary is at the rate of £175 per annum, with full residential emoluments. Applications should be sent to the undersigned immediately.—Frank Jennings, House Governor and Secretary.

ROYAL HALIFAX INFIRMARY (Class 1A, E.M.S.) (250 beds).—Applications are invited for the post of RESIDENT SURGICAL OFFICER (B1) male. Salary £250 per annum, with residence, board and laundry. Preference given to one holding the F.R.C.S. R practitioners who now hold B2 posts may apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C.. Applications should be sent to the undersigned immediately.—A. Midgley, Secretary

ROYAL WEST SUSSEX HOSPITAL, Chichester (302 beds—200 E.M.S.).—Applications are invited from registered practitioners for the appointment of CASUALTY OFFICER AND HOUSE SURGEON (A). Salary £150 p.a., with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply. To R practitioners the appointment is limited to six months. Applications should be sent to K. H. Williams, House Governor and Secretary.

RADCLIFFE INFIRMARY, OXFORD.—Applications are invited from registered medical practitioners, male and female, including R and W practitioners who now hold A posts, for the appointment of RESIDENT MEDICAL OFFICER (B2) to that section of the Infirmary, consisting of 87 beds and dealing with the diagnosis and treatment of tuberculosis, known as the Osler Pavilion, Headington, Oxford, which becomes vacant on November 1, 1945. The appointment will be for a period of six months. The salary will be at the rate of £120 per annum with full residential emoluments. Applications should be sent to the undersigned not later than Monday, October 8, 1945. Preference will be given to candidates discharged from H.M. Forces.—A. G. E. Sanctuary, Administrator.

ROYAL DEVON AND EXETER HOSPITAL, Exeter.—Applications, including those from practitioners now serving in H.M. Forces, are invited for the post of HONORARY ASSISTANT SURGEON to the Ear, Nose and Throat Department. Candidates must be a Fellow of one of the Royal Colleges of Surgeons or hold the Diploma of the Royal College of Surgeons of England in Laryngology and Otology. Applications, with certificate of birth and registration, and three original testimonials, should be delivered to the undersigned on or before January 31, 1946. Candidates on Service abroad can send names of three persons to whom application may be made for testimonials.—By order of the Committee, L. Parkhouse, Secretary and Manager.

(Continued on page 16)

CHARGES FOR CLASSIFIED ADVERTISEMENTS

Circulation 54,500

Advertisements should reach the Advertisement Manager not later than the THURSDAY, ten clear days before publication.

Cancellation cannot be accepted after 10 a.m. MONDAY for current week's issue.

To economize in accounting, postage and collection, all advertisements should be paid for at time of order. Publication will be in the earliest possible issue, but delay is unavoidable in present circumstances.

1. TO MEMBERS OF THE ASSOCIATION the cost of advertisements for Assistants, Dispensers, Locums, Partnerships, *Practices, Secretaries, is ten shillings for 24 words, including name and address. Four figures and £ sign count as one word (example, £2,000). When a Box Number is used, it must be reckoned as six of the total number of words in each advertisement.

1s. *extra* should be added for each insertion to cover the Box fee and postage of replies.

Additional words 2s. 6d. for every six or part.

Please mark advertisements clearly. *MEMBER.*

2. To all other (private) advertisers the charge under the headings specified above, para. 1, is 12s. (minimum) for 24 words, including name and address. Four figures and £ sign count as one word (example, £2,000). When a Box Number is used it must be reckoned as six of the total number of words in each advertisement.

1s *extra* should be added for each insertion to cover the Box fee and postage of replies.

Additional words 3s. for every six, or part.

*SALE OF PRACTICE. The name and address of owner and of the firm negotiating the sale must accompany the advertisement. Those details are not for publication.

3. Consulting rooms, Dietetic, Duplicating, Hotels, Houses, Miscellaneous, Motor Cars, Typing, the charge is same as para. 2.

Personal, Notices, University and Industrial Appointments, minimum charge of 20s for 24 words, including name and address. Four figures and £ sign count as one word (example, £2,000). When a Box Number is used, it must be reckoned as six of the total number of words in each advertisement.

1s *extra* should be added for each insertion to cover the Box fee and postage of replies.

Additional words 5s for every six or less

Educational, Hospitals, Public Health Appointments, 3s. a line, minimum charge 15s.

Births, Marriages, and Deaths.—The charge for an insertion under this head is 10s 6d. for 18 words or less. Extra words 3s. 6d. for each six or less Payment should be forwarded with the notice, authenticated by the name and permanent address of the sender.

BOX NUMBERS.—A Box number is used in place of name and address to conceal identity of advertiser. In no circumstances will this information be divulged by this office. Separate applications should be written to each, addressed Box—, c/o B.M.J. (address as below). All applications are forwarded to the advertiser in plain closed envelopes.

TRADE ANNOUNCEMENTS. 20s. minimum 24 words. Extra words 5s. for six, or less.

Every effort is made to ensure the accuracy of advertisements appearing in the Journal. No recommendation is implied by acceptance, and the British Medical Association reserves the right to refuse or interrupt the insertion of any advertisement.

Advertisement Manager, British Medical Journal,
B.M.A. House, Tavistock Square, London, W.C.1.
Telephone: Euston 2111.
Telegrams: Articulate, Westcent, London

APPOINTMENTS—Hospitals and Public Health, commence at page 10

PERSONAL

DOCTOR requires TYPING of MANUSCRIPTS approximately 10,000 words weekly by arrangement, suitable spare time occupation.—Box 2558, B.M.J.

DENTAL SURGEON, semi-retired for health reasons, desires contact doctor willing LET ROOMS for dental practice. Coast town preferred but not essential.—Write, Watson, L.D.S., R.F.P.S., 31, Rosslyn Avenue, Rutherglen.

FOR DISPOSAL as a going concern in the Provinces, high-class old-established PRIVATE SCHOOL for backward children, approved for 25 pupils, scope up to 40, attractive country house with all amenities.—Full particulars: Jackson Stops and Staff, 8, Hanover Street, W.1.

NOTICES

THE EMPIRE RHEUMATISM COUNCIL has now permanent offices at Tavistock House (Entrance B), B.M.A. House, Tavistock Square, London, W.C.1. Correspondence is invited from all interested in the campaign against rheumatism. Donations and bequests are welcomed.

UNIVERSITY OF LONDON. GRANTS FOR RESEARCH.—Applications are invited from members of the University for grants from the Central Research Fund for assisting specific projects of research and for the provision of special materials and apparatus. Applications will be considered three times a year, and must be received not later than March 31, July 31, and November 30. Forms of application and further particulars may be obtained from the Academic Registrar, University of London, at Richmond College, Richmond, Surrey.

UNIVERSITY AND INDUSTRIAL APPOINTMENTS

WANTED MEDICAL OFFICER, fully qualified, for whaling venture. R. practitioners must have obtained sanction of appropriate Central Medical War Committee prior to appointment, salary £50 per month, write promptly.—Box 2534, B.M.J.

DOCTOR EXPERIENCED hospital, G.P., administration, age 29, ex-R.A.M.C. seeks full or part-time EMPLOYMENT with industrial firm(s) or insurance company, preferably London area.—Box 2543, B.M.J.

EXAMINING SURGEONS: FACTORIES ACT, 1937.—The following appointments as Examining Surgeons under the Factories Act, 1937 are vacant: Market Harborough in the County of Leicester; Stanley in the County of Durham; Hinckley in the County of Leicester. Applications, which should be received not later than October 15, 1945, should be sent to the Chief Inspector of Factories, 8, St. James's Square, London, S.W.1.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.—*British Pharmaceutical Codex* and *Extra Pharmacopoeia*. Applications are invited from pharmacists for the post of EDITOR of these publications. Applicants should have wide general pharmaceutical experience, and the possession of a medical qualification will be an advantage. Salary £1,000 to £1,500 per annum, according to experience. The holder of the post is required to join the Society's superannuation scheme, which is in accordance with the Federated Superannuation System for Universities. Applications should reach the Secretary, 17, Bloomsbury Square, London, W.C.1, not later than October 15.

U.N.R.R.A.—MEDICAL PRACTITIONERS with specialist experience are urgently required for immediate service with UNRRA in China as: Radiologists, Gynaecologists, Obstetricians, Surgeons and Orthopaedic Surgeons, Physicians, Otolaryngologists, Paediatricians, and Ophthalmologists. Basic salary £1,150, with free board and lodging or allowance in lieu. Applications should be made in writing or in person to Director of Health, UNRRA, 170A, Gt. Portland Street, W.1.

EDUCATIONAL

F.R.C.S.(EDIN.)

POSTAL AND ORAL COURSES continued as usual. Full details.—H. C. Orrin, F.R.C.S., Surgeons' Hall, Edinburgh.

EDINBURGH POSTGRADUATE BOARD FOR MEDICINE. POSTGRADUATE COURSE IN SURGERY. October to December., 1945.—A Postgraduate Course in Surgery will be held in Edinburgh, beginning on October 8, and ending on December 11. The course will include Systematic Lectures on Surgery and Surgical Anatomy, Clinical Lectures, and Demonstrations on Surgical Pathology. The total inclusive fee for the course will be £25. Those who wish to take the course should notify the Secretary of the Postgraduate Board for Medicine, University New Buildings, Teviot Place, Edinburgh, as soon as possible.

REOPENING PHILOLOGICAL ASSN., Coaching for degree or general education, French, German, Latin.—Box 2263, B.M.J.

ASSISTANTSHIPS VACANT

WANTED, ASSISTANT, married or single, good working-class practice, semi-rural area West Riding, salary according to experience.—Box 2501, B.M.J.

WANTED ASSISTANT for practice in East Midlands city, dispenser kept, modern house and garage, salary according to experience, state particulars.—Box 2560, B.M.J.

WANTED immediately indoor ASSISTANT for country practice, car and dispenser provided, salary £650 p.a., plus board.—Apply Dr. Hine, The Ivies, Newark, Notts.

WANTED, ASSISTANT, with VIEW, male, British, young and energetic, for pleasant good-class practice, North London, house available.—Box 2270, B.M.J.

WANTED MALE ASSISTANT, Scotch preferred, for Scotland, salary by arrangement, furnished house and car supplied.—Box 2536, B.M.J.

WANTED, ASSISTANT, British, a suitable man would be offered partnership, large panel and private practice 3 miles from large Lancashire town, semi-country, nice country.—Box 2258, B.M.J.

WANTED, ASSISTANT with VIEW, male, British, to replace retiring partner, modern growing town 20 miles from London, house available, salary £600 and car allowance.—Box 2304, B.M.J.

WANTED, ASSISTANT, with VIEW to very early succession, £700 per annum, indoor, unfurnished house available.—Box 2305, B.M.J.

WANTED, ASSISTANT, either sex, mixed practice in Preston, dispenser kept, salary by agreement.—Box 2308, B.M.J.

WANTED, ASSISTANT with VIEW to succession in old-established Lancashire mixed practice, preferably recently qualified and unmarried. Moderate salary, car allowance, and all found.—Box 2348, B.M.J.

WANTED, external ASSISTANT, October 1, male or female, state age, mixed practice, town and rural, 8 miles from Liverpool, car provided, salary good.—Box 1909, B.M.J.

ASSISTANT WITH VIEW, inclusive salary £800, house (furnished or unfurnished), four partners, central surgery with adequate dispensary and secretarial staff, physician or obstetrician preferred, English or Scottish under 35, male, details on application.—Box 2537, B.M.J.

ASSISTANT REQUIRED with VIEW partnership, ex-service preferred, own car an advantage, indoor at present but house will be available, Cornwall, 3 miles from the sea.—Box 2545, B.M.J.

ASSISTANT WANTED, permanent, male or female, mixed practice Midlands city, furnished or unfurnished accommodation, car provided or car allowance, salary £600.—Box 2561, B.M.J.

ASSISTANT, male, WANTED for good-class Midland practice, English or Scotch, must be energetic and well experienced.—Box 2051, B.M.J.

ASSISTANT WANTED, British, good-class mixed practice, Home County, salary by agreement, car can be provided.—Box 2310, B.M.J.

ASSISTANT WANTED, British, male, for large mixed practice near Manchester, prospect of partnership if suitable, secretary-dispenser employed, good hospital facilities, including local cottage hospital, salary according to experience.—Box 2506, B.M.J.

ASSISTANT REQUIRED, S. DEVON country town, with VIEW, salary by agreement, indoor preferred, accommodation for outdoor possible, good centre, small hospital, Ex-Serviceman preferred.—Box 2502, B.M.J.

ASSISTANT WANTED for panel and private practice in good class outlying London suburb, salary £600 indoor or £750 (outdoor), if own car, allowance given, Protestant—Box 2535, B.M.J.

ASSISTANT WANTED, preferably woman, about six months from October 1, mixed practice.—Dr. R. Francis Jones, Manor House, Tamworth, Staffs.

ASSISTANT WANTED VIEW partnership, male, mixed country practice, Somerset, single preferred, time for reading or sport occasionally.—Box 2562, B.M.J.

ASSISTANT WANTED for medical and surgical practice in Lincolnshire town, salary £600 per annum, furnished house and car provided, secretary-dispenser kept. Box 2563, B.M.J.

ASSISTANT WANTED immediately, South Wales town, general practice in agricultural district.—Write stating particulars to Box 1926, B.M.J.

EXPERIENCED permanent ASSISTANT required, with or without VIEW, busy good-class practice, Leics. country town, two dispensers, self-contained flat, garden, garage, salary £850 to £950, further particulars on enquiry.—Box 2074, B.M.J.

KEEN outdoor ASSISTANT for large practice residential district Newcastle-upon-Tyne wanted, £600 plus car, send full particulars, reference.—Box 2504, B.M.J.

OUTDOOR ASSISTANT, single, WANTED, for two partners in S. Yorks practice, salary £600 p.a., car provided and all found.—Write Box 2271, B.M.J.

OUTDOOR ASSISTANT WANTED good mixed practice Newcastle-upon-Tyne district, temperate, keen, experienced midwifery and anaesthetics, salary by arrangement, car provided, no racial preference, photograph and testimonials essential.—Box 2503, B.M.J.

REGULAR WEEK-END ASSISTANT wanted for practice in St. John's Wood area.—Box 2559, B.M.J.

RADIOLOGICAL ASSISTANT, D.M.R., British, preferably young single man, with VIEW partnership, in North England city, salary arranged, age, particulars.—Box 2564, B.M.J.

WOMAN ASSISTANT WANTED VIEW partnership, Hertfordshire, good work, modern hospital, scope for gynaecology, refresher courses possible concurrently, could wait demobilization, easy terms if desired.—Box 2505, B.M.J.

WOMAN ASSISTANT REQUIRED, private and panel practice, South Coast, salary £650 all found, car or allowance provided.—Box 2565, B.M.J.

ASSISTANTSHIPS WANTED

WANTED EVENING SURGERIES, London W., Pole, 24, M.R.C.S., taking postgraduate course, excellent references—Box 2539, B.M.J.

WANTED by regular naval service doctor about to be pensioned, ASSISTANTSHIP or PARTNERSHIP, with house or flat to rent.—Box 2568, B.M.J.

ASSISTANTSHIP REQUIRED by young married doctor (wife a doctor), furnished house or flat and car essential, free end October.—Box 2507, B.M.J.

ASSISTANTSHIP, definite VIEW PARTNERSHIP, required, experienced hospital, G.P., married, age 34, car, furnished house essential during assistantship.—Box 2538, B.M.J.

ASSISTANTSHIP REQUIRED by experienced G.P., married, own car and furniture, house essential, Home Counties preferred.—Box 2593, B.M.J.

ASSISTANTSHIP with VIEW, preferably Scottish coast or country town, required by specialist physician, extensive hospital experience, demobilization imminent.—Box 2510, B.M.J.

ASSISTANTSHIP REQUIRED by experienced British practitioner, South of England or Midlands preferred.—Box 2344, B.M.J.

ASSISTANTSHIP or LONG LOCUM required by experienced G.P. free end of October, London or Home Counties preferred.—Box 2590, B.M.J.

ASSISTANTSHIP with early SUCCESSION or PARTNERSHIP wanted by R.A.M.C. officer, demob. November, 38, married, fit, own practice 8 years until war, London suburbs or South Coast, £1,600 upwards, some capital.—Box 2541, B.M.J.

DOCTOR, YOUNG, exp. hospital, G.P., ex-R.A.M.C., available full or part-time EMPLOYMENT London area.—Box 2542, B.M.J.

EDINBURGH GRADUATE, Scot, aged 44, married, Squadron Leader, R.A.F., requires immediately, ASSISTANTSHIP with definite early VIEW to partnership or succession, 20 years hospital and G.P. experience, keen, energetic, own car and furniture, income £1,500-£2,000.—Box 2591, B.M.J.

EXPERIENCED male G.P. aged 41, wishes to do MORNING and AFTERNOON, or EVENING SURGERIES, consider night duty, no midwifery, excellent references, London or South preferred.—Box 2509, B.M.J.

EXPERIENCED, energetic doctor, Leeds, M.B., Ch.B., wants ASSISTANTSHIP, permanent or with VIEW, driver, Yorkshire preferred, unfurnished house essential.—Box 2555, B.M.J.

EDINBURGH M.B., Ch.B., 38, wife and, boy Kensington, interested ASSISTANTSHIP or nucleus in same London district or elsewhere, accommodation necessary, at present sole charge 3,000 troops and 20-bedded hospital, demobbed, October 1, 1945—Box 2508, B M.J.

KENSINGTON, Paddington. British postgraduate student desires PART-TIME ASSISTANTSHIP or evening surgeries till summer, 1946, outdoor, own car.—Box 2315, B M.J.

LIEUT.-COLONEL, R.A.M.C. (6 years' service), M.D.Camb., aged 33, married, son, expecting demobilization December, requires ASSISTANTSHIP with definite VIEW, in good-class practice S. Midlands, Southern, or Home Counties, own car and furniture, good house essential.—Box 2513, B.M.J.

LADY DOCTOR, five years' hospital and general practice experience, desires POST, full or part-time, Helensburgh or district, driver.—Box 2512, B.M.J.

M.R.C.S., male, married, aged 33, due for demob. within next three months, seeks ASSISTANTSHIP with VIEW and anaesthetic work, wide anaes. experience, now serving as specialist anaes., R.A.M.C., 1½ yrs'. experience of G.P. prior to war service.—Box 2514, B M.J.

PART-TIME ASSISTANTSHIP wanted Camberley district or within easy reach, for qualified female practitioner, experienced general practice and midwifery.—Box 2592, B.M.J.

REGISTRAR doing postgraduate work in Cambridge, would do EVENING SURGERIES and occasional week ends in return for accommodation. Box 2056 B M J

SOUTHERN ENGLAND, S.W. preferred (non-industrial) ASSISTANTSHIP with VIEW required by M.B., Ch.B. Edinburgh, married, good unfurnished house essential.—Box 2556, B.M.J.

SCOT, 27, Edinburgh graduate, ex-R.A.F., married, wishes ASSISTANTSHIP with furnished accomodation and car, Midlands preferred, hard work no objection, free November.—Box 2540, B.M.J.

UNIVERSITY GRADUATE, ex-R.A.M.C., aged 43 years, married, desires ASSISTANTSHIP in country district, or would like to hear of industrial works appointment.—Box 2569, B.M.J.

WOMAN DOCTOR wants to do MORNING SURGERIES, Birmingham area.—Box 2566, B.M.J.

WOMAN DOCTOR, experienced, seeks PART-TIME WORK, surgeries, clinics, or anaesthetics, in London area, free immediately.—Dr. Foster, 102A, High Street, Potter's Bar, Middx.

YOUNG Welsh-speaking doctor seeks ASSISTANTSHIP, preferably outdoor, in South Wales, single, male, abstemious, ten years' G.P. experience, good references.—"Doctor," c/o Morgan, 11, Bay View Crescent, Swansea.

YOUNG M.B.Vict., married, hospitals and G.P. experience, owner-driver,, requires ASSISTANTSHIP with house or flat, preferably furnished or partly furnished.—36, Staverton Road, London, N.W.2., Tel. Willesden 5418.

YOUNG WOMAN M.B., hospital and G.P. experience, driver, seeks part-time ASSISTANTSHIP, surgeries or other medical work, mornings and evenings, London area, free now.—Box 2567, B.M.J.

LOCUMS

WANTED URGENTLY and immediately LOCUM for Maternity and Child Welfare work, including attendance at clinics and Municipal Maternity Home with scope for practical midwifery, salary £10 10s. per week.—Apply to Acting Medical Officer of Health, 1, Bargate, Grimsby.

WANTED LOCUM TENENCY, salaried partnership, whole-time appointment, six months or more, experienced, ex-Service, married, car, Southern England, free October, furnished accommodation essential.—Box 2515, B.M.J.

WANTED long-term LOCUM for country practice, urgent, furnished house available, salary by arrangement.—Box 1932, B.M.J.

LOCUM WANTED, to assist in Perthshire general practice for two months commencing October 1, state full particulars, salary by arrangement.—Box 2594, B.M.J.

LOCUM WANTED immediately, man or woman, for country practice in Sennybridge, Breconshire, driver (with or without car).—Powell, "Hilcrest", Sennybridge, Breconshire.

WOMAN DOCTOR seeks LOCUMS assistantship or clinics, preferably Birmingham, G.P., hospital and psychiatric experience.—Box 2570, B.M.J.

PARTNERSHIPS

WANTED PARTNER with surgical experience for practice in East Midlands, half share of £1,900, considerable scope, hospital 1 mile, possible succession after three years, F.R.C.S. a great advantage, house available.—Box 2547, B.M.J.

DOCTOR, ex-R.A.M.C., aged 33, married, partner nine years in busy industrial practice, would welcome opportunity of PARTNERSHIP in South-West England or Cotswolds.—Box 2520, B.M.J.

DOCTOR, released from the Army, aged 46 years, experienced G.P. (22 years), desires PRACTICE or PARTNERSHIP yielding £1,500—£2,000 p.a., with nucleus of, and scope for extending, special practice of Venereology, preliminary assistantship.—Box 2578, B.M.J.

F.R.C.S. (England), having served as surgical specialist in Army (now released), requires PARTNERSHIP, good-class practice, scope for surgery.—Box 2521, B.M.J.

FOR SALE one-third share in PARTNERSHIP, East Anglian coast town, small panel, gross receipts at present £5,200 approx., ample scope, hospital appointment, senior partner surgeon, purchaser preferably married man aged 28-35, experienced in general medicine and anaesthetics, house to rent, furnished or unfurnished, car available, reasonable terms.—Box 2603, B.M.J.

FOR SALE HALF-SHARE at one year's purchase, of good practice in large S. Wales town, £3,000 per annum, panel 2,800.—Box 2104, B.M.J

MEDICAL woman required as PARTNER in old established, woman's private and panel practice in Midlands, gross receipts last year £2,800 house to rent.—Box 2101, B M.J.

PARTNER, preliminary assistantship, to take share, worth approximately £1,500 gross, with man and wife in North-West rural practice, house to rent or buy.—Box 2332, B.M.J.

PARTNER (British) wanted in first-class old-established practice in Kent, applicant must be well qualified, preference for one holding F.R.C.S., or M.D., or M.R.C.P., or M.R.C.O.G. qualification, excellent modern house and garden available share producing £1,500 suggested to commence with.—Apply Box 1851, B M.J

POPULAR SEASIDE RESORT, N.W. England, middle class panel approx. 2,000 and appts., excellent scope, gross income £2,400 (audited), house available, HALF SHARE at £2,500.—Box 2546, B.M.J.

PARTNERSHIP, HALF-SHARE in secure middle-class practice in outlying West London surburb, receipts £6,000 (audited), but still scope for increase, ample introduction by retiring partner, two years' purchase.—Box 2103, B.M.J.

MEDICAL POSTS

ASSISTANT PSYCHIATRIC POST required in February, 1946, by experienced medical man, well paid responsible position sought but suitability, and evolution towards consultation work more important than immediate remuneration.—Box 2595, B.M.J.

BACTERIOLOGIST (temporary).—A medically qualified gentleman is required in Birmingham on an approximate half-time basis in a Department of Bacteriology already established.—Box 2576, B.M.J.

DOCTOR, 10 years experience G.P., requires PART-TIME INDUSTRIAL POST (factory M.O., etc.) North-West or London area, would consider part-time G.P. if suitable unfurnished house available—Box 2333, B.M.J.

DOCTOR, 58, excellent health, demobilized from Army August, 1945, experience hospital, general practice, tropical work, bacteriology, etc., 35 years, desires salaried full-time WORK or appointment.—Box 2575, B.M.J.

DOCTOR AGED 50 waiting demobilization, 20 years in G.P., considerable operative and obstetrical experience, would like to hear of salaried POST at home or abroad, not G.P., good salary essential.—Box 2544, B.M.J.

DOCTOR, aged 38, desires APPOINTMENT or would consider genuine business appointment, capital available.—Box 2597, B.M.J.

DEMOBILIZED SURGEON with long experience in general surgery seeks APPOINTMENT or group practice.—Write Box 2350, B.M.J.

HOSPITAL APPOINTMENT SOUGHT in active physiotherapy department while working for D.Phys.Med., R.C.P. and S., Eng.; four years physiotherapy experience.—Box 2596, B.M.J.

M.B., Ch.B., BRITISH, married, aged 30, seeks salaried FULL-TIME EMPLOYMENT offering regular working hours, excluding G.P., applicant fit, capable, energetic, hospital and three years G.P experience, North preferably, testimonials available—Box 2262, B.M.J.

M.D., D.A., aged 30, ex-R.A.F., considerable anaesthetic experience, requires POSITION as anaesthetist (part or full time), wife, also doctor, willing to do ophthalmic practice—Box 2292, B.M.J.

M.B.Glas. 1940, B.Sc., Hons. Chemistry, at present in Army, aged 31, married, demobilization group 32, desires APPOINTMENT on demobilization, with facilities reading M.D.—Box 2522, B.M.J.

NOTTINGHAM FRIENDLY SOCIETIES' MEDICAL ASSOCIATION require SECOND MEDICAL OFFICER for friendly society and panel practice, no private, whole time appointment £700 per annum with modern house and rates plus £180 per annum car allowance, applications with qualifications and experience to Secretary, 13, Shakespeare Villas, Shakespeare St., Nottingham.

RADIOLOGIST (D.M.R.E.) requires PART-TIME WORK, London area, 4 sessions weekly, locums, hospital, or private practice.—Box 2599, B.M.J.

PRIVATE MENTAL HOSPITAL (360 beds). Applications invited, including members of H.M. Forces, for the post of MEDICAL SUPERINTENDENT vacant early January, 1946. Previous experience essential, salary with emoluments exceeds £1,000 per annum.—Full particulars on application to be received not later than January 15, 1946, addressed to Box 2523, B.M.J.

RADIOLOGIST ELECTROTHERAPIST, demobilized, free for temporary work, would appreciate information for openings South or West Country, D.M.R.E.—Box 2511, B M.J.

SCOTTISH woman doctor available for SURGERIES, public health sessions, and industrial post, London area preferred, energetic, capable, reliable.—Telephone morning early, evening Edgware 0606.

WOMAN MEDICAL OFFICER, about to be released from Royal Air Force, seeks APPOINTMENT in industrial concern, service includes three years' experience medical welfare W.A.A.F personnel, as Command Staff Officer, previous experience in hospital work and general practice.—Box 2293 B M J

WIDELY EXPERIENCED G.P. (22 years), aged 46 years, released from the Army recently, desires POST as M.O. to industrial firm, minimum salary £1,200 p.a., experienced Workmen's Compensation and specialist in Venereology.—Box 2577, B.M.J.

PRACTICES

WANTED, small PRACTICE or partnership with scope for anaesthetics, six years general practice, six years anaesthetist, R.A.M C., D.A—Box 2289, B.M.J.

WANTED PRACTICE, London area, £2,000 or over, good panel, good house sale or rent, by experienced practitioner, 15 years own practice, capital available.—Box 2516, B.M.J.

WANTED well established RURAL PRACTICE suitable for father and son, in desirable district N.E. England, returns £3,000 or over, easy reach good school, modern house and garden essential.—Box 2557, B.M.J.

WANTED PRACTICE or PARTNERSHIP London area, substantial panel essential, cash available, no objection death vacancy. Full particulars, please—Box 2600, B.M.J.

WANTED, in near future, by experienced practitioner, small PRACTICE with some panel, hospital facilities desirable, S.W. England or S Wales.—Box 2260, B.M.J.

WANTED, private PRACTICE in seaside resort, work must be light.—Box 2598, B.M.J

BIRMINGHAM suburban PRACTICE for sale, freehold house with surgeries, good garden, receipts £2,500, panel £900, offers—Box 2052, B M J

COMPACT, easily run PRACTICE for sale in Yorkshire, chiefly industrial, healthy moorland vicinity, modern convenient house for sale, income approx. £1,800, panel 1,300.—Box 2328, B.M.J.

DEATH VACANCY—Old established private and panel PRACTICE in S.E. Coast Town, original house, garage and practice for immediate sale, has been run under protection of practices since 1940.—Box 2551, B.M.J.

FOR SALE, good-class private PRACTICE in Edinburgh, no panel, three months' introductory assistantship, prospective purchaser should be over 35 years of age and hold higher medical qualifications, would suit demobilized medical specialist.—Box 2354, B.M.J.

FOR SALE, expanding semi-rural PRACTICE West Wales, panel 1,000, receipts £2,150, very pleasant house and garden for sale, freehold or to rent, beautiful agricultural country, prem. 1½ years.—Box 2324, B.M.J.

FOR SALE PRACTICE and 11-roomed freehold HOUSE, busy working class district, N. London, panel about 900, neglected owing to army service, price £3,800 inc. or near offer.—Box 2548, B.M.J.

FOR SALE, panel and P.M.S. PRACTICE, Oxford area, receipts over £700 per annum, good scope for increase, rooms or furnished flat available.—Box 2517, B.M.J

FOR SALE, general PRACTICE with or without ear, nose and throat specialist (practice attached).—Box 2601, B.M.J.

FOR SALE, old-established country working-class PRACTICE Lancs. border, 1,700 panel, plus private house and surgeries available to rent, vendor returning soon, suit returning M.O., or two friends—Box 2519, B.M J

FOR SALE—Doctor's Freehold HOUSE including NUCLEUS of old established practice on South-East coast, excellent position on sea-front and with returning population good scope for re-working up practice, price £2,250, full particulars.—Box 2589, B.M.J.

FOR IMMEDIATE SALE large panel and private PRACTICE in industrial town in Yorkshire, no midwifery, all figures audited and open to fullest investigation, surgery, and professional offices incorporated in house, exceptionally good house and garden to let, with every modern convenience, gross receipts 1945, £2,300.—Apply Box 2323, B M.J.

GOOD-CLASS suburban PRACTICE, Midland city, receipts £5,000, suitable for two doctors, modern house.—Box 2053, B.M.J.

NORFOLK. EXCELLENT PRACTICE for immediate sale, gross income over £2,500 per annum including £1,100 panel, good house and gardens, this practice offers great scope for advancement in well known country town.—Box 2549, B.M.J.

PRACTICE WANTED Kilburn, Maida Vale, or N. W.10 area good panel, house to rent essential—Box 2518, B.M.J.

PRACTICES AND SHARES for disposal in various parts town and country, incomes £800 upwards, also vacancies for Assistants and Locums.—Apply Percival Turner, Ltd., 25, Maiden Lane, Strand, W.C.2. Telephone:-TEMple Bar 9011.

PRACTICES AND PARTNERSHIP SHARES for sale, town and country. Full details free on request.—British Medical Bureau, 33, Cross Street, Manchester, 2.

PRACTICE in attractive Clyde coast seaside resort for sale, income approximately £870, good house for sale.—Apply Crawford, Herron and Cameron, Solicitors, 257, West George Street, Glasgow.

RELEASED DOCTOR, experienced G.P., would negotiate now purchase of PRACTICE in December or January, income £1,000 to £1,500 in country within 60 miles of London, capital available.—Box 2571, B.M.J.

SOUTH DERBYSHIRE.—Flourishing old-established colliery and rural PRACTICE, unopposed, panel about 1,600, good private and club, total gross receipts exceed £2,500 per annum, not likely to be affected by the National Insurance Scheme, practitioner will remain on to introduce for three months, special reason for sale.—H Gompertz, Evans & Mason, Chartered Accountants, 235 Perstone Road, Birmingham, 5.

SOUND OPPORTUNITY to purchase deceased doctor's PRACTICE on South Coast, good lower middle class area, gross income before war £3,000 per annum, first-class freehold residential and surgery premises, modern, spacious, and well-fitted, £8,000 inclusive, mortgage could be arranged.—Box 2353.

SUBURBAN FAMILY PRACTICE North-Eastern Seaport, average receipts 3 years £2,315, panel 1,185, midwifery practised, scope 2 men, surgery for sale or to rent, private house as well if desired, premium £2,300.—Box 2573, B.M.J.

SALE MIXED PRACTICE, N.E. Coast, receipts £3,500, panel 2,500, excellent house (garden), separate surgery, premium 1½ years.—Box 2572, B.M.J.

THREE PARTNERS with higher qualifications want to purchase town, country or seaside PRACTICE, hospital appointments essential, no panel.—Box 2574, B.M.J.

DIETETIC, DISPENSING, TYPING, SECRETARIAL, RECEPTION, ETC.

None of the vacancies for women advertised in these columns relates to a woman between the ages of 18 and 40 inclusive, unless she is exempted from the provisions of the Control of Engagement Order, 1945, or the vacancy is for employment excepted from the provisions of that Order

WANTED DISPENSER-BOOKKEEPER, before Dec. 1st, for country practice in Suffolk.—Write giving full particulars to Dr. Batt, Wickhambrook, nr. Newmarket.

WANTED at once LADY SECRETARY-DISPENSER for practice of two doctors W. Middlesex, one resident within reach of neighbourhood more suitable, to start at once, usual off-duty hours, no Sunday work.—Reply references, full particulars, Box 2524, B.M.J.

WANTED lady SECRETARY-BOOKKEEPER, ideal Surrey town within 40 miles; extensive experience not essential; amiability, commonsense, knowledge dispensing helpful, preferably live in, two rooms furnished or unfurnished available, state age.—Box 2582, B.M.J.

WANTED DISPENSER-BOOKKEEPER at end of September, salary according to experience.—Apply Drs. Mowle and Vandy, Devizes, Wilts. Phone, 278

ANAESTHETIST requires telephone service and part-time services SECRETARY, Harley Street area, state terms.—Box 2529, B.M.J.

CLERICAL WORK REQUIRED urgently by doctor confined to house, experienced in hospital and practice.—Box 2527, B.M.J.

CORNISH COAST, wanted immediately, SECRETARY-RECEPTIONIST Kalamazoo bookkeeping, general practice.—Apply full particulars and references, Dr. Hardwick, Island House, Newquay.

DISPENSER (Hall Certificate) requires PART-TIME WORK in London.—Box 2525, B.M.J.

DISPENSER-SECRETARY required immediately for general practice in North Midlands town.—Box 2297, B M.J.

DISPENSER-BOOKKEEPER, lady, Apothecaries Hall certificate, bookkeeping and first-aid certificates, experienced, can drive car, requires post, Dorset or near preferred —Box 2608, B.M.J.

DISPENSER-BOOKKEEPER wanted, general medical practice, good salary for capable person. —Reply, giving particulars and references, to Dr. Clarke, 148, Pear Tree Road, Derby.

DISPENSER, preferably female, wanted urgently by two doctors in York, central surgery, knowledge of bookkeeping desirable.—Drs. Upton and Vergette, Castlegate, York.

DISPENSER-SECRETARY required by partnership of doctors, Surrey, commence immediately.—Box 2579, B.M.J

EXPERIENCED LADY DISPENSER BOOKKEEPER wanted for general practice in Croydon, apply stating age, experience and full particulars to Drs. Hudson and Lane, 391, Lower Addiscombe Road, Croydon (Addiscombe 2100).

EDUCATED LADY, trained nurse, experienced housekeeper, seeks POST, preferably with doctor where daughter (4½) welcomed.—Box 2526, B.M.J.

EXPERIENCED SHORTHAND-TYPIST, trained nurse (middle aged) seeks situation, preferably London area.—Write Dyke, 110, Cromwell Road, S.W.7.

EDUCATED WOMAN seeks post with doctor as RECEPTIONIST, nursing, bookkeeping, secretarial experience.—Box 2604, B.M.J.

EXPERIENCED WOMAN SECRETARY desires post with doctor or dentist Bournemouth or district, own typewriter, able to drive.—Box 2581, B.M.J.

EDUCATED WOMAN, practical, adaptable, trained nurse, wants interesting full-time job. RECEPTIONIST to medical man or psychiatrist, administrative, anything considered if offering interest, variety, and scope for ability.—Box 2583, B.M.J.

LADY WITH EXPERIENCE desires post as RECEPTIONIST with doctor or surgeon, London district, West End preferred.—Apply Box 2605, B.M.J.

REGULAR ARMY OFFICER'S widow desires post as SECRETARY-RECEPTIONIST in London district, B.R.C.S. Member, 3 years' hospital experience.—Burton, Grantchester, Willow Grove, Chislehurst, Kent.

SECRETARY or DISPENSING-SECRETARY wanted for practice near Hounslow, live out, salary by arrangement, Saturday half-day.—Box 2552, B.M.J.

SECRETARY, experienced with consultant, varied duties, also hospital, G.P., excellent testimonials, seeks good APPOINTMENT, preferably accessible from Balholm, Firs Walk, Woodford Green. Buckhurst 2514.

SECRETARY-RECEPTIONIST requires post to doctor or dentist, Harley Street district, nursing experience.—Box 2580, B.M.J.

SECRETARY-DISPENSER required by partnership of doctors near Liverpool—Box 2585, B.M.J.

RECEPTIONIST-HOUSEKEEPER, 47, seeks responsible POST to take entire charge for doctor, good cooking and comfortable homely conditions maintained, London preferred —Box 2298, B.M J

WIDELY EXPERIENCED SECRETARY with ten years in Harley Street, seeks medical post, full or part-time.—Box 2584, B.M.J.

YOUNG LADY shorthand-typist seeks part-time post with West End Doctor as RECEPTIONIST.—Box 2553, B.M.J.

MISCELLANEOUS

WANTED JUNG'S WRITINGS—*Two Essays on Analytical Psychology. The Psychology of Dementia Praecox, Studies in Word Association, Yoga and the West, Psychological Factors Determining Human Behaviour.*—Dr. F. O'Donnell Finigan, Wonham House, Bampton, N. Devon.

DENTAL BOOKS, pamphlets, advertisements, instruments and dentists' tokens before 1850, wanted by private collector.—Reply in confidence, Menzies Campbell, F.R.S.E., 14, Buckingham Terrace Glasgow.

ELECTROCARDIOGRAPH—Cossor and Robertson for sale, bought new 1940, never used.—Apply Box 2607, B.M.J.

FOR SALE.—Improved electric OPHTHALMOSCOPE and auriscope combined, by May, in case. Perfect condition, twelve guineas.—Box 2586, B.M.J.

FOR SALE SONOTONE DEAF-AID, hardly been used, £15 or offer.—Apply Box 2531, B.M.J.

FOR SALE.—Brand new Zeiss Binocular MICROSCOPE with 4 Achromatic and 4 Apochromatic objectives and numerous accessories, offers about £500 considered.—Box 2587, B.M.J

FOR SALE QUARTZ MERCURY VAPOUR LAMP, surgical couch, visiting case, all in excellent condition, nearest offer.—Box 2530, B.M.J.

FOR SALE.—Practitioner's CASE, leather, 3 drawers, 14"×10"×6": Boyle-Davis gag, 4 sizes, with accessories, offers.—Box 2588, B.M.J.

OPTICAL TRIAL FRAME LENSES, perimeter, Maddox wing test, ophthalmoscope, lens measure, tarsal cyst forceps, knife and spoon, corneal loop, etc., £50, or separately.—Tatchley House, Dollis Avenue, Finchley, N.3.

OPHTHALMIC TRIAL CASE, mahogany, lenses unmounted, also smaller case, spheres to 10D, cylinders to 3D, best offers.—Lawson, Chatham House, Church Rd., Cheltenham.

SURGICAL INSTRUMENTS, mainly E.N.T., in good condition, for private sale, on view near London, no dealers.—Box 2532, B.M.J.

SALE. G.U. CYSTOSCOPIC TABLE, all fittings, sorbo mattress, excellent condition, McCarthy prostatic resectoscope by G.U., perfect, portable ophthalmic trial set, 74 pr. lenses in rims, trial frame, Inquiries answered.—Box 2533, B.M.J.

SPHYGMOMANOMETER. Accoson desk model, 300mm., unused, £3 15s.—Write, 24, Warwick Rd., W.5.

WANTED TO PURCHASE.—Cameras, enlargers, and all photographic apparatus, exposure meters, tripods, etc., microscopes, binoculars, cine cameras, and projectors. Prompt cash and high prices offered.—Wallace Heaton, Ltd, 127, New Bond Street, London, W.1.

AMBULANCE STRETCHERS, canvas, folding, as new, 22s. 6d., incl. carr., 300 available.—M.M.C., 206-10, Bishopsgate, E.C.2.

ENVELOPE RESEAL LABELS, 250 3s.; 1,000 9s. 6d. Medical printing. Pre-war stationery. Samples Stamp.—Hodgson (Dept B), Printer, Bradford.

PROFESSIONAL NAME PLATES promptly engraved. Send wording for full-size sketch and list (encl. 2d. stamps).—Malle & Son, Ltd., 367, Euston Road, London, N.W.1.

1,000 DOCTORS' A/c FORMS, 25s., carriage paid, printed in the modern easily-read lettering on good paper, samples sent.—R. Anderson & Son, Medical Printers, 1, Hill Place, Edinburgh (near Surgeons' Hall).

MOTOR CARS

ROVER, 16 H.P., 6 cyl, 1939 model, perfect engine and coachwork, low mileage, used occasionally only since war, £875.—Gelver, 21, Allingham Court, N.W.3. Waterloo 6513.

HOUSES, CONSULTING ROOMS

ATTRACTIVE DETACHED RESIDENCE, ideal position, spacious hall, 3 recep., 5 bed, garage for 2 cars, lovely garden, possession end September. £3,600.—Write 119, Cranley Gdns., Muswell Hill, N.10.

COOKHAM DEAN, compact 7-roomed RESIDENCE for sale, all services, beautiful garden, garage, choice position, £3,650, owner doctor.—Box 2606, B.M.J.

FOR SALE HOUSE in which 2 ear, nose and throat specialists have practised for 30 years, also practice in neighbouring town.—Box 2602, B.M.J.

MAYFAIR or DISTRICT. UNFURNISHED CONSULTING ROOM with use of waiting room wanted by West End Physician, second room suitable for treatments would be an advantage.—Box 2554, B.M.J.

SURGEON requires CONSULTING ROOM facilities, Harley Street area, alternate Saturdays.—Box 2528, B.M.J.

WITHIN 30 minutes of Charing Cross comfortable superior ACCOMMODATION very open country, large garden, bed and breakfast or would consider semi-invalid or child.—Box 2115, B.M.J.

NURSING HOMES

FOR SALE.—The late Dr. F. C. Abbott's well-known NURSING HOME, situated at Whitehill, Bletchingley, Surrey, specially built for the purpose and comprising The Hermitage and Red Gables, small home farm, 3 cottages, garages, etc. and woodland area—in all about 30 acres, recently de-requisitioned.—Further particulars from Messrs. Peckover, Burrill and Owen, Denbigh, N. Wales, and Messrs. Daniel Smith, Oakley and Garrard, 32 St. James's Street, London S.W.1 (Whitehall 9385/6).

APPOINTMENTS

(Continued from page 13)

THE ROYAL MASONIC HOSPITAL, Ravenscourt Park, London, W.6. Physio-Therapeutical Dept.—As already advertised there is a vacancy at the end of the year for a PHYSICIAN-IN-CHARGE of the Physio-Therapeutical Department at the hospital. This department is exceedingly well equipped and the present holder of the office is retiring under the official age limit. Candidates should be well established in their profession. Applications should be made informally, in the first instance, without detailed copies of either testimonials or applications. They may be sent in the form of a cablegram should the candidate be at present serving overseas. If a successful candidate was serving actively in one of His Majesty's Forces or was a prisoner of war not yet repatriated the Board of Management would be willing to arrange for him to take up his appointment at the Royal Masonic Hospital when he was released from the Services. The retiring age for the post is 60. The number or beds in the hospital is 200 to 220, of which for the time being a considerable proportion is given over to Service cases. Application should be made to the Joint Honorary Secretaries at the hospital.

ROYAL WEST SUSSEX HOSPITAL, Chichester (274 beds—160 E.M.S.).—Applications are invited for the post of RESIDENT SURGICAL OFFICER (B1), vacant in October. Salary £450 p.a., with full residential emoluments. Suitably qualified R practitioners holding B2 appointments may apply. The appointment is limited to six months. Applications should be addressed to K. H. Williams, Secretary.

ROYAL NORTHERN INFIRMARY, INVERNESS. Pathology Department.—Applications are invited for the post of BIOCHEMIST. Applicants should hold a science degree (biochemistry), and should preferably have had a few years' experience in a hospital or university biochemistry department. Salary £550 p.a., rising by annual increments of £25 to £650. Applications should be lodged with the Medical Superintendent immediately.

ROYAL HALIFAX INFIRMARY (283 beds). Resident staff 5.—Applications are invited from registered medical practitioners (male) for six months for the following post—HOUSE PHYSICIAN (A) commencing immediately. Salary £175 per annum with full residential emoluments. Practitioners within three months of qualification who are liable to service under the National Service Acts, may apply. Applications should be sent to the undersigned immediately.—A. Midgley, Secretary.

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HEARD AT HEADQUARTERS

Widening Contacts

For many years past there has been an agreement, honoured in letter and spirit, between the B.M.A. and the Society of Medical Officers of Health whereby they consult together and take agreed action on such matters as public health medical officers' salaries. A similar arrangement has lately been made with the Medical Superintendents' Society, a body with which the Association has had excellent relations for many years past. A representative of that Society will sit on the Hospitals Committee, and the chairman of the Hospitals Committee, Mr. R. L. Newell (who was re-elected to the chair at the last meeting of the committee), will sit on the main committee of the Medical Superintendents' Society. A memorandum by the Society on hospital policy and planning in the light of the White Paper proposals has been considered and, as a first step, transmitted to the committee, presided over by Lord Moran, which is dealing with consultant and specialist services, and on which the Royal Colleges and the B.M.A. are represented. Another body recently formed is the Association of Municipal Specialists, meaning the specialists, principally engaged in clinical work, who are employed whole-time by local authorities. A similar arrangement with this body is being worked out.

Reappearance

One of the signs of return to normal at Headquarters is the reappearance of the portraits in the large committee room at B.M.A. House. After five years of bare walls the room looks gay with these large portraits in their ornate frames. Behind the chairman's seat is the portrait of the founder of the Association, seeming to look down with some wonder at the vast organization which has developed from his early and local labours. Facing the present secretaries and clerks of the committees are two former secretaries, Dr. Alfred Cox and the late Dr. George Anderson. Does one detect in their eyes at times a gleam of criticism of their successors, or is it, maybe, a flash of sympathy at the interminable length and complexity of committee proceedings? On the north wall hang the portraits of two ladies, Elizabeth Garrett Anderson and Christine Murrell, the one the first woman member of the Association and the other the first woman member of the Council; while opposite is the benevolent countenance of Lister. It is pleasant to have them back again; they are old friends, with the exception of Dr. Anderson's portrait, which has not previously been hung in the committee room where he toiled for so long.

For the Impatient

Many people are asking when the talks on the National Health Service will be resumed or re-begun. Clearly the new Minister is closely occupied with housing at the moment. It seems a pity that the two biggest social problems of the time, the new health service and the housing situation—which, of course, have much in common, but are not necessarily administratively linked—should be in the hands of one and the same Minister, however go-ahead and capable.

A good many are waiting for a lead on the arrangements for the medical treatment of children under the new Education Act. The new committee which the Council appointed at its last meeting has had one meeting, and a second is being held this week. The committee may very likely decide to go to the Ministry of Education and ask for a national agreement—that is to say, an agreement which the Minister can lay upon local authorities. Should it fail in this object the committee will no doubt report back to the Council its views for promulgation to the Divisions. The urgency of the matter is realized and there has been no undue delay.

Payment of Medical Staff

The question of payment of voluntary hospital staffs for the treatment of persons who are the financial responsibility of the Ministry of Pensions has again come forward. There is a strong feeling that no hospital should contract with the Ministry for treatment of its patients without provision being made for the payment of medical fees. It is obviously inequitable that full maintenance charges should be paid to the hospital and nothing at all be paid to the medical staffs for the work they do. The suggestion is made that 25% should be added to maintenance payments, this additional sum to be distributed among the visiting staff. The maximum paid to general hospitals, other than teaching hospitals, for the maintenance of in-patients of the "other rank" class is 18s. for each patient-day; 25% of this would be 4s. 6d. a day or one and a half guineas a week. The feeling of the Hospitals Committee at its recent meeting was that this would be a fair basis to take as applicable to all hospitals. A subcommittee has been appointed to go into the question with the Ministry.

Retiring Age

At the beginning of the war the B.M.A. circularized hospital authorities on the question of new appointments during the war. One recommendation concerned hospital appointments held by men who were near the retiring age and who went away on war service. It was suggested that in such cases the appointment should be continued after the age limit had been reached, the period of war service being added to the age limit. One question received concerns a supposed member of the staff due to retire at 60 who, at 59, volunteers for service and is away for three years: Is he on his return to continue on the staff for three years or for the one year which he has missed? The example is an exceptional one, for there cannot be many members of hospital staffs, sexagenarians, who have been away for three years, but the matter is difficult if the blocking of younger men for promotion is to be avoided.

One scheme at a London hospital provides that while the member of the staff automatically retires at 60, he may continue until 63 in a kind of emeritus capacity, having a small number of beds and being called upon for a certain amount of teaching, but not in charge of a team and not a member of any staff committee. This enables a man who is still vigorous to continue his service, to some extent compensates him for the time he has spent abroad, does not interfere with the efficiency of the hospital, and does not block promotion. A letter is to be sent to hospitals making suggestions along these lines, but, of course, each hospital will have its own peculiar cases, and in some the seniors will have to continue for a time because of the lack of people available for the new appointments.

DOCTORS' CARS

It has been announced from time to time that the Ministry of War Transport was prepared to give high priority to doctors who were in need of new cars or had to replace those that had become unreliable and unserviceable. Results have not come up to expectation; in fact they are most disappointing, although the B.M.A. has continued to stress the urgency of the situation. It is hoped that the following brief statement of the present position will remove misunderstanding, though it will not satisfy applicants for new cars or for reconditioned Service vehicles who have been put to inconvenience by failure or exasperated by delay.

Reconditioned Service Cars

In spite of statements to the contrary, the majority of cars in Service dumps have already been denuded of usable parts and are unserviceable, whereas of those actually available only about one-third are suitable for reconditioning. Before any new cars were available a large proportion of the ex-Service cars released to the Ministry of War Transport were allotted to doctors. The numbers were small and it was never anticipated that they would meet the demand. When a supply of new cars could be confidently expected the Minister decided that the few Service cars should be reserved for nurses and midwives in rural areas and certain categories of disabled ex-Service men. Figures have already been published to explain the discrimination. In three months over 20,000 written applications were received for 170 reconditioned cars. It appears that for the time being the supply is likely to remain very small indeed, and that it is unlikely any of these cars will be available for doctors.

New Cars

We are informed by the department that licences to purchase were issued for the number of cars expected to be available according to makers' estimates. Of these licences roughly one-half have been issued to doctors. Unfortunately the number of new cars delivered up to the end of August was actually about one-tenth of that anticipated. It is hoped that this disappointing situation, stated to be due to unforeseen difficulties in production, will soon improve.

In the meantime, licences may have to be withheld until there is a reasonable prospect of delivery. We are assured that cases of urgent need will continue to receive special consideration, and that priority will be determined as fairly as possible, not only in relation to all applications received but as between those in special categories, such as doctors, whose claims have already been conceded.

Repairs and Spare Parts

The position concerning repairs and spare parts continues to be very difficult, and the return of the basic petrol ration has increased the demand on local firms, while their labour difficulties have not yet been overcome. Application for special priority should be made to the Regional Maintenance and Certifying Officer, and not to the Ministry of War Transport in London. The addresses of Regional Offices are as follows:

Northern: 41–45, Grey Street, Newcastle-upon-Tyne, 1.
North-Eastern: 44, The Headrow, Leeds, 1.
North Midland: Grosvenor House, Friar Lane, Nottingham.
Eastern: Sussex House, Robson Street, Cambridge.
Metropolitan: Romney House, Tufton Street, London, S.W.1.
Southern: Chiltern Court, St. Peter's Avenue, Caversham, Reading.
South-Western: Beacon House, Queen's Road, Bristol, 8.
Wales: Graham Buildings, Newport Road, Cardiff.
Midland: York House, Great Charles Street, Birmingham.
North-Western: Arkwright House, Parsonage Gardens, Manchester, 3.
South-Eastern: Mount Ephraim House, Mount Ephraim, Tunbridge Wells.

Tyres

The supply of tyres is under the control of the Ministry of Supply and not the Ministry of War Transport. As during the war, special consideration is being given to doctors' needs. To obtain a permit, Form T.F.A.1 should be obtained from a post office and forwarded to the Divisional Petroleum Officer. He will return Form T.F.A.2, which should be presented to an authorized tyre dealer. If reasonably prompt delivery cannot be assured application should be made direct to the Regional Tyre Officer, whose address may be obtained from the authorized tyre dealer.

Income-tax Allowances

A note on income-tax allowances and car replacement will be found in the *Journal* this week on page 484.

RETURN TO PRACTICE

The Central Medical War Committee announces that the following have resumed civilian practice: Dr. Leonard F. Browne, at 9, Harley Street, W.1; Mr. W. Barclay, F.R.C.S.Ed., at 5, Murray Road, Huddersfield.

A HOME NURSING SERVICE

In these days of shortage—one might almost say total absence—of domestic help and, as one correspondent put it, of "non-queueing neighbours," a scheme which provides home nursing for a small cost deserves the widest publicity. The Home Nursing Scheme (Greater London Provident Scheme for District Nursing) is a plan, already operating, to supply a nurse in the homes of persons contributing to a Home Nursing Group at their place of employment. For a penny a week a man or woman earning not more than £420 a year can depend on the services of a nurse from a District Nursing Association in almost any illness, the exceptions being midwifery, attendance at operations, night nursing, massage, electrical treatment, and the nursing of certain infectious diseases. The contribution covers the worker and the members of his family whom he supports, and it is deducted from his pay. The scheme operates simply: the member calls in a nurse and applies to the Group Secretary at his place of employment for a nursing voucher, which the nurse will accept instead of a fee. Groups are supplied with nurses' telephone numbers arranged in alphabetical order of the area in which they live, the list we have before us covering London, Greater London, and places as far apart as Leatherhead and Reigate, and Pinner. It is pointed out that the Home Nursing Scheme is not a rival of the hospital provident schemes, which make no contribution to the District Nursing Associations. Its objects are to provide home nursing benefits to members and their dependants wherever they live at a standard rate, and to help the funds of the District Nursing Associations. The address of the Home Nursing Scheme is 19, the Broadway, Hammersmith, London, W.6.

Correspondence

Demobilization and Repatriation

SIR,—We offer no apologies for swelling the numbers of protesting letters that have appeared in your columns on this subject. We note with growing concern, annoyance, and extreme misgivings the following facts:

(1) Addressing the 164th session of the G.M.C. on May 29, the President stated, "... The total number [of registered practitioners] includes 3,169 registered temporarily as foreign practitioners. . . ."

(2) There are no fewer than 529 *more* names on the Foreign section of the *Medical Register* for 1945. Yet British Service M.O.s continue to serve on the Continent (cleaning up places like Belsen for the Germans) while Continental doctors flourish, multiply, and take root in Britain.

(3) Up to May 24 there were 17,169 Service M.O.s (27% of the total of registered practitioners). It should not be difficult to replace at least a high percentage of these by some of the remaining 73%, and release M.O.s in the B.L.A. (in particular) by using most, if not all, of the 3,169 foreign practitioners.

(4) A careful "Gallup poll" of all types of M.O.s in India Command and S.E.A.C. has revealed that none of them has done, on an average, more than 3 months real, hard, *professional* work in each of their years of oversea service. It is, therefore, useless to talk of the "requirements" of the Services in medical man-power, while that same man-power is being so shockingly wasted and misused. "Unforeseen demands" (that hoary old refuge of those concerned in keeping up establishments to maintain their own *raison d'être*) can no longer be quoted as an excuse for this monstrous "reserve" of unemployed doctors.

We feel it is long overdue, and now absolutely imperative and unescapable, that a ruthless cutting-down of establishments at all levels should be carried out forthwith to "liberate" the 75% unemployed doctors in the Far East. This measure, together with the immediate return and cessation of any further registration of foreign practitioners, will go a very long way indeed towards relieving a pressure of feeling among doctors in the Far East which is reaching dangerously restive proportions. For obvious reasons we desire to remain anonymous.—We are, etc.,

"FOUR SERVICE M.O.S. S.E.A.C."

Release of R.N.V.R. Medical Officers

SIR,—You published in the *Journal* of Sept. 8 (p. 335) a statement that Army Group 23 medical officers will be demobilized in their corresponding groups by Jan. 20. It is perfectly obvious by the letters you publish that the Medical Department of the Navy has no similar organization to offer, and as a result this plan is working out unfairly to us of the R.N.V.R. Surely it is the duty of the C.M.W.C. to allot new entries to the Services proportionately so that we may all be kept in step?

Further, it would appear that an abuse had occurred in the Class A demobilization scheme in that over-age medical officers such as surgeon captains R.N. are going out under Class A. Surely this scheme was arranged for the speedy release of those who, having earned their release by age and service, could go back to medical practice to relieve the civilian pressure, rather than to permit those who chose the R.N. many years ago now to retire on their pensions. For every pensioned-off R.N. medical officer demobilized under Class A, we younger R.N.V.R. medical officers have to wait that much longer for our chance again to become useful doctors to the public. It is considered that that is wrong and the scheme was never intended to operate that way.

Thirdly, those who have had occasion to correspond with the C.M.W.C. will realize the chaos that must be going on there, and I heartily agree with "Major R.A.M.C." (*Supplement*, Sept. 15, p. 66) that this committee, to whom is entrusted the allocation of medical man-power, be called upon to resign, and to do it with no waste of time.—I am, etc.,

"GROUP 16."

⁂ The Secretary of the Central Medical War Committee writes: The Central Medical War Committee allocates new entrants to the Services proportionately in accordance with the decisions of the Minister of Health on the advice of the Medical Personnel (Priority) Committee. Naval medical officers in Groups 1 to 7 who have not volunteered for further service will either be released or on their way home for release by the end of October, and a start will be made on Groups 8 to 15. The Admiralty is awaiting information as to the number of medical officers who wish to remain in the Service before making a further announcement; the aim is to release all groups up to 15 by the end of the year.

Short-service Commissions and Release

Sir,—Can you help by publishing what many of us consider a gross injustice? Many doctors took short-service commissions (5 years) prior to the war and our contract is now finished, and yet we find that we are being held on the reserve until general demobilization and that we cannot be released in our age-and-service group. This seems very unfair when other doctors who joined after us are being released. Why can't we be treated the same as any other doctor and be included in the age-and-service groups?

I think, too, that the word "demobilized," which is so loosely used, should be dropped; there is *no* demobilization yet, only "releases."—I am, etc.,

"Medico, R.A.M.C."

Another Side to the Question

Sir,—I am as anxious as any other medical officer to leave the Service as soon as possible, and on this account I am sorry to see some of the published opinions, most, but not all, of which are in letters, on the various factors which retard release. In addition I am particularly sorry to see misleading statements, which I feel can only confuse the issues, embarrass the medical authorities, and raise false hopes.

Release of all personnel, including doctors, is ultimately the responsibility of the Government; the Central Medical War Committee and the various Service authorities can only advise and state their respective needs. Civilians, and civilians to be, must therefore urge the Central Medical War Committee to speak as forcibly to the Government as it can; the Government must take ultimate executive responsibility for the size of all branches of the Services.

On the other hand, I recognize the needs of the R.A.F. Medical Service, of which I am a temporary member, and I do not believe that there has been any attempt by senior medical officers to maintain establishment for the sake of prestige or personal gain, as has been suggested more than once. The reduction in the size of the R.A.F.M.S. is being carried out, so far as one can see, in step with the reduction in size of the R.A.F. as a whole, and unless the size of all other branches of the R.A.F. is more quickly reduced, then no hope of quicker demobilization of medical officers can reasonably be entertained. Naturally, comparisons between the numbers released among the branches in the various age groups are misleading, as the relative numbers which together make up age groups differ, as do the needs for particular types of personnel. Any such release of medical officers which lowered the ratio of medical officers per 1,000 personnel of all kinds would create difficulties for the medical officers who remained. Release examinations are vital, and protect the outgoing individual just as much as the State.

Serving medical officers who complain of insufficient work have a means of redress; they can write to their senior medical officer, stating quite clearly that they have too little to do, giving evidence in each particular case. From my own knowledge these statements are carefully examined; commitments would be reviewed, and if complaints of too little work were in fact substantiated an overall increase in the speed of release would be possible.

In conclusion, as the obvious cannot be stated too often, it must be repeated that ultimate responsibility for the speed and extent of demobilization rests upon the Government.—I am, etc.,

"Wing Cmdr., R.A.F.V.R."

The Silent Service

Sir,—I have just received the *Journal* of Sept. 8. In the Services section you publish two announcements—one from the War Office and the other from the Royal Air Force regarding the release dates of medical officers in those two Services. Naturally I ask myself, and I am sure the majority of my colleagues in the Navy are asking the same question: Why has not the Admiralty made a similar announcement in conjunction with its two brother Services? I suspect the answer is that the Navy is the "Silent Service," but this is a poor excuse just now when more and more secrets are being disclosed every day by the security authorities of all three Services.—I am, etc.,

"Anxiety State."

The Medical Situation in India

Sir,—Lieut.-Col. Lodge Patch (*Supplement*, Aug. 18, p. 47) has drawn a very unfair and altogether wrong picture of Indian medicine. It seems to me that he has very little experience of the medical situation in India except what he knows of the Punjab Mental Hospital. His praise of that notorious book *Verdict on India* confirms that opinion. I shall just take some more important points for discussion.

1. It is not true that the standard of medical education in India is very low in every medical college. Bombay College, for example, can compete with the best in this country. The chief difficulty is finance. Existing colleges are poor in resources. Lack of funds at the disposal of the Provincial Ministers does not allow extension of these facilities.

2. His remarks about indigenous medical systems—Ayurveda and Unani—show his ignorance of these systems. If carefully studied and practised, they can do a lot of good. Many drugs used in these systems have been tried at the Calcutta School of Tropical Medicine and incorporated in the Western materia medica. Because of lack of Government control of these systems anyone can practise as a *vaid* or a *hakim*. These people flourish, not because Indian politicians and people do not want Western medicine but because, first, Western medicine is too costly for an average Indian, and, secondly, it is not available to millions of people living in villages and small towns. If free dispensaries are opened in every village I am quite sure the unauthorized practitioners will soon disappear. Of course some illiterate or even educated people may still patronize them. But that is done even in this civilized country; millions of pounds' worth of useless patent medicines are bought by the British people every year; thousands of people still go to the herbalist, old-type oculist, and the charm-man, in spite of the fact that most people can easily obtain free and efficient medical treatment from a doctor, a clinic, or a hospital. If an Englishman can do it, why blame the poor illiterate Indian villager?

3. Lieut.-Col. Patch describes a madhouse of 1922 in Lahore and compares it with a modern mental hospital in this country. He does not know, or has forgotten, the condition of "poor-houses" or "workhouses" in this country. Even now I cannot persuade many of my patients here to go to an infirmary.

4. Everyone knows what India's needs are so far as health is concerned. We need more and better-equipped medical colleges, hospitals, doctors, nurses, pharmaceutical companies, and free and universal national health services. But how are all these things to be done? They need careful planning, co-operation between all sections of the community, and plenty of money. Lieut.-Col. Patch—like most of the British observers—places the whole blame on Indian Ministers and absolves the British Viceroys and Governors of all responsibility on the grounds that they cannot go against the Indian Ministers. This is sheer nonsense. Finance is still in the hands of the Viceroy, and only a tiny fraction of the revenue is allocated to medical and health services. Much of this goes in the pockets of highly paid I.M.S. officers and others. Indian Legislatures and Ministers cannot say a word about finance. It is not the Ministers who have the power of veto over the Governors; it is the reverse. Governors have dismissed their Ministers many times during the last few years for political reasons.—I am, etc.,

Birmingham. D. R. Prem.

Tyre Replacements

Sir,—The holders of "E" coupons have still to go through the farcical procedure of filling up a form to obtain another form in order to obtain a tyre. As all "E" users are clearly entitled to tyres, why not permit them to place the order at once on presentation of a current petrol coupon? The above procedure took only 3 to 4 days during the war. Now it takes two weeks precisely from the sending of the first form to reception of the permissive document. This is only the start of the trouble. During the war we could, with such a permit, acquire a tyre at once, or at the most within a week. Now the shortage is so serious that it may be necessary to wait for 2 to 3 months. What is the explanation of this? Is it that all new tyres are now being allotted to car manufacturers, with complete disregard for the "essential consumers"? A doctor who has but one car and one spare wheel is thus rationed to one serious puncture every three months. If he has more he must cease practice. No amount of battering at the gates of bureaucracy (a term rapidly becoming synonymous with democracy) will bring him relief. Is the B.M.A. really incapable of tackling this monstrosity of inept administration?—I am, etc.,

London, W.1. A. H. Douthwaite.

⁂ The Secretary of the B.M.A. states: Although we are not responsible for the Ministry of Supply's arrangements it is only fair to state that one of the forms is an application, obtainable at any post office, and the other is a permit to purchase. We are informed by the Ministry that there is no reason why doctors should have to wait for two or three months before obtaining tyres. The same priority is afforded as hitherto, and in cases of delay direct application should be made to the Regional Tyre Officer, whose address may be obtained from an authorized tyre dealer. A note on the present position appears in this *Supplement* on page 78.

Support for B.M.A. Policy

SIR,—The North-East Essex Division are calling an open meeting to consider the following resolution:

"That this meeting is solidly behind the Negotiating Committee of the British Medical Association appointed to consult with the Government on the proposed National Health Service, and asks them to stand firm on the principles approved by the A.R.M. of 1944 and the Special R.M. of 1945."

I have been asked by the committee to forward this to you for publication in the hope that other Divisions may affirm similar resolutions and demonstrate the profession's support of the B.M.A.—I am, etc.,

WALTER RADCLIFFE,
Hon. Sec., North-East Essex Division.
Colchester.

National Health Service

SIR,—Surely we are looking at this question of a National Health Service from the wrong angle. We should not have been in the position of having to oppose the Government. We have asked humbly for changes for many years. Now, with a change of Government, is our opportunity. We should formulate our scheme, make our demands, publicize them, and put the Government in the position that they must either accede to the demands of the doctors or resist them.—I am, etc.,

Crowthorne. H. D. FORBES FRASER.

In Dr. Watson's Day

SIR,—In reading recently a life of Conan Doyle I came across the following passage: "The few patients were so poor that they could seldom afford more than eighteen pence." That was in 1882. In 1937–8 I kept a record for a year and found that I received an average of twenty-three pence for every N.H.I. person seen. The "being seen" might mean a certificate only, a consultation, or a visit, night or day, an operation, or an accident, in the last case not forgetting the mess to be cleared up afterwards. With the increased sickness rate of to-day the average is certainly back to Dr. Doyle's "eighteen pence."

And yet there are "simple Simons" among us who believe that, when the medical profession is in abject subservience to the State, the State will be less parsimonious than in the past. That the Labour Party has always acted on the peculiar principle that the worker is deserving of only the cheapest doctor should make both worker and doctor view future plans with suspicion.—I am, etc.,

Chingford, E.4. R. A. MURPHY.

The R.A.F. has announced that medical officers in age-and-service groups 15 to 20 inclusive will be released in November and December.

The Medical Department of the Navy has stated that Naval medical officers in Groups 1 to 7 who have not volunteered for further service will either be released or be on their way home for release by the end of October, and a start will be made on Groups 8 to 15. The Admiralty is awaiting information as to the number of medical officers who wish to remain in the Service before making a further announcement; the aim is to release all groups up to 15 by the end of the year.

H.M. Forces Appointments

ARMY

Col. E. A. P. Brock, late R.A.M.C., having completed four years in the rank, is retained on the Active List supernumerary.

Lieut.-Col. K. P. Mackenzie, from R.A.M.C., to be Col.

ROYAL ARMY MEDICAL CORPS

Lieut.-Col. W. H. A. D. Sutton, O.B.E., having attained the age for retirement, is retained on the Active List supernumerary.

Major (War Subs. Lieut.-Col.) W. G. S. Foster to be Lieut.-Col.

Major A. McMillan to be Lieut.-Col.

Major E. S. Tweedy has retired on account of disability, and has been granted the honorary rank of Lieut.-Col.

TERRITORIAL ARMY

ROYAL ARMY MEDICAL CORPS

War Subs. Majors G. M. Frizell, T.D., W. M. Arnott, T.D., and D. H. Young to be Majors.

War Subs. Capt. J. Rowatt has relinquished his commission on account of disability, and has been granted the honorary rank of Major.

War Subs. Capts. K. W. N. Palmer, A. B. Dick, and J. W. E. Fellows to be Capts.

ROYAL AIR FORCE

ROYAL AIR FORCE VOLUNTEER RESERVE

Fl./Lieut. W. Begg has relinquished his commission on account of medical unfitness for Air Force service, retaining his rank.

Ft. Lieut. A. M. Foxe has resigned his commission, retaining his rank.

AUXILIARY AIR FORCE RESERVE OF OFFICERS

Ft. Lieut. (Temp. Squad. Ldr.) H. W. Walter has relinquished his commission on account of medical unfitness for Air Force service, retaining the rank of Squad. Ldr.

INDIAN MEDICAL SERVICE

Lieut.-Cols. P. H. S. Smith, O.B.E., and T. R. Khanna to be Cols.

EMERGENCY COMMISSION

W. Hayes to be Capt.

ARMY IN BURMA RESERVE OF OFFICERS

EMERGENCY COMMISSIONS

To be Lieuts.: E. Maung, A. Shaung, and T. Shwe.

COLONIAL MEDICAL SERVICE

The following appointments are announced: Mrs. Ethel E. A. D. Knowles, M.R.C.S., L.R.C.P., District Medical Officer, Bahamas; Miss Margaret D. Miller, M.B., Ch.B., Medical Officer, Tanganyika; H. A. Munro, L.R.C.P., L.R.C.S., Medical Officer, St. Vincent.

B.M.A. LIBRARY

The following books were added to the library during May and June, 1945:

Armstrong, J. R.: Bone-Grafting in Treatment of Fractures. 1945.
Bellows, J. G.: Cataract and Anomalies of the Lens. 1944.
Black's Medical Dictionary. By J. D. Comrie. Eighteenth edition. 1944.
Burton, E. F., and Kohl, W. H.: The Electron Microscope. 1942.
Comroe, B. I.: Arthritis and Allied Conditions. Third edition. 1944.
Dattner, B.: The Management of Neurosyphilis. 1944.
Eder, David: Memoirs of a Modern Pioneer. Edit. by J. B. Hobman. 1945.
Ewing, I. R.: Lipreading and Hearing Aids. 1944.
Forbus, W. D.: Reaction to Injury. 1943.
Hamilton, W. J., *et al.*: Human Embryology. 1945.
Health and Social Welfare, 1944-1945 (Advisory Editor: Lord Horder). 1945.
Howell, T. H.: Old Age: Some Practical Points in Geriatrics. 1944.
Illingworth, C. F. W., and Dick, B. M.: Textbook of Surgical Pathology. Fifth edition. 1945.
Keers, R. Y., and Rigden, B. G.: Pulmonary Tuberculosis. 1945.
Kersley, G. D.: Outlines of Physical Methods in Medicine. 1945.
Maxwell, I.: Clinical Biochemistry. Fifth edition. 1944.
Mills, C. A.: Climate Makes the Man. 1944.
Mulinos, M. G.: Pharmacology. 1944.
Paterson, D.: Sick Children. Fifth edition. 1944.
Pedersen, K. O.: Ultracentrifugal Studies on Serum and Serum Fractions. 1945.
Rowbotham, G. F.: Acute Injuries of the Head. 1945.
Smout, C. F. V., and McDowall, R. J. S.: Anatomy and Physiology for Students of Physiotherapy. 1944.
Stitt's Diagnosis, Prevention and Treatment of Tropical Diseases. Seventh edition. 2 volumnes. 1944.
Stokes, J. H., *et al.*: Modern Clinical Syphilology. Third edition. 1944.
Take Care of Your Feet. 1944.
Taylor, S.: Battle for Health. 1944.
Tidy, Sir Henry L.: A Synopsis of Medicine. Eighth edition. 1945.
Wolf, S., and Wolff, H. G.: Human Gastric Function. 1944.

POSTGRADUATE NEWS

The Fellowship of Medicine announces: (1) Revision course in anaesthetics, Oct. 8 to 20, demonstrations and/or lectures daily at various London hospitals; (2) Week-end course in rheumatic diseases, all-day, Sat. and Sun., Oct. 20 and 21, at Rheumatic Unit, St. Stephen's Hospital, Fulham Road, S.W.; (3) Week-end course in diseases of the ear, nose, and throat, Sat. and Sun., Nov. 10 and 11, at Metropolitan Ear, Nose, and Throat Hospital; (4) Primary F.R.C.S. course, Nov. 1945 to Jan. 1946, three evenings weekly, 6 p.m. to 8.15 p.m.; (5) Week-end course in rheumatic diseases at Royal Bath Hospital, Harrogate, all-day, Sat. and Sun., Nov. 3 and 4. Full particulars of courses from the Fellowship of Medicine, 1, Wimpole Street, W.

WEEKLY POSTGRADUATE DIARY

GLASGOW UNIVERSITY: DEPARTMENT OF OPHTHALMOLOGY.—*Wed.*, 8 p.m., Prof. A. J. Ballantyne: III. Tumours and Pseudo-tumours.

DIARY OF SOCIETIES AND LECTURES

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—*Mon.*, *Wed.*, and *Fri.*, 2.30 p.m., Prof. John Beattie, Kidney Function. *Mon.*, 3.45 p.m., Prof. R. A. Willis, Routes of Metastasis of Tumours; 5 p.m., Prof. A. J. E. Cave, Anatomy of the Mammary Gland. *Wed.*, 3.45 p.m., Prof. Willis, Metastatic Tumours in the Lungs, Liver, etc. *Wed.* and *Fri.*, 5 p.m., Prof. Cave, Constitution of the Abdominal Walls. *Thurs.*, 5 p.m., Lister Memorial Lecture by Sir Howard Florey: The Use of Micro-organisms for Therapeutic Purposes. *Fri.*, 3.45 p.m., Prof. Willis, Metastatic Tumours in Bones.

ROYAL SOCIETY OF MEDICINE.—*Tues.*, 5 p.m., Section of Experimental Medicine and Therapeutics; 5.30 p.m., Section of Psychiatry. *Wed.*, 2.15 p.m., Section of Comparative Medicine; 4.30 p.m., Section of Physical Medicine. *Thurs.*, 5 p.m., Section of Ophthalmology. *Fri.*, 5 p.m., Clinical Section.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.—*Mon.*, 8 p.m., General meeting. 8.30 p.m., Presidential Address by Sir James Walton: The Aetiology of Gall-stones.

ROYAL MEDICAL SOCIETY, 7, Melbourne Place, Edinburgh.—*Fri.*, 8 p.m., Dr. Charles Hill (Secretary, B.M.A.): The Future of Medical Practice.

ROYAL SANITARY INSTITUTE.—At Rehabilitation Hall, Hospital Annexe, Hope Hospital, Eccles, Old Road, Salford, *Sat.* (Oct 13), 10 a.m., Salford Sessional Meeting. Dr. J. L. Burn: New Remedies in Disinfestation. Mr. J. E. Blease: The Unfit House.

B.M.A.: Branch and Division Meetings to be Held

CITY OF EDINBURGH DIVISION.—At B.M.A. Scottish House, 7, Drumsheugh Gardens, Edinburgh, Tuesday, Oct. 9, 8 p.m. Film: Sex Hormones: Physiology, Diagnosis, and Treatment. Dr. W. G. Clark: Edinburgh Scheme under the Maternity Services (Scotland) Act, 1937.

ISLE OF WIGHT DIVISION.—At St. Thomas's Church, Newport, Sat., Oct. 6, 3.15 p.m. Mr. E. Mowat: Divine Healing. All medical practitioners and ministers of religion in the area of the Division are invited.

BIRTHS, MARRIAGES, & DEATHS

The charge for an insertion under this head is 10s. 6d. *for* 18 *words or less. Extra words* 3s. 6d. *for each six or less. Payment should be forwarded with the notice, authenticated by the name and permanent address of the sender, and should reach the Advertisement Manager not later than first post Monday morning.*

BIRTHS

LAMBERT.—On Sept 23, 1945, at Hillingdon County Hospital, to Sadie (*née* Woolf), wife of Dr. E. Vivian Lambert, of Sussex Lodge, Uxbridge, a daughter.

PAYNE.—On Sept. 22, 1945, at Dunstall House Nursing Home, Belsize Park, to Thelma Dorothy, wife of R. F. Payne, B.A., M.R.C.S., L.R.C.P., a son.

MARRIAGE

OWEN—NEILD.—On Sept. 29, 1945, at Wetherby, Capt. Llewelyn P. Owen, R.A.M.C., to Barbara H. Neild.

DEATH

HAMILTON.—On Sept. 24, 1945, Alexander Keith Hamilton, M.B., formerly of The Great House, Tiverton, Devon.

IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page 10

COUNTY BOROUGH OF IPSWICH. TEMPORARY ASSISTANT MEDICAL OFFICER OF HEALTH.—Applications are invited from registered medical practitioners for the above appointment. The possession of the Diploma in Public Health or an equivalent qualification will be an advantage. The salary scale is £600 p.a. rising by annual increments of £25 to £700, plus war bonus, and the successful candidate will devote the whole of his or her time to the duties of the office, under the direction of the Medical Officer of Health. The approval of the Minister of Health has been obtained for the appointment, and candidates should submit with their applications full information as to their liability for military service, medical fitness, and position as regards deferment. Applications, endorsed "Assistant Medical Officer of Health," should be forwarded to the Medical Officer of Health, Elm Street, Ipswich, at once.—A. Moffat, Town Clerk, Town Hall, Ipswich.

COUNTY BOROUGH OF BURNLEY. TEMPORARY ASSISTANT MEDICAL OFFICER OF HEALTH.—Applications are invited from medical practitioners, either sex, for the above temporary position. Persons already in whole-time public health employment by local authorities will not be eligible to apply. The duties will be mainly in connexion with the School Medical Service but will include maternity and infectious diseases. Salary £500 per annum rising by £25 per annum to a maximum of £700 per annum plus bonus of at present £59 16s. Conditions of appointment and forms of application may be obtained from the Medical Officer of Health, St. James's Street, Burnley. to whom applications must be returned as soon as possible.—Archibald Glen, Town Clerk, Town Hall, Burnley.

COUNTY COUNCIL OF THE WEST RIDING OF YORKSHIRE. County and Emergency Hospital, Otley (296 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of a RESIDENT MEDICAL OFFICER (B2), vacant now, including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months, otherwise it will be for a period not exceeding one year. The salary is at the rate of £200 per annum, with full residential emoluments. Applications should be submitted to the Deputy Medical Officer, County Hall, Wakefield.—Bernard Kenyon, Clerk of the County Council, County Hall, Wakefield.

CITY OF NORWICH. Woodlands Hospital (311 beds). ASSISTANT RESIDENT MEDICAL OFFICER (B2).—Applications are invited from registered medical practitioners for the appointment of Assistant Resident Medical Officer (B2), including R and W practitioners who now hold A posts. If held by an R practitioner, the appointment will be limited to six months, otherwise it will be for a period of one year. The salary is at the rate of £250 per annum, with full residential emoluments. Further particulars of appointment to be obained from the Senior Medical Officer, Woodlands Hospital, Bowthorpe Road, Norwich, and to whom applications should be sent.—Bernard D. Storey, Town Clerk, City Hall, Norwich.

CITY OF STOKE-ON-TRENT. City General Hospital. Appointment of SENIOR ASSISTANT RESIDENT MEDICAL OFFICER (B1).—Applications are invited from registered medical practitioners for the appointment of Senior Assistant Resident Medical Officer (B1) at the City General Hospital, Stoke-on-Trent (1,200 beds). Applicants should have held house appointments and had surgical experience. Suitably qualified R practitioners, holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary £350 per annum rising by annual increments of £25 per annum to £450 per annum, plus bonus and residential emoluments. Local Government Superannuation Act, 1937, applies. Appointment subject to one month's notice on either side. All fees receivable to be paid to the Corporation. Applications endorsed "Senior Assistant Resident Medical Officer, City General Hospital," to be sent to the undersigned as soon as possible.—Harry Taylor, Town Clerk.

CITY OF LEEDS. Public Health Department. St. Mary's Infirmary. RESIDENT MEDICAL OFFICER (B2).—Applications are invited from registered medical practitioners, male, for the post of Resident Medical Officer (B2) for the above hospital, including R practitioners who now hold A posts. If held by an R practitioner, the appointment will be limited to six months, otherwise it will be for a period of twelve months. Preference will be given to candidates who have held an A post in a maternity hospital. The salary is at the rate of £250 per annum, plus a cost-of-living bonus, together with full residential emoluments. The Hospital comprises a maternity unit of 98 beds and 102 beds for chronic sick. It is a Part I Training School under the regulations of the C.M.B., and the duties of the officer will include instruction of pupil midwives. All fees received by the officer must be paid in to the City funds. Applications, endorsed "R.M.O.," to be forwarded to the undersigned.—J. Johnstone Jervis, Medical Officer of Health, Public Health Department (Hospitals Administration Section), 12, Market Buildings, Leeds, 1.

COUNTY COUNCIL OF MIDDLESEX, NAPSBURY AND SHENLEY MENTAL HOSPITALS. —Applications are invited from duly qualified medical practitioners for the established posts of RESIDENT MEDICAL SUPERINTENDENT at each of the above hospitals, the normal accommodation of each being between 1,700 and 2,000 beds. The commencing salary for each post will be £1,500 per annum, rising by annual increments of £50 to £1,750, and an unfurnished house will be provided rent free (general and water rates being paid by the Council), but there are no other emoluments. The appointments will be subject to the Standing Orders and Staff Regulations of the Council as in force from time to time and to the Asylum Officers' Superannuation Act, 1909. The persons appointed must devote their whole time to the service of the Council, and the duties of each post will include such functions relating to the County Mental Health Service, including responsibility for an Out-patient clinic at a county general hospital, as the Council may from time to time determine. All fees received must be paid over to the Council. Candidates must have previous experience in mental hospital work, and preference will be given to those holding the D.P.M. qualification. Candidates not already on the permanent staff of the Council should be under 46 years of age on April 1, 1946, and will be required to pass a medical examination. Applications, accompanied by copies of three testimonials, should reach the undersigned (envelope to be marked "Z") not later than January 14, 1946, and should indicate a date (not being earlier than April 1 or later than June 1, 1946) for commencing duties if appointed. Candidates serving over-seas may furnish the names of three referees in lieu of forwarding copy testimonials. An interview of selected applicants will take place about the middle of February, 1946, and candidates should indicate where a telegram or cable will reach them about three weeks beforehand. Candidates must be prepared to accept either position if offered. Canvassing will be a disqualification.—C W. Radcliffe, Clerk of the County Council, Guildhall, Westminster, London, S.W.1.

GLAMORGAN COUNTY COUNCIL. West Glamorgan County Hospital, Neath. TEMPORARY HOUSE SURGEON (A).—Applications are invited from registered medical practitioners (including practitioners within three months of qualification who are liable to serve under the National Service Acts) for the appointment of Temporary House Surgeon (A) at the West Glamorgan County Hospital, Neath. If held by a practitioner who is liable under these Acts, the appointment will be limited to six months, otherwise it will not exceed one year. Salary £200 per annum, plus cost of living bonus and residential emoluments. All fees whatsoever received by the successful applicant whilst holding the appointment must be handed over to the County Council. The appointment will be terminable by one month's notice on either side. Applications should be sent to the County Medical Officer, Glamorgan County Hall, Cardiff, within ten days of the publication of this advertisement. A. Clifford Walter, Deputy Clerk of the County Council, Glamorgan County Hall, Cardiff.

EAST RIDING COUNTY COUNCIL.—Driffield Emergency Hospital (324 beds).—Applications are invited from registered medical practitioners for the appointment of RESIDENT SURGICAL OFFICER (B1), vacant immediately. The Hospital provides experience in general surgery. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary from £350 to £550 per annum according to qualifications and experience, together with full residential emoluments.

Beverley Emergency Hospital.—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (B2) (general duties), vacant November 1, 1945, including R and W practitioners who now hold A posts. If held by an R practitioner, the appointment will be limited to six months, otherwise it will be for a period not exceeding one year, subject to one month's notice on either side. The salary is at the rate of £200 per annum, with full residential emoluments.

Applications for each post to be made as soon as possible to the undersigned.—T. Stephenson, Clerk of the Council, County Hall, Beverley.

MERIONETH COUNTY COUNCIL. TEMPORARY ASSISTANT MEDICAL OFFICER.—Applications are invited for the above post from registered male or female medical practitioners. The appointment will be for a period of twelve months and will be determinable by one calendar month's notice on either side. The salary is at the rate of £500 per annum together with cost-of-living bonus and travelling and subsistence allowances according to the Council's scale. The successful applicant will be required to reside at Dolgelley and to carry out duties in connexion with Public Health and School Medical Service. The successful applicant will also be required to pass a medical examination by the County Medical Officer of Health. Further particulars may be obtained from the County Medical Officer of Health, County Offices, Dolgelley. Applications should reach the undersigned not later than Saturday, October 20, 1945.—Hugh J. Owen, Clerk of the County Council, County Offices, Dolgelley.

CHESHIRE COUNTY COUNCIL. Macclesfield West Park (County) General Hospital. RESIDENT ASSISTANT MEDICAL OFFICER (B2).—Applications are invited from registered medical practitioners (male or female) including R and W practitioners who now hold A posts, for the above appointment at a salary of £300 per annum, together with the usual residential allowances. If held by an R practitioner, the appointment will be limited to six months, otherwise it may be renewed for a further period of six months. The duties will be mainly in the Maternity Department. Applications to be made on forms obtainable from the undersigned and returned not later than October 20, 1945.—Ian Mackay, County Medical Officer of Health, County Public Health Department; 24 Nicholas Street, Chester.

LONDON COUNTY COUNCIL.—Applications are invited for appointment to two positions of full-time JUNIOR ASSISTANT PHYSICIST (temporary wartime appointment) in the Council's hospitals service. The duties will be mainly in connection with *x*-ray and radium work at Hammersmith Hospital, Ducane Road, W.12, and Lambeth Hospital, Brook Drive, S.E.11, but the persons appointed will be required to undertake any other duties which may be allotted to them from time to time. Salary £350 a year rising by annual increments of £25 to £400 a year (together with cost-of-living addition, £60 a year for men or £48 a year for women) There are no emoluments. Application forms giving full particulars obtainable (stamped addressed foolscap envelope necessary) for Medical Officer of Health (S.D.6.), London County Council, County Hall, S.E.1, are returnable by October 19, 1945.

MIDDLESEX COUNTY COUNCIL. ASSISTANT MEDICAL OFFICER (res. or non-res. B1) required at CLARE HALL COUNTY HOSPITAL, South Mimms, Middlesex (540 beds for tuberculosis).—Applications invited from registered medical practitioners (including R and W practitioners holding B2 posts) who have held house appointments and had experience in diagnosis and treatment of pulmonary tuberculosis. R practitioners holding B1 posts ineligible unless rejected by R.A.M.C. Salary £400 by £50 to £500 p a. Board, lodging and laundry or, if non-res., £100 p.a. cash allowance in lieu of residential emoluments. Additional cost of living bonus (now £60 p.a.), proportion only in cash if resident. Appointment in first instance for one year, medical examination. Whole-time duties, such as Council may require, under general supervision of Medical Director. Post vacant end of October, 1945. Application to The Clerk of the County Council, "Z." Application forms not provided. Closing date October 20, 1945.—C. W Radcliffe, Clerk of the County Council, Middlesex Guildhall, Westminster, S.W.1.

MIDDLESEX COUNTY COUNCIL. HOUSE SURGEON (Res., A) required at ASHFORD COUNTY HOSPITAL, London Road, Ashford, Middlesex, for general surgical wards.—Applications invited from registered medical practitioners (men only) including those within three months of qualification who are liable to service under National Service Acts. Salary £120 p.a. plus cost of living bonus (now £60 p.a., proportion only paid in cash), board, lodging and laundry. Whole-time duties, such as Council may require, under supervision of Medical Director. Six months appointment. Post vacant November 1, 1945. Application to Medical Director of Hospital. Application forms not provided. Closing date, October 20, 1945.—C. W Radcliffe, Clerk of the County Council, Middlesex Guildhall, Westminster, S.W.1.

MONMOUTHSHIRE COUNTY COUNCIL. The County Hospital, Panteg, Griffithstown. ASSISTANT RESIDENT MEDICAL OFFICER (B2).—Applications are invited from registered medical practitioners, female, for the appointment of Assistant Resident Medical Officer at the County Hospital, Panteg (B2), including W practitioners who now hold A posts. The appointment will be for a period of one year. Salary is at the rate of £200 per annum, with full residential emoluments. Applications to be forwarded to the Medical Superintendent at the hospital as soon as possible.—D. Rocyn Jones, County Medical Officer, County Hall, Newport, Mon.

SURREY COUNTY COUNCIL. Epsom County Hospital, Dorking Road, Epsom (350 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of ASSISTANT MEDICAL OFFICER (B2) including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to 6 months, otherwise it will not exceed 1 year. Applicants must have held house appointments with general experience and should be capable of administering anaesthetics. Salary at the rate of £250 p.a. plus full residential emoluments and war bonus.—Apply to the Medical Superintendent at the hospital by October 20, 1945.

STAFFORDSHIRE GENERAL INFIRMARY Stafford.—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A) Salary £196 per annum, with board residence. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when appointment will be for six months Applications to be forwarded to the undersigned.—A E. Collins, Secretary.

IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page 10

ACTON HOSPITAL, Gunnersbury Lane, W.3.—Applications are invited from registered medical practitioners, male or female, including practitioners within three months of qualification who are liable to service under the National Service Acts, for the appointment of CASUALTY OFFICER (A) for three months commencing early November, and RESIDENT MEDICAL OFFICER for a further three months. Salary at the rate of £150 per annum with full residential emoluments. Applications to be sent to the undersigned as soon as possible.—Donald C. D. Sword, Secretary.

BOOTLE GENERAL HOSPITAL.—Applications are invited from duly qualified and registered medical practitioners for the position of VISITING FEMALE MEDICAL OFFICER (Temporary) to the women's venereal disease department. Candidates should be experienced in this special branch of medicine. At present there are two clinics per week, each of two hours duration. Salary £200 per annum. In accordance with the policy of the British Medical Association, all appointments made to the Visiting Medical Staff until twelve months after the cessation of hostilities are on a temporary basis. Applications stating age and giving full particulars of academic qualifications and experience to be sent to the undersigned, with three supporting testimonials, not later than Saturday, October 13, 1945.—A. J. Cooper, Superintendent.

BIRKENHEAD GENERAL HOSPITAL (Incorporated).—Applications are invited by the General Committee for the following appointments: (1) HONORARY PHYSICIAN; (2) HONORARY ASSISTANT EAR, NOSE, AND THROAT SURGEON; (3) HONORARY ASSISTANT ORTHOPAEDIC SURGEON. Applications should be sent to the undersigned not later than February 6, 1946. Applications from Service candidates are invited. The above appointments, which it is proposed to make on a permanent basis (subject to annual re-election by the Governors), are being notified to the Medical Directors-General at the Admiralty, War Office, and Air Ministry in order that they may be brought to the notice of medical officers through Service channels. The present honorary assistant physician and temporary assistant E.N.T. surgeon are candidates for posts (1) and (2) respectively.—W. H. Daniels, F.C.I.S., Secretary-Superintendent.

BOSTON GENERAL HOSPITAL, Lincolnshire.—Applications are invited from registered medical practitioners, male or female, for the appointment of RESIDENT MEDICAL OFFICER (B2). R and W Practitioners who now hold A posts may apply, when appointment will be limited to six months. Salary at the rate of £250 per annum with full residential emoluments. Applications should be sent to the undersigned at once.—B. Haines, Sec.

BRADFORD ROYAL INFIRMARY.—Applications are invited from registered medical practitioners, male single, for the posts of HOUSE SURGEON (B2), vacant now, and HOUSE PHYSICIAN (A), vacant October 17, 1945. Six months' appointment. In the case of the B2 post, R practitioners who now hold A posts may apply and for the A post practitioners within three months of qualification and liable under the National Service Acts may also apply. Salary £150 per annum, with full residential emoluments. There are 372 beds and 8 resident officers. Applications should be sent immediately to H. Trusson, House Governor and Secretary.

BARNSLEY HALL EMERGENCY HOSPITAL, Bromsgrove, Worcestershire.—Applications are invited from registered medical practitioners, male and female, for the appointment of a B1 MEDICAL OFFICER to the Spinal Unit. Suitably qualified R practitioners holding B2 appointments are invited to apply. Applications from male R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. The salary is at the rate of £350 per annum with full residential emoluments. Applications should be addressed to the Medical Superintendent.

CHELMSFORD AND ESSEX HOSPITAL, London Road, Chelmsford, Essex (186 beds).—Applications are invited for the post of HOUSE SURGEON (A), male or female, to commence at once. Salary £175 per annum, plus board, lodging, and laundry. Apply to the undersigned. Practitioners within three months of qualification who are liable to service under the National Service Acts may apply, when appointment will be for a period of six months.—R. G. Morrish, House Governor and Secretary.

CUMBERLAND INFIRMARY, Carlisle.—Applications are invited from registered medical practitioners, including practitioners within three months of qualification who are liable to service under the National Service Acts, for the post of HOUSE SURGEON (A), vacant now. The appointment will be for a period of six months. Salary is at the rate of £100 per annum with board, etc. Applications should be sent to the Secretary-Superintendent immediately.

CROYDON GENERAL HOSPITAL (A voluntary hospital of 200 beds). CLINICAL ASSISTANT.—Applications are invited from registered medical practitioners, male or female, for the position of Clinical Assistant to the Orthopaedic Department on Thursdays at 9.30 a.m. Further particulars can be obtained from the undersigned to whom applications should be sent at once.—George A. Paines, House Governor.

CROYDON GENERAL HOSPITAL, Surrey (200 beds).—Applications are invited for the following appointments (male or female), all of which are with residential emoluments.

RESIDENT ANAESTHETIST (A) required immediately, salary £250 per annum. This post is recognized for applicants wishing to sit for the Diploma of Anaesthetics.

CASUALTY OFFICER (A) to commence duty November 1, salary £120 per annum. Practitioners within three months of qualification who are liable to service under the National Service Acts may apply.

SENIOR CASUALTY OFFICER (B2) to commence duty November 1, salary £200 per annum. R and W practitioners now holding A posts may apply.

All above appointments are for periods of six months. Applications to be sent as soon as possible to—George A. Paines, House Governor.

CHARING CROSS HOSPITAL. SURGICAL REGISTRAR.—Applications are invited from registered medical practitioners, male, for the above B1 appointment. Suitably qualified R practitioners holding B2 appointments are invited to apply. R practitioners now holding B1 appointments cannot be considered, unless they have been rejected by the R.A.M.C. Minimum commencing salary £350 per annum. Applications should be sent to the undersigned not later than October 15, 1945.—George J. Jones, Secretary, Charing Cross Hospital, London, W.C.2.

THE CHILDREN'S HOSPITAL, King Edward VII Memorial, Birmingham, 16. ASSISTANT RESIDENT MEDICAL OFFICER (B2).—Applications are invited from registered medical practitioners, male or female, for the appointment of Assistant Resident Medical Officer (B2), vacant November 15, 1945, including R and W practitioners who now hold A posts. The salary is at the rate of £250 per annum, with full residential emoluments. If held by an R practitioner the appointment will be limited to six months; otherwise it will be for one year. Applications should be sent to the undersigned by October 31.—Arnold Tunstall, House Governor.

CLAYTON HOSPITAL, Wakefield.—Applications are invited immediately from registered medical practitioners for the following appointment: RESIDENT ORTHOPAEDIC OFFICER with Casualty Duties (B2), male. Salary £200 per annum, with full residential emoluments. R practitioners who now hold A posts may apply, when appointment will be limited to six months, otherwise it may be extended for a further period. Applications should be sent to the undersigned as soon as possible.—W. Read, Superintendent and Secretary.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—Applications are invited for the post of SPECIALIST PHYSICIAN to be responsible for the supervision and treatment of medical cases. Applicants should have the qualification M.R.C.P., Edinburgh or London, or F.R.F.P.S., Glasgow, and be prepared to live in Dumfries. The post will be remunerated to the extent of at least £500 per annum from the hospital appointments, and the person appointed shall have the right of private consultant practice within the area of the Counties of Dumfries, Kirkcudbright and Wigtown. Further particulars of the conditions of the appointment may be obtained from the undersigned, with whom applications should be lodged. The closing date for applications, to enable members serving with His Majesty's Forces to apply, is extended to February 6, 1946.—J. A. Will, Secretary, 3, Great King Street, Dumfries.

EAST SUFFOLK AND IPSWICH HOSPITAL, Ipswich (400 beds).—Applications are invited from registered medical practitioners for the following posts: HOUSE SURGEON (B2) to the Orthopaedic and Fracture Dept., vacant November 6, 1945; HOUSE PHYSICIAN (B2) vacant November 13, 1945; R practitioners now holding A posts may apply for the above. HOUSE SURGEON (A) to a General Surgeon, vacant October 17, 1945; HOUSE SURGEON (A) to a General Surgeon, vacant November 24, 1945; HOUSE SURGEON (A) to the Gynaecological and Obstetrical Dept., vacant December 7, 1945; practitioners liable to military service and within three months of qualification may apply for the above. Appointments will be for six months. Salary for each is at rate of £175 per annum with full residential emoluments. Arthur Griffiths, Secretary, The Hospital, Ipswich.

EAST SUFFOLK AND IPSWICH HOSPITAL. OPHTHALMIC SURGEON.—The Board of Management invites applications for the appointment on its visiting medical staff of an Ophthalmic Surgeon. Each candidate must be a registered medical practitioner and a Fellow of a Royal College of Surgeons and have special experience in Ophthalmology. To permit candidates in H.M. Forces serving abroad being considered the latest date for the return of applications is March 1, 1946. If the selected candidate is subject to any restriction on the transfer of his services from essential National Service, he will not be required to take up his new appointment until the restriction is removed. Applications to be made on form to be supplied and to be accompanied by not more than three testimonials.—Arthur Griffiths, Secretary, the Hospital, Ipswich.

GENERAL HOSPITAL, NOTTINGHAM (664 beds including E.M.S. beds).—Applications are invited from registered medical practitioners (male and female) including practitioners within three months of qualification who are liable to service under the National Service Acts for the appointment of a HOUSE SURGEON (A) for the above hospital. Duties to commence as soon as possible. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary at the rate of £200 per annum with full residential emoluments. Applications to be sent to the undersigned.—Henry M. Stanley, House Governor and Secretary.

GERMAN HOSPITAL, Ritson Road, Dalston, London, E.8. (British Voluntary Hospital under E.M.S. Scheme).—HOUSE PHYSICIAN (B2) with some practical experience wanted immediately. R and W practitioners who now hold A posts may apply. If held by an R practitioner appointment will be limited to six months. Commencing salary £200 per annum or more according to experience, with full board and residence. Please apply to the Secretary.

HULL ROYAL INFIRMARY.—Applications are invited for the following posts: SECOND HOUSE SURGEON (B2) (recognized for F.R.C.S.) and ORTHOPAEDIC HOUSE SURGEON (B2). Two posts; vacant now. Suitably qualified R and W practitioners who now hold A posts may apply. If held by R and W practitioners the appointments will be limited to six months.

CASUALTY OFFICER (A) vacant November. Practitioners within three months of qualification who are liable to service under the National Service Act may apply when appointment will be for a period of six months. Salary for each of the above three posts £200 per annum with full residential emoluments. Applications to R. J. Carless, House Governor.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.3.—Applications are invited from registered medical practitioners, including suitably qualified R practitioners who now hold B2 posts, for the appointment of RESIDENT MEDICAL OFFICER (B1). Applicants must have held a resident hospital appointment, and R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. The appointment is for one year, with eligibility for reappointment. Salary £350 per annum, with board and residence, and an additional £50 for services in connection with paying patients. Applications should reach the undersigned not later than Saturday, 13th October, 1945. F. G. Rouvray, Secretary.

HUDDERSFIELD ROYAL INFIRMARY (321 beds).—CASUALTY OFFICER (B2) required, to commence immediately. R and W practitioners who now hold A posts may apply. If held by an R or W practitioner appointment will be limited to six months. Salary at the rate of £200, with full residential emoluments.

Applications are also invited for the post of RESIDENT SURGICAL OFFICER (B1). Applicants should have held house appointments, and preference will be given to candidates holding diploma of F.R.C.S. Salary at the rate of £350 per annum, with full residential emoluments. Suitably qualified R and W practitioners holding B2 appointments, and also R practitioners holding B1 appointments and rejected by the R.A.M.C., may apply.

Applications for each post to be sent to the undersigned as soon as possible.—H. J. Johnson, General Superintendent and Secretary.

HAMPSTEAD GENERAL HOSPITAL, Haverstock Hill, N.W.3.—Applications are invited from registered medical practitioners, male and female, for the following three resident posts vacant December 1, tenable for six months, salaries £133 6s. 8d. p.a., with board, lodging and laundry.

Main Hospital, N.W.3.—JUNIOR MEDICAL OFFICER (B2) includes medical and surgical work. Main Out-Patient Dept., Camden Town, N.W.1.—CASUALTY MEDICAL OFFICER (B2) also CASUALTY SURGICAL OFFICER (B2). R and W practitioners holding A posts and practitioners within 3 months of qualification and liable under the National Service Acts may apply. Applications on the prescribed form with copies of three recent testimonials to be returned not later than October 18.—Kenneth A. F. Miles, House Governor.

HUNTINGDON COUNTY HOSPITAL (76 beds). Wanted immediately, HOUSE SURGEON (A), male or female, salary £250 p.a., with board, lodging, and laundry. Practitioners within three months of qualification may apply, when appointment will be for a period of six months. Apply to Medical Superintendent.

THE KIDDERMINSTER AND DISTRICT GENERAL HOSPITAL.—Applications are invited from registered medical practitioners, male and female, for the following appointment: SENIOR HOUSE SURGEON (B2). R and W practitioners now holding A posts may apply, when appointment will be limited to six months. Salary from £200 per annum according to experience. Applications should be sent to the undersigned immediately.—C. M. Smith, House Governor and Secretary.

AMENDED ADVERTISEMENT

KING GEORGE HOSPITAL, Ilford. HOUSE PHYSICIAN with Anaesthetic duties (B2).—Applications are invited from registered practitioners, male and female, for the above appointment to be vacant on November 1, 1945, including R and W practitioners who now hold A posts. If held by an R practitioner appointment will be limited to 6 months', otherwise renewable. Salary is at the rate of £200 per annum, with full residential emoluments. Applications should be sent to the undersigned immediately.—G. Austin Hepworth, Secretary and Superintendent.

KENT AND SUSSEX HOSPITAL, Tunbridge Wells.—Applications are invited from registered medical practitioners (male or female) for the appointment of RESIDENT ANAESTHETIST and HOUSE PHYSICIAN (B2). This post is recognized for the Diploma of Anaesthetics. Commencing November 6, 1945. Salary at the rate of £200 p.a. with full residential emoluments. R and W practitioners holding A posts may apply, when appointment will be limited to six months, otherwise for a period of six to twelve months.

Applications are also invited from registered medical practitioners (male or female) for the appointment of RESIDENT HOUSE SURGEON and CASUALTY OFFICER (B2), vacant October 31, 1945. Salary at the rate of £200 p.a. with full residential emoluments. R and W practitioners who now hold A posts may apply, when appointment will be limited to six months; otherwise it may be for a period of six to twelve months.—E. A. Wagstaff, Superintendent-Secretary.

LEEDS PUBLIC DISPENSARY AND HOSPITAL.—Applications are invited from registered medical practitioners for the appointment of HOUSE SURGEON (A), mainly Casualty duties. Appointment for six months. Salary at the rate of £150 p.a., with board, residence, and laundry. Practitioners within three months of qualification and liable under the National Service Acts may also apply. Applications to be addressed to Charles F. J. Maury, Secretary and Superintendent.

THE LUTON AND DUNSTABLE HOSPITAL (Fracture A Hospital, 214 beds). Accident Service, HOUSE SURGEON (A), HOUSE SURGEON (B2).—Applications are invited from registered medical practitioners for the following appointments vacant on November 1, 1945: House Surgeon (A). Practitioners within three months of qualification who are liable to service under the National Service Acts may apply. House Surgeon (B2). R and W practitioners who now hold A posts may apply. The appointments will be for a period of six months. Salaries will be at the rate of £175 for the A post and £225 for the B2 post, with full residential emoluments. Applications should be sent to the undersigned as soon as possible.—R. E. Lingard, Secretary.

MONMOUTHSHIRE MENTAL HOSPITAL, Abergavenny.—Applications are invited from registered medical practitioners, male or female, for the post of TEMPORARY RESIDENT ASSISTANT MEDICAL OFFICER (B1) at the above Mental Hospital. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C.. Salary £9 9s. per week (with an additional £50 per annum for those in possession of the D.P.M.), with rooms, board, attendance and laundry. Applications should be sent to the Medical Superintendent immediately.

NORTH RIDING INFIRMARY, Middlesbrough (158 beds).—Applications are invited from registered medical practitioners, male or female, for the undermentioned appointments: SENIOR HOUSE SURGEON (B2). Salary £225 per annum. CASUALTY HOUSE SURGEON (A). Salary £200 per annum. THIRD HOUSE SURGEON (A). Salary £200 per annum. R and W practitioners who now hold A posts may apply for the B2 appointment which will be limited to six months, and practitioners within three months of qualification who are liable to service under the National Service Act may apply for the A posts which will be for a period of six months. Applications should be sent to the undersigned. — Gerald A. Kenyon, Secretary-Superintendent

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NORFOLK AND NORWICH HOSPITAL, Norwich.—Applications are invited for the appointments of GENERAL HOUSE SURGEON (A) and HOUSE SURGEON (A) to the Orthopaedic Department. Salary is at the rate of £170 p.a. with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointments will be for a period of six months. Applications to be addressed to Frank Inch, House Governor and Secretary.

BURTON-ON-TRENT GENERAL INFIRMARY (200 beds normal).—Applications are invited from registered medical practitioners for the appointment of CASUALTY OFFICER AND HOUSE SURGEON (A). Salary at the rate of £200, with the usual residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months. Applications to be sent to the Secretary-Superintendent.

IMPORTANT, NOTICE

APPOINTMENTS

Medical practitioners are requested **not to apply** for any appointment referred to in this notice without first having communicated with the Secretary to the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of the Australian appointment, with the Secretary at B.M.A. House, or the Hon. Secretary, Western Australian Branch, Shell House, 205, St. George's Terrace, Perth).

GOVERNMENT SERVICE

COMMISSIONER OF PUBLIC HEALTH Perth, Western Australia

CONTRACT PRACTICE

ABERTYSSWG MEDICAL AID SOCIETY—*(Medical Officer.)*

LLWYNYPIA, CLYDACH VALE, PEN-Y-GRAIG, GLAMORGAN—*(Workmen's Medical Scheme.)*

MID-RHONDDA MEDICAL AID SOCIETY—*(Assistant Medical Officer.)*

NEATH AND DISTRICT.—*(Medical Aid Association.)*

OGMORE VALLEY, GLAMORGAN—*(Wyndham Colliery Medical Aid Society.) (Workmen's Medical Scheme.)*

PUBLIC ASSISTANCE

CITY AND COUNTY OF BRISTOL, PUBLIC ASSISTANCE COMMITTEE.—*(District Medical Officer.)*

MENTAL HOSPITAL SERVICE

ROXBURGH DISTRICT MENTAL HOSPITAL MELROSE.—*(Medical Superintendent.)*

SOMERSET AND BATH MENTAL HOSPITAL COTFORD.—*(Deputy Medical Superintendent.)*

VOLUNTARY HOSPITAL.

NORTHAMPTON GENERAL HOSPITAL.—*(Whole-time Pathologist.)*

By Order of the Council.

CHARLES HILL.

October 2, 1945. *Secretary.*

THE NELSON HOSPITAL, Merton, S.W.20.—Applications are invited from registered medical practitioners, male, for the appointment of RESIDENT ANAESTHETIST and CASUALTY OFFICER (B2) vacant now. Salary at the rate of £250 p.a., with full residential emoluments. R practitioners holding A posts may apply, when appointment will be limited to 6 months, otherwise may be extended.

Applications are also invited from registered medical practitioners for the appointment of a HOUSE SURGEON (A) becoming vacant on November 1, 1945. Salary is at the rate of £200 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when appointment will be for a period of six months otherwise it will be for a period of six months in the first instance. Apply Secretary.

MINEHEAD AND WEST SOMERSET HOSPITAL, Minehead, Somerset.—Applications are invited immediately from registered medical practitioners, male and female, for the appointment of RESIDENT HOUSE SURGEON AND ANAESTHETIST (B2) to become vacant on November 1, 1945, including R and W practitioners who now hold A posts. The appointment is for six months. Salary is at the rate of £250 per annum, with full residential emoluments. Walter J. Chorley, Secretary.

NORTH CAMBRIDGESHIRE HOSPITAL, Wisbech.—Applications are invited from registered medical practitioners, including practitioners within three months of qualification who are liable to service under the National Service Acts, for appointment of HOUSE SURGEON (A), now vacant. Appointment will be for a period of six months. Salary £200 to £250, with full residential emoluments. Applications, to the Secretary.

PADDINGTON GREEN CHILDREN'S HOSPITAL, London, W.2 (33 beds). — HOUSE PHYSICIAN. — Applications are invited from registered medical practitioners, male and female, for the appointment of a House Physician (B2), to become vacant on November 1, 1945, including R and W practitioners who now hold A posts. The appointment will be for a period of six months Salary at the rate of £150 per annum, with full residential emoluments.

HOUSE SURGEON. Applications are invited from registered medical practitioners, male and female, for the appointment of a House Surgeon (A), to become vacant on November 1, 1945, including practitioners within three months of qualification who are liable to service under the National Service Acts. The appointment will be for a period of six months. Salary at the rate of £150 per annum, with full residential emoluments.

Applications for each post should reach the undersigned as soon as possible.—James A. Hamlin

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PRINCESS ELIZABETH ORTHOPAEDIC HOSPITAL, Buckerell Bore, Exeter (E.M.S. Fracture and Orthopaedic Centre 1A. 150 beds with annexe).—Applications are invited from registered medical practitioners for the post of HOUSE SURGEON (B1). Salary £200 p.a., with board, residence, and laundry. The appointment is for six months. Suitably qualified R and W practitioners holding B2 posts, also R practitioners holding B1 and rejected by the R.A.M.C. may apply. Applications to P. Melhuish, Secretary.

Applications, including those from practitioners serving in His Majesty's Forces, are also invited for the post of additional ASSISTANT ORTHOPAEDIC SURGEON. The successful candidate must be a Fellow of one of the Royal Colleges of Surgeons. Applications should be sent to the undersigned not later than February 1, 1946.—P. Melhuish, Secretary.

PONTEFRACT GENERAL INFIRMARY and THE HYDES HOSPITAL (112 beds)—Applications are invited from registered medical practitioners, male, for the appointment of a HOUSE SURGEON (A), to become vacant immediately, including practitioners within three months of qualification who are liable to service under the National Service Acts, when appointment will be for a period of six months. Salary £150 per annum, with full residential emoluments. Applications should be sent to the undersigned.—D. J. Richards, Secretary-Superintendent

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ROYAL DEVON AND EXETER HOSPITAL, Exeter.—Applications, including those from practitioners now serving in H.M. Forces, are invited for the post of HONORARY ASSISTANT SURGEON to the Ear, Nose and Throat Department. Candidates must be a Fellow of one of the Royal Colleges of Surgeons or hold the Diploma of the Royal College of Surgeons of England in Laryngology and Otology. Applications, with certificate of birth and registration, and three original testimonials, should be delivered to the undersigned on or before January 31, 1946. Candidates on Service abroad can send names of three persons to whom application may be made for testimonials.—By order of the Committee, L. Parkhouse, Secretary and Manager.

ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY, Wigan (189 beds).—Applications are invited from registered medical practitioners for the appointment of RESIDENT SURGICAL OFFICER (B1), to become vacant on November 1, 1945. Applicants should have held house appointments and had surgical experience. Preference will be given to candidates holding Diploma of F.R.C.S. Suitably qualified R practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £300 per annum.

Applications are also invited from registered medical practitioners for the appointment of a HOUSE SURGEON (B2), male, vacant now. Salary £175 per annum, with full residential emoluments. R practitioners who now hold A posts may apply, when appointment will be limited to six months, otherwise it may be extended for a further period.

Applications for each post should be sent to the undersigned as soon as possible.—A. Stanley Brunt, General Superintendent and Secretary.

ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL, Southampton (255 beds). CASUALTY OFFICER and HOUSE SURGEON to E.N.T. Department (A).—Applications are invited from registered medical practitioners, male and female, for the appointment of a Casualty Officer and House Surgeon to the E.N.T. Department (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. The appointment will be for a period of six months. Salary is at the rate of £175 per annum, with full residential emoluments. Applications should be sent to the undersigned immediately.—Frank Jennings, House Governor and Secretary.

ROYAL DEVON AND EXETER HOSPITAL, Exeter (448 beds, six resident medical staff employed).—Applications are invited from registered medical practitioners, male or female, for the post of HOUSE PHYSICIAN (A), becoming vacant October 26. Salary is at the rate of £180 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months. Applications should reach the undersigned by October 12 next.—L. Parkhouse, Secretary and Manager.

ROYAL SALOP INFIRMARY, Shrewsbury.—Applications are invited from suitably qualified medical practitioners for the whole-time appointment of TEMPORARY ASSISTANT PATHOLOGIST. The duties include public health bacteriology, haematology, morbid anatomy, and histology. The appointment is for one year at an inclusive salary of £700 per annum. Applications should be forwarded to the undersigned on or before Saturday, October 20.—J. P. Mallett, Secretary-Superintendent

(Continued on page 17

CHARGES FOR CLASSIFIED ADVERTISEMENTS

For full list please see September 29, p. 14.

APPOINTMENTS—Hospitals and Public Health, commence at page 10

NOTICES

APPLICANTS ARE ADVISED not to send original testimonials when replying to advertisements. Copies will answer the purpose quite as well, and in the event of their being lost or mislaid no inconvenience will ensue.

EVERY EFFORT IS MADE to ensure the accuracy of advertisements appearing in the *Journal*. No recommendation is implied by acceptance, and the British Medical Association reserves the right to refuse or interrupt the insertion of any advertisement.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.
ANNUAL MEETING OF FELLOWS AND MEMBERS

Notice is hereby given that it is proposed to hold a Meeting of Fellows and Members at the College in Lincoln's Inn Fields on Thursday, November 15, 1945, at 5 p.m., and that a Report from the Council will be laid before the Meeting. Fellows and Members can obtain copies of the Report on application to the Secretary, and can, if they so desire, have their names placed on the list of those to whom the Report is sent annually. Motions to be brought forward at the Meeting must be signed by the mover, or by the mover and other Fellows and Members, and must be received by the Secretary not later than November 5. A copy of the Agenda will be issued on or after November 12 to any Fellow or Member who may apply for one.—Kennedy Cassels, Secretary, Lincoln's Inn Fields, London, W.C.2.

ST. GEORGE'S HOSPITAL, S.W.1. DEPARTMENT OF RADIOTHERAPY.—The Committee of St. George's Hospital, Hyde Park Corner, London, S.W.1, regret that, pending the rebuilding of the Hospital, it is necessary, owing to the lack of accommodation, to close the Radiotherapy Department on December 31 next, and that new patients for treatment in that Department cannot be accepted after November 1, 1945.—William E. Hall, Secretary and Accountant.

THE FACT THAT GOODS made of raw materials in short supply owing to war conditions are advertised in this Journal should not be taken as an indication that they are necessarily available for export.

UNIVERSITY AND INDUSTRIAL APPOINTMENTS

BRITISH POSTGRADUATE MEDICAL SCHOOL (University of London).—Applications are invited for the post of SENIOR LECTURER in Clinical Pathology. Salary according to qualifications and experience, not less than £700 per annum. Further particulars as to duties to be obtained from the Professor of Pathology. Practitioners now serving in H.M. Forces may apply. Applications, accompanied by three testimonials, should reach the Dean, British Postgraduate Medical School, Ducane Road, Shepherd's Bush, W.12, not later than February 1, 1946

SHIP'S SURGEON REQUIRED for voyage to India, approximately 4½ months, salary £35 per month, plus £10 special bonus, whilst in operation, total £45 per month, previous experience not necessary, send full particulars.—Box 2751, B.M.J.

UNIVERSITY OF BIRMINGHAM. Faculty of Medicine. Department of Physiology.—Applications are invited for the following posts: (1) LECTURER IN PHYSIOLOGY at a salary of not less than £500 per annum. Practitioners now serving in H.M. Forces are invited to apply. Latest date for receipt of applications January 29, 1946. (2) ASSISTANT LECTURER IN PHYSIOLOGY. Temporary appointment at a salary not less than £350 per annum. Latest date for receipt of applications November 30, 1945. Applications, stating age, qualifications and experience, and giving the names of three persons to whom reference may be made, should be sent to the undersigned, from whom further particulars may be obtained. Testimonials are not required. C. G. Burton, Secretary, The University, Edmund Street, Birmingham, 3.

UNIVERSITY OF ABERDEEN. LECTURESHIP IN THE DEPARTMENT OF PHYSIOLOGY.—The University Court will shortly proceed to the appointment of a Lecturer in the Department of Physiology. Salary £400 to £500. Persons desirous of being considered for the office are requested to lodge their names with the Secretary to the University on or before January 29, 1946. Practitioners now serving in H.M. Forces may apply. Conditions of appointment may be obtained from the undersigned. —H. J. Butchart, Secretary, The University, Aberdeen.

UNIVERSITY OF ST. ANDREWS.—The University Court of the University of St. Andrews, in association with the Directors of the Dundee Royal Infirmary, invites applications for the post of LECTURER in ORTHOPAEDICS in the University and SURGEON in charge of the Department of Orthopaedics of the Infirmary. Applications are also invited from Service candidates. By arrangement, the lecturer will act as Orthopaedics Officer to the Corporation of Dundee, the County Council of Angus, the County Council of Perth, the Town Council of Perth, and the Town Council of Arbroath. He will also be given an honorary appointment by the Department of Health for Scotland as Visiting Orthopaedic Surgeon to Stracathro E.M.S. Hospital. The stipend for the combined offices (inclusive of travelling expenses) will be £1,250 p.a., and the lecturer may engage in private practice as an orthopaedic surgeon in so far as this does not interfere with the discharge of the duties of the above appointments. Applications, supported by testimonials and/or references, will be received up to January 29, 1946. If desired, further information may be obtained on application to the undersigned. David J. B. Ritchie, Secretary to the University of St. Andrews, The University, St. Andrews.

UNIVERSITY OF LONDON.—The Senate invite applications for the READERSHIP IN PUBLIC HEALTH tenable at the London School of Hygiene and Tropical Medicine (salary £1,050). Practitioners serving in H.M. Forces may apply. Applications must be received not later than January 29, 1946, by the Academic Registrar, University of London, Richmond College, Richmond, Surrey, from whom further particulars should be obtained.

EDUCATIONAL

F.R.C.S.(EDIN.)

POSTAL AND ORAL COURSES continued as usual. Full details.—H. C. Orrin, F.R.C.S., Surgeons' Hall, Edinburgh.

WANTED, ADDITIONAL TUTORS for postal tuition in surgery and radiophysics.—Address U.E.P.I., 17, Red Lion Square, London, W.C.1.

COACHING WANTED Tuesday afternoons and Thursday mornings, London, in Part I (anatomy, physiology, physics) for Diploma Physical Medicine, syllabus from Terminus 5892.—Box 2807, B.M.J.

CRANLEIGH SCHOOL, SURREY.
ENTRANCE SCHOLARSHIPS, £100-£30; INSTRUMENTAL AND CHORAL, £50-30, are offered in March and June. At each examination one close SCHOLARSHIP of not less than £50 per annum will be awarded to the son of a member of the MEDICAL or DENTAL profession. Details from Bursar.

DIPLOMA IN MEDICAL RADIOTHERAPY
R.C.P. AND S. ENG.
COURSE OF INSTRUCTION IN MANCHESTER.
The regulations for the Diploma require a course of study extending over two years. During the first nine months candidates are required to attend a course of systematic instruction. The rest of the time must be spent in the Radiotherapeutic Department of a recognized hospital. To meet these requirements a course of instruction will begin at the Holt Radium Institute, Manchester, early in January, 1946. Lectures and practical demonstrations will be given in the following subjects:—Physics as applied to Radiotherapy, W. J. Meredith and Physics Staff; Biological Effects of Radiation, Dr. Edith Paterson and Dr. W. M. Dale; Pathology in Relation to Radiotherapy, Prof. S. Baker and Dr. H. Russell; Principles and Practice of Radiotherapy, Dr. Ralston Paterson and Radiotherapy Staff. Inclusive fee 50 guineas. Thereafter it is hoped that paid posts will be found for candidates in Radiotherapeutic departments where they may complete the attendance required by these regulations. Further information may be obtained from the Dean of the Medical School, University of Manchester, to whom all applications must be sent. All applicants will be required to attend for interview before being accepted for the course. Special consideration will be given to practitioners being demobilized. Service candidates may be eligible for grants under the postgraduate education scheme.

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE.—It is proposed to offer a QUALIFYING COURSE for the DIPLOMA in PUBLIC HEALTH during the academic year 1945-'46, with the examination for the Diploma in the summer of 1946. The course is designed primarily for released Service men and women, and in order to give as much opportunity as possible for candidates the opening of the course will be postponed until Monday, November 5, 1945. Application forms may be obtained from the Dean, London School of Hygiene and Tropical Medicine, Keppel Street (Gower Street), London, W.C.1.

L.M.S.S.A. FINAL EXAMINATIONS. Surgery, Dec. 10, Jan. 14, Feb. 11. Medicine, Pathology, Dec. 17, Jan. 21, Feb. 18. Midwifery, Dec. 18, Jan. 22, Feb. 19. —For particulars apply Registrar, Apothecaries Hall, Blackfriars Lane, E.C.4.

RHEUMATIC DISEASES WEEK-END COURSE at St. Stephen's Hospital, Fulham Road, S.W.3, on Saturday, October 20, and Sunday, October 21. Apply—Fellowship of Postgraduate Medicine, 1, Wimpole Street, London, W.1. LANgham 4266.

POSTGRADUATE REFRESHER COURSE
for assistant medical officers engaged in maternity and child welfare work, to be held at the British Postgraduate Medical School, Hammersmith Hospital, on behalf of the maternity and child welfare group of the Society of Medical Officers of Health, from Monday, November 19, to Friday, November 23, 1945.

Programme:—*Monday*, Introductory Address, Sir Allen Daley; Dietetics, Miss Simmons; Infant Hygiene, Dr. Lightwood; Medical Conditions in Pregnancy, Dr. McMichael; Anaemia in Children, Dr. Mackay. *Tuesday*, Mothers in Industry, Dr. Horner; Breast Feeding, Dr. A. Moncrieff; Minor Ailments, Dr. Z. Moncrieff; Antenatal Clinic, Prof. Young; Antenatal Care, Dr. O'Brien. *Wednesday*, Infections in Nurseries, Dr. O'Brien; Iso-immunization (Rh). in Pregnancy, Dr. Loutit; Minor Skin Troubles, Dr. R. T. Brain; Postnatal Conditions, Dr. Kellar; Child Guidance, Dr. Moodie. *Thursday*, Vitamins, Prof. Marrack; Toxaemia of Pregnancy, Prof. Young; V.D., Dr. Sandes; Neonatal Mortality, Dr. Baird; Fertility Clinic, Mr. Green Armytage; *Friday*, Haemorrhage, Shock, Dr. Eardley Holland; Abortion, Dr. Bourne; Orthopaedics, Mr. Dennis Browne; E.N.T., Mr. Birdsall.

Fee 3 gns. For admission apply through Medical Officer of Health.

POSTAL COACHING for all Medical Examinations. Some successes from 1901-1944. M.D.Lond., 440; M.B., B.S.Lond., final, 386; M.R.C.S.Eng., primary, 365; F.R.C.S.Eng., final, 262; M.R.C.P. Lond., 365; M.R.C.S., L.R.C.P., final, 815; D.A (1936-44), 72; F.R.C.S.Edin. and D.R.C.O.G., many successes. Assistance with M.D. thesis Special arrangements for medical officers with Forces Medical prospectus (24 pp.) gratis, along with list of Tutors, etc., on application to the Principal. — University Examination Postal Institution, 17, Red Lion Square, London, W.C.1 Phone: HOLborn 6313.

POSTGRADUATE STUDY Diploma of Anaesthetics; Diploma in Psychological Medicine; Diploma in Ophthalmology; Diploma in Radiology; Diploma in Laryngology; Diploma in Child Health; F.R.C.S.Eng. and all Surgical Examinations; M.R.C.P.Lond. and all Medical Examinations; M.D. Thesis of all Universities; Courses for all Qualifying Examinations Complete Guide to Medical Examinations sent free on application Applicants should state in which qualification they are interested. Address: Secretary, Medical Correspondence College, 19, Welbeck St., London, W.1

POSTGRADUATE STUDY instruction is arranged in medical, surgical, and special subjects, as circumstances permit. Information and advice obtainable from the Fellowship of Postgraduate Medicine, 1, Wimpole St., London, W.1. Langham 4266.

REOPENING PHILOLOGICAL ASSN., Coaching for degree or general education, French, German, Latin.—Box 2263, B.M.J.

ROYAL EYE HOSPITAL
St. George's Circus, S.E.1.
AUTUMN TERM 1945.
Laurence-Holthouse Memorial Lectures
PHYSIOLOGY OF THE EYE

A series of 12 lectures will be delivered by Professor Samson Wright, M.D., F.R.C.P., and Dr. David Slome, M.B., M.A., Ph.D., on Tuesdays, October 16, 23, 30, November 6, 13, 20, and 27, January 1, 8, 15, 22 and 29.

Malcolm McHardy Memorial Lectures
ANATOMY OF THE EYE AND ORBIT

Professor Thomas Nicol, M.D., D.Sc., F.R.C.S (Ed.), will deliver a series of eight lectures on Mondays, November 5, 12, 19 and 26, January 7, 14, 21 and 28.

Arthur D. Griffith Memorial Lectures.
OPTICS

A course of seven lectures will be given by Professor H. T. Flint, D.Sc., on Thursdays, October 11, 18, 25, and November 1, 8, 15, and 22.

OPERATIVE OPHTHALMIC SURGERY

A course of six lectures will be given by Mr. L. H. Savin, M.D., M.S., F.R.C.S., on Wednesdays, October 31, November 7, 21, 28, and December 5 and 19.

CURRENT PROBLEMS IN OPHTHALMOLOGY

A course of four lectures will be given by Professor Arnold Sorsby, M.D., F.R.C.S., on Thursdays, November 29, and December 6, 13 and 20.

PATHOLOGY AND BACTERIOLOGY

A course of four lectures will be given by Mr. T. M. Tyrrell, M.B., F.R.C.S., on Fridays, November 2, 9, 16, and 23.

OPHTHALMOLOGY IN CHILDREN

A course of three lectures will be given by Miss J. M. Dollar, M.S., F.R.C.S., on Mondays, December 3, 10 and 17.

INDUSTRIAL OPHTHALMOLOGY

Two lectures will be given by Mr. J. Minton, F.R.C.S., on Wednesdays, October 17 and 24.

All lectures are delivered at 5.30 p.m. They are open to members of the profession and medical students.

THE BEDFORD PHYSICAL TRAINING COLLEGE, 37, Lansdowne Road, Bedford. Principal, Miss Stansfeld, O.B.E.; Vice-Principal, Miss Petit. Students are trained to become teachers in Gymnastics and Games, and the training, which extends over three years, includes Educational and Medical Gymnastics, Massage, Games, Dancing, and Swimming. Fees: £165 per annum. Two scholarships of £50 and two of £25 are offered annually.—For particulars apply Secretary.

THE MIDDLESEX HOSPITAL MEDICAL SCHOOL, W.1.
PRIMARY F.R.C.S. COURSE.

A Course of instruction will begin on November , 1945.

NATOMY, EMBRYOLOGY, and HISTOLOGY. PHYSIOLOGY and BIOCHEMISTRY. PATHO-OGY.

Instruction in the above subjects will be given nder the direction of Professor John Kirk, Professor Samson Wright, and Professor E. C. Dodds, nd Professor James McIntosh. Fee—25 guineas. Candidates must take the whole course. Applications for admission should be made to the Medical School Secretary, The Middlesex Hospital, W.1.

ASSISTANTSHIPS VACANT

WANTED YOUNG ASSISTANT, either sex, preferably single, furnished accommodation pleasant district, car provided or allowance, dispenser-book-keeper kept, state age and experience.—Dr. Ker, 2, Manchester Road, Burnley.

WANTED, MALE ASSISTANT, British, for a partnership near South Coast, furnished flat available, no children, salary by arrangement.—Box 2774, B.M.J.

WANTED, EARLY OCTOBER, ASSISTANT in mixed panel and private practice in Lancashire County town, suitable accommodation available, well organized practice with modern consulting premises, salary by arrangement.—Box 2770, B.M.J.

WANTED IMMEDIATELY ASSISTANT, either sex, to replace serving partner, Midland country district, salary £600, car allowance £100, free board and lodging.—Box 2771, B.M.J.

WANTED, ASSISTANT with VIEW, in large residential town and country practice in West Riding, good salary followed by share worth £1,500 to £2,000, house available.—Box 2811 B.M.J.

WANTED OUTDOOR ASSISTANT, S.W. Devon, town and country, car provided, dispenser kept, salary by arrangement, house available.—Box 2772, B.M.J.

WANTED, INDOOR ASSISTANT, good prospects, country town half hour from London.—Particulars to Box 2814, B.M.J.

WANTED in rural and semi-urban mixed practice, active man as ASSISTANT with VIEW to early partnership.—Box 2773, B.M.J.

WANTED ASSISTANT, male or female, for day work and alternate week-ends, practice near Ruislip, preferably own car.—Box 2776, B.M.J.

WANTED ASSISTANT with VIEW in country practice West Wales, preferably married, unfurnished house available, Welsh speaking an advantage.—Box 2777, B.M.J.

WANTED, ASSISTANT, outdoor, English or Scot, N. Yorks industrial practice, dispenser, car, £650 all found, outdoor.—Box 2809, B.M.J.

WANTED ASSISTANT for practice in East Midlands city dispenser kept, modern house and garage, salary according to experience, state p[illegible]ars.—Box 2560, B.M.J.

WANTED, immediately indoor and outdoor ASSISTANTS for town and country practices with and without view to partnership, also Locums, good salaries offered, state full particulars.—British Medical Bureau, 33, Cross Street, Manchester, 2.

WANTED immediately indoor ASSISTANT for country practice, car and dispenser provided, salary £650 p.a., plus board.—Apply Dr. Hine, The Ivies, Newark, Notts.

WANTED, ASSISTANT with VIEW to succession in old-established Lancashire mixed practice, preferably recently qualified and unmarried. Moderate salary, car allowance, and all found.—Box 2348, B.M.J.

ASSISTANT WANTED with VIEW to early partnership by Scots doctor in a large panel and private practice in seaport town in South Wales, salary during assistantship £900 per annum plus £100 car allowance.—Box 2753, B.M.J

ABERDEEN GRADUATE REQUIRED, mixed practice near Newcastle-upon-Tyne, live in, car provided, VIEW if desired, male, female.—Box 2793, B.M.J.

ASSISTANT WANTED, British, single, male, to take charge of branch in pleasant non-colliery South Derbyshire village, work light, time for reading, board, lodging, car provided, salary £500 to start.—Box 2810, B.M.J.

ASSISTANT REQUIRED, view early PARTNERSHIP, live in, Ealing district, salary by arrangement. —Apply Box 2808, B.M.J.

ASSISTANT REQUIRED in good class general practice in delightful Midland town, furnished house and car available, work moderate and of a pleasant character, good salary.—Box 2769, B.M.J.

ASSISTANT WANTED, October, male, English or Scots, 6 months at least, mixed practice in county town in Berkshire, previous experience in general practice especially midwifery preferred, accommodation available, salary to £1,000 p.a., to suitable applicant, no dispensary, own car preferred, driver essential.—Box 2768, B.M.J.

ASSISTANT WANTED with VIEW, mixed practice in South Midlands, easy access London, car available.—Box 2775, B.M.J.

ASSISTANT WANTED, male or female, for general practice South Wales industrial town, nurse and dispenser kept, live in, driver preferred, car provided, well-equipped hospital, salary £650 p.a. to commence.—Box 2816, B.M.J.

ASSISTANT, male, WANTED for good-class Midland practice, English or Scotch, must be energetic and well experienced —Box 2051, B.M.J

ASSISTANT WANTED for old established town practice in North West Lancashire near Lake District, exceptional prospects for a young and enthusiastic man or woman, qualified dispensers employed, furnished accommodation with full board, garage, for fuller particulars apply, with copies of references, to—Box 2778, B.M.J.

ASSISTANT, INDOOR, WANTED, mixed panel and private, Indian doctor's practice, Manchester, experience not essential, car provided, salary £600 p.a. all found.—Box 2813, B.M.J.

ASSISTANT WANTED, British, male, for large mixed practice near Manchester, prospect of partnership if suitable, secretary-dispenser employed, good hospital facilities, including local cottage hospital, salary according to experience.—Box 2506, B.M.J.

ASSISTANT WANTED for medical and surgical practice in Lincolnshire town, salary £600 per annum, furnished house and car provided, secretary-dispenser kept. Box 2563, B.M.J.

ASSISTANTSHIP with VIEW, Protestant, teetotaller, able drive car, unfurnished house available, £650 per annum, house rent free.—Apply Dr. Haddow, Moor Villa, Kirkham, Lancs.

HARROGATE, wanted qualified British ASSISTANT, lady preferred, live in or out, full or part-time.—Box 2752, B.M.J.

MALE or FEMALE ASSISTANT wanted, indoor, all found, car if necessary, very pleasant district 16 miles from London W.1, Essex, must be English or Scottish.—Box 2357, B.M.J.

OPHTHALMIC practice.—Wanted, ASSISTANT or PARTNER in provinces, state age, qualifications, and experience.—Reply Box 2815, B.M.J.

REGULAR WEEK-END ASSISTANT wanted for practice in St. John's Wood area.—Box 2559, B.M.J.

YOUNG ASSISTANT, preferably with a VIEW to partnership for a firm of four in Chelmsford, unfurnished house available, applicant must be British and of cheerful disposition.—Box 2812, B.M.J.

ASSISTANTSHIPS WANTED

WANTED, ASSISTANTSHIP with VIEW to early partnership by young married M.B., B.Ch., teaching hospital, R.M.O., maternity (Rotunda) and general practice experience, own car, excellent testimonials, available immediately.—Box 2822, B.M.J.

WANTED OUTDOOR ASSISTANTSHIP, M.B., Edin., ex-Major R.A.M.C., aged 42, married, car and furnished house essential, London area preferred.—Box 2781, B.M.J.

WANTED, OUTDOOR ASSISTANTSHIP with VIEW preferably within 20 miles London, Captain R.A.M.C., demobilization December, aged 31, married, qualified Jan., 1937, experience G.P., accommodation essential.—Box 2818, B.M.J

WANTED, by M.D. (Lond.), F.R.C.S. (Eng.), PART-TIME WORK in a Harley Street or West End Practice, very experienced in good-class general practice, no confinements, and mainly consulting room work wanted, has several minor specialties.—Box 2821, B.M.J.

WANTED by G.P., 7 years experience, PRACTICE or ASSISTANTSHIP with early partnership, Scotland, good house and garden.—Box 2754, B.M.J.

ASSISTANTSHIP definite VIEW PARTNERSHIP, required, experienced hospital, G.P., married, age 34, car, furnished house essential during assistantship.—Box 2538, B.M.J.

ASSISTANTSHIP, preferably with a VIEW to partnership or succession, required in N.E. Scotland by ex-Services doctor.—Box 2823, B.M.J.

ASSISTANTSHIP, preferably with VIEW, wanted by young British doctor, married, G.P. and midwifery experience, own car, furnished house essential, available December.—Box 2820, B.M.J

DOCTOR, English born, aged 31, married, no family, requires ASSISTANTSHIP with VIEW or practice, own car, available now.—Box 2817, B.M.J.

DOCTOR, aged 33, married, ex-R.A.M.C., available November, requires ASSISTANTSHIP with VIEW, Scotland, furnished accommodation, preferred.—Box 2824, B.M.J.

EDINBURGH GRADUATE, Scot, aged 44, married, Squadron Leader, R.A.F., requires immediately, ASSISTANTSHIP with definite early VIEW to partnership or succession, 20 years hospital and G.P. experience, keen, energetic, own car and furniture, income £1,500-£2,000.—Box 2591, B.M.J.

GRADUATE doing post-graduate studies can do PART-TIME SURGERIES in London in exchange board and lodging, excellent references.—c/o 16, Wavertree Road, S.W.2.

M.B., B.S. (1934), age 34, married, demob. December, requires ASSISTANTSHIP with VIEW early partnership or succession rural practice S.W. England, experienced G.P., ex H.S., H.P., obstetrics, own car, cash available.—S/Ldr. Baker, R.A.F. Station, Exeter.

M.B., STUDYING in London for M.R.C.P., would HELP G.P. during winter months.—Box 2779, B.M.J.

MALE UNMARRIED British doctor, M.B., B.S., seeks ASSISTANTSHIP, with or without VIEW, London area only, hospital and general practice experience, car essential.—Box 2755, B.M.J.

M.B., B.Ch., B.A.O., Irish (29), recently married, hospital and G.P. experience including 6 months midwifery (hospital), requires ASSISTANTSHIP with VIEW furnished accommodation essential.—Box 2780, B.M.J.

M.R.C.S., male, married, aged 33, due for demob within next three months, seeks ASSISTANTSHIP with VIEW and anaesthetic work, wide anaes. experience, now serving as specialist anaes., R.A.M.C., 1½ yrs'. experience of G.P. prior to war service.—Box 2514, B.M.J

M.B., Ch.B. (Edin.), aged 36, requires ASSISTANTSHIP few months, London area, demobilized R.A.F. October, 1½ years' hospital, 1½ years' G.P., married.—Box 2819, B.M.J.

PART-TIME ASSISTANTSHIP wanted by experienced G.P attending clinic four half-days at Manchester and Leeds hospitals.—Box 2756, B.M.J.

3 MORNINGS WEEKLY and week-ends, accommodation desired, preferably central London, M.D. Belfast, male, 29, ex-R.N.V.R., doing P.G. work, hospital experience, medicine, children, also G.P.—Box 2805, B.M.J.

WOMAN, M.D., Vienna, M.R.C.S., British, studying M.R.C.P., several years hospital experience, medicine, children, anaesthetics, would take CLINICS, SURGERIES, anaesthetics in Manchester or Salford Box 2757, B.M.J.

LOCUMS

WANTED LOCUM for 3 weeks October, Devon coast, easy work, preferably own car, salary by arrangement.—Box 2758, B.M.J.

WANTED URGENTLY and immediately LOCUM for Maternity and Child Welfare work, including attendance at clinics and Municipal Maternity Home with scope for practical midwifery, salary £10 10s. per week.—Apply to Acting Medical Officer of Health, 1, Bargate, Grimsby.

WANTED long-term LOCUM for country practice, urgent, furnished house available, salary by arrangement.—Box 1932, B.M.J.

ACTIVE young doctor, M.B., B.Ch., D.P.H., L.M., single, requires LONG LOCUM or assistantship hospital and G.P. experience.—Box 2829, B.M.J

DOCTOR, IRISH, hospital and G.P. experience, available for LOCUM for 2 months from end of October, at present in London.—Box 2827, B.M.J.

LOCUM REQUIRED from October 22 to November 6, inclusive, general practice, dispenser employed.—Dr. M. Tytler, 3, Magnus Street, Newark, Notts.

LONDON PSYCHIATRIST recovering from a recent illness would like LOCUM or temporary assistantship in country district, for one to three months, Sussex or Surrey preferred, ten years' general practice experience, including panel, no midwifery.—Box 2861, B.M.J.

RADIOLOGIST (F.F.R.) holding several hospital appointments in London, just released from full-time E.M.S., wants LOCUM, temporary or permanent employment, preferably in London or Brighton areas.—Box 2828, B.M.J.

RELIABLE DOCTOR will act as LOCUM, or succeed another specializing or retiring, no deposit but good guarantor available, payment by instalments, state particulars.—Box 2826 B.M.J.

R.A.F. M.O. willing to do 14 days LOCUM, October, Manchester area preferred, own car if necessary, please give dates and details.—Box 2825, B.M.J.

PARTNERSHIPS

WANTED PARTNER with surgical experience for practice in East Midlands, half share of £1,900, considerable scope, hospital 1 mile, possible succession after three years, F.R.C.S. a great advantage, house available.—Box 2547, B.M.J.

BRISTOL, WANTED keen energetic male or female salaried PARTNER or ASSISTANT, Partnership after short time if desired, nice unfurnished house available, town and country practice.—Box 2782, B.M.J.

EDINBURGH GRADUATE, ex-Service, unmarried, available not later than December, wanted as PARTNER with Lincolnshire coast town, preliminary indoor assistantship, working and middle-class practice.—Box 2833, B.M.J.

EDINBURGH GRADUATE, aged 33, due release early 1946, wishes PARTNERSHIP or practice, Scotland or Eastern half of England.—Box 2836, B.M.J.

FOR DISPOSAL ONE-THIRD SHARE East Midland practice, surgical scope, £5,000 p.a., good panel, preliminary assistantship, accommodation single man, or temporarily for married man until house available, capital necessary approx. £3,000.—Box 1866, B.M.J.

FOR SALE one-third share in PARTNERSHIP, East Anglian coast town, small panel, gross receipts at present £5,200 approx., ample scope, hospital appointment, senior partner surgeon, purchaser preferably married man aged 28-35, experienced in general medicine and anaesthetics, house to rent, furnished or unfurnished, car available, reasonable terms.—Box 2603, B.M.J.

F.R.C.S. (Eng.), recently demobilized, desires surgical PARTNERSHIP or practice with surgical scope, experienced in consultant surgery.—Box 2837, B.M.J.

IRISH DOCTOR, married, aged 37, desires PARTNERSHIP in sound practice to yield £1,700, no midwifery, house to rent.—Box 2785, B.M.J.

PARTNER WANTED, view to succession, one to two years, N.W. coastal area, good mixed practice, 2,800 panel, cottage hospital, third share or £1,000 guaranteed.—Box 2800, B.M.J.

PARTNERSHIP, by assistantship with VIEW, ⅓ share approx. £4,500, old established country practice, main line, 30 miles London, in Chilterns, attractive flat, garage and garden, would consider assistantship, good terms to demobilised serviceman, required December.—Box 2759, B.M.J.

PARTNERSHIP, HALF-SHARE in secure, middle-class practice in outlying West London surburb, receipts £6,000 (audited), but still scope for increase, ample introduction by retiring partner, two years' purchase —Box 2103, B.M.J.

PARTNER or ASSISTANT with VIEW required in country practice 16 miles from Oxford, flat available now, house later.—Box 2784, B.M.J.

SURREY, better class practice in residential area requires THIRD PARTNER after preliminary assistantship, share worth £1,500 or over, surgical scope, unfurnished house available.—Box 2783, B.M.J.

T.C.D. GRADUATE, 31, married, 4 years' G.P. experience, desires PARTNERSHIP after preliminary assistantship, country preferred, house and garden essential, free January.—Box 2835, B.M.J.

WEST RIDING PARTNERSHIP, in old-established practice, 1/5 share offered, later to be increased to 1/3, practice receipts £5,000, the partnership is offered at two years' premium, the purchaser must have capital of his own, house for rental available to be purchased later when the increased share is bought.—Box 2834, B.M.J.

MEDICAL POSTS

ASSISTANT PSYCHIATRIC POST required in February, 1946, by experienced medical man, well paid responsible position sought but suitability, and evolution towards consultation work more important than immediate remuneration.—Box 2595, B.M.J.

DOCTOR, BRITISH, aged 42, 20 years' experience G.P., general and chest hospitals, anticipating release from present hospital work, desires APPOINTMENT with business firm, factory, insurance company, etc., excellent references.—Box 2831, B.M.J.

DOCTOR, rejected R.A.M.C., desires POST in PATHOLOGY.—Box 2802, B.M.J.

EXPERIENCED LABORATORY TECHNICIAN required for serological and haematological routine, preference given to members of the Institute of Medical Laboratory Technology, salary in accordance with B grade.—Hosa Research Laboratories, Sunbury-on-Thames.

EXPERIENCED DOCTOR, aged 47, just demobilized (Major, R.A.M.C.), wishing to give up general practice, desires FULL-TIME APPOINTMENT, such as factory M.O., life insurance, or any administrative position, free now, particulars and references on application.—Box 2830, B M.J.

F.R.C.S.(Eng.), F.R.C.S.(Edin.), aged 27, experienced surgeon, rejected R.A.M.C., available soon for good SURGICAL POST or PARTNERSHIP, all details in strictest confidence.—Box 2801, B.M.J.

MEDICAL WOMAN, elderly, requires LIGHT POST for winter months in or near London, unfurnished accommodation would be an advantage, has acted as deputy in large rural practice for last five years.—Box 2832, B.M.J.

M.B.Glas 1940, B.Sc., Hons. Chemistry, at present in Army, aged 31, married, demobilization group 32, desires APPOINTMENT on demobilization, with facilities reading M.D.—Box 2522, B.M.J.

RESEARCH.—The Pioneer Health Centre, Peckham, will reopen shortly and will require one or two MEDICAL WOMEN in February for positions on the staff. Salaries £500 to £1,200 according to experience and qualifications. The Medical Directors will be glad to receive inquiries from practitioners, including those serving in H.M. Forces, by January 31, 1946, at 8K, Hyde Park Mansions, Marylebone Road, N.W.1.

RADIOLOGIST (D.M.R.E.) requires PART-TIME WORK, London area, 4 sessions weekly, locums, hospital, or private practice.—Box 2599, B.M.J.

PRACTICES

WANTED, small PRACTICE or partnership with scope for anaesthetics, six years general practice, six years anaesthetist, R.A.M.C., D.A.—Box 2289, B.M.J

WANTED, well-established rural PRACTICE in desirable district N. England, suitable father and son, returns £3,000 or over, easy reach good school.—Box 2838, B.M.J.

WANTED PRACTICE or PARTNERSHIP by R.A.M.C. doctor early release, experienced G.P., British, university graduate, 46, S., S.E., S.W., counties, country, detached house with good garden essential, rent or buy.—Box 2786, B.M.J.

WANTED, Sussex, Kent coast, PRACTICE or PARTNERSHIP, surgical scope, F.R.C.S., surgical specialist, demobilized, capital, considerable experience.—Box 2798, B.M.J.

WANTED, PRACTICE, panel and private, doing about £1,000, London or vicinity, house to rent preferred.—Box 2840, B.M.J.

WANTED PRACTICE, London area, £2,000 or over, good panel, good house sale or rent, by experienced practitioner, 15 years own practice, capital available.—Box 2516, B.M.J.

BIRMINGHAM suburban PRACTICE for sale, freehold house with surgeries, good garden, receipts £2,500 panel £900 offers—Box 2052 B M.J.

BIRMINGHAM SUBURBAN PRACTICE with house for sale, suitable for two partners, modern freehold corner residence, pleasant garden, receipts last year almost £6,000, panel 2,000, premium 1½ years' purchase.—Box 2845, B.M.J.

CONSULTING RADIOLOGIST'S PRACTICE for sale in Midland town of approximately 150,000, with extensive country work, suitable and convenient house with equipment.—Box 2795, B.M.J.

COMPACT, easily run PRACTICE for sale in Yorkshire, chiefly industrial, healthy moorland vicinity, modern convenient house for sale, income approx. £1,800, panel 1,300.—Box 2328, B.M.J

DEATH VACANCY, West Riding industrial town, income averages £2,613, panel over 2,000, 1 year's purchase, modern house with garden for sale, surgery attached.—Box 2761, B M.J.

DEATH VACANCY—Old established private and panel PRACTICE in S.E. Coast Town, original house, garage and practice for immediate sale, has been run under protection of practices since 1940.—Box 2551, B.M.J.

DEATH VACANCY, country PRACTICE in North Lincolnshire for immediate disposal, for further particulars apply.—Hett, Davy and Stubbs, 11, Bigby Street, Brigg.

DISPOSAL, good class non-panel non-dispensing PRACTICE S.W. England, gross receipts £2,700 (audited), attractive house to rent, premium £3,800, partnership introduction.—Box 2846, B.M.J.

DOCTOR, Scot, 15 years' experience hospitals and G.P., requires PRACTICE or PARTNERSHIP immediately, pleasant district, house to rent, hospital appointment an attraction.—Box 2847, B.M.J.

DOCTOR having specialized, CORNER HOUSE, main road, sale, lease 960 years S.E. London district £2,750, including goodwill PRACTICE, Est. 20 years, excellent opportunity, introduction.—Flat 14, 9, Weymouth Street, W.1.

EAST LANCASHIRE old-established PRACTICE, 1,600 panel, receipts £2,000, attractive modern house, well laid out garden, 1½ years.—Box 2797, B.M.J.

EAST ANGLIA, good class private and consulting PRACTICE for sale owing to illness of vendor, average takings for many years £3,000 p.a., excellent opening for consulting physician, centrally situated and well furnished consulting room but no living accommodation, easy terms.—Box 2799, B.M.J.

FOR IMMEDIATE DISPOSAL, old-established general PRACTICE in West Country market town, average earnings £1,700, panel 1,500, appointments £320, purchaser should have senior medical qualification (M.D. or M.R.C.P.) or have special medical or pathological experience to secure appointment on hospital staff, small house at moderate rent.—Reply Box 2841, B.M.J.

FOR SALE woman's well-established, expanding country PRACTICE; Midlands, panel 1,300 increasing, takings £2,000 (chartered accountant's figures), premium 1½ years' purchase, excellent freehold house.—Box 2763, B.M.J.

FOR SALE Kent, 25 miles London, modern HOUSE with SURGERY, residential area, practice nucleus after 5 years' service, panel 300, town surgery to rent, modest premium for practice.—Box 2794, B.M.J.

FOR SALE, London western suburb, PRACTICE with exceptional scope further expansion, receipts £2,500, panel 1,650, house to rent.—Box 2760, B.M.J.

FOR SALE, good-class private PRACTICE in Edinburgh, no panel, three months' introductory assistantship, prospective purchaser should be over 35 years of age and hold higher medical qualifications, would suit demobilized medical specialist.—Box 2354, B.M.J

FOR SALE PRACTICE or HALF SHARE partnership, in progressive North Lancashire town, hospital appointments, receipts £4,000, preliminary assistantship if desired, car and house available.—Box 2796, B.M.J.

FOR SALE PRACTICE and 11-roomed freehold HOUSE, busy working class district, N. London, panel about 900, neglected owing to army service, price £3,800 inc. or near offer.—Box 2548, B.M.J.

FOR IMMEDIATE SALE large panel and private PRACTICE in industrial town in Yorkshire, no midwifery, all figures audited and open to fullest investigation, surgery, and professional offices incorporated in house, exceptionally good house and garden to let, with every modern convenience, gross receipts 1945, £2,300.—Apply Box 2323, B.M.J.

GOOD-CLASS suburban PRACTICE, Midland city, receipts £5,000, suitable for two doctors, modern house.—Box 2053, B.M.J

LANCS. COAST, for sale large family PRACTICE, small panel, fine detached residence with separate entrance to consulting suite, large garden and garage on rental, cars, fittings, and furniture if required, good introduction, no agents, banker's reference required.—Box 2844, B.M.J.

LIVERPOOL, death vacancy for disposal, private PRACTICE for disposal, income approximately £2,000 per annum, excellent scope, non-panel, excellent house, with all modern conveniences, on rental, further particulars.—Box 2762, B.M.J.

PRACTICE WANTED immediately, £2,000 p.a. approx., south of London, country or country town preferred, small panel, cash available.—Box 2839, B.M.J.

PRACTICE, YORKS., semi-rural, £4,500, scope for increase, would suit two friends with woman assistant, two houses available, good introduction, price adjustable to future of medicine, payment out of income, must be well qualified, advantage if one could start immediately.—Box 2843, B.M.J.

PRACTICE WANTED by married general practitioner, retd. Capt., R.A.M.C., 1942, Cumberland, Northumberland, city or rural, receipts at least £1,500, capital available, partnership considered.—Write Box 2842, B.M.J.

SURGEON LIEUTENANT-COMMANDER, R.N.V.R., (Group 20), M.B., B.S., London, aged 32, married, qualified 10 years, requires PRACTICE or PARTNERSHIP in South of England on release, capital available.—Box 2788, B M.J.

SOUND OPPORTUNITY to purchase deceased doctor's PRACTICE on South Coast, good lower middle class area, gross income before war £3,000 per annum, first-class freehold residential and surgery premises, modern, spacious, and well-fitted, £8,000 inclusive, mortgage could be arranged.—Box 2353.

SALE, SOUTH MIDLANDS, compact PRACTIC centred in pretty country, good hospital service fi miles, £1,760 (accounted), panel 930, separa surgery suite, comfortable house, five bed, fo reception, electric and water services, garage tw cars, good garden easy reach schools, same han over 10 years, rent £80, practice 1½ years purchase.—Box 2787, B.M.J.

SALE MIXED PRACTICE, N.E. Coast, receir £3,500, panel 2,500, excellent house (gard separate surgery, premium 1½ years.—Box 257 B.M.J.

THREE PARTNERS with higher qualifications wa to purchase town, country or seaside PRACTIC hospital appointments essential, no panel.—B 2574, B.M.J.

DIETETIC, DISPENSING, TYPING, SECRETARIAL, RECEPTION, ETC.

None of the vacancies for women advertised these columns relates to a woman between the ag of 18 and 40 inclusive, unless she is exempted fro the provisions of the Control of Engagement Orde 1945, or the vacancy is for employment except from the provisions of that Order

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WANTED IMMEDIATELY DISPENSER-BOOKKEEPER, preferably with nursing experienc accommodation available.—Apply Dr. Philip, 8 Station Road, Leigh-on-Sea, Essex. Phone 76376.

WANTED EARLY in October in Midlan practice, private and panel, a lady DISPENSER BOOKKEEPER, with experience.—Apply wi recent references to Drs. Clapperton, Purdy, an Reed, 40, Melton Road, Oakham, Rutland.

WANTED IMMEDIATELY second LADY DISPENSER (Hall certificate) for large partnershi modern surgery, experience not essential, no secretarial duties, write stating age and full particulars.—Dr. Eberlie and Partners 163, Dunstabl Road, Luton.

WANTED, immediately, ASSISTANT DISPENSE semi-rural practice, knowledge of bookkeeping helpful but not essential.—Apply Drs. Eggar, Charlto and Green, Hurstpierpoint, Sussex.

WANTED, urgently, mid-October, LADY DISPENSER, no bookkeeping, salary £240 per annum.—Drs. Gardiner-Hill, Briggs, Phillipps, and Wynn Horse Fair, Banbury, Oxon.

WANTED DISPENSER-BOOKKEEPER befo Dec. 1st, for country practice in Suffolk.—Wri giving full particulars to Dr. Batt, Wickhambrook nr. Newmarket.

WANTED lady SECRETARY-BOOKKEEPER, idea Surrey town within 40 miles; extensive experience no essential; amiability, commonsense, knowledge dispensing helpful, preferably live in, two room furnished or unfurnished available, state age.—Bo 2582, B.M.J.

WANTED, DISPENSER-SECRETARY immediatel no panel dispensing, particulars, references to Dr Will and Lodge, Arran House, Gosford [illegible]en Coventry.

WANTED DISPENSER-BOOKKEEPER (Ealin area), state full particulars, age, etc.—Dr. Cotte 71, Mansell Rd., Greenford, Mddx. Tel: Waxlo 173.

A YOUNG LADY requires post as SECRETARY RECEPTIONIST to a doctor, London area, te years' business experience, knowledge of shorthand-typing and bookkeeping.—Box 2803, B.M J

APOTH. HALL DISPENSER seeks post wit doctor, twenty years' experience, free now, Sout coast near Littlehampton preferred—Box 2848 B.M.J.

CORNISH COAST, wanted immediately, SECRETARY-RECEPTIONIST Kalamazoo bookkeeping, general practice.—Apply full particular and references, Dr. Hardwick, Island House Newquay.

DOCTOR'S WIFE, 33, exempt, seeks permanen position as SECRETARY-RECEPTIONIST t consultant or hospital, London or southern counties typing, bookkeeping and hospital experience.—Bo 2764, B.M J.

DISPENSER-BOOKKEEPER required immediatel apply giving full particulars to Dr R. J McCloskey, The Trees, Stafford. Telephone: Stafford 333.

DISPENSER-SECRETARY required immediatel for general practice in North Midlands town.—Bo 2297, B.M.J.

EX-V.A.D. requires post RECEPTIONIST, Londo preferred, nursing and administrative testimonial available.—Box 2854, B.M.J.

EXPERIENCED SHORTHAND-TYPIST, 19 efficient, father dental surgeon, seeks secretarial pos with West End specialist.—Box 2850, B.M.J.

LADY, five years driving with voluntary ambulanc corps, requires POST with West End practitione as driver/receptionist, remuneration a secondar consideration.—Box 2853, B.M.J.

RECEPTIONIST, 21 years, previous experience, shorthand and typewriting, no speeds, Matric and Higher certs., requires situation Harley Street area, commencing £3.—Box 2852, B.M.J.

SECRETARY-RECEPTIONIST requires in November position with doctor, preferably in Guildford or Horsham areas, previous experience London surgeon—Box 2849, B.M.J.

SICK BERTH C.P.O., 25 years' Royal Naval Sick Berth staff, seeks past as CARETAKER-RECEPTIONIST, thorough knowledge medical records and surgery procedure, London district preferred.—Box 2804, B.M.J.

IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page 10

SECRETARY-RECEPTIONIST requires post, shorthand typing, some bookkeeping, fluent French and German, live in or out.—Box 2790, B.M.J.

WOMAN, 34, good education, appearance, typist, no shorthand, several years secretarial experience, requires POST part or full-time with doctor/consultant in or near Harley Street.—Box 2855, B.M.J.

YOUNG LADY requires position SECRETARY-RECEPTIONIST, London area, receptionist certificate, nursing experience. Telephone Eltham 2462, 52 Domonic Drive, S.E.9.

YOUNG LADY desires post medical RECEPTIONIST, book-keeping, typing, fluent French, can drive car, excellent references, full or part time, Central London, free now.—Box 2789, B.M.J.

YOUNG LADY, exempt, seeks post as RECEPTIONIST, public school education and four years' business experience.—Box 2856, B.M.J.

MISCELLANEOUS

WANTED JUNG'S WRITINGS—*Two Essays on Analytical Psychology, The Psychology of Dementia Praecox, Studies in Word Association, Yoga and the West, Psychological Factors Determining Human Behaviour.*—Dr. F. O'Donnell Finigan, Wonham House, Bampton, N. Devon.

FOR SALE, Binocular Zeiss MICROSCOPE, almost new, excellent condition, usual range of lenses.—Apply: "Microscope," 33, Peckham Road, S.E.5. Rodney 4242.

FOR SALE "Harlever" INVALID TRICYCLE, motor driven or hand propelled, new 1944, particulars, price.—Box 2766, B.M.J.

FOR SALE EXAMINATION COUCH in oak, with five drawers and adjustable head, perfect condition, £35; Boyle portable ANAESTHETIC APPARATUS, surgical instruments suitable general practice.—Box 2791, B.M.J.

FOR DISPOSAL 10 KVA High Tension TRANSFORMER UNIT, 4 valve, also combined diagnostic and superficial THERAPY APPARATUS, together with combined couch and screening stand, tube stands and other accessories.—Galpin, 408, High Street, Lewisham, S.E.13.

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FOR SALE CONSULTING-ROOM COUCH, rexine covered, used very little.—Dr. Robertson, 9, Green Lane, Mossley Hill, Liverpool, 18.

FOR SALE a practically new Tindal-Barr ANALGESIA APPARATUS for the self-administration of gas-and-oxygen during labour.—Box 2806, B.M.J.

FOR SALE, GAS-AIR APPARATUS, Queen Charlotte's model, absolutely new, owner retired, what offers?—Rutherford Smith, Criccieth.

DENTAL BOOKS, pamphlets, advertisements, instruments and dentists' tokens before 1850, wanted by private collector.—Reply in confidence, Menzies Campbell, F.R.S.E., 14, Buckingham Terrace, Glasgow.

HAIG FERGUSON'S OBSTETRIC FORCEPS wanted by medical practitioner.—Box 2858, B.M.J.

LEITZ MICROSCOPE, perfect condition, also excellent PATHOLOGY SLIDES, seen London or sent approval, sell lot or separate, offers?—Box 2857, B.M.J.

WORKS ON ANAESTHESIA by Snow and J. Y. Simpson wanted, also Sudhoff's *Geschichte der Zahnheilkunde*, 2nd edition, 1926.—Box 2792, B.M.J.

"EVERBRITE" RECHARGEABLE TORCH. Recharged at home from your mains. No battery required. Several hours continuous light. Thousands in use. Fully guaranteed. The "King of Pocket Lamps." Direct or from dealers. Send for interesting leaflet K. 150.—Runbaken Electrical Products, Manchester, 1.

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TOILET ROLLS (Thintex Tissue) for Sale, prices carriage paid and including cost of cartons, 6 dozen £4 6s. 4d.; 1 gross £8 12s. 8d., early delivery in rotation, cash with order to J. Gordon (Dept. 7), 33, Connaught Gardens, Muswell Hill, London, N.10.

MOTOR CARS

OLD CARS WANTED for OVERSEAS TRANSPORT, high prices paid for any seven-seater cars if low mileage, age unimportant. Typical examples: £1,500 paid for any 30 h.p. Rolls Royce or pro rata if 25 h.p., price according to mileage; £1,000 for any Wolseley, Austin 20, if fitted with easy-clean-wheels; £1,250 for recent Buick, Packard, etc.—Write Mobile Units (Ambulance Conversions), Hove, Sussex. Hove 7104.

SUPERNUMERARY CAR, Austin 10, 1941 saloon, approximate 27,000, garage references, minimum price £400, or Hillman, 1936 saloon, mileage 24,000, £200.—Dr. Ward, phone Brasted 12.

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FOR SALE as a going concern, a well-known and long-established PRIVATE MEDICAL, SURGICAL AND MATERNITY NURSING HOME in the eastern counties, valuable freehold property, fully equipped and furnished, accounts certified by chartered accountants, principals only apply for further particulars to Ernest J. Whatley, Chartered Surveyor, 1, Upper King Street, Norwich.

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REGISTERED NURSING HOME run like first-class private house, for rest cures, nervous exhaustion and convalescent patients, guests also received, resident medical man and wife and certificated nurse, lovely country, 20 miles N.W. London, good train service.—Dr. Claud Fothergill, Hensol, Chorley Wood, Herts. Phone: Chorley Wood 24.

APPOINTMENTS

(Continued from page 13)

ROYAL UNITED HOSPITAL, Bath.—ORTHOPAEDIC and FRACTURE HOUSE SURGEON (B1).—Applications are invited for the above appointment from registered medical practitioners, including R and W practitioners who now hold B2 posts. Applications from R and W practitioners who now hold B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Salary £250 per annum, with board residence and laundry. Applications to be addressed at once to the undersigned.—J. Lawrence Mears, Secretary-Superintendent.

ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL (255 beds). HOUSE SURGEON (B2).—Applications are invited from registered medical practitioners, male and female, for the appointment of House Surgeon (B2), including R and W practitioners who now hold A posts. The appointment will be for a period of six months. The salary is £175 per annum, with full residential emoluments. Applications should be sent to the undersigned immediately. Frank Jennings, House Governor and Secretary.

ROFFEY PARK REHABILITATION CENTRE, Horsham (106 beds).—Applications are invited for the post of MEDICAL OFFICER (B1). Salary £500 per annum with use of unfurnished flat. Preference given to one with psychiatric experience. Suitably qualified R practitioners holding B2 appointments, also those holding B1 and rejected by R.A.M.C., may apply. Applications should be sent to the Medical Director.

THE ROYAL EASTERN COUNTIES INSTITUTION FOR MENTAL DEFECTIVES, Colchester.—Applications are invited for a LOCUM TENENS MEDICAL OFFICER (B1), at a salary of £10 10s. weekly, together with board, lodging, laundry and attendance. Previous experience of mental deficiency desirable but not essential. Applications should be sent to the Acting Medical Superintendent as soon as possible.

THE ROYAL NATIONAL THROAT, NOSE, AND EAR HOSPITAL, Gray's Inn Road, W.C.1, and Golden Square, W.1. ASSISTANTS IN THE OUT-PATIENT DEPARTMENTS.—There are vacancies for attendance at the following times at Golden Square Hospital: Mondays, Tuesdays and Fridays, 2 p.m.; Saturdays, 10 a.m. The appointments, which are honorary ones, afford a good opportunity of acquiring extended clinical knowledge of the speciality, as the work consists of assisting the surgeons in seeing patients. Applications, which may be for a period of three, six, or twelve months, should be sent to the undersigned immediately.—John H. Young, Secretary-Superintendent.

SALFORD ROYAL HOSPITAL.—Applications are invited for the post of RESIDENT SURGICAL OFFICER (B1). Salary £250, plus the usual residential emoluments. Appointment one year. R practitioners holding B2 posts, also those holding B1 and rejected by the R.A.M.C., may apply. Applications to be made on the prescribed form obtainable from the General Superintendent at the Hospital.

ST. MARK'S HOSPITAL FOR CANCER, FISTULA and Other Diseases of the Rectum, City Road, London, E.C.1.—Applications are invited from registered medical practitioners (male) for the appointment of HOUSE SURGEON (B2) vacant on December 1, 1945. The appointment is for six months. Salary at the rate of £150 per annum, with full residential emoluments. R practitioners who now hold A posts may apply. Applications should be sent to the undersigned. Raymond Bull, Secretary.

STRATFORD-ON-AVON EMERGENCY HOSPITAL. County of Warwick.—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (B2). Salary £300 per annum with the usual residential emoluments. R and W practitioners holding A posts may also apply, and in the case of R practitioners appointment will be limited to six months, otherwise it will not exceed one year.

RESIDENT SURGICAL OFFICER (B1). Applications are invited from registered medical practitioners for the appointment of Resident Surgical Officer (B1). Applicants should have held house appointments and had surgical experience. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £350 per annum, with full residential emoluments. The appointment is limited to a period of one year.

Applications for each post on forms to be obtained from H J Kotch, Shire Hall, Warwick, should, on completion, be returned to him not later than October 20, 1945.

ST. GEORGE'S HOSPITAL, S.W.1.—Applications are invited for the post of MEDICAL FIRST ASSISTANT (B1), male, to be instituted from October 1, 1945. R practitioners who now hold B2 posts may apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. The duties will be full-time and will include the clinical care of a medical firm under the direction of a physician and an assistant physician; also the keeping of hospital records and instruction of students. Salary £450 p.a. The appointment will be for one year in the first instance, renewable annually up to three years. Applicants must hold the M.R.C.P. Applications to be sent to the Secretary, St. George's Hospital, London, S.W.1, as soon as possible.

SOUTHEND GENERAL HOSPITAL.—Applications are invited from registered practitioners for the post of RESIDENT ANAESTHETIST (B2). Salary will be at the rate of £200 per annum, with full residential emoluments. This post is recognized for the Diploma in Anaesthetics. R and W practitioners holding A posts may also apply, when the appointment will be limited to six months. The post is now vacant.

HOUSE SURGEON (A) required to commence duty on November 1. This post is recognized by the Royal College of Surgeons. Salary at the rate of £150 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months.

Applications for each post to be sent as soon as possible to the undersigned.—E. A. Camp, Acting Assistant Secretary.

STANNINGTON CHILDREN'S SANATORIUM Stannington, Clifton, Morpeth, Northumberland (206 beds for pulmonary and non-pulmonary tuberculosis).—Applications are invited from registered female medical practitioners for B1 APPOINTMENT at the above Sanatorium. Applicants should have held a house appointment and preference will be given to those having some experience in bacteriology. W practitioners now holding B2 posts may apply. Salary £300 to £350 per annum, according to experience, with residential emoluments. Applications should be forwarded immediately to the undersigned.—J. Arnold Stobb, Medical Superintendent.

TILBURY HOSPITAL, Tilbury, Essex.—Applications are invited from registered medical practitioners for the appointment of male RESIDENT SURGICAL HOUSE OFFICER (B1) to become vacant on November 1, 1945. Applicants should have held house appointments and had surgical experience. Suitably qualified R practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary is at £350 p.a. Applications to be sent to the Resident Secretary, Tilbury Hospital, Tilbury, Essex.—F. A. Lyon, Administrator and Secretary, Seamen's Hospital Society.

TAUNTON AND SOMERSET HOSPITAL (136 beds, plus 30 E.M.S. 3 residents).—Applications are invited from registered medical practitioners male and female, for the appointment of HOUSE SURGEON (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. Salary £175 p.a., with full residential emoluments. If held by a practitioner liable under these Acts, appointment will be for six months. Applications to the Secretary-Superintendent, Taunton and Somerset Hospital, Taunton.

THE WILLESDEN GENERAL HOSPITAL, Harlesden Road N.W.10.—Applications are invited for the resident appointment of CASUALTY OFFICER (B[illegible]). Vacant November 1, 1945, including R and W practitioners who now hold A posts. Salary at the rate of £175 per annum with full residential emoluments. The appointment will be for a period of six months. Applications should be sent to the undersigned immediately.—J. N. Drake, Secretary.

IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page 10

THE CHILDREN'S HOSPITAL, King Edward VII Memorial, Birmingham, 16.—ASSISTANT RESIDENT SURGICAL OFFICER (B2). Applications are invited from registered medical practitioners, male or female, for the appointment of Assistant Resident Surgical Officer (B2), now vacant, including R and W practitioners who now hold A posts. Applicants must have had surgical experience. The salary is at the rate of £150 per annum, with full residential emoluments, and the appointment is tenable for six months.

ASSISTANT CASUALTY OFFICER.—Applications are also invited from registered medical practitioners, male or female, for the appointment of Assistant Casualty Officer (B2) including R and W practitioners who now hold A posts. Applicants must have had surgical experience. The salary is at the rate of £150 per annum with full residential emoluments and the appointment is tenable for six months.

Applications for each post should be sent to the undersigned as soon as possible.—Arnold Tunstall, House Governor.

THE CHILDREN'S HOSPITAL, Sunderland (in Association with the Royal Infirmary, Sunderland) 70 beds.—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A) and HOUSE PHYSICIAN (A) now vacant, including practitioners within three months of qualification who are liable to service under the National Service Acts. The appointment will be for a period of six months. Salary is at the rate of £175 per annum with full residential emoluments.—T. F. W. Mackeown, House Governor and Secretary.

VICTORIA HOSPITAL, Blackpool (normal complement 200 beds, war-time complement 500 beds).—Applications are invited from registered medical practitioners, male or female, for the following appointments (B2) now vacant, including R practitioners who now hold A posts:

(1) HOUSE SURGEON to Orthopaedic Department and Surgical Unit 1.

(2) HOUSE SURGEON Eye, Ear, Nose and Throat Departments.

The appointments are for a period of six months' and the salary is at the rate of £200 per annum with full residential emoluments, plus £150 per annum in the case of the successful applicants being Medical Officers released from H M. Forces who desire postgraduate education and rehabilitation as recommended by the Ministry of Health.

Applications are also invited from registered medical practitioners, male or female, for the appointment of RESIDENT ANAESTHETIST (B2), to become vacant shortly. R and W practitioners who hold A posts may apply. The appointment is for a period of six months. Modern equipment is provided, and there are facilities available for a candidate studying for the Diploma in Anaesthetics. Salary is at the rate of £[illegible]00 per annum, with full residential emoluments, plus an additional £50 if the successful applicant is a Medical Officer released from H M. Forces who desires postgraduate education and rehabilitation as recommended by the Ministry of Health.

Applications are also invited from registered medical practitioners for the appointment of RESIDENT SURGICAL OFFICER (B1). Preference will be given to candidates holding the Diploma F.R.C.S., R and W practitioners who now hold B2 posts may apply. Applications from R and W practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. The appointment will be for a period of twelve months. Salary is at the rate of £400 per annum with full residential emoluments, plus £150 per annum in the case of the successful applicant being a Medical Officer released from His Majesty's Forces who desires postgraduate education and rehabilitation as recommended by the Ministry of Health.

Applications for each post should be sent immediately to—Walter R. Smith, General Superintendent.

WORCESTER ROYAL INFIRMARY.—Applications are invited for the position of HOUSE SURGEON (A). The salary will be at the rate of £120 a year, with full residential emoluments Practitioners within three months of qualification and liable under National Service Acts may apply when the appointment will be for six months Applications should be addressed to the undersigned.—Harold Wigg, Acting Supt.-Secretary.

WEST HERTS HOSPITAL. HOUSE PHYSICIAN (B2).—Applications are invited from registered medical practitioners for the appointment of Resident House Physician (B2), to become vacant on November 1, including R practitioners who now hold A posts. The appointment will be for a period of six months. The salary is at the rate of £200 per annum with full residential emoluments. Applications should be sent to the undersigned not later than Monday, October 8, 1945.—J. Price Jones, Clerk to the Hospital.

WHITEHAVEN & WEST CUMBERLAND HOSPITAL (Voluntary General. Hospital with 110 beds, Maternity Unit, Out-patient and Casualty Departments and modern Fracture Clinic and Rehabilitation Centre).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A) post now vacant, including practitioners within three months of qualification who are liable to service under the National Service Acts. Appointment will be for a period of six months at a salary of £200 p.a. with full residential emoluments. Applications should be sent to the undersigned T. W. Lymer, Secretary Superintendent.

WHITCHURCH EMERGENCY HOSPITAL, Cardiff (800 beds).—Applications are invited from registered medical practitioners (male and female) for the following appointments now vacant:—HOUSE PHYSICIAN (A). Practitioners within three months of qualification who are liable to service under the National Service Acts may apply.

HOUSE PHYSICIAN (B2). R and W practitioners who now hold A posts may apply. The appointments are both for six months and the salary is at the rate of £200 per annum, with full residential emoluments Applications should be sent to the Medical Superintendent.

VICTORIA HOSPITAL, Deal. HOUSE SURGEON (B2).—Applications are invited for the post of House Surgeon at a salary not exceeding £300 p.a. R and W practitioners now holding A posts may apply. If held by an R practitioner appointment will be limited to six months. Applications should be sent to the Secretary, Victoria Hospital, Deal, immediately.

YORK COUNTY HOSPITAL (222 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A), vacant immediately, whose main duties are in the Eye, Ear, Nose and Throat Department (37 beds with busy Out-patient Clinics), but who will share in the general work of the hospital, also Casualty Duty, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months Salary is at the rate of £175 per annum, with full residential emoluments This post is recognized for D.O.M.S and D.L.O. examinations Applications to be sent to the undersigned immediately.—J. R. Mackrill, Secretary

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YORK COUNTY HOSPITAL (222 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of ORTHOPAEDIC HOUSE SURGEON AND CASUALTY OFFICER (B2), vacant immediately, including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months. The salary is at the rate of £175 per annum, with full residential emoluments. Applications to be sent to the undersigned immediately.—J. R. Mackrill Secretary.

AGENTS

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18. MIDLANDS TOWN.—Share after Prely. Asshp. Receipts over £3,300. Panel 1,850
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SUPPLEMENT TO THE

BRITISH MEDICAL JOURNAL

LONDON SATURDAY OCTOBER 13 1945

British Medical Association

REPORT OF INSURANCE ACTS COMMITTEE, 1945

Dr. E. A. Gregg was reappointed Chairman of the Committee for the session 1944-5.

Ministry of Health Distribution Committee

The Committee's nominees on the Ministry of Health Distribution Committee in connexion with the Central Practitioners' and Mileage Funds are: Dr. E. A. Gregg (London), Dr. L. J. Picton (Holmes Chapel), Dr. D. B. Evans (Coedpoeth), and the Secretary (Dr. C. Hill), together with Dr. J. A. Pridham (Weymouth, Dorset), Dr. J. C. Pearce (Diss, Norfolk), and Dr. J. D. Wells (Billericay, Essex), when questions concerning mileage are under consideration.

Panel Conference Standing Orders

Some doubt has been expressed as to whether Standing Order (xx) (b) in its present form clearly defines those who may be nominated for election by the Panel Conference as members of the Insurance Acts Committee. The following recommendation, amending Standing Order (xx) (b), is accordingly submitted for adoption by the Conference:

RECOMMENDATION: That Standing Order (xx) (b) of the Conference be amended to read as follows:

> "Nominations may be made only by representatives, and a representative may make not more than one nomination. Any registered medical practitioner actively engaged in N.H.I. practice, whether a member of the Conference or not, is eligible for nomination."

Ministry of National Insurance

An Order in Council entitled the Ministry of National Insurance (Health Insurance and Pensions) Order, 1945, has been made under the Ministry of National Insurance Act, 1944, transferring certain functions of the Ministry of Health and Secretary of State for Scotland regarding health insurance and other matters to the Ministry of National Insurance as from April 1, 1945. The Order in Council will not affect the administration of medical benefit or the constitution, functions, etc., of insurance committees, and no amendment has been made in the Medical Benefit Regulations or the insurance committees' regulations. Insurance committees will therefore continue to be associated with the Ministry of Health and the Department of Health for Scotland in regard to matters arising under these regulations.

The functions of the Ministry of Health and Secretary of State for Scotland under the Deposit Contributors Regulations have been transferred to the Ministry of National Insurance, and that Ministry will, in future, be the central department with which insurance committees will deal so far as the administration of cash benefits for deposit contributors is concerned.

Standards of Remuneration

The Interdepartmental Committee on the Remuneration of General Practitioners, or, to give it its popular title, the Spens Committee, has been given the following terms of reference:

> To consider, after obtaining whatever information and evidence it thinks fit, what ought to be the range of total professional income of a registered medical practitioner in any publicly organized service of general medical practice; to consider this with due regard to what have been the normal financial expectations of general medical practice in the past, and to the desirability of maintaining in the future the proper social and economic status of general medical practice and its power to attract a suitable type of recruit to the profession; and to make recommendations.

The personnel of the committee consists of an independent chairman (Sir Will Spens, Master of Corpus Christi College, Cambridge), a solicitor (Mr. E. Davies, London), an accountant (Mr. T. Lister, London), a trade union official (Mr. J. L. Smyth, Secretary, Social Insurance Department, T.U.C.), a Treasury representative (Sir Ernest Fass, former Public Trustee), and four general practitioners (Dr. J. A. Brown, Birmingham; Dr. O. C. Carter, Bournemouth; Dr. W. M. Knox, Glasgow; and Dr. S. A. Winstanley, Urmston, nr. Manchester) nominated by the B.M.A. One of the joint secretaries is Dr. A. V. Kelynack, Assistant Secretary of the B.M.A.

The preparation of the Association's evidence to the Spens Committee is in the hands of a joint subcommittee of the Insurance Acts and General Practice Committees. In accordance with the promise given at the last Annual Conference, the personnel of this subcommittee has been strengthened by the addition of practitioners from Wales, Lancashire, and Yorkshire. As a first step it was decided to carry out a statistical inquiry designed to provide factual information on the range of pre-war incomes of doctors of different ages in a variety of types of general practice. The inquiry was conducted under the direction of Prof. A. Bradford Hill, D.Sc., Ph.D., Professor of Statistics at London University, and covered approximately 5,000 general practitioners selected at random from all practitioners in Great Britain who were predominantly engaged in general practice before the war. They were asked to provide particulars of their professional income and expenditure for three successive pre-war years (1936-8).

A memorandum of evidence has already been prepared and presented to the Spens Committee by the Association's principal witnesses: Dr. H. Guy Dain (Chairman of Council), Dr. E. A. Gregg (Chairman of the Insurance Acts Committee), Dr. S. Wand (Chairman of the General Practice Committee), Dr. I. D. Grant (Glasgow), and Dr. Charles Hill (Secretary of the B.M.A.). These witnesses have been invited to give further evidence in October, and there will probably be a number of questions on which the Spens Committee will ask for further evidence from the Association before it completes its deliberations. At the request of the Spens Committee some ten special witnesses were selected and have given evidence on special conditions of general medical practice, excluding questions of remuneration, in different types of area.

The Future of Medical Services

With one exception the various resolutions of the last Annual Conference concerning the proposed National Health Service were passed on to the Negotiating Committee. Minute 64 asked the Insurance Acts Committee to consider the desirability of medical practitioners entering the new service being organized in three classes, with differing methods of remuneration for each class. This suggestion found very little support among the members of the committee and has not been recommended to the Negotiating Committee.

Special Capitation Fee for Invalided Services Personnel

It was represented to the Committee that in some cases practitioners had not claimed the special fee in respect of insured persons discharged from the Services on medical grounds and placed on their lists before Feb. 1, 1944, because of the difficulty in completing the Form G.P. 111A. The Ministry was asked to press the Service Departments to provide lists of those discharged on medical grounds before Feb. 1, 1944, but it is understood that the reply of the Service Departments is that this proposal is not practicable. An assurance has been given that the expression used by the War Office "ceasing to fulfil Army physical requirements" indicates discharge on medical grounds, and where this phrase is used the higher capitation fee is payable.

The Ministry was asked to arrange that individual insurance practitioners should be supplied periodically by insurance committees with the names of recent additions to their lists in respect of whom the higher capitation fee is being paid. The Ministry's reply is that it is believed to be the practice of insurance committees to show the number of invalided persons in the quarterly statement sent to insurance practitioners, and that this information should suffice. The Committee asked that men discharged from the Royal Merchant Navy on medical grounds be included among those for whom the higher capitation fee is payable, but the Ministry is unable to agree to this request. The main difficulty appears to be that men of the Merchant Navy are essentially in civilian employment, and there is no system of discharge on medical grounds. After a period of disability they often go back into employment in the Merchant Navy.

Certification

In accordance with an undertaking given at the last Annual Conference (Min. 155), the Ministry of Health was again asked to consider the Committee's request for an extension to three months of the present interval of one month allowed for the issue of a special intermediate certificate. The Ministry has not agreed to the suggestion in its entirety, but has agreed to amend the certification rules so that special intermediate certificates may be given at intervals of not longer than eight weeks after six months of continuous incapacity. There is to be no change in the condition attaching to the issue of these certificates—namely, that the patient does not require treatment at more frequent intervals than that specified by the doctor.

It is proposed by the Ministry that Rules 5 and 12 be combined to read as follows:

> 5.—(1) If incapacity continues beyond eight days from the date of the first certificate the practitioner shall give further intermediate certificates, if so desired by the insured person, during the continuance of incapacity.
>
> (2) Except as hereinafter provided in relation to cases where the incapacity is likely to be prolonged, an intermediate certificate shall be given in every insurance week.
>
> (3) If in any case the practitioner, not earlier than one month after he has first given a certificate, is satisfied that the incapacity is likely to be prolonged, and that, owing to the nature of the disease or disablement, examination and treatment at intervals of more than one week will be sufficient, he may give special intermediate certificates in the form appended below indicating in each certificate that he proposes to give further certificates at specified intervals longer than one week. The intervals so specified in any certificate shall not exceed four weeks, or, if the incapacity has continued for at least six months, eight weeks. Unless and until the society give notice to the practitioner that they object to the proposed procedure certificates may be given at the intervals specified, and for this purpose a certificate which is given during the insurance week in which the specified interval expires shall be deemed to have been given within the specified interval.
>
> (4) If at any time notice of objection is given by the society the practitioner may refer the matter to the medical officer, who shall have power to determine, for the purposes of these rules, at what intervals certificates are to be given by the practitioner.
>
> (5) During the period between the receipt by the practitioner of notice of objection on the part of the society and the decision of the medical officer the practitioner shall give certificates at weekly intervals in accordance with these rules.
>
> (6) In this rule "insurance week" means the period from midnight on one Sunday to midnight on the following Sunday.

The Insurance Acts Committee has approved the draft new rule in principle, but is asking the Ministry to consider a modification of subparagraph (5) so as to provide that in cases where an objection to certificates at eight-weekly intervals is raised by an approved society, the practitioner may continue to issue certificates at eight-weekly intervals pending consideration of the objection. The question of the actual date from which the first special intermediate certificate may be given is also being raised.

The Ministry does not feel justified in adopting the Committee's further suggestion that provision should be made for the issue of special intermediate certificates before the end of the first month of incapacity.

Medical Records

It was suggested to the Ministry that the medical record card of a person ceasing to be entitled to medical benefit might be sent to the patient's doctor for his use after the record had been endorsed to show that the patient was no longer entitled to medical benefit under the National Health Insurance Act. The Ministry is unable to adopt the Committee's suggestion, but has disclosed that insurance committees generally are prepared to meet a request from a doctor for the loan of a medical record in an individual case.

As soon as conditions associated with the storage of medical records are more favourable the Ministry will be prepared to consider a return to the pre-war practice of keeping for five years the medical records of insured persons whose title to medical benefit has lapsed.

Dispensing: Sulphonamides

The Ministry was asked to give further consideration to the Committee's earlier request for the inclusion of the whole of the sulphonamide group of drugs in the list appended to Part II of the Distribution Scheme, and has agreed to the inclusion of the following preparations in the list: sulphathiazole *B.P.*, sulphamezathine, sulphadiazine *B.P.*, sulphaguanidine *B.P.*, and succinyl-sulphathiazole.

Regional Medical Service: Reference of Tuberculous Patients

In June last the Ministry of Health issued a circular letter to local authorities in England from which it was clear that Divisional Medical Officers had been instructed that, in cases where an insured person had been referred to a D.M.O. for an independent medical examination, and a tuberculous condition was diagnosed, the D.M.O. was empowered to refer the insured person to the appropriate tuberculosis officer for specialist examination and report. The circular went on to say that the Minister felt sure that local authorities would be glad to have such cases brought within the purview of their tuberculosis service in this way, and that he could rely upon tuberculosis officers to assist his D.M.O.s in examining and reporting on cases so referred.

The Insurance Acts Committee took the strongest possible exception to this procedure. It was considered that the Minister's action was contrary to the generally recognized procedure that where an investigation or treatment of a specialist character was considered by the D.M.O. to be advisable, the patient's own doctor would be informed in order that he might pursue the matter with the tuberculosis officer or take such other appropriate steps as he thought advisable.

No exception could be taken to the inclusion in the D.M.O.'s report to the attending practitioner of suggestions as to the future conduct of the case or even the offer of facilities for special investigations. The effect of the Ministry's circular, however, was to extend the functions of the regional medical staff in a way which interfered with an insurance practitioner's responsibility for the care of his patient and introduced a dual responsibility that was not in the best interest of the patient. Insurance practitioners could not accept a position in which a D.M.O.'s service was to be regarded as of a consultant nature in the clinical aspect of the case.

Representations on these lines were made to the Ministry of Health, and a reply has been received stating that in those cases where the opinion of a specialist is considered to be desirable for reasons other than to enable the examining medical officer to report whether or not an insured person is incapable of work, no steps will be taken for the specialist examination before obtaining the consent of the insured person's own doctor.

The Committee notes that the Ministry does not propose to vary the procedure under which insured persons are referred to specialists solely for the purpose of assisting the examining medical officer to report on an incapacity reference. While recognizing that this is the present position, the Committee feels that it would be in the interest of the patient, the N.H.I. medical service, and the maintenance of a high standard in the settlement of cases of doubtful incapacity for work, if *all* references to specialists were made after consultation with the insured person's doctor.

New Entrants

The 1944 Annual Conference referred to the Committee for consideration a request that a method should be devised which would enable a medical card to be issued immediately the first stamp is affixed to the insured person's contribution card. As a practical proposal to give effect to this request, the Committee suggested to the Ministry that Form Med. 50 be so amended as to show that the insured person is, in fact, employed. The Ministry does not consider it desirable to provide on Form Med. 50 a form of certificate for completion by the employer, but is considering a proposal to provide a space on the form for the insertion of the name and address of the employer.

Irregular Removal of Names from Doctors' Lists

The attention of the Ministry of Health was drawn to complaints received by the Committee that, to an increasing extent, insured persons' names were being removed from doctors' lists, although the insured persons themselves had been in continuous employment. It was recognized that the main reason for this was the failure of insured persons to send in their contribution cards, but the Ministry was informed that the Committee would welcome any action that could be taken, possibly by way of an appropriate communication to approved societies, to minimize what was becoming an increasing source of irritation and annoyance to doctors.

Inquiries by the Ministry of National Insurance through its records branch did not reveal any appreciable worsening of the position, the main causes of which appear to be staff shortage in approved society offices and the introduction of the yearly contribution card. The Ministry is reminding approved societies, however, of the desirability of issuing to their members notices of impending termination of insurance well in advance of the actual date of termination, so that those members whose insurance is not due to end may take steps to put the matter right before the suspension becomes effective.

The Ministry is being informed that the experience of the Insurance Acts Committee members does not confirm the view that there has not been any appreciable increase in irregular removals from doctors' lists.

Sickness Benefit and Pregnancy

The resolutions (Minutes 120, 122, and 123) of the 1944 Annual Conference, together with a similar resolution passed by the Annual Representative Meeting of the B.M.A., were brought to the notice of the Ministry of Health. The Ministry had previously promised to issue a revised memorandum on the subject to insurance practitioners, approved societies, and insurance committees, and a draft of the proposed memorandum had actually been prepared when the White Paper on Social Insurance made its appearance. The White Paper contains proposals for payment in the case of employed women of a weekly maternity benefit for a total period of thirteen weeks extending on both sides of the date of confinement. Accordingly, the Ministry does not consider it desirable at this stage to make any modification of the present National Health Insurance scheme which might embarrass the working out of the proposals in the new scheme. In the opinion of the Ministry of National Insurance approved societies generally are not unreasonable in dealing with claims supported by medical certificates for pregnancy where confinement is expected to take place within six or eight weeks, but that Department would be prepared to make appropriate representations in any case in which an approved society does not take a reasonable view of incapacity during pregnancy.

The Ministry is not prepared to accept the suggestion contained in the resolution passed by the Annual Representative Meeting that an examination of a pregnant woman by a Regional Medical Officer should be made at home if she is within eight weeks of the expected date of confinement. It is understood that the notice (Form R.M.2) issued to the doctor from the divisional medical officer contains provision for the doctor to indicate whether the patient is fit to attend the examination centre.

The Committee is not satisfied with the Ministry's view and is continuing to press for all examinations within eight weeks of the expected date of confinement to be conducted at the patient's home.

Investigation of Title to Medical Benefit

The Ministry of Health agrees with the view expressed in a resolution passed at the 1944 Annual Representative Meeting "that it should not be left to insurance practitioners to investigate the title to medical benefit of persons alleged to have ceased insurance, this being clearly the duty of insurance committees and approved societies."

Post-war Financial Assistance for Doctors

In the Committee's last Annual Report reference was made to a joint subcommittee of the Insurance Acts and General Practice Committees which had been appointed to examine schemes for the financial assistance of medical practitioners in the purchase of practices, with special reference to the problem of young Service doctors entering medical practice after the war. The joint subcommittee has prepared a report on the subject, and a statement embodying the methods of securing financial assistance that are open to medical practitioners was published in the *Supplement* of June 9, 1945.

Tropical Diseases in Ex-Service Personnel

In reply to the Committee's request for information on the provision of facilities for the treatment of ex-Service men and women suffering from malaria and other tropical diseases the Ministry of Health states that all Service cases will be received into Service hospitals and civilians into E.M.S. hospitals, where they will be afforded whatever treatment may be required, and on discharge will, when necessary, be advised on out-patient facilities.

In April, 1942, after the extension of the war to the Far East, a letter of advice on the prevention, diagnosis, and treatment of malaria was sent to the medical officers of health of districts where conditions might be favourable in summer months for the spread of malaria. In December, 1943, all medical officers of health were reminded in the Ministry's *Monthly Bulletin* that the number of cases was likely to increase with the return of men from malarial countries, and were advised that it would be appropriate for them to inform doctors of the facilities locally available for consultant services and laboratory investigation. In addition, a pamphlet containing an article by a medical expert on the diagnosis of malarial infections was issued by the Ministry of Health in January, 1944, to all medical practitioners in England and Wales.

Panel Conference Dinner

The Annual Conference last year expressed a wish to revive the Annual Conference dinner in 1945, if possible. Arrangements have been made for the dinner to be held at the Savoy Hotel on the evening of the Conference, Nov. 15, and a communication on the subject has been sent to all Panel Committees.

National Insurance Defence Trust

The balance sheet and statement of expenditure and income of the Trust for the year ending Dec. 31, 1944, are being sent to every Panel Committee.

The Trustees have not yet completed their consideration of the question of forming a Guarantee Fund.

A Panel Committee raised the question whether the objects of the Trust could be amended to provide for financial assistance being given to doctors returning from active service to re-establish them in medical practice. The Trustees are advised legally: (1) that the present objects do not cover such a proposal; and (2) that the objects could not be varied without first obtaining the sanction of all contributors.

SCOTLAND

This particular section deals with matters which are of a purely domestic Scottish nature and which have not been referred to in the preceding paragraphs, or upon which action in England and Wales differs from that taken in Scotland.

Chairman and Deputy Chairman

Dr. J. F. Lambie (Glasgow) and Dr. A. F. Wilkie Millar (Edinburgh) were re-appointed Chairman and Deputy Chairman respectively for the session 1944–5.

Subcommittees, etc.

The Rural Practitioners Subcommittee was appointed. The Chairman, Deputy Chairman, Dr. Robert Bruce (Aberdeenshire), and Dr. R. W. Craig (Scottish Secretary) were nominated as members of the Advisory Distribution Committee of the Department of Health. The Department was informed that all members of the Insurance Acts Subcommittee would be available for service on Medical Advisory Committees constituted under the Medical Benefit Regulations (Scotland), 1938.

Conference of Representatives of Divisions and Panel Committees

A Conference of representatives of Divisions and Panel Committees in Scotland was held in the Scottish House of the Association on Oct. 24, 1944. Dr. A. F. Wilkie Millar presided and Dr. J. B. Miller was appointed Deputy Chairman. Dr. H. Guy Dain, Chairman of Council, and Dr. Charles Hill, Secretary of the Association, were present. The members of the Scottish Committee, the Insurance Acts Subcommittee (Scotland), and the Scottish Medical Consultative Committee also attended. The main purpose of the Conference was to consider a report by the Scottish Committee on the Scottish section of the White Paper on a National Health Service. A full report of the proceedings, including a summary of the more important resolutions, was published in the *Supplement* of Nov. 4, 1944.

Supplementary Medical Service

At a meeting held on Nov. 21, 1944, a report was received regarding the working of the Supplementary Medical Service (Clyde Basin Experiment). The chief object of this service was to provide facilities for early diagnosis and treatment. It offered: (1) consultant investigation, (2) hospital investigation and treatment, (3) convalescent home treatment. There had been no delay in admissions to hospital where this was required, and the large majority of patients had been able to return speedily to work. The Committee recorded their approval of the working of this service.

Maternity Services (Scotland) Act, 1937

The Committee welcomed the result of the efforts made by the Scottish Committee to secure a substantial improvement in the terms of service for medical practitioners under the Act. In particular they welcomed the withdrawal of the differentiation in the fees previously payable for insured and non-insured women respectively.

Ministry of National Insurance

Intimation was received from the Department of Health that an Order in Council, entitled the Ministry of National Insurance (Health Insurance and Pensions) Order, 1945, had recently been made under the Ministry of National Insurance Act, 1944, transferring certain functions of the Secretary of State for Scotland with respect to health insurance and other matters to the Minister of National Insurance as from April 1, 1945.

Dispensing: Calamine Lotion

A memorandum was received from the superintendent and clerk of the Drug Accounts Committee (Scotland) suggesting that as a wartime measure prescriptions for calamine lotion be interpreted as the *British Pharmaceutical Codex* preparation without the addition of rose water. It was agreed that the suggestion be approved.

National Health Service Proposals

At a meeting of the Committee held on April 10, 1945, the alternative proposals to those contained in the White Paper on which the Secretary of State for Scotland sought the views of those concerned were considered in detail and various resolutions were passed.

Number of Insured Persons

The Government Actuary's final determination of the number of insured persons in Scotland for whom payment would be made in respect of medical benefit for 1944 was 2,066,000, or 81,000 more than the provisional estimate. The provisional figure for 1945 is 2,008,000.

HEARD AT HEADQUARTERS

Scottish Prescribing

Frequency of prescribing in insurance practice in Scotland has not altered much during the last fifteen years. In 1944 the average number of prescriptions for each insured person was 1.8, and in 1929 it was 1.77, but the cost for each person has gone up from 2s. in the earlier year to 3s. 3d., and the average price of the prescription from 1s. 1½d. to 1s. 9½d. The rise in recent years is partly accounted for by insulin, which was not included at an earlier period.

Those who think of National Health Insurance prescribing as on the cheap side should study some of the cases which appear in the records of the Drug Accounts Committee for Scotland. One insured person during the years 1937 to 1945 received 830 prescriptions for extract of adrenal cortex at a total cost of over £1,000—the first recorded case in Scotland in which the cost of medicine for an insured person has run into four figures. From the point of view of expense the most remarkable individual prescription issued to an insured person was for 200 mg. of desoxycorticosterone acetate for surgical implantation. The cost of one tablet of this substance was £6 13s. The same patient received a second prescription for a tablet, together with four ampoules of the same substance for use by injection, at a total cost of £7 14s. 3d. In the case of another insured person the prescriptions given in one month priced up to over £10, the most expensive items being 19 lb. white lint and 32½ lb. of ichthyol paste.

A good deal of difference exists between the various parts of Scotland in this matter of prescribing. In Aberdeen the average frequency of prescription for each insured person is 2.2 and in Paisley 1.6; in the county of Bute it is 2.1 and in the county of Inverness 1.1; and while the average cost of a prescription is over 2s. in Edinburgh and Dunfermline, it is only 1s. 6d. in Greenock and Clydebank.

The Drug Accounts Committee also prices the prescriptions on behalf of a number of local authorities and other bodies. The average value of prescriptions issued on behalf of public assistance committees is about 2s. 6d., and of tuberculosis departments 3s. 6d., while for public medical services it is only 1s. 4d. Altogether, during 1944, in insurance prescribing and that of local authorities and various other public services, leaving on one side, of course, voluntary hospital and private prescribing, almost as many prescriptions were issued as there are people in Scotland and the cost was £390,000.

Local Medical War Committees

At this time, when praises and decorations are being distributed for wartime work, a word at least should be said about Local Medical War Committees. Their job has perhaps been the most thankless of any piece of wartime machinery in the medical field. They have had unpleasant and invidious work to do, and in filling their quotas they have sometimes laid themselves open to all manner of suspicions from those who were ignorant of the facts, and also from those who are always inclined to attribute base motives to their fellow creatures, especially when those fellow creatures exercise a little brief authority.

No doubt some of the work that the Local Medical War Committees have done has been open to criticism, as all such improvised and emergency work must be, but it has had to meet a good many uninformed strictures and, of course, however perfect an answer the committees might have, they have been unable to disclose it. It is hoped to return to this subject in this column and to show how the committees have done a real job of work for which the nation and the profession should be grateful.

Full Calendar

A list of forthcoming committee meetings at headquarters, extending over the whole B.M.A. year, is a remarkable document. In this present October, for instance, there are eighteen such fixtures, and in December fourteen, and so it goes on through the year. This leaves out of account innumerable meetings of subcommittees, of joint committees, and of special conferences arranged at short notice to deal with new matters as they arise. The quarterly meetings of Council seem to be embedded in a mass of committee work, in which, of course, the policy and action of the Association are mainly shaped. It has to be remembered, too, that this committee work is voluntary, and, apart from the time actually spent at the meetings, entails for many who attend quite considerable travel.

The agendas of many of these meetings are formidable. Take the recent Public Health Committee: apart from something like thirty other items, it was arranged that during the same afternoon representatives of the Medical Women's Federation should meet it on the question of cost-of-living bonus, representatives of the Psychological Medicine Group on salaries in the mental health service, and representatives of the Association of Public Vaccinators concerning scales of remuneration and other matters.

Another Deputation

The Education Act, 1944, requires local education authorities to make arrangements for securing a free comprehensive medical service for school-children. The special committee appointed by the Council of the B.M.A. to consider the implications of the Act has decided to send a deputation to the Ministry of Education to urge: (1) that agreement should be reached on a national basis for the payment of medical personnel whose services are utilized under local schemes; and (2) that the Ministry should secure acceptance of the nationally agreed arrangements before giving approval to local schemes.

Correspondence

Labour Party's Health Policy

Sir,—The victory of the Labour Party at the General Election has brought a new factor into the negotiations for a National Health Service. For the first time a Government is in power which is pledged to provide a complete medical service for all sections of the community, and it is to be presumed that it will at least put the main lines of its policy into effect. Yet, judging by what is said, many doctors are far from adequately informed of what the Labour Party policy is. For instance, some believe that it is intended to abolish a patient's freedom to choose his own doctor, whereas the policy states: "Patients should be able to change their doctors if dissatisfied, and have a choice of an alternative." Consequently we would like to draw attention to the fact that the Labour policy for health has been published in a pamphlet, *National Service for Health*, which can be obtained from the Socialist Medical Association's offices, 35, Long Acre, London, W.C.2.

We recognize that at this stage no policy can be final and that much constructive work will be required before a perfect service can be obtained. We hope that all doctors who have the same aim as we have—namely, the provision of the best attention that science makes possible for all, irrespective of economic position, and the best possible conditions and full professional freedom for doctors and other health workers—will be able to co-operate together in achieving it.—We are, etc.,

Somerville Hastings,
President.
Horace Joules,
Vice-President.
D. Stark Murray,
Vice-President.

Socialist Medical Association, W.C.2.

For a State Service

Sir,—The catch-phrase of the moment in medical circles is that the war was fought to retain freedom but that a bureaucratic Government is now proposing to curtail it by instituting a State medical service. Medical men are now maintaining that freedom is essential to progress. Do these people forget the *laisser-faire* system of the last century and the gross abuses and injustices to which it gave rise? Man is essentially a selfish animal, and we live in a highly materialistic and competitive age. So to achieve the greatest good for the greatest number some form of control is essential due to man's psychology.

In medicine at the present time there are several opposing groups. The salaried doctors of the factories, the welfare centres, and some of the hospitals, and "free-lancers," the specialists and the general practitioners. Between these groups there is little or no co-operation. (In midwifery, the ante-natal work and the maternity work are done by different people.)

The poor man wishing to start in general practice has three alternatives. He can become a paid assistant at the beck and call of his employer, his initiative curtailed with no security of tenure; or he has either to "squat" and be able to keep himself for two years until his practice has grown; or he can borrow the money to buy a practice, thereby saddling himself with a load of debt for years to come. This man must then make enough money to keep himself and his family, to maintain a certain standard of life, to pay off his debts, and to save enough to be able to retire in his old age. As a result he has to treat his work as a business, not as a scientific profession, and hence we get over-visiting of private patients and scamping of panel patients. He has neither the time nor the money to enable him to keep up to date in his profession. By what hypocritical mental twist do we pretend that a medical training makes a man less interested in his own or his family's welfare? These must naturally come first.

As for the much-vaunted free choice of doctor—every doctor is limited by law to 2,000 panel patients, and by his own integrity to that number of private patients he can adequately serve.

It is only by facing economic and psychological facts and controlling them, not only in medicine but in national and international affairs, that there is any hope for man's spiritual and material progress. In medicine it is only by a State medical service that we can remedy the abuses, and bring about an efficient and fair service for all, both patient and doctor.—I am, etc.,

Chepstow. MARY R. ANDERSON.

Alternative to a Salaried Service

SIR,—Your correspondent signing himself "Twenty-five Years' Service" (*Supplement*, Sept. 15, p. 67) thinks that doctors would be willing to sacrifice a considerable portion of their present income in exchange for eight conditions of practice which he suggests would be offered by a full-time salaried service. I suggest that with adequate organization very much better conditions than he outlines can be attained with present methods. War conditions have, of course, made a temporary difference, but no longer obtain. Perhaps the best way to suggest what is desirable is to describe my own practice.

We are a partnership of four doctors practising in well-equipped central consulting rooms, so that virtually no practice is carried on in our own homes. We employ a resident caretaker, and two secretaries who relieve us of all clerical work. We have one half-day a week, every alternate half Sunday, a week-end a month, and four weeks' holiday in the year. If we are ill the partnership carries the burden, unless the illness is very prolonged. We believe that we give our patients a good service, and our income is adequate to ensure for our old age.

We look upon 60, and not 65, as a desirable age to retire. Of course, the absolute prerequisite for success is that all the partners should pull their weight, and should work for the good of the partnership. We also, in a mild way, develop our own specialty, so that we can be of great help to each other.

Surely practice under conditions such as these, which after all are very easily obtainable, is infinitely preferable to being a servant of the State.—I am, etc.,

RONALD S. COLDREY.

Medical Students and the Health Service Proposals

SIR,—May I, as a medical student, remark on the material headed "Medical Students and the Health Service Proposals" (*Supplement*, Sept. 15, p. 64). The British Medical Students' Association's statement is representative of less than 93% of British medical students. There is among the students I have consulted a growing antipathy towards State control of medicine. The opinion that answered the questionary has changed, as, I believe, has that which governed the replies of the qualified men and women. Not a few students are aware that the expansion of bureaucracy means a loss of individual freedom, of initiative, and responsibility; that any such limitation is a step towards the degradation of the race—evolution is posible only with the granting of greater power to the individual, this the essence of the democratic ideal.—I am, etc.,

Kirk Ella, Yorkshire. GEORGE H. BLAIR.

Health Centres and Scientific Method

SIR,—Whether or not health centres should provide more than a good general-practitioner service seems irrelevant to the point at issue, which is concerned with the relative merits of health centres and private surgeries as research stations for minor illness. Dr. A. Garvie (*Supplement*, Sept. 1, p. 57) insists on maintaining the discussion on an abstract plane and declines to contemplate vulgar realities. His statistical ideal will presumably have been attained when one doctor is allotted to an area and one area to a doctor, with obligatory assignment for all in that area. Anything less than this would introduce statistical disturbances. Obviously this, or anything approaching it, is neither possible nor desirable.

Dr. Garvie's argument holds good only if: (1) Doctors drained all, or most, practice in their immediate neighbourhood. Town practitioners will readily testify otherwise. (2) A health centre with, say, six doctors drained an area six times as large as that of each doctor practising individually. Actually, the health centre range is unlikely to be much, if at all, greater than that of one practice area, owing to density of population and overlapping of practices: but in that area health centre "drainage" would be comprehensive, not partial. Consequently, six doctors working together in an A zone about a health centre would surely produce data at least as reliable as six individual doctors working in their own areas. (3) G.P.s, in their individual surgeries, evinced any widespread propensity for research; comment is unnecessary. What is there to justify Dr. Garvie in believing that still greater isolation will remedy this: that even if 90% of patients were to attend they would be suitably sorted out?

Dr. Garvie's enthusiasm betrays him into the naive assumption that scientifically correct statistical conditions will, as a matter of course, produce the statistics. The truth is that these will not be forthcoming on any appreciable scale till favourable research conditions exist. These latter, comprising not merely the material but also the stimulus and the equipment, are much more likely to obtain under a system of aggregation than of isolation. As an academic exercise Dr. Garvie's reasoning may be unexceptionable, but it is an unsafe guide to reality. —I am, etc.,

London, N.W.10. LAURENCE PHILLIPS.

Those Class "B" Releases

SIR,—I write this letter in support of those of my colleagues who have drawn attention to the unenviable plight of Service medical officers, who, after enduring years of necessary drudgery in the cause of liberty, now find themselves with no concrete scheme for their release. We are almost certain to be retained after the release of equivalent age-service groups in other branches of the Service and must apparently remain indefinitely "shackled to our uniform," suffering all the disadvantages thereof. The proposed releases under Class B are pregnant with opportunities for exploitation of the scrupulous by the less scrupulous, of the non-influential by the influential. Furthermore, it is not inconceivable that Service doctors may eventually be offered release under this Class B providing they agree to enter forthwith the so-called State Medical Service, the implications thus entailed being only too painfully obvious.

It is respectfully submitted that the goal of the C.M.W.C. should be to aim at restricting releases under Class B to the most exceptional cases and accelerating the plan for the interchange of suitable civilian doctors with Service colleagues, at a pace that will ensure release of the latter, simultaneously with personnel of the same age-service group in other arms of the Service. In conclusion, I wish to express gratitude and thanks to the members of the C.M.W.C. for the efforts so far made on behalf of Service officers—efforts which have at least done something to dispel the melancholy idea that we are being "crucified on the cross of inaction."—I am, etc.,

"DE PROFUNDIS."

Leave from the E.M.S.

SIR,—Since October, 1943, having previously been rejected by the Army, I have worked as assistant physician at a large E.M.S. hospital. After two years with very little leave, I have just resigned and at the same time inquired how much leave with pay I might take before quitting the Service. The Hospital Sector Officer states in his reply that "you will only be entitled to 3 days' leave for the month of September, as the leave year terminates on August 31, and any arrears lapse at that time." To my mind this is iniquitous. No mention of any such date has been made before. The only conditions of employment in the E.M.S. which I have seen state that "an officer is subject to all the rules and entitled to all the privileges applying generally to temporary officers." In spite of this, it now appears that the doctor, unlike other civil servants, must have his leave before August 31 or lose it.

Lest I be accused of making trouble, I should prefer my name and that of the hospital not to be published.—I am, etc.,

"R.M.O."

British Medical Association

SCHOLARSHIPS IN AID OF SCIENTIFIC RESEARCH

Scholarships

The Council of the British Medical Association is prepared to receive applications for research scholarships as follows: an Ernest Hart Memorial Scholarship of the value of £200 per annum, a Walter Dixon Scholarship of the value of £200 per annum, and four research scholarships, each of the value of £150 per annum. These scholarships are given to candidates whom the Science Committee of the Association recommends as qualified to undertake research in any subject (including State medicine) relating to the causation, prevention, or treatment of disease. Preference will be given, other things being equal, to members of the medical profession. The scholarships will be tenable for nine months in the first instance, commencing on Jan. 1, 1946. A scholar may be reappointed for not more than two additional terms of one year each. A scholar is not necessarily required to devote the whole of his or her time to the work of research, but may be a member of H.M. Forces, or hold a junior appointment at a university medical school or hospital, provided the duties of such appointment do not interfere with his or her work as a scholar.

Conditions of Award: Applications

Applications for scholarships must be made not later than Saturday, Dec. 1, 1945, on the prescribed form, a copy of which will be supplied on application to the Secretary of the Association, B.M.A. House, Tavistock Square, London, W.C.1. Applicants are required to furnish the names of three referees who are competent to speak as to their capacity for the research contemplated.

H.M. Forces Appointments

ROYAL ARMY MEDICAL CORPS

Short Service Commission.—Capt. P. B. Williams has retired on account of disability, and has been granted the honorary rank of Capt.

TERRITORIAL ARMY

ROYAL ARMY MEDICAL CORPS

War Subs. Majors H. B. Lee and R. J. C. Hamilton to be Majors.

War Subs. Capt. J. W. Brown to be Capt.

LAND FORCES: EMERGENCY COMMISSIONS

ROYAL ARMY MEDICAL CORPS

War Subs. Major W. H. de B. Hubert has relinquished his commission on account of disability, and has been granted the honorary rank of Lieut.-Col.

War Subs. Capts. R. B. Crail and G. Gremson have relinquished their commissions on account of disability, and have been granted the honorary rank of Capt.

War Subs. Capt. W. T. Agar has relinquished his commission, and has been granted the honorary rank of Capt.

To be Lieuts.: G. O. Airey, R. I. S. Bayliss, A. W. Bone, A. McK. Brass, G. C. Brentnall, F. S. W. Brimblecombe, R. A. D. Crawford, R. H. Cutforth, A. B. Dickie, T. G. Evans, G. R. Fearnley, O. C. Fung, R. E. Gibson, H. D. M. Gillies, G. E. L. Graham, J. S. Groves, M. W. MacD. Hadley, M. R. Hayes, J. M. Hill, J. P. Hopewell, A. Innes, W. T. C. Lumley, P. F. M. MacDonagh, A. S. McGowan, H. L. McMullen, D. MacVicar, E. Montuschi, E. M. Norman, A. C. E. Sandiland, J. H. Bartlett, J. McC. Caldwell, E. M. Clark, P. J. Cowin, H. G. Floyd, T. H. Nolan, C. S. Sergel, N. J. Willans, G. A. Williams, O. N. Ransford, W. L. Lister, H. G. Fitzmaurice, R. Nicklin, J. M. M. Jamieson, E. A. Beet, W. K. Connell, W. S. Haynes, A. R. Melville, C. B. Symes, D. M. Blomfield, G. Landmark, V. D. van Someron, F. O. Hersee, A. F. Tarlton, and J. P. Glasgow.

ROYAL AIR FORCE

ROYAL AIR FORCE VOLUNTEER RESERVE

To be Flying Officers (Emergency): F. M. Lanigan-O'Keeffe, T. McSweeney, and D. Shorten.

WOMEN'S FORCES

EMPLOYED WITH THE MEDICAL BRANCH OF THE R.A.F.

Flying Officer G. J. E. Jordan has relinquished her commission on appointment to the R.N.Z.A.F.

Flying Officer A. H. Renolds has resigned her commission, retaining her rank.

INDIAN MEDICAL SERVICE

Major-Gen. H. J. M. Cursetjee, C.S.I., D.S.O., K.H.S., has retired.

EMERGENCY COMMISSION

Capt. H. Flack to be Major.

COLONIAL MEDICAL SERVICE

The following appointment has been announced: S. D. Gun-Munro, M.B., B.S., District Medical Officer, Windward Islands, British West Indies.

MEDICAL WAR RELIEF FUND

SEVENTY-FIRST LIST

Amount previously acknowledged £58,268 0s. 5d. *and* £100 3½% *Conversion Stock, and* £40 3% *Defence Bonds.*

Individual Subscriptions

£21.—Mr. T. S. Allen, Hove.

£10 10s.—Dr. T. Brice Poole, Hove (3rd donation).

£10.—Dr. T. Norman, Newbury.

£7 7s.—Dr P. G. Levick, Bungay (4th donation).

£5 5s.—Dr. J. H. Wright, Sutton Coldfield (3rd donation).

£4 4s.—Major W. Happer, I.M.S. (26th donation).

£3 3s.—Dr. E. Cretney, Goole (4th donation); Major J. W. W. Jay, Paiforce (2nd donation); Drs. Silcock and Airey, Leicester (3rd donation).

£2 2s.—Capt. N. Bickford, R.A.M.C. (17th donation).

£1 11s. 6d.—Dr. T. B. Evans, Prestatyn (26th donation).

£10 10s.—Plymouth Division (amount already sent, £365 7s. 6d.); Mr. H. F. Vellacott (9th donation).

Local Medical and Panel Committees

£20 0s. 10d.—County of Dunbarton (19th donation).

£10.—Oxfordshire (4th donation).

Total—£58,379 19s. 9d., *and* £100 3½% *Conversion Stock, and* £40 3% *Defence Bonds.*

Sums for Books for Prisoners of War

Amount previously acknowledged £216 14s. 6d.

Cheques, payable to the Medical War Relief Fund, should be sent to the Hon. Treasurer of the Fund, British Medical Association House, Tavistock Square, London, W.C.1.

POSTGRADUATE NEWS

The Fellowship of Medicine announces: (1) Revision course in anaesthetics, Oct. 8 to 20, demonstrations and/or lectures daily at various London hospitals; (2) Week-end course in rheumatic diseases, all day, Sat. and Sun., Oct. 20 and 21, at Rheumatic Unit, St. Stephen's Hospital, Fulham Road, S.W.; (3) Week-end course in diseases of the ear, nose, and throat, Sat. and Sun., Nov. 10 and 11, at Metropolitan Ear, Nose, and Throat Hospital; (4) Primary F.R.C.S. course, Nov., 1945, to Jan., 1946, three evenings weekly, 6 p.m. to 8.15 p.m.; (5) Week-end course in rheumatic diseases at Royal Bath Hospital, Harrogate, all day, Sat. and Sun., Nov. 3 and 4. Full particulars of courses from the Fellowship of Medicine, 1, Wimpole Street, W.

Demonstrations and discussions of clinical cases will be given at the Royal National Throat, Nose, and Ear Hospital (Gray's Inn Road, W.C.) on Fridays at 4 p.m. from Dec. 14, 1945, to April 19, 1946, both dates inclusive. The demonstrations are open, without fee, to all medical practitioners, who will be invited to examine the cases and to take part in the discussions.

WEEKLY POSTGRADUATE DIARY

GLASGOW UNIVERSITY: DEPARTMENT OF OPHTHALMOLOGY.—*Wed.*, 8 p.m., Dr. I. C. Michaelson: Ophthalmology in the New World and in the Old.

DIARY OF SOCIETIES AND LECTURES

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.—*Thurs.*, 3 p.m., Harveian Oration by Dr. John Parkinson: Rheumatic Fever and Heart Disease.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—*Mon.*, *Wed.*, and *Thurs.*, 2.30 p.m., Prof. John Beattie, Kidney Function; 5 p.m., Prof. A. J. E. Cave, Topography of the Thorax and the Thoracic Viscera. *Mon.*, 3.45 p.m., Prof. R. A. Willis, Metastatic Growths clinically simulating Primary Ones. *Wed.* and *Fri.*, 3.45 p.m., Prof. Willis, Causation of Tumours.

ROYAL SOCIETY OF MEDICINE.—*Tues.*, 4.15 p.m., Section of Pathology; 5 p.m., General meeting of Fellows. *Thurs.*, 5 p.m., Section of Dermatology. *Fri.*, 6 p.m., Section of Radiology; 8 p.m., Section of Obstetrics and Gynaecology.

ASSOCIATION OF INDUSTRIAL MEDICAL OFFICERS: SCOTTISH GROUP.—At Institute of Hygiene, University of Glasgow, *Wed.*, 3.15 p.m. Annual general meeting.

ROYAL INSTITUTE OF PUBLIC HEALTH AND HYGIENE, 28, Portland Place, W.—*Wed.*, 3.30 p.m., Mr. F. D. Saner, Cancer of the Breast—Its Diagnosis and Treatment.

ROYAL SANITARY INSTITUTE, 90, Buckingham Palace Road, S.W.—*Wed.*, 2.30 p.m., Lieut.-Col. M. H. Webster, R.A.M.C.: Uses of D.D.T. in the Field. To be illustrated by a sound film.

ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 26, Portland Place, W.—*Thurs.*, 8 p.m. Presidential address by Dr. C. M. Wenyon, F.R.S.: Tropical Medicine in War and Peace.

B.M.A.: Branch and Division Meetings to be Held

SWANSEA DIVISION.—At Mackworth Hotel, Swansea, Thursday, Oct. 25, 7.30 p.m. Annual dinner.

WAKEFIELD, PONTEFRACT, AND CASTLEFORD DIVISION.—At Clayton Hospital, Sunday, Oct. 21, 11 a.m., Dr. C. W. Vining: Tuberculosis of Childhood.

WINCHESTER DIVISION.—At Royal Hampshire County Hospital, Winchester, Friday, Oct. 26, 3 p.m. Prof. J. B. Pennybacker: The Causes and Treatment of Sciatic Pain. To be illustrated by lantern slides.

BIRTHS, MARRIAGES, & DEATHS

The charge for an insertion under this head is 10s. 6d. *for* 18 *words or less. Extra words* 3s. 6d. *for each six or less. Payment should be forwarded with the notice, authenticated by the name and permanent address of the sender, and should reach the Advertisement Manager not later than first post Monday morning.*

BIRTHS

EASTCOTT.—On Sept. 25, 1945, at St. Mary's Hospital, London, W.2, to Doreen, wife of Surg. Lieut. H. H. G. Eastcott, R.N.V.R., a second daughter.

CUNNINGHAM.—On Sept. 28, 1945, at Benslow Nursing Home, Hitchin, to Gwen, wife of Dr. A. A. Cunningham, a son.

MARRIAGES

KNOWLES—GREENSLADE.—On Aug. 24, 1945, at Theydon Bois, Essex, Capt. Gordon S. Knowles, R.A.M.C., of London, to Moira H. Greenslade, of Theydon Bois.

ROBERTSON—CYRLAS-WILLIAMS.—On Aug. 31, 1945, at Poona, India, D. N. Struan Robertson, Capt., R.A.M.C., to Ruth Cyrlas-Williams (*née* Colyer), Lieut., R.A.M.C.

DEATHS

McDOUGALL.—On Sept. 29, 1945, at Wallington, William Stewart McDougall, M.B.Edin.

PUDDICOMBE.—On Sept. 29, 1945, suddenly, at home, Thomas Phare, D.S.O., M.B., B.S., D.P.H.(Lond.), M.R.C.S., L.R.C.P., of Combe House, Torrington, dearly beloved husband of Violet.

ROSENSTONE.—On Sept. 14, 1945, in Manchester, suddenly, Abram Rosenstone, M.B., Ch.B., aged 45 years.

Among the recent engagements of the Secretary of the B.M.A. were addresses to the Annual Conference of the Scottish Association of Insurance Committees at Edinburgh on Sept. 28, the Oxford Rotary Club on Oct. 1, the Doncaster Women's Luncheon Club on Oct. 9, and the Royal Medical Society of Edinburgh on Oct. 12. His future engagements include addressing the West Sussex Division at Worthing on Oct. 24, the Birmingham University Pre-Clinical and Medical Society and also the Birmingham and Midland Institute on Oct. 29.

NOTICE—Applications for vacancies advertised should, except where otherwise specified, state name, address, age, nationality, qualifications, and be accompanied by copies of three recent testimonials with short statement of experience and appointments held. Unless closing date is stated applications should be sent at once.

R—Male, W—Women practitioners, liable to military service under the National Service Acts.
B1—Whole-time appointments, usually resident within the senior establishment—e.g., Registrar, R.S.O., etc.
A—Whole-time resident house appointments open to practitioners without previous experience.
B2—Whole-time house appointments not within the senior establishment, usually resident, and usually held by practitioners with six months' experience.

APPOINTMENTS

HIS MAJESTY'S COLONIAL SERVICE. The Colonial Medical Service. Vacancies for MEDICAL OFFICERS. The maintenance of an efficient COLONIAL MEDICAL SERVICE constitutes a vital part of the national war effort, and it is most important that the Service should be assured of an adequate supply of doctors. The Secretary of State for the Colonies therefore invites applications from doctors possessing a medical qualification registrable in the United Kingdom who are British subjects and who are under 35 years of age. Medical officers are appointed in the first instance for general service, but there are ample opportunities for work in special branches of medicine and surgery, in public health, and in medical research. The normal salary scale is from £600 to between £1,000 to £1,120. There are large numbers of super-scale posts to which promotion is made on merit and which carry higher salaries. Government quarters, in many cases free of rent, and first-class passages to and from the Colonies are provided, and an adequate pension scheme is in force. Selected candidates are normally required to attend a course of instruction in Tropical Medicine and Hygiene, either before or after proceeding overseas or during their first period of leave. Further particulars, including the regulation governing admission to the Colonial Medical Service, may be obtained from the *Director of Recruitment (Colonial Service)*, 2, Park Street, London, W.1.

INDIAN MEDICAL SERVICE. Recruitment of WOMEN MEDICAL OFFICERS.—The Government of India are prepared to recruit a limited number of women medical officers for service with the Indian Medical Service for the duration of the war. Applicants must be British subjects, of not more than 45 years of age, and those selected will be appointed in the rank of Lieutenants. Antedate of seniority may be granted up to a minimum period of 6½ years in respect of resident hospital appointments, higher qualifications, and/or professional experience. The antedate will count for pay and promotion, but, in the case of candidates recruited in this country, higher rank will not be assumed until the date of disembarkation in India. On termination of service, a minimum gratuity is guaranteed to those officers who complete one year of service, viz., Rs. 2,000 to officers whose registrable medical qualification is dated before January 1, 1940, and Rs. 1,000 to those who qualified after that date, plus one month's pay for each further completed year of Army Service. Further particulars regarding rates of pay, etc., may be obtained from the Medical Adviser, India Office, London, S.W.1, or from the Secretary, Military Department, India Office, to whom all inquiries should be addressed.

GLOUCESTERSHIRE JOINT BOARD FOR TUBERCULOSIS. Standish House Sanatorium, Stonehouse, Glos. (250 beds with orthopaedic block). TEMPORARY ASSISTANT MEDICAL OFFICER (B1) AND ASSISTANT TUBERCULOSIS OFFICER.—With the approval of the Minister of Health the Board invite applications from registered male practitioners for the above joint appointment. In addition to his duties at the Sanatorium the successful candidate will be required to undertake duties at dispensaries, etc. The commencing salary will be at the rate of £450 p.a. plus bonus, and will rise by annual increments of £25 to £600 per annum plus bonus, with emoluments of a total value of £150, and travelling and subsistence allowances in accordance with the Board's scale will be paid. Candidates should have held a resident hospital appointment and an appointment in some institution recognized for the treatment of tuberculosis, and suitably qualified R practitioners holding B2 appointments are inivted to apply. R practitioners now holding B1 appointments and rejected by the R A.M.C. may also apply. The appointment is subject to the approval of the Minister of Health and will be determined by three months' notice in writing on either side, and the person appointed must satisfactorily pass a medical examination. Applications should be addressed to the Clerk of the Joint Board for Tuberculosis, Shire Hall, Gloucester, and should reach him not later than October 26.—Guy H. Davis, Clerk of the Joint Board for Tuberculosis.

MEDICAL PRACTITIONERS' UNION—The Council of the Medical Practitioners' Union invites applications from registered medical practitioners, including those serving with H.M. Forces, for the position of DEPUTY SECRETARY. The salary will be at the rate of £1,250 a year, rising by annual increments of £50 to £1,750. The successful candidate, who will be expected to take up office on April 1, 1946, or on demobilization, will work under the present General Secretary. Applications with full particulars of qualifications, experience, age, and the names and addresses of three persons to whom reference may be made, should be sent to the General Secretary, 55-56, Russell Square, London, W.C.1, on or before February 13, 1946. —Alfred Welply, General Secretary.

BOROUGH OF SWINDON. ASSISTANT MEDICAL OFFICER OF HEALTH and ASSISTANT SCHOOL MEDICAL OFFICER (Temporary). —Applications are invited from duly qualified medical practitioners for the whole-time temporary appointment of Assistant Medical Officer for Maternity and Child Welfare and School Medical work. Candidates already in whole-time Public Health employment by local authorities will not be eligible. The consent of the Minister of Health has been obtained to the making of the appointment. Salary scale £500 to £700 by £25 per annum increments, plus war bonus; the commencing salary to be fixed according to qualifications and experience. The appointment will be terminable by one month's notice on either side. Forms of application and conditions of appointment may be obtained on application to the Medical Officer of Health, Civic Offices, Swindon. Applications giving full information as to liability for service in the armed Forces and accompanied by copies of three recent testimonials or the names of three references, to be forwarded in an envelope endorsed "Assistant Medical Officer of Health," to reach me not later than the first post, Friday, October 19, 1945.—D. Murray John, Town Clerk, Civic Offices, Swindon.

BRITISH POSTGRADUATE MEDICAL SCHOOL (University of London).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A), the post becoming vacant on Nov. 20, 1945. This includes practitioners liable to service under the National Service Acts, who have not yet completed three months since date of qualification. The appointment is for six months. The salary is at the rate of £105 per annum, plus full residential emoluments.—Apply, The Dean, British Postgraduate Medical School, Ducane Road, W.12, before October 20, 1945

CITY OF PLYMOUTH, Didworthy Sanatorium, South Brent, Devon (140 beds). TEMPORARY ASSISTANT MEDICAL OFFICER OF HEALTH. —Applications are invited from registered medical practitioners, male and female, for the appointment of temporary Assistant Medical Officer of Health for Didworthy Sanatorium, South Brent. The salary scale is £350 rising by £25 annually to £550 per annum, plus full residential emoluments and a war bonus. Previous service on this salary scale, under another local authority will be reckoned in calculating the appropriate salary of the officer appointed. All fees received by the Officer must be refunded to the Council. Preference will be given to candidates with some experience in the treatment of Pulmonary Tuberculosis. The person appointed will be required to work under the direct supervision of the Medical Superintendent. The appointment is subject to the provisions of the Local Government Superannuation Act, 1937, and terminable by three months' notice on either side at any time, and the successful candidate will be required to pass a medical examination. Applications should be sent to the undersigned as soon as possible. The consent of the Minister of Health has been obtained to the making of this appointment, but candidates already in whole-time public health employment by the Local Authorities will not be eligible.—T. Peirson, Medical Officer of Health, Seven Trees, Lipson Road, Plymouth.

CITY OF BATH. St. Martin's Hospital (800 beds). —Applications are invited from registered medical practitioners for appointment as RESIDENT MEDICAL OFFICER (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. The appointment will not exceed one year, and if held by a practitioner who is liable under the Acts, will be for a period of six months. Salary at the rate of £200 per annum with board residence and laundry. About half the beds are in the E.M.S. Hospital, and there is excellent scope for medical and surgical work. The person appointed will be expected to undertake general surgical duties and administer anaesthetics. The appointment would be suitable for either a man or woman. Applications to the Medical Officer of Health, Sawclose, Bath.

CITY AND COUNTY OF BRISTOL. Department of Public Health. ASSISTANT RESIDENT MEDICAL OFFICER.—Applications are invited from registered medical practitioners, male or female, for the immediate appointment of Assistant Resident Medical Officer (B2) at Ham Green Hospital, including R and W practitioners who now hold A posts. If held by an R practitioner, the appointment will be limited to six months, otherwise it will be held for a period of one year. Salary £200 per annum, plus full residential emoluments. Application forms may be obtained from the undersigned, to whom they must be returned, accompanied by copies of not more than three recent testimonials, forthwith.—R. H. Parry, Medical Officer of Health, Kenwith Lodge, Westbury Park, Bristol, 6.

CITY OF BIRMINGHAM. Mental Deficiency Act Committee, Monyhull Colony. RESIDENT ASSISTANT MEDICAL OFFICER (B1).—Applications are invited for the post of Resident Assistant Medical Officer (lady or gentleman) at the above Colony. Candidates should have held house appointments in the general hospital. R and W practitioners holding B2 appointments may apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. The scale of salary is £350, rising by one annual increment of £50 and two of £25 to £450 per annum, plus war bonus, with full residential emoluments valued at £125 per annum, and a further £50 per annum is payable for a recognized postgraduate qualification in psychological medicine. The Colony includes a residential special school and excellent opportunities for learning the psychology of mental deficiency. After a period of probation and the passing of a satisfactory medical examination the appointment will be subject to the provisions of the Asylums Officers' Superannuation Act, 1909, as modified by the Asylums and Certified Institutions (Officers' Pensions) Act, 1918. All fees and emoluments received other than the above must be repaid to the City Council. Applications should be addressed to the undersigned so as to be received not later than December 31, 1945, the envelope to be endorsed "Resident Assistant Medical Officer." Canvassing either directly or indirectly will disqualify.—Dr. C. J. C. Earl, Medical Superintendent, Monyhull Colony, King's Heath, Birmingham, 14.

CITY OF MANCHESTER. Booth Hall Central Hospital for Children (760 beds). TEMPORARY RESIDENT SURGICAL OFFICER (B1).—Applications are invited from registered medical practitioners, male and female, for the appointment of Temporary Resident Surgical Officer (B1) which will become vacant on December 21, 1945, at the above-mentioned hospital. Although the vacancy is on the permanent assignment of staff, the appointment will be temporary for the time being, and subsequently the officer appointed will be eligible to apply for the permanent post. Candidates must have practical surgical experience and, preferably, hold a high surgical qualification. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Basic salary in accordance with the Manchester Corporation conditions of service, commences at £475 per annum, with full residential emoluments in addition, but annual increments of £25 up to a maximum basic salary of £550 may be granted at the discretion of the Council. The salary is subject to a temporary cost-of-living wages addition. The commencing cash remuneration, at present, is £505 for a male officer, and £499 2s. 6d. for a female officer. Forms of application can be obtained from the Medical Officer of Health, Hospitals Administration Section, G.P.O. Box 399, Town Hall, Manchester, 2, and all applications must be received by him not later than November 3, 1945. (Full details of the post can be obtained from the Medical Superintendent of Booth Hall Hospital, Blackley, Manchester, 9.) Canvassing in any form, oral or written, direct or indirect, is prohibited.—Philip B. Dingle, Town Clerk, Town Hall, Manchester, 2.

CITY OF PLYMOUTH. Mount Gold Orthopaedic Hospital (120 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of ASSISTANT RESIDENT SURGICAL OFFICER (B2) at Mount Gold Hospital, including R and W practitioners who now hold A posts. If held by an R practitioner, the appointment will be limited to six months, otherwise it will be renewable for a further period of six months, terminable by one month's notice on either side at any time. Salary is at the rate of £250 per annum, plus war bonus, with full residential emoluments. All other fees received by the Officer must be refunded to the Council. Married quarters are not provided. Preference will be given to applicants who have had some experience of orthopaedic and fracture work. The duties are in the orthopaedic and E.M.S. sections of the hospital. Applications should be sent to the undersigned as soon as possible.—T. Peirson, Medical Officer of Health, Seven Trees, Lipson Road, Plymouth.

COUNTY COUNCIL OF THE WEST RIDING OF YORKSHIRE. County and Emergency Hospital, Otley (296 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of a RESIDENT MEDICAL OFFICER (B2), vacant now, including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months, otherwise it will be for a period not exceeding one year. The salary is at the rate of £200 per annum, with full residential emoluments. Applications should be submitted to the Deputy Medical Officer, County Hall, Wakefield.—Bernard Kenyon, Clerk of the County Council, County Hall, Wakefield.

IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page 9

COUNTY BOROUGH OF MIDDLESBROUGH. TEMPORARY ASSISTANT MEDICAL OFFICER for Maternity and Child Welfare.—Applications are invited from registered medical practitioners who have had previous experience in ante-natal work, midwifery, and diseases of children, for the above appointment. The possession of the Diploma in Public Health, or its equivalent, would be considered an additional qualification for the office. The consent of the Ministry of Health has been obtained to the filling of this vacancy. Candidates already holding whole-time public health appointments will not be considered unless consent to apply has been obtained from the Ministry of Health. The officer appointed would be required to attend ante-natal and infant welfare clinics, and also to undertake certain administrative duties in the maternity and child welfare department under the general direction of the Medical Officer of Health. Although the duties would mainly be in the maternity and child welfare department, the successful candidate would be expected to undertake such general duties in the public health department as may be required from time to time by the Medical Officer of Health. The commencing salary will be at the rate of £700 per annum, rising, subject to satisfactory service, by annual increments of £50 to a maximum of £850. The successful candidate will be required to pass a medical examination, and to reside within the County Borough of Middlesbrough. The position is terminable by three months notice on either side. Applications to be sent to the Medical Officer of Health, Municipal Buildings, Middlesbrough, not later than Monday, October 29, 1945.—Preston Kitchen, Town Clerk, Municipal Buildings, Middlesbrough.

CITY OF LEEDS. Public Health Department. Killingbeck Hospital for Infectious Diseases.—Applications are invited from registered medical practitioners for the post of ASSISTANT MEDICAL OFFICER (B2) now vacant. The salary is at the rate of £300 per annum, plus a cost-of-living bonus, and full residential emoluments. The appointment is for six months. R practitioners holding A posts may apply.

St. Mary's Infirmary.—Applications are invited from registered medical practitioners, male, for the post of RESIDENT MEDICAL OFFICER (B2) for the above hospital. The salary is at the rate of £250 per annum, plus a cost-of-living bonus, together with full residential emoluments. The hospital comprises a maternity unit of 98 beds and 102 beds for chronic sick. It is a Part I Training School under the regulations of the C.M.B., and the duties of the officer will include instruction of pupil midwives. All fees received by the officer must be paid into the City funds. R practitioners who now hold A posts may apply, when the appointment will be limited to six months; otherwise twelve months.

Applications for each post endorsed "A.M.O." and "R.M.O." respectively, to be forwarded to J. Johnstone Jervis, Medical Officer of Health, Public Health Department (Hospitals Administration Section), 12, Market Buildings, Leeds, 1.

COUNTY BOROUGH OF SOUTHAMPTON. Borough General Hospital. PART-TIME TEMPORARY CONSULTING SURGEON.—Applications are invited from registered medical practitioners, with special surgical qualifications, for the above appointment. The salary offered will be £350 per annum: Sessions, three per week, plus special visits in case of emergency. Form of application, giving further particulars, can be obtained from the undersigned, and should be returned immediately.—H. C. Maurice Williams, Medical Officer of Health, Civic Centre, Southampton.

COUNTY COUNCIL OF THE WEST RIDING OF YORKSHIRE, Staincliffe Council Hospital, Dewsbury (349 beds).—Applications are invited from registered medical practitioners, male only, for the appointment of RESIDENT MEDICAL OFFICER (A). Salary is at the rate of £120 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months, otherwise not exceeding one year.—Bernard Kenyon, Clerk of the County Council, County Hall, Wakefield.

HEREFORD COUNTY AND CITY MENTAL HOSPITAL. TEMPORARY ASSISTANT MEDICAL OFFICER (B1) required. British (female). Salary £10 10s. per week, all found. Suitably qualified W practitioners holding B1 or B2 appointments are invited to apply. Previous experience in psychiatry not essential. Applications to be forwarded to the Medical Superintendent, County and City Mental Hospital, Burghill, Hereford.

IPSWICH COUNTY BOROUGH COUNCIL. Borough General Hospital (normal beds 252).—Applications are invited from registered medical practitioners for the appointment of RESIDENT SURGICAL OFFICER (B1). Applicants should have held house appointments and had surgical experience. R practitioners holding B2 posts may apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £500 per annum, with full residential emoluments, and the appointment is subject to one month's notice on either side. Applications should be sent at once to the Medical Officer of Health, Elm Street, Ipswich.—A. Moffat, Town Clerk, Town Hall, Ipswich.

CITY OF LIVERPOOL. TEMPORARY JUNIOR PATHOLOGIST.—Applications are invited for the appointment of a full-time temporary Junior Medical Pathologist at the Alder Hey Emergency Hospital (1,240 beds). The salary is at the rate of £650 per annum (non-resident), together with a cost-of-living bonus, at the present time approximately £60 p.a. Any fees received in connexion with the appointment to be handed over to the City Council. Candidates must be fully qualified and registered, must have specialized in pathology and have had experience in a recognized pathological department. The officer appointed will be responsible for conducting the work of the laboratory under the general supervision of the pathologist of the Southern Group of Hospitals and will be required to co-operate generally with the medical staffs so far as this particular service is concerned. The appointment will be made in accordance with the standing orders of the City Council and will be determinable by three months' on either side. Applications, stating whether R practitioner and whether liable for military service should be endorsed "Junior Medical Pathologist" and sent to the undersigned not later than November 10, 1945. The consent of the Minister of Health has been obtained to advertise for and make this appointment. W. H. Baines, Town Clerk, Municipal Buildings, Dale Street, Liverpool, 2.

CITY OF PLYMOUTH. City General Hospital.—Applications are invited from duly qualified and registered medical practitioners, male and female, including practitioners within three months of qualification and liable under the National Service Acts, for the appointment of JUNIOR ASSISTANT MEDICAL OFFICER (A) at the City General Hospital (450 beds). The appointment will be for a period of six months and terminable by one month's notice on either side at any time. Salary will be at the rate of £250 per annum, plus war bonus, and full residential emoluments. All fees received by the officer must be refunded to the Council. The duties of the post will be chiefly on the medical side of the hospital and further details may be obtained from the Medical Superintendent. Forms of application are not provided. Applications must be addressed to the undersigned as soon as possible.—T. Peirson, Medical Officer of Health, Seven Trees, Lipson Road, Plymouth.

CITY OF SHEFFIELD. City General Hospital. SENIOR ASSISTANT MEDICAL OFFICER OBSTETRICAL (B1).—Applications are invited for the above appointment of Senior Assistant Medical Officer in the Obstetrical Department of the above hospital, which deals with approximately 2,000 confinements per annum. Applicants should have had postgraduate obstetrical experience. Suitably qualified R practitioners holding B2 appointments are invited to apply. Holders of B1 posts cannot be considered unless unfit for military service. Salary £350 per annum rising by £25 to £550, plus bonus and residential emoluments. Applications should be sent to the Medical Superintendent, City General Hospital, Sheffield, 5, as soon as possible.

COUNTY BOROUGH OF IPSWICH. TEMPORARY ASSISTANT MEDICAL OFFICER OF HEALTH.—Applications are invited from registered medical practitioners for the above appointment. The possession of the Diploma in Public Health or an equivalent qualification will be an advantage. The salary scale is £600 p.a. rising by annual increments of £25 to £700, plus war bonus, and the successful candidate will devote the whole of his or her time to the duties of the office, under the direction of the Medical Officer of Health. The approval of the Minister of Health has been obtained for the appointment, and candidates should submit with their applications full information as to their liability for military service, medical fitness, and position as regards deferment. Applications, endorsed "Assistant Medical Officer of Health," should be forwarded to the Medical Officer of Health, Elm Street, Ipswich, at once.—A. Moffat, Town Clerk, Town Hall, Ipswich.

HEREFORDSHIRE COUNTY COUNCIL.—Applications are invited for a TEMPORARY WHOLE-TIME ASSISTANT MEDICAL OFFICER in the County Health Department. The duties will primarily consist of school medical examinations and maternity and child welfare work. Salary £600 by £25 to £700 per annum, plus wartime bonus, together with travelling allowance. Applicants (who should not be in a whole-time public health appointment) should apply at once to the County Medical Officer, County Offices, Hereford.

KENT COUNTY COUNCIL. County Hospital, Pembury (750 beds). HOUSE SURGEON (A).—Applications are invited from suitably registered medical practitioners, male, for the above appointment. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months; otherwise it will be for a period not exceeding one year. The salary is £200 a year plus a temporary war addition of £29 19s. 7d., with full residential emoluments. Superannuation can be arranged, and the successful candidate will be required to pass a medical examination. Applications should state the names and addresses of two responsible presons to whom reference may be made as to professional ability, and should be addressed to the County Medical Officer, County Hall, Maidstone, so as to reach him by October 23, 1945.—W. L. Platts, Clerk of the County Council, County Hall, Maidstone.

MIDDLESEX COUNTY COUNCIL.—JUNIOR ASSISTANT MEDICAL OFFICER (B2, resident) (male) required for medical duties at HILLINGDON COUNTY HOSPITAL, Nr. Uxbridge, Mx. Applications invited from registered medical practitioners including R practitioners who now hold A posts. Salary £250 p.a. plus war bonus (now £60 p.a., proportion only in cash). Board, lodging, and laundry. Whole-time duties such as Council may require under supervision of medical director. Appointment, subject to medical exam., and one month's notice, is for six months, with possibility of extension to twelve months (except R practitioners). Post vacant early November, 1945. Application to Medical Director of Hospital. Application forms not provided. Closing date October 27, 1945.—C. W. Radcliffe, Clerk of the County Council, Middlesex Guildhall, Westminster, S.W.1.

MIDDLESEX COUNTY COUNCIL.—CASUALTY OFFICER (B2, resident) (male) required at HILLINGDON COUNTY HOSPITAL, Nr. Uxbridge, Mx. Applications invited from registered medical practitioners, who have held house appointments and had good all-round experience (including R practitioners who now hold A posts). Salary £350 p.a., plus war bonus (now £60 p.a., proportion only in cash). Board, lodging, and laundry. Whole-time duties under medical director will include dealing with casualties and admissions to hospital and such other duties as may be required. Appointment, subject to medical exam. and one month's notice, is for six months, with possibility of extension to twelve months (except in case of R practitioners). Post vacant early November, 1945. Application to Medical Director of Hospital. Application forms not provided. Closing date October 27, 1945.—C. W. Radcliffe, Clerk of the County Council, Middlesex Guildhall, Westminster, S.W.1.

MIDDLESEX COUNTY COUNCIL.—CASUALTY OFFICER (B2, resident) required at CENTRAL MIDDLESEX COUNTY HOSPITAL, Park Royal, N.W.10. Applications invited from registered medical practitioners, who have held house appointments and had good all-round experience (including R and W practitioners now holding A posts). Salary £350 p.a., plus war bonus (now £60 p.a., proportion only in cash). Board, lodging, and laundry. Whole-time duties such as Council may direct under supervision of medical director. Appointment, subject to medical exam. and one month's notice, is for six months, with possibility of extension to 12 months (except in case of R practitioners). Post vacant December 1, 1945. Application to Medical Director of Hospital. Application forms not provided. Closing date October 27, 1945.—C. W. Radcliffe, Clerk of the County Council, Middlesex Guildhall, Westminster, S.W.1.

MIDDLESEX COUNTY COUNCIL. ASSISTANT MEDICAL OFFICER (res. or non-res. B1) required at CLARE HALL COUNTY HOSPITAL, South Mimms, Middlesex (540 beds for tuberculosis).—Applications invited from registered medical practitioners (including R and W practitioners holding B2 posts) who have held house appointments and had experience in diagnosis and treatment of pulmonary tuberculosis. R practitioners holding B1 posts ineligible unless rejected by R.A.M.C. Salary £400 by £50 to £500 p.a. Board, lodging and laundry or, if non-res., £100 p.a. cash allowance in lieu of residential emoluments. Additional cost of living bonus (now £60 p.a.), proportion only in cash if resident. Appointment in first instance for one year, medical examination. Whole-time duties, such as Council may require, under general supervision of Medical Director. Post vacant end of October, 1945. Application to The Clerk of the County Council, "Z." Application forms not provided. Closing date October 20, 1945.—C. W. Radcliffe, Clerk of the County Council, Middlesex Guildhall, Westminster, S.W.1.

MIDDLESEX COUNTY COUNCIL. HOUSE SURGEON (Res., A) required at ASHFORD COUNTY HOSPITAL, London Road, Ashford, Middlesex, for general surgical wards.—Applications invited from registered medical practitioners (men only) including those within three months of qualification who are liable to service under National Service Acts. Salary £120 p.a. plus cost of living bonus (now £60 p.a., proportion only paid in cash), board, lodging and laundry. Whole-time duties, such as Council may require, under supervision of Medical Director. Six months appointment. Post vacant November 1, 1945. Application to Medical Director of Hospital. Application forms not provided. Closing date, October 20, 1945.—C. W. Radcliffe, Clerk of the County Council, Middlesex Guildhall, Westminster, S.W.1.

KENT COUNTY OPHTHALMIC AND AURAL HOSPITAL, Maidstone (158 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (B1) to the Ear, Nose, and Throat Department, vacant November 19, 1945. Applicants should have held house appointments and had experience in this speciality. The hospital is fully recognized by the Examining Board for the D.L.O. Salary is at the rate of £350 p.a., with full residential emoluments. Suitably qualified R and W practitioners holding B2 appointments, also R practitioners holding B1 and rejected by the R.A.M.C. may apply. Applications should be sent not later than October 22 to John W. Strickland, F.H.A., Secretary.

IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page 9

LONDON COUNTY COUNCIL.—Applications are invited for appointment to two positions of full-time JUNIOR ASSISTANT PHYSICIST (temporary wartime appointment) in the Council's hospitals service. The duties will be mainly in connexion with *x*-ray and radium work at Hammersmith Hospital, Ducane Road, W.12, and Lambeth Hospital, Brook Drive, S.E.11, but the persons appointed will be required to undertake any other duties which may be allotted to them from time to time. Salary £350 a year rising by annual increments of £25 to £400 a year (together with cost-of-living addition, £60 a year for men or £48 a year for women). There are no emoluments. Application forms giving full particulars obtainable (stamped addressed foolscap envelope necessary) for Medical Officer of Health (S.D.6.), London County Council, County Hall, S.E.1, are returnable by October 19, 1945.

MERIONETH COUNTY COUNCIL. TEMPORARY ASSISTANT MEDICAL OFFICER.—Applications are invited for the above post from registered male or female medical practitioners. The appointment will be for a period of twelve months and will be determinable by one calendar month's notice on either side. The salary is at the rate of £500 per annum together with cost-of-living bonus and travelling and subsistence allowances according to the Council's scale. The successful applicant will be required to reside at Dolgelley and to carry out duties in connexion with Public Health and School Medical Service. The successful applicant will also be required to pass a medical examination by the County Medical Officer of Health. Further particulars may be obtained from the County Medical Officer of Health, County Offices, Dolgelley. Applications should reach the undersigned not later than Saturday, October 20, 1945.—Hugh J. Owen, Clerk of the County Council, County Offices, Dolgelley.

MONMOUTHSHIRE COUNTY COUNCIL. The County Hospital, Panteg, Griffithstown ASSISTANT RESIDENT MEDICAL OFFICER (B2).—Applications are invited from registered medical practitioners, female, for the appointment of Assistant Resident Medical Officer at the County Hospital, Panteg (B2), including W practitioners who now hold A posts. The appointment will be for a period of one year. Salary is at the rate of £200 per annum, with full residential emoluments. Applications to be forwarded to the Medical Superintendent at the hospital as soon as possible.—D. Rocyn Jones, County Medical Officer, County Hall, Newport, Mon.

STAFFORDSHIRE COUNTY COUNCIL. Public Health Department. TEMPORARY ASSISTANT MEDICAL OFFICER.—Applications are invited from medical men and women for the above-mentioned temporary post, and preference will be given to those who have held residential hospital appointments and who have the Diploma of Public Health. Officers already occupying full-time public health appointments with local authorities are not eligible to apply, and, in any case, intending candidates must ascertain if they are free to take up this class of employment. The candidate appointed will work under the direction of the County Medical Officer, and the duties will include school medical and maternity and child welfare work. The salary will be at the rate of £600 per agnum, rising by annual increments of £50, to £800 per annum, plus war bonus. The candidate appointed will be required to provide a motor car and will receive allowances according to the County Council scales. The appointment will be subject to three calendar months notice in writing on either side. Forms of application may be obtained from the undersigned, and should be returned, accompanied by copies of not more than three testimonials, by the first post on October 27, 1945.—T. H. Evans, Clerk of the County Council, County Buildings, Stafford.

SURREY COUNTY COUNCIL. Public Health Department. St. Luke's Hospital, Guildford (500 beds).—Applications are invited from registered medical practitioners for the appointment of TEMPORARY ASSISTANT SURGEON (B1). Candidates must possess a higher surgical qualification, and must have had considerable experience of general surgery. Suitably qualified R and W practitioners now holding B2 posts are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. The salary is at the rate of £800 p.a., plus full residential emoluments or £125 p.a. in lieu. The appointment is temporary in the first instance, and is subject to one month's notice on either side, and any Local Government Superannuation rights will be preserved. At a later date the permanent appointment will be readvertised. Applications to the County Medical Officer, Kingston-upon-Thames, by October 24, 1945.

SURREY COUNTY COUNCIL, Epsom County Hospital, Dorking Road, Epsom (350 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of ASSISTANT MEDICAL OFFICER (B2) including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to 6 months, otherwise it will not exceed 1 year. Applicants must have held house appointments with general experience and should be capable of administering anaesthetics. Salary at the rate of £250 p.a. plus full residential emoluments and war bonus.—Apply to the Medical Superintendent at the hospital by October 20, 1945.

MIDDLESEX COUNTY COUNCIL.—ASSISTANT MEDICAL OFFICER (B1), male, British, temporary, unestablished, required at SPRINGFIELD MENTAL HOSPITAL, London, S.W.17. Salary £400 p.a., plus current war bonus £25 p.a. and full residential emoluments. Previous mental experience not essential. Suitably qualified R practitioners holding B2 appointments, also those now holding B1 who have been rejected by R.A.M.C., may apply. Applications to Medical Superintendent.—C. W. Radcliffe, Clerk of the County Council, Middlesex Guildhall, Westminster, S.W.1.

ADDENBROOKE'S HOSPITAL, Cambridge. House Officer Appointments (A)—Applications are invited from registered medical practitioners, male and female, for the following appointments:

HOUSE SURGEON, to become vacant on December 1, 1945,

HOUSE PHYSICIAN, to become vacant on November 22, 1945,

CASUALTY OFFICER AND SUPERNUMERARY HOUSE OFFICER, to become vacant on Decembr 1, 1945,

including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months only, which is the normal period of appointment. Salary is at the rate of £130 per annum, with full residential emoluments.

House Officer Appointments (B2).—Applications are invited from registered medical practitioners, male and female, for the following appointments:

HOUSE SURGEON to the Special Departments (Gynaecological, Obstetric, and Ophthalmic), to become vacant on December 1, 1945,

RESIDENT MEDICAL OFFICER to the Radiotherapeutic Department, now vacant,

including R and W practitioners who now hold A posts. If held by an R or W practitioner the appointment will be limited to six months, which is the normal period of appointment. The salary is at the rate of £200 per annum, with full residential emoluments.

Applications should be sent to the undersigned not later than Wednesday, October 24, 1945.—J A. Beardsall, Secretary-Superintendent.

AYRSHIRE CENTRAL HOSPITAL, Irvine. RESIDENT ANAESTHETIST (B1).—Applications are invited from female medical practitioners for the above appointment at the maternity section of the above hospital (84 beds). Suitable qualified W practitioners holding B2 or B1 appointments may apply, but they must have obtained the consent of the Scottish Central Medical War Committee to their application. The person appointed will work under the general supervision of the county obstetrician. Preference will be given to a candidate holding a diploma in anaesthetics. The salary is £400 by £25 to £600, with war bonus and full residential emoluments. The post is within the authorized establishment but the initial appointment will be on a temporary basis subject to review later. Applications stating former general experience and experience in anaesthetics should be made not later than November 3 to the County Clerk, County Buildings, Ayr.

ALTRINCHAM GENERAL HOSPITAL, near Manchester (100 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (A). Salary at the rate of £150 p.a., with full residential emoluments. The appointment will be for a period of six months. Practitioners within three months of qualification and liable under the National Service Acts may apply. Address applications to the General Superintendent.

ACTON HOSPITAL, Gunnersbury Lane, W.3.—Applications are invited from registered medical practitioners, male or female, including practitioners within three months of qualification who are liable to service under the National Service Acts, for the appointment of CASUALTY OFFICER (A) for three months commencing early November, and RESIDENT MEDICAL OFFICER for a further three months. Salary at the rate of £150 per annum with full residential emoluments. Applications to be sent to the undersigned as soon as possible.—Donald C. D. Sword, Secretary.

BOLTON ROYAL INFIRMARY (270 beds—Resident Medical Staff, 6).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A) including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary £175 per annum, with full residential emoluments. Applications to be forwarded to the undersigned.—Joseph Griffith, Superintendent-Secretary.

BURSLEM HAYWOOD AND TUNSTALL WAR MEMORIAL HOSPITAL, High Lane, Tunstall, Stoke-on-Trent.—Applications are invited from registered medical practitioners, male and female, including R and W practitioners who now hold A posts, for the post of HOUSE SURGEON (B2). If held by an R or W practitioner the appointment will be limited to six months. Salary is at the rate of £225 per annum, with full residential emoluments. Applications should be forwarded as soon as possible to C. E. Lowndes, Secretary.

BIRMINGHAM MATERNITY HOSPITAL (associated with University of Birmingham). RESIDENT SURGICAL OFFICER.—Applications are invited from registered medical practitioners for the appointment of Resident Surgical Officer (B1), to become vacant on January 1, 1946. The post is recognized for the examinations of the Royal College of Obstetricians and Gynaeclogists. Applicants should have held house appointments and had surgical experience, preferably in obstetrics. Suitably qualified R practitioners holding B2 appointments may apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary at the rate of £200 per annum, with full residential emoluments. Applications should be sent to the undersigned as soon as possible,—Bernard Sylvester, House Governor, Loveday Street, Birmingham, 4.

BRITISH HOSPITAL FOR MOTHERS AND BABIES, Woolwich.—Applications from registered medical women are invited for the post of RESIDENT MEDICAL OFFICER (B2). W practitioners who now hold A posts may apply. The appointment is for the period of one year; six months as Junior at the rate of £150 per annum, followed by six months as Senior at the rate of £200 per annum. Preference to a candidate intending to specialize in obstetrics. Applications to the Secretary, Samuel Street, Woolwich.

BURY INFIRMARY, Lancs. (159 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE PHYSICIAN (A)—which post will become vacant about the beginning of November—including practitioners within three months of qualification who are liable for service under the National Service Acts. The post also includes Gynaecology and Obstetrics. If held by a practitioner who is liable under the National Service Acts, the appointment will be for six months; otherwise renewable. Salary is at the rate of £200 per annum, with full residential emoluments. Applications to the undersigned immediately. H Wilkinson, Superintendent.

BRISTOL EYE HOSPITAL.—Applications are invited from registered medical practitioners, male and female, for the post of RESIDENT JUNIOR OPHTHALMIC HOUSE SURGEON (B2) vacant November 1, including R and W practitioners who now hold A posts. If held by an R practitioner, the appointment will be limited to six months. The salary is at the rate of £150-£175 per annum, according to experience of applicant, with full residential emoluments. Applications should be sent to the undersigned as soon as possible.—D. M. Baber, Secretary and House Governor.

BOROUGH ISOLATION HOSPITAL, Millbrook, Southampton. JUNIOR RESIDENT MEDICAL OFFICER (A).—Applications are invited from medical practitioners (female) for the appointment as Junior Resident Medical Officer (A). Salary is at the rate of £200 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months, otherwise twelve months. Applications should be addressed immediately to the undersigned.—H. C. Maurice Williams, Medical Officer of Health, Civic Centre, Southampton.

BEXHILL HOSPITAL, Bexhill-on-Sea (72 beds.)—Applications are invited from registered medical practitioners, male or female, for the appointment of a HOUSE SURGEON (A), including practitioners within three months of qualification and liable under the National Service Acts, when appointment will be for a period of six months. Salary is at the rate of £250 per annum, with full residential emoluments. Applications to be addressed to the Secretary.

BATTERSEA GENERAL HOSPITAL, Battersea Park, S.W.11. HOUSE PHYSICIAN (A).—Applications are invited from registered medical practitioners, male or female, for the above appointment, including practitioners within three months of qualification who are liable to service under the National Service Acts. The appointment is for six months. The salary is at the rate of £140 per annum with full residential emoluments. Applications should be sent to the Secretary of the Hospital immediately.

BRISTOL ROYAL HOSPITAL. Incorporating the Bristol Royal Infirmary and Bristol General Hospital. —CASUALTY OFFICER (A) required to commence work immediately at the General Hospital branch, for the period expiring February 28, 1946. Salary at the rate of £140 per annum, with full residential emoluments. Practitioners within three months of qualification, and liable under the National Service Acts, may apply. Applications to be sent to Ellis C. Smith, F.C.I.S., Secretary and House Governor, Bristol Royal Infirmary Branch.

BOLTON ROYAL INFIRMARY (270 beds). Resident medical staff, 6.—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE PHYSICIAN (B2), including R and W practitioners who now hold A posts. If held by an R practitioner, appointment will be limited to six months. Salary £200 per annum, with full residential emoluments. Applications to be forwarded to the undersigned.—Joseph Griffith, Superintendent Secretary.

BOTLEYS PARK MENTAL DEFICIENCY INSTITUTION, Chertsey, Surrey. TEMPORARY JUNIOR ASSISTANT MEDICAL OFFICER.—Applications are invited by the Surrey County Council from registered medical practitioners of either sex for the post of Temporary Junior Assistant Medical Officer (B1). Salary £450 by £25 to £550 p.a., plus £50 if in possession of a degree or diploma of Psychological Medicine, plus full residential emoluments. Commencing salary will be at a point within the scale according to qualifications and experience. R and W practitioners holding B2 appointments may apply, but R practitioners holding B1 posts cannot be considered unless they have been rejected for service with H.M. Forces. Applications to be sent to the Medical Superintendent.

BIRKENHEAD GENERAL HOSPITAL (Incorporated).—Applications are invited by the General Committee for the following appointments: (1) HONORARY PHYSICIAN; (2) HONORARY ASSISTANT EAR, NOSE, AND THROAT SURGEON; (3) HONORARY ASSISTANT ORTHOPAEDIC SURGEON. Applications should be sent to the undersigned not later than February 6, 1946. Applications from Service candidates are invited. The above appointments, which it is proposed to make on a permanent basis (subject to annual re-election by the Governors), are being notified to the Medical Directors-General at the Admiralty, War Office, and Air Ministry in order that they may be brought to the notice of medical officers through Service channels. The present honorary assistant physician and temporary assistant E.N.T. surgeon are candidates for posts (1) and (2) respectively.—W. H. Daniels, F.C.I.S., Secretary-Superintendent.

BRADFORD ROYAL INFIRMARY.—Applications are invited from registered medical practitioners, male single, for the posts of HOUSE SURGEON (B2), vacant now, and HOUSE PHYSICIAN (A), vacant October 17, 1945. Six months' appointment. In the case of the B2 post, R practitioners who now hold A posts may apply and for the A post practitioners within three months of qualification and liable under the National Service Acts may also apply. Salary £150 per annum, with full residential emoluments. There are 372 beds and 8 resident officers. Applications should be sent immediately to H. Trusson, House Governor and Secretary.

BARNSLEY HALL EMERGENCY HOSPITAL, Bromsgrove, Worcestershire.—Applications are invited from registered medical practitioners, male and female, for the appointment of a B1 MEDICAL OFFICER to the Spinal Unit. Suitably qualified R practitioners holding B2 appointments are invited to apply. Applications from male R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. The salary is at the rate of £350 per annum with full residential emoluments. Applications should be addressed to the Medical Superintendent.

BOSTON GENERAL HOSPITAL, Lincolnshire.—Applications are invited from registered medical practitioners, male or female, for the appointment of RESIDENT MEDICAL OFFICER (B2). R and W Practitioners who now hold A posts may apply, when appointment will be limited to six months. Salary at the rate of £250 per annum with full residential emoluments. Applications should be sent to the undersigned at once.—B. Haines, Sec.

CUMBERLAND INFIRMARY, Carlisle.—Applications are invited from registered medical practitioners, including practitioners within three months of qualification who are liable to service under the National Service Acts, for the post of HOUSE SURGEON (A), vacant now. The appointment will be for a period of six months. Salary is at the rate of £160 per annum with board, etc. Applications should be sent to the Secretary-Superintendent immediately.

COUNTY MENTAL HOSPITAL, Rainhill, Near Liverpool.—TEMPORARY RESIDENT ASSISTANT MEDICAL OFFICER (B1), male or female, required immediately. Salary eight to ten guineas per week according to experience, with board, lodging, and laundry. An additional £50 per annum is payable if in possession of the D.P.M. Suitably qualified R and W practitioners holding B2 posts, also those holding B1 posts and rejected by the R.A.M.C. may apply. Applications to the Medical Superintendent, County Mental Hospital, Rainhill, Nr. Liverpool.

EAST SUFFOLK AND IPSWICH HOSPITAL. OPHTHALMIC SURGEON.—The Board of Management invites applications for the appointment on its visiting medical staff of an Ophthalmic Surgeon. Each candidate must be a registered medical practitioner and a Fellow of a Royal College of Surgeons and have special experience in Ophthalmology. To permit candidates in H.M. Forces serving abroad being considered the latest date for the return of applications is March 1, 1946. If the selected candidate is subject to any restriction on the transfer of his services from essential National Service, he will not be required to take up his new appointment until the restriction is removed. Applications to be made on form to be supplied and to be accompanied by not more than three testimonials.—Arthur Griffiths, Secretary, the Hospital, Ipswich.

CHELTENHAM GENERAL AND EYE HOSPITALS (167 beds). Recognized for the F.R.C.S., D.L.O., and D.O.M.S. examinations.—The Board of Management invites applications from registered medical practitioners, including practitioners within three months of qualification who are liable to service under the National Service Act, for the post of HOUSE SURGEON (A) at the General Hospital, now vacant. If held by a practitioner under these Acts, appointment will be for a period of six months. Salary £150 p.a., with board, lodging, and laundry. Applications to be sent in sealed envelopes marked "House Surgeon" to the undersigned as soon as possible.—J. Cumming Smith, F.C.I.S., F.H.A., Secretary, The General Hospital, Cheltenham.

DREADNOUGHT SEAMEN'S HOSPITAL, Greenwich, S.E.10. HOUSE OFFICER (A) including duties of CASUALTY OFFICER.—Applications are invited for vacancy on November 1 from registered British practitioners, including those within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary £150 p.a., with full residential emoluments. Applications to be sent immediately to the undersigned.—F. A. Lyon, Administrator and Secretary.

DISTRICT INFIRMARY, Ashton-under-Lyne (normally 200 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of CASUALTY OFFICER AND ORTHOPAEDIC HOUSE SURGEON (B2). Salary at the rate of £200 a year, with full residential emoluments. R and W practitioners who now hold A posts may apply. If held by an R practitioner appointment will be limited to six months. Applicants should be forwarded at once to the undersigned.—Frank Oliver, General Superintendent and Secretary.

DREADNOUGHT SEAMEN'S HOSPITAL, Greenwich, S.E.10.—Applications are invited from male registered practitioners for the appointment of HOUSE PHYSICIAN (B2), falling vacant on November 1, including R practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months. Salary at £200 p.a., with full residential emoluments. Applications to be sent to the undersigned.—F. A. Lyon, Administrator and Secretary.

EAST SUFFOLK AND IPSWICH HOSPITAL, Ipswich (400 beds).—Applications are invited from registered medical practitioners for the following posts: HOUSE SURGEON (B2) to the Orthopaedic and Fracture Dept., vacant November 6, 1945; HOUSE PHYSICIAN (B2) vacant November 13, 1945; R practitioners now holding A posts may apply for the above. HOUSE SURGEON (A) to a General Surgeon, vacant October 17, 1945; HOUSE SURGEON (A) to a General Surgeon, vacant November 24, 1945; HOUSE SURGEON (A) to the Gynaecological and Obstetrical Dept., vacant December 7, 1945; practitioners liable to military service and within three months of qualification may apply for the above. Appointments will be for six months. Salary for each is at rate of £175 per annum with full residential emoluments. Arthur Griffiths, Secretary, The Hospital, Ipswich.

ELSIE INGLIS MEMORIAL MATERNITY HOSPITAL (The Hospice), Abbeyhill, Edinburgh, 8 (65 beds).—Applications are invited from registered medical practitioners, female, for the appointment of REGISTRAR AND CLINICAL ASSISTANT (B1) at the above hospital, to become vacant in November. Suitably qualified W practitioners holding B2 or B1 appointments may apply. Salary (including emoluments for additional clinics) £300 per annum, with full residential emoluments. Applications to be sent to the Secretary, 1, Bruntsfield Crescent, Edinburgh, 10.

EDENBRIDGE AND DISTRICT WAR MEMORIAL HOSPITAL.—The Medical Committee invite applications for the post of HONORARY GYNAECOLOGIST to the above hospital. Candidates should be Doctors of Medicine of a British University or Fellows of a Royal College of Surgeons, exclusively practising in this speciality, and already holding an appointment on the staff of a recognized London hospital. Applications from Service candidates are invited. Applications should reach the Secretary of the Hospital not later than February 13, 1946. No personal interview required.

HUDDERSFIELD ROYAL INFIRMARY (321 beds).—CASUALTY OFFICER (B2) required, to commence immediately. R and W practitioners who now hold A posts may apply. If held by an R or W practitioner appointment will be limited to six months. Salary at the rate of £200, with full residential emoluments.

Applications are also invited for the post of RESIDENT SURGICAL OFFICER (B1). Applicants should have held house appointments, and preference will be given to candidates holding diploma of F.R.C.S. Salary at the rate of £350 per annum, with full residential emoluments. Suitably qualified R and W practitioners holding B2 appointments, and also R practitioners holding B1 appointments and rejected by the R.A.M.C., may apply.

Applications for each post to be sent to the undersigned as soon as possible.—H. J. Johnson, General Superintendent and Secretary.

FINCHLEY MEMORIAL HOSPITAL, Granville Road, London, N.12 (84 beds).—Applications are invited from registered medical practitioners, male and female, including R and W practitioners who now hold A posts, for the appointment of RESIDENT MEDICAL OFFICER (B2), vacant November 1, 1945. If held by an R or W practitioner, the appointment will be limited to six months. Salary £200 per annum, with full residential emoluments. Applications should be sent to the undersigned immediately.—T. E. Jarvis, House Governor and Secretary.

GRIMSBY AND DISTRICT GENERAL HOSPITAL (237 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of RESIDENT CASUALTY OFFICER AND HOUSE SURGEON (A), now vacant. Appointment is for six months, salary is at the rate of £175 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply. Applications to the Superintendent.

HAMPSTEAD GENERAL HOSPITAL, Haverstock Hill, N.W.3.—Applications are invited from registered medical practitioners, male and female, for the following three resident posts vacant December 1, tenable for six months, salaries £133 6s. 8d. p.a., with board, lodging and laundry.

Main Hospital, N.W.3.—JUNIOR MEDICAL OFFICER (B2) includes medical and surgical work. Main Out-Patient Dept., Camden Town, N.W.1.—CASUALTY MEDICAL OFFICER (B2) also CASUALTY SURGICAL OFFICER (B2). R and W practitioners holding A posts and practitioners within 3 months of qualification and liable under the National Service Acts may apply. Applications on the prescribed form with copies of three recent testimonials to be returned not later than October 18.—Kenneth A. F. Miles, House Governor.

HULL ROYAL INFIRMARY.—Applications are invited for the following posts: SECOND HOUSE SURGEON (B2) (recognized for F.R.C.S.) and ORTHOPAEDIC HOUSE SURGEON (B2). Two posts; vacant now. Suitably qualified R and W practitioners who now hold A posts may apply. If held by R and W practitioners the appointments will be limited to six months.

CASUALTY OFFICER (A) vacant November. Practitioners within three months of qualification who are liable to service under the National Service Act may apply when appointment will be for a period of six months. Salary for each of the above three posts £200 per annum with full residential emoluments. Applications to R. J. Carless, House Governor.

HOUNSLOW HOSPITAL, Middlx. (97 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE PHYSICIAN AND CASUALTY OFFICER (A), vacant November 5, including practitioners within three months of qualification who are liable for service under the National Service Acts. If held by a practitioner who is liable for war service the appointment will be for six months, otherwise renewable. Salary £150 p.a., with full residential emoluments. Applications to the Secretary immediately.

HUNTINGDON COUNTY HOSPITAL (76 beds). Wanted immediately, HOUSE SURGEON (A), male or female, salary £250 p.a., with board, lodging, and laundry. Practitioners within three months of qualification may apply, when appointment will be for a period of six months. Apply to Medical Superintendent.

JESSOP HOSPITAL FOR WOMEN, Sheffield.—Applications are invited from registered medical practitioners, male and female, for the appointment of a GYNAECOLOGICAL HOUSE SURGEON (B2), vacant immediately. Salary at the rate of £100 per annum, with full residential emoluments. R and W practitioners holding A posts may also apply, when appointment will be limited to six months. Membership of a Medical Defence Society is a condition of appointment. Applications should be sent to David Oswald, Superintendent and Secretary.

KIDDERMINSTER AND DISTRICT GENERAL HOSPITAL.—Applications are invited from registered medical practitioners for the post of RESIDENT SURGICAL OFFICER (B1), vacant January 1, 1946. The salary will be at the rate of £300 to £350 per annum according to experience, with board and lodging. Candidates holding the Fellowship Examination of the Royal College of Surgeons of England or Edinburgh, will be preferred. Suitably qualified R and W practitioners now holding B2 posts, also R practitioners holding B1 and rejected by the R.A.M.C. may apply. Applications should be sent at once to C. M. Smith, House Governor and Secretary.

THE KIDDERMINSTER AND DISTRICT GENERAL HOSPITAL.—Applications are invited from registered medical practitioners, male and female, for the following appointment: SENIOR HOUSE SURGEON (B2). R and W practitioners now holding A posts may apply, when appointment will be limited to six months. Salary from £200 per annum according to experience. Applications should be sent to the undersigned immediately.—C. M. Smith, House Governor and Secretary.

IMPORTANT — All applicants should read the notice about qualifications required, etc., printed at the top of page 9

LONDON HOMOEOPATHIC HOSPITAL (Incorporated by Royal Charter), Great Ormond Street and Queen Square, W.C.1.—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A), now vacant, including practitioners within three months of qualification who are liable to service under the National Service Acts. The appointment will be for a period of six months. Salary is at the rate of £180 per annum, with full residential emoluments Selected candidates will be required to attend a meeting of the Medical Committee for interview. Applications to L. J Knowles, Secretary.

LEWIS HOSPITAL, Stornoway.—Applications are invited from registered medical practitioners for appointment as HOUSE PHYSICIAN (A). The appointment is for a period of six months at the rate of £150 per annum, with residential emoluments. Good experience can be gained in medical, surgical, and maternity work. Applications to the undersigned immediately. R or W practitioners who have been qualified for more than three months must have obtained the sanction of the Scottish Central Medical War Committee to their application.—Henrietta Bain, Secretary, Lewis Hospital.

LORD MAYOR TRELOAR CRIPPLES' HOSPITAL AND COLLEGE, Alton and Hayling Island, Hants (400 beds).—Applications are invited for the post of RESIDENT MEDICAL SUPERINTENDENT of the above hospital. Candidates should be under the age of 45 and must have senior surgical qualifications and experience in orthopaedic work. Salary £1,500 to £2,000 according to experience. House, light, and fuel provided. Applicants, including those serving in H.M. Forces, are invited to send full particulars to the Secretary on or before December 31, 1945.

LONGTON HOSPITAL, Stoke-on-Trent, Staffs. HOUSE SURGEON (A).—Applications are invited from registered medical practitioners, male and female, for the appointment of House Surgeon (A). including practitioners within three months of qualification who are liable under the National Service Acts. If held by a practitioner who is liable under these Acts the appointment will be for a period of six months. Salary is at the rate of £200 per annum, plus bonus of £75 on completion of the first six months' service, with full residential emoluments. Applications to B. Pitt Secretary.

LEEDS PUBLIC DISPENSARY AND HOSPITAL.—Applications are invited from registered medical practitioners for the appointment of HOUSE SURGEON (A), mainly Casualty duties. Appointment for six months. Salary at the rate of £150 p.a., with board, residence, and laundry. Practitioners within three months of qualification and liable under the National Service Acts may also apply Applications to be addressed to Charles F. J. Maury, Secretary and Superintendent

THE LUTON AND DUNSTABLE HOSPITAL (Fracture A Hospital, 214 beds). Accident Service, TWO HOUSE SURGEONS (A).—Applications are invited from registered medical practitioners for the following appointments, vacant on November 1, 1945: Casualty House Surgeon (A) and Fracture and Orthopaedic House Surgeon (A). Practitioners within three months of qualification who are liable to service under the National Service Acts may apply. The appointments will be for a period of six months. Salaries will be at the rate of £175 per annum, with full residential emoluments Applications should be sent to the undersigned as soon as possible.—R. E. Lingard, Secretary.

LINCOLN COUNTY HOSPITAL (Voluntary Hospital, 200 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (A), vacant end of October, 1945. Salary is at the rate of £225 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when the appointment will be for six months.—Arthur Moore, Secretary-Superintendent.

MANCHESTER ROYAL INFIRMARY HOUSE SURGEON (A) to Orthopaedic Department.—The Board of Management of the Manchester Royal Infirmary invite applications for the above appointment, vacant on November 13, 1945, from registered medical practitioners, male and female including R practitioners within three months of qualification who are liable to service under the National Service Acts. The appointment is for six months, subject to the provisions of the byelaws as to notice, etc. Salary at the rate of £75 per annum, with the usual residential emoluments. Applications to the Chairman of the Medical Board not later than October 20. 1945.—By Order, F. J. Cable, Gen. Supt. and Secretary.

MILLER GENERAL HOSPITAL, Greenwich High Road, S.E.10.—Applications are invited from registered medical practitioners for the appointment of CASUALTY OFFICER (non-resident) (B1). Vacancy on November 15 next. Suitably qualified R practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £350 plus £100 per annum board allowance. Applications must reach the Secretary not later than October 24, 1945.

IMPORTANT NOTICE

APPOINTMENTS

Medical practitioners are requested **not to apply** for any appointment referred to in this notice without first having communicated with the Secretary to the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of the Australian appointment, with the Secretary at B.M.A. House, or the Hon. Secretary, Western Australian Branch, Shell House, 205, St. George's Terrace, Perth).

GOVERNMENT SERVICE

COMMISSIONER OF PUBLIC HEALTH, Perth, Western Australia

CONTRACT PRACTICE

ABERTYSSWG MEDICAL AID SOCIETY—*(Medical Officer.)*

LLWYNYPIA, CLYDACH VALE, PEN-Y-GRAIG, GLAMORGAN.—*(Workmen's Medical Scheme.)*

MID-RHONDDA MEDICAL AID SOCIETY—*(Assistant Medical Officer.)*

NEATH AND DISTRICT.—*(Medical Aid Association.)*

OGMORE VALLEY, GLAMORGAN—*(Wyndham Colliery Medical Aid Society.) (Workmen's Medical Scheme.)*

PUBLIC ASSISTANCE

CITY AND COUNTY OF BRISTOL. PUBLIC ASSISTANCE COMMITTEE.—*(District Medical Officer.)*

MENTAL HOSPITAL SERVICE

ROXBURGH DISTRICT MENTAL HOSPITAL, MELROSE.—*(Medical Superintendent.)*

SOMERSET AND BATH MENTAL HOSPITAL, COTFORD—*(Deputy Medical Superintendent.)*

VOLUNTARY HOSPITAL.

NORTHAMPTON GENERAL HOSPITAL.—*(Whole-time Pathologist.)*

By Order of the Council.

CHARLES HILL
October 9, 1945. *Secretary.*

MILDMAY MISSION HOSPITAL, Austin Street, Bethnal Green, E.2—Applications are invited for the temporary post of GYNAECOLOGIST (woman), vacant now. Applicants should be Fellows of the Royal College of Surgeons of England, and preferably Fellows or Members of the College of Obstetricians and Gynaecolgists. The Council is anxious that all Members of the Hospital Staff should be in sympathy with the religious work of the Hospital. Applications should be sent in as soon as possible to the Medical Superintendent.

NORTHAMPTON GENERAL HOSPITAL (408 beds).—Applications are invited immediately from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A). Salary at rate of £150 p.a., with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months. Applications should be sent to Gordon S. Sturtridge.

NORFOLK AND NORWICH HOSPITAL, Norwich.—Applications are invited for the appointments of GENERAL HOUSE SURGEON (A) and HOUSE SURGEON (A) to the Orthopaedic Department. Salary is at the rate of £170 p.a. with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointments will be for a period of six months. Applications to be addressed to Frank Inch, House Governor and Secretary.

NORTH CAMBRIDGESHIRE HOSPITAL, Wisbech.—Applications are invited from registered medical practitioners, including practitioners within three months of qualification who are liable to service under the National Service Acts, for appointment of HOUSE SURGEON (A), now vacant. Appointment will be for a period of six months. Salary £200 to £250, with full residential emoluments. Applications to the Secretary.

NOTTINGHAM GENERAL HOSPITAL (712 beds including E.M.S. beds)—Applications are invited from registered medical practitioners, male and female including practitioners within three months of qualification who are liable to service under the National Service Acts, for the appointment of a RESIDENT CASUALTY OFFICER (A) for the above hospital. Duties to commence immediately If held by a practitioner who is liable under these Acts appointment will be for a period of six months. Salary at the rate of £200 per annum, with full residential emoluments. Applications to be sent to the undersigned.—Henry M. Stanley, House Governor and Secretary.

NORTHUMBERLAND COUNTY COUNCIL. Mona Taylor Maternity Hospital, Stannington (20 beds).—Applications are invited from registered medical practitioners for the post of RESIDENT OBSTETRIC OFFICER (B2). The officer appointed may be required to undertake attendance at a Child Welfare Centre and Ante-natal Clinic in addition to hospital duties. Salary is at the rate of £400 per annum, plus war bonus, board, lodging, and laundry. The appointment is subject to medical examination. R and W practitioners who now hold A posts may apply, and in the case of R practitioners the appointment will be limited to six months; otherwise one year. Applications should be submitted as soon as possible to the undersigned, from whom further particulars may be obtained.—John B. Tilley, County Medical Officer, County Hall, Newcastle-upon-Tyne, 1.

NOTTINGHAM CHILDREN'S HOSPITAL.—Applications are invited from registered medical practitioners for the appointment of RESIDENT HOUSE SURGEON (B1), woman, to become vacant on December 1, 1945. Applicants should have held house appointments and suitably qualified W practitioners holding B2 appointments are invited to apply. Salary is at the rate of £220 per annum with apartments, board, and laundry, and the appointment is for six months. Applications to be sent to the Honorary Secretary, 1, King John's Chambers, Nottingham, on or before October 23, 1945 Selected candidates will be required to attend at the hospital for a personal interview

NATIONAL SANATORIUM, Benenden, Kent (156 beds).—Applications are invited from registered medical practitioners, male and female, including practitioners within three months of qualification who are liable to service under the National Service Acts for the appointment of a HOUSE PHYSICIAN (A) for the above sanatorium Duties to commence as soon as possible. The appointment will be for a period of six months. Salary at the rate of £200 per annum with full residential emoluments Applications to be sent to the Honorary Secretary.

NEW SUSSEX HOSPITAL FOR WOMEN, Windlesham Road, Brighton—Applications are invited from registered medical practitioners, female, including W practitioners who now hold A posts, for the appointment of a HOUSE SURGEON (B2), to become vacant in the middle of October. The appointment is for a period of six months Salary at the rate of £150 per annum, with full residential emoluments. Applications should be sent to the undersigned.—Percy F. Spooner, Secretary.

OLDHAM ROYAL INFIRMARY (203 beds). DEPUTY RESIDENT SURGICAL OFFICER, who will act as Casualty Officer and Orthopaedic House Surgeon (B2).—Applications are invited from registered medical practitioners, male and female, for the appointment of Deputy Resident Surgical Officer, to take charge of the Casualty Department and to work under the Orthopaedic Surgeon, vacant now R and W practitioners who now hold A posts may apply, when the appointment will be limited to six months, otherwise it will be for a period of twelve months Salary is at the rate of £200 per annum, with full residential emoluments Applications should be forwarded to the undersigned immediately.—F. W Barnett, General Superintendent and Secretary

PONTEFRACT GENERAL INFIRMARY and THE HYDES HOSPITAL (112 beds).—Applications are invited from registered medical practitioners, male, for the appointment of a HOUSE SURGEON (A) to become vacant immediately, including practitioners within three months of qualification who are liable to service under the National Service Acts, when appointment will be for a period of six months. Salary £150 per annum, with full residential emoluments. Applications should be sent to the undersigned—D. J Richards, Secretary-Superintendent.

PRINCESS BEATRICE HOSPITAL, Earl's Court, S.W.5 (General hospital, 88 zeds). HOUSE PHYSICIAN (A).—Applications are invited from registered medical practitioners, male and female, for the appointment of a House Physician (A), to become vacant on Saturday, December 1, 1945, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner liable under these Acts, appointment will be for a period of six months. Salary is at the rate of £130 per annum, with full residential emoluments. Applications should be sent to the Acting House Governor not later than October 26, 1945.

QUEEN MARY'S HOSPITAL FOR THE EAST END, Stratford, London, E.15.—Applications are invited from registered medical practitioners, male, for the appointment of CASUALTY OFFICER (A), to become vacant on November 15, including practitioners within three months of qualification who are liable to service under the National Service Acts. The appointment will be for a period of six months. Salary at the rate of £200 per annum, with full residential emoluments. Candidates should send applications to the undersigned forthwith and should indicate if they can undertake the duties of Locum House Surgeon prior to November 15.—M. J Huntley, House Governor and Secretary

(Continued on page 17)

CHARGES FOR CLASSIFIED ADVERTISEMENTS

Circulation 54.500

Advertisements should reach the Advertisement Manager not later than the THURSDAY, ten clear days before publication.

Cancellation cannot be accepted after 10 a.m MONDAY for current week's issue.

To economize in accounting, postage and collection, all advertisements should be paid for at time of order. Publication will be in the earliest possible issue, but delay is unavoidable n present circumstances.

1 TO MEMBERS OF THE ASSOCIATION the cost of advertisements for Assistants, Dispensers, Locums, Partnerships, *Practices, Secretaries, is ten shillings for 24 words, including name and address. Four figures and £ sign count as one word (example, £2,000). When a Box Number is used, it must be reckoned as six of the total number of words in each advertisement.

1s. *extra* should be added for each insertion to cover the Box fee and postage of replies.

Additional words 2s. 6d. for every six or part.

Please mark advertisements clearly. *MEMBER*

2. To all other (private) advertisers the charge under the headings specified above, para. 1, is 12s. (minimum) for 24 words, including name and address. Four figures and £ sign count as one word (example, £2,000). When a Box Number is used it must be reckoned as six of the total number of words in each advertisement.

1s *extra* should be added for each insertion to cover the Box fee and postage of replies.

Additional words 3s for every six, or part.

*SALE OF PRACTICE. The name and address of owner and of the firm negotiating the sale must accompany the advertisement. Those details are not for publication.

3 Consulting rooms, Dietetic, Duplicating, Hotels, Houses, Miscellaneous, Motor Cars, Typing, the charge is same as para. 2.

Personal, Notices, University and Industrial Appointments, minimum charge of 20s for 24 words, including name and address. Four figures and £ sign count as one word (example, £2,000). When a Box Number is used, it must be reckoned as six of the total number of words in each advertisement.

1s *extra* should be added for each insertion to cover the Box fee and postage of replies.

Additional words 5s. for every six or less

Educational, Hospitals, Public Health Appointments. 3s. a line, minimum charge 15s.

Births, Marriages, and Deaths.—The charge for an insertion under this head is 10s od. for 18 words or less Extra words 3s. 6d. for each six or less Payment should be forwarded with the notice, authenticated by the name and permanent address of the sender

BOX NUMBERS.—A Box number is used in place of name and address to conceal identity of advertiser. In no circumstances will this information be divulged by this office. Separate applications should be written to each, addressed Box—, c/o B.M.J. (address as below). All applications are forwarded to the advertiser in plain closed envelopes.

TRADE ANNOUNCEMENTS. 20s. minimum 24 words Extra words 5s. for six, or less.

Every effort is made to ensure the accuracy of advertisements appearing in the Journal. No recommendation is implied by acceptance, and the British Medical Association reserves the right to refuse or interrupt the insertion of any advertisement

Advertisement Manager, British Medical Journal,
B.M.A. House, Tavistock Square, London, W.C.1
Telephone: Euston 2111
Telegrams: Articulate, Westcent, London

APPOINTMENTS—Hospitals and Public Health, commence at page 9

PERSONAL

RADIUM URGENTLY REQUIRED in the form of needles or tubes. Hospitals and doctors having surplus or obsolete radium please write Derby & Co., Ltd., 27, Finsbury Square, London, E.C.2.

NOTICES

APPLICANTS ARE ADVISED not to send original testimonials when replying to advertisements. Copies will answer the purpose quite as well, and in the event of their being lost or mislaid no inconvenience will ensue.

"THE HOSPITAL DIARY AND BUYERS' GUIDE." Orders can now be received for the 1946 Edition, to be dispatched immediately upon publication. The price remains, as in previous years, at 6s. per copy, net, post free.—Aldridge Press, Ltd., 30, Bouverie Street, London, E.C.4.

THE CLINICAL RESEARCH ASSOCIATION, LIMITED, Watergate House, 15, York Buildings, Adelphi, W.C.2, and South Road, Haywards Heath, Sussex.—A complete pathological service is provided for the medical profession, hospitals, and public health authorities. Specimens may be collected either at the Watergate House consulting rooms, the patient's house, or at a nursing home Cardiographic, *X*-ray, and Basal Metabolic Investigations arranged. Telephones: Temple Bar 8993-4-5-6; Haywards Heath 576. Telegrams: "Tubercle, Rand, London."—M Candelet, Sec

THE FACT THAT GOODS made of raw material in short supply owing to war conditions are advertised in this *Journal* should not be taken as an indication that they are necessarily available for export.

UNIVERSITY AND INDUSTRIAL APPOINTMENTS

APPLICATIONS are invited from registered medical practitioners, including those in H.M. Forces, for the post of WHOLE-TIME INDUSTRIAL MEDICAL OFFICER to a large engineering firm in the West of Scotland, within 10 miles of Glasgow. Candidates should preferably be under 35 years of age, and previous experience in industrial medicine is not necessary. This is a permanent post with good prospects, and is pensionable. The commencing salary will not be less than £1,000 p.a. Applications should be submitted before February 13, 1946.—Box 3052, B.M.J.

BRITISH POSTGRADUATE MEDICAL SCHOOL (University of London).—Applications are invited for the post of SENIOR LECTURER in Clinical Pathology. Salary according to qualifications and experience, not less than £700 per annum. Further particulars as to duties to be obtained from the Professor of Pathology. Practitioners now serving in H.M. Forces may apply. Applications, accompanied by three testimonials, should reach the Dean, British Postgraduate Medical School, Ducane Road, Shepherd's Bush, W.12, not later than February 1, 1946

EXAMINING SURGEONS: Factories Act, 1937.—The following appointments as EXAMINING SURGEONS under the Factories Act, 1937, are vacant: Lochgoilhead and Kilmorich, in the County of Argyll; Dufftown, in the County of Banff; Ripley, in the County of Surrey; Rushden, in the County of Northampton; Wallington, in the County of Oxford; West Hartlepool, in the County of Durham; Tottenham, in the County of Middlesex. Applications, which should be received not later than October 31, 1945, should be sent to the Chief Inspector of Factories, St. James's Square, London, S.W.1.

MEDICAL (FORMER) BRIGADIER, in early forties, seeks responsible INDUSTRIAL or ADMINISTRATIVE APPOINTMENT, with remuneration commensurate with experience. Due immediate release.—Box 3085, B.M.J.

SHIP'S SURGEON REQUIRED for voyage to India, approximately 4½ months, salary £35 per month, plus £10 special bonus, whilst in operation, total £45 per month, previous experience not necessary, send full particulars.—Box 2751, B.M.J.

UNIVERSITY OF ST. ANDREWS.—The University Court of the University of St. Andrews, in association with the Directors of the Dundee Royal Infirmary, invites applications for the post of LECTURER in ORTHOPAEDICS in the University and SURGEON in charge of the Department of Orthopaedics of the Infirmary. Applications are also invited from Service candidates. By arrangement, the lecturer will act as Orthopaedics Officer to the Corporation of Dundee, the County Council of Angus, the County Council of Perth, the Town Council of Perth, and the Town Council of Arbroath. He will also be given an honorary appointment by the Department of Health for Scotland as Visiting Orthopaedic Surgeon to Stracathro E.M.S. Hospital. The stipend for the combined offices (inclusive of travelling expenses) will be £1,250 p.a., and the lecturer may engage in private practice as an orthopaedic surgeon in so far as this does not interfere with the discharge of the duties of the above appointments Applications, supported by testimonials and/or references, will be received up to January 29, 1946. If desired, further information may be obtained on application to the undersigned. David J. B. Ritchie, Secretary to the University of St. Andrews, The University, St. Andrews.

UNIVERSITY OF BIRMINGHAM Faculty of Medicine. Department of Physiology.—Applications are invited for the following posts: (1) LECTURER IN PHYSIOLOGY at a salary of not less than £500 per annum. Practitioners now serving in H.M. Forces are invited to apply. Latest date for receipt of applications January 29, 1946. (2) ASSISTANT LECTURER IN PHYSIOLOGY. Temporary appointment at a salary not less than £350 per annum. Latest date for receipt of applications November 30, 1945. Applications, stating age, qualifications and experience, and giving the names of three persons to whom reference may be made, should be sent to the undersigned, from whom further particulars may be obtained. Testimonials are not required. C. G. Burton, Secretary, The University, Edmund Street, Birmingham, 3.

UNIVERSITY OF ABERDEEN. LECTURESH IN THE DEPARTMENT OF PHYSIOLOGY.—Tr University Court will shortly proceed to the appoir ment of a Lecturer in the Department of Physiolog Salary £400 to £500. Persons desirous of bei considered for the office are requested to lodge the names with the Secretary to the University on before January 29, 1946. Practitioners now serving in H.M. Forces may apply. Conditions appointment may be obtained from the undersigne —H. J. Butchart, Secretary, The Universi Aberdeen.

EDUCATIONAL

F.R.C.S (EDIN.)

POSTAL AND ORAL COURSES continued usual. Full details.—H. C. Orrin, F.R.C.S Surgeons' Hall, Edinburgh.

L.M.S.S.A. FINAL EXAMINATIONS. Surge Dec. 10, Jan. 14, Feb. 11. Medicine, Patholog Dec. 17, Jan. 21, Feb. 18. Midwifery, Dec. Jan. 22, Feb. 19. —For particulars apply Regi trar, Apothecaries Hall, Blackfriars Lane, E.C.

MEDICAL CORRESPONDENCE COLLEGE, 1 Welbeck Street, London, W.1, provides Coachi for all Medical Examinations: D.A., D.P.M D.O.M.S., D.L.O., D.C.H., D.M.R.D., ar D.M.R.T., M.R.C.P., F.R.C.S., M.D. thesis, and qualifying exams, by a staff of highly qualifi Tutors, Honoursmen, and Gold Medallists. Com plete Guide to Medical Examinations sent free o application. Applicants should state in whic qualification they are interested

NAPT SCHOLARSHIPS FOR ALMONERS.—Tw scholarships for £50 each are to be awarded by th NAPT in December, 1945, to student almoners the last year of their training, who wish to speciali in tuberculosis work. Details of the conditio governing the award can be obtained from th Secretary-General, NAPT, Tavistock House, W.C. The final date for receiving applications is Decem ber 1, 1945.

POSTGRADUATE STUDY instruction is arrange in medical, surgical, and special subjects, as circum stances permit. Information and advice obtai able from the Fellowship of Postgraduate Medicin 1, Wimpole St., London, W.1: Langham 4266.

POSTAL COACHING for all Medical Examina tions. Some successes from 1901-1944. M.D.Lond 440; M.B., B.S.Lond., final, 386; M.R.C.S.Eng primary, 365; F.R.C.S.Eng., final, 262; M.R.C. Lond., 365; M.R.C.S., L.R.C.P., final, 815; D.A (1936-44), 72; F.R.C.S.Edin. and D.R.C.O.G. many successes Assistance with M.D thesis Special arrangements for medical officers wit Forces. Medical prospectus (24 pp.) gratis, alon with list of Tutors, etc., on application to th Principal. — University Examination Postal Institu tion, 17, Red Lion Square, London W.C. Phone: HOLborn 6313.

RHEUMATIC DISEASES WEEK-END COURS at Royal Bath Hospital, Harrogate, on Saturda November 3, and Sunday, November 4. Full parti culars from Fellowship of Postgraduate Medicine, 1 Wimpole Street, London, W.1. Langham 4266.

ROYAL EYE HOSPITAL
St. George's Circus, S.E.1.
AUTUMN TERM 1945.
Laurence-Holthouse Memorial Lectures
PHYSIOLOGY OF THE EYE

A series of 12 lectures will be delivered by Professor Samson Wright, M.D., F.R.C.P., and Dr David Slome, M.B., M.A., Ph.D., on Tuesdays October 16, 23, 30, November 6, 13, 20, and 27 January 1, 8, 15, 22 and 29.

Malcolm McHardy Memorial Lectures
ANATOMY OF THE EYE AND ORBIT

Professor Thomas Nicol, M.D., D.Sc., F.R.C.S (Ed.), will deliver a series of eight lectures o Mondays, November 5, 12, 19 and 26, January 7 14, 21 and 28.

Arthur D. Griffith Memorial Lectures.
OPTICS

A course of seven lectures will be given by Professo H. T. Flint, D.Sc., on Thursdays, October 11, 18 25, and November 1, 8, 15, and 22.

OPERATIVE OPHTHALMIC SURGERY

A course of six lectures will be given by Mr L. H Savin, M.D., M.S., F.R.C.S., on Wednesdays October 31, November 7, 21, 28, and December and 19.

CURRENT PROBLEMS IN OPHTHALMOLOGY

A course of four lectures will be given by Professo Arnold Sorsby, M.D., F.R.C.S., on Thursdays November 29, and December 6, 13 and 20.

PATHOLOGY AND BACTERIOLOGY

A course of four lectures will be given by Mr T. M. Tyrrell, M.B., F.R.C.S., on Fridays, Novem ber 2, 9, 16, and 23.

OPHTHALMOLOGY IN CHILDREN

A course of three lectures will be given by Mis J. M. Dollar, M.S., F.R.C.S., on Mondays, Decem ber 3, 10 and 17.

INDUSTRIAL OPHTHALMOLOGY

Two lectures will be given by Mr. J. Minton F.R.C.S., on Wednesdays, October 17 and 24.

All lectures are delivered at 5 30 p.m. They ar open to members of the profession and medica students.

WANTED, ADDITIONAL TUTOR for postal tuition in Anatomy.—Address, U.E.P.I., 17, Red Lion Square, London, W.C.1.

THE BEDFORD PHYSICAL TRAINING COLLEGE, 37, Lansdowne Road, Bedford. Principal Miss Stansfeld, O.B.E.; Vice-Principal, Miss Petit. Students are trained to become teachers in Gymnastics and Games, and the training, which extends over three years, includes Educational and Medical Gymnastics, Massage, Games, Dancing, and Swimming. Fees: £165 per annum. Two scholarships of £50 and two of £25 are offered annually.—For particulars apply Secretary.

ASSISTANTSHIPS VACANT

WANTED, ASSISTANT, either sex, furnished accommodation if single, modern unfurnished house if married, pleasant district, car provided or allowance, dispenser-bookkeeper kept, state age and experience.—Dr. Ker, 72, Manchester Road, Burnley.

WANTED MALE ASSISTANT, mixed practice in South-West Lancashire, unfurnished house available, salary by arrangement.—Box 3001, B.M.J.

WANTED ASSISTANT in good-class practice in Lancs., good salary, light work, plenty surgical experience.—Box 3004, B.M.J.

WANTED ASSISTANT, middle-class general practice near Bournemouth, mid-December till partner released, possibly June. R.A.F. group 25. —Box 3060, B.M.J.

WANTED ASSISTANT, male, indoor, single, English or Scottish, for compact practice Northern outskirts of London, car available, salary by arrangement.—Box 3061, B.M.J.

WANTED married male ASSISTANT with own car for village practice, Midlands, good house and garden provided.—Box 3062, B.M.J.

WANTED ASSISTANT, British, Durham, male or female. Free unfurnished house available if required. Good prospects partnership soon, salary arranged.—Box 3086, B.M.J.

WANTED ASSISTANT with or without VIEW, practice with 3 partners, mixed private and panel, North-East town.—Box 3057, B.M.J.

WANTED outdoor ASSISTANT, British, male, under 45. South Coast town. Unfurnished house provided. Own car an advantage. Dispenser kept. Salary £800 to £900.—Box 3058, B.M.J.

WANTED, indoor British male ASSISTANT for mixed Midland practice. Salary £800 plus car allowance if own car.—Box 3037, B.M.J.

WANTED WOMAN ASSISTANT. Pleasant semi-rural practice. £500. Car provided. All found. Comfortable accommodation. Private sitting room, if desired.—Box 3055, B.M.J.

WANTED EXPERIENCED ASSISTANT, good obstetrician, either sex, married or single, own car, mixed practice, working-class district, panel over 2,000, salary £850.—Box 3006, B.M.J.

WANTED YOUNG ASSISTANT, either sex, preferably single, furnished accommodation pleasant district, car provided or allowance, dispenser-bookkeeper kept, state age and experience.—Dr. Ker, 72, Manchester Road, Burnley.

WANTED, immediately indoor and outdoor ASSISTANTS for town and country practices with and without view to partnership, also Locums, good salaries offered, state full particulars.—British Medical Bureau, 33, Cross Street, Manchester, 2.

WANTED, ASSISTANT with VIEW to succession in old-established Lancashire mixed practice preferably recently qualified, and unmarried. Moderate salary, car allowance, and all found.—Box 2348, B.M.J.

ASSISTANT, MALE, British, required with VIEW partnership, old-established mixed practice. Good salary and car allowance. Outdoor accommodation available.—Dr. MacGill, Huntroyd, Denton, Manchester.

ASSISTANT WITH VIEW, South of England, inclusive salary £800, house (furnished or unfurnished), four partners, central surgery with adequate dispensary and secretarial staff, physician or obstetrician preferred, English or Scottish under 35, male, details on application.—Box 2537, B.M.J.

ASSISTANT WANTED, male or female, Leics., two partners, dispenser, and secretary, work pleasant including hospital, salary by arrangement.—Box 3002, B.M.J.

ASSISTANT WANTED with VIEW, mixed practice, Slough outskirts, modern unfurnished house to rent, car available.—Box 3054, B.M.J.

ASSISTANT, Midlands, £600 p.a., indoor, car available, commence as early as possible.—Box 3056, B.M.J.

ASSISTANT, INDOOR, WANTED, mixed panel and private, Indian doctor's practice, Manchester, experience not essential, car provided, salary £600 p.a. all found.—Box 2813, B.M.J.

ASSISTANT REQUIRED in good class general practice in delightful Midland town, furnished house and car available, work moderate and of a pleasant character, good salary.—Box 2769, B.M.J.

ASSISTANT WANTED, British, single, male, to take charge of branch in pleasant non-colliery South Derbyshire village, work light, time for reading, board, lodging, car provided, salary £500 to start.—Box 2810, B.M.J.

DOCTOR REQUIRED to do few morning or evening SURGERIES (or both), for some months or longer, S. London, work light.—Full particulars to Box 3003, B.M.J.

LADY DOCTOR requires ASSISTANT, able to drive, Greater London, £500 or according to experience, car provided or allowance.—Box 3036, B.M.J.

PART-TIME English ASSISTANT wanted. Mixed general practice. Very pleasant suburb. Small attractive flat to let and garage. Would suit lady. —Box 3059, B.M.J.

URGENTLY REQUIRED ASSISTANT for partnership practice in Yorkshire, congenial interesting work to enthusiastic man, with or without VIEW. —Box 3005, B.M.J.

YOUNG ASSISTANT, preferably with a VIEW to partnership for a firm of four in Chelmsford, unfurnished house available, applicant must be British and of cheerful disposition.—Box 2812, B.M.J.

ASSISTANTSHIPS WANTED

WANTED, ASSISTANTSHIP preferably with VIEW, in rural practice near market or county town, Monmouthshire, Herefordshire, Norfolk or Suffolk. British, aged 30, 6 years R.A.M.C., due release December, married. Wife qualified and wishing part-time work. Good house essential. Salary and terms by arrangement.—Box 3041, B.M.J.

WANTED, OUTDOOR ASSISTANTSHIP, M.B., Edin., ex-Major R.A.M.C., aged 42, married, car if necessary, furnished house essential, London area preferred.—Box 2781, B.M.J.

WANTED, by M.D. (Lond.), F.R.C.S. (Eng.), PART-TIME WORK in a Harley Street or West End Practice, very experienced in good-class general practice, no confinements, and mainly consulting room work wanted, has several minor specialties.—Box 2821, B.M.J.

ASSISTANTSHIP preferably with VIEW wanted by woman doctor, non-British European, English university degree 1937, 6 years' wartime locum G.P., wide experience, hospitals previously, good clinical work essential, house or flat required, country or small town N.W. England preferred.—Box 3008, B.M.J.

ASSISTANTSHIP WANTED commencing January, 1946. Conjoint man, 37, British. 9 years' general practice. Married, own furniture. Nice house, garden essential, country town preferred.—Box 3090, B.M.J.

ASSISTANTSHIP with early VIEW wanted by M.B., Ch.B., age 32, married. Good hospital and G.P. experience. Country practice in Home Counties or S.W. England. Free now. Unfurnished house essential.—Box 3088, B.M.J.

ASSISTANTSHIP REQUIRED by surgeon (single), evenings and week-ends, in return for accommodation, central London or near area.—Box 3089, B.M.J.

ASSISTANTSHIP definite VIEW PARTNERSHIP, required, experienced hospital, G.P., married, age 34 car, furnished house essential during assistantship.—Box 2538, B.M.J.

ASSISTANTSHIP, preferably with VIEW, wanted by young British doctor, married, G.P. and midwifery experience, own car, furnished house essential, available December.—Box 2820, B.M.J

DOCTOR REQUIRES congenial ASSISTANTSHIP possible VIEW, small Southern town, three years varied experience, exempt, available January, married, C. of E., conscientious not hearty, interview capital available.—Box 3007, B.M.J.

DOCTOR free to WORK ONE DAY WEEKLY Central or North London. Thursdays excepted.—Box 3067, B.M.J.

EDINBURGH UNIVERSITY WOMAN GRADUATE, studying for higher degree, wishes to do EVENING SURGERIES or afternoon rounds in Edinburgh.—Box 3064, B.M.J.

EDINBURGH GRADUATE, Scot, aged 44, married, Squadron Leader, R.A.F., requires immediately, ASSISTANTSHIP with definite early VIEW to partnership or succession, 20 years hospital and G.P experience, keen, energetic, own car and furniture, income £1,500-£2,000.—Box 2591 B.M.J.

EXPERIENCED PSYCHIATRIST, physician, M.D. (Prague), M.R.C.S., seeks ASSISTANTSHIP or partnership. Nursing home and/or consulting work preferred.—Box 3091, B.M.J.

EXPERIENCED WOMAN DOCTOR wants MORNING SURGERIES 4 to 5 mornings weekly. Box 3066, B.M.J.

MAJOR R.A.M.C., experience hospital, G.P., and anaesthetics, seeks PART-TIME EMPLOYMENT with accommodation, London area, month of November.—Box 3040, B.M.J.

M.B., B.S. (1934), age 34, married, demob. December, requires ASSISTANTSHIP with VIEW early partnership or succession rural practice S.W. England, experienced G.P., ex H.S., H.P., obstetrics, own car, cash available.—S/Ldr. Baker, R.A.F. Station, Exeter.

PRACTITIONER aged 33 requires indoor ASSISTANTSHIP with accommodation for wife in Cardiff area, preferably with VIEW to partnership starting Jan. 1, 1946, own car available.—Box 3038, B.M.J.

PART-TIME ASSISTANTSHIP wanted by woman doctor with young child, experienced G.P., paediatrics. Leamington-Coventry district. Separate furnished accommodation essential.—Box 3065, B.M.J.

WOMAN DOCTOR just finished four years in Military Hospital would like PART-TIME WORK, preferably London area, beginning November. Assist busy practitioner, etc.—Reply Box 3039, B.M.J.

WOMAN PRACTITIONER (married) with experience requires ASSISTANTSHIP, preferably outdoor, with accommodation, in or near Cambridge. Driver. Free now.—Box 3068, B.M.J.

WOMAN DOCTOR experienced hospitals and G.P. available 4 mornings weekly for SURGERIES and visits, own car.—Dr. Morris, 5, Woodhall Gate, Pinner.

WOMAN M.B., experienced, wishes PART-TIME WORK, surgeries London or Dover areas preferred, but other areas considered.—Box 3063, B.M.J.

LOCUMS

CASSEL HOSPITAL FOR FUNCTIONAL NERVOUS DISORDERS (temporarily at) Ash Hall, Bucknall, Stoke-on-Trent.—LOCUM TENENS MEDICAL OFFICER required immediately. Some previous psychiatric experience essential. Salary 10 to 12 guineas per week, resident. Apply Secretary at above address, stating age, experience, etc., and giving recent testimonials.

COUNTY MENTAL HOSPITAL, Whittingham, near Preston, Lancs.—LOCUM TENENS MEDICAL OFFICER (B1) required, salary £10 10s. per week, with full residential emoluments. Apply to the Medical Superintendent.

EXPERIENCED LADY DOCTOR, free shortly, wants LOCUM with car supplied, South Hants preferred.—Box 3009, B.M.J.

LOCUM WANTED from October 15 for 3 months, East Midlands preferred. Furnished accommodation essential.—Box 3069, B.M.J.

LONDON PSYCHIATRIST recovering from a recent illness would like LOCUM or temporary assistantship in country district, from one to three months. Ten years' general practice experience, including panel, no midwifery.—Box 2861, B.M.J.

PARTNERSHIPS

WANTED SALARIED PARTNER, old-established suburban practice 5 miles S.W. Manchester, preference ex-Serviceman with human instincts and keen progressive outlook, salary £800-£1,000, prospects.—Box 3019, B.M.J.

FOR SALE one-third share in PARTNERSHIP, East Anglian coast town, small panel, gross receipts at present £5,200 approx., ample scope, hospital appointment, senior partner surgeon, purchaser preferably married man aged 28-35, experienced in general medicine and anaesthetics, house to rent, furnished or unfurnished, car available, reasonable terms.—Box 2603, B.M.J.

F.R.C.S. (Eng.), recently demobilized, desires surgical PARTNERSHIP or practice with surgical scope, experienced in consultant surgery.—Box 2837, B.M.J.

KEEN, INTELLIGENT PARTNER required within next six months, succession desirable, interesting private practice (panel 1,000), beautiful district half an hour from London, capital advisable, prospects excellent.—Box 3020, B.M.J.

PARTNERSHIP, one-third to one-quarter SHARE of general practice in residential (not manufacturing) Yorkshire town, receipts £6,000, unfurnished house available.—Box 3018, B.M.J.

PARTNER (HALF SHARE of £3,000) in Mid-Kent or Assistant with View required. Graduate preferred. Good house, buy; or excellent maisonette, rent. Easy terms.—Box 3042, B.M.J.

PARTNERSHIP, HALF SHARE of £2,400 (panel 1,500) S.W. London. Old-established Practice run —during war years—by one partner who remains. Capable of expansion. House available to rent. Terms to be arranged.—Box 3043, B.M.J.

PARTNERSHIP, by assistantship with VIEW, ½ share approx. £4,500, old established country practice, main line, 30 miles London, in Chilterns, attractive flat, garage and garden, would consider assistantship good terms to demobilised serviceman, required December.—Box 2759, B.M.J.

PARTNERSHIP—Five-twelfths share of old-established practice in South Coast town averaging £4,200 p.a. Two years' purchase. Panel 3,600 and appointments. Good house for sale, pleasant garden and tennis court.—Box 3071, B.M.J.

RETIRING PARTNER wishes dispose 1/3 SHARE of £4,000, mixed practice, Sussex Coast resort, house available.—Box 3022, B.M.J.

THIRD PARTNER WANTED for York. One-third share of practice averaging £11,600 a year for the past three years. House to rent partially furnished. Car available. Moderate price to ensure suitable partner.—Box 3070, B.M.J.

THIRD PARTNER WANTED in old-established, mixed industrial and rural practice near Manchester, third share of £5,000, half-share within a year, panel over 3,000, two years' purchase.—Box 3021, B.M.J.

MEDICAL POSTS

DOCTOR, recently demobilized, twenty years general practice, wishes INDUSTRIAL or other POST, full or part-time, near South Coast preferably within twenty miles of Bournemouth.—Apply Box 3045, B.M.J.

F.R.C.S.(Eng.), F.R.C.S.(Edin.), aged 27, experienced surgeon, rejected R.A.M.C., available soon for good SURGICAL POST or PARTNERSHIP, all details in strictest confidence.—Box 2801, B.M.J.

RELEASED M.B., Ch.B., Major R.A.M.C., 41, Scot, married, ten years' G.P. experience, seeks responsible, salaried, FULL-TIME EMPLOYMENT, excluding G.P.—Box 3023, B.M.J.

THE MERSEYSIDE HOSPITALS COUNCIL invite applications for the post of LADY WARDEN (age not exceeding 45) to take charge of a Women's Convalescent Home at Windermere. Previous experience essential and some nursing knowledge desirable. Salary £225-£275, with residential emoluments and superannuation (F.S.S.N.). Applications, together with copies of three recent testimonials, should be submitted to the undersigned at 87, Lord Street, Liverpool, not later than October 31. —Vincent Collinge, Secretary.

PRACTICES

WANTED, PRACTICE in Blackpool, Southport, or Manchester (Didsbury, Prestwich) area, short partnership (or assistantship) with early succession considered.—Box 3010, B.M.J.

WANTED, urgently, PRACTICE in or within 20 miles radius of Edinburgh. Good house, sale or rent. Capital available.—Box 3092, B.M.J

WANTED, Sussex, Kent coast, PRACTICE or PARTNERSHIP, surgical scope, F.R.C.S., surgical specialist, demobilized, capital, considerable experience.—Box 2798, B.M.J.

WANTED, PRACTICE, panel and private, doing about £1,000, London or vicinity, house to rent preferred.—Box 2840, B.M J.

WANTED to purchase country or rural PRACTICE about £1,400. House with main electricity and good garden to rent or purchase essential. Cash available.—Box 3076, B.M.J.

DEATH VACANCY, West Riding industrial town, income averages £2,613, panel over 2,000, 1 year's purchase, modern house with garden for sale, surgery attached.—Box 2761, B M.J.

DEATH VACANCY, country PRACTICE in North Lincolnshire for immediate disposal, for further particulars apply.—Hett, Davy and Stubbs, 11, Bigby Street, Brigg.

DEATH VACANCY (recent), Monmouthshire, large market town, old-established PRACTICE, house 6 bedrooms, 3 reception rooms, very good walled garden, surgery attached house, waiting-room, dispensary and consulting room, sporting district, lovely country, cottage hospital 40 beds, good opening, £4,000, practice and house.—Box 3012, B.M.J.

DISPOSAL, good class non-panel non-dispensing PRACTICE S.W. England, gross receipts £2,700 (audited), attractive house to rent, premium £3,800, partnership introduction.—Box 2846, B.M.J.

EAST LANCASHIRE old-established PRACTICE, 1,600 panel, receipts £2,000, attractive modern house, well laid out garden, 1½ years —Box 2797, B.M.J.

EXCELLENT PRACTICE for sale, small country town. Gross income £1,630 p.a. Panel 2,100, house at valuation. Premium 1½ years.—Apply West Midlands, 144, Edmund Street, Birmingham.

EAST ANGLIA, good class private and consulting PRACTICE for sale owing to illness of vendor, average takings for many years £3,000 p.a., excellent opening for consulting physician, centrally situated and well furnished consulting room but no living accommodation, easy terms.—Box 2799, B.M.J.

FOR SALE semi-rural PRACTICE in the Midlands, audited income over £2,000. Good house and garden for rent or sale.—Apply:—Newhall, c/o Philip Harris Ltd, Edmund Street, Birmingham.

FOR SALE, North London, nucleus mixed panel and private PRACTICE (gross £2,000 pre-war), modern house with surgery, waiting room, dispensary attached, excellent position on bus route, unlimited scope in developing district.—Box 3015, B.M.J.

FOR SALE, Burnley. HOUSE and PRACTICE of 1,000 panel. £2,500 inclusive.—Box 3074, B.M.J.

FOR SALE. Old-established country working-class PRACTICE Lancs. border. 1,700 panel, plus private. House and surgeries available to rent. Vendor retiring soon. Suit returning M.O. or two friends.—Box 3035, B.M.J.

FOR IMMEDIATE DISPOSAL, old-established general PRACTICE in West Country market town, average earnings £1,700, panel 1,500, appointments £320, purchaser should have senior medical qualification (M.D. or M.R.C.P.) or have special medical or pathological experience to secure appointment on hospital staff, small house at moderate rent.—Reply Box 2841, B.M.J.

FOR SALE, general PRACTICE with or without ear, nose and throat specialist (practice attached). —Box 2601, B.M.J.

FOR SALE easily worked old-established PRACTICE, seaside town, North Wales, average income £1,008 p.a. including £400 panel, hospital facilities, excellent house and professional offices to rent, vendor retiring, premium 1½ years.—Box 3011, B.M.J

FOR SALE woman's well-established, expanding country PRACTICE, Midlands, panel 1,300 increasing, takings £2,000 (chartered accountant's figures), premium 1½ years' purchase, excellent freehold house.—Box 2763, B.M.J.

FOR SALE, London western suburb, PRACTICE with exceptional scope further expansion, receipts £2,500, panel 1,650, house to rent.—Box 2760, B.M.J.

FOR SALE PRACTICE and 11-roomed freehold HOUSE, busy working class district, N. London, panel about 900, neglected owing to army service, price £3,800 inc. or near offer.—Box 2548, B.M.J.

FOR SALE, old-established, unopposed, country PRACTICE, North Westmorland, main line railway and road, receipts £1,000 with scope, semi-detached house with garage and paddock, electric light, rent £40 p.a., premium 1 year.—Box 3014, B.M.J.

LANCS. COAST, for sale large family PRACTICE, small panel, fine detached residence with separate entrance to consulting suite, large garden and garage on rental, cars, fittings, and furniture if required, good introduction, no agents, banker's reference required.—Box 2844, B.M.J.

LIVERPOOL, death vacancy for disposal, private PRACTICE for disposal, income approximately £2,000 per annum, excellent scope, non-panel, excellent house, with all modern conveniences, on rental, further particulars.—Box 2762, B.M.J.

MEDICAL PRACTICE or partnership, suburban type, wanted by experienced M.D. Age 51 Married. Good panel. House or flat essential. Capital available. Own car.—Box 3075, B.M.J.

MEDICAL PRACTICE in west of Scotland country town, panel 1,800, two appointments, cottage hospital, scope for minor surgery, house available with good garage and garden, short preliminary assistantship if desired.—For further particulars apply Crawford, Herron & Cameron, Solicitors, 257, West George Street, Glasgow, C.2.

MEDICAL PRACTICE in residential area in southern suburb of Glasgow for sale, gross earnings average approximately £2,500, good modern house also for sale.—For further particulars apply Crawford, Herron & Cameron, Solicitors, 257, West George Street, Glasgow.

NOTTINGHAM. Death Vacancy (recent). For immediate sale, old-established private and panel PRACTICE, with appointments, in charming district. Receipts £1,000. Panel, 700. Excellent commodious house for sale, with consulting room, dispensary and waiting room. Large garden, brick-built garage, wash-house Excellent scope.—Box 3073, B.M.J.

N.E. LANCS., old-established PRACTICE, middle class, no bad debts, capable of great expansion, panel 2,000, house in good condition, value £2,000, premium £3,500, payment can be arranged by deposit and further payment out of income.—Box 3016, B.M.J.

NUCLEUS OF PRACTICE, with unfurnished HOUSE containing separate waiting and consulting rooms, to let at £75 p.a., for immediate disposal, Hampshire town.—Box 3017, B.M.J.

NUCLEUS—Over 3 years. Splendidly situated and increasing. Commodious and specially adapted on L.C.C. Estate (new). Close West End and main road.—Phone, MACaulay 1331.

OLD-ESTABLISHED unopposed PRACTICE in Midlands for sale. Delightful country district. Death vacancy. Would suit semi-retired Doctor. Excellent house (freehold), includes surgery, 3 public rooms, 5 bedrooms, conservatory, bathroom (hot and cold), electric lighting, large garden, two garages, telephone, etc. Immediate occupation.—For further particulars apply Messrs Osborn & Mercer, 28B Albemarle Street, Piccadilly, W.1.

OFFERS are invited for purchase of established MEDICAL PRACTICE and DWELLING-HOUSE in coastal district, North-East Scotland, good private and panel practice and public appointments, if desired household furniture may be taken over, all particulars from the subscribers, to whom offers may be sent.—Mitchell & Middleton, Solicitors, 26, Castle Street, Huntly.

PRACTICES AND PARTNERSHIP SHARES for sale, town and country.—Full details free on request.—British Medical Bureau, 33, Cross Street, Manchester, 2.

PRACTICES AND SHARES for disposal in various parts town and country, incomes £800 upwards, also vacancies for Assistants and Locums.—Apply Percival Turner, Ltd., 25, Maiden Lane, Strand, W.C.2. Telephone: TEMple Bar 9011.

PRACTICE, small town in County Durham, for sale, suitable partners, two good houses available, panel 4,000, income £5,400, scope for extension, owner retiring.—Apply Patrick Bennett & Co., Solicitors, 4, Mosley Street, Newcastle-upon-Tyne.

STAFFS., old-established mixed PRACTICE, over £2,500 p.a., panel 3,750, suit husband and wife, house and branch with flat, for sale or exchange for practice of £2,000 p.a., panel 2,000-2,500 and cash adjustment for houses.—Box 3013, B.M.J.

WEST RIDING. Good general PRACTICE, old-established. Gross receipts £2,618, including panel of £794. Audited figures. Transferable appointments. Good introduction given. House on low rental.—Box 3044, B.M.J.

DIETETIC, DISPENSING, TYPING; SECRETARIAL, RECEPTION, ETC.

None of the vacancies for women advertised in these columns relates to a woman between the ages of 18 and 40 inclusive, unless she is exempted from the provisions of the Control of Engagement Order, 1945, *or the vacancy is for employment excepted from the provisions of that Order*

WANTED DISPENSER, with some knowledge of bookkeeping, for partnership of two doctors in N Wales area. Salary, £5. No Sunday surgery Welsh-speaking an asset, but not essential. Preference to experience and age.—Box 3080, B.M.J.

WANTED immediately experienced DISPENSER-BOOKKEEPER. Two partners Somerset country town. Salary £5 per week.—Box 3081, B.M.J.

WANTED, by partnership in Kent, experienced lady DISPENSER-BOOKKEEPER. State qualifications and full particulars.—Drs. Milne and Fysh, Willesborough, Ashford, Kent.

WANTED, Qualified DISPENSER-BOOKKEEPER (female) able to do simple dressings —Dr. Ablett, Whitehaven, West Cumberland

WANTED EARLY in October in Midland practice, private and panel, a lady DISPENSER-BOOKKEEPER with experience.—Apply with recent references to Drs. Clapperton, Purdy and Reed, 40, Melton Road, Oakham, Rutland.

WANTED DISPENSER-BOOKKEEPER before Dec. 1st, for country practice in Suffolk.—Write giving full particulars to Dr Batt, Wickhambrook nr. Newmarket

WANTED DISPENSER-BOOKKEEPER (Ealing area), state full particulars, age, etc.—Dr Cotter 71, Mansell Rd., Greenford, Mddx Tel: Waxlow 173.

DEMOBILIZED W.R.N.S. officer seeks post with doctor as RECEPTIONIST in London area, knowledge of typing and experienced in dealing with interviews, age 24.—Box 3024, B.M.J.

DISPENSER-BOOKKEEPER WANTED. South Norwood district. Write, giving full particulars.—Box 3082, B.M.J.

DOCTOR'S SECRETARY wishes situation. Willing to work in any area. Replies from Scotland welcomed.—Box 3046, B.M J.

DOCTOR'S WIDOW with son, aged 6½, desires RESIDENT POST, secretarial and/or domestic. Able to drive car.—Box 3078, B.M.J.

DOES any doctor require RECEPTIONIST, untrained, but willing to learn? Knowledge of typing. Good appearance. Living in essential. Free start at once.—Phone, GLA. 7233.

EXPERIENCED DISPENSER with knowledge of typing and bookkeeping requires POSITION, preferably hospital, not essential, in or near London —Box 3026, B.M.J.

EX-W.A.A.F. OFFICER, young, good education and appearance, requires post as RECEPTIONIST to West End surgeon. Accustomed to responsibility —Box 3077, B.M.J.

EXPERIENCED MEDICAL SECRETARY/RECEPTIONIST, accounts, shorthand typewriting, able to drive car, seeks full or part-time post —Ross, 26, Manson Mews, S.W.7

LADY DISPENSER WANTED, country town—Write stating age and full particulars to Drs. Duncan and Smith, 15, Bridge Street, Evesham, Worcestershire.

NURSE WANTS to ASSIST doctor, four years' hospital experience, good knowledge of bookkeeping and typewriting.—Box 3049, B.M.J.

NURSE-RECEPTIONIST requires POST with physician or surgeon, 3½ years' general nursing, 6 months dental nurse, receptionist.—Miss Penny, Oxford Street, Ramsbury, Marlborough, Wilts

POST DESIRED in INSTITUTION, nursing experience (preliminary State Certificate) and shorthand typing.—Box 3027 B.M.J.

QUALIFIED PRIVATE SECRETARY, experienced shorthand-typist, good French, excellent appearance, age 27, exempt.—Write, Mrs. R. Landall Smith, 68, Whitehall Park, Highgate, London.

SECRETARY or secretary-chauffeuse, requires POST in London to G.P., specialist, or partnership of doctors. Previous experience —Box 3079, B.M.J.

WAAF OFFICER aged 25 released Dec./Jan will require interesting POSITION with Doctor, West End or Country, involving initiative, responsibility and variation rather than entirely routine. Typist, some shorthand, good education, 5½ yrs service Extremely willing and interested.—Box 3047, B.M.J.

YOUNG GIRL (23), smart appearance, tactful, keen, requires post as MEDICAL-RECEPTIONIST, Red-Cross nurse, hospital experience, good knowledge clerical work, typing, record-keeping.—Box 3028, B.M.J.

YOUNG LADY (22) requires situation as RECEPTIONIST to doctor in London.—Please write Box 3025, B.M.J.

YOUNG LADY (26), well educated, good appearance, tactful and intelligent, desires position RECEPTIONIST to professional man —Box 3048 B.M.J.

MISCELLANEOUS

WANTED, *Journal of American Medical Association*, 1940, vol. 114, Nos. 19, 20 21, and index; 1941, vol. 116, Nos. 10, 11, and index; 1942, complete set; 1943, complete set; 1944, complete set; 1945, all issues to July 7.—Particulars to Box 3128, B.M.J.

DENTAL BOOKS, pamphlets, advertisements, instruments and dentists' tokens before 1850, wanted by private collector.—Reply in confidence, Menzies Campbell, F.R.S.E., 14, Buckingham Terrace Glasgow.

FOR SALE, ALL NUMBERS of *B.M.J.*, complete from January 1, 1940, to date, £15 —Box 3032, B.M.J.

MOTOROLA CAR RADIO MODEL 65, 12 volt, six valves, perfect condition, £25.—Dr. Mellins, 50 Greatorex Street, E.1., BISH. 4554.

MICROSCOPE REQUIRED, suitable for medical course, must be modern, and with Abbé condenser. —Box 3034, B.M.J.

WATSON MICROSCOPE, 2/3", 1/6", 1/12" objectives, built in mechanical stage, etc., as new. £60 or offer.—Box 3033, B.M.J.

WORKS ON ANAESTHESIA by Snow and J. Y. Simpson wanted, also Sudhoff's *Geschichte der Zahnheilkunde*. 2nd edition, 1926.—Box 2792, B.M.J.

WANTED TO PURCHASE.—Cameras, enlargers and all photographic apparatus, exposure meters, tripods, etc., microscopes, binoculars, cine cameras, and projectors. Prompt cash and high prices offered.—Wallace Heaton, Ltd., 127, New Bond Street, London, W.1.

"EVERBRITE" RECHARGEABLE TORCH. Recharged at home from your mains. No battery required. Several hours continuous light. Thousands in use. Fully guaranteed. The "King of Pocket Lamps." Direct or from dealers. Send for interesting leaflet K. 150.—Runbaken Electrical Products, Manchester, 1.

ENVELOPE RESEAL LABELS 250 3s.; 1,000 9s. 6d. Medical printing. Pre-war stationery. Samples Stamp.—Hodgson (Dept. B), Printer, Bradford.

MEDICAL PHOTOGRAPHS and drawings for illustration, records, etc.—Write for particulars, Eric O. Sonntag, 159, Bickenhall Mansions, Baker Street, London, W.1. WELbeck 8860.

PROFESSIONAL NAME PLATES promptly engraved. Send wording for sketch.—Maile & Son, Ltd., Engravers, 367, Euston Road, London, N.W.1. 'Phone Euston 2938.

TOILET ROLLS (Thintex Tissue) for Sale, prices carriage paid and including cost of cartons, 6 dozen £4, 6s. 4d.; 1 gross £8 12s. 8d., early delivery in rotation, cash with order to J. Gordon (Dept. 7), 33, Connaught Gardens, Muswell Hill, London, N.10.

1,000 DOCTORS' A/c FORMS, 25s., carriage paid, printed in the modern easily-read lettering on good paper, samples sent.—R. Anderson & Son, Medical Printers, 1, Hill Place, Edinburgh (near Surgeons' Hall).

MOTOR CARS

OLD CARS WANTED for OVERSEAS TRANSPORT, high prices paid for any seven-seater cars if low mileage, age unimportant. Typical examples: £1,500 paid for any 30 h.p. Rolls Royce or pro rata if 25 h.p., price according to mileage; £1,000 for any Wolseley, Austin 20, if fitted with easy-clean-wheels; £1,250 for recent Buick, Packard, etc.—Write Mobile Units (Ambulance Conversions), Hove, Sussex. Hove 7104.

RILEY 12 SALOON, late 1939, immaculate condition, small mileage, for sale. Would consider exchange Rolls or Packard saloon.—Kensington 1974, before 10 a.m., after 6 p.m.

HOUSES, CONSULTING ROOMS

WANTED CONSULTING ROOM, with secretary's room, in Harley Street district.—Box 3084, B.M.J.

WANTED, FLAT in London or suburbs, 2-4 rooms, furnished or unfurnished.—Box 3030, B.M.J.

DOCTOR, starting 12 months' research, requires FURNISHED ACCOMMODATION, himself, wife, child (aged 2), within daily access Central London.—Box 3087, B.M.J.

HARLEY STREET. For sale short lease, medium-sized house, good internal repair, four consulting rooms. Vacant possession.—Box 3083, B.M.J.

HARLEY STREET, furnished CONSULTING ROOM available, part time each day, rent according to requirements.—Box 3031, B.M.J.

MEDICAL SPECIALISTS, CONSULTANTS AND OTHERS. Upper Wimpole Street, W. (close to Harley Street), large residence of 14 rooms and offices, very long lease, low ground rent £100 p.a., possession given on completion, now in occupation of professional gentleman retiring, part let as consulting rooms producing £200 p.a., remainder in owner's occupation, price £8,000, a very reasonable figure offering excellent opportunity.—View only by appointment by letter from Edgar Giles, Surveyor, 10, Grove Road, Finchley, N.12.

OPPORTUNITY for Doctor starting Practice to acquire CONSULTING ROOM and LIVING ACCOMMODATION, with introduction, in professional house. West End District.—Box 3050, B.M.J.

POSSESSION JANUARY, 1946. Detached HOUSE, one minute Woking Station. 3 large reception, one fitted basin h/c, radiator, cupboards etc: kitchen: scullery: 4 bedrooms: large bathroom, all with well fitted cupboards: separate W.C. Small garden: garage: good brick sheds. Redecorated this year. £4,250.—Sycamore House, Chobham Road, Woking. Phone Woking 824.

PHYSICIAN, requires PART-TIME CONSULTING ROOM in Harley Street District. Tuesday or Thursday or Friday afternoon.—Box 3051, B.M.J.

PHYSIOTHERAPIST requires PART-TIME TREATMENT ROOM, Harley Street district, one day a week, no apparatus required.—Box 3029, B.M.J.

TO LET, TWO LARGE ROOMS (one furnished). Distinguished house, main road. Exceptional opportunity.—Particulars, 65, Castelnau, Barnes. Phone, Riverside 4254.

NURSING HOMES

FOR SALE as a going concern, a well-known and long-established PRIVATE MEDICAL, SURGICAL AND MATERNITY NURSING HOME in the eastern countres, valuable freehold property, fully equipped and furnished, accounts certified by chartered accountants, principals only apply for further particulars to Ernest J. Whatley, Chartered Surveyor, 1, Upper King Street, Norwich.

NEAR WORTHING and BRIGHTON, established NURSING HOME, going concern, licensed for eight beds, fully booked up to next April, to be sold with all equipment and furniture, well-situated detached modern brick building with 10 rooms, 2 bath-rooms, kitchen, central-heating, all services, garden, freehold, £5,000 all at.—Sole agents, Messrs. J. Ellman Brown, 24, East Steet, Shoreham-by-Sea. Telephone 736-7.

REGISTERED NURSING HOME run like first-class private house, for rest cures, nervous exhaustion and convalescent patients, guests also received, resident medical man and wife and certificated nurse, lovely country, 20 miles N.W. London, good train service.—Dr. Claud Fothergill, Hensol, Chorley Wood, Herts. Phone: Chorley Wood 24.

APPOINTMENTS

(Continued from page 13)

PRINCESS ELIZABETH ORTHOPAEDIC HOSPITAL, Buckerell Bore, Exeter (E.M.S. Fracture and Orthopaedic Centre 1A. 150 beds with annexe).—Applications are invited from registered medical practitioners for the post of HOUSE SURGEON (B1). Salary £200 p.a., with board, residence, and laundry. The appointment is for six months. Suitably qualified R and W practitioners holding B2 posts, also R practitioners holding B1 and rejected by the R.A.M.C. may apply. Applications to P. Melhuish, Secretary.

Applications, including those from practitioners serving in His Majesty's Forces, are also invited for the post of additional ASSISTANT ORTHOPAEDIC SURGEON. The successful candidate must be a Fellow of one of the Royal Colleges of Surgeons. Applications should be sent to the undersigned not later than February 1, 1946.—P. Melhuish, Secretary.

PORTSMOUTH AND SOUTHERN COUNTIES EYE AND EAR HOSPITAL, Grove Road North, Southsea.—Applications are invited from registered medical practitioners for the appointment of OPHTHALMIC REGISTRAR or SENIOR OPHTHALMIC CLINICAL ASSISTANT (B1) to this hospital. Salary by arrangement, depending on ophthalmic experience, which must be sound on refraction, out-patient and casualty work. This appointment carries additional fees from V.H.O.C. and similar duties. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Applications should be sent to the Secretary of the hospital to arrive not later than November 10, 1945.

RUNWELL HOSPITAL, Near Wickford, Essex (180 beds).—Applications are invited from registered medical practitioners, male and female, for the post of HOUSE SURGEON (A). Salary £200 p.a., with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months; otherwise not exceeding one year. Applications to the Medical Superintendent as soon as possible.

ARGYLL COUNTY COUNCIL, area of Lochgoilhead and Kilmorich. MEDICAL OFFICER for the MEDICAL SERVICE.—Applications are invited from registered medical practitioners to fill the vacancy in the above Medical Service Area. The total emoluments, including grants from the Argyll County Council, the Department of Health, and from National Health Insurance amount to approximately £525. Some private practice is available and a free house is provided at Lochgoilhead, the practitioner appointed being responsible for the occupier's rates. Applications should be lodged with Dr. John A. C. Guy, County Medical Officer, Public Health Department, County Buildings, Oban, Argyll, immediately.—D. Smith, County Clerk, County Offices, Lochgilphead.

GENERAL INFIRMARY AT LEEDS.—Applications are invited from registered medical practitioners for the post of ASSISTANT MEDICAL OFFICER (B1), female, to the V.D. Department. The appointment is a whole-time one and will be for a period of one year, with eligibility for re-election. The commencing salary will be from £500 to £700 per annum, according to experience. Applicants must be ineligible for military service. Applications should be received by the undersigned not later than October 31, 1945.—S. Clayton Fryers, House Governor and Secretary.

ROYAL NATIONAL ORTHOPAEDIC HOSPITAL. 234, Great Portland Street, W.1.—Applications are invited from registered medical practitioners for the appointment of RESIDENT HOUSE SURGEON (B2). Salary at the rate of £200 per annum, with full residential emoluments. Duties to commence November 1. R practitioners holding A posts may apply, when appointment will be limited to six months. Applications should be addressed to the Secretary.

ROYAL HALIFAX INFIRMARY (283 beds) Resident staff 5.—Applications are invited from registered medical practitioners (male) for six months for the following post—HOUSE PHYSICIAN (A) commencing immediately. Salary £175 per annum with full residential emoluments. Practitioners within three months of qualification who are liable to service under the National Service Acts, may apply. Applications should be sent to the undersigned immediately.—A Midgley, Secretary.

ROYAL HOSPITAL, WOLVERHAMPTON (Incorporated under Royal Charter).—Applications are invited from registered medical practitioners for the appointment of HOUSE SURGEON, Fracture and Orthopaedic Dept. (B1), vacant forthwith Applicants should have held house appointments and had surgical experience. Suitably qualified R practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £200 per annum.—W. Cockburn, House Governor.

ROYAL CORNWALL INFIRMARY, Truro (351 beds—5 residential).—Applications are invited from registered practitioners, male or female, for the appointment of RESIDENT ANAESTHETIST (B2). The hospital is recognized for the Diploma in Anaesthetics. Vacant as from November 1, 1945. Salary is at the rate of £200 p.a., with full residential emoluments. R and W practitioners holding A posts may also apply. If held by an R practitioner appointment will be limited to six months Applications should be addressed to the Secretary.

ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL, Southampton (255 beds). RESIDENT ANAESTHETIST (B2).—Applications are invited from registered medical practitioners, male and female, for the appointment of Resident Anaesthetist (B2), now vacant, including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months. The appointment is recognized for D.A. The commencing salary will be at the rate of £225 per annum, with full residential emoluments. Applications should be sent to the undersigned immediately.—Frank Jennings, House Governor and Secretary.

WORCESTER ROYAL INFIRMARY.—Applications are invited for the position of HOUSE SURGEON (A). The salary will be at the rate of £120 a year, with full residential emoluments. Practitioners within three months of qualification and liable under National Service Acts may apply, when the appointment will be for six months Applications should be addressed to the undersigned.—Harold Wigg, Acting Supt.-Secretary.

THE Medical Defence Union

Established 1885 *MUSeum 1337*

Annual Subscription £1 **MEMBERSHIP EXCEEDS 27,500** *Assets exceed £150,000*

No entrance fee payable by those joining within twelve months of registration.

Full particulars from the Secretary (Dr. Robert Forbes), The Medical Defence Union, Ltd., 49, Bedford Sq., London, W.C.1

IMPORTANT—All applicants should read the notice about qualifications required, etc., printed at the top of page 9

ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY, Wigan (189 beds).—Applications are invited from registered medical practitioners for the appointment of RESIDENT SURGICAL OFFICER (B1), to become vacant on November 1, 1945. Applicants should have held house appointments and had surgical experience. Preference will be given to candidates holding Diploma of F.R.C.S. Suitably qualified R practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £300 per annum.

Applications are also invited from registered medical practitioners for the appointment of a HOUSE SURGEON (B2), male, vacant now. Salary £175 per annum, with full residential emoluments. R practitioners who now hold A posts may apply, when appointment will be limited to six months, otherwise it may be extended for a further period.

Applications for each post should be sent to the undersigned as soon as possible.—A. Stanley Brunt, General Superintendent and Secretary.

ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL, Southampton (255 beds). CASUALTY OFFICER and HOUSE SURGEON to E.N.T. Department (A).—Applications are invited from registered medical practitioners, male and female, for the appointment of a Casualty Officer and House Surgeon to the E.N.T. Department (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. The appointment will be for a period of six months. Salary is at the rate of £175 per annum, with full residential emoluments. Applications should be sent to the undersigned immediately.—Frank Jennings, House Governor and Secretary.

ROYAL UNITED HOSPITAL, Bath.—ORTHOPAEDIC and FRACTURE HOUSE SURGEON (B1).—Applications are invited for the above appointment from registered medical practitioners, including R and W practitioners who now hold B2 posts. Applications from R and W practitioners who now hold B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Salary £250 per annum, with board residence and laundry. Applications to be addressed at once to the undersigned.—J. Lawrence Mears, Secretary-Superintendent.

ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL (255 beds). HOUSE SURGEON (B2).—Applications are invited from registered medical practitioners, male and female, for the appointment of House Surgeon (B2), including R and W practitioners who now hold A posts. The appointment will be for a period of six months. The salary is £175 per annum, with full residential emoluments. Applications should be sent to the undersigned immediately. Frank Jennings, House Governor and Secretary

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ROFFEY PARK REHABILITATION CENTRE, Horsham (106 beds).—Applications are invited for the post of MEDICAL OFFICER (B1). Salary £500 per annum with small unfurnished house. Preference given to one with psychiatric experience. Suitably qualified R practitioners holding B2 appointments, also those holding B1 and rejected by R.A.M.C., may apply. Applications should be sent to the Medical Director.

ROYAL BERKSHIRE HOSPITAL, Reading.—Applications are invited from registered medical practitioners, male and female, for the appointment of RESIDENT MEDICAL OFFICER (Blagrave Branch Hospital) AND ASSISTANT to the Pathologist (A) (Joint Post), vacant October 23. Salary is at the rate of £150 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts, may apply, when the appointment will be for a period of six ments. Applications should be sent immediately to H E. Ryan, Secretary and House Governor.

SOUTH LONDON HOSPITAL FOR WOMEN, Clapham Common, S.W.4. MEDICAL REGISTRAR (B1).—Applications are invited from registered female medical practitioners for the appointment of WHOLE-TIME MEDICAL REGISTRAR. Practitioners holding B2 appointments and Service candidates are invited to apply. Preference will be given to applicants holding the Diploma of M.R.C.P. Salary according to qualifications and experience, with a minimum of £250. Applications to be sent to the Secretary on or before February 13, 1946.

SCUNTHORPE AND DISTRICT WAR MEMORIAL HOSPITAL, Scunthorpe, Lincs. (234 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of TWO HOUSE OFFICERS (A), now vacant, including practitioners within three months of qualification who are liable to service under the National Service Acts If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary is at the rate of £275 per annum, with full residential emoluments.—S. Lord, Secretary-Superintendent.

SOUTHPORT EMERGENCY HOSPITAL.—Applications are invited from registered medical practitioners for the following posts: HOUSE SURGEON (A). Practitioners within three months of qualification who are liable to service under the National Service Acts may apply. If held by a practitioner who is liable under these Acts, the appointment will be for a period of six months. Otherwise it will be for a period not exceeding one year. Salary at the rate of £120 p.a.

HOUSE SURGEON (B2), ORTHOPAEDIC. R and W practitioners who now hold A posts may apply. If held by an R practitioner the appointment will be limited to six months. Otherwise it will be for a period not exceeding one year. Salary at the rate of £200 p.a

RESIDENT SURGICAL OFFICER (B1) Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary at the rate of £250 p a

All appointments are with full residential emoluments. R practitioners applying for the B2 or B1 posts must have held the necessary previous appointments. Applications should be addressed to the Medical Superintendent.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, E.13.—Applications are invited from registered medical practitioners for the appointment of RESIDENT SURGICAL OFFICER (B1), now vacant. Applicants must have held a house appointment and had surgical experience. R practitioners holding B2 posts may apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Salary at the rate of £225 per annum, with usual emoluments.

Applications are also invited from registered medical practitioners including R practitioners now holding A posts for position of RESIDENT PHYSICIAN (B2), now vacant. If held by an R practitioner appointment will be limited to six months. Salary at the rate of £175 per annum, with usual emoluments.

Applications to be sent as soon as possible to the undersigned.—A. Ernest Wilkes, Secretary.

SALVATION ARMY. The Mothers' Hospital, Clapton, E.5.—Applications are invited from medical women for the post of JUNIOR RESIDENT MEDICAL OFFICER (B2), vacant December 1, 1945. Salary £110 per annum, with board, residence, laundry. The appointment is for six months. W practitioners who now hold A posts may also apply. Applications to be sent to the Secretary-Superintendent, Col. Fred Hammond, and must be received by November 3, 1945.

ST. GEORGE'S HOSPITAL, S.W 1.—Applications are invited for the post of MEDICAL FIRST ASSISTANT (B1), male, to be instituted from October 1, 1945. R practitioners who now hold B2 posts may apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A M.C. The duties will be full-time and will include the clinical care of a medical firm under the direction of a physician and an assistant physician; also the keeping of hospital records and instruction of students Salary £450 p.a. The appointment will be for one year in the first instance, renewable annually up to three years. Applicants must hold the M R.C.P. Applications to be sent to the Secretary, St. George's Hospital, London, S.W.1, as soon as possible.

ST. MARK'S HOSPITAL FOR CANCER, FISTULA and Other Diseases of the Rectum, City Road, London, E.C.1.—Applications are invited from registered medical practitioners (male) for the appointment of HOUSE SURGEON (B2) vacant on December 1, 1945. The appointment is for six months. Salary at the rate of £150 per annum, with full residential emoluments. R practitioners who now hold A posts may apply. Applications should be sent to the undersigned. Raymond Bull, Secretary.

THE STOCKPORT INFIRMARY (167 beds).—Applications are invited from registered medical practitioners for the post of ASSISTANT RESIDENT SURGICAL OFFICER and CASUALTY OFFICER (B2), which becomes vacant immediately, including R practitioners who now hold A posts. Salary is at the rate of £175 per annum, with full residential emoluments, and the appointment is for six months. Applications to be sent to the undersigned forthwith.—H. G. Price, Secretary-Superintendent.

SALISBURY GENERAL INFIRMARY.—The Committee of Management invites applications from suitably qualified practitioners, including those at present serving in H.M. Forces, for the permanent appointment of HONORARY ASSISTANT OPHTHALMIC SURGEON. Applications to be forwarded to the Superintendent and Secretary by February 13, 1946.

SALISBURY GENERAL INFIRMARY.—The Committee of Management invites applications from suitably qualified practitioners for the appointment of TEMPORARY HONORARY EAR, NOSE, AND THROAT SURGEON. Applications to be forwarded to the Superintendent and Secretary by November 14, 1945.

ST. ANDREW'S HOSPITAL, Northampton.—Applications are invited from registered medical practitioners for appointment of TEMPORARY ASSISTANT MEDICAL OFFICER (B1) Previous psychiatric experience advisable, but not essential. Commencing salary £500 per annum, together with board, lodging, laundry, and attendance. Suitably qualified R and W practitioners now holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Applications should be sent to the Medical Superintendent.

STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A). Salary £196 per annum, with board residence. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when appointment will be for six months. Applications to be forwarded to the undersigned.—A. E. Collins, Secretary.

THE CHILDREN'S HOSPITAL, King Edward VII Memorial, Birmingham, 16.—ASSISTANT RESIDENT SURGICAL OFFICER (B2). Applications are invited from registered medical practitioners, male or female, for the appointment of Assistant Resident Surgical Officer (B2), now vacant, including R and W practitioners who now hold A posts Applicants must have had surgical experience. The salary is at the rate of £150 per annum, with full residential emoluments, and the appointment is tenable for six months.

ASSISTANT CASUALTY OFFICER.—Applications are also invited from registered medical practitioners, male or female, for the appointment of Assistant Casualty Officer (B2) including R and W practitioners who now hold A posts. Applicants must have had surgical experience. The salary is at the rate of £150 per annum with full residential emoluments and the appointment is tenable for six months.

Applications for each post should be sent to the undersigned as soon as possible.—Arnold Tunstall, House Governor.

THE CHILDREN'S HOSPITAL, Sunderland (in Association with the Royal Infirmary, Sunderland) 70 beds.—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A) and HOUSE PHYSICIAN (A) now vacant, including practitioners within three months of qualification who are liable to service under the National Service Acts. The appointment will be for a period of six months. Salary is at the rate of £175 per annum with full residential emoluments.—T. F. W Mackeown, House Governor and Secretary.

THE GUEST HOSPITAL, Dudley (the resident staff consists of a resident surgical officer and three house surgeons.—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (B2), now vacant, including R and W practitioners who now hold A posts. If held by an R or a W practitioner, the appointment will be limited to six months. Salary at the rate of £200 per annum, with full residential emoluments.—H. Raymond Hurst, House Governor and Secretary.

TILBURY HOSPITAL, Tilbury, Essex.—Applications are invited from registered medical practitioners for the appointment of male RESIDENT SURGICAL HOUSE OFFICER (B1) to become vacant on November 1, 1945 Applicants should have held house appointments and had surgical experience. Suitably qualified R practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M C. Salary is at £350 p.a. Applications to be sent to the Resident Secretary, Tilbury Hospital, Tilbury, Essex.—F. A. Lyon, Administrator and Secretary, Seamen's Hospital Society

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THE WILLESDEN GENERAL HOSPITAL, Harlesden Road N.W.10.—Applications are invited for the resident appointment of CASUALTY OFFICER (B2). Vacant November 1, 1945, including R and W practitioners who now hold A posts. Salary at the rate of £175 per annum with full residential emoluments. The appointment will be for a period of six months. Applications should be sent to the undersigned immediately.—J N. Drake, Secretary.

WILLESDEN GENERAL HOSPITAL, Harlesden Road, N.W.10.—Applications are invited for the following post: SENIOR CASUALTY OFFICER AND FIRST ASSISTANT TO THE FRACTURE CLINIC (B1), F.R.C.S. (England) preferred. This post is suitable for candidates intending to specialize in fractures or industrial medicine. R and W practitioners now holding B2 posts may apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Whole-time post, salary £550 per annum, resident. Applications giving names of three referees to be forwarded to the undersigned, from whom copies of the regulations can be obtained. Applications will be received up to November 30, 1945.—J. N. Drake, Secretary.

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SUPPLEMENT TO THE
BRITISH MEDICAL JOURNAL
LONDON SATURDAY OCTOBER 20 1945

THE CASE FOR PRIVATE PRACTICE

BY

J. CAMPBELL YOUNG, M.B., B.S.
Knock, Belfast

Sir William Beveridge, whose report on social services now forms the basis of much political activity, has said that the private practice of medicine will be greatly reduced, and eventually will be altogether replaced by a State medical service. What is this flimsy thing called private practice that has been all but blown away by the idle breath of one man?

The private practice of medicine is not the concern of doctors only, but of patients also and their friends. It is a partnership in which the doctors provide the technical administration and the patients and their friends the civil and financial administration. Private practice is a vigorous going concern which has been built up through long centuries of hard and cumulative endeavour by patients and doctors working together.

Assets

The assets of private practice are counted not in millions but in hundreds of millions of pounds. They include: (1) The capital value of all the voluntary hospital buildings in the country. (2) The capital funds of all the voluntary hospitals. (3) The capital value of all medical schools. (4) The enormous capital value of the goodwill of this great work, because it is actively and continuously producing results.

There is a common but erroneous belief that doctors have a vested interest in private practice. Apart from their houses and personal equipment doctors own no property in private practice. All ownership is public. When a doctor buys a general practice he buys goodwill only—a very abstract entity. His success depends not on his own opinion of his work but on the approval of the people whom he serves. Specialists own no part of the property of the voluntary hospitals. Usually the work done by specialists in these hospitals is voluntary and unpaid. Their reward consists in training to do highly skilled work, and appointments which assure the public that they are competent to do their special work in private. The voluntary hospitals are owned and controlled by the people whom they serve, acting through lay committees or governors. Private practice is, therefore, a completely democratic system; to establish a 100% State medical service would convert a democratic into a bureaucratic system.

Organization

The organization of private practice is national in scope. It has branches in every city, town, and village in the country, and practically no British citizen goes through life without coming in contact with it and being grateful for its activities. This organization was not built on ideological theories, but was evolved under the stern discipline of practical experience; its great wealth and its sound structure give it immense power. The ethics of medicine have enabled the power and the resources of private practice to be devoted solely to the advancement of medicine. Politicians do not share the ethical code of medicine. The danger of handing over control of the wealth and power of private practice to politicians is very grave and very obvious. Doubtless they would like to see the health of the people improved, but it is not their single-minded purpose. Sir William Beveridge showed them that they must have control of medical certification in order to control the outgoings from social security funds, and they agreed. This has nothing to do with the advancement of medicine, but it possesses great possibilities for exerting political power and pressure.

Ethical Aspects

The basis of the ethics of medicine is the relationship between the doctor and the patient, who, in his distress, is very dependent on the sympathy and good faith as well as the skill of his doctor. The normal work of the public health doctor requires a quite different approach. The community or State is interested far more in diseases than in patients; it is statistically interested in epidemic diseases and those which cause the greatest loss of working hours. When it moves at all it tends to establish clinics—tuberculosis clinics, clinics for ante-natal supervision, child welfare, etc.; it prefers to deal with people in the mass in schools, health centres, and factories. This is the important facet of medicine studied under the title of "State medicine." It is the legitimate and natural attitude to medicine of the State and of the State medical officer, but it is not the attitude of the private practitioner nor of the private patient. Not only does a sick person take an individual view of his illness, but the effects of the same disease on different people vary more widely than the effects of the same hat on different women. A State medical service designed to replace private practice is almost a contradiction in terms. The divided loyalty of a public servant attending a private citizen would require a new and very difficult code of ethics.

The present crisis displays two weaknesses in the organization of private practice. First, in spite of earnest endeavour and great generosity on the part of patients and their friends, and in spite of much altruistic service on the part of doctors, funds, large as they are, are not sufficient to meet the needs of all. Secondly, though private practice is national in scope its organization is not integrated or coherent on either the civil or technical side; each city, town, and village, rich or poor, is left to provide for itself, and there is uneven distribution of services. Financial stringency is not in itself serious, for it is typical of every expanding business. It would be a sign of decadence if the private practice of medicine had no overdraft at the bank. Nor is the lack of centralized control really serious, for local control, at least of funds, has many advantages. Power, for instance, is not concentrated in a few hands. Mistakes made by central authority affect the whole country; mistakes made by a local body affect a small part of the system only and are more easily corrected.

These two weaknesses are not serious in themselves and are under a continuous process of correction by evolution and experience, but they have become grave at the present time, for they have given the politicians their excuse for demanding that they shall take control; they threaten a revolution that will destroy much that has proved its value in evolution. It has become urgently necessary for doctors and their patients, actual and potential, to remedy the weaknesses of private practice and so prevent the intrusion of politics into medicine. Doctors already have an organization to supervise the technical and ethical aspects of medicine. No part of its work has hitherto been political because politics have no important part to play in medicine. Patients are practically unorganized save for the voluntary hospitals committees, which, like the doctors, have suddenly been plunged into unwonted and wasteful political activity by the threats of the politicians to take control of their work and wealth.

A plan to improve the organization and strengthen the finances of private medical services is urgently required. These services require to be, and can be, quite clearly defined. They are the personal and hitherto strictly private services rendered to individual persons and families by, or under the personal supervision of, doctors whose names are on the *Medical Register*. They are quite distinct from community or public health services, which, under the title of "State medicine," are the proper province of State or public health authorities and are not provided by private practice. The centralized organization that is suitable for public community services is not apparently suitable for the personal services to private citizens. Had it been suitable, at least some progress towards central organization would have been made before now. Probably the integration of medical services should be planned from the periphery inwards rather than from the centre outwards, first importance being given to the needs and wishes of the patients, and secondary importance to the needs or the uniformity of the system.

Every citizen without exception is liable to incur debt for medical services suddenly and unexpectedly, and often when he is least able to pay for them. The cost of medical services would, therefore, be appropriately provided for by insurance. Healthy persons may often be unwilling to insure against sickness; compulsory insurance, therefore, is justifiable even in a free country. Hundred per cent. health insurance is desirable combined with 100% private, *not* State, medical service. The State has hitherto given little help to private practice, which has achieved much and is extending its services rapidly. The aim of sincere politicians is to extend the benefits of private practice to those who cannot afford to pay for them. Private practice, which is already owned and controlled by the public (doctors being paid only for services rendered and drawing from it no unearned income), already has the organization, and only needs additional funds and personnel to extend the full benefits of medicine to everyone. The introduction of a State-controlled medical service would be revolutionary, inappropriate, experimental, expensive in administration, and is quite unnecessary.

As I pointed out at the beginning the private practice of medicine is a partnership between doctors and patients (actual and potential), in which the responsibility of doctors is for the technical administration, that of the patients is for the civil and financial administration. This distinction is observed in the conduct of the voluntary hospitals. A lay committee of governors controls the civil and financial administration, while the doctors advise on technical aspects. These two aspects of medicine are complementary but quite distinct, and in many ways opposite or reciprocal to one another, like the right and left hands of the same body. The patient requires services; the doctor provides them. The patient is the employer, the doctor his servant. The patient vaguely demands that he be enabled to keep or regain his health and is willing to bear the cost; the doctor studies the practical means to that end. The patients, though desiring the best possible health services, have still to weigh their cost in time, attention, and money against that of other necessary things, and put a limit on expenditure. The doctor's duty, in the first place, is to study all health measures and techniques regardless of cost, then to state clearly their relative values in alleviation of human suffering, thus enabling the patients to select the immediately attainable from the remotely attainable, the urgently necessary from the ultimately desirable.

The following plan will be described in the first place as though it included everyone. Its scope, if co-operation of the Government could not be obtained, will be discussed later.

The Plan

Assuming the principle of 100% health insurance (already accepted by all parties in politics) to be operative, the organization of private or personal health services would be in two parts: (*a*) the civil administration conducted by a series of lay committees elected by subscribers; (*b*) the technical administration conducted by a parallel series of medical committees. The service would be organized at four levels by: (1) local lay health committees and local medical committees; (2) district lay health committees and district medical committees; (3) regional lay health committees and regional medical committees; (4) a combined national health council.

The local lay health committees would be elected at general meetings of all the subscribers in a locality, which would be defined geographically for convenience, in extent by the number of subscribers resident in it, and technically by its proximity to a large hospital.

All the general practitioners in the locality would together form the local medical committee, which would be responsible for advising the subscribers and their committee about the medical needs of the locality—e.g., general practitioner hospitals, nursing homes, maternity homes, clinics, diagnostic centres, or other desirable things—and the cost of them. The lay committee would then be responsible for adopting, modifying, or rejecting the advice of the medical committee, and for providing the necessary funds and directing the civil administration of the final plan. A fixed proportion of the premium income from the locality would be at the disposal of the local health committee, who would account to the subscribers, not to any central authority, for their expenditure. Rural localities would have a larger proportion of their insurance premiums devoted to their local needs than urban localities, to meet the relatively greater costs of smaller hospitals and of general practitioner services. These local committees would be a new development; they would serve to stimulate the interest of the whole population in their own health services, and would bring general practitioners together for valuable co-operation—valuable to themselves and to their patients.

The local lay health committees of a district would meet together to co-ordinate their work and to elect or approve representatives to a district lay health committee, which would usually be in charge of the civil administration of one or more large hospitals. These district committees, besides co-ordinating (but not controlling) the work and expenditure of the local committees, would have at their disposal a further fixed proportion of the premium income of all subscribers in the constituent localities. The localities would thus be affiliated to the hospitals on which their specialist services would be based and to which they would send their difficult cases. Out of the funds at the disposal of these committees would be paid the costs of district, as distinct from local, medical services, including the equipment and running expenses of the hospitals and the salaries of the medical and nursing staffs. The payment of specialists would probably be a matter of national policy, but the number and nature of the appointments in any district would be under the control of the district health committees, medical and lay. The district lay health committees would also administer the capital funds at present owned by the voluntary hospitals, and establish capital and sinking-fund accounts and borrow, on the security of their assured income, for further building and development. They would receive legacies and encourage local generosity and enthusiasm to provide funds over and above the premium income. The present voluntary hospitals committees would be the natural fathers of the district committees; they know their work and love it.

District lay and medical committees of a region would meet and elect or approve representatives to regional lay and medical committees, whose work would be respectively the civil and technical co-ordination of the medical services of large regions of the country. They also would have control of funds from the premium income, and would administer special hospitals, sanatoria, convalescent homes, and institutions perhaps for the admission of chronic cases, the aged and infirm. Finally, the regional lay and medical committees would meet and elect or approve representatives on the national health committee, which would decide matters of national policy.

The vast majority of committee members would give voluntary service and enjoy the work; the great expense of an administrative staff such as a centrally controlled State service would require would be avoided. The allocation of funds to local, district, and regional committees would decentralize the control of detailed expenditure and greatly simplify and reduce the cost of keeping accounts; the accounts of the various committees would interest so many people that falsification would be nearly impossible.

A central authority tends to simplify its control by standardization of method; the various committees here suggested would adapt medical services to their particular needs, and a great variety of methods would be tried out and their value estimated. The plan is, therefore, suitably flexible to deal with so actively growing and evolving a subject as medicine. A mistake made by any one committee would affect a part of the system only, and would be reparable, whereas a mistake made by a central authority would affect the whole system and would often require to be bolstered up by further inappropriate action. Personal health services have not yet been subject to central control, and no experience of such working is available; mistakes will be inevitable.

Finance

The finances of the health insurance plan would be managed by a national health insurance corporation, which would collect all premiums and would be responsible for the actuarial and statistical work on which the solvency of the scheme would depend. This corporation would guide the national council in its use of the funds available, and keep the accounts of the various committees with the scheme. On the security of its assured income it could borrow at low rates of interest and allocate funds for building and other capital expenditure to the various committees. It would have no ownership or control of medical affairs.

Several rates of premium could be made available. A low premium could be related to family income and ability to pay rather than to actual cost. Much property is owned by the voluntary hospitals which has been given for charitable purposes and must continue to be used to help those who are unable to help themselves. This premium would require disclosure of income. A standard rate of premium would entitle subscribers to all necessary medical care administered with full efficiency but also with strict economy, as in the large wards and out-patient departments of the present hospitals. A third rate of premium would meet the costs of private clinics with small wards and small rooms administered comfortably but without extravagance. General practitioner treatment would, of course, be similar on all rates of premium. Probably admission to hospital or nursing home should not be absolutely free. People have to be fed at home as well as in hospital. Considerable adjustments of premium could be arranged if individual subscribers undertook to pay £1, £2, £3, or more a week if and when they became in-patients. Apart from these definite prearranged charges there would be no extras; medicines, dressings, and treatments used in hospital would be free of charge to the patient. The cost of drugs and medicines should normally be a small item, and should not be included in the health scheme, but a fund could be established out of which the cost of specially expensive yet necessary medicines and surgical appliances would be paid. Restricted prescribing and an expensive staff for costing and checking prescriptions would thus be avoided.

A very rough estimate of the cost of the plan can be arrived at by allocating £1 per annum per person for the general-practitioner's fee, £1 per annum for specialist fees, £1 per annum for hospital and nursing expenses, and £1 per annum for capital and development expenditure, for administrative costs, and for research, making a standard premium of £4 per annum per person. Bachelors and childless couples could be required to pay more, and large families a lot less, per head, regard being given to the relation between the family income and the number of dependants. A self-supporting scheme of this sort would relieve the Government of much responsibility and expense. A strong claim for premiums to be paid free of income tax could be put forward. Exemption from tax at 6s. in the £ would reduce a £4 premium to £2 16s.

Private Practice and a State Medical Service

Everyone is agreed that actual *ad hoc* treatment of disease should be available to all, rich or poor. But medical services cost money and many people are unable to pay for them, first, because work is not available for all, and, secondly, because the wages structure of industry is so grossly out of relation to the value of work done that even hard work at essential tasks leaves many men unable to provide food, clothing, housing, recreation, and medical services for their families. The absurd spectacle results of wage-earners being robbed by employers, who are robbed in taxation to provide so-called social services for workers who could quite well provide for their own needs, as "middle-class" people do, if only they got the wages they earned. The elaborate and expensive administrative mechanism of the two robberies and the restitution is ludicrous. The social services are financed by (1) workers' contributions which acknowledge the essentially personal nature of the services; (2) employers' contributions which are a strangely frank admission of robbery No. 1; and (3) the State contributions which, being paid out of taxes, tacitly admit robbery No. 2 and condone robbery No. 1. Clearly if the workers had not, in fact, earned the money involved they would not be worth this expense, and the contributions of the employers and of the State could not and would not have been payable: they would have caused national bankruptcy.

It is apparently the intention of the Government to establish a State owned and controlled personal medical service in order to hand out medical services as wages in kind to the underpaid workers of the country. Other wages in kind are "free" education, "free" milk, and "free" meals in schools as well as "free" medical services. Thus the under-dog is kept under, for he gets his keep, but has no choice in the spending of his earnings. The "truck" system, declared illegal by Parliament in 1831, 1887, and 1896 because it interfered with the freedom of the labourer, is being reintroduced on a gigantic scale immediately after a war has been won for personal freedom against State dictatorship. It is a solemn duty of medicine at the present time to preserve the democratic system of private practice, and not to condone, let alone sell out all medical services to make easy, this reintroduction of the "truck" system.

It is clear that, pending a more fundamental solution of the problem of undeserved poverty in a prosperous land, the Government could pay into some such health insurance scheme as above described the premiums of those unable to pay their own. Then the whole of the medical services of the country could be organized under one system. If, however, the Government is irrevocably committed to the institution of a State personal medical service, or is anxious to obtain political power over the people by this means, it is still possible to preserve private practice by integrating its activities along the lines described. Two health insurance services could work side by side, as in fact they are working now, one State-controlled, the other a private service. The State service would be based on an extended application of the present panel system, and specialist and hospital services would be based on the large rate-supported hospitals and such other smaller hospitals and health centres as the Government saw fit to build and maintain. It would probably be financed by workers, employers, and Government contributions on the robbery and restitution plan now in operation.

The private plan would be entirely supported by the subscribers to it and would be entirely under their control. It would be based on present private practice, and specialist and hospital services would be provided by voluntary hospitals, private clinics, and nursing homes. The private health insurance scheme would be as closely co-ordinated with the State scheme as complete financial and administrative independence would allow. The committees of the private services would co-ordinate their work with parallel State service committees. General practitioners would usually attend patients under both services and maintain the family-doctor tradition so far as clinics for this and that disease would permit. State patients would, of course, go to State hospitals, while private patients would go to the voluntary hospitals, private clinics, and nursing homes. At the hospital level, if State and voluntary hospitals were widely separated, the State hospital would have a private wing and the voluntary hospital a State wing. Each service would pay the other for services rendered, and would share the cost of laboratories, *x*-ray plants, etc., used in common. Specialists working mainly in one service would not be debarred from accepting part-time appointments in the other. It would often be important, in spite of difficulties of payment, to arrange that the services of specialists should be available to all classes of patient. At the regional level it would often be convenient for the two services to combine in the building and administration of special hospitals, colonies for tuberculous patients, rehabilitation centres, convalescent camps, etc.

Three ways of solving his health problems would be open to each individual: (1) he could pay into and make use of the State service; (2) he could pay into and make use of the private service, with a varied choice of premium; (3) he could pay into the State service as a sort of tax, but make his own arrangements for medical attention. It would not be unreasonable to hope that the private system would gradually include a larger and larger proportion of the people as the relation of wages to the value of work done improved, and that eventually public authority would be concerned only with impersonal, community, public health services, and not at all with the highly personal and private services rendered by doctors to individual citizens.

INSURANCE ACTS COMMITTEE

A meeting of the Insurance Acts Committee was held on October 4, Dr. E. A. Gregg presiding. Dr. H. H. D. Sutherland was welcomed to the committee as a direct representative for London in place of Dr. F. Gray, who has been elected to the committee by the Annual Representative Meeting. A letter was received from Dr. L. J. Picton resigning his membership on account of ill-health. The chairman said that this resignation was received with very great regret, for Dr. Picton in the course of many years had contributed much valuable counsel. It was resolved that a letter be sent to him, expressing sympathy in his illness and gratitude for his distinguished services.

Certification

The chairman reported on various matters which had been further discussed with the Ministry of Health, in some cases with a fruitful result. The Minister proposed to amend the medical certification rules so that special intermediate certificates may be given at intervals of not longer than eight weeks (instead of four weeks as at present) after six months' continuous incapacity, the condition being, of course, that the patient did not require treatment at more frequent intervals than those specified. The Minister did not feel justified in agreeing to the issue of special intermediate certificates before the end of the first month of incapacity.

Dr. Howie Wood suggested that a protest should be made to the Ministry at the delay between the first representations made on this subject and the concession now announced. In that interval thousands of certificates had had to be given unnecessarily by doctors, and this during the most difficult period of the war. The chairman thought that in fairness it should be stated that this amendment was the result of the last representation made three months ago. The Ministry had had to persuade or overrule the societies.

References to Tuberculosis Officer

The circular letter on the subject of tuberculosis issued by the Ministry to local authorities on June 4, to which the committee, supported by a resolution of the Annual Representative Meeting, had taken the strongest possible exception, was the subject of further correspondence. The Ministry had now written pointing out that the procedure whereby insured persons were referred to specialists when this was considered necessary to enable the examining medical officer to report whether or not they were incapable of work was already well established, so that the Ministry presumed that the committee was concerned rather with cases where reference to a specialist was suggested not for the purpose of determining incapacity for work but in the interests of the treatment of the patient.

"The Minister appreciates the committee's point of view on this matter and he is arranging that in those cases where the opinion of a specialist is considered to be desirable for reasons other than the satisfactory discharge of the reference, no steps will be taken for the specialist's examination before obtaining the consent of the insured person's practitioner."

The chairman said that while it was recognized that the Minister's statement fairly set out the present position, it would be better in the interests of the patient and of the service in maintaining a high standard in the determination of incapacity if all approaches to the tuberculosis officer came through the practitioner. The reply of the Ministry to the point which had been raised with so much emphasis must be considered satisfactory, but it still left those cases which the Ministry considered it necessary to refer in order to have a satisfactory discharge of the reference on the issue of disability. It should be emphasized that action by the Ministry in other cases should lie only where a practitioner was persistently slack and careless, and in such cases it was the duty of the Ministry to draw the attention of the Panel Committee to the practitioner's dereliction.

Fees of Part-time Referees

A request was received that the committee should take up with the Ministry of Health the question of an increase in fees payable to part-time medical referees employed by the Ministry of Health for the examination of insured persons referred by approved societies. The present fee is two guineas a session, and as many as 13 persons are summoned for examination. The committee expressed the view that such fees should be increased, and asked for the concurrence of the General Practice Committee on the ground that the part-time medical referees in question are not always and necesarily insurance practitioners, and also that the recommendation should be in harmony with those concerning fees paid by the Ministries of Labour, Pensions, and Education.

The chairman reported that he had considered the request of the Bristol Local Medical and Panel Committee for the formation of a new group consisting of Bristol, Somerset, Gloucester, and Gloucestershire, so as to give the West Country improved representation. He had to confess, however, that after many attempts he had found it impossible so to redesign the areas as to meet this problem satisfactorily, short of recasting the whole basis of representation of groups of committees on the I.A.C. Every alteration appeared to create equally big difficulties in other areas.

RETURN TO PRACTICE

The Central Medical War Committee announces that the following have resumed civilian practice: Dr. I. G. W. Hill, at 14, St. John's Road, Edinburgh 12; Dr. L. H. Howells, M.R.C.P., at 71, Cathedral Road, Cardiff; Mr. A. E. Porritt, F.R.C.S., at 3, Regent's Court, Park Road, London, N.W.1; Mr. B. W. Rycroft, F.R.C.S., at 149, Harley Street, W.1; Dr. J. D. Simpson, M.R.C.P., at 69, Bridge Street, Cambridge; Mr. Arthur S. Wesson, F.R.C.S., at University College Hospital, Gower Street, W.C.1; Sir Russell Wilkinson, at 82, Portland Place, W.1.

HEARD AT HEADQUARTERS

A Busy Day

Interesting computations are made sometimes of the practicable maximum of a doctor's list, supposing the capitation method to continue, wholly or mainly, in a comprehensive national service with 40 million insured persons. One estimate by a busy Lancashire doctor was given at a meeting of practitioners the other day. In his view, for what it is worth, any active general practitioner has it within his capacity to perform a daily routine of 80 items of service. On the basis of a five-day week this would be 400 items, and of a fifty-week year, 20,000 items, and supposing that the average call upon a doctor for each insured person on his list is five times a year, we are given a maximum of 4,000 insured persons for each doctor. The arithmetic is unexceptionable, but some may be inclined to question the basic figure of 80 items a day. Even if the doctor's day be extended to thirteen hours, it leaves less than ten minutes for each item. Country practice has to be reckoned as well as town, visits as well as attendances at the surgery, lengthy examinations as well as the signing of certificates. Moreover, is it not a fallacy to suppose that whatever may be the figure for annual calls by the present insured population, it or anything like it will necessarily hold good for the rest?

Protection of Practices: An Essex Proposal

The Essex Panel Committee has made a proposal for extending the principle of the Protection of Practices Scheme to meet the case of returning doctors whose lists have been depleted during their absence. The proposal is for an amendment of the distribution scheme to secure to each such doctor for a limited period payment out of the practitioners' fund to an extent not less than he received during 1939. The doctor will have the benefit of this payment for six quarters following his return to practice, unless, meanwhile, he has succeeded in building up his practice to the 1939 level. The scheme is to apply only to doctors who have not deputies or partners looking after their interests. At the peak figure it is estimated that the proposal would involve a sum representing about 1% of the practitioners' fund, but it is unlikely that this peak will ever be reached, partly because the doctors will not be returning simultaneously, and partly because the demand of any individual doctor may be expected to decline progressively from quarter to quarter as his normal practice grows.

The Central Protection of Practices Committee of the B.M.A. views the proposal with sympathy, but insists that the insurance doctors in the area must be consulted, and the scheme must proceed only if there is no substantial opposition to it.

Returning Practitioners

It is hardly surprising that there is a certain amount of complaint on the part of returning doctors about the state of their practices, not only because of the length of time involved but also because of the drastic changes in the residential and industrial circumstances of very many, if not most, areas. Admittedly there have been cases in which individual doctors left at home have failed to act in the spirit of the Protection of Practices Scheme. Legal action to the extent of a solicitor's letter has been taken in some instances to enforce the carrying out of the contract by a practitioner who is found not to be fulfilling his obligations, and this has generally been enough to produce useful results.

It may well be, however, that returning practitioners would be better pleased to have such assistance as is provided in the Essex proposal described above rather than that punitive action should be taken against defaulters, which might afford them a certain moral satisfaction, but nothing more.

National Insurance Defence Trust

Dr. J. W. Bone, treasurer of the National Insurance Defence Trust, announced at the last meeting of the trustees that the investments of the Trust, taken at the purchase price, now amount to over £306,000, and that the present market price is considerably above that level. A subcommittee has been appointed to investigate the setting up of a guarantee fund which would bring the trust moneys up to £1,000,000. In some quarters it has been suggested that the National Insurance Defence Trust might help doctors returning from active service to re-establish themselves in practice. This point has been put to the solicitors to the Trust, who find, however, that they cannot advise that it would be within the objects of the Trust to make grants of this kind. The financial support that may be given is limited to cases in which such support is required because the practitioners have suffered from the action taken by them in consequence of the policy laid down by the central body of insurance practitioners, and this can hardly be stretched to cover enlistment in the Forces.

The difficulty of such a Trust is that its terms may not be varied without the sanction of all contributors, and any objecting contributor could proceed through the courts to obtain an injunction. That any contributing practitioner would do such a thing is a remote contingency, but when it comes to many thousands of people the possibility cannot be ignored.

Shortage of Radiographers

It is not only hospital nurses who are "in short supply" but also trained auxiliaries. There is an acute shortage of qualified radiographers, and this at a time when there is a general tendency for the work in hospital *x*-ray departments to increase. So acute is the shortage that the L.C.C. is proposing to meet it in an unusual way. It already has a recruitment of pupil radiographers from State-registered nurses who have been trained in its hospitals, and who, as pupil radiographers, have a fixed salary. It is now proposed to admit for training at two of the large council hospitals—Hammersmith and Lambeth—candidates of both sexes who are not State-registered nurses and who will be known as student radiographers, but without salary during their training; on the other hand, they will not have to pay any premium. To have two classes of people doing the same work, one called students and the other called pupils, one paid and the other not paid, seems anomalous, but the position will probably regulate itself.

Depressing Hospitals

The other day I went to see a friend who, recovering from a severe operation, is in a private room in a London voluntary hospital. The room, for which he pays eight guineas a week, is deplorable in its workhouse-like, its prison-like appearance. The walls have a plain wash of ugly green, entirely unrelieved. Neither in the room itself nor in the scene from the window is there anything to please the eye. The surgical service is all that can be desired; the nursing service, allowing for present stringency, is tolerable; but the room itself—and the same applies to the public wards—is depressing in the extreme, and calculated to delay the recovery of any invalid. Cannot the administrators of hospitals devise some scheme whereby rooms and wards are given a touch of colour and decoration? Cannot they have curtains, bright paint? It can scarcely be a question of cost. It is more a question of someone's initiative and the exercise of taste. The therapeutic effect of cheerful surroundings seems to be entirely disregarded in at any rate some of our larger hospitals.

A NATIONAL HEALTH SERVICE

Readers of the *Fortnightly* for October are well served by Mr. H. S. Souttar's article on a National Health Service. In an article of the very readable length usual in that journal he has managed to cover the history of medical planning from 1929, when the B.M.A. made its first proposals for a general medical service for the nation, to the discussions last summer between the Negotiating Committee and the Ministry of Health; which, he points out, had resulted in substantial agreement on proposals that would have formed an acceptable basis for a complete scheme. Thus, most of what Mr. Souttar writes is history and too well known to need repetition here, but he does take up the 100% issue for the benefit of the layman. It is easy, he says, to arrive at an income limit for the services of a general practitioner, but quite a different proposition when it comes to the very much more expensive services rendered by a hospital. Then there are people who value a greater degree of personal attention than is possible in a public service and are prepared to pay for it, and it would be hard if they were deprived of any advantage it may offer. A fair compromise, states Mr. Souttar, is to include everyone in the service "but equally to leave everyone free to make independent arrangements if they wish." There would not, of course, be any question of better treatment, because those responsible for the services would see that *all* treatment was the best possible. With such a total service every individual would receive a treatment card, which, if he wished to avail himself of the public service, he would take to the doctor of his choice. He would then be on that doctor's list, but that doctor would be free to refuse any patient, and equally free to treat and charge as a private patient any person not on his list. Moreover, a patient would be free at any time to transfer from public to private service, or vice versa. The services of a consultant would be available to every patient on the reference of his general practitioner, who would also be able to arrange private consultant and hospital treatment for a public patient or obtain public hospital or consultant services for a private patient. There would thus be complete freedom of action in every direction. These proposals, Mr. Souttar concludes, would ensure that every man, woman, and child could rely on getting all the advice and care and treatment they required, regardless of their financial position or of any consideration other than their real need.

THE "VOLIMS" COMMITTEE

In June, 1944, at the request of the chairman of the Consultant Services Committee of the three English Royal Colleges and other consultant representative bodies, a general representative meeting was held at the Royal College of Physicians of the non-undergraduate teaching consultants of the Metropolitan area. It was a large meeting and was confined to such consultants as were attached to the 150 or more non-undergraduate teaching voluntary hospitals of London—that is to say, it was a representative meeting excluding consultants attached to undergraduate teaching schools and also any medical men of consultant status who were in whole-time local government service.

Following this meeting a committee of fourteen was elected, with Mr. W. E. Tanner as chairman and Dr. T. Rowland Hill as secretary. This committee, now known as the Volims Committee (a word formed out of some of the initial letters of the phrase "voluntary hospitals of London independent of medical schools"), worked regularly thereafter to prepare a plan for a consultant and specialist service for the nation. This plan has been published under the title "A Regional Consultant and Specialist Medical Service, based on University Medical Centres," and copies may be obtained upon application to the secretary of the committee (14, Wimpole Street. W.1). [We referred to the publication of this plan on June 30 last (p. 130).]

Three members of the Volims Committee are on the Consultant Services Committee, and play their part in expressing the opinions of the type of consultant they represent. The committee recently called a general meeting of non-undergraduate teaching consultants in the London area to report to them, to present its plan for their comments, and to refresh itself generally with their present views. This meeting unanimously approved the committee's plan and, also unanimously, decided that co-operation between the committee and the association of the major non-teaching voluntary hospitals which had recently been formed should be as close as possible with, so far as practicable, the same personnel serving in the Metropolitan area for the two bodies.

BATTESON TESTIMONIAL FUND

We are asked to inform all who wish to contribute to the testimonial to Dr. C. L. Batteson, who retires this year from the post he has held for 21 years of secretary to the London Local Medical and Panel Committee, that the fund will be closed on Oct. 31. Subscribers, of whom it is hoped there will be a goodly number, should send their remittances on or before that date to the Treasurer, Batteson Testimonial Fund, London Local Medical and Panel Committee, Tavistock House, Tavistock Square, W.C.1.

Sir William Douglas, Permanent Secretary of the Ministry of Supply since 1942, has now taken up his duties as Permanent Secretary of the Ministry of Health on the retirement of Sir John Maude. Mr. W. W. Andrew has relinquished his duties as senior regional officer, Ministry of Health, London Region, on his retirement from the Civil Service, and is succeeded by Mr. A. H. King, the deputy senior regional officer.

Correspondence

Medical Recruitment to the R.A.F.

SIR,—Your columns show that there is increasing discontent among medical officers in the R.A.F. One of the most potent reasons for this is the fact that for nearly a year the number of new entrants into the medical branch has been negligible. Medical officers who are in contact with their teaching hospitals know that house officers are being allowed to remain in B2 appointments, and that the Government has made no serious attempt to review those who are holding more senior appointments.

From the announcements made recently in the Press the total strength of the R.A.F. is going to be close on three-quarters of a million in June, 1946. This will presumably call for approximately 1,500 medical officers. Unless very large numbers of serving medical officers are to be retained for long periods it is essential that the Government should insist on all newly qualified practitioners joining the Services after six months of house appointments, and that a careful review shall be made of all who hold more senior posts. Decisions regarding the call-up of medical man-power rest with the Government and not with the Service Ministries. The Government's present policy of allowing the recently qualified to remain in civil posts while retaining in the Services many who are older and more experienced in practice is surely short-sighted.

At the present time there are large numbers of medical officers in all Services employed on sedentary duties in the United Kingdom. There must be many relatively young medical men in this country who have been rejected for service owing to minor disabilities, which, though rendering them unfit for conditions in the Tropics, certainly would not preclude service in Great Britain or Germany. I suggest that there should be a review of all those practitioners who have in the past been rejected as medically unfit, with a view to calling up those who are fit for service in the Forces at home or in Germany.

During the next few months many of the medical officers who joined the Services in 1939 and 1940 will be released. A considerable proportion of these will desire to obtain hospital appointments and can replace newly qualified men holding B2 and B1 posts.—I am, etc.,

J. J. CONYBEARE

Guy's Hospital, London, S.E.

In the Far East

SIR,—The anxiety of doctors in the Naval medical service is directly proportional to the apparently confused ideas of those making appointments relating to new establishments in the Far East; and the sluggish effort to acquaint us with the rate of demobilization is, I believe, correlated to this confusion. To quote one example. For the past six months this establishment of between 1,300 and 1,500 men has been supplied with six doctors. (For seven weeks of this period there were 2,100 men, and we were given two more doctors, until they left a short time before the Japanese surrender.) The numbers have now dropped to 1,000, and another medical officer has appeared, making the number of the permanent staff up to seven. This new arrival was told in London eight weeks ago that he would be the first to arrive at this isolated spot, but while later awaiting transport from a neighbouring station out here, some distance away, was informed by its senior medical officer that he would be the third.

I would suggest that if such gross discrepancies are permitted to occur those in authority at the Admiralty be pressed to communicate and discuss with the C.M.W.C. the numbers of medical officers in ships and establishments in relation to their complement. For what reasons could opposition be raised to this suggestion?

In the hope that I shall personally be disillusioned no further I must remain anonymous.—I am, etc.,

"SURG. LIEUT., R.N.V.R."

Only Equity

SIR,—An aspect of demobilization which can hardly have escaped the notice of readers of the *Journal*, though it has not been commented on, is the marked disparity between the numbers of new entrants into the three Services. During the last twelve weeks the commissioning of 183 doctors has been announced, 173 of whom have gone into the Army, 10 into the R.A.F., and none into the Navy. It is significant that the Army is able to release more groups than either of the other two Services. If the facts are as suggested by the lists published in the *Journal*, this is surely a case in which the C.M.W.C. could, but does not, take action to obtain equity between the Services.—I am, etc.,

"R.A.F.V.R."

*** The Secretary of the C.M.W.C. writes: The Central Medical War Committee has no alternative but to allocate the available recruits to the three Services in the proportions determined by the Government, which is responsible for both the recruitment plan and the release plan. The Committee is at present awaiting fresh Government decisions as to the recruitment "quotas" and the position of medical officers in the accelerated release programme.

The Young Specialist

SIR,—I should like to add my mite to the waxing volume of dissatisfaction with medical demobilization, this time from the point of view of the young specialist—i.e., who obtained a higher qualification in the three years prior to the war—who, because of Territorial commitments or from other patriotic motives, joined the Forces before he need have done, and thereby now finds himself in release groups 16 to 25. He suffers from uncertainty of date of demobilization, six years' absence from home, and lack of an established position to which to return. To my mind this could easily be remedied as follows:

1. In the Army, at least, general duty M.O.s have now a definite prognosis up to Group 23 and demobilize themselves with as little fuss as other ranks, whereas specialists not only lag behind their groups, but are given no prognosis at all and eventually only a few days' notice from the War Office. Surely the number of specialists in each group could be ascertained and hence a definite prognosis given. This would be of considerable help in applying for appointments.

2. Establishments built up to cope with a large estimated and unrealized casualty intake could now be immediately reduced; thereby releasing a large number of redundant and idle specialists. I know there is strong opposition to this in the higher ranks, but all good things must come to an end.

3. The intake into the Forces of young "indispensable" civilian specialists could be speeded up, and would more than compensate for the loss of serving specialists. After all, not only have we been separated from our families completely for four years and partly for two, but, whatever we may have gained in experience, we are still six years behind our civilian contemporary in home contacts and establishment. It would not be a comparable hardship for them to do, say, two years in the Forces now, with little physical hardship and regular leave. One is led to suspect their "indispensability" is not so impregnable after all.

I regret to wish to remain anonymous, and sign myself

"QUONDAM VOLUNTEER."

Short-service Commissions and Release

SIR,—"Medico, R.A.M.C." holds a short-service commission and asks (*Supplement*, Oct. 6, p. 79): "Why can't we be treated the same as any other doctor and be included in the age-and-service groups?" I agree with him that it is rather hard that he should be retained until general demobilization. It would be better if he were considered to have joined up at the time of completing his five years' short-service commission. He could then be released in the age-and-service group scheme, and be treated the same way as any other doctor. As a regular I feel he has but little to grouse about. He did at any rate want to be in the Army for five years, and many of us (including myself) have been in it for six years without ever wanting to be in it at all.—I am, etc.,

"EMERGENCY COMMISSION."

H.M. Forces Appointments

TERRITORIAL ARMY

ROYAL ARMY MEDICAL CORPS

War Subs. Lieut.-Col. J. B. Forsyth to be Major.

War Subs. Major M. S. Good to be Major.

LAND FORCES: EMERGENCY COMMISSIONS

ROYAL ARMY MEDICAL CORPS

War Subs. Major T. A. H. Munro to be a Consultant, and has been granted the local rank of Brig.

War Subs. Major H. E. S. Stiven has relinquished his commission, and has been granted the honorary rank of Lieut.-Col.

War Subs. Capt. J. E. Semple has relinquished his commission on account of disability, and has been granted the honorary rank of Major.

War Subs. Capts. E. Howitt, K. V. Navare, and H. Josephs have relinquished their commissions on account of disability, and have been granted the honorary rank of Capt.

A. Bearblock to be Lieut.

WOMEN'S FORCES

EMPLOYED WITH THE R.A.M.C.

War Subs. Capt. S. Reid has relinquished her commission, and has been granted the honorary rank of Capt.

ROYAL AIR FORCE

RESERVE OF AIR FORCE OFFICERS

Fl. Lieut. (Temp. Squad. Ldr.) A. W. Callaghan has relinquished his commission on account of medical unfitness for Air Force service, retaining the rank of Squad. Ldr.

ROYAL AIR FORCE VOLUNTEER RESERVE

Squad. Ldrs. (Temp.) H. S. H. O'Conor and T. A. W. Edwards have been granted the rank of War Subs. Squad. Ldr.

Fl. Lieuts. S. Stanford and G. P. Barclay have relinquished their commissions on account of medical unfitness for Air Force service, retaining their rank.

INDIAN MEDICAL SERVICE

Lieut.-Col. G. B. Hanna, O.B.E., has retired on account of ill-health.

ARMY IN BURMA RESERVE OF OFFICERS

EMERGENCY COMMISSIONS

S. Yee to be Lieut.

POSTGRADUATE NEWS

Fourteen-day refresher courses (22 sessions) for medical officers returning from H.M. Forces will begin at Addenbrooke's Hospital, Cambridge, on Monday, Nov. 5, and at Southend-on-Sea General Hospital on Monday, Dec. 3. Applications for further information and admission to these courses should be made to Dr. Firth, Trinity Hall, Cambridge.

The Fellowship of Medicine announces: (1) Week-end course in rheumatic diseases, at Royal Bath Hospital, Harrogate, all day, Sat. and Sun., Nov. 3 and 4; (2) Week-end course in diseases of the ear, nose, and throat, at Metropolitan Ear, Nose, and Throat Hospital, all day Sat. and Sun., Nov. 10 and 11; (3) Primary F.R.C.S. course, January to April, 1946, three evenings weekly, 6 p.m. to 8.15 p.m. Full particulars of all courses from the Fellowship of Medicine, 1, Wimpole Street, W.

WEEKLY POSTGRADUATE DIARY

GLASGOW UNIVERSITY: DEPARTMENT OF OPHTHALMOLOGY: *Wed.*, 8 p.m., Mr. R. C. Davenport: St. Dunstan's in the Recent War.

DIARY OF SOCIETIES AND LECTURES

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—Erasmus Wilson Demonstrations by Mr. R. Davies-Colley: *Mon.*, 5 p.m. Specimens illustrating cysts and innocent tumours of the breast; *Wed.*, 5 p.m., Specimens illustrating malignant tumours of the breast. *Thurs.*, 5 p.m., Mr. L. E. C. Norbury: Certain Conditions of the Kidney, illustrated by specimens and lantern-slides.

ROYAL SOCIETY OF MEDICINE.—*Mon.*, 6.30 p.m., Section of Odontology. *Tues.*, 5 p.m., Section of Medicine. *Thurs.*, 5 p.m., Section of Urology. *Fri.*, 3 p.m., Section of Epidemiology and State Medicine; 4.30 p.m., Section of Disease in Children.

ROYAL INSTITUTE OF PUBLIC HEALTH AND HYGIENE, 28, Portland Place, W.—*Wed.*, 3.30 p.m., Dr. Doyne Bell: Some Aspects of the Public Responsibility for Child Health.

B.M.A.: Branch and Division Meetings to be Held

GREENWICH AND DEPTFORD DIVISION.—Joint meeting with Woolwich, Lewisham, and Camberwell Divisions at Miller General Hospital, Greenwich, S.E., Wednesday, Oct. 24, 8.15 p.m. Consideration of a resolution calling for an examination of the needs of the respective areas of the four Divisions "with a view to devising the best schemes of medical service." Dr. A. Macrae (Deputy Secretary, B.M.A.) will be present to answer questions.

LEIGH DIVISION.—At Boar's Head Hotel, Leigh Tuesday, Oct. 23, 8.15 p.m. Annual general meeting. Dr. G. E. Hayward: Deafness.

SWANSEA DIVISION.—At Swansea General Hospital, Thursday, Nov. 1, Clinical meeting.

WAKEFIELD, PONTEFRACT, AND CASTLEFORD DIVISION.—At Clayton Hospital, Wednesday, Oct 31, 8.15 p.m., Mr. G. Armitage: Hyperthyroidism.

BIRTHS, MARRIAGES, & DEATHS

The charge for an insertion under this head is 10s. 6d. *for* 18 *words or less. Extra words* 3s. 6d. *for each six or less. Payment should be forwarded with the notice, authenticated by the name and permanent address of the sender, and should reach the Advertisement Manager not later than first post Monday morning.*

BIRTHS

CRAIG.—On Sept. 16, 1945, at Harcourt Nursing Home, Dublin, to Cicely (*née* Huggard), wife of Squad. Ldr. J. K. Craig, R.A.F.V.R., a son.

DAVIDSON.—On Oct. 9, 1945, to Josephine (*née* Cartwright), wife of Ian M. Davidson, M.D., F.R.C.S.Ed., 1, Eden Mount, Stanwix, Carlisle, a daughter.

HUGGETT.—On Oct. 8, 1945, to Esther M. Killick and Arthur St. G. Huggett, a girl.

MARRIAGE

CAIRNS—WILSON.—On Sept. 29, 1945, at Liverpool, Robert J. Cairns, M.B., M.R.C.P., to Rose Theresa Wilson, S.R.N.

SILVER WEDDING

LINZEE—ANDREWS.—On Oct. 21, 1920, at Ipswich, Dr. Neville Hood Linzee to Blanche Constance (Maidie) Andrews. Present address: Gloucester Lodge, Thames Ditton.

NOTICE—Applications for vacancies advertised should, except where otherwise specified, state name, address, age, nationality, qualifications, and be accompanied by copies of three recent testimonials with short statement of experience and appointments held. Unless closing date is stated applications should be sent at once.

R—Male, W—Women practitioners, liable to military service under the National Service Acts.
B1—Whole-time appointments, usually resident within the senior establishment—e.g., Registrar, R.S.O., etc.
A—Whole-time resident house appointments open to practitioners without previous experience.
B2—Whole-time house appointments not within the senior establishment, usually resident, and usually held by practitioners with six months' experience.

APPOINTMENTS

INDIAN MEDICAL SERVICE. Recruitment of WOMEN MEDICAL OFFICERS.—The Government of India are prepared to recruit a limited number of women medical officers for service with the Indian Medical Service for the duration of the war. Applicants must be British subjects, of not more than 45 years of age, and those selected will be appointed in the rank of Lieutenants. Antedate of seniority may be granted up to a minimum period of 6½ years in respect of resident hospital appointments, higher qualifications, and/or professional experience. The antedate will count for pay and promotion, but, in the case of candidates recruited in this country, higher rank will not be assumed until the date of disembarkation in India. On termination of service, a minimum gratuity is guaranteed to those officers who complete one year of service, viz., Rs. 2,000 to officers whose registrable medical qualification is dated before January 1, 1940, and Rs. 1,000 to those who qualified after that date, plus one month's pay for each further completed year of Army Service. Further particulars regarding rates of pay, etc., may be obtained from the Medical Adviser, India Office, London, S.W.1, or from the Secretary, Military Department, India Office, to whom all inquiries should be addressed.

GLOUCESTERSHIRE JOINT BOARD FOR TUBERCULOSIS. Standish House Sanatorium, Stonehouse, Glos. (250 beds with orthopaedic block). TEMPORARY ASSISTANT MEDICAL OFFICER (B1) AND ASSISTANT TUBERCULOSIS OFFICER.—With the approval of the Minister of Health the Board invite applications from registered male practitioners for the above joint appointment. In addition to his duties at the Sanatorium the successful candidate will be required to undertake duties at dispensaries, etc. The commencing salary will be at the rate of £450 p.a. plus bonus, and will rise by annual increments of £25 to £600 per annum plus bonus, with emoluments of a total value of £150, and travelling and subsistence allowances in accordance with the Board's scale will be paid. Candidates should have held a resident hospital appointment and an appointment in some institution recognized for the treatment of tuberculosis, and suitably qualified R practitioners holding B2 appointments are inivted to apply. R practitioners now holding B1 appointments and rejected by the R.A.M.C. may also apply. The appointment is subject to the approval of the Minister of Health and will be determined by three months' notice in writing on either side, and the person appointed must satisfactorily pass a medical examination. Applications should be addressed to the Clerk of the Joint Board for Tuberculosis, Shire Hall, Gloucester, and should reach him not later than October 26.—Guy H. Davis, Clerk of the Joint Board for Tuberculosis.

CITY OF PLYMOUTH. City General Hospital.—Applications are invited from duly qualified and registered medical practitioners, male and female, including practitioners within three months of qualification and liable under the National Service Acts, for the appointment of JUNIOR ASSISTANT MEDICAL OFFICER (A) at the City General Hospital (450 beds). The appointment will be for a period of six months and terminable by one month's notice on either side at any time. Salary will be at the rate of £250 per annum, plus war bonus, and full residential emoluments. All fees received by the officer must be refunded to the Council. The duties of the post will be chiefly on the medical side of the hospital and further details may be obtained from the Medical Superintendent. Forms of application are not provided. Applications must be addressed to the undersigned as soon as possible.—T. Peirson, Medical Officer of Health, Seven Trees, Lipson Road, Plymouth.

CITY AND COUNTY OF BRISTOL. Department of Public Health. ASSISTANT RESIDENT MEDICAL OFFICER.—Applications are invited from registered medical practitioners, male or female, for the immediate appointment of Assistant Resident Medical Officer (B2) at Ham Green Hospital, including R and W practitioners who now hold A posts. If held by an R practitioner, the appointment will be limited to six months. Otherwise it will be held for a period of one year. Salary £200 per annum, plus full residential emoluments. Application forms may be obtained from the undersigned to whom they must be returned, accompanied by copies of not more than three recent testimonials, forthwith.—R. H. Parry, Medical Officer of Health, Kenwith Lodge, Westbury Park, Bristol, 6.

COUNTY BOROUGH OF TYNEMOUTH. Preston Emergency Hospital (488 beds).—TEMPORARY NON-RESIDENT MEDICAL OFFICER urgently required for a period of two to three months at the above hospital. Duties mainly medical. Salary £10 10s. plus full residential emoluments. Applications to be forwarded to Director of Social Welfare, 4, Northumberland Square, North Shields. Canvassing will disqualify.

CITY OF MANCHESTER. Booth Hall Central Hospital for Children (760 beds). TEMPORARY RESIDENT SURGICAL OFFICER (B1).—Applications are invited from registered medical practitioners, male and female, for the appointment of Temporary Resident Surgical Officer (B1) which will become vacant on December 21, 1945, at the above-mentioned hospital. Although the vacancy is on the permanent assignment of staff, the appointment will be temporary for the time being, and subsequently the officer appointed will be eligible to apply for the permanent post. Candidates must have practical surgical experience and, preferably, hold a high surgical qualification. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Basic salary in accordance with the Manchester Corporation conditions of service, commences at £475 per annum, with full residential emoluments in addition, but annual increments of £25 up to a maximum basic salary of £550 may be granted at the discretion of the Council. The salary is subject to a temporary cost-of-living wages addition. The commencing cash remuneration, at present, is £505 for a male officer, and £499 2s. 6d. for a female officer. Forms of application can be obtained from the Medical Officer of Health, Hospitals Administration Section, G.P.O. Box 399, Town Hall, Manchester, 2, and all applications must be received by him not later than November 3, 1945. (Full details of the post can be obtained from the Medical Superintendent of Booth Hall Hospital, Blackley, Manchester, 9.) Canvassing in any form, oral or written, direct or indirect, is prohibited.—Philip B. Dingle, Town Clerk, Town Hall, Manchester, 2.

CITY OF LEEDS. Public Health Department. Killingbeck Hospital for Infectious Diseases.—Applications are invited from registered medical practitioners for the post of ASSISTANT MEDICAL OFFICER (B2) now vacant. The salary is at the rate of £300 per annum, plus a cost-of-living bonus, and full residential emoluments. The appointment is for six months. R practitioners holding A posts may apply.

St. Mary's Infirmary.—Applications are invited from registered medical practitioners, male, for the post of RESIDENT MEDICAL OFFICER (B2) for the above hospital. The salary is at the rate of £250 per annum, plus a cost-of-living bonus, together with full residential emoluments. The hospital comprises a maternity unit of 98 beds and 102 beds for chronic sick. It is a Part I Training School under the regulations of the C.M.B., and the duties of the officer will include instruction of pupil midwives. All fees received by the officer must be paid into the City funds. R practitioners who now hold A posts may apply, when the appointment will be limited to six months; otherwise twelve months.

Applications for each post endorsed "A.M.O." and "R.M.O." respectively, to be forwarded to J. Johnstone Jervis, Medical Officer of Health, Public Health Department (Hospitals Administration Section), 12, Market Buildings, Leeds, 1.

CITY OF PLYMOUTH. Mount Gold Orthopaedic and Tuberculosis Hospital (200 beds).—Applications are invited from registered medical practitioners, male, for the post of RESIDENT SURGICAL OFFICER (B1). Applicants should have held house appointments and had some experience of orthopaedic and fracture work. The duties are mainly in the orthopaedic and E.M.S. sections of the Hospital, but may include some duties in the pulmonary tuberculosis wards. Suitably qulaified R practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. The appointment is for one year, but terminable by one month's notice on either side at any time. Salary is at the rate of £300 per annum, plus war bonus and full residential emoluments. Married quarters are not provided. Applications should be sent to the undersigned as soon as possible, together with copies of two recent testimonials.—T. Peirson, Medical Officer of Health, Seven Trees, Lipson Road, Plymouth.

CITY OF BIRMINGHAM. Dudley Road Hospital (an acute general hospital with 1,100 beds). JUNIOR MEDICAL OFFICER (A).—Applications are invited from registered medical practitioners, male or female, for appointment as Junior Medical Officer (A) at the above hospital, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, the appointment will be for six months, otherwise it will be for one year. The salary is at the rate of £200 per annum, plus residential emoluments. Applications should be sent to the Medical Officer of Health, Public Health Department, Birmingham, 3, to reach him not later than November 12, 1945.

COUNTY BOROUGH OF MIDDLESBROUGH. TEMPORARY ASSISTANT MEDICAL OFFICER for Maternity and Child Welfare.—Applications are invited from registered medical practitioners who have had previous experience in ante-natal work, midwifery, and diseases of children, for the above appointment. The possession of the Diploma in Public Health, or its equivalent, would be considered an additional qualification for the office. The consent of the Ministry of Health has been obtained to the filling of this vacancy. Candidates already holding whole-time public health appointments will not be considered unless consent to apply has been obtained from the Ministry of Health. The officer appointed would be required to attend ante-natal and infant welfare clinics, and also to undertake certain administrative duties in the maternity and child welfare department under the general direction of the Medical Officer of Health. Although the duties would mainly be in the maternity and child welfare department, the successful candidate would be expected to undertake such general duties in the public health department as may be required from time to time by the Medical Officer of Health. The commencing salary will be at the rate of £700 per annum, rising, subject to satisfactory service, by annual increments of £50 to a maximum of £850. The successful candidate will be required to pass a medical examination, and to reside within the County Borough of Middlesbrough. The position is terminable by three months notice on either side. Applications to be sent to the Medical Officer of Health, Municipal Buildings, Middlesbrough, not later than Monday, October 29, 1945.—Preston Kitchen, Town Clerk, Municipal Buildings, Middlesbrough.

CITY OF MANCHESTER. Booth Hall Hospital for sick children (760 beds). RESIDENT ASSISTANT MEDICAL OFFICER (A).—Applications are invited from registered medical practitioners, male or female, for the above-mentioned appointment which will become vacant on November 12, 1945, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts the appointment will be for a period of six months otherwise it will be for a period of twelve months. The basic salary for the appointment is £200 per annum with board residence and laundry in addition, subject to the Manchester Corporation conditions of service. A temporary cost-of-living wages addition is payable in addition to the salary stated. Applications are to be addressed to the Medical Superintendent, Booth Hall Hospital, Charlestown Road, Blackley, Manchester, 9, and must be received by him not later than October 31, 1945. Canvassing in any form, oral or written, direct or indirect, is prohibited.—Philip B. Dingle, Town Clerk, Town Hall, Manchester, 2.

CITY OF BIRMINGHAM. Selly Oak Hospital (an acute general hospital of some 520 beds with an infirmary of 650 beds attached). JUNIOR MEDICAL OFFICER (A).—Applications are invited from registered medical practitioners, male or female, for appointment as Junior Medical Officer (A) at the above hospital, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, the appointment will be for six months, otherwise it will be for one year. The salary is at the rate of £200 per annum, plus residential emoluments. Applications should be sent to the Medical Officer of Health, Public Health Department, Birmingham, 3, to reach him not later than November 12, 1945.

BRITISH POSTGRADUATE MEDICAL SCHOOL (University of London).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE PHYSICIAN (A), the post becoming vacant on December 1, 1945. This includes practitioners liable to service under the National Service Acts who have not yet completed three months since date of qualification. The appointment is for six months. The salary is at the rate of £105 per annum, plus full residential emoluments.—Apply, The Dean, British Postgraduate Medical School, Ducane Road, W.12, before October 27, 1945.

ROYAL CANCER HOSPITAL (FREE) (Incorporated under Royal Charter), Fulham Road, London, S.W.3.—Applications are invited from qualified medical practitioners for the post of PART-TIME PHYSIOTHERAPIST to take charge of the Physiotherapy Department. The appointment in the first instance is a temporary one. Salary £250 per annum for two half-day sessions per week. The appointment will commence from January 1, 1946. Applications, to be made on a form which will be supplied by the Secretary, with copies only of not more than three recent testimonials, to be sent to the undersigned not later than the first post on Wednesday, November 14, 1945.—Victor H. Pinkham, Secretary.

IMPORTANT — All applicants should read the notice about qualifications required, etc., printed at the top of page 9

COUNTY BOROUGH OF READING. RESIDENT MEDICAL SUPERINTENDENT at Battle Hospital (583 beds) (temporary).—The Council of the County Borough of Reading invite, from registered medical practitioners, including those serving in H.M. Forces, applications for the temporary post of Resident Medical Superintendent of the above general hospital. The post is normally permanent but, in accordance with the Council's decision and the requirements of the Ministry of Health, is at present designated as temporary. The consent of the Minister of Health has been obtained to the proposed appointment. Candidates should have had wide clinical and administrative experience of general hospital work and possession of higher degrees will be considered an advantage. The salary, in accordance with the Askwith Scale, will be at the rate of £1,000 per annum, including therein emoluments valued at £200 per annum, rising by biennial increments of £50 to £1,100 per annum, together with the current cost-of-living bonus. If the Askwith scale be amended, the salary will be reviewed in the light of any such amendment. The post is subject to termination by three months' notice on either side and to the provisions of the Local Government Superannuation Act, 1937. The successful candidate will be required to pass a medical examination. Forms of application can be obtained on application to me. Applications, endorsed "Resident Medical Superintendent," should reach me not later than November 19.—G. F. Darlow, Town Clerk, Town Hall, Reading.

COUNTY OF DERBY. COUNTY MEDICAL OFFICER OF HEALTH.—The Derbyshire County Council invite applications from registered medical practitioners, including those now serving in His Majesty's Forces, for the permanent appointment of County Medical Officer of Health. Salary £1,500 per annum, rising by £100 per annum to £1,900 per annum, plus cost-of-living bonus, and a travelling allowance according to the Council's scale. Candidates must not only be qualified as prescribed by the Local Government Act, 1933, but must also possess administrative ability and a wide knowledge and experience of the organization of Public Health Services. The appointment will be subject to the provisions of the Local Government Superannuation Act, 1937. Conditions of appointment and form of application may be obtained from the undersigned, to whom applications must be delivered not later than Februray 20, 1946. Canvassing, directly or indirectly, will be a disqualification. The consent of the Minister of Health has been obtained to the making of the appointment.—H. Wilfred Skinner, Clerk of the County Council, County Offices, St. Mary's Gate, Derby

COUNTY BOROUGH OF STOCKPORT. Stepping Hill Hospital (480 beds). RESIDENT ASSISTANT MEDICAL OFFICER.—Applications are invited from duly qualified medical practitioners for the post of Resident Assistant Medical Officer (B2) (male or female) at the above hospital. Determinable by one month's notice on either side. Salary £350 p.a. (plus cost-of-living bonus), with board, residence and laundry. The person appointed will be required to devote the whole of his/her time to the duties of the office, which are mainly surgical. R and W practitioners holding A posts may also apply, when appointment will be limited to six months; otherwise not to exceed one year. Applications are to be sent, endorsed "Assistant Medical Officer."—J. Yule, M.D., D.P.H., Medical Officer of Health, Town Hall, Stockport.

COUNTY BOROUGH OF ROCHDALE. Marland Isolation Hospital.—Applications are invited from registered medical practitioners (male or female) for the post of RESIDENT MEDICAL OFFICER (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months and in any case will only be renewable for a further period of six months. The hospital has 120 beds, and the duties will include the visiting of the neighbouring Pulmonary Hospital (36 beds). Salary £225-£275 per annum plus bonus of approximately £29 per annum with full residential emoluments. Application forms may be obtained from the Medical Officer of Health, Public Health Offices, Baillie Street, Rochdale, and must be returned to him as soon as possible.—Harry Bann, Town Clerk.

COUNTY BOROUGH OF DERBY. Derby City Hospital. RESIDENT MEDICAL OFFICER (B2).—Applications are invited from registered medical practitioners, male or female, for the appointment of Resident Medical Officer (B2), including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months, otherwise it may be extended to twelve months. The salary is at the rate of £200 per annum with full residential emoluments, plus war bonus. The hospital is a 1A Casualty Hospital with a normal complement of 312 beds plus casualty beds, for acute medical and surgical cases, and with a large obstetrical department. Applications should be sent to the Medical Superintendent, City Hospital, Derby, as early as possible.—C. Ashton, Town Clerk, Derby.

CITY OF PLYMOUTH. Mount Gold Orthopaedic Hospital (120 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of ASSISTANT RESIDENT SURGICAL OFFICER (B2) at Mount Gold Hospital, including R and W practitioners who now hold A posts. If held by an R practitioner, the appointment will be limited to six months, otherwise it will be renewable for a further period of six months, terminable by one month's notice on either side at any time. Salary is at the rate of £250 per annum, plus war bonus, with full residential emoluments. All other fees received by the Officer must be refunded to the Council. Married quarters are not provided. Preference will be given to applicants who have had some experience of orthopaedic and fracture work. The duties are in the orthopaedic and E.M.S. sections of the hospital Applications should be sent to the undersigned as soon as possible.—T. Peirson, Medical Officer of Health, Seven Trees, Lipson Road, Plymouth.

CITY OF SHEFFIELD. City General Hospital. SENIOR ASSISTANT MEDICAL OFFICER OBSTETRICAL (B1).—Applications are invited for the above appointment of Senior Assistant Medical Officer in the Obstetrical Department of the above hospital, which deals with approximately 2,000 confinements per annum. Applicants should have had postgraduate obstetrical experience. Suitably qualified R practitioners holding B2 appointments are invited to apply. Holders of B1 posts cannot be considered unless unfit for military service. Salary £350 per annum rising by £25 to £550, plus bonus and residential emoluments. Applications should be sent to the Medical Superintendent, City General Hospital, Sheffield, 5, as soon as possible.

COUNTY BOROUGH OF HALIFAX. Public Health Department. TEMPORARY ASSISTANT MEDICAL OFFICER OF HEALTH for Maternity and Child Welfare (female).—Applications are invited from fully qualified medical women for the above appointment. Candidates already in whole-time Public Health employment by local authorities are not eligible. Salary scale £500 per annum, rising by annual increments of £25 to a maximum of £700 per annum. Commencing salary will be fixed in accordance with candidate's experience. The appointment will be terminable by one month's notice from either side. Applications must be received by the undersigned not later than the first post on November 2, 1945.—G. C. F. Roc, Medical Officer of Health, Public Health Department, Powell Street.

CITY AND COUNTY OF NEWCASTLE-UPON-TYNE. Newcastle General Hospital (900 beds). HOUSE SURGEON (B2) TO THE NEURO-SURGICAL DEPARTMENT.—Applications are invited from registered medical practitioners, male and female, for the above post, to become vacant on or about November 25, 1945, including R and W practitioners who now hold A posts. The appointment is tenable for six months and the salary is at the rate of £250 per annum plus cost-of-living bonus and full residential emoluments. Applications to be forwarded to the Medical Officer of Health, Town Hall, Newcastle-upon-Tyne, 1.

CORNWALL COUNTY COUNCIL. TEMPORARY WHOLE-TIME ASSISTANT SCHOOL MEDICAL OFFICER.—Applications are invited from registered medical practitioners for the above appointment. Part of the duties will consist of work in connexion with the establishment of a Child Guidance Service in the county. Applicants should hold the Diploma of Psychological Medicine, and experience in child psychology will be an advantage. The salary scale is from £600 per annum, rising by annual increments of £25 to £800 per annum, and the successful candidate will devote the whole of his or her time to the duties of the office, under the direction of the county medical officer. Candidates already in whole-time Public Health employment by local authorities will not be eligible. There will be a travelling allowance in accordance with the county scale. The approval of the Minister of Health has been obtained to the appointment, and candidates should submit with their applications full information as to their liability for military service, medical fitness and position with regard to deferment. Applications endorsed Assistant School Medical Officer, should be forwarded to the County Medical Officer, County Hall, Truro, not later than October 31, 1945.—L P. New, Clerk of the County Council, Truro.

KENT COUNTY COUNCIL. County Hospital, Dartford (344 beds). TEMPORARY RESIDENT MEDICAL OFFICER (A).—Applications are invited from suitably registered medical practitioners of either sex for the above appointment. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months. Otherwise it will be for a period not exceeding one year. The salary is £200 a year, plus a temporary war addition of £29 19s. 7d., with full residential emoluments. Superannuation can be arranged and the successful candidate will be required to pass a medical examination. Applications should state the names and addresses of two responsible persons to whom reference may be made as to professional ability, and should be addressed to the County Medical Officer, County Hall, Maidstone, so as to reach him by October 30, 1945.—W. L. Platts, Clerk of the County Council, County Hall, Maidstone.

EAST SUSSEX COUNTY COUNCIL. TEMPORARY ASSISTANT COUNTY MEDICAL OFFICER OF HEALTH.—Applications are invited for the post of whole-time temporary Assistant County Medical Officer from registered medical practitioners with experience in public health administration and possessing the Diploma of Public Health. The duties of the post will be mainly administrative in all branches of the Department. Commencing salary within the range of £700 to £900 per annum, rising by increments of £50, plus cost of living bonus (at present £59 16s. per annum). Travelling and subsistence allowances will be paid according to the County scale. The post will be subject to the Local Government Superannuation Act, 1937, and the successful candidate will be required to pass a satisfactory medical examination. The post is not one to replace a medical officer on war service and the approval of the Ministry of Health has been obtained to the making of the appointment. For the present, the Doctor selected for the post will not be free to apply for another appointment without obtaining permission to do so from the Ministry of Health.

Applications on a form to be obtained from the County Medical Officer of Health, County Hall, Lewes, accompanied by not more than three recent testimonials must be submitted to him not later than November 10, 1945.—H. S. Martin, Clerk of the County Council, County Hall, Lewes.

HERTFORDSHIRE COUNTY COUNCIL. The Lister Emergency Hospital, Hitchin, Herts (400 beds).—Applications are invited from registered medical practitioners for the following appointments:—

HOUSE PHYSICIAN (A) vacant November 3, 1945, and HOUSE SURGEON (A) vacant October 23, 1945. Salary at the rate of £150 per annum with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months.

HOUSE PHYSICIAN AND RESIDENTIAL ANAESTHETIST (B2) vacant November 3, 1945. Salary at the rate of £200 per annum with full residential emoluments. R practitioners holding A posts may apply. The appointment will be for a period of six months.

Applications should be sent immediately to Dr. P. J. W. Mills, Medical Superintendent.—P. Elton Longmore, Clerk of the County Council.

HEREFORDSHIRE COUNTY COUNCIL.—Applications are invited for a TEMPORARY WHOLE-TIME ASSISTANT MEDICAL OFFICER in the County Health Department. The duties will primarily consist of school medical examinations and maternity and child welfare work. Salary £600 by £25 to £700 per annum, plus wartime bonus, together with travelling allowance. Applicants (who should not be in a whole-time public health appointment) should apply at once to the County Medical Officer, County Offices, Hereford.

IPSWICH COUNTY BOROUGH COUNCIL. Borough General Hospital (normal beds 252).—Applications are invited from registered medical practitioners for the appointment of RESIDENT SURGICAL OFFICER (B1). Applicants should have held house appointments and had surgical experience. R practitioners holding B2 posts may apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £500 per annum, with full residential emoluments, and the appointment is subject to one month's notice on either side. Applications should be sent at once to the Medical Officer of Health, Elm Street, Ipswich.—A. Moffat, Town Clerk, Town Hall, Ipswich.

LANCASHIRE COUNTY COUNCIL. Public Health Committee. County Hospital, Whiston, Prescot, near Liverpool. RESIDENT MEDICAL OFFICERS (A).—Applications are invited from registered medical practitioners, male or female, for the above appointments, including practitioners within three months of qualification who are liable for service under the National Service Acts. If the successful applicants are liable under the National Service Acts the appointments will be for a period of six months, otherwise they may be extended for a further period of six months. Salary is at the rate of £120 per annum, together with full residential emoluments and a cost-of-living bonus. The persons appointed will be required to take up duty at an early date. Forms of application from the County Medical Officer of Health, County Offices, Preston, to whom all applications, accompanied by copies of not more than two recent testimonials, must be forwarded.—R. H. Adcock, Clerk of the County Council, County Offices, Preston.

SURREY COUNTY COUNCIL. Netherne Hospital, Coulsdon.—TEMPORARY ASSISTANT MEDICAL OFFICER (B1), male or female, required, £450 to £550 per annum, with full board and lodging, and an extra £50 for D.P.M. If married and living out the emoluments might be replaced by cash. Applicants must be prepared to interest themselves in active forms of psychiatric treatment though no previous experience is necessary. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 posts will be considered if rejected by the R.A.M.C. Apply to Medical Superintendent

IMPORTANT — All applicants should read the notice about qualifications required, etc., printed at the top of page 9

LANCASHIRE COUNTY COUNCIL. Biddulph Grange Orthopaedic Hospital.—Applications are invited from registered medical practitioners, male or female, for the appointment of RESIDENT JUNIOR HOUSE SURGEON (B2), now vacant, including R and W practitioners who now hold A posts. If held by a practitioner, male or female, who is liable under the National Service Acts, the appointment will be limited to six months, otherwise it will be for a period of twelve months. The salary is at the rate of £250 per annum, with full residential emoluments. Applications should be sent to Dr. F. Hall, School Medical and Child Welfare Department, County Offices, Preston, not later than November 3, 1945.—R. H. Adcock, Clerk of the County Council.

MIDDLESEX COUNTY COUNCIL.—JUNIOR ASSISTANT MEDICAL OFFICER (B2, resident) (male) required for medical duties at HILLINGDON COUNTY HOSPITAL, Nr. Uxbridge, Mx. Applications invited from registered medical practitioners including R practitioners who now hold A posts. Salary £250 p.a. plus war bonus (now £60 p.a., proportion only in cash). Board, lodging, and laundry. Whole-time duties such as Council may require under supervision of medical director. Appointment, subject to medical exam. and one month's notice, is for six months, with possibility of extension to twelve months (except R practitioners). Post vacant early November, 1945. Application to Medical Director of Hospital. Application forms not provided. Closing date October 27, 1945.—C. W. Radcliffe, Clerk of the County Council, Middlesex Guildhall, Westminster, S.W.1.

MIDDLESEX COUNTY COUNCIL.—CASUALTY OFFICER (B2, resident) (male) required at HILLINGDON COUNTY HOSPITAL, Nr. Uxbridge, Mx. Applications invited from registered medical practitioners, who have held house appointments and had good all-round experience (including R practitioners who now hold A posts). Salary £350 p.a., plus war bonus (now £60 p.a., proportion only in cash). Board, lodging, and laundry. Whole-time duties under medical director will include dealing with casualties and admissions to hospital and such other duties as may be required. Appointment, subject to medical exam. and one month's notice, is for six months, with possibility of extension to twelve months (except in case of R practitioners). Post vacant early November, 1945. Application to Medical Director of Hospital. Application forms not provided. Closing date October 27, 1945.—C. W. Radcliffe, Clerk of the County Council, Middlesex Guildhall, Westminster, S.W.1.

MIDDLESEX COUNTY COUNCIL.—CASUALTY OFFICER (B2, resident) required at CENTRAL MIDDLESEX COUNTY HOSPITAL, Park Royal, N.W.10. Applications invited from registered medical practitioners, who have held house appointments and had good all-round experience (including R and W practitioners now holding A posts). Salary £350 p.a., plus war bonus (now £60 p.a., proportion only in cash). Board, lodging, and laundry. Whole-time duties such as Council may direct under supervision of medical director. Appointment, subject to medical exam. and one month's notice, is for six months, with possibility of extension to 12 months (except in case of R practitioners). Post vacant December 1, 1945. Application to Medical Director of Hospital. Application forms not provided. Closing date October 27, 1945. —C. W. Radcliffe, Clerk of the County Council, Middlesex Guildhall, Westminster, S.W.1.

SURREY COUNTY COUNCIL. Public Health Department. St. Luke's Hospital, Guildford (500 beds).—Applications are invited from registered medical practitioners for the appointment of TEMPORARY ASSISTANT SURGEON (B1). Candidates must possess a higher surgical qualification, and must have had considerable experience of general surgery. Suitably qualified R and W practitioners now holding B2 posts are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. The salary is at the rate of £800 p.a., plus full residential emoluments or £125 p.a. in lieu. The appointment is temporary in the first instance, and is subject to one month's notice on either side, and any Local Government Superannuation rights will be preserved. At a later date the permanent appointment will be readvertised. Applications to the County Medical Officer, Kingston-upon-Thames, by October 24, 1945.

SURREY COUNTY COUNCIL. Kingston County Hospital, Wolverton Avenue, Kingston-upon-Thames (approx 400 beds). RESIDENT SURGICAL OFFICER (B1).—Applications are invited from registered medical practitioners, male and female, for the appointment of temporary Resident Surgical Officer (B1) to the above acute general hospital. Applicants should preferably possess a higher surgical qualification. Salary £550 per annum, plus war bonus, and full residential emoluments. Suitably qualified R and W practitioners now holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been already discharged from military service, or have been rejected by the R.A.M.C. The appointment is for a period not exceeding three years, and is subject to one month's notice on either side, but Local Government Superannuation rights will be preserved. Apply to the Medical Superintendent at the hospital by November 24, 1945.

STAFFORDSHIRE COUNTY COUNCIL. Public Health Department. TEMPORARY ASSISTANT MEDICAL OFFICER.—Applications are invited from medical men and women for the abovementioned temporary post, and preference will be given to those who have held residential hospital appointments and who have the Diploma of Public Health. Officers already occupying full-time public health appointments with local authorities are not eligible to apply, and, in any case, intending candidates must ascertain if they are free to take up this class of employment. The candidate appointed will work under the direction of the County Medical Officer, and the duties will include school medical and maternity and child welfare work. The salary will be at the rate of £600 per annum, rising by annual increments of £50, to £800 per annum, plus war bonus. The candidate appointed will be required to provide a motor car and will receive allowances according to the County Council scales. The appointment will be subject to three calendar months notice in writing on either side. Forms of application may be obtained from the undersigned, and should be returned, accompanied by copies of not more than three testimonials, by the first post on October 27, 1945.—T. H. Evans, Clerk of the County Council, County Buildings, Stafford.

SURREY COUNTY COUNCIL. St. Luke's Hospital, Guildford (450 beds). RESIDENT ASSISTANT MEDICAL OFFICER (B1).—Applications are invited from registered practitioners, male and female, for the appointment of Resident Assistant Medical Officer (B1). The post is temporary, and is subject to one month's notice on either side, but any Local Government Superannuation rights will be preserved. Suitably qualified R and W practitioners holding B2 appointments may apply. Applications from R practitioners holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Commencing salary according to experience at a point on the grade £350 by £25 to £450 per annum, plus full residential emoluments and war bonus. Applications to the Medical Superintendent by October 24, 1945.

ALBERT DOCK HOSPITAL, Alnwick Road, E.16. HOUSE OFFICER (A) including duties of CASUALTY OFFICER required as from November 1.—Applications are invited from registered British practitioners including practitioners within three months of qualification who are liable to service under the National Service Acts, 1939-41. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary at the rate of £150 per annum with full residential emoluments. Applications to be sent immediately to the undersigned.—F. A. Lyon, Administrator and Secretary, Seamen's Hospital Society, Greenwich, S.E.10.

AYRSHIRE CENTRAL HOSPITAL, Irvine. RESIDENT ANAESTHETIST (B1).—Applications are invited from female medical practitioners for the above appointment at the maternity section of the above hospital (84 beds). Suitable qualified W practitioners holding B2 or B1 appointments may apply, but they must have obtained the consent of the Scottish Central Medical War Committee to their application. The person appointed will work under the general supervision of the county obstetrician. Preference will be given to a candidate holding a diploma in anaesthetics. The salary is £400 by £25 to £600, with war bonus and full residential emoluments. The post is within the authorized establishment but the initial appointment will be on a temporary basis subject to review later. Applications stating former general experience and experience in anaesthetics should be made not later than November 3 to the County Clerk, County Buildings, Ayr.

ALTRINCHAM GENERAL HOSPITAL, near Manchester (100 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (A). Salary at the rate of £150 p.a., with full residential emoluments. The appointment will be for a period of six months. Practitioners within three months of qualification and liable under the National Service Acts may apply. Address applications to the General Superintendent.

BURY INFIRMARY, Lancs. (159 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE PHYSICIAN (A)—which post will become vacant about the beginning of November—including practitioners within three months of qualification who are liable for service under the National Service Acts The post also includes Gynaecology and Obstetrics If held by a practitioner who is liable under the National Service Acts, the appointment will be for six months; otherwise renewable. Salary is at the rate of £200 per annum, with full residential emoluments. Applications to the undersigned immediately H. Wilkinson, Superintendent.

BATTERSEA GENERAL HOSPITAL, Battersea Park, S.W.11. HOUSE PHYSICIAN (A).—Applications are invited from registered medical practitioners, male or female, for the above appointment, including practitioners within three months of qualification who are liable to service under the National Service Acts. The appointment is for six months. The salary is at the rate of £140 per annum with full residential emoluments. Applications should be sent to the Secretary of the Hospital immediately.

BOLTON ROYAL INFIRMARY, Lancashire (270 beds). Resident medical staff, 6.—Applications are invited from registered medical practitioners for the appointment of ASSISTANT RESIDENT SURGICAL OFFICER (B1). Experience in surgery and house appointments essential. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they are not eligible for service in H M. Forces. Commencing salary £275 per annum, with full residential emoluments. In the first place the appointment will be for one year. Applications to be forwarded to the undersigned.—Joseph Griffith, Superintendent Secretary.

BURTON-ON-TRENT GENERAL INFIRMARY (200 beds normal).—Applications are invited from registered medical practitioners for the appointment of CASUALTY OFFICER AND HOUSE SURGEON (A). Salary at the rate of £200, with the usual residential emoluments Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months. Applications to be sent to the Secretary-Superintendent.

BOSTON GENERAL HOSPITAL, Boston, Lincs. HONORARY EAR, NOSE AND THROAT SURGEON.—The Committee invite applications for this appointment from candidates prepared to engage only in consulting ear, nose and throat practice. The appointment will not be filled for four months from the date of this advertisement to enable officers serving abroad to apply. Further particulars may be obtained from the undersigned to whom applications should be addressed —B. Haines, Secretary.

BOLTON ROYAL INFIRMARY (270 beds—Resident Medical Staff, 6)—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A), vacant now, including practitioners within three months of qualification who are liable to service under the National Service Acts If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary £175 per annum, with full residential emoluments. Applications to be forwarded to the undersigned.—Joseph Griffith, Superintendent-Secretary.

BIRMINGHAM ACCIDENT HOSPITAL AND REHABILITATION CENTRE. HOUSE SURGEON (B2).—Applications are invited from registered medical practitioners, male and female, for the appointment of House Surgeon (B2) to become vacant on November 1, 1945, including R practitioners who now hold A posts. The appointment will be for six months. The salary is at the rate of £200 per annum, with full residential emoluments.—A. A. MacIver, Secretary.

THE BURSLEM HAYWOOD AND TUNSTALL WAR MEMORIAL HOSPITAL, High Lane, Tunstall, Stoke-on-Trent.—Applications are invited from registered medical practitioners, male and female (including R practitioners who now hold A posts) for the post of HOUSE SURGEON (B2). If held by an R practitioner the appointment will be limited to six months. Salary is at the rate of £225 per annum, with full residential emoluments. Applications should be forwarded as soon as possible to C. E. Lowndes, Secretary.

BRISTOL ROYAL HOSPITAL. Incorporating the Bristol Royal Infirmary and Bristol General Hospital. —CASUALTY OFFICER (A) required to commence work immediately at the General Hospital branch, for the period expiring February 28, 1946. Salary at the rate of £140 per annum, with full residential emoluments. Practitioners within three months of qualification, and liable under the National Service Acts, may apply. Applications to be sent to Ellis C. Smith, F.C.I.S., Secretary and House Governor, Bristol Royal Infirmary Branch.

BEXHILL HOSPITAL, Bexhill-on-Sea (72 beds)—Applications are invited from registered medical practitioners, male or female, for the appointment of a HOUSE SURGEON (A), including practitioners within three months of qualification and liable under the National Service Acts, when appointment will be for a period of six months. Salary is at the rate of £250 per annum, with full residential emoluments. Applications to be addressed to the Secretary.

BRISTOL EYE HOSPITAL.—Applications are invited from registered medical practitioners, male and female, for the post of RESIDENT JUNIOR OPHTHALMIC HOUSE SURGEON (B2) vacant November 1, including R and W practitioners who now hold A posts. If held by an R practitioner, the appointment will be limited to six months. The salary is at the rate of £150-£175 per annum, according to experience of applicant, with full residential emoluments. Applications should be sent to the undersigned as soon as possible.—D. M. Baber, Secretary and House Governor.

BOSTON GENERAL HOSPITAL, Lincolnshire.—Applications are invited from registered medical practitioners, male or female, for the appointment of RESIDENT MEDICAL OFFICER (B2). R and W Practitioners who now hold A posts may apply, when appointment will be limited to six months. Salary at the rate of £250 per annum with full residential emoluments. Applications should be sent to the undersigned at once.—B. Haines, Sec.

IMPORTANT — All applicants should read the notice about qualifications required, etc., printed at the top of page 9

BIRMINGHAM MATERNITY HOSPITAL (associated with University of Birmingham). RESIDENT SURGICAL OFFICER.—Applications are invited from registered medical practitioners for the appointment of Resident Surgical Officer (B1), to become vacant on January 1, 1946. The post is recognized for the examinations of the Royal College of Obstetricians and Gynaeclogists. Applicants should have held house appointments and had surgical experience, preferably in obstetrics. Suitably qualified R practitioners holding B2 appointments may apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary at the rate of £200 per annum, with full residential emoluments. Applications should be sent to the undersigned as soon as possible.—Bernard Sylvester, House Governor, Loveday Street, Birmingham, 4.

BOLTON ROYAL INFIRMARY (270 beds). Resident medical staff, 6.—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE PHYSICIAN (B2), including R and W practitioners who now hold A posts. If held by an R practitioner, appointment will be limited to six months. Salary £200 per annum, with full residential emoluments. Applications to be forwarded to the undersigned.—Joseph Griffith, Superintendent Secretary.

CUMBERLAND INFIRMARY, Carlisle.—Applications are invited from registered medical practitioners, including practitioners within three months of qualification who are liable to service under the National Service Acts, for the post of HOUSE SURGEON (A), vacant now. The appointment will be for a period of six months. Salary is at the rate of £160 per annum with board, etc. Applications should be sent to the Secretary-Superintendent immediately.

COUNTY MENTAL HOSPITAL, Rainhill, Near Liverpool.—TEMPORARY RESIDENT ASSISTANT MEDICAL OFFICER (B1), male or female, required immediately. Salary eight to ten guineas per week according to experience, with board, lodging, and laundry. An additional £50 per annum is payable if in possession of the D.P.M. Suitably qualified R and W practitioners holding B2 posts, also those holding B1 posts and rejected by the R.A.M.C. may apply. Applications to the Medical Superintendent, County Mental Hospital, Rainhill, Nr. Liverpool.

CITY MENTAL HOSPITAL, Humberstone.—Applications are invited for the post of a TEMPORARY ASSISTANT MEDICAL OFFICER (B1), male or female. Salary, if single, £450 to £550 per annum depending upon psychiatric experience, together with board, lodging, washing and attendance, valued at £100. If married, the salary will be £550 to £650 per annum depending upon psychiatric experience, together with a partly furnished flat, further particulars of which will be given on application. An additional £50 will be paid for the possession of the D.P.M. A cost of living bonus, at present £59 16s. per annum is also payable. Suitably qualified R and W practitioners holding B2 appointments, also R practitioners now holding B1 and rejected by the R.A.M.C. may apply. Applications, with names of three referees, should be submitted to the Medical Superintendent immediately.

CHESTER ROYAL INFIRMARY (225 beds normal).—Applications are invited from registered medical practitioners, male and female, for the following appointment:—HOUSE PHYSICIAN (A), including R practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, or otherwise, the appointment will be for a period of six months. Salary is at the rate of £175 per annum with full residential emoluments. Applications should be sent to the Secretary.

CITY GENERAL HOSPITAL, Gloucester (450 beds). (There is a Fracture A Department Plastic and Facio-maxillary Surgery Department, general, medical and surgical work, etc., at this hospital). A post will become vacant on November 2 for a JUNIOR MEDICAL OFFICER (B2).—Applications from male and female registered practitioners are invited, including R and W practitioners who now hold A posts. If held by an R practitioner, appointment will be limited to six months, otherwise it will not exceed one year. Salary £350, with full residential emoluments. Applicants must have had six months' postgraduate at the time of taking up the appointment. Previous experience in fracture work would be an advantage though not essential. Applications, stating when duties could be taken up, should be sent to the Medical Superintendent, City General Hospital, Gloucester.

CAMBORNE-REDRUTH MINERS' AND GENERAL HOSPITAL.—Applications are invited for the appointment of a full-time RADIOTHERAPIST to take charge of the Therapy Department at the above hospital, which is included as a unit for treatment of cancer in a draft regional service. Salary £750 to £1,000. Full particulars may be obtained from the undersigned. Applications from service candidates are specially invited and it is not proposed to make an appointment before February 16, 1946, in order that they may receive full consideration.—J. C. Field, Secretary-Superintendent.

CARDIFF CITY MENTAL HOSPITAL, Whitchurch, Cardiff.—Applications are invited from registered medical practitioners, male or female, for the appointment of a HOUSE PHYSICIAN (B2), including R and W practitioners who now hold A posts. If held by an R or W practitioner, the appointment will be limited to six months. Otherwise, it will be limited to a period of one year. The hospital is an acute psychiatric hospital of 200 beds dealing only with recent admissions and considerable psychiatric in-patient and out-patient experience can be gained. Salary is at the rate of £200 per annum, with full residential emoluments. Applications to the Medical Superintendent.

CHRISTIE HOSPITAL AND HOLT RADIUM INSTITUTE, Withington, Manchester, 20. RESIDENT RADIOLOGICAL OFFICER (B2).—Applications are invited from registered medical practitioners, male or female, for appointment as Resident Radiological Officer (B2) including R practitioners holding A posts. The appointment is for six months. Salary at the rate of £200 per annum. The position will enable the holder of the post to acquire specialized knowledge in deep X-ray therapy and radium treatment. Applications should be sent to the undersigned immediately.—R. G. Heppell, General Superintendent.

CHELTENHAM GENERAL AND EYE HOSPITALS (167 beds). Recognized for the F.R.C.S., D.L.O., and D.O.M.S. examinations.—The Board of Management invites applications from registered medical practitioners, including practitioners within three months of qualification who are liable to service under the National Service Act, for the post of HOUSE SURGEON (A) at the General Hospital, now vacant. If held by a practitioner under these Acts, appointment will be for a period of six months. Salary £150 p.a., with board, lodging, and laundry. Applications to be sent in sealed envelopes marked "House Surgeon" to the undersigned as soon as possible.—J. Cumming Smith, F.C.I.S., F.H.A., Secretary, The General Hospital, Cheltenham.

DREADNOUGHT SEAMEN'S HOSPITAL, Greenwich, S.E.10. HOUSE OFFICER (A) including duties of CASUALTY OFFICER.—Applications are invited for vacancy on November 1 from registered British practitioners, including those within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary £150 p.a., with full residential emoluments. Applications to be sent immediately to the undersigned. —F. A. Lyon, Administrator and Secretary.

DREADNOUGHT SEAMEN'S HOSPITAL, Greenwich, S.E.10.—Applications are invited from male registered practitioners for the appointment of HOUSE PHYSICIAN (B2) falling vacant on November 1, including R practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months. Salary at £200 p.a., with full residential emoluments. Applications to be sent to the undersigned.—F. A. Lyon, Administrator and Secretary.

DISTRICT INFIRMARY, ASHTON-UNDER-LYNE (200 beds, mainly surgical).—Applications are invited from registered medical practitioners, male or female, for the appointment of CASUALTY OFFICER AND ORTHOPAEDIC HOUSE SURGEON (B2). Salary at the rate of £250, plus war bonus at the rate of £50 per annum, with full residential emoluments. R practitioners who now hold A posts may apply, when the appointment will be limited to six months.

Applications are also invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (A) immediately. Salary is at the rate of £200, plus war bonus at the rate of £50 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when the appointment will be for a period of six months.

Applications should be sent immediately to Frank Oliver, General Superintendent and Secretary.

THE EAST END MATERNITY HOSPITAL.—Applications are invited for the appointment of a RESIDENT MEDICAL OFFICER (B2) for the East End Maternity Hospital, at present evacuated to Tyringham House, Bucks, but very shortly returning to London. The appointment is for six months from the middle of November. R practitioners holding A posts are invited to apply. Salary £350 p.a. Applications to Secretary, E.E.M.H., 396, Commercial Road, E.1.

HULL ROYAL INFIRMARY.—Applications are invited for the following posts: SECOND HOUSE SURGEON (B2) (recognized for F.R.C.S.) and ORTHOPAEDIC HOUSE SURGEON (B2). Two posts; vacant now. Suitably qualified R and W practitioners who now hold A posts may apply. If held by R and W practitioners the appointments will be limited to six months.

CASUALTY OFFICER (A) vacant November. Practitioners within three months of qualification who are liable to service under the National Service Act may apply when appointment will be for a period of six months. Salary for each of the above three posts £200 per annum with full residential emoluments. Applications to R. J. Carless, House Governor.

EAST SUFFOLK AND IPSWICH HOSPITAL. OPHTHALMIC SURGEON.—The Board of Management invites applications for the appointment on its visiting medical staff of an Ophthalmic Surgeon. Each candidate must be a registered medical practitioner and a Fellow of a Royal College of Surgeons and have special experience in Ophthalmology. To permit candidates in H.M. Forces serving abroad being considered the latest date for the return of applications is March 1, 1946. If the selected candidate is subject to any restriction on the transfer of his services from essential National Service, he will not be required to take up his new appointment until the restriction is removed. Applications to be made on form to be supplied and to be accompanied by not more than three testimonials.—Arthur Griffiths, Secretary, the Hospital, Ipswich.

EAST SUFFOLK AND IPSWICH HOSPITAL, Ipswich (400 beds).—Applications are invited from registered medical practitioners for the following posts: HOUSE SURGEON (B2) to the Orthopaedic and Fracture Dept., vacant November 6, 1945; HOUSE PHYSICIAN (B2) vacant November 13, 1945; R practitioners now holding A posts may apply for the above. HOUSE SURGEON (A) to a General Surgeon, vacant now; HOUSE SURGEON (A) to a General Surgeon, vacant November 24, 1945; HOUSE SURGEON (A) to the Gynaecological and Obstetrical Dept., vacant December 7, 1945; practitioners liable to military service and within three months of qualification may apply for the above. Appointments will be for six months. Salary for each is at rate of £175 per annum with full residential emoluments. Arthur Griffiths, Secretary, The Hospital, Ipswich.

EYE, EAR, AND THROAT HOSPITAL FOR SHROPSHIRE AND WALES, Shrewsbury.—Applications are invited from registered medical practitioners of either sex for the post of OPHTHALMIC HOUSE SURGEON (B2), now vacant. Suitably qualified R and W practitioners who now hold A posts may apply, when the appointment will be limited to six months. Salary £275 per annum, with full residential emoluments. Applications should be sent to the undersigned.—C. S. Asbury, Secretary, 7, The Square, Shrewsbury.

FINCHLEY MEMORIAL HOSPITAL, Granville Road, London, N.12 (84 beds).—Applications are invited from registered medical practitioners, male and female, including R and W practitioners who now hold A posts, for the appointment of RESIDENT MEDICAL OFFICER (B2), vacant November 1, 1945. If held by an R or W practitioner, the appointment will be limited to six months. Salary £200 per annum, with full residential emoluments. Applications should be sent to the undersigned immediately.—T. E. Jarvis, House Governor and Secretary.

THE GENERAL INFIRMARY AT LEEDS. Castleford, Normanton and District Branch Hospital.—Applications are invited for the appointment of RESIDENT SURGICAL OFFICER (B2). Salary £100 per annum. R and W practitioners holding A posts may apply. If held by an R practitioner the appointment will be limited to six months. Applications to be received as soon as possible, and addressed to the House Governor, The General Infirmary at Leeds.

GRIMSBY AND DISTRICT GENERAL HOSPITAL (237 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of RESIDENT CASUALTY OFFICER AND HOUSE SURGEON (A), now vacant. Appointment is for six months, salary is at the rate of £175 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply. Applications to the Superintendent.

GENERAL INFIRMARY AT LEEDS.—Applications are invited from registered medical practitioners for the post of ASSISTANT MEDICAL OFFICER (B1), female, to the V.D. Department. The appointment is a whole-time one and will be for a period of one year, with eligibility for re-election. The commencing salary will be from £500 to £700 per annum, according to experience. Applicants must be ineligible for military service. Applications should be received by the undersigned not later than October 31, 1945.—S. Clayton Fryers, House Governor and Secretary.

HOUNSLOW HOSPITAL, Middlx. (97 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE PHYSICIAN AND CASUALTY OFFICER (A), vacant November 5, including practitioners within three months of qualification who are liable for service under the National Service Acts. If held by a practitioner who is liable for war service the appointment will be for six months, otherwise renewable. Salary £150 p.a., with full residential emoluments. Applications to the Secretary immediately.

HUDDERSFIELD ROYAL INFIRMARY (321 beds).—CASUALTY OFFICER (B2) required, to commence immediately. R and W practitioners who now hold A posts may apply. If held by an R or W practitioner appointment will be limited to six months. Salary at the rate of £200, with full residential emoluments. Applications to be sent to the undersigned as soon as possible.—H. J. Johnson, General Superintendent and Secretary.

(1st INSERTION.)

HAMPSTEAD GENERAL HOSPITAL, The Green, N.W.3.—The Council of Management invites applications for the following appointments to the Honorary Staff rendered vacant by the operation of the Retirement Rule:—

HONORARY DERMATOLOGIST. Candidates must be Fellows or Members of the Royal College of Physicians London, engaged in consulting dermatological practice. There is an allotment of beds for in-patient work and attendance will be required at one out-patient clinic each week.

DENTAL SURGEON TO IN-PATIENTS. Candidates must be Licentiates in Dental Surgery registered in the United Kingdom, will be required to attend In-Patients twice weekly, and at such other times as may be necessary. There is an honorarium payable of £60 per annum.

Practitioners now serving in H.M. Forces may apply. Applications with the names of three easily accessible referees to reach the undersigned by February 28, 1946.—By order of the Council of Management, Kenneth A. F. Miles, House Governor.

HUDDERSFIELD ROYAL INFIRMARY (321 beds).—Applications are invited for the post of RESIDENT SURGICAL OFFICER (B1). Applicants should have held house appointments, and preference will be given to candidates holding diploma of F.R.C.S.. Salary at the rate of £350 per annum, with full residential emoluments. Suitably qualified R and W practitioners holding B2 appointments, and also R practitioners holding B1 appointments and rejected by the R.A.M.C., may apply. Applications to be sent to the undersigned as soon as possible.—H. J. Johnson, General Superintendent and Secretary.

HEREFORDSHIRE GENERAL HOSPITAL, Hereford (204 beds).—Applications are invited from registered medical practitioners, male, including practitioners within three months of qualification and liable under the National Service Acts, for the appointment of JUNIOR HOUSE SURGEON (A), including House Surgeon to Ear, Nose, and Throat Department. The appointment will be limited to six months. Salary is at the rate of £150 per annum, with residential emoluments. Applications should be sent to T. W. Upton, Secretary.

HUNTINGDON COUNTY HOSPITAL (76 beds). Wanted immediately, HOUSE SURGEON (A), male or female, salary £250 p.a., with board, lodging, and laundry. Practitioners within three months of qualification may apply, when appointment will be for a period of six months. Apply to Medical Superintendent.

JESSOP HOSPITAL FOR WOMEN, Sheffield.—Applications are invited from registered medical practitioners, male and female, for the appointment of a GYNAECOLOGICAL HOUSE SURGEON (B2), vacant immediately. Salary at the rate of £100 per annum, with full residential emoluments. R and W practitioners holding A posts may also apply, when appointment will be limited to six months. Membership of a Medical Defence Society is a condition of appointment. Applications should be sent to David Oswald, Superintendent and Secretary.

JENNY LIND HOSPITAL FOR CHILDREN, Norwich.—Applications are invited from registered medical practitioners, male or female, for the appointment of RESIDENT MEDICAL OFFICER (B2). The salary is at the rate of £200 per annum, with full residential emoluments. R practitioners who now hold A posts may apply, when appointment will be limited to six months. Applications should be sent as soon as possible to Frank Inch, Secretary.

KING EDWARD MEMORIAL HOSPITAL, Ealing.—Applications are invited from registered medical practitioners for the appointment of RESIDENT SURGICAL OFFICER (B1), vacant now. Applicants should have held house appointments and had surgical experience, preference will be given to candidates holding diploma of F.R.C.S. Salary at the rate of £350 per annum, with full residential emoluments. Suitably qualified R and W practitioners holding B2 appointments, also R practitioners holding B1 appointments and rejected by the R.A.M.C., may apply. Applications should be sent to the undersigned immediately.—R. A. Mickelwright, House Governor.

KING EDWARD MEMORIAL HOSPITAL, Ealing.—Applications are invited from registered medical practitioners, including practitioners within three months of qualification and liable under the National Service Acts, for the appointment of RESIDENT ANAESTHETIST AND HOUSE SURGEON (Gynaecological) (A), vacant November 8, 1945. Six months' appointment. Salary at the rate of £150 per annum, with full residential emoluments. Applications should be sent to the undersigned immediately.—R. A. Mickelwright, House Governor.

THE KIDDERMINSTER AND DISTRICT GENERAL HOSPITAL.—Applications are invited from registered medical practitioners, male and female, for the following appointment: SENIOR HOUSE SURGEON (B2). R and W practitioners now holding A posts may apply, when appointment will be limited to six months. Salary from £200 per annum according to experience. Applications should be sent to the undersigned immediately.—C. M. Smith, House Governor and Secretary.

KING EDWARD VII HOSPITAL, Windsor.—Applications are invited from registered medical practitioners for the appointment of RESIDENT SURGICAL OFFICER (B1), to become vacant January 1, 1946. Applicants should have held house appointments and had surgical experience. Preference will be given to candidates holding the diploma of F.R.C.S. Suitably qualified R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary is according to E.M.S. scale. Applications to be sent to the Secretary by October 31, 1945.—George Weston, Secretary.

KING EDWARD VII HOSPITAL, Windsor. HONORARY ANAESTHETIST.—Applications are invited for the vacant post of Honorary Anaesthetist. The appointment will be temporary under the rule that all new appointments to vacancies on the Honorary Medical Staff will be reconsidered twelve months after the end of the war. Applicants must be registered medical practitioners and applications made in writing to the Secretary not later than October 31, 1945.—George Weston, Secretary.

KENT COUNTY OPHTHALMIC AND AURAL HOSPITAL, Maidstone (158 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (B1) to the Ear, Nose, and Throat Department, vacant November 19, 1945. Applicants should have held house appointments and had experience in this speciality. The hospital is fully recognized by the Examining Board for the D.L.O. Salary is at the rate of £350 p.a., with full residential emoluments. Suitably qualified R and W practitioners holding B2 appointments, also R practitioners holding B1 and rejected by the R.A.M.C. may apply. Applications should be sent immediately to John W. Strickland, F.H.A., Secretary.

LONGTON HOSPITAL, Stoke-on-Trent, Staffs. HOUSE SURGEON (A).—Applications are invited from registered medical practitioners, male and female, for the appointment of House Surgeon (A), including practitioners within three months of qualification who are liable under the National Service Acts. If held by a practitioner who is liable under these Acts the appointment will be for a period of six months. Salary is at the rate of £200 per annum, plus bonus of £75 on completion of the first six months' service, with full residential emoluments. Applications to B. Pitt Secretary.

LEEDS PUBLIC DISPENSARY AND HOSPITAL.—Applications are invited from registered medical practitioners for the appointment of HOUSE SURGEON (A), mainly Casualty duties. Appointment for six months. Salary at the rate of £150 p.a., with board, residence, and laundry. Practitioners within three months of qualification and liable under the National Service Acts may also apply. Applications to be addressed to Charles F. J. Maury, Secretary and Superintendent.

LINCOLN COUNTY HOSPITAL (Voluntary Hospital, 200 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (A), vacant end of October, 1945. Salary is at the rate of £225 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when the appointment will be for six months.—Arthur Moore, Secretary-Superintendent.

MILLER GENERAL HOSPITAL, Greenwich High Road, S.E.10.—Applications are invited from registered medical practitioners for the appointment of CASUALTY OFFICER (non-resident) (B1). Vacancy on November 15 next. Suitably qualified R practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C Salary is at the rate of £350 plus £100 per annum board allowance Applications must reach the Secretary not later than October 24 1945.

METROPOLITAN HOSPITAL, Kingsland Road, London, E.8.—Applications are invited from registered medical practitioners, male, including practitioners within three months of qualification who are liable to service under the National Service Acts, for the appointment of HOUSE SURGEON (A). Salary at the rate of £150 per annum, with full residential emoluments. Appointment will be for a period of six months. Vacant November 1.

Applications are also invited from registered medical practitioners, male, for the appointment of HOUSE PHYSICIAN (B2). Salary at the rate of £175 per annum, with full residential emoluments. Vacant November 5. R practitioners who now hold A posts may apply. If held by an R practitioner the appointment will be limited to six months.

Applications are also invited from registered medical practitioners, male, for the appointment of HOUSE PHYSICIAN (A) including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts appointment will be for a period of six months. Salary at the rate of £150 per annum, with full residential emoluments. Vacant November 5.

Applications for each post should be addressed to House Governor and Secretary.

MEMORIAL HOSPITAL, Shooters Hill, London, S.E.18. General Hospital (137 beds).—Applications are invited for the following appointments:

(a) HOUSE SURGEON (B2); salary at the rate of £200 p.a. with full residential emoluments R practitioners who now hold A posts are invited to apply.

(b) HOUSE PHYSICIAN (A) who will be required to also assist in the Casualty Department. Salary at the rate of £175 p.a., with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply.

Both appointments will be for six months and applications should be submitted as soon as possible addressed to the House Governor.

NORTHUMBERLAND COUNTY COUNCIL. Mona Taylor Maternity Hospital, Stannington (20 beds).—Applications are invited from registered medical practitioners for the post of RESIDENT OBSTETRIC OFFICER (B2). The officer appointed may be required to undertake attendance at a Child Welfare Centre and Ante-natal Clinic in addition to hospital duties. Salary is at the rate of £400 per annum, plus war bonus, board, lodging, and laundry. The appointment is subject to medical examination. R and W practitioners who now hold A posts may apply, and in the case of R practitioners the appointment will be limited to six months; otherwise one year. Applications should be submitted as soon as possible to the undersigned, from whom further particulars may be obtained — John B. Tilley, County Medical Officer, County Hall, Newcastle-upon-Tyne, 1.

NOTTINGHAM CHILDREN'S HOSPITAL.—Applications are invited from registered medical practitioners for the appointment of RESIDENT HOUSE SURGEON (B1), woman, to become vacant on December 1, 1945. Applicants should have held house appointments and suitably qualified W practitioners holding B2 appointments are invited to apply. Salary is at the rate of £220 per annum with apartments, board, and laundry, and the appointment is for six months Applications to be sent to the Honorary Secretary, 1, King John's Chambers, Nottingham, on or before October 23, 1945. Selected candidates will be required to attend at the hospital for a personal interview

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NATIONAL SANATORIUM, Benenden, Kent (156 beds).—Applications are invited from registered medical practitioners, male and female, including practitioners within three months of qualification who are liable to service under the National Service Acts for the appointment of a HOUSE PHYSICIAN (A) for the above sanatorium. Duties to commence as soon as possible. The appointment will be for a period of six months. Salary at the rate of £200 per annum with full residential emoluments Applications to be sent to the Honorary Secretary.

NEW SUSSEX HOSPITAL FOR WOMEN, Windlesham Road, Brighton.—Applications are invited from registered medical practitioners, female, including W practitioners who now hold A posts, for the appointment of a HOUSE SURGEON (B2), to become vacant in the middle of October. The appointment is for a period of six months Salary at the rate of £150 per annum, with full residential emoluments. Applications should be sent to the undersigned.—Percy F. Spooner, Secretary

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NELSON HOSPITAL, Kingston Road, Merton, S.W.20.—Applications are invited from registered medical practitioners, male, for the appointment of RESIDENT ANAESTHETIST AND CASUALTY OFFICER (B2), vacant now. Salary at the rate of £250 per annum, with full residential emoluments. R practitioners holding A posts may apply, when appointment will be limited to six months: otherwise may be extended.

Applications are also invited from registered medical practitioners for the appointment of a HOUSE SURGEON (A), becoming vacant on November 1, 1945. Salary is at the rate of £200 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when appointment will be for a period of six months; otherwise it will be for a period six months in the first instance.

Apply to the Secretary.

NOTTINGHAM GENERAL HOSPITAL (712 beds, including E.M.S. beds).—Applications are invited from registered medical practitioners, male and female, including practitioners within three months of qualification who are liable to service under the National Service Acts, for the appointment of a RESIDENT CASUALTY OFFICER (A) for the above hospital. Duties to commence immediately. If held by a practitioner who is liable under these Acts appointment will be for a period of six months. Salary at the rate of £200 per annum, with full residential emoluments. Applications to be sent to the undersigned.—Henry M. Stanley, House Governor and Secretary.

NORTH CAMBRIDGESHIRE HOSPITAL, Wisbech.—Applications are invited from registered medical practitioners, including practitioners within three months of qualification who are liable to service under the National Service Acts, for appointment of HOUSE SURGEON (A), now vacant. Appointments will be for a period of six months Salary £200 to £250, with full residential emoluments. Applications to the Secretary.

IMPORTANT — All applicants should read the notice about qualifications required, etc., printed at the top of page 9

NATIONAL TEMPERANCE HOSPITAL, Hampstead Road, N.W.1.—Applications are invited for the following posts:—

MEDICAL REGISTRAR (Part-time appointment). Preference will be given to candidates who are members of the Royal College of Physicians of London.

SURGICAL REGISTRAR (Part-time appointment). Preference will be given to candidates who are Fellows of the Royal College of Surgeons.

The appointments are for a period of six months in the first instance, commencing November 15, at a salary of £100 per annum. Applications to be forwarded to the Secretary not later than October 31.

NATIONAL DENTAL HOSPITAL (Dental Department of University College Hospital).—Applications are invited for the appointment of MEDICAL SUPERINTENDENT. Applicants must possess a medical and dental qualification, and will be required to devote every morning to the appointment. Salary will be according to qualifications and experience, but not less than £350 per annum. The appointment will be temporary in the first instance. Applications should be forwarded to the Secretary, University College Hospital, Gower Street, W.C.1, immediately.

NEW SUSSEX HOSPITAL FOR WOMEN, Windlesham Road, Brighton.—Applications are invited from registered medical women, possessing the necessary higher qualification, for the post of HONORARY ASSISTANT PHYSICIAN. Applications from candidates at present serving in the Forces are invited. Applications should be sent to Mr. P. F. Spooner, Secretary, not later than February 16, 1946.

PONTEFRACT GENERAL INFIRMARY and THE HYDES HOSPITAL (112 beds).—Applications are invited from registered medical practitioners, male, for the appointment of a HOUSE SURGEON (A), to become vacant immediately, including practitioners within three months of qualification who are liable to service under the National Service Acts, when appointment will be for a period of six months. Salary £150 per annum, with full residential emoluments. Applications should be sent to the undersigned.—D J. Richards, Secretary-Superintendent.

PUTNEY HOSPITAL.—Applications are invited from registered medical practitioners, male, for the appointment of RESIDENT MEDICAL OFFICER (A), vacant November 1, 1945. The appointment will be for a period of six months. Salary is at the rate of £120 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply. Apply to the Secretary, Putney Hospital, S.W.15.

PRINCESS BEATRICE HOSPITAL, Earl's Court, S.W.5 (General hospital, 88 beds). HOUSE PHYSICIAN (A).—Applications are invited from registered medical practitioners, male and female, for the appointment of a House Physician (A), to become vacant on Saturday, December 1, 1945, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner liable under these Acts, appointment will be for a period of six months. Salary is at the rate of £130 per annum, with full residential emoluments. Applications should be sent to the Acting House Governor not later than October 26, 1945.

QUEEN ELIZABETH HOSPITAL FOR CHILDREN, Hackney Road, E.2. HOUSE SURGEON/CASUALTY OFFICER (B2).—Applications are invited from registered medical practitioners, male and female, for the above appointment, to become vacant on December 1, 1945, including R and W practitioners now holding A posts. Appointment will be for six months. Salary at rate of £150 per annum, with full residential emoluments. Application forms may be obtained from the undersigned and should be returned with copies of not more than three testimonials on or before November 5, 1945.—Charles H. Bessell, General Secretary.

ROYAL LANCASTER INFIRMARY, Lancaster (311 beds). Hospital recognized by the Royal College of Surgeons (England) for two senior posts.—Applications are invited from registered medical practitioners, male and female, for the post of JUNIOR HOUSE SURGEON (A), vacant now. The salary is at the rate of £170 per annum, with full residential emoluments. Practitioners within three months of qualification who are liable to service under the National Service Acts may apply. The appointment will be limited to six months. Applications should be sent to the undersigned.—C. H. Grimshaw, Superintendent-Secretary.

ROYAL SALOP INFIRMARY, Shrewsbury. HOUSE PHYSICIAN (A).—Applications are invited from registered medical practitioners, male and female, for the appointment of House Physician (A), to become vacant on October 31, 1945, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Otherwise, it will be for a period of six months. Salary is at the rate of £160 per annum, with full residential emoluments.—J. P. Mallett, Secretary-Superintendent.

ROYAL SHEFFIELD INFIRMARY AND HOSPITAL.—Applications are invited from registered medical practitioners, male or female, including medical officers recently demobilized from H.M. Forces, for the following B1 appointments at the Royal Infirmary Unit:

RESIDENT CASUALTY OFFICER. Salary £150 per annum.

TWO SURGICAL CLINICAL ASSISTANTS.

MEDICAL CLINICAL ASSISTANT (salary for the above posts will be at the rate of £450 per annum, non-resident, or £350 per annum resident).

Also FIRST ASSISTANT to the Ophthalmic Department, salary at the rate of £650 per annum, non-resident. Applicants should have held house appointments and had surgical, medical or ophthalmic experience. Suitably qualified R and W practitioners holding B2 appointments and also R practitioners holding B1 appointments who have been rejected by the R.A.M.C. are invited to apply.

Applications to be forwarded immediately to the undersigned.—Percy N. Glass, General Superintendent, Royal Infirmary, Sheffield, 6.

ROYAL NORTHERN HOSPITAL, Holloway, N.7.—Applications are invited from registered medical practitioners for the following appointments:

(1) OBSTETRIC HOUSE SURGEON (B1), to become vacant on November 12, 1945, for a period of six months. Applicants should have held house appointments. Salary with fees approximately £350 per annum, with board, residence, and laundry. Suitably qualified R practitioners now holding B2 appointments and those now holding B1 and rejected by the R.A.M.C. may apply.

(2) CASUALTY OFFICER, (B2) to become vacant on November 5, 1945, for a period of six months. R practitioners who now hold A posts may apply. Salary and emoluments approximately £130 per annum, with board, residence, and laundry.

(3) HOUSE SURGEON AND CASUALTY OFFICER (A) to became vacant on November 17, 1945, for a period of six months. Practitioners within three months of qualification and liable under the National Service Acts may apply. Salary and emoluments approximately £120 per annum, with board, residence, and laundry.

Applications should be sent to the undersigned not later than October 26, 1945.—Gilbert G. Panter, Secretary.

ROYAL HOSPITAL, Wolverhampton (Incorporated under Royal Charter).—Applications are invited from registered medical practitioners for the appointment of a HOUSE SURGEON (A), vacant immediately, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, the appointment will be for a period of six months. Salary is at the rate of £100 per annum, with full residential emoluments.—W. Cockburn, House Governor.

ROYAL EYE AND EAR HOSPITAL, Bradford (100 beds).—Applications are invited for the post of HOUSE SURGEON (B2), male or female, to commence immediately, including R practitioners who now hold A posts. If held by an R practitioner, the appointment will be for six months; otherwise it may be extended. The salary is at the rate of £180 per annum, with full residential emoluments. Applications to Ernest S. Heap, Secretary-Superintendent.

ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY, Wigan (189 beds).—Applications are invited from registered medical practitioners for the appointment of a HOUSE SURGEON (B2), male, vacant now. Salary £175 per annum, with full residential emoluments. R practitioners who now hold A posts may apply, when appointment will be limited to six months, otherwise it may be extended for a further period. Applications should be sent to the undersigned as soon as possible.—A. Stanley Brunt, General Superintendent and Secretary.

ROYAL HALIFAX INFIRMARY.—Applications are invited for the post of CASUALTY OFFICER (A), to be vacant on November 5. Practitioners within three months of qualification, who are liable to service under the National Service Acts, may apply, when the appointment will be for six months. Salary £150 per annum, with full residential emoluments. Applications to be sent to A. Midgley, Secretary.

ROYAL NORTHERN HOSPITAL, Holloway, N.7.—Applications are invited for the post of OBSTETRIC REGISTRAR. The appointment is for one year, with eligibility for reappointment. Honorarium £350 per annum (plus fees). Non-resident. Applications with copies of testimonials should be sent by November 2 to the undersigned, from whom forms of application and rules may be obtained.—Gilbert G. Panter, Secretary.

ROYAL HOSPITAL, Wolverhampton (Incorporated under Royal Charter).—Applications are invited from registered medical practitioners for the appointment of HOUSE SURGEON, Fracture and Orthopaedic Dept. (B1), vacant forthwith. Applicants should have held house appointments and had surgical experience. Suitably qualified R practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £200 per annum.—W. Cockburn, House Governor.

RADCLIFFE INFIRMARY, Oxford.—Applications are invited from registered medical practitioners, male and female, including R and W practitioners now holding B2 posts, for the following posts in the Accident Department:

(1) FIRST ASSISTANT (B1). The appointment to be for twelve months from February 1, 1946, with a salary at the rate of £500 per annum, with full residential emoluments.

(2) SECOND ASSISTANT (B1). The appointment to be for twelve months from January 1, 1946, with a salary at the rate of £350 per annum, with full residential emoluments. The teaching of medical students is part of the normal duties of both officers. Applications stating qualifications, with dates, age, nationality, full christian names and giving details of previous experience and the names of three referees should reach the undersigned not later than November 12 in the case of the 2nd Assistant and December 10, 1945, in the case of the 1st Assistant. Testimonials are not required. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Preference will be given to candidates demobilized from H.M. Forces.—A. G. E. Sanctuary, Administrator.

ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL, Southampton (255 beds). RESIDENT ANAESTHETIST (B2).—Applications are invited from registered medical practitioners, male and female, for the appointment of Resident Anaesthetist (B2), now vacant, including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months. The appointment is recognized for D.A. The commencing salary will be at the rate of £225 per annum, with full residential emoluments. Applications should be sent to the undersigned immediately.—Frank Jennings, House Governor and Secretary.

ROYAL BERKSHIRE HOSPITAL, Reading.—Applications are invited from registered medical practitioners, male and female, for the appointment of RESIDENT MEDICAL OFFICER (Blagrave Branch Hospital) AND ASSISTANT to the Pathologist (A) (Joint Post), vacant October 23. Salary is at the rate of £150 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts, may apply, when the appointment will be for a period of six ments. Applications should be sent immediately to H. E. Ryan, Secretary and House Governor.

ROYAL NATIONAL ORTHOPAEDIC HOSPITAL, 234, Great Portland Street, W.1.—Applications are invited from registered medical practitioners for the appointment of RESIDENT HOUSE SURGEON (B2). Salary at the rate of £200 per annum, with full residential emoluments. Duties to commence November 1. R practitioners holding A posts may apply, when appointment will be limited to six months. Applications should be addressed to the Secretary.

ROYAL HALIFAX INFIRMARY (283 beds). Resident staff 5.—Applications are invited from registered medical practitioners (male) for six months for the following post—HOUSE PHYSICIAN (A) commencing immediately. Salary £175 per annum with full residential emoluments. Practitioners within three months of qualification who are liable to service under the National Service Acts, may apply. Applications should be sent to the undersigned immediately.—A Midgley, Secretary

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ROYAL CORNWALL INFIRMARY, Truro (351 beds—5 residential).—Applications are invited from registered practitioners, male or female, for the appointment of RESIDENT ANAESTHETIST (B2). The hospital is recognized for the Diploma in Anaesthetics. Vacant as from November 1, 1945. Salary is at the rate of £200 p.a., with full residential emoluments. R and W practitioners holding A posts may also apply. If held by an R practitioner appointment will be limited to six months. Applications should be addressed to the Secretary

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ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, E.13.—Applications are invited from registered medical practitioners for the appointment of RESIDENT SURGICAL OFFICER (B1), now vacant. Applicants must have held a house appointment and had surgical experience. R practitioners holding B2 posts may apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Salary at the rate of £225 per annum, with usual emoluments.

Applications are also invited from registered medical practitioners including R practitioners now holding A posts for position of RESIDENT PHYSICIAN (B2), now vacant. If held by an R practitioner appointment will be limited to six months. Salary at the rate of £175 per annum, with usual emoluments.

Applications to be sent as soon as possible to the undersigned.—A. Ernest Wilkes, Secretary.

SALVATION ARMY. The Mothers' Hospital, Clapton, E.5.—Applications are invited from medical women for the post of JUNIOR RESIDENT MEDICAL OFFICER (B2), vacant December 1, 1945. Salary £110 per annum, with board, residence, laundry. The appointment is for six months. W practitioners who now hold A posts may also apply. Applications to be sent to the Secretary-Superintendent, Col. Fred Hammond, and must be received by November 3, 1945.

IMPORTANT — All applicants should read the notice about qualifications required, etc., printed at the top of page 9

ST. MARY'S HOSPITAL, W.2. Radiotherapy Department. Appointment of personnel.—The Board of Management intend in the near future to make the following whole-time appointments:

(a) DIRECTOR OF RADIOTHERAPY DEPARTMENT.
(b) ASSISTANT RADIOTHERAPIST.
(c) PHYSICIST.

The DIRECTOR will have full staff status: this appointment will not be made immediately because it is not the hospital's policy to make such appointments under present circumstances. Applications are now invited for the interim appointment of whole-time Radiotherapist, salary to be at the rate of £800 per annum. The appointment will be for one year, the holder to be eligible for re-election. The successful candidate will be required to join the Federated Superannuation Scheme. Applications should reach the House Governor, St. Mary's Hospital, W.2, not later than Friday, January 4, 1946.

ASSISTANT DIAGNOSTIC RADIOLOGIST (whole-time).—Applications are invited for the above post. Candidates must possess a Diploma of Radiology. The appointment is for one year, at a salary of £600 per annum. The successful candidate will be required to join the Federated Superannuation Scheme. Applications should reach the House Governor, St. Mary's Hospital, W.2, not later than November 1, 1945.

SECOND ASSISTANT DIAGNOSTIC RADIOLOGIST (part-time).—Applications are invited for the above post. Candidates must possess a Diploma of Radiology. The appointment is for six months, at a salary of £250 per annum, the holder to be eligible for re-election. He will be required to devote five half days per week to his work. Applications, together with not more than three testimonials, should reach the House Governor, St. Mary's Hospital, W.2, not later than November 1, 1945.

STOCKPORT INFIRMARY (167 beds).—Applications are invited from registered medical practitioners for the appointment of a HOUSE SURGEON (A), general and orthopaedic, to become vacant on November 5, 1945, including practitioners within three months of qualification who are liable to service under the National Service Acts. The appointment will be for a period of six months. Salary is at the rate of £150 per annum, with full residential emoluments. Application should reach the undersigned on or before October 23.

Applications are also invited from registered medical practitioners for the post of ASSISTANT RESIDENT SURGICAL OFFICER and CASUALTY OFFICER (B2), now vacant, including R practitioners who now hold A posts. Salary is at the rate of £175 per annum, with full residential emoluments and the appointment is for six months. Applications to be sent to the undersigned immediately.—H. G. Price, Secretary-Superintendent.

SCUNTHORPE AND DISTRICT WAR MEMORIAL HOSPITAL, Scunthorpe, Lincs.—The Board of Management invites applications from registered medical practitioners for the post of HONORARY SURGEON to the Ear, Nose, and Throat Department, vacant December 31, 1945. Applicants must be Fellows of one of the Royal Colleges or hold such qualifications as may be acceptable to the Board of Management. Qualifications giving names of referees or accompanied by confidential reports from referees should reach the undersigned not later than November 9, 1945. The appointment, in accordance with the constitution, will in the first instance be for a period of one year, with eligibility for reappointment.—S. Lord, Secretary-Supt.

SCUNTHORPE AND DISTRICT WAR MEMORIAL HOSPITAL, Scunthorpe, Lincs. (234 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of TWO HOUSE OFFICERS (A), now vacant, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary is at the rate of £275 per annum, with full residential emoluments.—S. Lord, Secretary-Superintendent.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone Road, London, N.W.1.—Applications are invited from registered medical practitioners, male and female, for the appointment of a HOUSE SURGEON (B2), including R practitioners who have held A posts, for a period of six months commencing November 15, 1945. Salary at the rate of £150 per annum, with board, lodgings and laundry. Applications should be sent to the Secretary at the Hospital on or before Wednesday, October 31, 1945.—G. H. Hawkins, Secretary.

SALISBURY GENERAL INFIRMARY.—The Committee of Management invites applications from suitably qualified practitioners, including those at present serving in H.M. Forces, for the permanent appointment of HONORARY ASSISTANT OPHTHALMIC SURGEON. Applications to be forwarded to the Superintendent and Secretary by February 13, 1946.

SALISBURY GENERAL INFIRMARY.—The Committee of Management invites applications from suitably qualified practitioners for the appointment of TEMPORARY HONORARY EAR, NOSE, AND THROAT SURGEON. Applications to be forwarded to the Superintendent and Secretary by November 14, 1945.

IMPORTANT NOTICE

APPOINTMENTS

Medical practitioners are requested **not to apply** for any appointment referred to in this notice without first having communicated with the Secretary to the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of the Australian appointment, with the Secretary at B.M.A. House, or the Hon. Secretary, Western Australian Branch, Shell House, 205, St. George's Terrace, Perth).

GOVERNMENT SERVICE

COMMISSIONER OF PUBLIC HEALTH Perth, Western Australia.

CONTRACT PRACTICE

ABERTYSSWG MEDICAL AID SOCIETY.—*(Medical Officer.)*

LLWYNYPIA, CLYDACH VALE, PEN-Y-GRAIG, GLAMORGAN.—*(Workmen's Medical Scheme.)*

MID-RHONDDA MEDICAL AID SOCIETY.—*(Assistant Medical Officer.)*

NEATH AND DISTRICT.—*(Medical Aid Association.)*

OGMORE VALLEY, GLAMORGAN.—*(Wyndham Colliery Medical Aid Society.) (Workmen's Medical Scheme.)*

PUBLIC ASSISTANCE

CITY AND COUNTY OF BRISTOL. PUBLIC ASSISTANCE COMMITTEE.—*(District Medical Officer.)*

MENTAL HOSPITAL SERVICE

ROXBURGH DISTRICT MENTAL HOSPITAL, MELROSE.—*(Medical Superintendent.)*

SOMERSET AND BATH MENTAL HOSPITAL, COTFORD.—*(Deputy Medical Superintendent.)*

VOLUNTARY HOSPITAL.

NORTHAMPTON GENERAL HOSPITAL.—*(Whole-time Pathologist.)*

By Order of the Council

CHARLES HILL
October 16, 1945. *Secretary.*

THE CHILDREN'S HOSPITAL, King Edward VII Memorial, Birmingham, 16. ASSISTANT RESIDENT MEDICAL OFFICER (B2).—Applications are invited from registered medical practitioners, male or female, for the appointment of Assistant Resident Medical Officer (B2), vacant November 15, 1945, including R and W practitioners who now hold A posts. The salary is at the rate of £250 per annum, with full residential emoluments. If held by an R practitioner the appointment will be limited to six months; otherwise it will be for one year. Applications should be sent to the undersigned by October 31.—Arnold Tunstall, House Governor.

THE GUEST HOSPITAL, Dudley (the resident staff consists of a resident surgical officer and three house surgeons).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (B2), now vacant, including R and W practitioners who now hold A posts. If held by an R or a W practitioner, the appointment will be limited to six months. Salary at the rate of £200 per annum, with full residential emoluments.—H. Raymond Hurst, House Governor and Secretary.

VICTORIA HOSPITAL, Accrington.—Applications are invited from registered medical practitioners, male or female, for the post of HOUSE SURGEON (B2), including R and W practitioners who now hold A posts. Appointment will be for a period of six months. Salary at the rate of £200 per annum, with full residential emoluments. Applications to be sent to P. D. Wadsworth, Hon. Secretary.

WEST HAM HOSPITAL FOR NERVOUS AND MENTAL DISORDERS, Goodmayes, Ilford, Essex.—Applications are invited from medical practitioners including R and W practitioners holding B2 posts for the post of TEMPORARY ASSISTANT MEDICAL OFFICER (B1). The hospital is situated near London and facilities will be granted for postgraduate study. The salary commences at £350 per annum, plus war bonus, and with full residential emoluments. An additional £50 per annum will be paid if in possession of the D.P.M. R practitioners holding B1 posts and rejected by the R.A.M.C. may also apply. Applications in writing to be sent to the Medical Superintendent immediately.

WORTHING HOSPITAL. TEMPORARY OPHTHALMIC SURGEON.—Applications are invited for the post of Temporary Ophthalmic Surgeon. Duties include operations on In-patients and attendance at Out-patient Clinics. The post will be reviewed in about one year in accordance with the policy of the B.M.A. Applications should be sent to the undersigned not later than Friday, November 2, 1945.—A. V. Oakton, House Governor.

VICTORIA HOSPITAL, Blackpool (normal complement 200 beds, war-time complement 500 beds).—Applications are invited from registered medical practitioners, male or female, for the following appointments (B2) now vacant, including R practitioners who now hold A posts:

(1) HOUSE SURGEON to Orthopaedic Department and Surgical Unit 1.
(2) HOUSE SURGEON Eye, Ear, Nose and Throat Departments.

The appointments are for a period of six months and the salary is at the rate of £200 per annum with full residential emoluments, plus £150 per annum in the case of the successful applicants being Medical Officers released from H.M. Forces who desire postgraduate education and rehabilitation as recommended by the Ministry of Health.

Applications are also invited from registered medical practitioners male or female, for the appointment of RESIDENT ANAESTHETIST (B2), to become vacant shortly. R and W practitioners who hold A posts may apply. The appointment is for a period of six months. Modern equipment is provided, and there are facilities available for a candidate studying for the Diploma in Anaesthetics. Salary is at the rate of £300 per annum, with full residential emoluments, plus an additional £50 if the successful applicant is a Medical Officer released from H.M. Forces who desires postgraduate education and rehabilitation as recommended by the Ministry of Health.

Applications are also invited from registered medical practitioners for the appointment of RESIDENT SURGICAL OFFICER (B1). Preference will be given to candidates holding the Diploma F.R.C.S. R and W practitioners who now hold B2 posts may apply. Applications from R and W practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. The appointment will be for a period of twelve months. Salary is at the rate of £400 per annum with full residential emoluments, plus £150 per annum in the case of the successful applicant being a Medical Officer released from His Majesty's Forces who desires postgraduate education and rehabilitation as recommended by the Ministry of Health.

Applications for each post should be sent immediately to—Walter R. Smith, General Superintendent.

WILLESDEN GENERAL HOSPITAL, Harlesden Road, N.W.10.—Applications are invited for the following post: SENIOR CASUALTY OFFICER AND FIRST ASSISTANT TO THE FRACTURE CLINIC (B1), F.R.C.S. (England) preferred. This post is suitable for candidates intending to specialize in fractures or industrial medicine. R and W practitioners now holding B2 posts may apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Whole-time post, salary £550 per annum, resident. Applications giving names of three referees to be forwarded to the undersigned, from whom copies of the regulations can be obtained. Applications will be received up to November 30, 1945.—J. N. Drake, Secretary.

WREXHAM AND EAST DENBIGHSHIRE WAR MEMORIAL HOSPITAL, Wrexham.—Applications are invited from registered medical practitioners, male and female, for the following six months' appointments:

RESIDENT HOUSE SURGEON (B2) to commence immediately. Salary is at the rate of £250 p.a., with full residential emoluments. R practitioners holding A posts may apply.

RESIDENT HOUSE SURGEON (A) to commence immediately. Practitioners within three months of qualification who are liable to service under the National Service Acts are eligible to apply. Salary at the rate of £200 p.a., with full residential emoluments.

Applications to Leslie Spencer, Secretary.

WESTERN INFIRMARY OF GLASGOW (Incorporated).—The Managers invite applications for the following posts:

TWO ASSISTANT PHYSICIANS.
FOUR ASSISTANT SURGEONS.

Applications to be sent to the undersigned. In order to allow members serving in H.M. Forces to apply, the date for receiving applications has been extended to February 20, 1946.—J. Matheson Johnston, Secretary and Treasurer, 87, Union Street, Glasgow, C.1.

YORK COUNTY HOSPITAL (222 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A), vacant immediately, whose main duties are in the Eye, Ear, Nose and Throat Department (37 beds with busy Out-patient Clinics), but who will share in the general work of the hospital, also Casualty Duty, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary is at the rate of £175 per annum, with full residential emoluments. This post is recognized for D.O.M.S. and D.L.O. examinations. Applications to be sent to the undersigned immediately.—J. R. Mackrill, Secretary.

(Continued on the Inside Back Cover)

CHARGES FOR CLASSIFIED ADVERTISEMENTS

Circulation 55,000

Advertisements should reach the Advertisement Manager not later than the THURSDAY ten clear days before publication.

Cancellation cannot be accepted after 10 a.m. MONDAY for current week's issue.

To economize in accounting, postage and collection, **all advertisements should be paid for at time of order.** Publication will be in the earliest possible issue, but delay is unavoidable in present circumstances.

1. TO MEMBERS OF THE ASSOCIATION the cost of advertisements for Assistants, Dispensers, Locums, Partnerships, *Practices, Secretaries, is ten shillings for 24 words, including name and address. Four figures and £ sign count as one word (example, £2,000). When a Box Number is used, it must be reckoned as six of the total number of words in each advertisement.

1s. *extra* should be added for each insertion to cover the Box fee and postage of replies.

Additional words 2s. 6d. for every six or part.

Please mark advertisements clearly, *MEMBER.*

2. To all other (private) advertisers the charge under the headings specified above, para. 1, is 12s. (minimum) for 24 words, including name and address. Four figures and £ sign count as one word (example, £2,000). When a Box Number is used it must be reckoned as six of the total number of words in each advertisement.

1s. *extra* should be added for each insertion to cover the Box fee and postage of replies.

Additional words 3s. for every six, or part.

*SALE OF PRACTICE. The name and address of owner and of the firm negotiating the sale must accompany the advertisement. Those details are not for publication.

3. Consulting rooms, Dietetic, Duplicating, Hotels, Houses, Miscellaneous, Motor Cars, Typing, the charge is same as para. 2.

Personal, Notices, University and Industrial Appointments, minimum charge of 20s for 24 words, including name and address. Four figures and £ sign count as one word (example, £2,000). When a Box Number is used, it must be reckoned as six of the total number of words in each advertisement.

1s. *extra* should be added for each insertion to cover the Box fee and postage of replies.

Additional words 5s. for every six or less.

Educational, Hospitals, Public Health Appointments, 3s. a line, minimum charge 15s.

Births, Marriages, and Deaths.—The charge for an insertion under this head is 10s. 6d. for 18 words or less. Extra words 3s. 6d. for each six or less. Payment should be forwarded with the notice, authenticated by the name and permanent address of the sender.

BOX NUMBERS.—A Box number is used in place of name and address to conceal identity of advertiser, in no circumstances will this information be divulged by this office. Separate applications should be written to each, addressed Box—, c/o B.M.J. (address as below). All applications are forwarded to the advertiser in plain closed envelopes.

TRADE ANNOUNCEMENTS. 20s. minimum 24 words. Extra words 5s. for six or less.

Every effort is made to ensure the accuracy of advertisements appearing in the Journal. No recommendation is implied by acceptance, and the British Medical Association reserves the right to refuse or interrupt the insertion of any advertisement.

Advertisement Manager, British Medical Journal,
B.M.A. House, Tavistock Square, London, W.C.1.
Telephone: Euston 2111.
Telegrams: Articulate, Westcent, London.

APPOINTMENTS—Hospitals and Public Health, commence at page 9

PERSONAL

WANTED, *Annals of Surgery*, 1930-37, all volumes. 1939, all volumes. 1940, January to June, inclusive. 1941, July to December, inclusive. 1942, July to December, inclusive. 1943, 1944, 1945, all volumes. —Apply Hamilton Bailey, Denham, Totteridge, N.20.

NOTICES

EPSOM COLLEGE. Council Exhibitions.—An EXAMINATION will take place in due course for the ADMISSION of a few boys as COUNCIL EXHIBITIONERS. The financial circumstances of applicants will be taken into consideration in fixing the amount of the Exhibitions, which must not exceed £50 each p.a. Candidates must be the sons of such duly qualified medical men as shall, in the opinion of the Council, be among the less fortunate members of the profession. They must be over 12 and under 14 years on January 1, 1946. Application forms are obtainable on request, and must reach me, at the Secretary's Office, Epsom College, Epsom, Surrey, duly completed, by the morning of December 17, 1945.—W. L. Gifford (Major), Secretary.

UNIVERSITY AND INDUSTRIAL APPOINTMENTS

BACTERIOLOGICAL LABORATORY ASSISTANT, trained man required, over 25, experience should include animal work. Applications giving qualifications and full details.—Box 3251, B.M.J.

UNIVERSITY OF DURHAM, King's College, Newcastle-upon-Tyne.—Applications are invited for the joint post of LECTURER IN CHEMICAL PATHOLOGY in the Department of Pathology, Medical School, King's College, and ASSISTANT CHEMICAL PATHOLOGIST to the Royal Victoria Infirmary, Newcastle-upon-Tyne. Candidates must have had special experience in chemical pathology. Preference will be given to applicants with a medical qualification. In addition to assisting in teaching and the biochemical work of the hospital the person appointed will be expected to undertake research for which opportunities and facilities are provided. Commencing salary £600 per annum. Further particulars as to duties to be obtained from the Professor of Pathology. Practitioners now serving in H.M. Forces may apply. Ten copies of applications, accompanied by the names of not more than three referees, should be submitted to the undersigned not later than February 20, 1946.—G. R. Hanson, Registrar of King's College.

UNIVERSITY OF LEEDS. Department of Medicine. TUTOR AND REGISTRAR IN DERMATOLOGY.—Applications are invited for the post of Tutor and Registrar in Dermatology in the University of Leeds, the appointment to commence on March 1, 1946, or as soon thereafter as can be arranged; applications from Service candidates will receive consideration. The Tutor and Registrar, who must hold a registrable medical qualification, will receive a salary of £500 per annum and will be required to join the F.S.S.U.; the appointment will be for a period of one year in the first place, but may be renewed. Applications, stating age, qualifications and experience, and accompanied by names of not more than three referees, should be sent not later than February 16, 1946, to the Registrar, The University, Leeds, 2, from whom further particulars may be obtained.

UNIVERSITY OF LEEDS. LECTURER in the DEPARTMENT OF PHYSIOLOGY.—Applications are invited for the post of Lecturer in Physiology in the University of Leeds, the appointment to date from March 1, 1946, or as soon thereafter as can be arranged; applications from Service candidates will receive consideration. The Lecturer will be responsible to the Professor of Physiology and to the Council and will be required to give his whole time to the work of the department; his duties will include teaching in the Faculties of both Science and Medicine and the prosecution of research. The Lecturer's salary will be on the scale £500 rising by annual increments to £800 and the person appointed will be required to join the F.S.S.U. A scheme of family allowances is at present in force. Applications, stating age, qualifications and experience, and the names of three persons to whom reference may be made, should be sent, not later than Februray 20, 1946, to the Registrar, The University, Leeds, 2, from whom further particulars may be obtained.

EDUCATIONAL

F.R.C.S.(EDIN.)

POSTAL AND ORAL COURSES continued as usual. Full details.—H. C. Orrin, F.R.C.S., Surgeons' Hall, Edinburgh.

DIPLOMA IN PUBLIC HEALTH. THE ROYAL INSTITUTE OF PUBLIC HEALTH AND HYGIENE.—The Course of Instruction may be commenced at any time. A prospectus and full particulars can be obtained from the Secretary, 28, Portland Place, London, W.1. Telephone: LANgham 2731-2.

L.M.S.S.A. FINAL EXAMINATIONS. Surgery, Dec. 10, Jan. 14, Feb. 11. Medicine, Pathology, Dec. 17, Jan. 21, Feb. 18. Midwifery, Dec. 18, Jan. 22, Feb 19. —For particulars apply Registrar, Apothecaries Hall, Blackfriars Lane, E.C.4

NORTH-EAST LONDON POSTGRADUATE COLLEGE AND UNDERGRADUATE REVISION WORK. Prince of Wales's General Hospital, N.15.—Particulars from J. Browning Alexander, M.D., F.R.C.P., Dean.

POSTGRADUATE STUDY instruction is arranged in medical, surgical, and special subjects, as circumstances permit. Information and advice obtainable from the Fellowship of Postgraduate Medicine 1, Wimpole St., London, W.1. Langham 4266.

RHEUMATIC DISEASES WEEK-END COURSE at Royal Bath Hospital, Harrogate, on Saturday, November 3, and Sunday, November 4. Full particulars from Fellowship of Postgraduate Medicine, 1, Wimpole Street, London, W.1. Langham 4266.

THE UNIVERSITY OF MANCHESTER.
FACULTY OF MEDICINE.

POSTGRADUATE REFRESHER COURSES for practitioners demobilized from H.M.F. A fortnightly course will start at this University on Monday, October 22, 1945. Applications and full particulars may be obtained from the Dean of Postgraduate Medical Studies.

MASTER OF MIDWIFERY
of the
SOCIETY OF APOTHECARIES OF LONDON
(M.M.S.A.)

The Master of Midwifery is designed to give evidence of intensive study and practical experience in *Ante-natal Care, Midwifery, and Infant Welfare* and their relation to *Hygiene and Preventive Medicine.* The possession of this Diploma will prove of value in private practice and also to candidates for appointments involving the special work described in the preceding paragraph. The tests imposed are stringent; the Examination, written, oral, and clinical demands thorough and detailed knowledge gained by practical experience, and constitutes a definite endeavour *to combat Maternal and Infant Mortality.* Examinations are held twice yearly, in the months of May and November. Regulations and forms of application for admission to the Examination may be obtained from the Registrar, The Society of Apothecaries, Black Friars Lane E.C.4.

THE EXAMINING BOARD IN ENGLAND
by the
ROYAL COLLEGE OF PHYSICIANS OF LONDON and the
ROYAL COLLEGE OF SURGEONS OF ENGLAND

Notice is hereby given that the Examination for the following Diplomas will commence on the dates stated below:

Diploma in Anaesthetics, Monday, November 19

Diploma in Laryngology and Otology, Monday, December 3.

Diploma in Psychological Medicine, Monday December 3.

Candidates who have complied with the necessary requirements, and who desire to present themselves for Examination, must apply in writing to the Secretary, Examination Hall, 8/11, Queen Square, London, W.C.1, at least twenty-one days before the date of the Examination, transmitting at the same time such certificates as may be required by the Regulations of the Board together with the full amount of the fee for the part or parts of the Examination for which they desire to enter (D.A.—£6 6s., D.L.O. and D.P.M.—£6 6s for each part).

Applications for Part II are due at the same time as for Part I. HORACE H. REW, Secretary.

ASSISTANTSHIPS VACANT

WANTED, OUTDOOR ASSISTANT. Midlands, for mixed private and panel practice, all found, car provided, or car allowance, salary by arrangement. —Box 3254, B.M.J.

WANTED, ASSISTANT, either sex, with or without VIEW to partnership, South-East coast town. Unfurnished house available, salary by agreement.—Box 3288, B.M.J.

WANTED, OUTDOOR ASSISTANT. Own car an advantage. Salary by agreement. Send full particulars.—Dr. Lentin, 120, Regent Road, Leicester.

WANTED, ASSISTANT with VIEW in large home town practice. Experience in midwifery and anaesthetics useful.—Box 3255, B.M.J.

WANTED ASSISTANT for Harrogate for November 1. Particulars on application, generous terms. Box 3253, B.M.J.

WANTED ASSISTANT with VIEW in North Derbyshire mining village. Furnished house provided. Car if necessary. Salary £800.—Box 3310 B.M.J.

WANTED, male British ASSISTANT mixed general practice within 20 miles London. House and car provided. Salary according to experience —Box 3312, B.M.J.

WANTED MALE ASSISTANT, mixed practice in South-West Lancashire, unfurnished house available, salary by arrangement.—Box 3001, B.M.J.

WANTED married male ASSISTANT with own car for village practice, Midlands, good house and garden provided.—Box 3062, B.M.J

WANTED ASSISTANT with or without VIEW, practice with 3 partners, mixed private and panel, North-East town.—Box 3057, B.M.J.

WANTED, indoor British male ASSISTANT mixed Midland practice. Salary £800 plus car allowance if own car.—Box 3037, B M.J

WANTED WOMAN ASSISTANT. Pleasant semi-rural practice. £500. Car provided. All found. Comfortable accommodation. Private sitting room, if desired.—Box 3055, B.M.J.

WANTED, ASSISTANT with VIEW to succession in old-established Lancashire mixed practice, preferably recently qualified and unmarried Moderate salary, car allowance, and all found.—Box 2348, B M.J.

ASSISTANT, MALE, British, required with VIEW partnership, old-established mixed practice Good salary and car allowance. Outdoor accommodation available.—Dr. MacGill, Huntroyd, Denton, Manchester.

ASSISTANT WANTED, as soon as possible, for mixed practice in Northamptonshire town. Able to drive car. Dispenser kept. Board, etc., in private guest-house. Salary by agreement.—Box 3289, B.M.J.

ASSISTANT WANTED, male or female, Leics. two partners, dispenser, and secretary, work pleasant including hospital, salary by arrangement.—Box 3002, B.M.J.

ASSISTANT, Indoor or outdoor. Central Scotland, pleasant area. Salary by arrangement. Good prospects.—Box 3257, B.M.J.

ASSISTANT, Midlands, £600 p.a., indoor, car available, commence as early as possible.—Box 3056, B.M.J.

ASSISTANT WANTED, male, VIEW PARTNERSHIP, mixed country practice Somerset; single preferred, time for reading or sport occasionally.—Box 3309, B.M.J.

ASSISTANT WANTED by Scots doctor Midlands City, male or female. Furnished accommodation, no children. Salary £600 plus car or allowance. Good free time.—Box 3308, B.M.J.

ASSISTANT WANTED immediately for few months; industrial practice, Sheffield; indoor at £600 p.a. Pref. with car.—Box 3307, B.M.J.

ASSISTANT WANTED, country practice near Reading. Outdoor accommodation available single man. Allowance given for use of his car.—Box 3258, B.M.J.

ASSISTANT REQUIRED in good class general practice in delightful Midland town, furnished house and car available, work moderate and of a pleasant character, good salary.—Box 2769, B.M.J.

ASSISTANT WANTED, British, single, male, to take charge of branch in pleasant non-colliery South Derbyshire village, work light, time for reading, board, lodging, car provided, salary £500 to start.—Box 2810, B.M.J.

ASSISTANT WANTED, 5 miles Birmingham, good-class private and panel practice. Furnished flat and car available, good salary, suit recently qualified graduate.—Box 3302, B.M.J.

ASSISTANT, BRITISH, with or without VIEW to purchase, required for partnership in Essex. London 30 miles. Accommodation and car provided.—Box 3304, B.M.J.

ASSISTANTSHIP with VIEW PARTNERSHIP, Midland country practice, non-industrial, panel 1,000. House to rent. Share 2/5 of £3,000.—Box 3306, B.M.J.

CHRISTIAN ASSISTANT WANTED, male or female, in large mixed practice N.W. Kent. Two partners. Access to local hospitals provides unusual scope for keen applicant. Single, outdoor; salary by arrangement.—Box 3338, B.M.J.

EAST COAST RESORT.—ASSISTANT wanted in good-class practice. Good salary. Hospital. Capable young physician can have share in partnership if desired. Choice of accommodation.—Box 3311, B.M.J.

LEICESTER.—ASSISTANT WANTED, outdoor, preferably unmarried, for mixed practice on outskirts of city. Dispenser kept. Car provided. Salary £600-£700, according to experience. Special consideration to Queen's (Belfast) or Trinity (Dublin) men.—Box 3305, B.M.J.

MIDLAND SPA TOWN. ASSISTANT required in large good-class mixed practice, with a view to partnership if desired, very good prospects, unfurnished accommodation available.—Box 3256, B.M.J.

WOMAN ASSISTANT required for country practice in Yorkshire, £600 per annum all found. Ample time and opportunity for postgraduate study if required.—Box 3252, B.M.J.

WOMAN ASSISTANT WANTED, indoor, for mixed practice in S. coast town. Driving essential.—Box 3303, B.M.J.

YOUNG ASSISTANT, preferably with a VIEW to partnership for a firm of four in Chelmsford, unfurnished house available, applicant must be British and of cheerful disposition.—Box 2812, B.M.J.

ASSISTANTSHIPS WANTED

WANTED, by woman doctor, OUTDOOR ASSISTANTSHIP near London. Hospital and G.P. experience. Available early October.—Box 3263, B.M.J.

WANTED, by M.D. (Lond.), F.R.C.S. (Eng.), PART-TIME WORK in a Harley Street or West End Practice, very experienced in good-class general practice, no confinements, and mainly consulting room work wanted, has several minor specialties.—Box 2821, B.M.J.

WANTED, OUTDOOR ASSISTANTSHIP, M.B., Edin., ex-Major R.A.M.C., aged 42, married, car if necessary, furnished house essential, London area preferred.—Box 2781, B.M.J.

WANTED, ASSISTANTSHIP with VIEW, Captain R.A.M.C., free January, age 32, married, house or flat essential, South country preferred.—Box 3314, B.M.J.

ASSISTANTSHIP WANTED, possible VIEW, preferably near coast Sussex, Devon, Cornwall. Male, experienced hospital, general practice. Car, house required.—Box 3341, B.M.J.

ASSISTANTSHIP REQUIRED by experienced doctor, married, one child, furnished accommodation, or flat, essential.—Box 3262, B.M.J.

ASSISTANTSHIP WANTED, by Dublin M.B., B.Ch., L.M., male, single, R.C., 29 years, experienced, driver, must be permanent, town or city.—Box 3342, B.M.J.

ASSISTANTSHIP WANTED in Edinburgh, light work, in return for accommodation, ex-R.A.M.C.—Box 3316, B.M.J.

ASSISTANTSHIP preferably with VIEW wanted by woman doctor, non-British European, English university degree 1937, 6 years' wartime locum G.P., wide experience, hospitals previously, good clinical work essential, house or flat required, country or small town N.W. England preferred.—Box 3008, B.M.J.

ASSISTANTSHIP REQUIRED, M.B., D.C.H., (London Hospital), 24 yrs., English; good mixed hospital experience, excellent references. Country practice south of London. Indoor preferred, free immediately.—Finch, 5, Nevin Drive, E.4

DOCTOR, aged 29, ex-R.A.M.C., experienced hospital, G.P., available now for FULL or PART-TIME EMPLOYMENT London area.—Box 3340, B.M.J.

DOCTOR, resident London, available EVENING SURGERIES and at week-ends. Please state terms, etc.—Box 3259, B.M.J.

JEWISH DOCTOR, English-born, 31 yrs.; married, no family, requires ASSISTANTSHIP preferably with VIEW, or Practice. Free now.—Box 3339, B.M.J.

M.D., AGED 43, 10 years G.P., 4 years medical specialist R.A.M.C., seeks ASSISTANTSHIP with VIEW or PART SHARE in multiple partnership with hospital appointment in small progressive town. House required.—Box 3313, B.M.J.

M.B., B.Sc., D.M.R., British, age forty, male, 6 months' experience Radio-Diagnosis, wants RADIOLOGICAL ASSISTANTSHIP.—Box 3290, B.M.J.

MARRIED DOCTOR, aged 34, requires ASSISTANTSHIP. Ex-H.S., H.P., L.M. (Rotunda), four year G.P., excellent testimonials. Keen, reliable, abstainer, free now. Ineligible.—Box 3261, B.M.J.

M.B., B.S., aged 39, experienced G.P. (own practice lost through war service). R.A.M.C., demobilization December, desires APPOINTMENT or PRACTICE in or near London area.—Box 3264, B.M.J.

M.B., Ch.B. (Edin.), aged 36, requires ASSISTANTSHIP few months. London area, demobilized R.A.F. October, 1½ years' hospital, 1½ years' G.P., married.—Box 3343, B.M.J.

PART-TIME ASSISTANTSHIP WANTED by woman doctor. Morning surgeries and visits. S.W. London preferred. Experienced G.P. Car driver.—Box 3291, B.M.J.

SCOTTISH DOCTOR, being demobbed R.A.F. December, wishes ASSISTANTSHIP, preferably, not essentially, South England, experienced G.P., car owner, furnished house essential.—Box 3260, B.M.J.

WOMAN M.B., experienced, wishes PART-TIME WORK, surgeries London or Dover areas preferred, but other areas considered.—Box 3063, B.M.J.

WOMAN DOCTOR, with experience in general practice, seeks TEMPORARY LIGHT WORK, preferably Southern England.—Box 3315, B.M.J.

LOCUMS

WANTED, LOCUM for 4 to 6 weeks to assist in country practice in Leicestershire. Car provided. £12 12s. all found.—Box 3269, B.M.J

WANTED LOCUM for two weeks immediately. Fees by arrangement.—Dr. J. T. Corbett, 4, Ranelagh Road, Wellingborough.

WANTED LOCUM for ten days end of October. Car provided. Salary 12 guineas a week.—Dr. K. W. Mackie, Glen Lyn, Sarisbury Green, Hants.

CASSEL HOSPITAL FOR FUNCTIONAL NERVOUS DISORDERS (temporarily at) Ash Hall, Bucknall, Stoke-on-Trent.—LOCUM TENENS MEDICAL OFFICER required immediately. Some previous psychiatric experience essential. Salary 10 to 12 guineas per week, resident. Apply Secretary at above address, stating age, experience, etc., and giving recent testimonials.

EX-H.S., A.M.O., experienced general practice and midwifery, recommended, would act as ASSISTANT or SALARIED PARTNER, long term, in good-class practice, married, own car, small house essential.—Apply Box 3265, B.M.J.

LOCUM. Experienced, booking engagements, winter months, own car, by arrangement, all found. Country, suburbs, clean town.—Box 3267, B.M.J.

LOCUM WORK required by experienced G.P. now disengaged. Englishman, Lond. hospital, excellent testimonials.—Apply Box 3268, B.M.J.

LONG-TERM LOCUM, immediate. Sole charge. Salary by arrangement. 20 miles London.—Box 3344, B.M.J.

WOMAN, M.B., B.S., fully experienced G.P. and hospital, available for SHORT LOCUMS. Please state terms. Southern and Home counties preferred.—Box 3266, B.M.J.

WOMAN LOCUM REQUIRED for week from November 1, 10 guineas and return fare.—Dr. Lorna Stauffer, 7, The Elms, Devonport.

PARTNERSHIPS

WANTED, PARTNER (after short preliminary assistantship) in large, mixed, well-established practice in N. England county town, local hospital.—Box 3273, B.M.J.

WANTED PARTNER, London, within easy reach of West End, HALF SHARE of £5,000 in old-established mixed practice. Premium 1½ yrs. Considerable scope.—Box 3317, B.M.J.

CHESHIRE, Nr. Manchester, QUARTER SHARE in partnership (3) in large mixed practice, panel over 7,000, receipts over £10,000 (audited). House to rent. Dispenser and secretary employed.—Box 3271, B.M.J.

FOR SALE, ONE-THIRD SHARE of over £6,500 in old-established practice in small country town 25 miles from London. 3 months' preliminary assistantship. Central surgeries. Premium 1½ years.—Box 3318, B.M.J.

F.R.C.S. (Eng.), recently demoblized, desires surgical PARTNERSHIP or practice with surgical scope, experienced in consultant surgery.—Box 2837 B.M.J.

PARTNER, preliminary ASSISTANTSHIP if wished, wanted in Cleethorpes by December. Unfurnished house available. Must be ex-Service.—Box 3292, B.M.J.

PARTNER WANTED in Home Counties mixed practice, in country town. Surgical qualification an asset. Young ex-Serviceman preferable.—Box 3270, B.M.J.

PARTNER (British) wanted in first-class old-established practice in Kent, applicant must be well qualified, preference for one holding F.R.C.S., or M.D., or M.R.C.P., or M.R.C.O.G. qualification, excellent modern house and garden available, share producing £1,500 suggested to commence with.—Apply Box 3274, B.M.J.

PHYSICIAN, secondary qualification essential, required to REPLACE retiring medical PARTNER in first-class non-dispensing practice of three partners, Midland county town. Total gross receipts about £8,000. Unfurnished house available and hospital appointment probable. Preliminary salaried period desirable.—Box 3272, B.M.J.

PARTNERSHIP REQUIRED after short preliminary assistantship. Married, age 34, driver, hospital, general practice experience, excellent testimonials, free now.—Box 3345, B.M.J.

MEDICAL POSTS

DEMOBILIZED Lieut-Col. R.A.M.C., aged 50, desires FULL-TIME APPOINTMENT, where extensive experience in G.P., Hospital, Medical Refereeing and Administration could be utilized.—Box 3329, B.M.J.

EX-MAJOR R.A.M.C., 58, healthy, with psychiatric and G.P. experience, desires POST in private mental hospital, or full-time MEDICAL APPOINTMENT near London. Good salary and unfurnished house essential.—Box 3280, B.M.J.

GREAT WESTERN RAILWAY MEDICAL FUND SOCIETY, Swindon, Wilts.—Applications are invited from registered medical practitioners for one of the full-time posts of ASSISTANT MEDICAL OFFICER to the above Society. The appointment will be regarded as temporary for six months and then, subject to satisfactory service, will be to the permanent staff. Applicants should be of British nationality and should have had good experience in general practice. The salary is £700 per annum, rising by annual increments of £50 to £800 per annum, plus temporary war increase of £75 per annum; additional salary will be paid for special clinics if arranged There is a contributory superannuation scheme: the person appointed will be required to undergo a medical examination and to work under the supervision of the Superintendent Medical Officer. Applications, stating age, qualifications and experience and accompanied by copies of three recent testimonials, should reach the undersigned not later than February 20, 1945.—W. J. Lewis, Secretary.

MEDICAL MAN, aged 56, 10 years' commissioned emergency service, R.A.M.C.; 20 years own general practice, some years part-time industrial medical officer, two years full-time V.D., seeks full-time employment as FACTORY M.O. or similar work.—Box 3328, B.M.J.

M.B., B.Ch., CAMB., D.A., ex-R.A.M.C. Major, aged 33, married. 6 years' specialist Anaesthetist, requires FULL-TIME EMPLOYMENT as ANAESTHETIST in London area.—Box 3281, B.M.J.

MENTAL HOSPITAL APPOINTMEIT desired by B.Sc., M.B., Ch.B. Age 29, married. Unfit for Forces. More than two years' large mental hospital experience. Scotland preferred.—Box 3370, B.M.J.

OVERSEAS POST OR PARTNERSHIP WANTED by British Doctor with extensive experience general and hospital practice in the tropics.—Box 3327, B.M.J.

SENIOR TECHNICIAN required as LOCUM for few weeks, East Sussex County Laboratory, Hellingly Mental Hospital. General clinical pathology and public health bacteriology experience required. Salary £5 5s. per week, with meals, board, and lodging, and fare. Applications to the Medical Superintendent.

THE PIONEER HEALTH CENTRE, Peckham, will require in February one or two experienced medical men and women as RESEARCH WORKERS. Salaries £500 to £1.200. To allow for those serving in H.M. Forces, applications will be received up to February 16 by the Medical Directors, 8K, Hyde Park Mansions, Marylebone Road, N.W.1.

PRACTICES

WANTED PRACTICE, well-established middle-class mixed. Midland suburban district, panel about 2,000, average receipts about £3,000, good roomy house and surgery, nice garden.—Box 3322, B.M.J.

WANTED, by experienced practitioner, early 1946, good-class PRACTICE below Midlands. Income £2,000 or over. Short introduction desired.—Box 3294, B.M.J.

WANTED, PRACTICE doing about £1,500. Send details (including 1939 figures). Panel, private, club, surgery, house.—Box 3295, B.M.J.

WANTED, good-class panel and private PRACTICE. Western half of London. Returns £2,000 or over. Cash available.—Box 3293, B.M.J.

WANTED, MIXED PRACTICE in Liverpool or Southport areas. Assistantship with early succession considered.—Box 3277, B.M.J.

WANTED, by practitioner of over twenty years' standing, PRACTICE in LAKE DISTRICT, preferably with house to rent.—Full particulars to Box 3320, B.M.J.

WANTED, Sussex, Kent coast, PRACTICE or PARTNERSHIP, surgical scope, F.R.C.S., surgical specialist, demobilized, capital, considerable experience.—Box 2798, B.M.J

BIRMINGHAM SUBURBAN PRACTICE for sale. Freehold house with surgeries. Receipts £5,900 last year. Panel 2,000. Premium 1½ years—Box 3324, B.M.J.

COUNTRY PRACTICE WANTED, within 70 miles London. £1,800 to £2,000 income. Free now.—Apply Box 3946, B.M.J.

DOCTOR, over 35, British, requires sound PRACTICE, willing purchase outright, or partnership, must be situated Edgware, Hendon, Finchley or near, and have nice private accommodation. Capital available and best references.—Box 3349, B.M.J.

DEATH VACANCY. country PRACTICE in North Lincolnshire for immediate disposal, for further particulars apply.—Hett, Davy and Stubbs, 11, Bigby Street, Brigg.

EAST LANCASHIRE old-established PRACTICE, 1,600 panel, receipts £2,000, attractive modern house, well laid out garden, 1½ years.—Box 2797, B.M.J.

EAST ANGLIA, good class private and consulting PRACTICE for sale owing to illness of vendor, average takings for many years £3,000 p.a., excellent opening for consulting physician, centrally situated and well furnished consulting room but no living accommodation, easy terms.—Box 2799, B.M.J.

FOR SALE, near Manchester, safe, well-established private and panel PRACTICE. Panel 2,300. Gross receipts £3,400. House for sale.—Box 3325, B.M.J.

FOR SALE, old-established PRACTICE in village near North Midlands city. Panel 1,150 increasing. Takings £1,780 (accountant's figures). Excellent freehold house and surgeries recently modernized, with good garden of 1¼ acres. Premium 1¼ years' purchase.—Box 3323, B.M.J.

FOR SALE, PRACTICE South-West Lancashire Town. Audited accounts gross 1939 £3,100; 1944 £4,200. Present panel 2,400. Price Goodwill £4,500. Surgery with living accommodation and garage for sale. Separate freehold house with garage if required.—J. Frodsham and Sons, Solicitors, Prescot, Lancs.

FOR SALE, ISLE OF MAN, old-established mixed, panel and private PRACTICE, averaging £1,600 p.a. (Panel £500.) Premium £2,500. House for sale or to let on long lease, in excellent condition. Contains 2 professional rooms, 2 reception, 6 bedrooms. Modern conveniences. Garage for two cars. Household and surgery furniture and effects at valuation if required.—Box 3326, B.M.J.

FOR SALE, easily worked PRACTICE in West Riding Yorkshire. Audited accounts open to fullest investigation. Income £3,000. Panel 2,186. Premium 1¼ yrs. Good house and garden, surgery and waiting room, separate entrance. Sell or rent.—Box 3321, B.M.J.

FOR SALE. North London, nucleus mixed panel and private PRACTICE (gross £2,000 pre-war), modern house with surgery, waiting room, dispensary attached, excellent position on bus route, unlimited scope in developing district.—Box 3015, B.M.J.

FOR SALE, PRACTICE or HALF SHARE partnership, in progressive North Lancashire town, hospital appointments, receipts £4,000, preliminary assistantship if desired, car and house available.—Box 2796, B.M.J.

FOR SALE, well-established MEDICAL PRACTICE in populous area Glasgow, with or without suitable house. Panel list 1,600.—Apply Crawford, Herron, and Cameron, Solicitors, 257, West George Street, Glasgow, C.2.

FOR SALE woman's well-established, expanding country PRACTICE, Midlands, panel 1,300 increasing, takings £2,000 (chartered accountant's figures), premium 1¼ years' purchase, excellent freehold house.—Box 2763, B.M.J.

FOR SALE PRACTICE and 11-roomed freehold HOUSE, busy working class district, N. London, panel about 900, neglected owing to army service, price £3,800 inc. or near offer.—Box 2548, B.M.J.

FOR SALE, nr. Manchester, old-established DOUBLE PRACTICE. Panel 3,570. Gross receipts £5,200. House for sale. Suit two doctors.—Box 3332, B.M.J.

LANCS. COAST, for sale large family PRACTICE, small panel, fine detached residence with separate entrance to consulting suite, large garden and garage on rental, cars, fittings, and furniture if required, good introduction, no agents, banker's reference required.—Box 2844, B.M.J.

LONDON SUBURB.—First-class mixed PRACTICE for sale. Gross receipts over £2,000, steadily increasing, developing area. Economic semi-detached house for sale. Principals only.—Box 3319, B.M.J.

LANCASHIRE, urban district and surrounding rural areas. Panel and private PRACTICE. Old-established. Average receipts £1,100. Panel patients 700. House for sale. The practice is offered at one year's purchase and the house for £2,000. Reason for disposal vendor retiring.—Box 3297, B.M.J.

LANCS. seaside resort, PRACTICE for sale, established 10 years. Panel 560. Receipts 1944 £660. Large detached bungalow to rent £52. Scope. Suit man or woman. Premium £800.—Box 3275, B.M.J.

MEDICAL PRACTICE or partnership, suburban type, wanted by experienced M.D. Age 51. Married. Good panel. House or flat essential. Capital available. Own car.—Box 3075, B.M.J.

NUCLEUS, long-established PRACTICE. N.W. London, excellent prospects for expansion, £500 or near offer, particulars.—Box 3350, B.M.J.

OLD-ESTABLISHED unopposed PRACTICE in Midlands for sale. Delightful country district. Death vacancy. Would suit semi-retired Doctor. Excellent house (freehold), includes surgery, 3 public rooms, 5 bedrooms, conservatory, bathroom (hot and cold), electric lighting, large garden, two garages, telephone, etc. Immediate occupation.—For further particulars apply Messrs Osborn & Mercer, 28B Albemarle Street, Piccadilly, W.1.

RURAL PRACTICE of over £1,000. Excellent house at valuation for sale.—Box 3278, B.M.J.

WEST RIDING PRACTICE for disposal. Average receipts 1944 £5,300. Panel patients 3,700. House on rental £60, which has four bedrooms, outside surgery. Orchard and land, two garages, stabling and outhouses. Premium 1½ years' purchase.—Box 3296, B.M.J.

SURGEON LIEUTENANT-COMMANDER, R.N.V.R. (Group 20), M.B., B.S., London, aged 32, married, qualified 10 years, requires PRACTICE or PARTNERSHIP in South of England on release, capital available.—Box 2788, B.M.J.

DIETETIC, DISPENSING, TYPING, SECRETARIAL, RECEPTION, ETC.

None of the vacancies for women advertised in these columns relates to a woman between the ages of 18 and 40 inclusive, unless she is exempted from the provisions of the Control of Engagement Order, 1945, or the vacancy is for employment excepted from the provisions of that Order.

WANTED, SECRETARY-BOOKKEEPER for busy practice in the Midlands, dispenser kept.—Write giving full particulars to Box 3299, B.M.J.

WANTED DISPENSER, with some knowledge of bookkeeping, for partnership of two doctors in N. Wales area. Salary, £5. No Sunday surgery. Welsh-speaking an asset, but not essential. Preference to experience and age.—Box 3080, B.M.J.

CROYDON AREA, Lady (Hall Certificate), requires PART-TIME dispensing or bookkeeping and secretarial work. Own typewriter.—Miss Edwards, 32, Whitgift Avenue, Croydon. Telephone 6295.

DOCTOR'S SECRETARY wishes situation. Willing to work in any area. Replies from Scotland welcomed.—Box 3046, B.M.J.

DISPENSER-BOOKKEEPER WANTED November 1 for general town practice.—Apply giving particulars to Dr. C. B. Jones, 61, Newmarket Road, Cambridge.

LADY, aged 33, seeks post as RECEPTIONIST to doctor. London area West End preferred.—Box 3284, B.M.J

EX-A.A.G.B., driver—welfare, nursing experience, seeks post CHAUFFEUSE SECRETARY to psychologist or doctor. Willing work hard, any hours, interesting progressive job. London area.—Box 3283, B.M.J.

IMPORTANT MEDICAL ORGANIZATION requires INTELLIGENT WOMEN with good office experience, shorthand-typing necessary. Salary according experience. Only keen progressive workers wanted.—Box 3347, B.M.J.

LADY SECRETARY, many years' experience, seeks post with doctor in London. Good typist, also qualified and experienced in DISPENSING.—Box 3331, B.M.J.

LADY DISPENSER WANTED, country town—Write stating age and full particulars to Drs. Duncan and Smith, 15, Bridge Street, Evesham, Worcestershire.

MALE RECEPTIONIST or similar duties in London. Experience 3 years hospital nursing, also works ambulance room. Part-time preferred. Remuneration secondary consideration.—Box 3285, B.M.J.

PRIVATE SECRETARY seeks employment with doctor or dentist, preferably West End London area.—Box 3330, B.M.J.

PERSONAL SECRETARY, senior, experienced and fully trained; accurate with figures. Free now.—Box 3298, B.M.J.

SECRETARY-DISPENSER required.—Dr. Cullen, 69, Sheep Street, Northampton.

SECRETARY-RECEPTIONIST required immediately for partnership, South Coast.—Dr. Kerr, 24, Albert Road, Bexhill.

WOLVERHAMPTON. Lady desires PART-TIME SECRETARIAL WORK to doctors. Temporary or permanent. Typist. Accustomed to responsible position.—Box 3282, B.M.J.

MISCELLANEOUS

WANTED, *Journal of American Medical Association*, 1940, vol. 114, Nos. 19, 20, 21, and index; 1941, vol. 116, Nos. 10, 11, and index; 1942, complete set; 1943, complete set; 1944, complete set. 1945, all issues to July 7.—Particulars to Box 3128 B.M.J.

FOR SALE, PORTABLE X-RAY APPARATUS by Alfred Cox, with all accessories including screens.—A. C. Pantostat, Hanovia Home Sun. Seen London. S.W. Write B.M./A.G.G.W.: London, S.W.1.

MICROTOME. Minot rotary, with accessories Cuts sections 1 to 25 μ, £60. Barnard's microphotographic apparatus £35.—Box 3287, B.M.J.

SALE, 4 pre-war SURGICAL WHITE COATS Excellent condition. Fit 5 ft. 9 ins. Chest 38 to 40 ins. £3 3s. each. The lot £12.—W. J. E. Dawson, Ballymoyer, Whitecross, Co. Armagh, N Ireland.

URGENTLY WANTED, HALF SET BONES, in good condition, including skull.—Box 3334, B.M.J.

FOR SALE, Maingot's *Post-graduate Surgery*, 3 volumes; Watson Jones' *Fractures*, 2nd Edition; Ballenger's *Ear, Nose, and Throat*, 7th Edition Offers singly or for the lot.—Box 3333, B.M.J.

WANTED, SECOND-HAND SURGICAL INSTRUMENTS, furniture for surgery and consulting room, blood pressure apparatus, electric diagnostic sets, ophthalmoscopes, auriscopes, microscopes, etc —Particulars to A. Fleming & Co (Succrs.), 51, Mortimer Street, London, W.1. Telephone: Mus 6292.

WANTED TO PURCHASE.—Cameras, enlargers and all photographic apparatus, exposure meters, tripods, etc., microscopes, binoculars, cine cameras, and projectors. Prompt cash and high prices offered.—Wallace Heaton, Ltd., 127, New Bond Street, London, W.1.

COMPRI-VENA (1937), Ltd.—The care and after care of Varicose Veins.—In the treatment of Varicose Veins where leg support is prescribed Compri-Vena gives meticulous attention to instructions. They will gladly supply particulars of Surgical Stockings and the service they provide.—38, South Molton Street, W.1. MAYfair 0732.

DOCTORS' WATCHES.—Franklands can still supply Gold Watches. Write for particulars.—E. J. Frankland & Co., Ltd., Marle House, South Godstone, Surrey; or London Showroom, New Bridge Street House, 30-34, New Bridge Street, Ludgate Circus, E.C.4

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HEARD AT HEADQUARTERS

The Returning Doctor

A glance at the galley proofs of *The Returning Doctor* was enough to show that this document, which will be placed, through the dispersal centres, in the hands of all practitioners returning to civil life from the Services, is another excellent piece of B.M.A. work. It has been most painstakingly compiled and every bit of information which could be of use to the demobilized doctor has been gathered in; and, what is more, has been so tabulated that it needs no long search to find it. Seldom can so much detail have been compressed within so small a space. There is hardly a question the returning practitioner can ask which will not be answered somewhere in this compilation, and answered with the necessary particularity, down to names and addresses, dates and £ s. d. If he wants to know where to look for refresher courses, what is likely to befall him in the different paths of private practice or public appointment, what obligations insurance practice entails, these and a hundred other things, there they all are in black and white. *The Returning Doctor* will be ready by the end of the month.

The American Doctor Back Home

Our colleagues across the Atlantic have a rather different, and in some ways a more complicated, problem to face in the resettlement of demobilized practitioners. The British practitioner is at least fortunate in having a licensing system which covers the entire country. He would feel a sense of grievance if, transferring himself from Cornwall to Cumberland, he had to go through a whole lot of formalities and the continuance of his right to practise depended on the discretion of some board or other. One of the most frequent questions which returning American practitioners are asking concerns their eligibility for licence to practise in States other than those in which they were licensed originally. Some States have no reciprocal relations; this is true of Florida, Idaho, Massachusetts, Rhode Island. Efforts are being made by the Department of Justice in the U.S. Government to facilitate the inter-State licensing of released officers. It is not possible to predict the success of this proposed legislation, but there is reason to believe that there will be changes in some States relating to reciprocity and the licensing of demobilized medical officers. As things are, the reciprocity and endorsement arrangements in the forty-eight States appear like a jigsaw puzzle, probably beyond the ability of any non-American to understand.

Local Information

Meanwhile the information which the returning American practitioner is receiving is as detailed as anyone could wish. An actively functioning unit of the American Medical Association has set itself the enormous task of giving information to applicants concerning the county in which they contemplate settling. The county has been taken as the unit, and there are, for instance, ninety-nine counties in the State of Iowa, and sixty-two in the State of New York. The information includes full particulars about the hospitals in the county, the public health and other medical facilities, the number of existing doctors, separated into five age groups, the principal occupations of the inhabitants, the climate, the social conditions, the state of the towns, the schools, the volume of retail sales (which are said to be an indication of the wealth of the county), the number of "resident telephones" (presumably another indication), the miles of highway, the number of dwelling units and the average monthly rentals, also the names and addresses of the president and secretary of the local medical societies. All this is set out on a sheet for each county, and it will not be the fault of his guides if the newly settling practitioner does not know all about his neighbourhood.

Disablement Advisory Committees

Medical members are now being appointed to the Disablement Advisory Committees which are being set up under the Act passed last year. The job of the committees is to advise the Minister concerning the employment of disabled persons. Each committee consists of representatives of employers and workers in the district, with other knowledgeable persons, including, on each committee, a medical practitioner The nominations of such practitioners are in future to be sought from or submitted to the Local Medical War Committee. It seems that no fee is payable to the medical members, though out-of-pocket expenses may be claimed.

In each of these areas also there is being set up an advisory panel to consider applications on behalf of disabled persons for entry on the register. It is expected that at first these panels will have a heavy task, and that weekly meetings will be necessary. The medical practitioners who are members of the panels will have the duty of interpreting the medical evidence and advising as to the action to be taken. Sometimes they may recommend resort to a specialist, but they will not themselves have the job of examining applicants. A doctor nominated to serve on the panel may, if he wishes to claim it, be paid a sessional fee of one and a half guineas. "If he wishes to claim it" conveys the suggestion that he may undertake the work without payment. It is not a very happy situation to leave it to the choice of any holder of office whether his office should be a paid one or not.

One of the Veterans

Practitioners who have served on Panel Committees or Insurance Committees since the very beginning of National Insurance must in the nature of things be getting rather few, though at Headquarters we meet them from time to time. One fine record of such service has been brought to a close by the retirement of a Leicestershire veteran, Dr. J. H. Donnell, of Station Road, Hinckley. Dr. Donnell has just retired from practice and is resigning his membership of the Leicestershire Insurance Committee, of which he was, so to speak, a founder member. He has been honorary secretary of the Panel Committee for twelve years, as well as chairman of the Local Medical War Committee. He has had a letter of congratulation on his long term of service from Dr. E. A. Gregg, the chairman of the I.A.C. Dr. Gregg is one of the veterans himself. If he was not on the London Panel Committee from the very beginning, he was on it, and its vice-chairman, very shortly afterwards.

A SERVICE FOR DOCTORS AND PATIENTS

The problem of disposing of patients needing immediate hospital treatment is one which has exercised doctors in both town and country for many years. In 1938 King Edward's Hospital Fund for London determined to try and solve it for the London area and initiated, after discussions with the Voluntary Hospitals Committee, the Voluntary Hospitals Emergency Bed Service. The service opened in June, 1938, and in its first year dealt with 7,859 cases. The rapid increase in the number of calls in the first half of 1939, when the cases dealt with were 5,131, showed that the service was much appreciated by the doctors.

At the outbreak of war the service was interrupted for three weeks when the staff were loaned to the Ministry of Health to help organize the E.M.S. At the end of three weeks the service was reopened. Records of the period between 1940 and the end of the flying-bomb attacks show that the calls on the service increase rapidly when conditions in London approximate to normal; the cases dealt with in the first half of 1945 were higher than in any other half-year since July, 1940. It seems that with stabilization of the population of London and increased activities of hospitals in the Metropolitan area the scope of the service is bound to increase.

The system on which the service operates has now seven years' experience behind it, and has become very efficient. Doctors who in the past have waited, weary and exasperated, beside a telephone at their own or at a patient's house will be surprised to know that the average number of telephone calls to hospitals for each admission has never exceeded 1.7 in any one year, and has at times been as low as 1.5. The flexibility of the arrangements is well illustrated by an incident of the flying-bomb period when the building which housed the service was damaged by a flying bomb two minutes after a call came through. The staff on duty, in spite of minor injuries, moved down to the emergency telephone in the basement, booked a bed at a hospital, arranged for the ambulance to collect the patient, and rang the doctor back to say that all arrangements had been made—all within 20 minutes of receiving the call. Owing to the nature of its work the service provides a comprehensive view of the hospital needs of the Metropolitan area. It has constant evidence of the acute shortage of accommodation for the chronic sick and aged persons, who, although not acute emergencies, need either hospital treatment or institutional care.

The problem of waiting-lists is another matter in which it has been suggested that the service might be able to help. It is necessary to ensure free choice of location and medical attention for the patient, and to preserve the healthy tradition that a hospital which has advised treatment through its expert medical staff is responsible for carrying that treatment through to a conclusion. The problems are bigger than but not different in kind from those which have already been solved successfully, and a service which has already gained confidence among doctors and hospitals may prove to be the means of solving another of their joint difficulties.

It is important that doctors in the Metropolitan area should know what the service has to offer. As it is in constant telephone communication with hospitals in London it is able to arrange for the admission of patients with the least possible delay. It provides an ambulance when necessary, and informs the doctor by telephone when arrangements are completed. The doctor is always asked if he has a preference for any particular hospital, but he will often leave the choice to the E.B.S. The service is open from 9 a.m. to 10 p.m. daily. Before the war it used to be open all night, and it is hoped to resume the all-night service when the labour position becomes easier. It appears in the telephone book under the heading of Emergency Bed Service and its telephone numbers are City 2162 and Clerkenwell 6571.

EUGENICS AND POST-WAR RECONSTRUCTION

PRESIDENTIAL ADDRESS TO SURREY BRANCH

Dr. J. H. Thompson, President of the Surrey Branch of the British Medical Association, devoted his address from the chair at the annual general meeting of the Branch, held at Warlingham Park Hospital, Croydon, to the subject of eugenics and social reconstruction. He reminded his audience of three outstanding facts: that there were now fewer people under 20 than at the end of the last war, that we were not up to replacement level in respect of the birth rate, and that there was in this country a population of 350,000 feeble-minded, many of whom would go on breeding more feeble-minded children.

After outlining the work of Galton, Mendel, and others, he said that the laws of inheritance obviously applied with equal force to all orders of living things. What man had done in the case of domesticated animals and cultivated plants he could do for himself and his kind if he so wished. The laws of heredity could be relied on with complete confidence. To a very considerable extent mental characters were governed by hereditary factors. Was it not therefore worse than folly to allow parents with bad natural qualities to have more children than those better endowed, or indeed to allow them to have children at all?

The advance of medicine and hygiene had had certain dysgenic effects by enormously diminishing selective mortality in all classes and improving the chances of weaklings to survive and leave descendants. War was a more conspicuous dysgenic factor because it enlisted the strongest and most healthy, and it was often the best who fell. The steady fall of the birth rate during the last 70 years could for the most part be traced to economic insecurity, and it obtained throughout almost the whole of society. This decline in numbers must inevitably be associated with a certain disastrous fall in quality. The heavier fall in the birth rate had occurred amongst those sections of the population who, judged by accepted standards, were the most highly endowed mentally, while a higher birth rate remained amongst the relatively defective and the less well endowed.

Differential Fertility

This differential fertility also seemed to be associated with the wider spread of contraceptive methods among the more intelligent. Statisticians said that out of this general fall in population, the four most intelligent people in every 100 would be replaced by three in the next generation, and the four dullest would be replaced by five. Members of the medical profession themselves were amongst the classes who showed low fertility. Instead of the average of 3 which was necessary for replacement, their average was 1.92.

In so far as the fall in the birth rate was due to artificial limitation of the size of families owing to financial considerations, the Government's social security scheme, including maternity benefit and family allowances, should go some way to meet the difficulty. The factor which made people limit their families was the fear of being poor—in other words, fear of being unable to live up to the standard customary in their class, and this applied in every rank of society. The family allowance such as the Government proposed would have no effect with the well-to-do; if the birth rate for this class was to be raised at all the allowances must be higher where the standard of life was higher. He suggested that in addition to the flat-rate family allowance scheme there should be a graded scheme so that different economic sections could, through some form of mutual insurance, receive children's allowances in proportion to their expenditure.

Negative Eugenics

Negative eugenics (Dr. Thompson continued) was relatively more simple. The segregation of mental defectives had the support of practically all intelligent people. Heredity could be regarded as a contributory cause in mental diseases and as playing no small part in criminal behaviour. The son of a criminal was ten times as likely to commit a crime as the son of honest parents. The ideal plan would be for every young person when accused of a crime to have his mental state examined, and if he was found definitely feeble-minded he should be certified.

But the problem of the feeble-minded was far more urgent, and was greatest in the upper grade of the feeble-minded, for the lower grade—idiots and imbeciles—scarcely ever constituted a social problem, the defect being so pronounced as automatically to call for custodial care. It was from the upper grades that the criminal and prostitute classes were recruited.

Segregation was the accepted method of treatment, though expensive and unsatisfactory in some respects. Sterilization had often been discussed, but had made little headway in this country. It would be a substantial step forward, and he thought that the principle which had sustained compulsory vaccination would be broad enough to cover cutting the Fallopian tubes. Sterilization was not punitive, but a strictly protective measure. Segregation, however, was more likely to prove acceptable as an immediate policy while the controversy over sterilization continued.

Finally, Dr. Thompson pleaded for a wider general knowledge of eugenics, saying that it was only through a rational eugenics programme that any reasonable prospect could be seen of future generations being born with higher capacities. If such a programme had been in effect for a few generations such dangers as hereditary insanity and feeble-mindedness would have been greatly diminished and the present wrong kind of differential birth rate corrected.

SCOTTISH ASSOCIATION OF INSURANCE COMMITTEES

The annual conference of the Scottish Association of Insurance Committees, held in Edinburgh on Sept. 28, gave a unanimous welcome to the proposals to secure a comprehensive medical service for the people, but expressed the opinion that the first step to be taken should be by way of extension of medical benefit under National Health Insurance, including dependants of insured persons and others of like economic status, and that medical benefit should be widened to include consultant and specialist services and diagnostic, nursing, and hospital facilities. The Association was not in favour of a whole-time salaried medical service, believing this to be inconsistent with the principle of free choice of doctor and the personal relationship between doctor and patient. The conference defeated a proposal from Glasgow that, provided the scheme for a National Health Service is available to the whole population, general practitioners serving under the scheme should not be allowed to practise privately. It carried unanimously a resolution urging that immediate steps should be taken by the Government in the interests of the civilian population to accelerate the demobilization of doctors from the Forces.

The report of the executive committee showed that in 1944 the total number of persons entitled to medical benefit in Scotland was 2,085,611, and the cost of medical benefit was £1,080,069. The number of insured women on the register at the end of 1944 was 882,000. It is expected that during the next two years there will be a rapid decrease in this number owing to large-scale demobilization and the return of men to civil employment.

Dr. A. H. G. Burton, who for the past 26 years has been medical officer of health for Ilford, retired for reasons of health at the end of September. Dr. Burton combined with his work the duties of school medical officer and medical superintendent of the borough isolation hospital and maternity home. The borough council, at a meeting on Sept. 25, recorded by resolution its appreciation of the work that Dr. Burton has done for the local public health service.

Correspondence

Shortage of Civilian Pharmacists

SIR,—Should the Ministry of Labour wait inactive while events drift to a crisis it is quite probable that people will be unable to get the medicine prescribed for them during the coming winter.

Briefly, the situation is that more than 300 pharmacists are needed to fill existing vacancies. The need is not a question of guesswork; it represents the number notified from all parts of the country to the Pharmaceutical War Committee specially appointed to advise the Government on how available pharmacists ought to be allocated between civilians and the Services. The largest number of special releases which the Ministry appears likely to concede is 100—an inadequate allotment.

It is true that 400 pharmacists are to be released under "age and length of service" before the end of the year, but these men will be free to go wherever they like. Only a few of them will be available for the vacancies which must be filled if a breakdown in the medicine supply is to be averted. Many of the vacancies are in neighbourhoods, such as remote country places or the East End of London, to which a demobilized man will refuse to go when he is free to choose.

Obviously it is in the general interest of the community to maintain a service essential to the health of the community as a whole. If the Ministry of Labour refuses to maintain it the responsibility is on them; but it does seem odd that they should ignore the unbiased advice of a committee of professional men and representatives of the Service Departments set up by the Government to give it.—I am, etc.,

JAMES C. YOUNG,
Chairman, Central Pharmaceutical War Committee.

Naval Medical Establishments

SIR,—We were gratified to see a *Times* leader of July 18, which we have just received in the Pacific, on demobilization of doctors. It is high time the scandalous overstaffing in Service medical establishments, which has for a long time been voiced in medical journals, was put before the British public, who should judge if an independent inquiry is necessary, as it is they who suffer from a shortage of doctors and it is their money which is being wasted.

Now hostilities are over a sense of loyalty no longer forbids open criticism. The naval authorities still complain of a shortage of medical officers and refuse to release officers in their age-service groups, yet no attempt is made to investigate how the majority of us, who are idling away our time, could be redistributed with a saving of man-power that would probably be more than adequate to release those who are due. A hospital ship serves as one of many examples. Naval hospital ships carry a specialist staff of seven or eight doctors, averaging about one medical officer to every forty patients. The two main functions of these ships are acting as base hospitals and carrying patients from port to port. As a base hospital a full specialist staff may be necessary, but while carrying, two, or at the most three, medical officers of average experience would be adequate. The time spent as a base hospital by these ships during this war has probably averaged less than 25% of their commissions, the remainder being occupied by carrying, refitting, or "standing by." It follows, therefore, that during 75% of commissions, 60% or more of the medical staffs in these ships have been unnecessary.

We know wastage in wartime is inevitable, but this seems beyond all limits. The authorities point out that these ships had to be ready for heavy casualties from the Fleet, but with a little organization it could easily have been arranged for ships on special duties to be joined by a specialist team at short notice anywhere in the fighting zones. With hostilities over, there is no excuse for such conditions continuing, and when we hear of the shortage of doctors at home it is easy to understand the dissatisfaction at the decision not to release medical officers in their turn.

Similar conditions are present in many shore establishments, where the number of medical officers is kept up to a fixed complement seemingly to retain the prestige or acting rank of a senior medical officer. A fluid service, essential for the least wasteful use of the medical officers available, is impossible when such conditions exist.

We also hear that the release of specialists will be a still more difficult problem. This seems strange to us who have on numerous occasions encountered R.N.V.R. medical officers, often holding higher degrees and nearly always more experienced in their specialty than the permanent service specialist, who have been told that no specialist posts are available for them, or that they must wait until they have been longer in the Service. Now the time for demobilization is at hand the authorities declare that they cannot release specialists as there are no replacements for them. This just does not make sense.

Our faith in the Central Medical War Committee has been somewhat shaken by a hint in the same *Times* leader that the Services are represented on this committee only by permanent service officers. Admissions of overstaffing cannot be expected from such representatives, since they do not recognize overstaffing as such, having only experience of Service medical routine. The civilians on the committee have no first-hand experience of present conditions in the Services, and it seems, therefore, that we can expect little help from a committee that does not include an equal representation of emergency commissioned officers.—We are, etc.,

"THREE R.N.V.R. M.O.s."

Army Ways in India

SIR,—Perhaps you can find space to print the history of a young surgeon since arriving eight months ago for service in India.

After waiting over a month in Kalyan transit camp along with more than sixty other unemployed medical officers I, tired of waiting and by direct contact with the local A.D.M.S., got employment at a near-by British military hospital temporarily, though there was no work to do. I did at least see patients there and took a turn as surgeon-on-duty, my arrival increasing the roster to four. Three weeks later posting orders arrived for me from away up high—that is to say, it was considered normal for me to be unemployed for seven weeks.

I hastened off to my posting-order location, where there was supposed to be a general hospital. To my astonishment, not yet being accustomed to the ways of administrative India, there was no unit there and never had been. After a two-day search it was located 200 miles away; and I duly joined for duty. I made the number of surgeons up to three, though there was not enough surgery to keep one surgeon going for a morning. I became busier, circumcising West African soldiers, who love hospital, and who realized that circumcision, in addition to being a *juju* against V.D., provided ten days' respite from training. Eventually I struck, though my O. i/c division was anxious to let them in to keep the numbers of admissions up and thereby justify his promotion, which was recent. The place, climate, and water were almost intolerable, and amenities were completely absent.

After five weeks, respite came in the form of an order to rejoin my parent hospital. Off I went across India again, but of course my hospital was not at the location stated, and I discovered that where they were they were not functioning and were not likely to do so for three months. Again I reported to the local A.D.M.S. as lost and unemployed, and was given an appointment which was the best I have had in India, for the O. i/c division slipped off on leave, the other surgeon got posted, and while awaiting his replacement I was the only surgeon there and actually had about four hours' work a day.

That was not to last for long; and I was again temporarily posted to a unit which was actually where it was said to be, but, of course, it had been there for three years, so the news had had time to get through to H.Q. My own hospital was in this area and was about to function. I made the fourth surgeon at this hospital and again I had no work to do, being finished at 10.30 a.m. each day, apart from the week in the month when I was surgeon on duty and at least had the expectation of work, which rarely materialized. In this area within a radius of five miles there were nine general hospitals, with twenty-three surgeons, though I assure you the total work was insufficient for one division of three surgeons, with possibly a fourth available too as a relief for leave or sickness.

Eventually I rejoined my parent hospital, where the same deplorable lack of work was present. I was there only a week when I got a permanent posting to my present unit. Again with an attached surgeon we are four in number, and work is over for the day at 10 a.m., which makes the climate and absence of amenities more intolerable. Shortly after my arrival a lieut.-col. got posting orders to a unit at a location which it had left four months ago, and at least four of us in the mess knew it was a thousand miles away from where he gaily went, saying that he would like to see that part of the country anyway. His replacement actually came from that same hospital.

I will not moralize about inefficient administration, redundancy, over-establishment, personal frustration, etc., as this history speaks for itself, but I do ask you to believe that mine is not an exceptional case but strictly the usual. Little wonder that demobilization looms so large on our horizon as the only escape from this mad useless life.—I am, etc.,

"A SURGEON IN INDIA."

Demobilization and Repatriation

Sir,—It seems certain to me that "Four Service M.O.s, S.E.A.C." (*Supplement*, Oct. 6, p. 78), had no access to the *Medical Register* or *Directory*, otherwise, by taking the trouble to have just one look at the list of foreign practitioners, they would have saved themselves from "growing concern, annoyance, and extreme misgivings." The *Medical Directory* of 1945 contains 3,653 names on that list, and analysis of these names results in the following interesting revelations: 2,443 of these practitioners have been registered as a formality, which became necessary as a result of the presence of Allied Armies. They consist of: 1,280 American Army M.O.s, 632 Canadian Army M.O.s, 285 Polish Army M.O.s, 93 Czech Army M.O.s, and 153 belonging to the Forces of Belgium, Norway, Holland, and Australia. Of the rest, a large number are, or have been, in H.M. Forces—not to forget those who have been serving in the Pioneers as early as 1939. A very large number have qualified before 1915, which puts their age well above 50 years and, therefore, above military age; as a matter of fact, there are 46 who qualified before 1905. There are other very interesting revelations to be found in this list, such as house-surgeons above the age of 60, etc.

For the purpose of putting people's minds at rest and also in the name of fair play, I hope, Sir, that you will publish this letter. For obvious reasons I also have to remain anonymous, if this is possible.—I am, etc.,

"Ex-Pioneer."

Legal Obligations of the Practising Doctor

Sir,—I note that the General Medical Council has seen fit to erase from the *Register* the name of a medical man who has refused to visit a panel patient when requested. Being a person of non-legal mind I am puzzled by this, and would be grateful if you could explain exactly what it means. Has the doctor been punished for breaking a civil contract (with the Minister of Health) or has he simply been punished for refusing service to a person in need of it? If the former, why should a severe "criminal" penalty be awarded for a civil offence? Surely the Minister is capable of dealing with this himself. If the latter, then it can only be presumed that the G.M.C. regards it as unprofessional conduct of the basest degree if a doctor refuses to go to any patient when summoned.

This opens up a very grave question affecting the liberty of the individual, and a clear ruling should be given to all medical men in practice. I have always understood that, apart from civil contracts like N.H.I. and other similar contracts, the only power that could force a doctor to attend a case is his own conscience. Is a doctor to be the only citizen in our community who is forced to accept any particular duty or business that is offered to him? Is a doctor to be compelled to attend a person who has persistently refused to pay his bills?

I think it is time the B.M.A. took counsel's opinion as to what legal obligations a doctor has when called to a case where no contract exists. In these days of sweeping reforms it would seem an appropriate time to reform the undemocratic system by which our profession is now ruled. If we are to have our living taken away from us when we decline to surrender our right to choose our own patients, then let it be done by His Majesty's judges according to the law of the land, and subject to the Court of Appeal. This letter is not meant to excuse any neglect of duty by doctors, but simply to establish the freedom which any of His Majesty's subjects (except doctors) may claim from the Courts.—I am, etc.,

J. V. Mainprise.

Health Policy

Sir,—The officers of the Socialist Medical Association (*Supplement*, Oct. 13, p. 84) have stated their aim as "the provision of the best attention that science makes possible for all, irrespective of economic position, and the best possible conditions and full professional freedom for doctors and other health workers." This sounds good—quite as good as the best in any election speech by any member of any party. In addition to this idealistic aim, the Socialist Medical Association is committed to work for the setting up of a whole-time salaried State medical service, centrally controlled by virtually anonymous bureaucrats, medical and lay. The association, therefore, has tied its own hands. It has limited itself to one method for the achievement of a great objective. It seems pertinent, therefore, to ask if there is sufficient warrant for the underlying assumption that the kind of medical service envisaged would indeed give the kind of results, free from unpleasant by-products, desired not only by the officers of the Socialist Medical Association but also by the great majority of other doctors. Until it has been clearly demonstrated that this assumption is well founded, any appeal to outsiders for co-operation with the Socialist Medical Association is at least premature. I suggest that the next move is with the S.M.A.—I am, etc.,

Bexley, Kent. E. U. MacWilliam.

Tyre Replacements

Sir,—Dr. Douthwaite's complaint about tyres (*Supplement*, Oct. 6, p. 79) is justified. The statement that "the same priority is afforded as hitherto" to doctors may be theoretically true, but it is not so in practice. When I handed in a permit I inquired what my position was in order of priority. It was twelfth. I waited for weeks and weeks, repeatedly inquiring when my tyres were likely to come. At the end of a couple of months I was told that I "must wait my turn," but, as the position was getting desperate, I could not believe that the eleven who had precedence had not been supplied. What annoyed me particularly was when the employee who was in charge of tyre supplies spoke to me "out of the side of his mouth," saying: "Just leave it to me, sir, and I'll see what I can do for you." I had the feeling that I knew what he meant, but I would not play. It appears to me that authorized dealers are in a sense acting as agents of the Regional Tyre Officer—presumably a Government official—and that this sort of thing should go on is preposterous.

I was definitely informed by the authorized dealer that *doctors have no priority over others* and can only expect their tyres when they get them because "*it all depends*"—on what?—I am, etc.,

H. M. Stanley Turner.

Brookwood, Surrey.

RETURN TO PRACTICE

The Central Medical War Committee announces that the following have resumed civilian practice: Mr. Geoffrey H. Bateman, F.R.C.S., at 55, Harley Street, W.1; Mr. T. A. Clarke, F.R.C.S., at Ersham Lodge, New Dover Road, Canterbury; Mr. F. D'Abreu, F.R.C.S., at 82, Harley Street, W.1; Dr. Thomas Hunt, F.R.C.P., at 49, Wimpole Street, W.1; Mr. H. Vernon Ingram, at Ferndale, Clayton Road, Newcastle-upon-Tyne 2 (as from Oct. 29, 1945); Dr. F. W. Jacobson, at 75, Wimpole Street, W.1; Dr. G. L. S. Konstam, F.R.C.P., at 40, Harley Street, W.1; Dr. V. R. O'Connor, at 8, Leam-Terrace, Leamington Spa; Dr. W. R. Reynell, F.R.C.P., at 87, Harley Street, W.1; Dr. D. D. Stenhouse Stewart, at 18, Albion Street, Hull.

POSTGRADUATE NEWS

The Fellowship of Medicine announces: (1) Week-end course in rheumatic diseases, at Royal Bath Hospital, Harrogate, all day Sat. and Sun., Nov. 3 and 4. (2) Week-end course in diseases of the ear, nose, and throat, at Metropolitan Ear, Nose, and Throat Hospital, all day, Sat. and Sun., Nov. 10 and 11. Full particulars of all courses from the Fellowship of Medicine, 1, Wimpole Street, W.

On Thursday, Nov. 1, at 2.30 p.m., a practical demonstration of contraceptive methods will be given at the C.B.C. Mothers' Clinic, 108, Whitfield Street, London, W.1. Medical practitioners and senior students who wish to attend should apply in writing (not telephone) to the hon. secretary.

DIARY OF SOCIETIES AND LECTURES

Royal College of Surgeons of England, Lincoln's Inn Fields, W.C.—*Thurs.*, 5 p.m., Thomas Vicary Lecture by Sir Arthur MacNalty: The Renaissance: Its Influence on English Medicine, Surgery, and Public Health.

Royal Society of Medicine.—*Thurs.*, 8.45 p.m., Section of Neurology. *Fri.*, 10.30 a.m., Section of Otology; 2.30 p.m., Section of Laryngology; 5.30 p.m., Section of Anaesthetics.

Chadwick Trust.—At Livingstone Hall, London Missionary Society, 42, Broadway, Westminster, S.W., *Tues.*, 2.30 p.m., Dr. W. P. Kennedy: Health Education, its Problems and Methods.

Royal Institute of Public Health and Hygiene, 28, Portland Place, W.—*Wed.*, 3.30 p.m., Major Joseph Minton, R.A.M.C.: Eye Diseases in the East.

B.M.A.: Branch and Division Meetings to be Held

Ayrshire Division.—At Seafield Hospital, Ayr, Sunday, Oct. 28, 7 p.m. Clinical Meeting.

Eastbourne Division.—Joint meeting with Eastbourne Medical Society at Princess Alice Hospital, Eastbourne, Tuesday, Oct. 30, 8.30 p.m. Discussion to be opened by Messrs. B. Stevens and R. Rudall: Future Hospital Policy for Eastbourne and district.

Wakefield, Pontefract, and Castleford Division.—At Clayton Hospital, Sunday, Nov. 4, 11 a.m., Mr. D. W. Currie: Ante-natal Care.

BIRTHS, MARRIAGES, & DEATHS

The charge for an insertion under this head is 10s. 6d. for 18 words or less. Extra words 3s. 6d. for each six or less. Payment should be forwarded with the notice, authenticated by the name and permanent address of the sender, and should reach the Advertisement Manager not later than first post Monday morning.

BIRTHS

Clift.—On Oct. 6, 1945, at Farnborough Hospital, Kent, to Dorothy (*née* Newell), M.B., wife of Arthur F. Clift, F.R.C.S., M.R.C.O.G., a daughter—Dorothea Priscilla.

Fletcher.—On Sept. 29, 1945, at Howard Place, Carlisle, to Mollie, wife of Tom Fletcher, M.D., F.R.C.S., of Papcastle, Cockermouth, a son—Thomas Nigel.

Hamilton.—On Oct. 16 1945, at 20, Chester Street, Edinburgh, to Rita (*née* Fraser), wife of Capt. Ian Hamilton, R.A.M.C., a daughter.

MARRIAGES

Latto—Druitt.—On Oct. 11, 1945, at Holy Trinity Church, Brompton, Dr. Douglas Latto, Lethnot Lodge, Barnhill, Dundee, to Dr. Monica Druitt, Byways, Sway, Hants.

Wilson—McCullough.—On Sept. 3, 1945, at Hampton-in-Arden, Warwickshire, J. Noël Wilson, Capt., R.A.M.C., younger son of Mr. and Mrs. A. Wilson of Kenilworth, to Patricia Norah McCullough, elder daughter of the late Mr. and Mrs. H. McCullough of Belfast.

NOTICE—Applications for vacancies advertised should, except where otherwise specified, state name, address, age, nationality, qualifications, and be accompanied by copies of 3 recent testimonials with short statement of experience and appointments held. Unless closing date is stated applications should be sent at once.

R—Male, W—Women practitioners, liable to military service under the National Service Acts.
B1—Whole-time appointments, usually resident within the senior establishment—e.g., Registrar, R.S.O., etc.
A—Whole-time resident house appointments open to practitioners without previous experience.
B2—Whole-time house appointments not within the senior establishment, usually resident, and usually held by practitioners with six months' experience.

APPOINTMENTS

INDIAN MEDICAL SERVICE. Recruitment of WOMEN MEDICAL OFFICERS.—The Government of India are prepared to recruit a limited number of women medical officers for service with the Indian Medical Service for the duration of the war. Applicants must be British subjects, of not more than 45 years of age, and those selected will be appointed in the rank of Lieutenants. Antedate of seniority may be granted up to a minimum period of 6½ years in respect of resident hospital appointments, higher qualifications, and/or professional experience. The antedate will count for pay and promotion, but, in the case of candidates recruited in this country, higher rank will not be assumed until the date of disembarkation in India. On termination of service, a minimum gratuity is guaranteed to those officers who complete one year of service, viz., Rs. 2,000 to officers whose registrable medical qualification is dated before January 1, 1940, and Rs. 1,000 to those who qualified after that date, plus one month's pay for each further completed year of Army Service. Further particulars regarding rates of pay, etc., may be obtained from the Medical Adviser, India Office, London, S.W.1, or from the Secretary, Military Department, India Office, to whom all inquiries should be addressed.

CITY OF BIRMINGHAM. Dudley Road Hospital (an acute general hospital with 1,100 beds). JUNIOR MEDICAL OFFICER (A).—Applications are invited from registered medical practitioners, male or female, for appointment as Junior Medical Officer (A) at the above hospital, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, the appointment will be for six months, otherwise it will be for one year. The salary is at the rate of £200 per annum, plus residential emoluments. Applications should be sent to the Medical Officer of Health, Public Health Department, Birmingham, 3, to reach him not later than November 12, 1945.

CITY OF BIRMINGHAM. Selly Oak Hospital (an acute general hospital of some 520 beds with an infirmary of 650 beds attached). JUNIOR MEDICAL OFFICER (A).—Applications are invited from registered medical practitioners, male or female, for appointment as Junior Medical Officer (A) at the above hospital, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, the appointment will be for six months, otherwise it will be for one year. The salary is at the rate of £200 per annum, plus residential emoluments. Applications should be sent to the Medical Officer of Health, Public Health Department, Birmingham, 3, to reach him not later than November 12, 1945.

CITY OF MANCHESTER. Withington Hospital (1,150 beds). TEMPORARY RESIDENT ASSISTANT OBSTETRICAL OFFICER (B1).—Applications are invited from registered medical practitioners, male and female, for the above-mentioned post which will become vacant on approximately January 1, 1946. Although the vacancy is on the permanent assignment of staff, the appointment will be temporary for the time being and subsequently the officer appointed will be eligible to apply for the permanent post. Candidates should have had previous experience in midwifery. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Basic salary £350 per annum, rising by annual increments of £25 per annum to a maximum of £450. Full residential emoluments are additional to the salary stated. A temporary cost of living wages addition is also payable, and the present commencing annual cash remuneration is £380 in the case of a male officer and £374 2s. 6d in the case of a female officer. Full information and forms of application may be obtained from the Medical Officer of Health, Hospitals Administration Section, G.P.O. Box 399, Town Hall, Manchester, 2, and applications for the post must be received by him not later than November 8, 1945. Canvassing in any form is prohibited.—Philip B. Dingle, Town Clerk, Town Hall, Manchester, 2.

CITY AND COUNTY OF NEWCASTLE-UPON-TYNE. Newcastle General Hospital (900 beds). HOUSE SURGEON (B2) TO THE NEURO-SURGICAL DEPARTMENT.—Applications are invited from registered medical practitioners, male and female, for the above post, to become vacant on or about November 25, 1945, including R and W practitioners who now hold A posts. The appointment is tenable for six months and the salary is at the rate of £250 per annum plus cost-of-living bonus and full residential emoluments. Applications to be forwarded to the Medical Officer of Health, Town Hall, Newcastle-upon-Tyne, 1.

CITY OF BRADFORD.—Applications are invited for the permanent position of MEDICAL OFFICER OF HEALTH of the City at a salary of £1,750 a year, rising by annual increments of £50 to £2,000. The person appointed must devote his whole time to the service of the Council, and a copy of the duties required to be performed may be obtained on application to the undersigned. The appointment is subject to the Local Government Superannuation Act, 1937, and the successful candidate will be required to undergo a medical examination. Applications should reach me not later than February 28, 1946. Candidates serving overseas may furnish the names of three referees in lieu of forwarding copies of testimonials, and should indicate where a telegram, or cable, will reach them if selected for interview. The consent of the Minister of Health has been obtained to the making of this appointment. Canvassing will be a disqualification.—N. L. Fleming, Town Clerk, Town Hall, Bradford.

CITY OF SHEFFIELD EDUCATION COMMITTEE. CHILD GUIDANCE CLINIC.—Applications are invited from persons with suitable qualifications and experience for the post of part-time PSYCHIATRIST at the Sheffield Child Guidance Clinic. The person appointed will be required to devote between five and eight sessions per week to the work, according to requirements. Having regard to the number of sessions per week, remuneration is at the rate of £2 2s per session, plus war allowance according to the Corporation scale. The session is of not more than two hours' duration. Further particulars of the appointment may be obtained from the undersigned.—Stanley Moffett, Director of Education, Education Office, Leopold Street, Sheffield.

CITY OF PLYMOUTH. City General Hospital.—Applications are invited from duly qualified and registered medical practitioners, male and female, including practitioners within three months of qualification and liable under the National Service Acts, for the appointment of JUNIOR ASSISTANT MEDICAL OFFICER (A) at the City General Hospital. The appointment will be for a period of six months, but terminable by one month's notice on either side at any time. Salary will be at the rate of £250 per annum, plus war bonus and full residential emoluments. All fees received by the Officer must be refunded to the Council. The duties of the post will be chiefly on the surgical wards of the hospital, and further details may be obtained from the Medical Superintendent. Forms of application are not provided. Applications must be addressed to the undersigned as soon as possible.—T. Peirson, Medical Officer of Health, Seven Trees, Lipson Road, Plymouth.

CITY OF PLYMOUTH. Mount Gold Orthopaedic and Tuberculosis Hospital (200 beds).—Applications are invited from registered medical practitioners, male, for the post of RESIDENT SURGICAL OFFICER (B1). Applicants should have held house appointments and had some experience of orthopaedic and fracture work. The duties are mainly in the orthopaedic and E.M.S. sections of the Hospital, but may include some duties in the pulmonary tuberculosis wards. Suitably qulaified R practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. The appointment is for one year, but terminable by one month's notice on either side at any time. Salary is at the rate of £300 per annum, plus war bonus and full residential emoluments. Married quarters are not provided. Applications should be sent to the undersigned as soon as possible, together with copies of two recent testimonials.—T. Peirson, Medical Officer of Health, Seven Trees, Lipson Road, Plymouth.

COUNTY BOROUGH OF SOUTHAMPTON. TEMPORARY ASSISTANT MEDICAL OFFICER OF HEALTH for Maternity and Child Welfare (Women).—Applications, with the consent of the Ministry of Health, are invited for the above appointment from duly qualified medical practitioners who are not already in whole-time public health employment. Salary £500 per annum, rising by annual increments of £25 to £700 per annum, plus war bonus. Applications should reach the undersigned as early as possible.—H. C. Maurice Williams, Medical Officer of Health, Civic Centre, Southampton.

COUNTY BOROUGH OF SOUTHAMPTON. Borough General Hospital. PHARMACEUTIST.—Applications are invited from male or female Pharmaceutists for work at the Borough General Hospital, Shirley Warren, Southampton (500 beds). Applicants should have had previous Hospital Dispensary experience, and must be qualified Pharmaceutists. The salary will be at the rate of £350 per annum. Applications should be addressed to the Medical Officer of Health, Civic Centre, Southampton, as early as possible.—H. C. Maurice Williams, Medical Officer of Health.

COUNTY BOROUGH OF WEST HAM. MEDICAL OFFICER OF HEALTH AND SCHOOL MEDICAL OFFICER.—Applications are invited from qualified medical men (including those in H.M. Forces) holding a Degree in or Diploma of Public Health, for the appointment of Medical Officer of Health and School Medical Officer, at a salary of £1,500 per annum, plus bonus, rising by annual increments of £50 to a maximum of £1,750 per annum, inclusive of all fees and emoluments. Applicants must be fully qualified to carry out and perform all the duties of Medical Officer of Health and School Medical Officer, and appertaining to the medical services of the Council, including those as Administrative Officer under the Mental Deficiency Acts, and such other duties as may from time to time be prescribed by the Council. The appointment will be subject to the approval of the Ministries of Health and Education, and will be terminable on three months' notice on either side. The person appointed will be required to devote his whole time to the duties of the office, and to pay over to the Council all moneys received by him in connection with the appointment from whatever source such moneys are received. He must not engage in private practice nor accept any other appointment except with the consent of the Council. The appointment will also be subject to the provisions of the Local Government Superannuation Act, 1937, and to a medical examination as required by the Council for the purposes of that Act, and the statutory contributions to the Superannuation Fund under the Act will be deducted from the salary. Applications on the form provided (which will be forwarded by the undersigned on receipt of a stamped addressed foolscap envelope) must reach me not later than noon on Saturday, February 28, 1946. Canvassing members of the Council is prohibited and will disqualify.—Charles E. Cranfield, Town Clerk, Town Hall, West Ham, E.15.

COUNTY BOROUGH OF READING. RESIDENT MEDICAL SUPERINTENDENT at Battle Hospital (583 beds) (temporary).—The Council of the County Borough of Reading invite, from registered medical practitioners, including those serving in H.M. Forces, applications for the temporary post of Resident Medical Superintendent of the above general hospital. The post is normally permanent but, in accordance with the Council's decision and the requirements of the Ministry of Health, is at present designated as temporary. The consent of the Minister of Health has been obtained to the proposed appointment. Candidates should have had wide clinical and administrative experience of general hospital work and possession of higher degrees will be considered an advantage. The salary, in accordance with the Askwith Scale, will be at the rate of £1,000 per annum, including therein emoluments valued at £200 per annum, rising by biennial increments of £50 to £1,100 per annum, together with the current cost-of-living bonus. If the Askwith scale be amended, the salary will be reviewed in the light of any such amendment. The post is subject to termination by three months' notice on either side and to the provisions of the Local Government Superannuation Act, 1937. The successful candidate will be required to pass a medical examination. Forms of application can be obtained on application to me. Applications, endorsed "Resident Medical Superintendent," should reach me not later than November 19.—G. F. Darlow, Town Clerk, Town Hall, Reading.

CITY AND COUNTY OF BRISTOL, Department of Public Health. ASSISTANT RESIDENT MEDICAL OFFICER.—Applications are invited from registered medical practitioners, male or female, for the immediate appointment of Assistant Resident Medical Officer (B2) at Ham Green Hospital, including R and W practitioners who now hold A posts. If held by an R practitioner, the appointment will be limited to six months. Otherwise it will be held for a period of one year. Salary £200 per annum, plus full residential emoluments. Application forms may be obtained from the undersigned, to whom they must be returned, accompanied by copies of not more than three recent testimonials, forthwith.—R. H. Parry, Medical Officer of Health, Kenwith Lodge, Westbury Park, Bristol, 6.

OLDHAM ROYAL INFIRMARY (203 beds). DEPUTY RESIDENT SURGICAL OFFICER, who will act as Casualty Officer and Orthopaedic House Surgeon (B2).—Applications are invited from registered medical practitioners, male and female, for the appointment of Deputy Resident Surgical Officer, to take charge of the Casualty Department and to work under the Orthopaedic Surgeon, now vacant. R practitioners who now hold A posts may apply, when the appointment will be limited to six months, otherwise it will be for a period of twelve months. Salary is at the rate of £200 per annum, with full residential emoluments. Applications should be forwarded to the undersigned immediately.—F. W. Barnett, General Superintendent and Secretary.

IMPORTANT—All applicants should read the notice at the top of page 9 about qualifications required.

COUNTY BOROUGH OF BIRKENHEAD. Department of the Medical Officer of Health, Birkenhead Municipal Hospital. RESIDENT SURGICAL OFFICER (B1) (male or female).—Applications are invited from registered medical practitioners for the appointment of Resident Surgical Officer at the Birkenhead Municipal Hospital, which will shortly become vacant. The appointment is tenable for a period not exceeding twelve months. The duties of a Resident Surgical Officer are mainly surgical and obstetrical, and preference will be given to candidates who have had surgical and obstetrical experience in a municipal or voluntary hospital. Suitably qualified R and W practitioners now holding B2 appointments may apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C., or for other reasons are not eligible for military service. Alien practitioners will be eligible for appointment. The salary attached to the appointment will be at the rate of £300 per annum, plus war bonus, and the appointment will be subject to the regulations of the Council regarding holidays, sick pay, etc. Forms of application and further particulars relating to the appointment may be obtained from the Medical Officer of Health, Dr. D. Morley Mathieson, 9, Hamilton Square, Birkenhead, to whom they should be returned as soon as possible, endorsed "Resident Surgical Officer."—E. W. Tame, Town Clerk.

COUNTY BOROUGH OF IPSWICH. Borough General Hospital.—Applications are invited from registered medical practitioners, male and female, for the appointment of RESIDENT ASSISTANT MEDICAL OFFICER (B1). Applicants should have held house appointments and had surgical experience. Salary at the rate of £350 per annum, plus full residential emoluments. Suitably qualified R practitioners holding B2 appointments, also those holding B1 and rejected by the R.A.M.C., may apply. Applications to the Medical Officer of Health, Public Health Department, Elm Street, Ipswich.

COUNTY BOROUGH OF HALIFAX. Public Health Department. TEMPORARY ASSISTANT MEDICAL OFFICER OF HEALTH for Maternity and Child Welfare (female).—Applications are invited from fully qualified medical women for the above appointment. Candidates already in whole-time Public Health employment by local authorities are not eligible. Salary scale £500 per annum, rising by annual increments of £25 to a maximum of £700 per annum. Commencing salary will be fixed in accordance with candidate's experience. The appointment will be terminable by one month's notice from either side. Applications must be received by the undersigned not later than the first post on November 2, 1945.—G. C. F. Roe, Medical Officer of Health, Public Health Department, Powell Street.

COUNTY BOROUGH OF ROCHDALE. Marland Isolation Hospital.—Applications are invited from registered medical practitioners (male or female) for the post of RESIDENT MEDICAL OFFICER (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months and in any case will only be renewable for a further period of six months. The hospital has 120 beds, and the duties will include the visiting of the neighbouring Pulmonary Hospital (36 beds). Salary £225-£275 per annum plus bonus of approximately £29 per annum with full residential emoluments. Application forms may be obtained from the Medical Officer of Health, Public Health Offices, Baillie Street, Rochdale, and must be returned to him as soon as possible.—Harry Bann, Town Clerk.

COUNTY BOROUGH OF DERBY. Derby City Hospital. RESIDENT MEDICAL OFFICER (B2).—Applications are invited from registered medical practitioners, male or female, for the appointment of Resident Medical Officer (B2), including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months, otherwise it may be extended to twelve months. The salary is at the rate of £200 per annum with full residential emoluments, plus war bonus. The hospital is a 1A Casualty Hospital with a normal complement of 312 beds plus casualty beds, for acute medical and surgical cases, and with a large obstetrical department. Applications should be sent to the Medical Superintendent, City Hospital, Derby, as early as possible.—C. Ashton, Town Clerk, Derby.

IPSWICH COUNTY BOROUGH COUNCIL. Borough General Hospital (normal beds 252).—Applications are invited from registered medical practitioners, for the appointment of RESIDENT SURGICAL OFFICER (B1). Applicants should have held house appointments and had surgical experience. R practitioners holding B2 posts may apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £500 per annum, with full residential emoluments, and the appointment is subject to one month's notice on either side. Applications should be sent at once to the Medical Officer of Health, Elm Street, Ipswich.—A. Moffat, Town Clerk, Town Hall: Ipswich.

COUNTY BOROUGH OF STOCKPORT. Stepping Hill Hospital (480 beds). RESIDENT ASSISTANT MEDICAL OFFICER.—Applications are invited from duly qualified medical practitioners for the post of Resident Assistant Medical Officer (B2) (male or female) at the above hospital. Determinable by one month's notice on either side. Salary £350 p.a. (plus cost-of-living bonus), with board, residence and laundry. The person appointed will be required to devote the whole of his/her time to the duties of the office, which are mainly surgical. R and W practitioners holding A posts may also apply, when appointment will be limited to six months; otherwise not to exceed one year. Applications are to be sent, endorsed "Assistant Medical Officer."—J. Yule, M.D., D.P.H., Medical Officer of Health, Town Hall, Stockport.

CORNWALL COUNTY COUNCIL. TEMPORARY WHOLE-TIME ASSISTANT SCHOOL MEDICAL OFFICER.—Applications are invited from registered medical practitioners for the above appointment. Part of the duties will consist of work in connexion with the establishment of a Child Guidance Service in the county. Applicants should hold the Diploma of Psychological Medicine, and experience in child psychology will be an advantage. The salary scale is from £600 per annum, rising by annual increments of £25 to £800 per annum, and the successful candidate will devote the whole of his or her time to the duties of the office, under the direction of the county medical officer. Candidates already in whole-time Public Health employment by local authorities will not be eligible. There will be a travelling allowance in accordance with the county scale. The approval of the Minister of Health has been obtained to the appointment, and candidates should submit with their applications full information as to their liability for military service, medical fitness and position with regard to deferment. Applications endorsed Assistant School Medical Officer, should be forwarded to the County Medical Officer, County Hall, Truro, not later than October 31, 1945.—L P. New, Clerk of the County Council, Truro.

EAST SUSSEX COUNTY COUNCIL. TEMPORARY ASSISTANT COUNTY MEDICAL OFFICER OF HEALTH.—Applications are invited for the post of whole-time temporary Assistant County Medical Officer from registered medical practitioners with experience in public health administration and possessing the Diploma of Public Health. The duties of the post will be mainly administrative in all branches of the Department. Commencing salary within the range of £700 to £900 per annum, rising by increments of £50, plus cost of living bonus (at present £59 16s. per annum). Travelling and subsistence allowances will be paid according to the County scale. The post will be subject to the Local Government Superannuation Act, 1937, and the successful candidate will be required to pass a satisfactory medical examination. The post is not one to replace a medical officer on war service and the approval of the Ministry of Health has been obtained to the making of the appointment. For the present, the Doctor selected for the post will not be free to apply for another appointment without obtaining permission to do so from the Ministry of Health.

Applications on a form to be obtained from the County Medical Officer of Health, County Hall, Lewes, accompanied by not more than three recent testimonials must be submitted to him not later than November 10, 1945.—H. S. Martin, Clerk of the County Council, County Hall, Lewes.

LANCASHIRE COUNTY COUNCIL. Biddulph Grange Orthopaedic Hospital.—Applications are invited from registered medical practitioners, male or female, for the appointment of RESIDENT JUNIOR HOUSE SURGEON (B2), now vacant, including R and W practitioners who now hold A posts. If held by a practitioner, male or female, who is liable under the National Service Acts, the appointment will be limited to six months, otherwise it will be for a period of twelve months. The salary is at the rate of £250 per annum, with full residential emoluments. Applications should be sent to Dr. F. Hall, School Medical and Child Welfare Department, County Offices, Preston, not later than November 3, 1945.—R. H. Adcock, Clerk of the County Council.

SURREY COUNTY COUNCIL. Kingston County Hospital, Wolverton Avenue, Kingston-on-Thames (400 beds approx.). RESIDENT SURGICAL OFFICER (B1).—Applications are invited from registered medical practitioners, male and female, for the appointment of Temporary Resident Surgical Officer (B1) to the above acute general hospital. Applications should preferably possess a higher surgical qualification. Salary £550 per annum plus war bonus and full residential emoluments. Suitably qualified R and W practitioners now holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been already discharged from military service or have been rejected by the R.A.M.C. The appointment is for a period not exceeding three years and is subject to one month's notice on either side but any Local Government Superannuation rights will be preserved. Apply to the Medical Superintendent at the Hospital by November 24, 1945.

MIDDLESEX COUNTY COUNCIL. HOUSE SURGEON (RESIDENT; A) required at ASHFORD COUNTY HOSPITAL, MIDDLESEX.—Applications invited from registered medical practitioners (men only), including those within three months of qualification who are liable to service under National Service Acts. Salary £120 per annum plus war bonus (now £60 per annum, proportion only paid in cash); board, lodging and laundry. Whole-time duties, such as Council may require, under supervision of Medical Director. Six months' appointment. Post vacant November 15, 1945. Application to Medical Director of Hospital. Application forms not provided. Closing date November 3, 1945.—C. W. Radcliffe, Clerk of the County Council, Middlesex Guildhall, Westminster, S.W.1.

WEST SUSSEX COUNTY COUNCIL. St. Richard's (Public Health) Hospital, Chichester.—Applications are invited from registered medical practitioners, male or female, for the post of ASSISTANT MEDICAL OFFICER (B1) at this hospital. R and W practitioners now holding B2 appointments may apply. Applications from R practitioners cannot be considered unless they have been rejected by the R.A.M.C. Duties mainly medical and receiving ward. Salary £350 per annum, plus war bonus (at present time, male £30, female £24 per annum) and full residential emoluments. Applications to be sent to the Medical Superintendent.

ALBERT DOCK HOSPITAL, Alnwick Road, E.16. HOUSE OFFICER (A) including duties of CASUALTY OFFICER required as from November 1.—Applications are invited from registered British practitioners including practitioners within three months of qualification who are liable to service under the National Service Acts, 1939-41. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary at the rate of £150 per annum with full residential emoluments. Applications to be sent immediately to the undersigned.—F. A. Lyon, Administrator and Secretary, Seamen's Hospital Society, Greenwich, S.E.10.

BIRMINGHAM MATERNITY HOSPITAL (Associated to the Faculty of Medicine of the Birmingham University). HONORARY OBSTETRICIAN.—The Board of Management invites applications for the position of Honorary Obstetrician to fill the vacancy caused by the death of Sir Beckwith Whitehouse, M.S., F.R.C.S. Candidates must be registered medical practitioners, and must hold the Fellowship of the Royal College of Surgeons (England) or the Membership of the Royal College of Obstetricians and Gynaecologists. The appointment will be an annual one and the holder will be eligible for reappointment. The post is open to persons at present serving in H.M. Forces. Conditions and terms of appointment, together with a list of the members of the Appointing Committee to whom copies of the application should be sent, may be obtained on request from the undersigned. The last day for applications will be December 31, 1945.—Bernard Sylvester, House Governor, Birmingham Maternity Hospital, Loveday Street, Birmingham, 4.

BRITISH HOSPITAL FOR MOTHERS AND BABIES, Woolwich.—Applications from registered medical women are invited for the post of RESIDENT MEDICAL OFFICER (B2). W practitioners who now hold A posts may apply. The appointment is for the period of one year; six months as Junior at the rate of £150 per annum, followed by six months as Senior at the rate of £200 per annum. Preference to a candidate intending to specialize in obstetrics Applications to the Secretary, Samuel Street, Woolwich.

BOSTON GENERAL HOSPITAL, Boston, Lincs. HONORARY EAR, NOSE AND THROAT SURGEON.—The Committee invite applications for this appointment from candidates prepared to engage only in consulting ear, nose and throat practice. The appointment will not be filled for four months from the date of this advertisement to enable officers serving abroad to apply. Further particulars may be obtained from the undersigned to whom applications should be addressed.—B. Haines, Secretary.

BOLTON ROYAL INFIRMARY (270 beds—Resident Medical Staff, 6).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A), vacant now, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months Salary £175 per annum, with full residential emoluments. Applications to be forwarded to the undersigned.—Joseph Griffith, Superintendent-Secretary.

THE BURSLEM HAYWOOD AND TUNSTALL WAR MEMORIAL HOSPITAL, High Lane, Tunstall, Stoke-on-Trent.—Applications are invited from registered medical practitioners, male and female (including R practitioners who now hold A posts) for the post of HOUSE SURGEON (B2). If held by an R practitioner, the appointment will be limited to six months. Salary is at the rate of £225 per annum, with full residential emoluments. Applications should be forwarded as soon as possible to C. E. Lowndes, Secretary.

IMPORTANT—All applicants should read the notice at the top of page 9 about qualifications required.

BIRMINGHAM MATERNITY HOSPITAL (associated with University of Birmingham). RESIDENT SURGICAL OFFICER.—Applications are invited from registered medical practitioners for the appointment of Resident Surgical Officer (B1), to become vacant on January 1, 1946. The post is recognized for the examinations of the Royal College of Obstetricians and Gynaeclogists. Applicants should have held house appointments and had surgical experience, preferably in obstetrics. Suitably qualified R practitioners holding B2 appointments may apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary at the rate of £200 per annum, with full residential emoluments. Applications should be sent to the undersigned as soon as possible.—Bernard Sylvester, House Governor, Loveday Street, Birmingham, 4.

BURY INFIRMARY, Lancs. (159 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE PHYSICIAN (A)—which post will become vacant about the beginning of November—including practitioners within three months of qualification who are liable for service under the National Service Acts The post also includes Gynaecology and Obstetrics. If held by a practitioner who is liable under the National Service Acts, the appointment will be for six months; otherwise renewable. Salary is at the rate of £200 per annum, with full residential emoluments. Applications to the undersigned immediately. H. Wilkinson, Superintendent.

BOLTON ROYAL INFIRMARY, Lancashire (270 beds). Resident medical staff, 6.—Applications are invited from registered medical practitioners for the appointment of ASSISTANT RESIDENT SURGICAL OFFICER (B1). Experience in surgery and house appointments essential. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they are not eligible for service in H.M. Forces. Commencing salary £275 per annum, with full residential emoluments. In the first place the appointment will be for one year. Applications to be forwarded to the undersigned.—Joseph Griffith, Superintendent Secretary.

BIRMINGHAM ACCIDENT HOSPITAL AND REHABILITATION CENTRE. HOUSE SURGEON (B2).—Applications are invited from registered medical practitioners, male and female, for the appointment of House Surgeon (B2) to become vacant on November 1, 1945, including R practitioners who now hold A posts. The appointment will be for six months. The salary is at the rate of £200 per annum, with full residential emoluments.—A. A. MacIver, Secretary.

BURTON-ON-TRENT GENERAL INFIRMARY (200 beds normal).—Applications are invited from registered medical practitioners for the appointment of CASUALTY OFFICER AND HOUSE SURGEON (A). Salary at the rate of £200, with the usual residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months. Applications to be sent to the Secretary-Superintendent.

CITY MENTAL HOSPITAL, Humberstone.—Applications are invited for the post of a TEMPORARY ASSISTANT MEDICAL OFFICER (B1), male or female. Salary, if single, £450 to £550 per annum depending upon psychiatric experience, together with board, lodging, washing and attendance, valued at £100. If married, the salary will be £550 to £650 per annum depending upon psychiatric experience, together with a partly furnished flat, further particulars of which will be given on application. An additional £50 will be paid for the possession of the D.P.M. A cost of living bonus, at present £59 16s. per annum is also payable. Suitably qualified R and W practitioners holding B2 appointments, also R practitioners now holding B1 and rejected by the R.A.M.C. may apply. Applications, with names of three referees, should be submitted to the Medical Superintendent immediately.

CHESTER ROYAL INFIRMARY (225 beds normal).—Applications are invited from registered medical practitioners, male and female, for the following appointment:—HOUSE PHYSICIAN (A), including R practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, or otherwise, the appointment will be for a period of six months. Salary is at the rate of £175 per annum with full residential emoluments. Applications should be sent to the Secretary.

CARDIFF CITY MENTAL HOSPITAL, Whitchurch, Cardiff.—Applications are invited from registered medical practitioners, male or female, for the appointment of a HOUSE PHYSICIAN (B2), including R and W practitioners who now hold A posts. If held by an R or W practitioner, the appointment will be limited to six months. Otherwise, it will be limited to a period of one year. The hospital is an acute psychiatric hospital of 200 beds dealing only with recent admissions and considerable psychiatric in-patient and out-patient experience can be gained. Salary is at the rate of £200 per annum, with full residential emoluments. Applications to the Medical Superintendent.

CITY GENERAL HOSPITAL, Gloucester (450 beds). (There is a Fracture A Department Plastic and Facio-maxillary Surgery Department, general, medical and surgical work, etc., at this hospital). A post will become vacant on November 2 for a JUNIOR MEDICAL OFFICER (B2).—Applications from male and female registered practitioners are invited, including R and W practitioners who now hold A posts. If held by an R practitioner, appointment will be limited to six months, otherwise it will not exceed one year. Salary £350, with full residential emoluments. Applicants must have had six months' postgraduate at the time of taking up the appointment. Previous experience in fracture work would be an advantage though not essential. Applications, stating when duties could be taken up, should be sent to the Medical Superintendent, City General Hospital, Gloucester.

CAMBORNE-REDRUTH MINERS' AND GENERAL HOSPITAL.—Applications are invited for the appointment of a full-time RADIOTHERAPIST to take charge of the Therapy Department at the above hospital, which is included as a unit for treatment of cancer in a draft regional service. Salary £750 to £1,000. Full particulars may be obtained from the undersigned. Applications from service candidates are specially invited and it is not proposed to make an appointment before February 16, 1946, in order that they may receive full consideration.—J. C. Field, Secretary-Superintendent.

CAMBORNE-REDRUTH MINERS' AND GENERAL HOSPITAL, Redruth.—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (A), vacant immediately. Salary at the rate of £200 per annum, with the usual residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months. Applications to be addressed to J. C. Field, Secretary-Superintendent, Redruth.

CROYDON GENERAL HOSPITAL, Surrey (200 beds).—Applications are invited for the following appointment (male or female) to commence duty on November 1, for a period of six months. R and W practitioners who now hold A posts are invited to apply. SENIOR CASUALTY OFFICER (B2). Salary £250 per annum with residential emoluments. Applications to be sent to George A. Paines, House Governor.

COUNTY MENTAL HOSPITAL, Chester.—WANTED, a TEMPORARY ASSISTANT MEDICAL OFFICER (male or female) (B1). Salary £550 per annum, with board lodging, washing and attendance. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Write for form of application, enclosing stamped addressed envelope, to the Medical Superintendent.

EAST SUFFOLK AND IPSWICH HOSPITAL, Ipswich (400 beds).—Applications are invited from registered medical practitioners for the following posts: HOUSE SURGEON (B2) to the Orthopaedic and Fracture Dept., vacant November 6, 1945; HOUSE PHYSICIAN (B2) vacant November 13, 1945; R practitioners now holding A posts may apply for the above. HOUSE SURGEON (A) to a General Surgeon, vacant now; HOUSE SURGEON (A) to a General Surgeon, vacant November 24, 1945; HOUSE SURGEON (A) to the Gynaecological and Obstetrical Dept., vacant December 7, 1945; practitioners liable to military service and within three months of qualification may apply for the above. Appointments will be for six months. Salary for each is at rate of £175 per annum with full residential emoluments. Arthur Griffiths, Secretary, The Hospital, Ipswich.

EYE, EAR, AND THROAT HOSPITAL FOR SHROPSHIRE AND WALES, Shrewsbury.—Applications are invited from registered medical practitioners of either sex for the post of OPHTHALMIC HOUSE SURGEON (B2), now vacant. Suitably qualified R and W practitioners who now hold A posts may apply, when the appointment will be limited to six months. Salary £275 per annum, with full residential emoluments. Applications should be sent to the undersigned.—C. S. Asbury, Secretary, 7, The Square, Shrewsbury.

THE EAST END MATERNITY HOSPITAL.—Applications are invited for the appointment of a RESIDENT MEDICAL OFFICER (B2) for the East End Maternity Hospital, at present evacuated to Tyringham House, Bucks, but very shortly returning to London. The appointment is for six months from the middle of November. R practitioners holding A posts are invited to apply. Salary £350 p.a. Applications to Secretary, E.E.M.H., 396, Commercial Road, E.1.

THE ELIZABETH GARRETT ANDERSON HOSPITAL, Euston Road, N.W.1.—Applications are invited from medical women for the Honorary post of TEMPORARY ASSISTANT PHYSICIAN. Applicants must be members of Royal College of Physicians. Duties to commence as soon as possible. Applications are invited from Service candidates. Applications should be sent to the Secretary by November 30.

GENERAL HOSPITAL, Nottingham (664 beds).—Applications are invited from registered medical practitioners for the appointment of RESIDENT ORTHOPAEDIC AND FRACTURE OFFICER (B1) vacant shortly. Applicants should have had previous experience in Fracture and Orthopaedic work. The Orthopaedic Department serves a large industrial district and the post offers exceptional experience in traumatic surgery. The appointment will be for a period of one year in the first instance. Salary is at the rate of £300 per annum, with full residential emoluments. Suitably qualified R practitioners holding B2 appointments, also those holding B1 appointments rejected by the R.A.M.C. may apply. Applications to be forwarded as soon as possiple to Henry M. Stanley, House Governor and Secretary.

THE GENERAL INFIRMARY AT LEEDS. Castleford, Normanton and District Branch Hospital.—Applications are invited for the appointment of RESIDENT SURGICAL OFFICER (B2). Salary £100 per annum. R and W practitioners holding A posts may apply. If held by an R practitioner the appointment will be limited to six months. Applications to be received as soon as possible, and addressed to the House Governor, The General Infirmary at Leeds.

HULL ROYAL INFIRMARY.—Applications are invited for the following posts: SECOND HOUSE SURGEON (B2) (recognized for F.R.C.S.) and ORTHOPAEDIC HOUSE SURGEON (B2). Two posts; vacant now. Suitably qualified R and W practitioners who now hold A posts may apply. If held by R and W practitioners the appointments will be limited to six months.

CASUALTY OFFICER (A) vacant November. Practitioners within three months of qualification who are liable to service under the National Service Act may apply when appointment will be for a period of six months. Salary for each of the above three posts £200 per annum with full residential emoluments. Applications to R. J. Carless, House Governor.

HOUNSLOW HOSPITAL, Middlx. (97 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE PHYSICIAN AND CASUALTY OFFICER (A), vacant November 5, including practitioners within three months of qualification who are liable for service under the National Service Acts. If held by a practitioner who is liable for war service the appointment will be for six months, otherwise renewable. Salary £150 p.a., with full residential emoluments. Applications to the Secretary immediately.

HUDDERSFIELD ROYAL INFIRMARY (321 beds).—CASUALTY OFFICER (B2) required, to commence immediately. R and W practitioners who now hold A posts may apply. If held by an R or W practitioner appointment will be limited to six months. Salary at the rate of £200, with full residential emoluments. Applications to be sent to the undersigned as soon as possible.—H. J. Johnson, General Superintendent and Secretary.

HUNTINGDON COUNTY HOSPITAL (76 beds). Wanted immediately, HOUSE SURGEON (A), male or female, salary £250 p.a., with board, lodging, and laundry. Practitioners within three months of qualification may apply, when appointment will be for a period of six months. Apply to Medical Superintendent.

JENNY LIND HOSPITAL FOR CHILDREN, Norwich.—Applications are invited from registered medical practitioners, male or female, for the appointment of RESIDENT MEDICAL OFFICER (B2). The salary is at the rate of £200 per annum, with full residential emoluments. R practitioners who now hold A posts may apply, when appointment will be limited to six months. Applications should be sent as soon as possible to Frank Inch, Secretary.

KILMARNOCK INFIRMARY. PATHOLOGIST. —The Directors of the above Institution are prepared to consider applications for the post of Pathologist. The salary suggested is £600 per annum with free house, together with a proportion of private fees which may accrue. Practitioners serving in H.M. Forces are invited to apply. Applications to be submitted to the undersigned not later than February 27, 1946.—E. R. H. Forbes, Superintendent-Secretary.

KING EDWARD MEMORIAL HOSPITAL, Ealing. —Applications are invited from registered medical practitioners, including practitioners within three months of qualification and liable under the National Service Acts, for the appointment of RESIDENT ANAESTHETIST AND HOUSE SURGEON (Gynaecological) (A), vacant November 8, 1945. Six months' appointment. Salary at the rate of £150 per annum, with full residential emoluments. Applications should be sent to the undersigned immediately.—R. A. Mickelwright, House Governor.

LEEDS PUBLIC DISPENSARY AND HOSPITAL. —Applications are invited from registered medical practitioners for the appointment of HOUSE SURGEON (A), mainly Casualty duties. Appointment for six months. Salary at the rate of £150 p.a., with board, residence, and laundry. Practitioners within three months of qualification and liable under the National Service Acts may also apply Applications to be addressed to Charles F. J. Maury, Secretary and Superintendent.

IMPORTANT—All applicants should read the notice at the top of page 9 about qualifications required.

KING EDWARD MEMORIAL HOSPITAL, Ealing.—Applications are invited from registered medical practitioners for the appointment of RESIDENT SURGICAL OFFICER (B1), vacant now. Applicants should have held house appointments and had surgical experience, preference will be given to candidates holding diploma of F.R.C.S. Salary at the rate of £350 per annum, with full residential emoluments. Suitably qualified R and W practitioners holding B2 appointments, also R practitioners holding B1 appointments and rejected by the R.A.M.C., may apply. Applications should be sent to the undersigned immediately.—R. A. Mickelwright, House Governor.

LONDON JEWISH HOSPITAL, Stepney Green, E.1.—Applications are invited from registered medical practitioners, male and female, for the appointment of RESIDENT HOUSE OFFICER (A) (duties of House Physician, House Surgeon, and Casualty Officer), now vacant, including practitioners within three months of qualification who are liable for service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months, otherwise it will be for a period of at least six months. Salary is at the rate of £150 per annum, with full residential emoluments.

LINCOLN COUNTY HOSPITAL (Voluntary Hospital, 200 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (A), vacant now. Salary is at the rate of £225 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when the appointment will be for six months.—Arthur Moore, Secretary-Superintendent.

THE LIVERPOOL SANATORIUM, Frodsham, Cheshire (175 beds).—Applications are invited from registered medical practitioners for the appointment of RESIDENT MEDICAL OFFICER (B1). Suitably qualified R and W practitioners now holding B2 posts may apply. R practitioners holding B1 posts and rejected by the R.A.M.C. may also apply. The appointment is tenable for one year. Salary, £400 per annum with full board, lodging and laundry. House available for married man, with allowance of £100 per annum in lieu of emoluments. Applications should be sent to the Medical Superintendent not later than November 17, 1945.

MANSFIELD AND DISTRICT GENERAL HOSPITAL (227 beds).—Applications are invited for the temporary post of VISITING EAR, NOSE AND THROAT SURGEON. Applicants must be F.R.C.S., and preferably possess the D.L.C., and must be of full consultant status. Salary is in accordance with the B.M.A. sessional basis scale. Not less than two sessions per week required. The post is open to persons at present serving with H.M. Forces. Conditions and terms of appointment may be obtained on request from the undermentioned. Applications must be received not later than November 24, 1945.—K. L. Ward, Secretary.

MONMOUTHSHIRE MENTAL HOSPITAL, Abergavenny.—Applications are invited from registered medical practitioners, male or female, for the post of TEMPORARY RESIDENT ASSISTANT MEDICAL OFFICER (B1) at the above Mental Hospital. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary £9 9s. per week (with an additional £50 per annum for those in possession of the D.P.M.), with rooms, board, attendance and laundry. Applications should be sent to the Medical Superintendent immediately.

MANCHESTER NORTHERN HOSPITAL (General —113 beds).—The Committee of Management invite applications from qualified medical practitioners for the post of MEDICAL REGISTRAR to the Outpatient Children's, Clinic. Duties will consist of attending the Honorary Medical Staff on Tuesday and Friday mornings each week, at a fee of £1 1s. per session. Applications to be sent to the Secretary, Mr. J. C. Daniels, 38, Barton Arcade, Manchester, 3, as soon as possible.

THE NATIONAL HOSPITAL FOR NERVOUS DISEASES, Queen Square, London, W.C.1. HOUSE PHYSICIAN (B1).—Applications are invited from registered medical practitioners for the appointment of House Physician (B1). Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £150 per annum, with full residential emoluments. Applications to be sent to the undersigned immediately. —H. Ewart Mitchell, Secretary.

THE NATIONAL HOSPITAL FOR NERVOUS DISEASES, Queen Square, London, W.C.1.—The Board of Management invite applications for the appointment of two HONORARY ASSISTANT PHYSICIANS. Candidates should be Members or Fellows of the Royal College of Physicians. Doctors serving in H.M. Forces are invited to apply. Applications should be forwarded to the undersigned not later than March 1, 1946.—H. Ewart Mitchell, Secretary.

MEMORIAL HOSPITAL, Shooters Hill, London, S.E.18. General Hospital (137 beds).—Applications are invited for the following appointments

(a) HOUSE SURGEON (B2), salary at the rate of £200 p.a. with full residential emoluments R practitioners who now hold A posts are invited to apply.

(b) HOUSE PHYSICIAN (A) who will be required to also assist in the Casualty Department. Salary at the rate of £175 p.a., with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply.

Both appointments will be for six months and applications should be submitted as soon as possible addressed to the House Governor.

NOTTINGHAM GENERAL HOSPITAL. HONORARY RADIOLOGIST.—The Board invites applications for the above position which has arisen owing to the death of the senior honorary radiologist. Candidates must be fully qualified and registered medical practitioners. The successful candidate must confine his private practice entirely to X-ray and allied work, and shall attend the hospital daily. He will be appointed for a term of five years and then be eligible for re-election. Service candidates are eligible to apply for the appointment, which will be made during the month of February, 1946. The present assistant honorary radiologist is an applicant, and if he is appointed to the post there will be a vacancy for an Assistant Honorary Radiologist. The conditions of the appointment of Assistant Honorary Radiologist are the same as for the Honorary Radiologist. Applications must reach the undersigned by the first post of February 23, 1946. —Henry M. Stanley, House Governor and Secretary.

NOTTINGHAM HOSPITAL FOR WOMEN (110 beds, including private wards, annexe for 28 patients on outskirts of town).—Applications are invited from registered medical practitioners for the appointment of HOUSE SURGEON (B1). Some experience of gynaecology and obstetrics desirable. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £225 a year, and the appointment is for six months in the first instance. Applications should be sent to the Secretary, Miss R. H. Tweedie.

NOTTINGHAM CITY HOSPITAL. RESIDENT SENIOR HOUSE SURGEON.—Applications are invited from registered medical practitioners, male, for the post of Senior House Surgeon (B1). Applicants should have held house appointments and had surgical experience. Preference will be given to candidates holding the Diploma of F.R.C.S. Salary at the rate of £350 per annum, plus war bonus, with full residential emoluments, and the appointment is terminable by one month's notice on either side. Suitably qualified R practitioners holding B2 appointments; also those now holding B1 and rejected by the R.A.M.C. may apply.—J. E. Richards, Town Clerk, The Guildhall, Nottingham.

NUNEATON GENERAL HOSPITAL (Voluntary Hospital—104 beds). HOUSE PHYSICIAN AND RESIDENT ANAESTHETIST (B2).—Applications are invited from registered medical practitioners, male and female, for the appointment of House Physician and Resident Anaesthetist (B2), vacant on November 8, 1945. Suitably qualified R practitioners holding A appointments and W practitioners are invited to apply. The appointment is for six months. Salary at the rate of £300 per annum, with full residential emoluments. Applications should be addressed to Douglas S. Pracy, Honorary Secretary, Medical Board.

NELSON HOSPITAL, Kingston Road, Merton, S.W.20.—Applications are invited from registered medical practitioners, male, for the appointment of RESIDENT ANAESTHETIST AND CASUALTY OFFICER (B2), vacant now. Salary at the rate of £250 per annum, with full residential emoluments R practitioners holding A posts may apply, when appointment will be limited to six months; otherwise may be extended.

Applications are also invited from registered medical practitioners for the appointment of a HOUSE SURGEON (A), becoming vacant on November 1, 1945. Salary is at the rate of £200 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when appointment will be for a period of six months; otherwise it will be for a period six months in the first instance.

Apply to the Secretary.

NOTTINGHAM GENERAL HOSPITAL (712 beds, including E.M.S. beds).—Applications are invited from registered medical practitioners, male and female, including practitioners within three months of qualification who are liable to service under the National Service Acts, for the appointment of a RESIDENT CASUALTY OFFICER (A) for the above hospital. Duties to commence immediately If held by a practitioner who is liable under these Acts appointment will be for a period of six months. Salary at the rate of £200 per annum, with full residential emoluments. Applications to be sent to the undersigned.—Henry M. Stanley, House Governor and Secretary.

NEW SUSSEX HOSPITAL FOR WOMEN, Windlesham Road, Brighton.—Applications are invited from registered medical women, possessing the necessary higher qualification, for the post of HONORARY ASSISTANT PHYSICIAN. Applications from candidates at present serving in the Forces are invited. Applications should be sent to Mr. P. F. Spooner, Secretary, not later than February 16, 1946.

PRINCESS ROYAL HOSPITAL, SWANSEA.—Applications are invited for the post of ASSISTANT MEDICAL OFFICER (B1) for duties in the Dermatological Unit of this Hospital. R and W practitioners now holding B2 appointments may apply. Applications from R practitioners holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Candidates should have had experience as House Physician in a General Hospital. Salary £400 per annum with full residential emoluments plus war bonus of £29 18s., or £530 per annum, non-resident, plus war bonus of £59 16s. Applications should be sent to the Medical Superintendent.—T. B Bowen, Clerk to the Visiting Committee.

THE PRINCE OF WALES'S HOSPITAL, Plymouth.—Applications are invited from registered medical practitioners, male and female, for the appointment of SENIOR HOUSE SURGEON (B2) for duty at the Devonport Section, vacant forthwith, including R and W practitioners who now hold A posts. If held by an R or a W practitioner, the appointment will be limited to six months. Salary is at the rate of £200 per annum, with full residential emoluments—Arthur R. Cash, General Superintendent, Head Office, Greenbank Road, Plymouth.

QUEEN ELIZABETH HOSPITAL FOR CHILDREN, Hackney Road, E.2. HOUSE SURGEON/CASUALTY OFFICER (B2).—Applications are invited from registered medical practitioners, male and female, for the above appointment, to become vacant on December 1, 1945, including R and W practitioners now holding A posts. Appointment will be for six months. Salary at rate of £150 per annum, with full residential emoluments. Application forms may be obtained from the undersigned and should be returned with copies of not more than three testimonials on or before November 5, 1945.—Charles H. Bessell, General Secretary.

ROYAL CANCER HOSPITAL (FREE) (Incorporated under Royal Charter), Fulham Road, London, S.W.3.—Applications are invited from qualified medical practitioners for the post of PART-TIME PHYSIOTHERAPIST to take charge of the Physiotherapy Department. The appointment in the first instance is a temporary one. Salary £250 per annum for two half-day sessions per week. The appointment will commence from January 1, 1946. Applications, to be made on a form which will be supplied by the Secretary, with copies only of not more than three recent testimonials, to be sent to the undersigned not later than the first post on Wednesday, November 14, 1945.—Victor H. Pinkham, Secretary.

ROYAL LANCASTER INFIRMARY, Lancaster (311 beds). Hospital recognized by the Royal College of Surgeons (England) for two senior posts.—Applications are invited from registered medical practitioners, male and female, for the post of JUNIOR HOUSE SURGEON (A), vacant now. The salary is at the rate of £170 per annum, with full residential emoluments. Practitioners within three months of qualification who are liable to service under the National Service Acts may apply. The appointment will be limited to six months. Applications should be sent to the undersigned.—C. H. Grimshaw, Superintendent-Secretary.

ROYAL SALOP INFIRMARY, Shrewsbury. HOUSE PHYSICIAN (A).—Applications are invited from registered medical practitioners, male and female, for the appointment of House Physician (A), to become vacant on October 31, 1945, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Otherwise, it will be for a period of six months. Salary is at the rate of £160 per annum, with full residential emoluments.—J. P. Mallett, Secretary-Superintendent.

ROYAL HOSPITAL, Wolverhampton (Incorporated under Royal Charter).—Applications are invited from registered medical practitioners for the appointment of a HOUSE SURGEON (A), vacant immediately, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, the appointment will be for a period of six months. Salary is at the rate of £100 per annum, with full residential emoluments. —W. Cockburn, House Governor.

ROYAL EYE AND EAR HOSPITAL, Bradford (100 beds).—Applications are invited for the post of HOUSE SURGEON (B2), male or female, to commence immediately, including R practitioners who now hold A posts. If held by an R practitioner, the appointment will be for six months; otherwise it may be extended. The salary is at the rate of £180 per annum, with full residential emoluments. Applications to Ernest S. Heap, Secretary-Superintendent.

IMPORTANT—All applicants should read the notice at the top of page 9 about qualifications required.

ROYAL SHEFFIELD INFIRMARY AND HOSPITAL.—Applications are invited from registered medical practitioners, male or female, including medical officers recently demobilized from H.M. Forces, for the following B1 appointments at the Royal Infirmary Unit:

RESIDENT CASUALTY OFFICER. Salary £150 per annum.

TWO SURGICAL CLINICAL ASSISTANTS.

MEDICAL CLINICAL ASSISTANT (salary for the above posts will be at the rate of £450 per annum, non-resident, or £350 per annum resident).

Also FIRST ASSISTANT to the Ophthalmic Department, salary at the rate of £650 per annum, non-resident. Applicants should have held house appointments and had surgical, medical or ophthalmic experience. Suitably qualified R and W practitioners holding B2 appointments and also R practitioners holding B1 appointments who have been rejected by the R.A.M.C. are invited to apply.

Applications to be forwarded immediately to the undersigned.—Percy N. Glass, General Superintendent, Royal Infirmary, Sheffield. 6.

ROYAL HALIFAX INFIRMARY.—Applications are invited for the post of CASUALTY OFFICER (A), to be vacant on November 5. Practitioners within three months of qualification, who are liable to service under the National Service Acts, may apply, when the appointment will be for six months. Salary £150 per annum, with full residential emoluments. Applications to be sent to A. Midgley, Secretary.

ROYAL CORNWALL INFIRMARY, Truro (351 beds—5 residential).—Applications are invited from registered practitioners, male or female, for the appointment of RESIDENT ANAESTHETIST (B2) The hospital is recognized for the Diploma in Anaesthetics. Vacant as from November 1, 1945 Salary is at the rate of £200 p.a., with full residential emoluments. R and W practitioners holding A posts may also apply. If held by an R practitioner appointment will be limited to six months Applications should be addressed to the Secretary.

ROYAL EYE HOSPITAL, St. George's Circus, S.E.1.—Applications are invited from registered practitioners, male and female, for the appointment of THIRD HOUSE SURGEON (B2), now vacant, including R and W practitioners who now hold A posts. If held by R practitioners the appointment will be limited to six months. Otherwise it will be for the period ending April 30, 1946. The above is at the rate of £175 per annum, with the usual emoluments. Applications to be sent to the Secretary as soon as possible.

ROYAL DEVON AND EXETER HOSPITAL, Exeter (448 beds—6 Resident Medical Staff employed).—Applications are invited from registered medical practitioners, male and female, for the post of HOUSE SURGEON (A), now vacant. Salary is at the rate of £180 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months. Applications should reach the undersigned by October 31, 1945.—L. Parkhouse, Secretary and Manager.

ROYAL SURREY COUNTY HOSPITAL, Guildford (247 beds). TWO HOUSE PHYSICIAN/CASUALTY OFFICERS (A).—Applications are invited for the above appointments from registered medical practitioners, including those within three months of qualification who are liable for service under the National Service Acts. Each appointment is for six months as from December 1, and is recognized in connexion with the M.D. examination. Salary £175 per annum, with full residential emoluments. Applications should be sent to the Secretary-Superintendent as soon as possible.

REDLANDS HOSPITAL FOR WOMEN, Glasgow. Applications are invited from registered medical women for the post of PHYSICIAN to Children's Out-patient Department. Applications should be sent to the Medical Secretary, Redlands Hospital, Glasgow, W.2, to be received by December 31, 1945.

THE RADCLIFFE INFIRMARY, Oxford.—Applications are invited from registered medical practitioners, male and female, including practitioners within three months of qualification who are liable to service under the National Service Acts, for the post of HOUSE SURGEON (A) to the Accident Department. The appointment will be for six months with a salary at the rate of £100 per annum, with full residential emoluments. Applications should be sent to the undersigned not later than Monday, November 5, 1945.—A. G. E. Sanctuary, Administrator.

THE ROYAL CANCER HOSPITAL (FREE), (Incorporated under Royal Charter), Fulham Road, London, S.W.3.—Applications are invited for the post of HOUSE SURGEON (A). Salary at the rate of £200 per annum. The appointment is subject to rules, a copy of which can be obtained from the Secretary. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when appointment will be for six months, to commence duty on January 1, 1946. Applications, to be made on a form which will be supplied by the Secretary, with copies only of not more than three recent testimonials, to be sent to the Secretary not later than the first post on Wednesday, November 14, 1945.—V. H. Pinkham, Secretary.

IMPORTANT NOTICE

APPOINTMENTS

Medical practitioners are requested **not to apply** for any appointment referred to in this notice without first having communicated with the Secretary to the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of the Australian appointment, with the Secretary at B.M.A. House, or the Hon. Secretary, Western Australian Branch, Shell House, 205, St. George's Terrace, Perth).

GOVERNMENT SERVICE

COMMISSIONER OF PUBLIC HEALTH, Perth, Western Australia.

CONTRACT PRACTICE

ABERTYSSWG MEDICAL AID SOCIETY.—*(Medical Officer.)*

LLWYNYPIA, CLYDACH VALE, PEN-Y-GRAIG, GLAMORGAN.—*(Workmen's Medical Scheme.)*

MID-RHONDDA MEDICAL AID SOCIETY.—*(Assistant Medical Officer.)*

NEATH AND DISTRICT.—*(Medical Aid Association.)*

OGMORE VALLEY, GLAMORGAN.—*(Wyndham Colliery Medical Aid Society.) (Workmen's Medical Scheme.)*

PUBLIC ASSISTANCE

CITY AND COUNTY OF BRISTOL. PUBLIC ASSISTANCE COMMITTEE.—*(District Medical Officer.)*

MENTAL HOSPITAL SERVICE

ROXBURGH DISTRICT MENTAL HOSPITAL, MELROSE.—*(Medical Superintendent.)*

SOMERSET AND BATH MENTAL HOSPITAL, COTFORD.—*(Deputy Medical Superintendent.)*

VOLUNTARY HOSPITAL

NORTHAMPTON GENERAL HOSPITAL.—*(Whole-time Pathologist.)*

By Order of the Council.

CHARLES HILL

October 23, 1945. *Secretary.*

ROYAL BERKSHIRE HOSPITAL, Reading.—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (B2) to the GYNAECOLOGICAL AND OBSTETRIC DEPARTMENT, to become vacant on December 1, 1945, including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months. Salary is at the rate of £200 per annum, with full residential emoluments.

Applications are also invited from registered medical practitioners, male and female, for the following appointment:—CASUALTY OFFICER (A), to become vacant on December 7, 1945. Salary is at the rate of £150 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months.

Applications should be sent immediately to H. E. Ryan, Secretary and House Governor.

ROYAL SAMARITAN HOSPITAL FOR WOMEN, Glasgow.—The Governors invite applications for the post of VISITING SURGEON in the hospital. Practitioners serving in H.M. Forces are invited to apply. Particulars as to duties, etc., may be obtained from the undersigned, with whom candidates are requested to lodge twenty-five copies of application and three relative testimonials with each not later than Thursday, February 28, 1946. Candidates are informed that canvassing is not allowed.—T. Mason MacQuaker, Secretary and Treasurer, 179, West George Street, Glasgow, C.2.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.1.—Applications are invited for the post of TEMPORARY HONORARY ASSISTANT GYNAECOLOGIST and OBSTETRICIAN to the hospital. Candidates are expected to submit such evidence of their qualifications as they may think desirable. Applications to the Secretary not later than November 10, 1945.

ST. BARTHOLOMEW'S HOSPITAL, E.C.1. TEMPORARY CHIEF ASSISTANT in the Department of Anaesthetics.—Applications are invited for the post of whole-time Chief Assistant in the Department of Anaesthetics at St. Bartholomew's Hospital. Salary from £350 to £550 per annum. Applications to the undersigned not later than November 10, 1945.—C. C. Carus-Wilson, Clerk to the Governors.

THE SUTTON AND CHEAM GENERAL HOSPITAL, Sutton, Surrey.—Applications are invited for the temporary appointment of HONORARY PHYSICIAN to take charge of the Medical Outpatient Clinic on Friday afternoons at 3 p.m., and to look after such in-patient cases as are allotted to him. Candidates must be registered medical practitioners and must hold the degree of M.D., or higher qualification. Applications should be sent to the Secretary by Saturday, November 10, 1945.

ST. MARY'S HOSPITAL, W.2. Radiotherapy Department. Appointment of personnel.—The Board of Management intend in the near future to make the following whole-time appointments:

(a) DIRECTOR OF RADIOTHERAPY DEPARTMENT.

(b) ASSISTANT RADIOTHERAPIST.

(c) PHYSICIST.

The DIRECTOR will have full staff status: this appointment will not be made immediately because it is not the hospital's policy to make such appointments under present circumstances. Applications are now invited for the interim appointment of whole-time Radiotherapist, salary to be at the rate of £800 per annum. The appointment will be for one year, the holder to be eligible for re-election. The successful candidate will be required to join the Federated Superannuation Scheme. Applications should reach the House Governor, St. Mary's Hospital, W.2, not later than Friday, January 4, 1946.

ASSISTANT DIAGNOSTIC RADIOLOGIST (whole-time).—Applications are invited for the above post. Candidates must possess a Diploma of Radiology. The appointment is for one year, at a salary of £600 per annum. The successful candidate will be required to join the Federated Superannuation Scheme. Applications should reach the House Governor, St. Mary's Hospital, W.2, not later than November 1, 1945.

SECOND ASSISTANT DIAGNOSTIC RADIOLOGIST (part-time).—Applications are invited for the above post. Candidates must possess a Diploma of Radiology. The appointment is for six months, at a salary of £250 per annum, the holder to be eligible for re-election. He will be required to devote five half days per week to his work. Applications, together with not more than three testimonials, should reach the House Governor, St. Mary's Hospital, W.2, not later than November 1, 1945.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone Road, London, N.W.1.—Applications are invited from registered medical practitioners, male and female, for the appointment of a HOUSE SURGEON (B2), including R practitioners who have held A posts, for a period of six months commencing November 15, 1945. Salary at the rate of £150 per annum, with board, lodgings and laundry. Applications should be sent to the Secretary at the Hospital on or before Wednesday, October 31, 1945. —G. H. Hawkins, Secretary.

SWANSEA GENERAL AND EYE HOSPITAL.—Applications are invited from registered medical practitioners, male and female, for the appointment of CASUALTY OFFICER (B2), now vacant, including R and W practitioners who now hold A posts. If held by an R or W practitioner the appointment will be limited to six months. The salary is at the rate of £192 10s. per annum, with full residential emoluments.—O. C. Howells, Secretary-Superintendent.

SUSSEX EYE HOSPITAL, Eastern Road, Brighton (45 beds).—Applications are invited from registered medical practitioners for the appointment of a HOUSE SURGEON (B2), male or female, including R practitioners who now hold A posts. Salary is at the rate of £175 per annum, with full residential emoluments. If held by an R practitioner the appointment is limited to six months. Applications should be sent to the undersigned.—Percy F. Spooner, Secretary-Superintendent.

ST. ANDREW'S HOSPITAL, Northampton.—Applications are invited from registered medical practitioners for appointment of TEMPORARY ASSISTANT MEDICAL OFFICER (B1). Previous psychiatric experience advisable, but not essential. Commencing salary £500 per annum, together with board, lodging, laundry, and attendance. Suitably qualified R and W practitioners now holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Applications should be sent to the Medical Superintendent.

SCUNTHORPE AND DISTRICT WAR MEMORIAL HOSPITAL, Scunthorpe, Lincs.—The Board of Management invites applications from registered medical practitioners for the post of HONORARY SURGEON to the Ear, Nose, and Throat Department, vacant December 31, 1945. Applicants must be Fellows of one of the Royal Colleges or hold such qualifications as may be acceptable to the Board of Management. Qualifications, giving names of referees or accompanied by confidential reports from referees should reach the undersigned not later than November 9, 1945. The appointment, in accordance with the constitution, will in the first instance be for a period of one year, with eligibility for reappointment.—S. Lord, Secretary-Supt.

STAMFORD, RUTLAND AND GENERAL INFIRMARY.—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (B2), to become vacant on December 1, 1945, including R practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months. Salary is at the rate of £300 p.a., with full residential emoluments. Applications to the Secretary, H. F. Donald, The Infirmary, Stamford.

(Continued on the Inside Back Cover)

CHARGES FOR CLASSIFIED ADVERTISEMENTS

For full list please see October 20, p. 16.

APPOINTMENTS—Hospitals and Public Health, commence at page 9

PERSONAL

ANNUITIES almost tax-free for RETIREMENT, expert advice on best rates and conditions gratis. Young Practitioners should inquire re "Composite Contract," assuring five crucial features.—F. W. Hartley and Co., Annuity Specialists, 65-66, Chancery Lane, London, W.C.2.

CAN ANYONE HELP retired doctor to FIND a flat, bungalow, small house, or part of house, to rent, in or near Edinburgh.—Box 3519, B.M.J.

DOCTOR, whole-time industrial post, requires ACCOMMODATION, Monday evening to Friday morning; exchange HELP certain evenings; North London preferred.—Box 3623, B.M.J.

MAY WE SEND specimen of Comparator Stethoscope on approval for clinical trial? No obligation. —Capac Co., Ltd., 2, Ullswater Road, London, S.W.13.

POSITION may shortly be vacant for EDITOR MANAGER of projected journal with strong medical interest. Proprietors would be prepared to discuss this position with potential applicant. Write in first instance.—Box 3549, B.M.J.

NOTICES

APPLICANTS ARE ADVISED not to send original testimonials when replying to advertisements. Copies will answer the purpose quite as well, and in the event of their being lost or mislaid no inconvenience will ensue.

EVERY EFFORT IS MADE to ensure the accuracy of advertisements appearing in the *Journal*. No recommendation is implied by acceptance, and the British Medical Association reserves the right to refuse or interrupt the insertion of any advertisement.

LIVERPOOOL SCHOOL OF TROPICAL MEDICINE. (University of Liverpool.)

COURSES OF INSTRUCTION.—Courses of instruction for the Diploma in Tropical Medicine (lasting three months) and for the Diploma in Tropical Hygiene (lasting two months) are given twice annually. The next course for the D.T.M. will begin on January 3, 1946.

TREATMENT OF PATIENTS.—There is a clinical department at the School for all sufferers from diseases contracted in the tropics. Cases needing hospital treatment are admitted to the Tropical Wards (general and private) of the Liverpool Royal Infirmary, which adjoins the School. Special arrangements are made for members of H.M. Government and for members of certain firms who are regular subscribers to the School.

MIDDLESEX HOSPITAL ANNUAL BALL, Grosvenor House, November 22. Royal Air Force Dance Orchestra (The Squadronnaires) from 8 p.m. to 1 a.m. Bar, Buffet, Cabaret. Tickets 2 gns. double from Hon. Secretaries, Annual Ball, Middlesex Hospital, W.1.

THE FACT THAT GOODS made of raw materials in short supply owing to war conditions are advertised in this *Journal* should not be taken as an indication that they are necessarily available for export.

WALSALL GENERAL HOSPITAL (181 beds). TO DEMOBILIZED PRACTITIONERS.—The Executive and Medical Committees of the above-named hospital have decided to offer to members of the medical profession who have been serving with His Majesty's Forces and have now returned to civilian life, facilities for refreshing their familiarity with civilian medical practice and will be glad to welcome at the above hospital such practitioners and to make arrangements for them to attend the hospital at suitable times. The House Governor will be pleased to put medical practitioners in touch with the appropriate consultants.—W. H. Harper, Honorary House Governor.

UNIVERSITY AND INDUSTRIAL APPOINTMENTS

APPLICATIONS are invited from registered medical practitioners, including those in H.M. Forces, for the post of WHOLE-TIME INDUSTRIAL MEDICAL OFFICER to a large engineering firm in the West of Scotland, within 10 miles of Glasgow. Candidates should preferably be under 35 years of age, and previous experience in industrial medicine is not necessary. This is a permanent post with good prospects, and is pensionable. The commencing salary will not be less than £1,000 p.a. Applications should be submitted before February 13, 1946.—Box 3052, B.M.J.

INDUSTRIAL MEDICINE.—Large industrial concern, about 6,000 employees in U.K., has opening for PHYSICIAN, M.R.C.P. or equivalent. Full-time appointment. London Graduate preferred. State age and all particulars. Applications should be received not later than February 28, 1946. Minimum salary £1,500 p.a.—Box 3543, B.M.J.

WANTED in the Spring of 1946, or earlier, a fully qualified EUROPEAN MEDICAL OFFICER to attend to European and Anglo-Indian families of a group of companies in Northern India. Good surgical and medical qualifications with tropical experience essential. Well-equipped hospital with operating theatre and X-ray plant, etc., available. Salary minimum of Rs.2,000 per month, with car allowance and free unfurnished bungalow. Provident fund available and opportunity for private practice. Preference will be given to practitioners who have served or are still serving with H.M. Forces. Applications will be taken into consideration on and after February 27, 1946. Excellent opportunity for the right man. Write, in duplicate, giving full particulars of previous experience, copy testimonials (if any), stating age, etc.—Box 3501, B.M.J.

EXAMINING SUGEONS: Factories Act, 1937.—The following appointments as Examining Surgeons under the Factories Act, 1937, are vacant: Ashbourne, in the County of Derby; Rhyl, in the County of Flint; Hoylake, in the County of Chester; Lincoln, in the County of Lincoln; Lyme Regis, in the County of Dorset; Loanhead, in the County of Midlothian. Applications, which should be received not later than November 14, 1945, should be sent to the Chief Inspector of Factories, 8, St. James's Square, London, S.W.1.

LONDON AND NORTH EASTERN RAILWAY. —Applications are invited for the post of ASSISTANT MEDICAL OFFICER, stationed at Edinburgh, to cover the work in the Scottish Area and at Newcastle. Commencing salary £700 to £800 per annum (including war advance). Practitioners serving in H.M. Forces are invited to apply. All information can be obtained from the Divisional General Manager, London and North Eastern Railway, 23, Waterloo Place, Edinburgh, to whom applications should be addressed not later than February 28, 1946.

UNIVERSITY OF DURHAM. King's College, Newcastle-upon-Tyne.—Applications are invited for the following whole-time appointments:—(*a*) LECTURER IN PATHOLOGY to dental students; (*b*) LECTURER IN PHYSIOLOGY to dental students. The appointments will be temporary in the first instance and will be re-advertised in due course, when the holders will be entitled to submit an application. Teaching experience and a medical qualification, while not essential, would be an advantage. Salary £650 to £850 according to qualifications and experience. Federated Superannuation Scheme. The successful applicants will be required to take up their duties on January 7, 1946, or if now serving in H.M. Forces or other National Service on release. Applications, with the names of not more than three persons to whom reference may be made, should be sent not later than November 24, 1945, to the undersigned, from whom further particulars may be obtained.—G. R. Hanson, Registrar of King's College, Newcastle-upon-Tyne.

UNIVERSITY OF BRISTOL.—The University invites applications for the following full-time posts in the Faculty of Medicine:—A LECTURER (Grade II) in ANATOMY, salary £650. A LECTURER (Grade II) in PHYSIOLOGY, salary £650. A LECTURER (Grade II) in PATHOLOGY, salary £500-£600, according to qualifications and experience A LECTURER (Grade I) in MEDICINE, salary £900. A LECTURER (Grade I) in OBSTETRICS, salary £900. A LECTURER (Grade I) in BACTERIOLOGY, salary £900. A LECTURER (Grade I) in PREVENTIVE MEDICINE, salary £1,000. A LECTURER (Grade I) in CLINICAL PATHOLOGY, salary £1,000. Practitioners serving in H.M. Forces are invited to apply.

Applications should reach the undersigned, from whom further particulars may be obtained, not later than February 27, 1946.—Winifred Shapland, Secretary and Registrar.

UNIVERSITY OF BIRMINGHAM. FACULTY OF MEDICINE. FULL-TIME CLINICAL CHAIRS.—Applications are invited for full-time PROFESSORSHIPS in the following subjects:—MEDICINE, SURGERY, GYNAECOLOGY, PAEDIATRICS. Practitioners serving in H.M. Forces are invited to apply. Salary in each case £2,500. Further particulars may be obtained from the undersigned, to whom applications should be sent not later than February 28, 1946.—C. G. Burton, Secretary, The University, Edmund Street, Birmingham, 3.

UNIVERSITY OF LONDON.—The Senate invite applications for the READERSHIP IN PUBLIC HEALTH tenable at the London School of Hygiene and Tropical Medicine (salary £1,050). Practitioners serving in H.M. Forces may apply. Applications must be received not later than January 29, 1946, by the Academic Registrar, University of London, Richmond College, Richmond, Surrey, from whom further particulars should be obtained.

EDUCATIONAL

L.M.S.S.A. FINAL EXAMINATIONS: Surgery, Dec. 10, Jan. 14; Feb. 11. Medicine, Pathology, Dec. 17, Jan. 21, Feb. 18. Midwifery, Dec. 18, Jan. 22, Feb. 19. —For particulars apply Registrar, Apothecaries Hall, Blackfriars Lane, E.C.4.

POSTGRADUATE STUDY instruction is arranged in medical, surgical, and special subjects, as circumstances permit. Information and advice obtainable from the Fellowship of Postgraduate Medicine, 1, Wimpole St., London, W.1. Langham 4266.

POSTGRADUATE STUDY. Diploma of Anaesthetics; Diploma in Psychological Medicine; Diploma in Ophthalmology; Diploma in Radiology; Diploma in Larynology; Diploma in Child Health. F.R.C.S.Eng. and all Surgical Examinations; M.R.C.P.Lond. and all Medical Examinations; M.D. Thesis of all Universities; Courses for all Qualifying Examinations. Complete Guide to Medical Examinations sent free on application. Applicants should state in which qualification they are interested Address: Secretary, Medical Correspondence College, 19, Welbeck St., London, W.1.

POSTAL COACHING for all Medical Examinations. Some successes from 1901-1944: M.D.Lond., 440; M.B., B.S.Lond., final, 386; M.R.C.S.Eng., primary, 365; F.R.C.S.Eng., final, 262; M.R.C.P. Lond., 365; M.R.C.S., L.R.C.P., final, 815; D.A. (1936-44), 72; F.R.C.S.Edin. and D.R.C.O.G., many successes. Assistance with M.D. thesis. Special arrangements for medical officers with Forces. Medical prospectus (24 pp.) gratis, along with list of Tutors, etc., on application to the Principal. — University Examination Postal Institution, 17, Red Lion Square, London, W.C.1. Phone: HOLborn 6313.

RHEUMATIC DISEASES WEEK-END COURSE at Royal Bath Hospital, Harrogate, on Saturday, November 3 and Sunday November 4.—Full particulars from Fellowship of Postgraduate Medicine, 1, Wimpole Street, London, W.1. Langham 4266.

THE BEDFORD PHYSICAL TRAINING COLLEGE 37, Lansdowne Road, Bedford. Principal. Miss Stansfeld, O.B.E.; Vice-Principal, Miss Petit. Students are trained to become teachers in Gymnastics and Games, and the training, which extends over three years, includes Educational and Medical Gymnastics, Massage, Games, Dancing, and Swimming. Fees: £165 per annum. Two scholarships of £50 and two of £25 are offered annually.—For particulars apply Secretary.

ASSISTANTSHIPS VACANT

WANTED, experienced MALE ASSISTANT in large mixed practice in Midland country town Secretary, dispenser and receptionist employed. Three partners, one in Services. Senior partner on staff of local hospital. Salary £850 p.a., car provided, furnished rooms available. Applicants must be British by birth, experienced and willing to work hard.—Apply Drs. McOuat, Goode and Norman, 28, Leicester Road, Loughborough.

WANTED IMMEDIATELY, ASSISTANT, male, minimum period six months, may lead to partnership if suitable man. Mixed practice in pleasant South London suburb.—Box 3605, B.M.J.

WANTED AT ONCE, INDOOR ASSISTANT for pleasant non-colliery district of Sth. Wales.—Box 3521, B.M.J.

WANTED, immediately, indoor and outdoor ASSISTANTS for town and country practices with and without view to partnership, also Locums, good salaries offered, state full particulars.—British Medical Bureau, 33, Cross Street, Manchester, 2.

WANTED, December or earlier, ASSISTANT with VIEW to Partnership. Large town and country practice near Southampton. Married man with English or Edinburgh University Degree preferred. Previous experience in general practice and midwifery and ownership of car essential. Unfurnished house or flat provided. Salary £700 per annum plus car allowance.—Box 3567, B.M.J.

WANTED, ASSISTANT, lady, South Devon practice, well qualified and of cheerful disposition, some experience of general practice an advantage, live in, car provided, good salary.—Box 3568, B.M.J.

WANTED, OUTDOOR ASSISTANT. English or Scotch, north-east coast, good prospects, salary £800, rooms only available at present.—Box 3503, B.M.J.

WANTED PART-TIME ASSISTANT for middle-sized mixed practice Manchester area. Suit post-graduate student.—Apply, Dr. Shahab, 236, Ellor Street, Pendleton, Salford, Lancs.

WANTED, LADY ASSISTANT, London, N.1. Salary not less than £720 per annum, free furnished quarters and part fuel and light, no midwifery, no objection to recently qualified, etc., attendance provided.—Box 3506, B.M.J.

WANTED, ASSISTANT, male, Scotch or English, for semi-rural practice S.E. Essex. Furnished accommodation now—house later, with partnership and succession if desired. Salary £700. Car provided.—Box 3610, B.M.J.

WANTED, ASSISTANT for at least six months in General Practice in large Devon town. Salary £750 per annum, plus bonus, plus car allowance if own car. Outdoor. Start immediately.—Box 3520, B.M.J.

WANTED, ASSISTANT with VIEW in large home town practice. Experience in midwifery and anaesthetics useful.—Box 3255, B.M.J.

WANTED ASSISTANT with VIEW in North Derbyshire mining village. Furnished house provided. Car if necessary. Salary £800.—Box 3310, B.M.J.

WANTED MALE ASSISTANT, mixed practice in South-West Lancashire, unfurnished house available, salary by arrangement.—Box 3001, B.M.J.

WANTED ASSISTANT with or without VIEW, practice with 3 partners, mixed private and panel. North-East town.—Box 3057, B.M.J.

WANTED, ASSISTANT with VIEW to succession in old-established Lancashire mixed practice, preferably recently qualified and unmarried. Moderate salary, car allowance, and all found.—Box 2348, B M J.

WANTED, Stoke-on-Trent, keen OUTDOOR ASSISTANT, British; £850; car provided.—Box 552, B.M.J.

WANTED, ASSISTANT with VIEW in large ractice, South Coast town, accommodation available, excellent prospects.—Box 3611, B.M.J.

ASSISTANT with early VIEW wanted immediately or large practice on border of Lake District. Senior artner of 4 retiring. Own car. £650 all found.—Box 3579, B.M.J.

ASSISTANT with VIEW PARTNERSHIP wanted partnership of five in London suburb to take place f partner going abroad in six months. Share ltimately £2,500 or more. Suit Evangelical hristian, preferably unmarried, and 30-40 yrs.—Box 3607, B.M.J.

ASSISTANT required N. Staffs, indoor or outdoor. alary by arrangement.—Box 3522, B.M.J.

ASSISTANT REQUIRED in a country practice ear Reading. Accommodation available for single r married man. Partnership would be considered fter preliminary assistantship. Allowance for use f own car.—Box 3502, B.M.J.

ASSISTANT WANTED, English or Scottish, indoor, oung, with or without VIEW, good-class rural ractice, car provided. Salary by arrangement.—Dr. Collyns, Dulverton, Somerset.

ASSISTANT, with VIEW, wanted industrial practice, 10 miles West of Birmingham; unfurnished ouse available.—Box 3561, B.M.J.

ASSISTANT WANTED, male, young, English or Scottish, indoor, or house available if married; alary by arrangement; one other assistant kept; ondon area.—Box 3585, B.M.J.

ASSISTANT WANTED, male or female, Leics. wo partners, dispenser, and secretary, work leasant including hospital, salary by arrangement.—Box 3002, B.M.J.

ASSISTANT, indoor or outdoor. Central Scotland, leasant area. Salary by arrangement. Good prospects.—Box 3257, B.M.J.

ASSISTANTSHIP with VIEW PARTNERSHIP, Midland country practice, non-industrial, panel 1,000. House to rent. Share 2/5 of £3,000.—Box 306, B.M.J.

CROYDON PRACTITIONER requires ASSISTANCE, three evening surgeries weekly for some months.—Please 'phone THO 1035. Dr. Deane, ondon Road, Croydon.

LADY DOCTOR in S.W. London requires PART-TIME LADY ASSISTANT for some morning and evening surgeries and visits. Car provided to drive elf. State age and nationality.—Box 3582, B.M.J.

MALE OUTDOOR ASSISTANT WANTED immediately for West Wales practice. Hospital experience and Welsh speaking desirable. Apply stating experience and terms. Unfurnished house available.—Box 3504, B.M.J.

OUTDOOR ASSISTANT (British), wanted by two partners in pleasant semi-rural district, Midlands, from November 1. Good rooms available, furnished, with full board. Should have own car. Salary £600. Car allowance (by arrangement) and all found. Suit single man or woman.—Box 3554, B.M.J.

OUTDOOR ASSISTANT, either sex, unmarried, required in Colliery practice in South Yorks. Salary £600 p.a. Car, furnished rooms and board provided.—Box 3609, B.M.J.

OCCASIONAL ASSISTANCE REQUIRED by medical woman; non-panel practice; London, W.—Box 3622, B.M.J.

PART-TIME ASSISTANCE WANTED for four or five afternoons a week. Say 4.30-6.30. Battersea area.—Box 3566, B.M.J.

ASSISTANTSHIPS WANTED

WANTED, ASSISTANTSHIP VIEW, succession or partnership, income £1,800 upwards, just demobbed, 38, married, fit. Own practice 8 years. Capital available. London suburbs or South Coast preferred.—Box 3505, B.M.J.

WANTED, OUTDOOR ASSISTANTSHIP, preferably with VIEW, by M.B., B.Ch., ex-Squadron Leader R.A.F., age 41, married, 17 yrs.' experience hosp., G.P., midwifery. House essential. Free [illegible] December.—Box 3560, B.M.J.

ASSISTANTSHIP WANTED. Anglo-Irish, 27. Mid-January or February. Married. Furnished flat or house and car necessary. Experienced.—Box 3616, B.M.J.

DOCTOR, aged 29, ex-R.A.M.C., experienced hospital, G.P., available now for FULL or PART-TIME EMPLOYMENT London area.—Box 3340, B.M.J.

DOCTOR with own car wishes to do PART-TIME WORK in the London area, locums considered.—Box 3526, B.M.J.

D.M. (OXON) Surgeon-Commander R.N.V.R., demobilized, seeks ASSISTANTSHIP with early definite VIEW partnership or succession, wide experience, keen medicine and neuro-psychiatry. Unfurnished accommodation essential.—Box 3507, B.M.J.

DEMOBILIZED DOCTOR doing post-graduate work in London would ASSIST at evening surgeries and occasional week-ends in return for accommodation.—Box 3508, B.M.J.

DOCTOR, resident London, available EVENING SURGERIES and at week-ends. Please state terms, etc.—Box 3259, B.M.J.

EXPERIENCED DOCTOR wants morning or evening SURGERIES Central London or near by.—Box 3603, B.M.J.

M.B., B.S., aged 39, experienced G.P. (own practice lost through war service). R.A.M.C., demobilization December, desires APPOINTMENT or PRACTICE in or near London area.—Box 3264, B.M.J.

M.B., L.M., D.P.H., aged 31, married, six years' hospital and G.P exp., keen driver, seeks ASSISTANTSHIP, with or without VIEW; furnished house or flat essential.—Box 3544, B.M.J.

M.B., DURHAM, 6 years, ex-R.A.M.C., requires ASSISTANTSHIP with VIEW and small house and car. Available now.—Box 3572, B.M.J.

M.B. B.S., LONDON, Ex-Cas. Officer, E.N.T., H.S. (B2), R.S.O. (B1), Obstetrics (B2), G.P. experience, keen, desires ASSISTANTSHIP in Southern England. Aged 32 years. Married. South American. Educated England. Furnished accommodation essential. Car desirable. Free now.—Box 3525, B.M.J

PART-TIME ASSISTANTSHIP WANTED by woman doctor. Morning surgeries and visits. S.W. London preferred. Experienced G.P. Car driver.—Box 3291, B.M.J.

PART-TIME WORK in General Practice in Newcastle-upon-Tyne desired by Woman Doctor, own car.—Box 3614, B.M.J.

WOMAN DOCTOR, Sheffield, experienced general practice, seeks part-time or light whole-time WORK. Own car.—Box 3524, B.M.J.

YOUNG MALE British doctor, single, seeks long ASSISTANTSHIP or LOCUM. Hospital and G.P. experience, drives, free mid-November. London or Home Counties preferred.—Box 3527, B.M.J.

LOCUMS

LOCUM WANTED immediately for 3 weeks in Leeds. Experience essential. Able to drive. Good pay.—Box 3571, B.M.J.

LOCUM WANTED, Dec. 19 for two weeks. 18 gns. weekly, all found. Own car preferred, but not essential.—Box 3528, B.M.J.

ELDERLY, RETIRED PHYSICIAN available LIGHT LOCUMS from November 9.—Box 3604, B.M.J.

YOUNG DOCTOR, experienced hospital and G.P., requires LONG LOCUM easy reach London.—Box 3618, B.M.J.

PARTNERSHIPS

WANTED, by Medical Specialist, M.D.Lond., Army, early release, PARTNERSHIP in firm as Physician. Minimal panel. Hosp. scope. House essential; S., S.E., S.W. counties, country.—Box 3564, B.M.J.

WANTED, PARTNERSHIP or SUCCESSION in Town or Country Practice, Southern half of England, income £1,000-£1,500, by Scottish Graduate, age 33, commencing January, 1946. Unfurnished house with garden essential.—Box 3573, B.M.J.

WANTED PARTNER, male, pleasant N.W. London suburb, by old-established firm of three to replace one resigning. ONE-FIFTH SHARE worth £1,300 at 2 yrs.' purchase after 3 months' trial.—Box 3531, B.M.J.

WANTED by demobilized Major R.A.M.C. (married) PARTNERSHIP or PRACTICE, country or small town. Income about £1,500, substantial panel. Roomy unfurnished house essential. Capital available.—Box 3530, B.M.J.

CHESHIRE, Nr. Manchester, QUARTER SHARE in partnership (3) in large mixed practice, panel over 7,000, receipts over £10,000 (audited). House to rent. Dispenser and secretary employed.—Box 3271, B.M.J.

DERMATOLOGICAL practice. A PARTNERSHIP is for sale. Details will be supplied on request.—Box 3576, B.M.J.

KEEN, WELL-QUALIFIED PARTNER, ex-Service preferred, required for middle-class practice London suburb. Capable of expansion. Preliminary assistantship essential. Share £2,000 or by arrangement. Unfurnished house available at low rental.—Box 3545, B.M.J.

PARTNER (married) REQUIRED, following preliminary assistantship, to commence not later than January. Experienced. Post-graduate qualification preferred. Prospect of hospital appointment. East Midland market town, some industry. Area pop. approx. 30,000. Two-partner practice. Senior retiring. Gross income approx. £5,700. Panel just under 3,000. Good house (unfurnished) to rent, garden, garage, residential district. Modern joint surgery at rear. Accommodation during assistantship. With view to ONE-THIRD of practice to commence.—Box 3529, B.M.J.

PARTNER WANTED after preliminary assistantship. Country practice, Midlands. Cottage hospital. Modern house, 3/4 acre garden. Income over £3,000.—Box 3617, B.M.J.

PARTNER (British) wanted in first-class old-established practice in Kent, applicant must be well qualified, preference for one holding F.R.C.S., or M.D., or M.R.C.P., or M.R.C.O.G. qualification, excellent modern house and garden available, share producing £1,500 suggested to commence with.—Apply Box 3274, B.M.J.

PARTNER WANTED in Home Counties mixed practice, in country town. Surgical qualification an asset. Young ex-Serviceman preferable.—Box 3270. B.M.J

PARTNERSHIP. 3/10 to 2/5 share of £5,000, panel 4,000, in East Anglian town, 6 months' assistantship, two years' purchase. House for sale or rent.—Box 3547, B.M.J.

PARTNERSHIP, HALF SHARE of £2,400 (panel 1,500) S.W. London. Old-established Practice run—during war years—by one partner who remains. Capable of expansion. House available to rent. Terms to be arranged.—Box 3043, B.M.J.

PARTNERSHIP or ASSISTANTSHIP with VIEW wanted by ex-Major, R.A.M.C., South Coast or Home Counties.—Box 3619, B.M.J.

THIRD PARTNER REQUIRED shortly, male, English or Scots, old-established mixed practice, suburban Manchester area, averaging £5,500. Considerable scope increase; 1/4 share to start; good house and garden; preliminary indoor assistantship essential. Easy terms by agreement.—Box 3575, B.M.J.

WALLINGTON. FOURTH PARTNER required in old-established practice. Preliminary share offered of about £1,700 p.a. gross at two years' purchase.—McDougall & Partners, Beddington House, Wallington, Surrey.

MEDICAL POSTS

DOCTOR, aged 33, D.P.M., ex-R.A.M.C. (Major), extensive psychiatric experience, desires FULL-TIME PSYCHIATRIC POST, or partnership practice offering scope psychiatric consulting work; free now; particulars and references on application.—Box 3594, B.M.J.

DOCTOR, aged 40, 10 years general practice, 6 years anaesthetist E.M.S., D.A., seeks ANAESTHETIC APPOINTMENTS, full-time, part-time, or post with business firm, factory insurance company, etc. Administrative experience.—Box 3512, B.M.J.

DOCTOR, doing D.P.H., will do EVENING SURGERIES and week-end work, London area. Accommodation essential. Please state terms.—Box 3565, B.M.J.

E.N.T. SPECIALIST, ex-Service, married, age 35, seeks salaried EMPLOYMENT in hospital, assistantship, partnership or public health.—Box 3535, B.M.J.

LIEUT.-COLONEL R.A.M.C., just demobilized, early 'forties, commanding Military Hospital last two years, fifteen years G.P., seeks INDUSTRIAL ADMINISTRATIVE APPOINTMENT or suggestions. Free now.—Box 3580, B.M.J.

M.B., B.S., British, married, age 32, at present in Army, release group 23, seeks WHOLE-TIME APPOINTMENT, not G.P. Hospital experience.—Box 3558, B.M.J.

MEDICAL MAN, aged 56, 10 years' commissioned emergency service, R.A.M.C.; 20 years own general practice, some years part-time industrial medical officer, two years full-time V.D., seeks full-time employment as FACTORY M.O. or similar work.—Box 3328, B.M.J.

PRACTICES

WANTED, by practitioner of over twenty years' standing, PRACTICE in LAKE DISTRICT, preferably with house to rent.—Full particulars to Box 3320, B.M.J.

WANTED, PRACTICE in Channel Islands or South Coast Dorset, Devon or Cornwall, or Isle of Man. Anything from £300 upwards. Handsome premium offered suitable practice.—In confidence to Dr. Sugden, Kingsclere, Newbury, Berks.

WANTED immediately, country or seaside PRACTICE, preferably in Scotland. Receipts about £1,000. Substantial panel. Good house and garden essential; preferably to rent.—Box 3577, B.M.J.

BIRMINGHAM OUTSKIRTS, thriving mixed cash PRACTICE for sale. £2,800 p.a. Panel 2,300. 1 1/2 years. Modernised house at valuation.—Box 3534, B.M.J.

EDINBURGH, wanted, urgently, PRACTICE or PARTNERSHIP in outskirts of, or within 40 miles of, city. Country district preferred.—Box 3546, B.M.J.

EXCHANGE, 50 miles N. London, PRACTICE over £1,500 (accts. figs.), panel and appts. £960, house rent £80, schools, for South Coast practice £1,000-£1,200.—Box 3615, B.M.J.

FOR SALE, in Midland university town, small industrial PRACTICE, doing £1,000 a year, panel 800. Vendor, age 73, wishes to retire. Small house.—Box 3509, B.M.J.

FOR SALE, old-established PRACTICE in West Riding town. Excellent scope for F.R.C.S. applicant. Possibility of hospital appointment. Panel over 2,000. Average gross receipts for 2 years over £4,000. Good house for sale with practice.—Box 3557, B.M.J.

FOR SALE, general PRACTICE doing £1,750; panel 1,600, immense scope; 12 miles north-east of Charing Cross.—Box 3586, B.M.J.

FOR SALE, PRACTICE, within 30 miles London, in nice surroundings, over £4,000 per annum, 2,000 panel, good fees, eminently suitable two partners or married couple although always run without assistant. Plenty of scope; good accommodation.—Box 3548, B.M.J.

FOR SALE, old-established PRACTICE in South Wales, near large town and sea; house available, good scope for increase, income well over £2,000 per annum. Premium 1 1/4 years or nearest offer.—Box 3555, B.M.J.

FOR SALE, Death Vacancy, North Midlands PRACTICE. 450 panel. Industrial, Insurance, Corporation appointments plus private practice. Income over £1,000. House with Surgery and fittings for sale with practice. Locum in attendance.—Apply Moxons, Solicitors, Hanley, Stoke-on-Trent.

FOR SALE, small good class PRACTICE, with scope, seaside.—Box 3510, B.M.J.

FOR SALE, old-established PRACTICE, N. Staffs. Panel 2,750. P.M.S. Certified accounts. Good house and furniture for sale if needed.—Box 3523, B.M.J.

FOR SALE, old-established PRACTICE in village near North Midlands city. Panel 1,150 increasing. Takings £1,780 (accountant's figures). Excellent freehold house and surgeries recently modernized, with good garden of 1¼ acres. Premium 1¼ years' purchase.—Box 3323, B.M.J.

FOR SALE, PRACTICE South-West Lancashire Town. Audited accounts gross 1939 £3,100: 1944 £4,200. Present panel 2,400 Price Goodwill £4,500. Surgery with living accommodation and garage for sale. Separate freehold house with garage if required.—J. Frodsham and Sons, Solicitors, Prescot, Lancs.

FOR SALE, ISLE OF MAN, old-established mixed, panel and private PRACTICE, averaging £1,600 p.a. (Panel £500.) Premium £2,500. House for sale or to let on long lease, in excellent condition. Contains 2 professional rooms, 2 reception, 6 bedrooms. Modern conveniences. Garage for two cars. Household and surgery furniture and effects at valuation if required.—Box 3326, B.M.J.

FOR SALE, North London, nucleus mixed panel and private PRACTICE (gross £2,000 pre-war), modern house with surgery, waiting room, dispensary attached, excellent position on bus route, unlimited scope in developing district.—Box 3015, B.M.J.

GENERAL PRACTICE in Scottish border town with house and surgery. Substantial closed panel list and excellent opportunities for private practice.—Particulars from Drummond and Reid, S.S.C., 32, Moray Place, Edinburgh.

LONDON, S.E. Panel 1,673. Recpts. £2,000. House, rent. Pr. 1½ cash.—Western Medical, 67/8, Chandos Place, W.C.2 TEM. 2532.

LANCS. TOWN, G.P., £2,200. Panel 1,600. House rented. Premium, including drugs, surgy., furniture, collector's debts, £3,500 cash.—Box 3608, B.M.J.

MEDICAL PRACTICE in Western Glasgow for immediate disposal. Gross income approximately £1,400.—Apply Crawford Herron and Cameron, Solicitors, 257, West George Street, Glasgow.

NOTTINGHAM. Death Vacancy (recent). For immediate sale, old-established private and panel PRACTICE, with appointments, in charming district. Receipts £1,000. Panel, 700. Excellent commodious house for sale, with consulting room, dispensary and waiting room. Large garden, brick-built garage, wash-house. Excellent scope.—Box 3542, B.M.J.

NORTH WEST Coastal Residential Town. Old-established PRACTICE for disposal. Certified gross income £2,800 per annum including approx. panel of 1,600 units. Good house, with garage and all conveniences, 1/4 acre garden. Premium by negotiation.—Box 3532, B.M.J.

OPHTHALMIC PRACTICE, £4,100, for sale, provincial town, hospital appointments, delightful house sale or rent, state experience, qualifications, share or succession 1 year premium.—Box 3559, B.M.J.

OLD-ESTABLISHED good-class PRACTICE. Oxford district. Average income £1,800. Good house on lease. Premium 1 1/4 years.—Box 3574, B.M.J.

PRACTICES AND PARTNERSHIP SHARES for sale, town and country.—Full details free on request.—British Medical Bureau, 33, Cross Street, Manchester, 2.

PRACTICES AND SHARES for disposal in various parts town and country, incomes £800 upwards, also vacancies for Assistants and Locums.—Apply Percival Turner, Ltd., 25, Maiden Lane, Strand, W.C.2. Telephone: TEMple Bar 9011.

SOUTH DERBYSHIRE.—Flourishing old-established colliery and rural PRACTICE, unopposed; panel about 1,600; good private and club. Total gross receipts exceed £2,500 per annum. Three months' introduction. Special reason for sale.—H. Gompertz, Evans and Mason, Chartered Accountants, 235, Pershore Road, Birmingham, 5.

DIETETIC, DISPENSING, TYPING, SECRETARIAL, RECEPTION, ETC.

None of the vacancies for women advertised in these columns relates to a woman between the ages of 18 and 40 inclusive, unless she is exempted from the provisions of the Control of Engagement Order, 1945, or the vacancy is for employment excepted from the provisions of that Order.

WANTED, LADY DISPENSER by partnership in pleasant Cathedral City. State qualifications, age, experience and salary.—Drs. Corry and Strange, Grey Friars, Hereford.

WANTED, additional whole-time DISPENSER by medical partnership in Watford area, 13 miles from London.—Box 3551, B.M.J.

WANTED, full time DISPENSER-BOOKKEEPER for partnership of three doctors. Salary up to £5 per week according experience.—Apply, Doctors Forsyth, Norman and Dudley, 41, Dowsett Avenue, Southend-on-Sea.

WANTED, Qualified DISPENSER-BOOKKEEPER (female) able to do simple dressings.—Dr. Ablett, Whitehaven, West Cumberland.

COMPETENT SECRETARY shorthand typist, 19 years' business experience, present job 10, requires POST, doctor or specialist, Central London.—Box 3514, B.M.J.

DOCTOR'S SECRETARY wishes situation. Willing to work in any area. Replies from Scotland welcomed.—Box 3046, B.M.J.

DISPENSER-SECRETARY required by partnership in Sussex. Live in or out. Week-ends free.—Apply Dr. Fowler, Winton Lodge, Crowborough, Sussex.

EXPERIENCED SECRETARY (B.R.C.S.) requires country post with doctor; good references; car-driver; free shortly.—Box 3578, B.M.J.

EXPERIENCED SECRETARY (Lady) seeks POST with Doctor or Dentist in West End.—Box 3595, B.M.J.

EXPERIENCED Harley Street SECRETARY requires position. Harrow, Pinner district. Shorthand, typing, excellent knowledge radiology and medical terms.—Box 3516, B.M.J.

EXPERIENCED DISPENSER-BOOKKEEPER requires POST, country practice; Cotswolds or West Country preferred.—Box 3621, B.M.J.

EXPERIENCED SECRETARY seeks post with London Consultant. Wide knowledge of consulting practice and E.N.T. terminology.—Box 3553, B.M.J.

EFFICIENT STENOGRAPHER, knowledge medical terms, simple bookkeeping, considerable hospital experience, desires interesting POST; suitable doctor's secretary.—Box 3539, B.M.J.

GYNAECOLOGIST requires experienced private SECRETARY. Practice in Harley Street. Salary £5 per week according to experience.—Box 3562, B.M.J.

HOSPITAL TRAINED NURSE, 28, widow, requires post SECRETARY-RECEPTIONIST to Dental Surgeon or Consultant, London. Shorthand and typing.—Box 3517, B.M.J.

LADY DISPENSER-BOOKKEEPER-RECEPTIONIST required afternoons. Telephone or write for interview.—Dr. Barton, 24, Hindes Road, Harrow. Tel.: 0416 Harrow.

LADY, aged 42, desires resident post as RECEPTIONIST to doctor in London area. Knowledge of typing and bookkeeping. Ten years' experience in medical work.—Box 3536, B.M.J.

MEDICAL MANUSCRIPTS TYPED by expert.—Box 3593, B.M.J.

MSS. WORK UNDERTAKEN. Experienced in proof-reading, editing, typing.—Box 3592, B.M.J.

NON-RESIDENT POST wanted by lady (ex-Army Nursing Service) as RECEPTIONIST to London physician or surgeon. Would undertake bookkeeping, correspondence, etc.—Box 3537, B.M.J.

QUALIFIED DISPENSER - BOOKKEEPER - RECEPTIONIST requires post shortly. Excellent refs. Oxford or district preferred.—Box 3538, B.M.J.

RECEPTIONIST requires post with a doctor; can type and drive; willing to help in all departments.—Box 3550, B.M.J.

RECEPTIONIST requires POST, preferably resident London. Secretarial and nursing experience. Fluent German.—Box 3513, B.M.J.

TWO SISTERS require ACCOMMODATION over doctor's surgery (own furniture), one willing to do LIGHT DUTIES (not London).—Box 3515, B.M.J.

YOUNG LADY with secretarial and some nursing experience requires position as RECEPTIONIST-SECRETARY in London area.—Box 3581, B.M.J.

YOUNG LADY (23), smart appearance, tactful, keen, requires post as MEDICAL-RECEPTIONIST. Red-Cross nurse, hospital experience, good knowledge clerical work, typing, record-keeping.—Box 9028, B.M.J.

YOUNG WOMAN, 7 years' experience, Secretary-Dispenser to five doctors, seeks post as SECRETARY to West End consultant.—Box 3620, B.M.J.

MISCELLANEOUS

WANTED, *Journal of American Medical Association*, 1940, vol. 114, Nos. 19, 20, 21, and index; 1941, vol. 116, Nos. 10, 11, and index; 1942, complete set; 1943, complete set; 1944, complete set; 1945, all issues to July 7.—Particulars to Box 3128 B.M.J.

WANTED, for doctor's child, WELLINGTON BOOTS, size seven.—Box 3602, B.M.J.

CUNARD SURGEON'S blue mess UNIFORM for sale, 5 ft. 7½ in., slim. Almost unworn.—Box 3612, B.M.J.

FUR COAT. Man's black coat, fully lined, musquash fur, Persian lamb collar, as new, no coupons, £105.—Box 3613, B.M.J.

FOR SALE, as new, PROCTOSCOPE, 25s. Haemorrhoidal syringe, two guineas. Vaginal speculae, three sizes, Sims, Fergusson, each 20s.—Box 3588, B.M.J.

FOR SALE BECK MICROSCOPE; three objectives including oil-immersion; three eyepieces; dark-ground condenser; mechanical stage; mahogany case; excellent condition. Any offers?—Box 3601, B.M.J.

FOR SALE, £25, BECK'S MISCROSCOPE, London Model 29 in case. Condition excellent. 4 mm., 16 mm., objectives, × 6, × 10, eye-pieces.—Bassett, 282, Wokingham Road, Reading.

FOR SALE, brand new LEITZ MICROSCOPE, 1/12, 1/6, 2/3, 1 in., three eyepieces, revolving and mechanical stage, sub-stage condenser, and swing out sub-stage. £100 or near offer.—Boileau Arms Hotel, Barnes, S.W.13. Riv. 6145.

FOR SALE, WATSON MICROSCOPE, mahogany case, 2/3", 1/6", 1/12", as new. £56 or nearest offer.—Box 3587, B.M.J.

OPHTHALMOSCOPE and trial case of lenses for sale. Can be seen at Messrs. Clement Clarke, Ltd., 16, Wigmore Street, London.

MODERN Zeiss and Leitz MICROSCOPES in perfect condition for sale. Fully equipped.—Enquire for particulars Welbeck 5163 between 9 and 6.

RETIRING DOCTOR has for disposal CONSULTING ROOM FURNITURE and INSTRUMENTS. North London.—Box 3540, B.M.J.

PHYSICIAN'S WATCH of fine quality, by Sir Joh Bennett, London, with centre seconds, in heav 18-ct. gold case. New condition, £45.—Box 3569 B.M.J.

NEW MICROSCOPE FOR SALE, moving-stag condenser 1/3, 1/6 and 1/12, oil-immersion, etc. in case. Offers over £50. Seen London.—Bo 3606, B.M.J.

HARD GLOSS PAINT (no varnishing required 35s. gallon carriage paid. Undercoat, 30s. c.p.—Fantastex, Ltd., Mill Hill, N.W.7. Tel.: Fin. 1213

PROFESSIONAL NAME PLATES prompt engraved. Send wording for sketch.—Moile & Son Ltd., Engravers, 367 Euston Road, London, N.W.1 'Phone Euston 2938.

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OLD CARS WANTED for OVERSEAS TRANS PORT. High prices paid for any seven-seater car if low mileage, age unimportant. Typical examples £1,500 paid for any 30 h.p. Rolls Royce or pr rata if 25 h.p. Price according to mileage. £1,00 for any Wolseley, Austin 20, if fitted with easy clean wheels. £1,250 for recent Buick, Packard, etc —Write Mobile Units, Hove, Sussex. Wir " Ambulancon " Hove, or 'phone Hove 7104.

ROVER 12 black SALOON, 1938 model, excellen condition.—Phone: Colindale 6329 after Oct. 27.

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A MOST ATTRACTIVE freehold detache MODERN RESIDENCE, situated within a few minutes' walk of shops and station. It occupie a prominent position in the town. Accommodatio on 2 floors: 5 bedrooms, bathroom, 4 receptio rooms, domestic offices, double garage, good garden —Full particulars from W. G. F. Swayne Auctioneer, Seaford. Tel. 2144.

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MANCHESTER, CHORLTON, det. D.F. HOUSE garage, 3 ent., 4 beds, etc., all amenities, freehold no chief, furnished. Quick possession, owner goin abroad. Best offer over £3,500 accepted.—Bo 3498, B.M.J.

RADIOLOGIST, just released E.M.S., want ROOM (basement), West End, preferably with lift —Box 3570, B.M.J.

ROOMS suitable for DENTIST available i doctor's old-established practice Chelsea.—Bo 3589, B.M.J.

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TO BE SOLD. LLANNERCH PARK, St. Asaph A well-known MANSION HOUSE situated amid beautiful scenery in the Vale of Clwyd, Nor Wales. Most suitable for a school, medical in stitution, high-class hotel or service flats. Ampl accommodation. 100 acres of park available i required, for golf links, fishing over one mile o river Clwyd, excellent walled garden, own swim ming pool, tennis lawns, etc Central heating, mai water and electricity. Eight miles from well-know seaside resort. Excellent 'bus service, station on mile. Order to view by permit only. Apply R. E Birch, Estate Office, Coed Bedw, Abergele.

WOMAN DOCTOR, ex-R.A.M.C., urgently re quires SMALL FLAT Central London, preferably St Pancras, Marylebone areas.—Box 3591, B.M.J.

UPPER BERKELEY STREET, W.1. LEASE OF HOUSE for disposal with contents of ground and first floors which are fully equipped and furnishe as waiting room, consulting room, X-ray an therapy rooms. Unfurnished maisonette on [illegible] floors.—Apply Elliott, Son & Boyton, 86/87 Wimpole Street, W.1. Welbeck 8367.

NURSING HOMES

A SPECIAL FLOOR has been opened at CROSS WAYS NURSING HOME, St. Joseph's Road Weston-Super-Mare, Somerset, for convalescent o chronic patients. Children also catered for. Resi dent doctor.—Apply Matron (late of Bengeo Nursing Home, Hertford.

FOR DISPOSAL PRIVATE MENTAL HOME fo Ladies, old-established, licence for 40 patients, Wes Midlands. Principals only.—Box 3348, B.M.J.

NURSING HOME, South Coast, near sea, acut medical, slight mental cases treated, State registere nursing staff, diet a speciality, large garden.—Bo 3556, B.M.J.

NEAR WORTHING and BRIGHTON, establishe NURSING HOME, going concern, licensed fo eight beds, fully booked up to next April, to b sold with all equipment and furniture, well-situate detached modern brick building with 10 rooms, : bath-rooms, kitchen, central-heating, all servic garden, freehold, £5,000 all at.—Sole agents Messrs. J. Ellman Brown, 24, East Steet, Shoreham by-Sea. Telephone 736-7.

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SUPPLEMENT TO THE

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LONDON SATURDAY NOVEMBER 3 1945

HEARD AT HEADQUARTERS

The School Medical Service

Two meetings of the B.M.A. committee to consider the position arising under the Education Act have been held, the representatives of the Association are going to the Ministry of Education for the fifth time, and a report is being made to the Council in November. The implications of this Act, which transfers a large population from the care of the general practitioner to that of the school medical officer, are gradually being realized. Some education authorities are said to be largely increasing the number of their school medical officers; an increase from 16 to 62 is spoken of in one large county. Many cases which are ordinarily treated at home are likely to go to hospital. When the parent realizes that the child can be treated at hospital freely, whereas at home a fee will have to be paid to the general practitioner, a bias in favour of the hospital will be created in his mind, and, apart from the money question, owing to the magic which attaches in some quarters to the word "specialist," many people may feel that the child will be better looked after in hospital.

The line taken by the Association in its persistent endeavours is that this should not be an occasion for anticipating National Health Service developments. Hitherto it has been necessary to say that there are not enough general practitioners to meet the requirement, but with demobilization proceeding it should now—or soon—be possible to claim that general practitioners can take their rightful place in this work.

Fees of Medical Witnesses

A letter has been received from the Home Office concerning the fees of medical witnesses, which was the subject of a resolution at the A.R.M. last year. The letter points out that the question of fees in criminal cases was considered by a Departmental Committee appointed in 1939, but meetings of the committee were suspended owing to the war and have not yet been resumed. The intention is to resume them as soon as possible, and the Home Secretary will consider the matter as soon as the committee reports. The fees in civil cases are a matter for the Lord Chancellor. There is reason to believe that the Departmental Committee so far as it had gone was in sympathy with the medical claim. A subcommittee of people who have special experience of court work has been set up in the B.M.A. with a view to preparing further evidence and submissions.

Expert Opinion

The question of the medical witness is not altogether a simple one. All doctors on occasion have to give evidence in court, but for most it is an exceptional experience and perhaps not a very onerous one. Certain doctors, however, by reason of their appointment as police surgeons or their special experience are often in the witness-box, and when they give evidence they are treated as people of special knowledge on certain lines, though there is no recognition of this when it comes to the payment of the fee. If a specialist gives evidence he is paid as a specialist, but these doctors, who within their particular range are specialists and are asked questions not restricted to medical fact, receive the same fee as any other medical witness.

The point is one of some difficulty. A medical witness may be a witness as to fact or he may be an expert witness. The expert witness is in a different category from the ordinary witness; he has to be approached, and he may or may not give evidence, at his own discretion. When the ordinary medical witness is asked his opinion, as apart from the question of fact, he becomes in effect an expert witness, and could, if he were an awkward person, refuse to answer. It is suggested that some discretion should be given to the court or taxing master for additional fees in such cases.

Army Medical Records

The Association has received from a member who is a physician to an insurance company a complaint that in the case of men discharged from the Services on medical grounds and who desire to take out some form of life assurance the Ministry of Pensions is not co-operative. It is of course necessary for the insurance company to obtain medical details of the illness for which the man was discharged, but the Ministry is said to take refuge behind the statement that its information is strictly confidential. To an inquiry by the Association the Ministry of Pensions replied that applications from doctors for medical records of proposers for life assurance would receive sympathetic consideration if accompanied by the proposer's consent in writing.

It surely should be accepted that during the period of a man's service in the Army the Army is, so to speak, his private medical attendant, and, with his consent, particulars of his medical record might be given to the physician of an insurance company, who, for this particular purpose and time, is the man's "own doctor."

The General Practice Committee

The General Practice Committee of the B.M.A., which unanimously elected Dr. Wand as its chairman, had an all-day meeting on Oct. 17. This is one of the busiest committees of the Association, as witnessed by the number of its subcommittees. One of the latter deals with colliery and works practice, another with Post Office medical officers, a third with ship surgeons, a fourth with Public Medical Services, a fifth with the industrial medical service. It is perhaps a little anomalous that the Association should have two general practice committees, for the Insurance Acts Committee is concerned all the time with matters of general practice. Future developments in the direction of "comprehensiveness" may bring about a comprehensive General Practice Committee embodying the I.A.C. Meanwhile both committees have much to do, and both are holding meetings in October, December, March, and May. The General Practice Committee, by the way, is unusual in that all but two or three of its twenty or so members are members of the Council.

L.C.C. Refresher Courses for G.P.s

The L.C.C. is proposing to arrange concurrently four intensive courses, each of a fortnight's duration, at grouped hospitals on the lines of the arrangements made before the war for refresher courses for insurance practitioners. From fifteen to twenty doctors would attend each course, and it is expected that it will be possible to hold three courses a year at the selected hospitals—that is, a total of twelve courses in the year, affording facilities for up to 240 general practitioners.

The L.C.C. is also proposing facilities for young practitioners and for specialists in training. For young practitioners on release from the Forces, in addition to accepting suitable candidates to fill normal vacancies in the hospital service, eighteen temporary additional positions at a salary of £350 a year, with residential emoluments or £100 in lieu if non-resident, are to be created. For specialists in training it is proposed to create 11 temporary positions (5 medical and 6 surgical) at salaries of £550 a year, with residential emoluments. It is estimated that their stay in hospital is unlikely to exceed eighteen months.

Ward Sisters

Nurses, like doctors, are giving thought to the standards of professional education. On October 13 a conference was arranged by the Royal College of Nursing to consider the Horder Report on the recruitment and education of nurses, with special reference to ward sisters. The conference recommended the reorganization of the nurse training schools, with Treasury grants to secure an income for each school independent of that of the hospital with which it is associated and to provide scholarships and maintenance grants for student nurses, and with accommodation which would permit the introduction of the "block system" of training. The conference also wanted more postgraduate facilities for ward sisters and the representation of ward sisters on committees promoting their interests and on bodies responsible for the examination of nurses for State registration. The college proposes to form a special section for ward sisters within its organization.

PANEL CONFERENCE

ANNUAL CONFERENCE OF LOCAL MEDICAL AND PANEL COMMITTEES, NOV. 15

Motions received from Panel Committees

Standards of Remuneration

MOTION by Bristol: That this conference regrets that the Minister of Health has not publicly affirmed the intention of his predecessors to inquire into the capitation fee after the war "from the ground up" and instructs the Insurance Acts Committee to request him to do so and to implement the promise forthwith.

MOTION by Cumberland: That in the opinion of the conference the time is ripe for a substantial increase in the capitation fee, which is long overdue.

The Future of Medical Services

MOTION by Hampshire: That this conference considers that Resolution 95 of the Annual Representative Meeting in December, 1944, lays down the right mode of approach to a National Health Service and requests the Insurance Acts Committee to urge strongly that this method be adopted.

MOTION by Hampshire: That this conference is of opinion that Resolution 241 of the Annual Representative Meeting in December, 1944, affords a valuable safeguard against possible misrepresentation of the profession and requests the Insurance Acts Committee to stress this with the Negotiating Committee.

MOTION by Kent: That in the opinion of this conference a National Health Service satisfactory for both the patients and the doctors can only be established if the following safeguards are ensured:

1. Free choice of doctor by patient and of patient by doctor shall be maintained to the utmost possible extent.
2. All questions as to what treatment (for prevention, cure, or rehabilitation) is best for individual patients or for particular classes of patients shall be decided only by medical practitioners.
3. The practitioner attending shall be the responsible arbiter of the treatment necessary for the individual patient, including type and place of treatment.
4. Questions of health policy, whether regional or local, shall not be determined without the concurrence of advisory medical committees, subject to appeal by either party to any dispute to the Minister of Health.
5. All administrative medical officers directly concerned with general practice must themselves have had not less than ten years' experience as general practitioners.
6. Contracts between general practitioners and the State shall be made with the Minister of Health, with whom also all questions of appointment, promotion, pay, and pension shall be agreed.
7. All general practitioners shall have reasonable security of tenure.
8. The right of private practice shall be retained for all practitioners.
9. Service under the National Health Insurance Act shall count towards pension, etc., in any new service.
10. After retirement doctors to have the right to undertake remunerative work without loss or reduction of pension.
11. Sick leave on full pay shall be allowed for an agreed period and a locumtenent shall be provided by the State.
12. All practitioners of British nationality on the *Medical Register* on the appointed day shall have a right of entry into the service, and also all such practitioners subsequently admitted to the *Register*.
13. There shall be secured to aggrieved patients and aggrieved doctors a statutory right to have any complaint fully investigated.
14. Practitioners adjudged to be guilty of faults incurring removal from the *Medical Register* shall have full right of appeal to the Courts.

Irregular Removal of Names from Doctors' Lists

MOTION by Bristol: That this conference considers that when irregular removal of a name from a doctor's list is remedied during the same or following quarter the capitation fee for that quarter should be credited to the doctor concerned, even though the reinstatement does not take place during the statutory ten days.

MOTION by Sheffield: That this irregular procedure continues and recently has been increasing; and this conference urges the Ministry to take action to alleviate a grievance that causes hardship to the insured person and hinders the doctor in the performance of his duties to his patient.

Sickness Benefit in Pregnancy

MOTION by Reading: That this conference urges that sickness benefit be paid for six weeks preceding the date of confinement.

MOTION by Cumberland: That this conference is of opinion that during the time a woman is receiving benefit due to pregnancy an initial certificate followed by a birth certificate and a final certificate are all that need be provided by the medical attendant.

Post-war Financial Assistance for Doctors

MOTION by Birmingham: That all information relating to the new scheme for the purchase of practices shall be circulated as soon as possible and while they are still serving to all medical officers. As this information will also be of value to other doctors in practice who may not yet have completed the full purchase of their practices or who contemplate entering into partnership a copy shall also be sent to them.

Treatment of Tropical Diseases in ex-Service Personnel

AMENDMENT by Reading: That this conference considers that the medical report should be sent to the patient's own doctor so that treatment may be continued at home if possible, reference to hospitals being made only if necessary.

Grouping of Areas for Election of I.A.C.

MOTION by Lincs (Lindsey): That the Insurance Acts Committee be strongly urged to reconsider the grouping of areas for the election of direct representatives, as large areas find themselves in a permanent minority without adequate representation.

MOTION by Derbyshire: That the Insurance Acts Committee be instructed to consider without further delay the continued disfranchisement of Derbyshire from direct representation on the committee owing to the preponderant voting strength of the Panel Committees in Cheshire (the other county included in Group F) with a view to some rearrangement preferably by the inclusion of Derbyshire in a North Midland Group.

Election of Panel Committee

MOTION by Derbyshire: That the Ministry of Health be approached with a view to securing its approval of new elections of Panel Committees at an early date.

Protection of Practices: Adjustment of Lists

MOTION by West Ham: That this conference recognizes that many practitioners discharged from service with the Forces will return to panel lists which are seriously depleted, particularly because of their inability to undertake new acceptances during their absence. It endorses in principle the efforts of those Panel Committees which are trying to provide some compensation for these practitioners by appropriate adjustments of their Distribution and Allocation Schemes, but believes this should be done on a national scale. It instructs the Insurance Acts Committee to examine with all possible speed the possibilities of taking such action, and to issue guidance thereon to Local Medical and Panel Committees.

Demobilization of Doctors from the Forces

MOTION by Carmarthenshire: That, with a view to expediting the demobilization of medical personnel from the Forces, the Insurance Acts Committee be asked to press for representation on the Central Medical War Committee of medical men who have held commissions in territorial or temporarily mobilized Forces since September, 1939.

MOTION by Lanarkshire: That immediate steps should be taken by the Government in the interests of the insured population to accelerate the demobilization of medical practitioners from the Forces.

Advertisements for Proprietary Medicines

MOTION by Glasgow: That the continued toleration of unscientific and untruthful advertising of proprietary medicines is an evil that is inimical to medical progress and the best interests of the public.

Purchase Tax on Drugs and Instruments

MOTION by Swansea: That in the opinion of this conference the time is now ripe for the removal of purchase tax from all doctors' legitimate prescriptions, drugs ordered in bulk for dispensing, or on surgical instruments. The Insurance Acts Committee is urged to take up this matter with all speed with the appropriate authorities.

Shortage of Nurses

MOTION by Buckinghamshire: That this conference views with grave concern the existing dangerous shortage of nurses and the misrepresentation in the public mind of the conditions in the nursing profession, and considers that the Minister of Health should be urged to take immediate steps to attract a sufficient number of suitable recruits so that an adequate nursing service can be ensured throughout the country.

CINEMATOGRAPHY IN POSTGRADUATE INSTRUCTION

The well-known "Canti" film of tissue growth, which was made by the late Dr. Ronald Canti in the 1920's, may be said to have marked the beginning of medical cinematography in this country, and for that reason needed no apology when it was introduced to a meeting of the Suffolk Branch of the B.M.A. on Oct. 10 by Dr. Malcolm Donaldson. It is not perhaps of value, as Dr. Donaldson pointed out, in medical practice to-day, but it has a number of features which make it worth while showing. It was made, said Dr. Donaldson, when Canti and he were investigating the action of radium on living cells. In 1922 they both started to study the action of radium in cases of carcinoma of the cervix, and visited the late Dr. T. S. P. Strangeways, who at that time was working on the action of *x* rays on tissue culture. Canti designed a lead incubator in which they could watch the effect of radium on similar cultures, but it was a very wearisome business looking down a microscope for hours on end, so Canti decided to try to photograph these cells at intervals of one, two, or three minutes and then to show them on a film increasing the rate several hundred times—

the reverse of the slow-motion pictures now often shown.

In his opening remarks Dr. Donaldson said that during the 25 years he had been teaching at Bart's films had been shown at the hospital in order to demonstrate a special operation or a piece of research work, but they had not been used as a routine. They now had a subcommittee considering the matter. There were many points to be considered, such as what parts of each subject could be taught by means of the cinema, and, secondly, how it should be used. Should it be a "talkie" replacing a lecture, or should it be short pieces of film illustrating points in a lecture? At the present time there was a great shortage of films suitable for the teaching of medicine. Recently the Scientific Film Association appointed a medical subcommittee, which, under the chairmanship of Mr. McAdam Eccles, had been very active, and, in conjunction with the Royal Society of Medicine, was drawing up a list of all known medical films in this country. It was hoped in the near future to have a central library of them. The problem of supplying films for post-graduate instruction was in some ways easier than that of obtaining them for undergraduate teaching, because the former were for audiences who had the fundamental knowledge to which further knowledge could easily be added. It was very different in the case of undergraduate teaching, where the fundamental knowledge had to be "put across." It had to be confessed that teachers were not film-minded at present, but Dr. Donaldson looked forward to the day when we should have medical film writers in the same way as at present we had medical textbook authors.

RELEASE OF MEDICAL STUDENTS

The following statement was included in a letter recently sent to Vice-Chancellors of universities by the Ministry of Labour and National Service:

> "It has been decided that students of medicine, dentistry, and veterinary surgery should be released in Class B subject to recommendation by their universities or by the appropriate schools, provided they are in release groups 1 to 49—i.e., those with substantially three years' service—and either: (*a*) gave up the reservation to which they were entitled in order to join the Forces; or (*b*) joined the Forces before the present conditions of reservation were in operation but would have been reserved if those conditions had been in force."

It is understood that the only students not covered by this statement are those who were dereserved after failure in examinations.

CARS: REPAIRS AND SPARE PARTS

The B.M.A. has been informed by the Ministry of War Transport that a number of manufacturers are now in a position to handle orders for spare parts without "spares shortage certificates." To encourage a return to normal trading practices these certificates have been discontinued except for parts and units nominated by the following manufacturers as being in short supply: (1) Vehicle manufacturers: Albion, Austin, Leyland, Morris Motors, Standard, and Wolseley. (2) Engine manufacturers: Norris, Henty and Gardner. (3) Component manufacturers: Hardy Spicer. In these latter cases the Ministry of War Transport's regional certifying officers will continue to issue spares shortage certificates provided the parts or units are required for vehicles engaged on essential work. It will be for those manufacturers whose products are not now subject to certificate procedure to keep car owners informed of when they will be able to meet demands, and doctors should, therefore, apply to the makers rather than to the regional certifying officer.

Correspondence

Practitioner Hospitals

SIR,—There is a justifiable demand for improvement in the organization of health services. Planning must place in the forefront the family as the unit of the served and the family doctor, who is in close relation with the home, as the unit of the service. There must be vision of future possible and probable developments during "progress" as well as of the needs of the present. The family doctor fears regimentation by Government measures with non-appreciation of his future needs; he feels that in the hospital surveys that have recently been made there is a lessening of confidence in him on the part of London consultants, with whom he has spent years of work and study, and who know that many very good, if not the best, brains have chosen general practice. There is danger, too, of splitting the profession into sections instead of co-ordination into one great whole. The future efficiency of the health service lies in the fullest co-operation of the family doctors, whose preservation and the promotion of whose efficiency should be the first considerations of any planning.

With the big advances in medical science the knowledge and responsibilities of the family doctor have increased and will continue to increase daily. The difficulties from his point of view of taking postgraduate courses make their perpetuation, as the principal means of adding to his knowledge, almost absurd; for the sake of both patient and doctor opportunities must be at hand from day to day, and these can be provided only through the right development of "practitioner hospitals" or small general hospitals, urban and rural. These must have ordinary diagnostic equipment, including *x*-ray apparatus, pathological laboratory, electrocardiograph and other aids, and must be staffed by the family doctors advised by regular visiting consultants from teaching and other hospitals associated together at the university centre.

The importance to the patient of the "practitioner hospital" has been referred to by many: there is the advantage to patients and their friends of proximity to their homes; patients can be admitted speedily under the care of the first observer (the family doctor); there is continuity of both treatment and interest, and, what is of great importance, the faith of the patient in his own doctor plays its part in the healing process. The "practitioner hospital" provides a homeliness of environment—a "family" atmosphere arising from pride and interest of the patients in their own institution—facilities for nursing with the right type of diet, for minor operations if required, and for a full examination and observation, with rest if necessary, without anxieties or fussing; it provides consultative clinics for all general cases and most special cases, excepting only the very uncommon.

The family doctor has to know much of all his subjects (the specialist more of one). He has to deal with people of all ages and classes, all types of sickness under very varied circumstances. He must have knowledge of *general* common risks, also *special* risks of places and times, and be prepared to recognize warnings and signs common to many maladies, and the earliest special differential signs. He must know and practise chemotherapy and psychology as he has known the value of antiseptics, vitamins, insulin, and hormones. Means which he must use require institutions for skilled observation, nursing, and the ancillary services. The family doctor or general practitioner sees the *whole* being whom he knows when that being suffers from an infection, disorder, deformity, or any complaint; he sees that the whole or remainder has to compensate for a defect or failure.

He sees life as essentially projective, alert, and dynamic: that health, happiness, and harmony or fitness lie in the power of fitting body, mind, and soul to varied and changing environment, in the power of constructive incorporation of products of life or laboratory for defence or attack against menaces (power of immunity), in the power of overcoming speedily failures, lapses, or errors, and more; also in getting more fit or progressing to higher powers (greater intensity of effort, width of purpose, longer foresight, etc.). Health lies in such powers rather than perfection of anatomical form or function of organs; perfection of form without vital power, elasticity, and adaptability is of little value. Many seek advice because they are not well, or are tired, without any objective signs of defects of form. Cure is not a casting-off, but incorporation within of experiences and so of a greater fullness of life, by additions to constructive powers.

The organization of a medical service demands intimate liaison between the teaching hospitals as part of a university centre and the "practitioner" or small general hospitals where the family doctors are continuing day by day their postgraduate acquirement of up-to-date knowledge. It is of the greatest importance that this should be maintained in preference to a linkage to the nearest county council hospital because of the importance of diversity of methods in any district and of the value of comparison in results. The growth of the large county hospitals providing all medical services except those which are organized at special centres, the development of a type of cottage hospital too small and too poorly equipped to form a diagnostic clinic or an institution (such as that outlined in this letter), and the failure to organize the teaching hospitals and others into a university centre or pool have led to confusion. Co-ordination is obviously necessary, but in planning the patient and his family doctor must never be allowed to have any other position than priority over all other considerations.

It is important that the people or potential patients should understand the present trends and insist that they should have not only free choice but also the happiest opportunities of keeping fit, getting fit quickly if unfortunate, and getting more fit than ever before. The public must insist on the best ways of promoting the highest efficiency of their family doctors.—I am, etc.,

Teddington. P. W. L. CAMPS.

For a State Service

SIR,—I could wish that Dr. Mary Anderson (*Supplement*, Oct. 13. p. 84) had been with me a few weeks ago during a tour of a factory, where some of the employees were working by bargain and others on day work. I will not complete the story but proceed to the moral. The profit motive, so much decried by the righteous, is for all, except a very small minority, still the greatest spur to endeavour and enterprise. Human nature cannot be altered by either legislation or controls. Unfortunately, from idealism to hypocrisy is oftentimes no very far cry, and the latter gets us nowhere save into well-deserved trouble.—I am, etc.,

Wirksworth. E. D. BROSTER.

Returned Service M.O.s and the National Health Service

SIR,—Many medical officers returning from the Services hold completely different views from the British Medical Association regarding the National Health Service proposals. Politics may be responsible for the totally opposite views held by some, but I am very strongly of the opinion that, owing to their being out of direct touch with what has been going on in medico-politics at home, others have, unfortunately, not got a true picture of affairs.

I spoke recently with two colleagues who had just returned from the Forces, and the usual discussion about the proposed National Health Service took place. At first they had completely different views on this subject from me, but after I explained, in a rough and rapid way, why the B.M.A. had disapproved of certain of the Government's proposals and had approved of others, and in certain cases had advanced recommendations of its own, they began to see eye to eye with me. I suggest, therefore, that many doctors, owing to their absence on war service, have been unable to follow completely the technical points that have been discussed by the Association since the publication of the White Paper, and that arrangements should be made for periodic informal local meetings between the B.M.A. and returned Service doctors, so that any confusion of the position they may have may be clarified. Perhaps it could be arranged, in addition, for the central office to prepare a very simple précis of the essential points which have been discussed at different Representative Meetings and send a copy of this to each returning doctor. I am sure that such a document would be of great help in explaining the position and would be a very valuable factor in attaining professional unity, which is of paramount importance.

In order to illustrate the reason for this letter, may I say that one of the questions I was asked was: "Why do you —i.e., B.M.A.—disapprove of local authority control?" Such questions must not be allowed to remain unanswered.—I am, etc.,

Glasgow. J. T. MCCUTCHEON.

Domestic Help for Doctors

SIR,—Can anything be done to provide domestic help for doctors' houses? I would like to point out that our wives have no contract and are *not* paid by the Government to answer phone messages for National Health Insurance visits; and it is quite impossible for us to be out visiting and in the house at the same time. On the basis of our inadequate remuneration for panel patients we are unable to afford two shillings an hour for unskilled labour. By that I mean someone to be in the house to take a message in case a call comes. Our profession is supposed to do its best to serve the public, and our work ought to be of national importance, yet every obstacle is put in the way of our doing it. We don't strike; we stick it. The dockers' wives wouldn't stay in all day; why should ours?—I am, etc.,

Brighton. PAUL R. E. KIRBY.

RETURN TO PRACTICE

The Central Medical War Committee announces that the following have resumed civilian practice: Dr. E. A. Bennet, at 99, Harley Street, W.1; Dr. J. M. Lees, at 41, Park Square, Leeds; Dr. F. L. McLaughlin, at 10, Merrion Square, Dublin; Mr. John C. Nicholson, F.R.C.S., at 62, Queen Anne Street, W.1; Dr. W. G. A. Swan, M.R.C.P., at 13, Portland Terrace, Newcastle-upon-Tyne 2, from Nov. 1; Mr. D. S. Poole Wilson, F.R.C.S., at 24A, St. John Street, Manchester.

H.M. Forces Appointments

ARMY

Col. (Temp. Major-Gen.) J. C. A. Dowse, C.B.E., M.C., late R.A.M.C., having completed four years in the rank is retained on the Active List supernumerary.

Col. (Temp. Major-Gen.) J. G. Gill, C.B.E., D.S.O., M.C., late R.A.M.C., has relinquished the temporary rank of Major-Gen.

Col. C. D. M. Buckley, M.C., late R.A.M.C., having completed four years in the rank, is retained on the Active List, supernumerary.

Lieut.-Cols. G. H. Haines, M.C., and F. McKibbin, O.B.E., from R.A.M.C., to be Cols.

Major J. E. M. Boyd, M.C., retired pay, R.A.M.C., has been restored to the rank of Lieut.-Col. on ceasing to be employed, and has been granted the honorary rank of Col.

ROYAL ARMY MEDICAL CORPS

Short Service Commission.—War Subs. Major J. A. Scott has resigned his commission.

REGULAR ARMY RESERVE OF OFFICERS

Col. A. D. Stirling, D.S.O., late R.A.M.C., has reverted to retired pay on ceasing to be employed, and has been granted the honorary rank of Brig.

TERRITORIAL ARMY

ROYAL ARMY MEDICAL CORPS

Lieut.-Col. R. I. Poston, T.D., has relinquished his commission on account of disability, and has been granted the honorary rank of Col.

War Subs. Lieut.-Cols. N. Heath and J. P. Raban to be Majors.

War Subs. Majors C. A. Ferguson and R. K. Hanlin to be Majors.

War Subs. Major R. B. Lumsden to be Capt.

Capt. I. B. Speight to be Major.

War Subs. Capts. E. M. K. Jellicoe and G. W. Thomas to be Capts.

Capt. J. W. M. Sutherland has resigned his commission. (Substituted for the notification in a *Supplement* to the *London Gazette* dated Nov. 24, 1944.)

LAND FORCES: EMERGENCY COMMISSIONS

ROYAL ARMY MEDICAL CORPS

War Subs. Major J. MacFarlane has relinquished his commission on account of disability, and has been granted the honorary rank of Lieut.-Col.

War Subs. Major H. E. Brown has relinquished his commission on account of disability, and has been granted the honorary rank of Major.

War Subs. Capts. M. Burke and H. Baker have relinquished their commissions on account of disability, and have been granted the honorary rank of Major.

War Subs. Capts. R. Ormiston, W. F. D. Benton, F. I. Herbert, R. D. H. Maxwell, and G. H. McCracken have relinquished their commissions on account of disability, and have been granted the honorary rank of Capt.

2nd Lieut. D. S. Kettle, from Non-medical section, to be Lieut.

H. V. Sankarayya to be Lieut. (Substituted for the notification in a *Supplement* to the *London Gazette* dated Jan. 31, 1941.)

E. Rosenbaum to be Lieut.

ROYAL AIR FORCE

RESERVE OF AIR FORCE OFFICERS

Wing Cmdr. (Temp.) R. G. James, O.B.E., has been granted the rank of War Subs. Wing Cmdr.

ROYAL AIR FORCE VOLUNTEER RESERVE

Fl. Lieuts. A. Jamieson and R. Boggon have relinquished their commissions on account of medical unfitness for Air Force service, retaining their rank.

Fl. Lieut. A. E. M. Stevenson has relinquished his commission on account of medical unfitness for Air Force service.

To be Flying Officers (Emergency): T. T. Fulton and W. H. McDaniel.

POSTGRADUATE NEWS

The Fellowship of Medicine announces: (1 Week-end course in diseases of the ear, nose, and throat, at Metropolitan Ear, Nose, and Throat Hospital, all day, Sat. and Sun., Nov. 10 and 11; (2) Week-end course in gynaecology, at South London Hospital for Women, all day, Sat. and Sun., Nov. 3 and 4; (3) Primary F.R.C.S. course, three evenings weekly, 6 p.m. to 8.15 p.m., Jan 28 to April 1, 1946. Full particulars of all courses from the Fellowship of Medicine, 1, Wimpole Street, W.

DIARY OF SOCIETIES AND LECTURES

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.—*Thurs.*, 5 p.m., Bradshaw Lecture by Dr. W. Russell Brain: Speech and Handedness.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—*Thurs.*, 5 p.m., Bradshaw Lecture by Mr. C. Max Page: A Survey of Fracture Treatment.

ROYAL SOCIETY OF MEDICINE.—*Tues.*, 5 p.m., Section of Orthopaedics; 5.15 p.m., General meeting of Fellows. *Wed.*, 2.30 p.m., Section of History of Medicine; 8 p.m., Section of Surgery. *Thurs.*, 4.30 p.m., Section of Radiology. *Fri.*, 10 a.m., Section of Radiology; 2.30 p.m., Clinical Section; 5 p.m., Section of Ophthalmology.

BIOCHEMICAL SOCIETY.—At London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C., *Sat.* (Nov. 10), 11.30 a.m.: Communications.

ROYAL INSTITUTE OF PUBLIC HEALTH AND HYGIENE, 28, Portland Place, W.—*Wed.*, 3.30 p.m., Mr. R. P. Osborne: Modern Methods in the Treatment of Burns.

B.M.A.: Branch and Division Meetings to be Held

EAST YORKSHIRE BRANCH.—At Assembly Hall, University College, Hull, Friday, Nov. 23, 8 p.m. Meeting arranged by the Hull and District Branch of the Pharmaceutical Society of Great Britain. Prof. S. Sarkisov: The Medical Services in the U.S.S.R.

EXETER DIVISION.—At Royal Devon and Exeter Hospital, Exeter, Saturday, Nov. 10, 4.30 p.m. B.M.A. Lecture by Lady Florey: Clinical Application of Penicillin in Common Conditions. All medical practitioners in the area of the Division are invited.

SWANSEA DIVISION.—At Mackworth Hotel, Swansea, Thursday, Nov. 22, 8 p.m., B.M.A. Lecture by Dr. Fergus Ferguson: 1945—Review of Neurological Practice: Diagnosis and Treatment.

BIRTHS, MARRIAGES, & DEATHS

The charge for an insertion under this head is 10s. 6d. *for* 18 *words or less. Extra words* 3s. 6d. *for each six or less. Payment should be forwarded with the notice, authenticated by the name and permanent address of the sender, and should reach the Advertisement Manager not later than first post Monday morning.*

BIRTHS

BROWN.—On Oct. 18, 1945, at 96, Dundonald Road, Kilmarnock, to Meta (*née* Young), wife of Capt. W. Ross Brown, R.A.M.C., a daughter.

CHADDERTON.—On Oct. 19, 1945, to Molly, wife of Surg. Lieut.-Cmdr. T. Chadderton, R.N.V.R. (over-seas), a son.

CRANSTON.—On Oct. 20, 1945, at Langrigge Nursing Home, Windermere, to Mary (*née* Fitzherbert), wife of Major Stanley Cranston, R.A.M.C., a son—David Alan.

LISTER.—On Oct. 22, 1945, at the London Hospital, to Anita (*née* Faber), wife of Joseph Lister, M.B., M.R.C.S., a son—Sidney Richard.

TABBUSH.—On Oct. 16, 1945, to Anne Jacqueline, wife of Dr. Henry Tabbush, a daughter.

MARRIAGE

OSGOOD—MCDONALD.—On Oct. 27, 1945, at the Grosvenor, Glasgow, Frederick C. Osgood, M.B., Ch.B., to Janet McDonald.

October, 1945 November, 1945

ADVANCES IN TREATMENT (PARTS 1 & 2)

The issues of THE PRACTITIONER for October and November, 1945, will deal with Recent Advances in Treatment. Single copies of the November issue, whilst still available, may be purchased at 4s. each, post free. Annual subscriptions at £2 2s. post free at home and abroad, which are still being accepted, may begin with either issue.

Contents of the October Issue (Part I)

Medicine. By A. P. Thomson, M.C., M.D., F.R.C.P., and John Malins, M.B., M.R.C.P.
Cardiology. By William Evans, M.D., F.R.C.P.
Diseases of the Liver. By Professor L. J. Witts, M.D., F.R.C.P.
Pædiatrics. By A. G. Watkins, M.D., F.R.C.P.
Dysenteric Disorders. By C. C. Chesterman, O.B.E., M.D., M.R.C.P., D.T.M.&H.
Venereal Diseases. By Col. L. W. Harrison, D.S.O., M.B., F.R.C.P.ED.
Pulmonary Tuberculosis. By L. E. Houghton, M.D.

Child Health, XVI—The Care of the Crippled Child. By M. Forrester-Brown, M.D., M.S.

Contents of the November Issue (Part 2)

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NOTICE—Applications for vacancies advertised should, except where otherwise specified, state name, address, age, nationality, qualifications, and be accompanied by copies of 3 recent testimonials with short statement of experience and appointments held. Unless closing date is stated applications should be sent at once.

R—Male, W—Woman practitioners, liable to military service under the National Service Acts.
B1—Whole-time appointments, usually resident within the senior establishments—e.g., Registrar, R.S.O., etc.
A—Whole-time resident house appointments open to practitioners without previous experience.
B2—Whole-time house appointments not within the senior establishment, usually resident, and usually held by practitioners with six months' experience.

APPOINTMENTS

INDIAN MEDICAL SERVICE. Recruitment of WOMEN MEDICAL OFFICERS.—The Government of India are prepared to recruit a limited number of women medical officers for service with the Indian Medical Service for the duration of the war. Applicants must be British subjects, of not more than 45 years of age, and those selected will be appointed in the rank of Lieutenants. Antedate of seniority may be granted up to a minimum period of 6½ years in respect of resident hospital appointments, higher qualifications, and/or professional experience. The antedate will count for pay and promotion, but, in the case of candidates recruited in this country, higher rank will not be assumed until the date of disembarkation in India. On termination of service, a minimum gratuity is guaranteed to those officers who complete one year of service, viz., Rs. 2,000 to officers whose registrable medical qualification is dated before January 1, 1940, and Rs. 1,000 to those who qualified after that date, plus one month's pay for each further completed year of Army Service. Further particulars regarding rates of pay, etc., may be obtained from the Medical Adviser, India Office, London, S.W.1, or from the Secretary, Military Department, India Office, to whom all inquiries should be addressed.

CITY OF PLYMOUTH. City General Hospital.—Applications are invited from duly qualified and registered medical practitioners, male and female, including practitioners within three months of qualification and liable under the National Service Acts, for the appointment of JUNIOR ASSISTANT MEDICAL OFFICER (A) at the City General Hospital. The appointment will be for a period of six months, but terminable by one month's notice on either side at any time. Salary will be at the rate of £250 per annum, plus war bonus and full residential emoluments. All fees received by the Officer must be refunded to the Council. The duties of the post will be chiefly on the surgical wards of the hospital, and further details may be obtained from the Medical Superintendent. Forms of application are not provided. Applications must be addressed to the undersigned as soon as possible.—T. Peirson, Medical Officer of Health, Seven Trees, Lipson Road, Plymouth.

CITY OF LIVERPOOL. Belmont Road Hospital, Belmont Road, Liverpool, 6 (1,930 beds). RESIDENT ASSISTANT MEDICAL OFFICER (B2).—Applications are invited from registered medical practitioners, male and female, for the above appointment, including R and W practitioners who now hold A posts. If held by an R or a W practitioner, the appointment will be limited to six months, otherwise it will be for a period of twelve months. The hospital is mainly for the treatment of chronic sick and infirm. There is also a large department for the treatment of skin diseases. The salary is at the rate of £350 per annum with full residential emoluments and cost-of-living bonus. All fees received in connexion with the appointment to be handed over to the City Council. The appointment will be made in accordance with the Standing Orders of the City Council and will be determinable by one month's notice on either side. Applications, stating whether R or W practitioner, should be endorsed "Resident Medical Officer," and sent to the undersigned forthwith.—W. H. Baines, Town Clerk, Municipal Buildings, Dale Street, Liverpool, 2.

CITY OF STOKE-ON-TRENT. City General Hospital. ASSISTANT RESIDENT MEDICAL OFFICERS.—Applications are invited from registered medical practitioners (single—male or female) including R and W practitioners who now hold A posts, for two appointments of Assistant Resident Medical Officer (B2), at the City General Hospital, Stoke-on-Trent. If offered to R practitioners, the appointments will be limited to a period of six months, otherwise they will be for a period of one year. The salary is at the rate of £250 per annum, plus bonus with full residential emoluments. The hospital, which is an emergency hospital, has approximately 1,200 beds and there is excellent scope for medical, surgical and obstetrical work. Applications, endorsed "Medical Officer—City General Hospital," should be sent to the undersigned immediately.—Harry Taylor, Town Clerk.

CITY OF CARLISLE. City General and Fusehill Emergency Hospitals, Carlisle (100 civilian beds and 180 E.M.S.).—Applications are invited for the following appointment:—JUNIOR RESIDENT MEDICAL OFFICER (A) to assist in care of civilian beds and for orthopaedic and general surgical duties in the adjacent E.M.S. Fracture "A" Hospital. Practitioners within three months of qualification who are liable for service under National Service Acts may apply. Appointment will be for a period of six months from November 1, 1945. Salary £200 per annum, with full residential emoluments. Applications should be sent to the Acting Medical Officer of Health, 22, Fisher Street, Carlisle, as early as possible.

COUNTY BOROUGH OF WEST HAM. MEDICAL OFFICER OF HEALTH AND SCHOOL MEDICAL OFFICER.—Applications are invited from qualified medical men (including those in H.M. Forces) holding a Degree in or Diploma of Public Health, for the appointment of Medical Officer of Health and School Medical Officer, at a salary of £1,500 per annum, plus bonus, rising by annual increments of £50 to a maximum of £1,750 per annum, inclusive of all fees and emoluments. Applicants must be fully qualified to carry out and perform all the duties of Medical Officer of Health and School Medical Officer, and appertaining to the medical services of the Council, including those as Administrative Officer under the Mental Deficiency Acts, and such other duties as may from time to time be prescribed by the Council. The appointment will be subject to the approval of the Ministries of Health and Education, and will be terminable on three months' notice on either side. The person appointed will be required to devote his whole time to the duties of the office, and to pay over to the Council all moneys received by him in connection with the appointment from whatever source such moneys are received. He must not engage in private practice nor accept any other appointment except with the consent of the Council. The appointment will also be subject to the provisions of the Local Government Superannuation Act, 1937, and to a medical examination as required by the Council for the purposes of that Act, and the statutory contributions to the Superannuation Fund under the Act will be deducted from the salary. Applications on the form provided (which will be forwarded by the undersigned on receipt of a stamped addressed foolscap envelope) must reach me not later than noon on Saturday, February 28, 1946. Canvassing members of the Council is prohibited and will disqualify.—Charles E. Cranfield, Town Clerk, Town Hall, West Ham, E.15.

COUNTY BOROUGH OF BIRKENHEAD. Department of the Medical Officer of Health, Birkenhead Municipal Hospital. RESIDENT SURGICAL OFFICER (B1) (male or female).—Applications are invited from registered medical practitioners for the appointment of Resident Surgical Officer at the Birkenhead Municipal Hospital, which will shortly become vacant. The appointment is tenable for a period not exceeding twelve months. The duties of a Resident Surgical Officer are mainly surgical and obstetrical, and preference will be given to candidates who have had surgical and obstetrical experience in a municipal or voluntary hospital. Suitably qualified R and W practitioners now holding B2 appointments may apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C., or for other reasons are not eligible for military service. Alien practitioners will be eligible for appointment. The salary attached to the appointment will be at the rate of £300 per annum, plus war bonus, and the appointment will be subject to the regulations of the Council regarding holidays, sick pay, etc. Forms of application and further particulars relating to the appointment may be obtained from the Medical Officer of Health, Dr. D. Morley Mathieson, 9, Hamilton Square, Birkenhead, to whom they should be returned as soon as possible, endorsed "Resident Surgical Officer."—E. W. Tame, Town Clerk.

COUNTY BOROUGH OF IPSWICH. Borough General Hospital.—Applications are invited from registered medical practitioners, male and female, for the appointment of RESIDENT ASSISTANT MEDICAL OFFICER (B1). Applicants should have held house appointments and had surgical experience. Salary at the rate of £350 per annum, plus full residential emoluments. Suitably qualified R practitioners holding B2 appointments, also those holding B1 and rejected by the R.A.M.C., may apply. Applications to the Medical Officer of Health, Public Health Department, Elm Street, Ipswich.

CITY OF BRADFORD.—Applications are invited for the permanent position of MEDICAL OFFICER OF HEALTH of the City at a salary of £1,750 a year, rising by annual increments of £50 to £2,000. The person appointed must devote his whole time to the service of the Council, and a copy of the duties required to be performed may be obtained on application to the undersigned. The appointment is subject to the Local Government Superannuation Act, 1937, and the successful candidate will be required to undergo a medical examination. Applications should reach me not later than February 28, 1946. Candidates serving overseas may furnish the names of three referees in lieu of forwarding copies of testimonials, and should indicate where a telegram, or cable, will reach them if selected for interview. The consent of the Minister of Health has been obtained to the making of this appointment. Canvassing will be a disqualification.—N. L. Fleming, Town Clerk, Town Hall, Bradford.

CITY OF BIRMINGHAM MENTAL HOSPITALS. Winson Green Division.—Applications are invited for the post of DEPUTY MEDICAL SUPERINTENDENT at a commencing salary of £625 per annum, plus residential emoluments consisting of unfurnished flat, fuel, light, central heating and laundry, valued for superannuation purposes at £120 per annum. In addition, there is a war bonus of £47 0s. 5d. per annum. Applicants must have had several years' mental hospital experience and must possess a Diploma in Psychological Medicine. Practical experience in Psychotherapy will be a recommendation. The candidate appointed will be required to pass a medical examination and to contribute under the Asylums Officers' Superannuation Act, 1909. He must devote the whole of his time to the duties of the office and will not be allowed to engage in any other work. The appointment is subject to one month's notice on either side, and the successful candidate will be required to serve in such Institutions belonging to the Mental Hospitals Committee as they may from time to time direct. Applications, including those from medical practitioners serving in His Majesty's Forces, must be addressed to the Medical Superintendent, Winson Green Mental Hospital, Birmingham, 18, so as to be received not later than March 1, 1946. The appointment will not be made before April 1, 1946.

CITY OF PORTSMOUTH, St. Mary's Hospital (1,200 beds).—Applications are invited from male registered practitioners for the appointment of a RESIDENT MEDICAL OFFICER (B2), now vacant, including R practitioners who now hold A posts. If held by an R practitioner (liable under the National Service Acts) the appointment will be limited to a period of six months, otherwise it will be for a period of twelve months. The salary is at the rate of £300 per annum, with residential emoluments valued at £150 per annum, and a temporary cost-of-living bonus, at present payable at the rate of £29 18s. per annum. Application forms may be obtained from and must be returned to the Medical Officer of Health, Municipal Offices, 1, Western Parade, Southsea.—Frederick Sparks, Town Clerk.

COUNTY BOROUGH OF ROCHDALE.—Applications are invited for the post of TEMPORARY WHOLE-TIME ASSISTANT MEDICAL OFFICER OF HEALTH from registered medical practitioners not already in whole-time Public Health employment. The duties are mainly in connexion with the Child Welfare Section, and will include work in the School Medical Service and Female Venereal Diseases Clinics The salary will be on the scale £500, rising by £25 to £700 (commencing according to experience) plus bonus at present £110 per annum. Applicants, male or female, should have experience in the branches mentioned, and preference will be given to holders of the Diploma in Public Health or similar qualification. Forms of application may be obtained from the Medical Officer of Health, Public Health Offices, Rochdale, and must be returned to him, accompanied by copies of any recent testimonials, and endorsed Temporary Assistant Medical Officer, as early as possible.

COUNTY BOROUGH OF SOUTHEND-ON-SEA. Southend Municipal Hospital, Rochford, Essex. RESIDENT HOUSE MEDICAL OFFICER (A).—Applications are invited from registered medical practitioners, male or female, for the appointment of Resident House Medical Officer (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be tenable for a period of six months, otherwise for a period of one year. Salary is at the rate of £200 per annum, with full residential emoluments, valued at £100 per annum, plus cost of living bonus. The person appointed will be liable to pay superannuation contributions if the provisions of the Local Government Officers' Superannuation Acts are applicable. The post is now vacant and applications should be addressed immediately to the Medical Superintendent, Southend Municipal Hospital, Rochford, Essex.—Archibald Glen, Town Clerk, Town Clerk's Office, Southend-on-Sea.

COUNTY BOROUGH OF HALIFAX. Public Health Department. TEMPORARY ASSISTANT MEDICAL OFFICER OF HEALTH for Maternity and Child Welfare (female).—Applications are invited from fully qualified medical women for the above appointment. Candidates already in whole-time Public Health employment by local authorities are not eligible. Salary scale £500 per annum, rising by annual increments of £25 to a maximum of £700 per annum. Commencing salary will be fixed in accordance with candidate's experience. The appointment will be terminable by one month's notice from either side. Applications must be received by the undersigned forthwith.—G. C. F. Roe, Medical Officer of Health, Public Health Department, Powell Street.

IMPORTANT—All applicants should read the notice at the top of page 10 about qualifications required.

ESSEX COUNTY COUNCIL. TEMPORARY ASSISTANT COUNTY MEDICAL OFFICER OF HEALTH.—The County Council invite applications from registered medical practitioners possessing experience of administrative work for the above whole-time temporary appointment on the Central Staff of the Council's Public Health Department. The duties of the Officer will be chiefly to assist in the administration of hospitals, sanatoria, public assistance establishments, and the tuberculosis services of the Council. Remuneration at the rate of £650 a year, rising, subject to satisfactory service, by annual increments of £25 to £700 a year, together with such war bonus as may be decided by the Council from time to time, will be paid for this appointment. Applications (on the prescribed form obtainable from the undersigned), accompanied by copies of not more than three recent testimonials, which will not be returned, should be addressed to me and delivered at the County Hall, Chelmsford, not later than November 12, 1945. Full information should also be given as to the applicant's position in relation to military service. Canvassing, directly or indirectly, is forbidden. This advertisement is published with the approval of the Minister of Health.—John E. Lightburn, Clerk of the County Council, County Hall, Chelmsford.

ESSEX COUNTY COUNCIL. St. Margaret's Hospital, Epping. HOUSE OFFICER (B2).—Applications are invited from registered medical practitioners, male and female, including R and W practitioners who now hold A posts, for the appointment of House Officer (B2) at the above hospital. The salary is at the rate of £200 per annum, with full residential emoluments. If held by an R practitioner the appointment will be limited to six months, otherwise it will not exceed one year. Applications should be made in writing to the County Medical Officer, County Hall, Chelmsford.

EAST RIDING COUNTY COUNCIL. Beverley Emergency Hospital.—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A) vacant immediately, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months, otherwise it will be for a period not exceeding one year subject to one month's notice on either side. The salary is at the rate of £120 per annum with full residential emoluments. Applications to be made as soon as possible to the undersigned.—T. Stephenson, Clerk of the Council, County Hall, Beverley.

KENT COUNTY COUNCIL, County Hospital, Chatham. TEMPORARY RESIDENT MEDICAL OFFICER (B2).—Applications are invited from registered medical practitioners of either sex for the above appointment, including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months. Otherwise it will not exceed one year. Applicants should have held house appointments and had experience in general duties. The salary is £300 a year, with full residential emoluments, plus a temporary war addition at present £29 19s. 7d. a year for males and £24 2s. 4d. for females. Applicants should state the names and addresses of two responsible persons to whom reference may be made as to professional ability, and should be addressed to the County Medical Officer, County Hall, Maidstone, so as to reach him by November 20, 1945.—W. L. Platts, Clerk of the County Council, County Hall, Maidstone.

KENT COUNTY COUNCIL, Public Health Department, Venereal Diseases Clinic, Tunbridge Wells.—Applications are invited from registered medical practitioners (male) for the part-time appointment of ASSISTANT MEDICAL OFFICER at the above-named Clinic. Remuneration will be at the rate of £2 12s. 6d. a session, plus travelling expenses. Applications, together with the names and addresses of two responsible persons to whom reference may be made as to professional ability, to be sent to the County Medical Officer, County Hall, Maidstone.—W. L. Platts, Clerk of the County Council, County Hall, Maidstone.

SURREY COUNTY COUNCIL, St. Helier County Hospital, Carshalton (862 beds).—Applications are invited from registered practitioners, male and female, for the appointment of a JUNIOR OBSTETRIC MEDICAL OFFICER (B2) (including gynaecological duties), including R and W practitioners who now hold A posts. If held by an R practitioner, the appointment will be limited to six months, otherwise it will not exceed one year. Salary is at the rate of £250 per annum, plus full residential emoluments and war bonus. Apply to the Medical Superintendent by November 7, 1945.

MIDDLESEX COUNTY COUNCIL.—TUBERCULOSIS OFFICER required for TOTTENHAM CHEST CLINIC. Unestablished staff with possibility of becoming established when all unestablished posts come up for revision. Salary £1,000 by £50 to £1,250 per annum, plus bonus. In the case of men or women showing exceptional ability, increments may be extended to £1,500. Written applications stating age, qualifications, experience, with copies of up to three recent testimonials, to the undersigned by December 10, 1945. Consent of Ministry of Health has been obtained for the appointment.

MIDDLESEX COUNTY COUNCIL. JUNIOR ASSISTANT MEDICAL OFFICER (B2, Resident) required at CLARE HALL COUNTY HOSPITAL, South Mimms, Middx. (540 beds for tuberculosis).—Applications invited from registered medical practitioners, including R and W practitioners who now hold A posts. Salary £250 per annum plus war bonus (now £60 per annum, proportion only paid in cash). Board, lodging and laundry. Whole-time duties such as Council may require under supervision of Medical Director. Appointment, subject to medical examination and one month's notice, is for six months, with possibility of extension to twelve months (except in case of R practitioners). Post vacant mid-November. Application to Medical Director of Hospital. Application forms not provided. Closing date November 10, 1945.—C. W. Radcliffe, Clerk of the County Council, Middlesex Guildhall, Westminster, S.W.1.

MIDDLESEX COUNTY COUNCIL.—Applications invited from duly qualified medical practitioners for the undermentioned appointment:—DISTRICT MEDICAL OFFICER for WILLESDEN (No. 2) medical relief district, unestablished, non-pensionable. Salary £300 per annum and as war-time measure only a payment equivalent to 20% of salary in respect of additional practice expenses, plus cost of expensive drugs, confinement fees, services of medical practitioner to administer short anaesthetics for minor operations. Duties in accordance with Public Assistance Order, 1930, of the Minister of Health, to reside in, or alternatively provide a surgery in, the district and to nominate a deputy to act in case of unavoidable absence. Applications to the undersigned by November 17, 1945.—C. W. Radcliffe, Clerk of the County Council, Middlesex Guildhall, Westminster, S.W.1.

URBAN DISTRICT COUNCIL OF POTTERS BAR, Middlesex.—Applications are invited from duly qualified medical practitioners for the appointment of a TEMPORARY PART-TIME MEDICAL OFFICER OF HEALTH. The consent of the Minister of Health has been obtained to the making of this appointment and attention is drawn to paragraph 5 of the Circular of the Ministry of Health No. 62/45. The salary is £150 per annum with £20 per annum in addition for travelling expenses. The appointment will be terminable by one month's notice on either side. Applications to be sent to me as early as possible.—T. T. Thorpe, Clerk of the Council, Council Offices, Darkes Lane, Potters Bar, Middlesex.

WEST SUSSEX COUNTY COUNCIL. St. Richard's (Public Health) Hospital, Chichester.—Applications are invited from registered medical practitioners, male or female, for the post of ASSISTANT MEDICAL OFFICER (B1) at this hospital. R and W practitioners now holding B2 appointments may apply. Applications from R practitioners cannot be considered unless they have been rejected by the R.A.M.C. Duties mainly medical and receiving ward. Salary £350 per annum, plus war bonus (at present time, male £30, female £24 per annum) and full residential emoluments. Applications to be sent to the Medical Superintendent.

ADDENBROOKE'S HOSPITAL, Cambridge. RESIDENT SURGICAL OFFICER (B1).—Applications are invited from registered medical practitioners for the appointment of Resident Surgical Officer (B1) to become vacant on January 10, 1946. Applicants should have held house appointments and had surgical experience. Preference will be given to candidates holding the Diploma of F.R.C.S. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C Salary is at the rate of £350 per annum. Applications to the undersigned not later than Wednesday, November 14, 1945.—J. A. Beardsall, Secretary-Superintendent.

BECKETT HOSPITAL AND DISPENSARY, Barnsley. HOUSE SURGEON (A).—Applications are invited from registered medical practitioners for this appointment. Salary is at the rate of £225 per annum with full residential emoluments. Practitioners within three months of qualification who are liable to service under the National Service Acts may also apply, when the appointment will be for six months. Applications should be sent immediately to Arthur L. Bourne, Secretary-Supt.

BOLTON ROYAL INFIRMARY (270 beds). Resident medical staff, 6.—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE PHYSICIAN (B2), including R and W practitioners who now hold A posts. If held by an R practitioner, appointment will be limited to six months. Salary £200 per annum, with full residential emoluments. Applications to be forwarded to the undersigned.—Joseph Griffith, Superintendent Secretary.

BURTON-ON-TRENT GENERAL INFIRMARY (200 beds normal).—Applications are invited from registered medical practitioners for the appointment of CASUALTY OFFICER AND HOUSE SURGEON (A). Salary at the rate of £200, with the usual residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months. Applications to be sent to the Secretary-Superintendent.

BIRMINGHAM UNITED HOSPITAL. The General Hospital. The Queen Elizabeth Hospital. (Also incorporating the Queen's Hospital, 1840-1941.) Teaching Hospital of 1,000 beds. (In association with Birmingham University).—Vacancies on the Honorary Medical and Surgical Staff will shortly arise for the following appointments:—3 ASSISTANT PHYSICIANS, 4 ASSISTANT SURGEONS.

Assistant Physicians are required to be graduates in medicine of a University of which the degree is recognized by the General Medical Council for registration and Fellows or Members of the Royal College of Physicians in London. Assistant Surgeons are required to be Fellows of the Royal College of Surgeons of England. Candidates elected from the Services may be allowed one year from the time of taking up their duties to obtain the higher qualifications required by the laws of the hospital. An honorarium of £50 per annum is at present attached to these posts, but revision of the conditions of service and remuneration to members of the Staff may become necessary in the event of new legislation for a National Medical Service. Candidates are invited to submit applications to the undersigned, from whom all further information may be obtained. Applications, which must be submitted not later than March 1, 1946, will be considered in the first instance by a Special Committee representing the Hospital and the Faculty of Medicine of the University, and its recommendations will be submitted to the Board of Management of the Hospital.—G. Hurford, Secretary, Birmingham United Hospital, The Queen Elizabeth Hospital, Birmingham, 15.

BOLTON ROYAL INFIRMARY, Lancashire (270 beds). Resident medical staff, 6.—Applications are invited from registered medical practitioners for the appointment of ASSISTANT RESIDENT SURGICAL OFFICER (B1). Experience in surgery and house appointments essential. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they are not eligible for service in H.M. Forces. Commencing salary £275 per annum, with full residential emoluments. In the first place the appointment will be for one year. Applications to be forwarded to the undersigned.—Joseph Griffith, Superintendent Secretary.

BOSTON GENERAL HOSPITAL, Boston, Lincs. HONORARY EAR, NOSE AND THROAT SURGEON.—The Committee invite applications for this appointment from candidates prepared to engage only in consulting ear, nose and throat practice. The appointment will not be filled for four months from the date of this advertisement to enable officers serving abroad to apply. Further particulars may be obtained from the undersigned to whom applications should be addressed.—B. Haines, Secretary.

BOLTON ROYAL INFIRMARY (270 beds—Resident Medical Staff, 6).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A), vacant now, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months Salary £175 per annum, with full residential emoluments. Applications to be forwarded to the undersigned.—Joseph Griffith, Superintendent-Secretary.

THE BURSLEM HAYWOOD AND TUNSTALL WAR MEMORIAL HOSPITAL, High Lane, Tunstall, Stoke-on-Trent.—Applications are invited from registered medical practitioners, male and female (including R practitioners who now hold A posts) for the post of HOUSE SURGEON (B2). If held by an R practitioner the appointment will be limited to six months. Salary is at the rate of £225 per annum, with full residential emoluments. Applications should be forwarded as soon as possible to C. E. Lowndes, Secretary

CITY GENERAL HOSPITAL, Gloucester (450 beds). (There is a Fracture A Department Plastic and Facio-maxillary Surgery Department, general, medical and surgical work, etc., at this hospital). A post will become vacant immediately for a JUNIOR MEDICAL OFFICER (B2).—Applications from male and female registered practitioners are invited, including R and W practitioners who now hold A posts. If held by an R practitioner, appointment will be limited to six months, otherwise it will not exceed one year. Salary £350, with full residential emoluments. Applicants must have had six months' postgraduate at the time of taking up the appointment. Previous experience in fracture work would be an advantage though not essential. Applications, stating when duties could be taken up, should be sent to the Medical Superintendent, City General Hospital, Gloucester.

CAMBORNE-REDRUTH MINERS' AND GENERAL HOSPITAL, Redruth.—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (A), vacant immediately. Salary at the rate of £200 per annum, with the usual residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months. Applications to be addressed to J. C. Field, Secretary-Superintendent, Redruth.

IMPORTANT—All applicants should read the notice at the top of page 10 about qualifications required.

CROYDON GENERAL HOSPITAL, Surrey (A voluntary hospital of 200 beds).—Applications are invited from registered medical practitioners for the appointment of CASUALTY OFFICER (B2), to commence duty immediately, including R practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months. Salary £250 per annum, together with residential emoluments. Applications, with copies of two recent testimonials, to George A. Paines, House Governor.

CAMERON HOSPITAL, West Hartlepool (86 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A), duties to commence as soon as possible. Salary at the rate of £200 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months. Applications should be sent to Miss P. M. Betts, Secretary.

CORNELIA AND EAST DORSET HOSPITAL, Poole, Dorset (204 beds).—HOUSE SURGEON (B2).—Applications are invited from registered medical practitioners, male and female, for the appointment of House Surgeon, vacant immediately. R and W practitioners now holding A posts may apply. If held by an R practitioner the appointment will be limited to six months. The salary is at the rate of £250 per annum, with full residential emoluments. This hospital is recognized by the Royal College of Surgeons. Applications should be sent to the undersigned.—E. A. Hart, Secretary.

CAMBORNE-REDRUTH MINERS' AND GENERAL HOSPITAL.—Applications are invited for the appointment of a full-time RADIOTHERAPIST to take charge of the Therapy Department at the above hospital, which is included as a unit for treatment of cancer in a draft regional service. Salary £750 to £1,000. Full particulars may be obtained from the undersigned. Applications from service candidates are specially invited and it is not proposed to make an appointment before February 16, 1946, in order that they may receive full consideration.—J. C. Field, Secretary-Superintendent.

DISTRICT INFIRMARY, Ashton-under-Lyne (normally 200 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of CASUALTY OFFICER AND ORTHOPAEDIC HOUSE SURGEON (B2). Salary at the rate of £200 a year, with full residential emoluments. R practitioners who now hold A posts may apply, when the appointment will be limited to six months. Applications should be forwarded at once to the undersigned.—Frank Oliver, General Superintendent and Secretary.

DARLINGTON MEMORIAL HOSPITAL (200 beds).—Applications are invited from registered medical practitioners, male, British, for the following appointment, vacant December 1, 1945:—HOUSE PHYSICIAN (A). Practitioners within three months of qualification and liable under the National Service Acts may apply when appointment will be for a period of six months. Salary £150 per annum with full residential emoluments. Application should be sent as soon as possible to Secretary-Superintendent, Memorial Hospital, Darlington.

EAST SUFFOLK AND IPSWICH HOSPITAL, Ipswich (400 beds).—Applications are invited from registered medical practitioners for the following posts:—

HOUSE SURGEON (B2) to the Senior Surgeon, vacant January 3, 1946. R practitioners now holding A posts may apply for the above.

HOUSE SURGEON (A) to a General Surgeon, vacant now.

HOUSE SURGEON (A) to a General Surgeon, vacant November 24, 1945.

HOUSE SURGEON (A) to the Gynaecological and Obstetrical Department, vacant January 7, 1946. Practitioners liable to service under the National Service Acts and within three months of qualification may apply for the above. Appointments will be for six months. Salary for each is at the rate of £175 per annum, with full resident emoluments. —Arthur Griffiths, Secretary, The Hospital, Ipswich.

EAST SUFFOLK AND IPSWICH HOSPITAL.—The Board of Management invites applications for the appointment of a PATHOLOGIST (WHOLE-TIME) at a commencing salary of £1,100 per annum, with house. To permit candidates in H.M. Forces serving abroad being considered the latest date for the return of applications is March 1, 1946. If the selected candidate is subject to any restriction on the transfer of his services from essential National Service, he will not be required to take up his new appointment until the restriction is removed. Applications to be made on form to be supplied.—Arthur Griffiths, Secretary, The Hospital, Ipswich.

THE ELIZABETH GARRETT ANDERSON HOSPITAL, Euston Road, N.W.1.—Applications are invited from medical women for the Honorary post of TEMPORARY ASSISTANT PHYSICIAN. Applicants must be members of Royal College of Physicians. Duties to commence as soon as possible. Applications are invited from Service candidates. Applications should be sent to the Secretary by November 30.

ECCLES AND PATRICROFT HOSPITAL, Manchester (88 beds, 12 private beds. Obstetric Unit).—Applications are invited from male registered medical practitioners for the appointment to the B1 POST at the above hospital. An interest in obstetrics is desirable, a unit having been recently installed. Suitably qualified R practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. The salary will be at the rate of £400 per annum, with full residential emoluments, etc. Applications to be addressed to the Secretary, Eccles and Patricroft Hospital, Eccles, Manchester, as early as possible.

EXMINSTER HOSPITAL, Exminster.—Applications are invited from registered medical practitioners, male and female, for the appointment of a HOUSE SURGEON (B2), vacant December 1, 1945. Salary at the rate of £200 per annum, with full residential emoluments. This is an Orthopaedic Hospital with 160 beds, and also a centre for treatment of Peripheral Nerve Injuries. R and W practitioners who now hold A posts may apply, when the appointment will be limited to six months. Applications should be addressed to the Medical Superintendent, Exminster Hospital, Exminster, near Exeter, Devon.

EXMINSTER HOSPITAL, Exminster.—Applications are invited from registered medical practitioners, male and female, for the appointment of a HOUSE SURGEON (B1), vacant December 1, 1945. Salary at the rate of £350 per annum, with full residential emoluments. This is an Orthopaedic Hospital with 160 beds, and also a centre for treatment of Peripheral Nerve Injuries. R and W practitioners who now hold A posts may apply, when the appointment will be limited to six months. Applications should be addressed to the Medical Superintendent, Exminster Hospital, Exminster, near Exeter, Devon.

FREE EYE HOSPITAL, Southampton.—Applications are invited for the post of HONORARY CONSULTING SURGEON (not Ophthalmic). The appointment will be a temporary one pending the return to normal peacetime conditions. Applications to be sent to the Secretary not later than November 7, 1945.—C. H. Davis, Secretary.

GOODMAYES EMERGENCY HOSPITAL, Ilford, Essex.—Applications are invited from registered practitioners, male or female, for the appointment of HOUSE OFFICER (A) including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under National Service Acts, appointment will be for a period of six months, otherwise it will be for a period not exceeding one year. Salary at the rate of £120 per annum with full residential emoluments. The appointment is mostly for ear, nose and throat and ophthalmic work, but there is also a certain amount of general surgery and medicine.—Apply to the Medical Superintendent of the above hospital.

GRIMSBY AND DISTRICT GENERAL HOSPITAL (237 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of RESIDENT CASUALTY OFFICER AND HOUSE SURGEON (A), now vacant. Appointment is for six months. Salary is at the rate of £175 per annum with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply. Applications to the Superintendent.

GLASGOW ROYAL INFIRMARY. TEMPORARY THIRD ASSISTANT SURGEON to the Orthopaedic Department.—Applications are invited for the above full-time temporary post. Salary at the rate of £400 per annum. Applications, along with three names for reference, to the Secretary, Glasgow Royal Infirmary, 135, Buchanan Street, Glasgow, C.1. No canvassing.

THE GENERAL INFIRMARY AT LEEDS.—Applications are invited from Fellows of the Royal College of Surgeons of England for the post of HONORARY AURAL SURGEON to the General Infirmary at Leeds. Information relating to the post will be supplied on reference to the House Governor. Suitably qualified practitioners serving with His Majesty's Forces are invited to apply.

Applications are also invited from Fellows of the Royal College of Surgeons of England for the post of HONORARY ASSISTANT SURGEON to the General Infirmary at Leeds. Information relating to the post will be supplied on reference to the House Governor. Suitably qualified practitioners serving with His Majesty's Forces are invited to apply.

Applications for each post with testimonials (or the names of three persons to whom reference may be made) to be received by the undersigned not later than March 31, 1946.—S. Clayton Fryers, House Governor and Secretary.

HUDDERSFIELD ROYAL INFIRMARY (321 beds).—CASUALTY OFFICER (B2) required, to commence immediately. R and W practitioners who now hold A posts may apply. If held by an R or W practitioner appointment will be limited to six months. Salary at the rate of £200, with full residential emoluments. Applications to be sent to the undersigned as soon as possible.—H. J. Johnson, General Superintendent and Secretary.

GENERAL HOSPITAL, Nottingham (664 beds).—Applications are invited from registered medical practitioners for the appointment of RESIDENT ORTHOPAEDIC AND FRACTURE OFFICER (B1) vacant shortly. Applicants should have had previous experience in Fracture and Orthopaedic work. The Orthopaedic Department serves a large industrial district and the post offers exceptional experience in traumatic surgery. The appointment will be for a period of one year in the first instance. Salary is at the rate of £300 per annum, with full residential emoluments. Suitably qualified R practitioners holding B2 appointments, also those holding B1 appointments rejected by the R.A.M.C. may apply. Applications to be forwarded as soon as possiple to Henry M. Stanley, House Governor and Secretary.

HOSPITAL OF ST. JOHN AND ST. ELIZABETH, 60, Grove End Road, N.W.8.—Applications are invited from registered medical practitioners (male) for the appointment of a HOUSE PHYSICIAN (A), to become vacant on December 1, 1945, including practitioners within three months of qualification who are liable for service under the National Service Acts. Appointment will be for a period of six months. Salary is at the rate of £150 per annum, with full residential emoluments. Applications should reach the undersigned by November 22, 1945.—F. Dudley Hobbs, M.A., Secretary.

HULL ROYAL INFIRMARY.—Applications are invited for the following posts:—SECOND HOUSE SURGEON (B2). Vacant now. Suitably qualified R and W practitioners who now hold A posts may apply. If held by an R practitioner the appointment will be limited to six months.

CASUALTY OFFICER (A), vacant November. Practitioners within three months of qualification who are liable to service under the National Service Acts may apply when appointment will be for a period of six months. Salary for each of the above posts £200 per annum with full residential emoluments. Applications to R. J. Carless, House Governor.

KING GEORGE HOSPITAL, Ilford. RESIDENT SURGICAL OFFICER (B1).—Applications are invited from registered medical practitioners for the appointment of Resident Surgical Officer, to be vacant on January 1, 1946. Applicants should have held house appointments and had surgical experience. Preference will be given to applicants holding the diploma of F.R.C.S. Suitably qualified R practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. The salary is at the rate of £550 per annum. Forms of application can be obtained from the undersigned.—G. Austin Hepworth, Secretary and Supt.

KING GEORGE HOSPITAL, Ilford.—Applications are invited for the appointment of an HONORARY PHYSICIAN in charge of the Department of Physical Medicine. Applications from Service candidates are invited. Applications should reach the undersigned not later than December 8, 1945.—G. Austin Hepworth, Secretary and Superintendent.

LEEDS PUBLIC DISPENSARY AND HOSPITAL, North Street, Leeds, 2.—Applications are invited for two posts of HONORARY SURGEON. Candidates must be Fellows of the Royal College of Surgeons of England. Suitably qualified practitioners serving with His Majesty's Forces are invited to apply. Applications, with testimonials (or the names of three persons to whom reference may be made), to be received by the undersigned not later than March 31, 1946.—Chas. F. J. Maury, Secretary and Superintendent.

LEEDS PUBLIC DISPENSARY AND HOSPITAL.—Applications are invited from registered medical practitioners for the appointment of HOUSE SURGEON (A), mainly Casualty duties. Appointment for six months. Salary at the rate of £150 p.a., with board, residence, and laundry. Practitioners within three months of qualification and liable under the National Service Acts may also apply. Applications to be addressed to Charles F. J. Maury, Secretary and Superintendent.

THE LIVERPOOL SANATORIUM, Frodsham, Cheshire (175 beds).—Applications are invited from registered medical practitioners for the appointment of RESIDENT MEDICAL OFFICER (B1). Suitably qualified R and W practitioners now holding B2 posts may apply R practitioners holding B1 posts and rejected by the R.A.M.C. may also apply. The appointment is tenable for one year. Salary £400 per annum with full board, lodging and laundry. House available for married man, with allowance of £100 per annum in lieu of emoluments. Applications should be sent to the Medical Superintendent not later than November 17, 1945.

THE LONDON CHEST HOSPITAL, Victoria Park, E.2.—Applications are invited for the post of SENIOR ASSISTANT PATHOLOGIST (whole-time), commencing salary £1,000 per annum. Particulars as to duties may be obtained from the Secretary. Practitioners serving with H.M. Forces are eligible. Applications, with copies of three testimonials, should be sent to the Secretary not later than April 30, 1946. If these are not available the names of three persons in this country to whom reference may be made should be given.

IMPORTANT—All applicants should read the notice at the top of page 10 about qualifications required.

LUTON AND DUNSTABLE HOSPITAL. (Fracture A Hospital, 214 beds). Accident Service—HOUSE SURGEON (A). HOUSE SURGEON (A).—Applications are invited from registered medical practitioners for the following appointments now vacant:—Casualty House Surgeon (A) and Fracture and Orthopaedic House Surgeon (A). Practitioners within three months of qualification who are liable to serve under the National Service Acts may apply. The appointments will be for a period of six months. Salaries will be at the rate of £175 per annum, with full residential emoluments. Applications should be sent to the undersigned as soon as possible.—R. E. Lingard, Secretary.

THE MIDDLESEX HOSPITAL, W.1.—The following vacancies exist on the Honorary Staff of the Hospital:—

TWO ASSISTANT PHYSICIANS.
THREE ASSISTANT SURGEONS.
ONE PHYSICIAN for Diseases of the Skin.
ONE ASSISTANT OPHTHALMIC SURGEON.
ONE ASSISTANT AURAL SURGEON.
ONE ASSISTANT ORTHOPAEDIC SURGEON.
TWO ANAESTHETISTS.

The following vacancies will be filled in March, 1946:—

ONE ASSISTANT SURGEON.
ONE PHYSICIAN for Diseases of the Skin.
ONE ASSISTANT OPHTHALMIC SURGEON.

Applications (60 copies) for these appointments, supported by copies of testimonials, should be submitted to the Secretary-Superintendent, from whom further particulars may be obtained, by February 28, 1946. Candidates now serving with H.M. Forces and unable to take up appointment immediately are eligible.

MANSFIELD AND DISTRICT GENERAL HOSPITAL (227 beds).—Applications are invited for the temporary post of VISITING EAR, NOSE AND THROAT SURGEON. Applicants must be F.R.C.S., and preferably possess the D.L.C., and must be of full consultant status. Salary is in accordance with the B.M.A sessional basis scale. Not less than two sessions per week required. The post is open to persons at present serving with H.M. Forces. Conditions and terms of appointment may be obtained on request from the undermentioned. Applications must be received not later than November 24, 1945.—K. L. Ward, Secretary.

NOTTINGHAM GENERAL HOSPITAL. HONORARY RADIOLOGIST.—The Board invites applications for the above position which has arisen owing to the death of the senior honorary radiologist. Candidates must be fully qualified and registered medical practitioners. The successful candidate must confine his private practice entirely to X-ray and allied work, and shall attend the hospital daily. He will be appointed for a term of five years and then be eligible for re-election. Service candidates are eligible to apply for the appointment, which will be made during the month of February, 1946. The present assistant honorary radiologist is an applicant, and if he is appointed to the post there will be a vacancy for an Assistant Honorary Radiologist. The conditions of the appointment of Assistant Honorary Radiologist are the same as for the Honorary Radiologist. Applications must reach the undersigned by the first post of February 23, 1946. —Henry M. Stanley, House Governor and Secretary.

NOTTINGHAM HOSPITAL FOR WOMEN (110 beds, including private wards, annexe for 28 patients on outskirts of town).—Applications are invited from registered medical practitioners for the appointment of HOUSE SURGEON (B1). Some experience of gynaecology and obstetrics desirable. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £225 a year, and the appointment is for six months in the first instance. Applications should be sent to the Secretary, Miss R. H. Tweedie.

NOTTINGHAM GENERAL HOSPITAL (712 beds, including E.M.S. beds).—Applications are invited from registered medical practitioners, male and female, including practitioners within three months of qualification who are liable to service under the National Service Acts, for the appointment of RESIDENT CASUALTY OFFICER (A) for the above hospital. Duties to commence immediately If held by a practitioner who is liable under these Acts appointment will be for a period of six months. Salary at the rate of £200 per annum, with full residential emoluments. Applications to be sent to the undersigned.—Henry M. Stanley, House Governor and Secretary.

NOTTINGHAM CHILDREN'S HOSPITAL.—Applications are invited from registered medical practitioners for the appointment of RESIDENT HOUSE SURGEON (B1), woman, to become vacant on December 1, 1945. Applicants should have held house appointments and suitably qualified W practitioners holding B2 appointments are invited to apply. Salary is at the rate of £220 per annum with apartments, board, and laundry, and the appointment is for six months. Applications to be sent to the Honorary Secretary, 1, King John's Chambers, Nottingham, immediately. Selected candidates will be required to attend at the hospital for a personal interview.

NORTH RIDING INFIRMARY, Middlesbrough (158 beds).—Applications are invited from registered medical practitioners (male or female) for the undermentioned appointments:—

SENIOR HOUSE SURGEONS (B2). Salary £225 per annum.

CASUALTY HOUSE SURGEON (A). Salary £200 per annum.

THIRD HOUSE SURGEON (A). Salary £200 per annum.

R practitioners who now hold (A) posts may apply for the B2 appointment, and practitioners within three months of qualification who are liable to service under the National Service Acts may apply for the A posts. The appointments are limited to six months. Applications should be sent to the undersigned:—Gerald A. Kenyon, Secretary-Superintendent.

NORFOLK AND NORWICH HOSPITAL, Norwich.—Applications are invited for the following appointments:—RESIDENT REGISTRAR (B1) to the Orthopaedic Department. Salary (not less than £300 per annum) according to experience. Suitably qualified R and W practitioners holding B2 posts, also those holding B1 and rejected by the R.A.M.C. may apply.

CASUALTY OFFICER (B2). R practitioners who now hold A posts are invited to apply. If held by an R practitioner the appointment will be for a period of six months. Salary £170 per annum with full residential emoluments. Applications to be addressed to Frank Inch, House Governor and Secretary.

NELSON HOSPITAL, Kingston Road, Merton, S.W.20.—Applications are invited from registered medical practitioners, male, for the appointment of RESIDENT ANAESTHETIST AND CASUALTY OFFICER (B2), vacant now. Salary at the rate of £250 per annum, with full residential emoluments R practitioners holding A posts may apply, when appointment will be limited to six months; otherwise may be extended.

Applications are also invited from registered medical practitioners for the appointment of a HOUSE SURGEON (A), becoming vacant immediately. Salary is at the rate of £200 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when appointment will be for a period of six months; otherwise it will be for a period six months in the first instance.

Apply to the Secretary.

THE NATIONAL HOSPITAL FOR NERVOUS DISEASES, Queen Square, London, W.C.1.—The Board of Management invite applications for the appointment of two HONORARY ASSISTANT PHYSICIANS. Candidates should be Members or Fellows of the Royal College of Physicians. Doctors serving in H.M. Forces are invited to apply. Applications should be forwarded to the undersigned not later than March 1, 1946.—H. Ewart Mitchell, Secretary.

THE NATIONAL HOSPITAL FOR NERVOUS DISEASES, Queen Square, London, W.C.1. HOUSE PHYSICIAN (B1).—Applications are invited from registered medical practitioners for the appointment of House Physician (B1). Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £150 per annum, with full residential emoluments. Applications to be sent to the undersigned immediately. —H. Ewart Mitchell, Secretary.

THE PRINCE OF WALES'S HOSPITAL, Plymouth.—Applications are invited from registered medical practitioners, male and female, for the appointment of SENIOR HOUSE SURGEON (B2) for duty at the Devonport Section, vacant forthwith, including R and W practitioners who now hold A posts. If held by an R or a W practitioner, the appointment will be limited to six months. Salary is at the rate of £200 per annum, with full residential emoluments.—Arthur R. Cash, General Superintendent, Head Office, Greenbank Road, Plymouth.

PETERBOROUGH AND DISTRICT MEMORIAL HOSPITAL.—Applications are invited from registered medical practitioners, including practitioners serving in H.M. Forces, for the full-time non-resident post of ASSISTANT PATHOLOGIST. Previous experience essential. The salary of the post will be according to experience, but will not be less than £400 per annum. The person appointed will be required to commence duties as soon as possible. Applications should be submitted not later than February 27, 1946, to Frank A. C. Taylor, House Governor and Secretary.

PRINCE OF WALES'S GENERAL HOSPITAL, London, N.15.—Applications are invited for the appointment of HONORARY CLINICAL ASSISTANTS in the various departments of the hospital—Medical, Surgical, Neurological, Psychiatric, Children, Gynaecological, Skin, Orthopaedic, Fracture and Traumatic, Genito-Urinary, Ear, Nose and Throat, Eye, X-ray, Physical Medicine, and Rehabilitation—for the year 1946. Applications for appointment to any of these posts should be sent to the undersigned on or before December 3, 1945. —J. C. Burdett, Director and House Governor.

OLDHAM ROYAL INFIRMARY (203 beds). DEPUTY RESIDENT SURGICAL OFFICER, who will act as Casualty Officer and Orthopaedic House Surgeon (B2).—Applications are invited from registered medical practitioners, male and female, for the appointment of Deputy Resident Surgical Officer, to take charge of the Casualty Department and to work under the Orthopaedic Surgeon, now vacant. R practitioners who now hold A posts may apply, when the appointment will be limited to six months, otherwise it will be for a period of twelve months. Salary is at the rate of £200 per annum, with full residential emoluments. Applications should be forwarded to the undersigned immediately.—F. W. Barnett, General Superintendent and Secretary.

PRINCESS ROYAL HOSPITAL, SWANSEA.—Applications are invited for the post of ASSISTANT MEDICAL OFFICER (B1) for duties in the Dermatological Unit of this Hospital. R and W practitioners now holding B2 appointments may apply. Applications from R practitioners holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Candidates should have had experience as House Physician in a General Hospital. Salary £400 per annum with full residential emoluments plus war bonus of £29 18s., or £530 per annum, non-resident, plus war bonus of £59 16s. Applications should be sent to the Medical Superintendent.—T. B Bowen, Clerk to the Visiting Committee.

ROYAL VICTORIA AND WEST HANTS HOSPITAL, Bournemouth.—Applications are invited for the following appointments:—

MEDICAL OFFICER to the Venereal Diseases Treatment Centre.

ASSISTANT MEDICAL OFFICER to the Venereal Diseases Treatment Centre.

The appointments are for part-time, two sessions weekly, Wednesday and Saturday afternoons, for the period to December 31, 1945, and then from year to year subject to rules made by the Committee. The salaries are £500 per annum for the Medical Officer and £150 per annum for the Assistant Medical Officer. Applications, stating special experience in this work, to be sent to the undersigned immediately. The appointment will be subject to the approval of the Ministry of Health. Canvassing disallowed.—Gordon M. Saul, Secretary.

ROYAL DEVON AND EXETER HOSPITAL, Exeter.—Applications, including those from practitioners now serving in H.M. Forces, are invited for the post of HONORARY ASSISTANT SURGEON to the Ear, Nose and Throat Department. Candidates must be a Fellow of one of the Royal Colleges of Surgeons or hold the Diploma of the Royal College of Surgeons of England in Laryngology and Otology. Applications, with certificate of birth and registration, and three original testimonials, should be delivered to the undersigned on or before January 31, 1946. Candidates on Service abroad can send names of three persons to whom application may be made for testimonials.—By order of the Committee. L. Parkhouse, Secretary and Manager.

ROYAL MANCHESTER CHILDREN'S HOSPITAL, Pendlebury.—Applications are invited from registered medical practitioners, male and female (including practitioners within three months of qualification, who are liable under the National Service Acts) for the post of non-resident ASSISTANT MEDICAL OFFICER (A) at the Out-patients' Department, Gartside Street, Manchester. The appointment will be for a period of six months, commencing November 22, 1945. Salary is at the rate of £150 per annum. The hours of duty at the Out-patients' Department are from 9 a.m. until 1 p.m. or until the work of the Department is finished. Applications should be sent to the undersigned immediately.—H. Heardman, General Superintendent and Secretary.

ROYAL CANCER HOSPITAL (FREE) (Incorporated under Royal Charter), Fulham Road, London, S.W.3.—Applications are invited from qualified medical practitioners for the post of PART-TIME PHYSIOTHERAPIST to take charge of the Physiotherapy Department. The appointment in the first instance is a temporary one. Salary £250 per annum for two half-day sessions per week. The appointment will commence from January 1, 1946. Applications, to be made on a form which will be supplied by the Secretary, with copies only of not more than three recent testimonials, to be sent to the undersigned not later than the first post on Wednesday, November 14, 1945.—Victor H. Pinkham, Secretary.

THE ROYAL CANCER HOSPITAL (FREE), (Incorporated under Royal Charter), Fulham Road, London, S.W.3.—Applications are invited for the post of HOUSE SURGEON (A). Salary at the rate of £200 per annum. The appointment is subject to rules, a copy of which can be obtained from the Secretary. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when appointment will be for six months, to commence duty on January 1, 1946. Applications, to be made on a form which will be supplied by the Secretary, with copies only of not more than three recent testimonials, to be sent to the Secretary not later than the first post on Wednesday, November 14, 1945.—V. H. Pinkham, Secretary.

IMPORTANT—All applicants should read the notice at the top of page 10 about qualifications required.

RADCLIFFE INFIRMARY, Oxford.—Applications are invited from registered medical practitioners, male and female, including R and W practitioners now holding B2 posts, for the following posts in the Accident Department:

(1) FIRST ASSISTANT (B1). The appointment to be for twelve months from February 1, 1946, with a salary at the rate of £500 per annum, with full residential emoluments.

(2) SECOND ASSISTANT (B1). The appointment to be for twelve months from January 1, 1946, with a salary at the rate of £350 per annum, with full residential emoluments. The teaching of medical students is part of the normal duties of both officers. Applications, stating qualifications, with dates, age, nationality, full christian names and giving details of previous experience and the names of three referees should reach the undersigned not later than November 12 in the case of the 2nd Assistant and December 10, 1945, in the case of the 1st Assistant. Testimonials are not required. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Preference will be given to candidates demobilized from H.M. Forces.—A. G. E. Sanctuary, Administrator.

ROYAL HOSPITAL, Wolverhampton (Incorporated under Royal Charter).—Applications are invited from registered medical practitioners for the appointment of a HOUSE SURGEON (A), vacant now, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary is at the rate of £100 per annum, with full residential emoluments.—W. Cockburn, House Governor.

ROYAL BERKSHIRE HOSPITAL, Reading.—Applications are invited from registered medical practitioners, male and female, for the following appointment:—HOUSE SURGEON (A), as from December 7, 1945. Salary is at the rate of £150 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months. Applications should be sent immediately to the House Governor.

ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL, Southampton (255 beds). CASUALTY OFFICER AND HOUSE SURGEON to E.N.T. Department (B2).—Applications are invited from registered medical practitioners, male, including R practitioners who now hold A posts, for the appointment of Casualty Officer and House Surgeon to the E.N.T. Department (B2). The appointment will be for a period of six months. Salary is at the rate of £200 per annum, with full residential emoluments. Applications should be forwarded immediately to the undersigned.—Frank Jennings, House Governor and Secretary.

ROYAL WATERLOO HOSPITAL, Waterloo Road, London, S.E.1. HONORARY ASSISTANT SURGEON.—Applications, including those from practitioners serving in His Majesty's Forces, are invited for the post of Honorary Assistant Surgeon. Candidates must be Fellows of the Royal College of Surgeons, England. Applications should be sent to the undersigned on or before April 1, 1946.—J. H. Teasdale, Secretary.

ROYAL HALIFAX INFIRMARY.—Applications are invited for the post of CASUALTY OFFICER (A), vacant now. Practitioners within three months of qualification, who are liable to service under the National Service Acts, may apply, when the appointment will be for six months. Salary £150 per annum, with full residential emoluments. Applications to be sent to A. Midgley, Secretary.

ROYAL CORNWALL INFIRMARY, Truro (351 beds—5 residential).—Applications are invited from registered practitioners, male or female, for the appointment of RESIDENT ANAESTHETIST (B2) The hospital is recognized for the Diploma in Anaesthetics. Vacant now. Salary is at the rate of £200 p.a., with full residential emoluments. R and W practitioners holding A posts may also apply. If held by an R practitioner appointment will be limited to six months. Applications should be addressed to the Secretary.

ROYAL HOSPITAL, Wolverhampton (Incorporated under Royal Charter).—Applications are invited from registered medical practitioners for the appointment of HOUSE SURGEON, Fracture and Orthopaedic Dept. (B1), vacant forthwith. Applicants should have held house appointments and had surgical experience. Suitably qualified R practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £200 per annum.—W. Cockburn, House Governor.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.1.—Applications are invited for the post of TEMPORARY HONORARY ASSISTANT GYNAECOLOGIST and OBSTETRICIAN to the hospital. Candidates are expected to submit such evidence of their qualifications as they may think desirable. Applications to the Secretary not later than November 10, 1945.

ROYAL BERKSHIRE HOSPITAL, Reading.—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (B2) to the GYNAECOLOGICAL AND OBSTETRIC DEPARTMENT, to become vacant on December 1, 1945, including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months. Salary is at the rate of £200 per annum, with full residential emoluments.

Applications are also invited from registered medical practitioners, male and female, for the following appointment:—CASUALTY OFFICER (A), to become vacant on December 7, 1945. Salary is at the rate of £150 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months.

Applications should be sent immediately to H. E. Ryan, Secretary and House Governor.

ROYAL SAMARITAN HOSPITAL FOR WOMEN, Glasgow.—The Governors invite applications for the post of VISITING SURGEON in the hospital. Practitioners serving in H.M. Forces are invited to apply. Particulars as to duties, etc., may be obtained from the undersigned, with whom candidates are requested to lodge twenty-five copies of application and three relative testimonials with each not later than Thursday, February 28, 1946. Candidates are informed that canvassing is not allowed.—T. Mason MacQuaker, Secretary and Treasurer, 179, West George Street, Glasgow, C.2.

ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY, Wigan.—Applications are invited from registered medical practitioners for the appointment of a HOUSE SURGEON (A), vacant on November 8, 1945. Salary £150 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months; otherwise it may be extended for a further period. Applications should be sent to the undersigned as soon as possible.—A. Stanley Brunt, General Superintendent and Secretary.

ROYAL WATERLOO HOSPITAL, Waterloo Road, S.E.1.—Applications are invited from medical practitioners for the honorary post of CLINICAL ASSISTANT to the Varicose Vein Clinic (Thursday afternoons). The appointment will be for six months in the first instance. Applications should be sent to the undersigned.—J. H Teasdale, Secretary.

ST. MARK'S HOSPITAL FOR CANCER, FISTULA, AND OTHER DISEASES OF THE RECTUM, City Road, London, E.C.1.—Applications are invited from registered medical practitioners for the appointment of RESIDENT SURGICAL OFFICER (B1), to become vacant on January 1, 1946. Preference will be given to candidates holding a higher surgical qualification. Salary at the rate of £250 per annum, with full residential emoluments, and certain fees. R practitioners holding B2 appointments, and those holding B1 appointments and rejected by the R.A.M.C. may apply. Applications to the undersigned as soon as possible.—Raymond Bull, Secretary.

STAMFORD, RUTLAND AND GENERAL INFIRMARY.—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A), now vacant. Salary is at the rate of £200 per annum with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months. Applications should be sent immediately to the Secretary, H. F. Donald, The Infirmary, Stamford.

SWANSEA GENERAL AND EYE HOSPITAL.—Applications are invited from registered medical practitioners, male and female, for the appointment of CASUALTY OFFICER (B2), now vacant, including R and W practitioners who now hold A posts. If held by an R or W practitioner the appointment will be limited to six months. The salary is at the rate of £192 10s. per annum, with full residential emoluments.—O. C. Howells Secretary-Superintendent.

LINCOLN COUNTY HOSPITAL (Voluntary Hospital, 200 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (A), vacant now. Salary is at the rate of £225 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when the appointment will be for six months.—Arthur Moore, Secretary-Superintendent.

NORTH CAMBRIDGESHIRE HOSPITAL, Wisbech.—Applications are invited from registered medical practitioners, including practitioners within three months of qualification who are liable to service under the National Service Acts, for appointment of HOUSE SURGEON (A), now vacant. Appointments will be for a period of six months. Salary £200 to £250, with full residential emoluments. Applications to the Secretary.

AMENDED ADVERTISEMENT

SOUTHPORT EMERGENCY HOSPITAL.—Applications are invited from registered medical practitioners for the following posts: HOUSE SURGEON (A). Practitioners within three months of qualification who are liable to service under the National Service Acts may apply. If held by a practitioner who is liable under these Acts, the appointment will be for a period of six months. Otherwise it will be for a period not exceeding one year. Salary at the rate of £120 p.a.

HOUSE SURGEON (B2), ORTHOPAEDIC, R and W practitioners who now hold A posts may apply. If held by an R practitioner the appointment will be limited to six months. Otherwise it will be for a period not exceeding one year. Salary at the rate of £200 p.a.

RESIDENT SURGICAL OFFICER (B1). Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C.. Salary at the rate of £350 p.a.

All appointments are with full residential emoluments. R practitioners applying for the B2 or B1 posts must have held the necessary previous appointments. Applications should be addressed to the Medical Superintendent.

STOCKTON AND THORNABY HOSPITAL, Stockton-on-Tees (135 beds, 3 residents). SENIOR HOUSE SURGEON (B2).—Applications are invited from registered medical practitioners, including R practitioners who now hold A posts, for the above appointment, becoming vacant December 4, 1945. Tenable for six months. Salary £200 per annum, with full residential emoluments. Applications should be sent to the undersigned as soon as possible.—J. Wilkinson, Secretary-Superintendent.

SUSSEX EYE HOSPITAL, Eastern Road, Brighton (56 beds).—The Board of Management invite applications for the post of HONORARY CLINICAL ASSISTANT in the Out-patient Department on Wednesday afternoons and Saturday mornings. The appointment is a temporary one. Applications should be addressed to the undersigned at the Hospital.—P. F. Spooner, Secretary-Superintendent.

SUSSEX EYE HOSPITAL, Eastern Road, Brighton (48 beds).—Applications are invited from registered medical practitioners for the appointment of a HOUSE SURGEON (B2), male or female, including R practitioners who now hold A posts. Salary is at the rate of £175 per annum, with full residential emoluments. If held by an R practitioner the appointment is limited to six months. Applications should be sent to the undersigned.—Percy F. Spooner, Secretary-Superintendent.

STAMFORD, RUTLAND AND GENERAL INFIRMARY.—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (B2), to become vacant on December 1, 1945, including R practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months. Salary is at the rate of £300 p.a., with full residential emoluments. Applications to the Secretary, H. F. Donald, The Infirmary, Stamford.

THE CHILDREN'S HOSPITAL, King Edward VII Memorial, Birmingham, 16. HOUSE PHYSICIAN (A).—Applications are invited from registered medical practitioners, male and female, for the appointment of a House Physician (A) to become vacant on December 24, 1945, including practitioners within three months of qualification who are liable to service under the National Service Acts. The salary is at the rate of £100 per annum with full residential emoluments and the appointment is tenable for six months.

HOUSE PHYSICIAN (B2).—Applications are invited from registered medical practitioners, male and female, for the appointment of House Physician (B2) to become vacant on January 1, 1946, including R and W practitioners who now hold A posts. The salary is at the rate of £100 per annum with full residential emoluments and the appointment is tenable for six months.

Applications for each post should be sent to the undersigned by November 30, 1945.—Arnold Tunstall, House Governor.

THE HOSPITAL FOR WOMEN, Soho Square, W.1.—Applications are invited from fully qualified men and women, including R and W practitioners who now hold A posts, for the post of RESIDENT MEDICAL OFFICER (B2), for the period January 1 to June 30, 1946. If held by an R practitioner appointment will be limited to six months. Salary approximately £150 per annum, with full board and lodging. Applications to reach the undersigned not later than Wednesday, November 14, 1945.—D. C. Emery, Acting Secretary.

THE HOSPITAL FOR WOMEN AT LEEDS, Coventry Place, Leeds, 2.—Applications are invited for the post of HONORARY ASSISTANT SURGEON. Candidates must be Fellows of the Royal College of Surgeons of England. Suitably qualified practitioners serving with His Majesty's Forces are invited to apply. Applications, with testimonials (or the names of three persons to whom reference may be made), to be received by the undersigned not later than March 31, 1946.—F. P. Carroll, Superintendent and Secretary.

IMPORTANT—All applicants should read the notice at the top of page 10 about qualifications required.

WARWICKSHIRE HOSPITALS COUNCIL. VISITING MEDICAL STAFF.—The Warwickshire Hospitals Council invites applications from registered medical practitioners holding appropriate qualifications for the following appointments on the Senior Medical Staff of the Coventry and Warwickshire Hospital, Coventry. Each appointment is remunerated, and the successful candidates will be required to practise exclusively as Consultants in their respective specialities:—

ONE GYNAECOLOGICAL AND OBSTETRIC SURGEON. Salary at the rate of £500 per annum.

ONE (additional) OPHTHALMIC SURGEON. Salary at the rate of £750 per annum (there is already one Ophthalmic Surgeon on the Hospital staff).

ONE ORTHOPAEDIC SURGEON. Salary at the rate of £750 per annum (the Fracture and Traumatic Services of the Hospital are under the direction of a Director of Accident Services; the candidate appointed to the post of Orthopaedic Surgeon will be responsible for the Orthopaedic Service only, but must have some experience in fractures and traumatic surgery).

TWO EAR, NOSE AND THROAT SURGEONS. Salary (each) at the rate of £500 per annum.

TWO RADIOLOGISTS (full-time), one in charge of X-ray Diagnostic Services and one in charge of X-ray Therapeutic Services. Salary (each) at the rate of £1,200 per annum, rising by four annual increments of £200 to a maximum of £2,000 per annum; with ability to receive private patients at the Hospital. Fees for private patients to be shared as to 1/3 to the Hospital.

Each appointment, which will be for a period of five years in the first instance, is subject to the terms and conditions of an Agreement of Service, copies of which may be obtained from the undersigned.

Applications from Service candidates are invited and the above appointments (together with the terms and conditions of the Agreement of Service) are being notified to the Directors-General at the Admiralty, the War Office and the Air Ministry, in order that they may be brought to the notice of medical officers through Service channels. Applications, giving full details as to age, medical training, experience and qualifications, and accompanied by copies of testimonials, must be received not later than March 1, 1946. The successful candidates will be required (subject to release from H.M. Forces of any Service candidate appointed) to take up their appointments on June 1, 1946.—S. Cecil Hill, Warwickshire Hospitals Council, Coventry and Warwickshire Hospital, Coventry.

WEST LONDON HOSPITAL, Hammersmith, W.6. HOUSE SURGEON (A).—Applications are invited for the above appointment to become vacant on December 1, 1945, from registered medical practitioners, male and female, including practitioners within three months of qualification who are liable to service under the National Service Acts. The appointment will be for six months and may be terminated by one month's notice on either side. Salary at the rate of £100 a year with the usual residential emoluments. Applications should reach me not later than Tuesday, November 13, 1945.—H. A. Madge, Secretary.

WEST NORFOLK AND KING'S LYNN GENERAL HOSPITAL.—Applications are invited for the appointment of HONORARY VISITING OPHTHALMIC SURGEON. Practitioners serving with H.M. Forces are invited to apply. Must reside in or near King's Lynn. Applications should be addressed to the undersigned not later than March 10, 1946.—Joseph E. Searjeant, F.C.C.S., House Governor, King's Lynn General Hospital, King's Lynn.

YORK COUNTY HOSPITAL (222 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A), vacant immediately, whose main duties are in the Eye, Ear, Nose, and Throat Department (37 beds with busy Out-patient Clinics), but who will share in the general work of the hospital, also Casualty Duty, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary is at the rate of £175 per annum, with full residential emoluments. This post is recognized for D.O.M.S. and D.L.O. examinations. Applications to be sent to the undersigned immediately.—J. R. Mackrill, Secretary.

IMPORTANT NOTICE

APPOINTMENTS

Medical practitioners are requested **not to apply** for any appointment referred to in this notice without first having communicated with the Secretary to the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of the Eire Army appointments, with the Medical Secretary, Medical Association of Eire, 95, Merrion Square, Dublin; and in the case of the Australian appointment, with the Secretary at B.M.A. House, or the Hon. Secretary, Western Australian Branch, Shell House, 205, St. George's Terrace, Perth).

GOVERNMENT SERVICE

ARMY MEDICAL SERVICE OF EIRE.—*(Army, Army Reserve and L.D.F. of Eire, whether in a military or civilian capacity.)*

COMMISSIONER OF PUBLIC HEALTH, Perth, Western Australia.

CONTRACT PRACTICE

ABERTYSSWG MEDICAL AID SOCIETY.—*(Medical Officer.)*

LLWYNYPIA, CLYDACH VALE, PEN-Y-GRAIG, GLAMORGAN.—*(Workmen's Medical Scheme.)*

MID-RHONDDA MEDICAL AID SOCIETY.—*(Assistant Medical Officer.)*

NEATH AND DISTRICT.—*(Medical Aid Association.)*

OGMORE VALLEY, GLAMORGAN.—*(Wyndham Colliery Medical Aid Society.) (Workmen's Medical Scheme.)*

PUBLIC ASSISTANCE

CITY AND COUNTY OF BRISTOL. PUBLIC ASSISTANCE COMMITTEE.—*(District Medical Officer.)*

MENTAL HOSPITAL SERVICE

ROXBURGH DISTRICT MENTAL HOSPITAL, MELROSE.—*(Medical Superintendent.)*

SOMERSET AND BATH MENTAL HOSPITAL, COTFORD.—*(Deputy Medical Superintendent.)*

VOLUNTARY HOSPITAL

NORTHAMPTON GENERAL HOSPITAL.—*(Whole-time Pathologist.)*

By Order of the Council.

CHARLES HILL,

October 30, 1945. *Secretary.*

THE FOREIGN MISSION OF THE PRESBYTERIAN CHURCH OF WALES.—Wanted, a keen Christian doctor as PHYSICIAN OR SURGEON, higher qualifications desirable, to help resident Superintendent in Mission Hospital, Shillong—premier hospital in Assam, fully equipped for surgery. X-ray, electromedical work, and in association with Provincial Pasteur Institute. Has facilities for all pathological work. Accommodation 130 patients. Practitioners serving with H.M. Forces are invited to apply. Salary £275, free bungalow, doctor covered by insurance scheme. Applications not later than March 3, 1946, to General Secretary, 16, Falkner Street, Liverpool, 8.

WALSALL GENERAL HOSPITAL (181 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of CASUALTY OFFICER AND ORTHOPAEDIC HOUSE SURGEON (B2), including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months. Salary is at the rate of £200 a year, with full residential emoluments. Applications should be forwarded immediately to the undersigned.—W. H. Harper, Honorary House Governor.

WEST RIDING OF YORKSHIRE HOSPITALS BOARD. Highroyds Emergency Hospital, Menston, near Leeds. RESIDENT SURGICAL OFFICER (B1).—Applications are invited from registered medical practitioners for the appointment of Resident Surgical Officer (B1), shortly becoming vacant. Applicants should have held house appointments and had surgical experience. Preference will be given to candidates holding Diploma of F.R.C.S., and who have had orthopaedic experience. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary according to qualifications and previous experience at a figure from £350 to £550 per annum, together with full residential emoluments. Applications, together with the names and addresses of two persons to whom reference may be made, to be forwarded immediately to the Medical Superintendent, Highroyds Emergency Hospital, Menston, near Leeds. There is no printed form of application.—G. L. Banner, Clerk of the Board, Board Offices, Wakefield.

WINTERTON EMERGENCY HOSPITAL (1,060 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of ORTHOPAEDIC HOUSE SURGEON (B2), including R and W practitioners who now hold A posts, when the appointment will be for a period of six months. The salary is at the rate of £200 per annum, with full residential emoluments.

Applications are also invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (A). Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months. Salary at the rate of £120 per annum, plus full residential emoluments.

Applications for each post should be sent to the Medical Officer-in-Charge, Winterton Emergency Hospital, Sedgefield, Stockton-on-Tees.

WARNEFORD GENERAL HOSPITAL, Leamington Spa.—Applications are invited from registered medical practitioners, male and female, for the post of HOUSE PHYSICIAN AND OPHTHALMIC HOUSE SURGEON (A) at the above hospital, to become vacant on November 16, 1945, including practitioners within three months of qualification who are liable to service under the National Service Acts, when the appointment will be for six months. Salary is at the rate of £175 per annum, with full residential emoluments. Applications should be sent to the undersigned as soon as possible.—J. R. Long, House Governor and Secretary.

WEST HERTS HOSPITAL, Hemel Hempstead. HOUSE PHYSICIAN (B2).—Applications are invited from registered medical practitioners for the appoint- appointment of Resident House Physician (B2), now vacant, including R practitioners who now hold A posts. The appointment will be for a period of six months. The salary is at the rate of £200 per annum, with full residential emoluments for those qualified for six months or over, or £120 for newly qualified practitioners. Application should be sent to the undersigned immediately.—J. Price Jones, Clerk to the Hospital.

THE WOMEN'S HOSPITAL, Liverpool.—Applications are invited for the post of TEMPORARY HONORARY ASSISTANT SURGEON. Candidates must hold the Fellowship of the Royal College of Surgeons of England, Edinburgh, or Ireland, or the degree of Master of Surgery of a recognized University of the United Kingdom. Persons at present serving with H.M. Forces are invited to apply. Applications and the names of three referees should reach the undersigned not later than December 7. Testimonials are not required.

Applications are also invited for the post of HOUSE SURGEON (A) (male or female), including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Post will be vacant January 1, 1946. Salary £100 per annum. Applications to reach the Secretary of the Medical Board by November 30, 1945.—M. J. Harley, Secretary.

Founded 1892. THE LONDON AND COUNTIES Assets exceed £100.000.
MEDICAL PROTECTION SOCIETY
Members receive advice and assistance in all matters affecting the practice of their profession and are afforded COMPLETE INDEMNITY against costs and damages in cases undertaken on their behalf.
Subscription £1. No entrance fee to those joining within twelve months of registration. Entrance fee, 10/-.
Full Particulars from the Secretary, VICTORY HOUSE, LEICESTER SQUARE, W.C.2. Gerrard 4553 and 4814.

CHARGES FOR CLASSIFIED ADVERTISEMENTS

Circulation 55,000

Advertisements should reach the Advertisement Manager not later than the THURSDAY ten clear days before publication.

Cancellation cannot be accepted after 10 a.m. MONDAY for current week's issue.

To economize in accounting, postage and collection, **all advertisements should be paid for at time of order.** Publication will be in the earliest possible issue, but delay is unavoidable in present circumstances.

1. TO MEMBERS OF THE ASSOCIATION the cost of advertisements for Assistants, Dispensers, Locums, Partnerships, *Practices, Secretaries, is ten shillings for 24 words, including name and address. Four figures and £ sign count as one word (example, £2,000). When a Box Number is used, it must be reckoned as six of the total number of words in each advertisement.

1s. *extra* should be added for each insertion to cover the Box fee and postage of replies.

Additional words 2s. 6d. for every six or part.

Please mark advertisements clearly, *MEMBER.*

2. To all other (private) advertisers the charge under the headings specified above, para. 1, is 12s. (minimum) for 24 words, including name and address. Four figures and £ sign count as one word (example, £2,000). When a Box Number is used it must be reckoned as six of the total number of words in each advertisement.

1s. *extra* should be added for each insertion to cover the Box fee and postage of replies.

Additional words 3s. for every six, or part.

*SALE OF PRACTICE. The name and address of owner and of the firm negotiating the sale must accompany the advertisement. Those details are not for publication.

3. Consulting rooms, Dietetic, Duplicating, Hotels, Houses, Micellaneous, Motor Cars, Typing, the charge is same as para. 2.

Personal, Notices, University and Industrial Appointments, minimum charge of 20s for 24 words, including name and address. Four figures and £ sign count as one word (example, £2,000). When a Box Number is used, it must be reckoned as six of the total number of words in each advertisement.

1s. *extra* should be added for each insertion to cover the Box fee and postage of replies.

Additional words 5s. for every six or less.

Educational, Hospitals, Public Health Appointments, 3s. a line, minimum charge 15s.

Births, Marriages, and Deaths.—The charge for an insertion under this head is 10s. 6d. for 18 words or less. Extra words 3s. 6d. for each six or less. Payment should be forwarded with the notice, authenticated by the name and permanent address of the sender.

BOX NUMBERS.—A Box number is used in place of name and address to conceal identity of advertiser, in no circumstances will this information be divulged by this office. Separate applications should be written to each, addressed Box—, c/o B.M.J. (address as below). All applications are forwarded to the advertiser in plain closed envelopes.

TRADE ANNOUNCEMENTS. 20s. minimum 24 words. Extra words 5s. for six or less.

Every effort is made to ensure the accuracy of advertisements appearing in the Journal. No recommendation is implied by acceptance, and the British Medical Association reserves the right to refuse or interrupt the insertion of any advertisement.

Advertisement Manager, British Medical Journal,
B.M.A. House, Tavistock Square, London, W.C.1.
Telephone: Euston 2111.
Telegrams: Articulate, Westcent, London.

APPOINTMENTS—Hospitals and Public Health, commence at page 10

PERSONAL

ANNUITIES almost tax-free for RETIREMENT, expert advice on best rates and conditions gratis. Young Practitioners should inquire re "Composite Contract," assuring five crucial features.—F. W. Hartley and Co., Annuity Specialists, 65-66, Chancery Lane, London, W.C.2.

NOTICES

APPLICANTS ARE ADVISED not to send original testimonials when replying to advertisements. Copies will answer the purpose quite as well, and in the event of their being lost or mislaid no inconvenience will ensue

THE FACT THAT GOODS made of raw materials in short supply owing to war conditions are advertised in this *Journal* should not be taken as an indication that they are necessarily available for export.

THE ROGERS PRIZE. (Joseph Rogers; administered by The Society of Apothecaries of London.).— This prize, representing the accumulated income from the investment of a legacy given by the will of Dr. Joseph Rogers, deceased (after payment of any expenses incurred in the administration), will be awarded by the Trustees, the President of the Royal College of Physicians and the Master of the Worshipful Society of Apothecaries of London, "to such person as in their opinion shall have written the best or only good essay on the treatment of the sick poor of this country and the preservation of the health of the poor in this country or either of such subjects," power being reserved to the Trustees to withhold the award of the prize if no essay shall have been submitted which in their opinion merits a prize. The competition is an open one; the treatment of the subjects and the length of the essay are left to the discretion of the essayist. The essay must be typewritten, and must not have been previously published. If subsequently published the essay must be described as the Joseph Rogers Prize Essay. Persons desirous of competing for the prize, which it is estimated will amount to about £150, are invited to submit essays, which must be forwarded to the undersigned not later than May 1, 1946. Essays should be signed with a motto or other nom-de-plume. The decision of the Trustees as to the award or withholding of the prize shall be final and conclusive, and will be duly notified in the Public Press.

There are no conditions beyond those stated above.—Ernest Busby, Clerk to the Trustees, Apothecaries' Hall Black Friars Lane, London, E.C.4.

BELGIAN FIRM, well introduced chemists and druggists, first-class sales organization, wants to act as AGENT OR EXCLUSIVE BUYER for pharmaceuticals and medicinal preparations in Belgium, Holland, Luxembourg, and Scandinavia.—Please apply to Laboratoires Pantha, Brussels (Belgium), 51, Rue du Poincon.

UNIVERSITY AND INDUSTRIAL APPOINTMENTS

EXAMINING SURGEONS: FACTORIES ACT, 1937.—The following appointments as Examining Surgeon under the Factories Act, 1937, are vacant: Friockheim, in the County of Angus; Week St. Mary, in the County of Cornwall; Harleston, in the County of Norfolk; Newcastle-under-Lyme, in the County of Stafford; Malmesbury, in the County of Wilts. Applications, which must be received not later than November 21, 1945, should be sent to the Chief Inspector of Factories, 8, St. James's Square, London, S.W.1.

UNIVERSITY OF DURHAM. King's College, Newcastle-upon-Tyne.—Applications are invited for the following whole-time appointments:—(*a*) LECTURER IN PATHOLOGY to dental students; (*b*) LECTURER IN PHYSIOLOGY to dental students. The appointments will be temporary in the first instance and will be re-advertised in due course, when the holders will be entitled to submit an application. Teaching experience and a medical qualification, while not essential, would be an advantage. Salary £650 to £850 according to qualifications and experience. Federated Superannuation Scheme. The successful applicants will be required to take up their duties on January 7, 1946, or if now serving in H.M. Forces or other National Service on release. Applications, with the names of not more than three persons to whom reference may be made, should be sent not later than November 24, 1945, to the undersigned, from whom further particulars may be obtained.—G. R. Hanson, Registrar of King's College, Newcastle-upon-Tyne.

UNIVERSITY OF BRISTOL.—The University invites applications for the following full-time posts in the Faculty of Medicine:—A LECTURER (Grade II) in ANATOMY, salary £650. A LECTURER (Grade II) in PHYSIOLOGY, salary £650. A LECTURER (Grade II) in PATHOLOGY, salary £500-£600, according to qualifications and experience A LECTURER (Grade I) in MEDICINE, salary £900. A LECTURER (Grade I) in OBSTETRICS, salary £900. A LECTURER (Grade I) in BACTERIOLOGY, salary £900. A LECTURER (Grade I) in PREVENTIVE MEDICINE, salary £1,000. A LECTURER (Grade I) in CLINICAL PATHOLOGY, salary £1,000. Practitioners serving in H.M. Forces are invited to apply.

Applications should reach the undersigned, from whom further particulars may be obtained, not later than February 27, 1946.—Winifred Shapland, Secretary and Registrar.

UNIVERSITY OF BIRMINGHAM. FACULTY OF MEDICINE. FULL-TIME CLINICAL CHAIRS.—Applications are invited for full-time PROFESSORSHIPS in the following subjects:—MEDICINE, SURGERY, GYNAECOLOGY, PAEDIATRICS. Practitioners serving in H.M. Forces are invited to apply. Salary in each case £2,500. Further particulars may be obtained from the undersigned, to whom applications should be sent not later than February 28, 1946.—C. G. Burton, Secretary, The University, Edmund Street, Birmingham, 3.

EDUCATIONAL

F.R.C.S.(EDIN.)

POSTAL AND ORAL COURSES continued as usual. Full details.—H. C. Orrin, F.R.C.S., Surgeons' Hall, Edinburgh.

CRANLEIGH SCHOOL, SURREY.

ENTRANCE SCHOLARSHIPS, £100-£30; INSTRUMENTAL AND CHORAL, £50-£30, are offered in March and June. At each examination one close SCHOLARSHIP of not less than £50 per annum will be awarded to the son of a member of the MEDICAL or DENTAL profession. Details from Bursar.

DIPLOMA IN MEDICAL RADIOTHERAPY
R.C.P. AND S. ENG.

COURSE OF INSTRUCTION IN MANCHESTER. The regulations for the Diploma require a course of study extending over two years. During the first nine months candidates are required to attend a course of systematic instruction. The rest of the time must be spent in the Radiotherapeutic Department of a recognized hospital. To meet these requirements a course of instruction will begin at the Holt Radium Institute, Manchester, early in January, 1946. Lectures and practical demonstrations will be given in the following subjects:—Physics as applied to Radiotherapy, W. J. Meredith and Physics Staff; Biological Effects of Radiation, Dr. Edith Paterson and Dr. W. M. Dale; Pathology in Relation to Radiotherapy, Prof. S. Baker and Dr. H. Russell; Principles and Practice of Radiotherapy, Dr. Ralston Paterson and Radiotherapy Staff. Inclusive fee 50 guineas. Thereafter it is hoped that paid posts will be found for candidates in Radiotherapeutic departments where they may complete the attendance required by these regulations. Further information may be obtained from the Dean of the Medical School, University of Manchester, to whom all applications must be sent. All applicants will be required to attend for interview before being accepted for the course. Special consideration will be given to practitioners being demobilized. Service candidates may be eligible for grants under the post-graduate education scheme.

DIPLOMA IN PUBLIC HEALTH. THE ROYAL INSTITUTE OF PUBLIC HEALTH AND HYGIENE.—The Course of Instruction may be commenced at any time. A prospectus and full particulars can be obtained from the Secretary, 28, Portland Place, London, W.1. Telephone: LANGham 2731-2.

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE. Incorporating The Ross Institute. COURSE OF INSTRUCTION IN TROPICAL MEDICINE AND HYGIENE.—The next course of instruction will open on January 7, and close on May 24, 1946. It will include instruction in Clinical Medicine, Parasitology, Bacteriology, Pathology, Physiology and Hygiene in relation to the aetiology, diagnosis and prevention of tropical diseases, and is designed primarily to prepare qualified medical practitioners for the examination of the Conjoint Examination Board for the Diploma in Tropical Medicine and Hygiene. The fee for the whole course is £40, exclusive of the examination fee payable to the Conjoint Examination Board.

Applications for admission to the course, or requests for further information should be sent to The Registrar, London School of Hygiene and Tropical Medicine, Keppel Street, London, W.C.1.

MEDICAL CORRESPONDENCE COLLEGE, 19, Welbeck Street, London, W.1, provides Coaching for all Medical Examinations: D A., D.P.M., D.O.M.S., D.L.O., D.C.H., D.M.R.D., and D.M.R.T., M.R.C P., F.R.C.S., M.D. thesis, and all qualifying exams, by a staff of highly qualified Tutors, Honoursmen, and Gold Medallists. Complete Guide to Medical Examinations sent free on application. Applicants should state in which qualification they are interested

NORTH-EAST LONDON POSTGRADUATE COLLEGE AND UNDERGRADUATE REVISION WORK. Prince of Wales's General Hospital, N.15.—Particulars from J. Browning Alexander, M.D., F.R.C.P., Dean.

POSTAL COACHING for all Medical Examinations. Some successes from 1901-1944: M.D.Lond., 440; M.B., B.S.Lond., final, 386; M.R.C.S.Eng. primary, 365; F.R.C.S.Eng., final, 262; M.R.C.P. Lond., 365; M.R.C.S., L.R.C.P., final, 815; D.A. (1936-44), 72; F.R.C.S.Edin. and D.R.C.O.G., many successes. Assistance with M.D. thesis. Special arrangements for medical officers with Forces. Medical prospectus (24 pp.) gratis, along with list of Tutors, etc., on application to the Principal. — University Examination Postal Institution, 17, Red Lion Square, London, W.C.1. Phone; HOLborn 6313.

POSTGRADUATE STUDY instruction is arranged in medical, surgical, and special subjects, as circumstances permit. Information and advice obtainable from the Fellowship of Postgraduate Medicine. 1, Wimpole St., London. W.1. Langham 4266.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—W. Russell Brain, Esq., D.M., F.R.C.P., will deliver the BRADSHAW LECTURE on THURSDAY, November 8, at 5 p.m., at the College, Pall Mall East, S.W.1.

Subject: "Speech and Handedness." Any Member of the Medical Profession admitted on presentation of card.—By Order of the President, H. E. A. Boldero, Registrar.

L.M.S.S.A. FINAL EXAMINATIONS. Surgery, Jan. 14, Feb. 11, Mar. 11. Medicine, Pathology, Jan. 21, Feb. 18, Mar. 18. Midwifery, Jan. 22, Feb. 19, Mar. 19.—For particulars apply Registrar, Apothecaries Hall, Blackfriars Lane, E.C.4.

THE BEDFORD PHYSICAL TRAINING COLLEGE 37, Lansdowne Road, Bedford. Principal, Miss Stansfeld, O.B.E.; Vice-Principal, Miss Petit. Students are trained to become teachers in Gymnastics and Games, and the training, which extends over three years, includes Educational and Medical Gymnastics, Massage, Games, Dancing, and Swimming. Fees: £165 per annum. Two scholarships of £50 and two of £25 are offered annually.—For particulars apply Secretary.

WELSH NATIONAL SCHOOL OF MEDICINE. (University of Wales.) DEMOBILIZED MEDICAL OFFICERS—POSTGRADUATE EDUCATION.

(i) *For General Practitioners.*—Courses of instruction, each extending over a fortnight, will commence in the immediate future. Special courses may also be arranged according to requirements.

(ii) *For Practitioners mobilized shortly after qualification.*—Junior Hospital Appointments, in approved Hospitals, at a salary of £350 per annum with board residence (or allowance) will be available.

(iii) *For Practitioners training to become Specialists.*—Senior Hospital Appointments, in approved Hospitals, at a salary of £550 per annum with board residence (or allowance) will be available.

Applications under any of the above categories should be made to the undersigned, and under categories (ii) and (iii) should state the type of post desired and give details of civilian and Service experience since qualification.—S. C. Edwards, Secretary, 10, The Parade, Cardiff.

ASSISTANTSHIPS VACANT

WANTED, ASSISTANT for small practice, no midwifery. West Lancashire town, plenty of time for post-graduate studies.—Box 3765, B.M.J.

WANTED by partnership in Northern Cathedral city energetic MALE ASSISTANT with definite VIEW, after six months, to share whose present value is £1,500 gross. Salary according to experience, not less than £650. Unfurnished house.—Box 3761, B.M.J.

WANTED, OUTDOOR ASSISTANT, British, with VIEW in old-established practice on outskirts of large Lancashire town, pleasant surroundings, car allowance.—Box 3775, B.M.J.

WANTED, ASSISTANT, with definite VIEW to partnership in a country practice in North Midlands. No collieries. Hospital. Share worth £1,300 available at first. House and separate surgeries.—Box 3817, B.M.J.

WANTED, ASSISTANT, part or whole-time, British, preferably woman, November if possible. Experience in G.P. essential. Middle-class practice in Manchester. Possible view later. Write stating religion, age and experience.—Box 3798, B.M.J.

WANTED, ASSISTANT with VIEW, old-established practice Home Counties, must be British, under 40, well qualified, preferably D. or M.R.C.O.G., keen on G.P., interested in midwifery. Modern unfurnished house available. Forces please state date of release.—Box 3826, B.M.J.

WANTED, immediately, ASSISTANT with or without VIEW, mixed rural practice, S. Devon. Easy reach of towns and coast. Preference to ex-Serviceman or woman.—Box 3814, B.M.J.

WANTED, ASSISTANT with or without VIEW; North-West country and town practice; hospital; comfortable bachelor accommodation; state age and experience.—Box 3786, B.M.J.

WANTED, British male ASSISTANT, North Cheshire practice. Experience in G.P. essential. House if required. Car allowance and generous salary.—Box 3808, B.M.J.

WANTED ASSISTANT. Western Spa, good-class. Preferably single male. 12 guineas per week, all found, car allowance.—Box 3848, B.M.J.

WANTED, Outdoor ASSISTANT for mixed practice in Northants town. Salary, £600 p.a., with board, lodging, and car.—Box 3831, B.M.J.

WANTED, PART-TIME ASSISTANT, either sex, for industrial practice near Leeds. No Sunday work.—Box 3820, B.M.J.

WANTED, experienced MALE ASSISTANT in large mixed practice in Midland country town. Secretary, dispenser and receptionist employed. Three partners, one in Services. Senior partner on staff of local hospital. Salary £850 p.a., car provided, furnished rooms available. Applicants must be British by birth, experienced and willing to work hard.—Apply Drs. McOuat, Goode and Norman, 28, Leicester Road, Loughborough

WANTED, ASSISTANT with EARLY VIEW to partnership in large general practice, industrial, near Leeds. Dispenser-bookkeeper kept. Free house available if required. Car provided. Salary £600.—State full particulars to Box 3763, B.M.J.

WANTED, ASSISTANT, male, Scotch or English, for semi-rural practice S.E. Essex. Furnished accommodation now—house later, with partnership and succession if desired. Salary £700. Car provided.—Box 3610, B.M.J.

WANTED, OUTDOOR ASSISTANT, English or Scotch, north-east coast, good prospects, salary £800, rooms only available at present.—Box 3503, B.M.J.

WANTED PART-TIME ASSISTANT for middle sized mixed practice Manchester area. Suit post-graduate student.—Apply, Dr. Shahab, 236, Ellor Street, Pendleton, Salford, Lancs.

WANTED, December or earlier, ASSISTANT with VIEW to Partnership. Large town and country practice near Southampton. Married man with English or Edinburgh University Degree preferred. Previous experience in general practice and midwifery and ownership of car essential. Unfurnished house or flat provided. Salary £700 per annum plus car allowance.—Box 3567, B.M.J.

WANTED, immediately, indoor and outdoor ASSISTANTS for town and country practices with and without view to partnership, also Locums, good salaries offered, state full particulars.—British Medical Bureau, 33, Cross Street, Manchester, 2.

WANTED, ASSISTANT with VIEW in large home town practice. Experience in midwifery and anaesthetics useful.—Box 3255, B.M.J.

ASSISTANT WANTED, panel and private practice near Birmingham. Car and partly furnished flat available. Married preferred. Good salary.—Box 3760, B.M.J.

ASSISTANT REQUIRED, woman preferred, for pleasant country practice. Dispenser kept. Small house to rent furnished or unfurnished.—Dr. Coltart, Chilworth, Lavant Road, Chichester.

ASSISTANT WANTED pleasant country town 1/2 hour from Manchester. £500 p.a. and attractive unfurnished house (or other accommodation). Car allowance. Prospects for suitable man.—Box 3830, B.M.J.

ASSISTANT REQUIRED, immediately, British, either sex, in mixed country practice, 30 miles from London. Midwifery experience desirable. Salary by arrangement. Possible partnership later. Good furnished house available.—Write, stating full particulars, to Drs. Bates, Hamilton, and Goodwin, West Malling, Kent.

ASSISTANT WANTED for three months, commencing during November, dispensers kept, car provided, salary £60 monthly all found.—Box 3764, B.M.J.

ASSISTANT REQUIRED with VIEW partnership, ex-service preferred, own car an advantage, indoor at present but house will be available, Cornwall, 3 miles from the sea.—Box 3793, B.M.J.

ASSISTANT WANTED for mixed general practice in South Wales town, agricultural district.—Apply, stating experience, to Box 3762, B.M.J.

ASSISTANT with VIEW PARTNERSHIP wanted in partnership of five in London suburb to take place of partner going abroad in six months. Share ultimately £2,500 or more. Suit Evangelical Christian, preferably unmarried, and 30-40 yrs.—Box 3607, B.M.J

ASSISTANT, with VIEW, wanted industrial practice, 10 miles West of Birmingham; unfurnished house available.—Box 3561, B.M.J.

EX-SERVICEMAN, married, ASSISTANT with VIEW EARLY PARTNERSHIP, North-West seaside town. Free unfurnished bungalow, garden and garage. Salary by arrangement. Generous terms. Unlimited prospects.—Box 3759, B.M.J.

EXPERIENCED woman ASSISTANT required in mixed rural practice S. Yorkshire, preferably with car. Conditions attractive. Salary by arrangement.—Box 3832, B.M.J.

LINCOLNSHIRE COAST. ASSISTANT REQUIRED with definite VIEW to partnership after six months. An unfurnished house with surgery and garage attached is available.—Box 3794, B.M.J.

MALE OUTDOOR ASSISTANT WANTED immediately for West Wales practice. Hospital experience and Welsh speaking desirable. Apply stating experience and terms. Unfurnished house available.—Box 3504, B.M.J.

OUTDOOR ASSISTANT, either sex, unmarried, required in Colliery practice in South Yorks. Salary £600 p.a. Car, furnished rooms and board provided.—Box 3609, B.M.J.

REQUIRED immediately, full-time indoor ASSISTANT, male, single. With or without VIEW, car supplied, all found, excellent salary.—Box 3844, B.M.J

ASSISTANTSHIPS WANTED

WANTED, ASSISTANTSHIP with VIEW by young English doctor, married. G.P. and hospital experience. Own car, unfurnished house essential, rural district, Norfolk preferred. All replies answered.—Box 3854, B.M.J.

WANTED, ASSISTANTSHIP with VIEW, preferably South or West England, Major, R.A.M.C., aged 33, M.B., Ch.B.Glasgow, available December, married, experience hospital and G.P., keen obstetrics, furnished accommodation essential.—Box 3838, B.M.J.

WANTED, by experienced woman practitioner, OUTDOOR ASSISTANTSHIP, preferably with VIEW for self and husband after demobilization. North-West area preferred. Free January. Driver.—Box 3771, B.M.J.

WANTED, by thoroughly experienced M.B., permanent ASSISTANTSHIP, with or without furnished accommodation. Strictly temperate. Excellent references.—Box 3811, B.M.J.

ASSISTANTSHIP WANTED by M.B., Ch.B., Glas., aged 35, due demobilization November, Southern Scotland or Northern England. Car and furnished flat required. Willing stay approx. one year with view if required later.—Box 3758, B.M.J.

CONTINENTAL M.D., L.R.C.P., etc., married, very experienced, free for OUTDOOR ASSISTANTSHIP or SOLE CHARGE for longer period. Furnished accommodation and car required.—Box 3756, B.M.J.

DOCTOR with own car wishes to do PART-TIME WORK in the London area, locums considered.—Box 3526, B.M.J.

ASSISTANTSHIP, with VIEW PARTNERSHIP, required outdoor, age 34, married, good hospital and G.P. experience, excellent references, free now.—Box 3757, B.M.J.

EXPERIENCED woman doctor seeks PART-TIME ASSISTANTSHIP, London area, driver, house or flat required.—Box 3822, B.M.J.

EXPERIENCED DOCTOR free now for PART-TIME WORK or LOCUMS, preferably Hampshire or Sussex.—Box 3784, B.M.J.

MARRIED DOCTOR, aged 38, partially disabled ex-Service, available morning and/or evening SURGERIES or part-time employment. London area, preferably with accommodation.—Box 3853, B.M.J.

WOMAN, M.B., D.C.H., requires PART-TIME WORK, surgeries, London area.—Box 3825, B.M.J.

WOMAN, M.B., B.S., desires ASSISTANTSHIP in London or Home Counties. G.P. and hospital experience.—Box 3805, B.M.J.

YOUNG WOMAN DOCTOR, married, some hospital experience, requires TEMPORARY PART-TIME POST London or South London area. Assist busy practitioner.—Box 3829, B.M.J.

LOCUMS

LOCUM WANTED to take sole charge mixed practice in Ilford for four to five months. Single, live in, all found, car provided with expenses, and thirteen pounds weekly.—Box 3754, B.M.J.

LOCUM WANTED, Dec. 19 for two weeks. 18 gns. weekly, all found. Own car preferred, but not essential.—Box 3528, B.M.J.

PARTNERSHIPS

WANTED, PARTNER, young, British, after preliminary assistantship, in country town. No premium asked. Small unfurnished house available.—Write, giving full details re age, education, professional appointments—Box 3834, B.M.J.

BUSY PRACTICE, South Coast town. Average gross receipts £4,000. HALF SHARE for sale. Two years' purchase.—Box 3792, B.M.J.

CHESHIRE, Nr. Manchester, QUARTER SHARE in partnership (3) in large mixed practice, panel over 7,000, receipts over £10,000 (audited). House to rent. Dispenser and secretary employed.—Box 3271, B.M.J.

F.R.C.S.E., with experience, capital, interested PARTNERSHIP, Salisbury.—Box 3766, B.M.J.

FOR DISPOSAL HALF-SHARE in old-established Ophthalmic Practice in provincial city. 1½ years' purchase.—Box 3796, B.M.J.

M.D. (Glasgow), D.P.H. (London), aged 37, married, released R.A.F. November, wishes to hear of PARTNERSHIP in Southern England yielding £1,500. Hospital appointment desired. Experienced general medicine, fever, midwifery.—Box 3797, B.M.J.

PARTNER (married) REQUIRED, following preliminary assistantship, to commence not later than January. Experienced. Post-graduate qualification preferred. Prospect of hospital appointment. East Midland market town, some industry. Area pop. approx. 30,000. Two-partner practice. Senior retiring. Gross income approx. £5,700. Panel just under 3,000. Good house (unfurnished) to rent, garden, garage, residential district. Modern joint surgery at rear. Accommodation during assistantship. With view to ONE-THIRD of practice to commence.—Box 3529, B.M.J.

PARTNER REQUIRED in large Yorkshire town. 5/12 share available at 2 years' purchase. Accountant's figures 1942 £3,526, 1943 £3,892, 1944 £4,083, including panel and contract £700, appointments £500. Vendor's house available after short preliminary assistantship.—Box 3803, B.M.J.

PARTNER (British) wanted in first-class old-established practice in Kent, applicant must be well qualified, preference for one holding F.R.C.S., or M.D., or M.R.C.P., or M.R.C O.G. qualification, excellent modern house and garden available. SHARE producing £1,500 suggested to commence with.—Apply Box 3274, B.M.J

PARTNER REQUIRED. Ophthalmic practice in Northern town, with hospital appointments. Receipts last year £4,000. 1/3 share in first place.—Age and particulars to Box 3823, B.M.J.

PARTNERSHIP in old-established medical practice in East Anglia for disposal. Commencing share £1,500 gross. Accommodation could be provided in senior partner's house. Good prospects of increase.—Apply Crawford, Herron & Cameron, solicitors, 257, West George Street, Glasgow, C.2.

PARTNERSHIP or ASSISTANTSHIP with VIEW wanted by ex-Major, R.A.M C., South Coast or Home Counties.—Box 3619, B.M.J.

RADIOLOGICAL PARTNER WANTED, D.M.R. British, in North England city, preferably young, single man, hospital appointments, £850 1/2 share, 1½ years' purchase.—Age and particulars to Box 3847, B.M.J.

SURGICAL PARTNER WANTED for old-established mixed practice of over £3,600 in West of England market town. Hospital appointment. House to rent.—Box 3855, B.M.J.

THIRD PARTNER REQUIRED shortly, male, English or Scots, old-established mixed practice, suburban Manchester area, averaging £5,500. Considerable scope increase; 1/4 share to start; good house and garden; preliminary indoor assistantship essential. Easy terms by agreement.—Box 3575, B.M.J

THIRD PARTNER WANTED in rural practice in Surrey. Share over £1,000. Ample scope.—Box 3802, B.M.J.

MEDICAL POSTS

CITY OF NORWICH.—ADDITIONAL RADIOGRAPHER (M.S.R.) required for Mass Miniature Radiography Unit. Salary £270 to £285 per annum plus temporary war bonus. Conditions as far as possible in accordance with the recommendations of the British X-Ray and Radium Protection Committee. Applications with copies of not more than three recent testimonials stating age, qualifications and experience to be addressed to the Medical Officer of Health, 68, St. Giles' Street, Norwich.

COLONEL, R.A.M.C., demobilized, desires FULL-TIME APPOINTMENT. Age 56. 16 years' G.P., experience hospital administration, and with P.O.W. —Box 3772, B.M.J.

CORONER'S PATHOLOGIST. Vacancy occurs in Greater London area.—Applications, with essential particulars, to Box 3809, B.M.J.

DOCTOR, 10 years' experience G.P., requires PART-TIME INDUSTRIAL POST (factory M.O., etc.) in Romford, Ilford, Dagenham, or Hornchurch.—Box 3828, B.M.J.

DOCTOR, free now, requires POSITION, hospital and general experience, married.—Box 3747, B.M.J.

MEDICAL MAN, aged 56, 10 years commissioned emergency service, R.A.M.C.; 20 years own general practice, some years part-time industrial medical officer, two years full-time V.D., seeks full-time employment as FACTORY M.O. or similar work —Box 3328. B M.J.

MAJOR, R.A.M.C., 6 years' service, 15 years' G.P. experience, desires ADMINISTRATIVE or INDUSTRIAL POST home or abroad; excellent references.—Box 3839, B.M.J.

RELEASED R.A.F.V.R. Squadron Leader, Edinburgh, 39, hospital experience pre-war, desires INDUSTRIAL or other POST, full-time. Available now.—Box 3774, B.M.J.

RADIOLOGICAL HOUSE-SURGEONSHIP wanted by M.B with Part I of D.M.R.—Box 3773, B.M.J.

PRACTICES

WANTED, country or rural PRACTICE, East Anglia, South or South-West England, £1,200-£2,000, good house and garden with main electricity essential. Cash available.—Box 3791, B.M.J.

WANTED, Yorkshire or near, PRACTICE. Small town or semi-rural. £1,500 to £2,000. Good house and garden essential.—Box 3810, B.M.J.

WANTED. PRACTICE or Partnership, Southern Counties, about £1,200, with panel, by M.B.Camb., aged 52, married.—Box 3801, B.M.J.

WANTED, urgently, general PRACTICE or Partnership, returns £1,500 approximately, house to rent, capital available.—Box 3846, B.M.J.

WANTED, small PRACTICE, London or Home Counties. Income £500 to £1,000 p.a. House to rent.—Box 3842. B.M.J.

WANTED by demobilized married practitioner, working-class PRACTICE, urban or similar area N. England or Scotland, earning £1,100 to £1,500. House must be available, educational facilities good. Partnership considered. Capital available —Box 3835, B.M.J.

ATTRACTIVE COUNTRY PRACTICE for sale, South of Scotland. Receipts over £900 per annum. Good modern house at mutual valuation.—Box 3752, B.M.J.

DEATH VACANCY. Immediate sale old-established private PRACTICE, medium panel. Excellent prospects for surgeon. Gross receipts 1944 over £1,600. Audited accounts available. Progressive Lancs. town bordering country. Population 40,000. Good original house, surgery, and garage.—Box 3852, B.M.J.

DEATH VACANCY. West Riding industrial town, income averages £2,613, panel over 2,000, 1 year's purchase, modern house with garden for sale, surgery attached.—Box 3850, B.M.J.

EXPERIENCED practitioner requires PRACTICE or PARTNERSHIP anywhere Southern England; house to rent preferred; car and furniture available.—Box 3753, B.M.J.

FOR SALE, rural PRACTICE in Derbyshire. Gross receipts £2,000. Family house, garden and garage. —Box 3845, B.M.J.

FOR SALE, general PRACTICE doing £1,750; panel 1,600, immense scope; 12 miles north-east of Charing Cross.—Box 3586, B.M.J.

FOR SALE, PRACTICE, within 30 miles London, in nice surroundings, over £4,000 per annum, 2,000 panel, good fees, eminently suitable two partners or married couple although always run with an assistant. Plenty of scope; good accommodation.—Box 3548, B.M.J.

FOR SALE, old-established PRACTICE in South Wales, near large town and sea; house available, good scope for increase, income well over £2,000 per annum. Premium 1 1/4 years or nearest offer. —Box 3555, B.M.J.

FOR SALE, nr. Manchester, safe, well-established private and panel PRACTICE. Panel 2,300. Gross receipts £3,400. House for sale. 1½ years' purchase.—Box 3840, B.M J.

GENERAL PRACTICE in Scottish border town with house and surgery. Substantial closed panel list and excellent opportunities for private practice —Particulars from Drummond and Reid, S.S.C 32, Moray Place, Edinburgh.

LATE R.A.M.C., D.A., considerable anaesthetic experience, desires PRACTICE where opening on hospital staff exists. Capital available.—Box 3790, B.M.J.

FOR SALE, PRACTICE South-West Lancashire Town Audited accounts gross 1939 £3,100 1944 £4,200 Present panel 2,400 Price Goodwill £4,500 Surgery with living accommodation and garage for sale Separate freehold house with garage if required —J Frodsham and Sons Solicitors Prescot Lancs

LANCS. TOWN, G.P., £2,200. Panel 1,600. House rented. Premium, including drugs, surgy., furniture collector's debts, £3,500 cash.—Box 3608. B M J

MEDICAL PRACTICE in pleasant Clyde seaside resort for immediate disposal. Gross earnings approximately £1,200; good scope for increase. Attractive house in excellent order.—For further particulars apply to Crawford, Herron & Cameron, solicitors, 257, West George Street, Glasgow, C.2.

NUCLEUS working-class district Middlesex. Started 1937 and run as a branch since 1940. Present income £700. Great scope. House for sale. Specially built. Premium for house and practice £4,500. Suit man demobilized early 1946.—Box 3856, B.M.J.

NR. MANCHESTER, For Sale Double PRACTICE. Panel 3,570, gross receipts £5,200. Two houses for sale. Suit two doctors. 1 year's purchase.—Box 3841, B.M.J.

OPHTHALMIC PRACTICE, £4,100, for sale, provincial town, hospital appointments, delightful house sale or rent, state experience, qualifications, share or succession 1 year premium.—Box 3559, B M J

PRACTICE WANTED Northumberland or Durham, within 30 miles Newcastle-upon-Tyne; town or country; income £1,500 minimum.—Box 3851, B.M.J.

PRACTICE in S. England, panel 600, fees 5s., 7s. 6d., 10s. 6d. Scope for anaesthetist or ear specialist. Income £3,000. House for sale.—Apply Box 3816, B.M.J.

PERTHSHIRE (Death Vacancy). Country PRACTICE. Receipts £900. Suitable rented house. Good opportunity for young doctor.—Apply British Medical Bureau, Scottish Branch, 21, Alva Street, Edinburgh.

SALE, private and panel PRACTICE S.E. district, old-established, now doing £630, number on panel 600, with freehold house, detached, garden, four bed, six other rooms, etc., six miles Charing Cross, £3,000.—Box 3751, B.M.J.

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DIETETIC, DISPENSING, TYPING, SECRETARIAL, RECEPTION, ETC.

None of the vacancies for women advertised in these columns relates to a woman between the ages of 18 and 40 inclusive, unless she is exempted from the provisions of the Control of Engagement Order, 1945, or the vacancy is for employment excepted from the provisions of that Order.

WANTED, full time DISPENSER-BOOKKEEPER for partnership of three doctors. Salary up to £5 per week according experience.—Apply, Doctors Forsyth, Norman and Dudley, 41, Dowsett Avenue, Southend-on-Sea.

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LONDON COLLEGE OF PHARMACY for Women supplies Dispenser-Bookkeeper or Laboratory Technician. Training for Apothecaries Hall Assistants' Examination, and in Clinical Pathology. —Secretary, 7, Westbourne Park Road, W.2 (Bayswater 0969).

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RECEPTIONIST requires POST with London doctor or dentist, aged 29, exempt, 1 yr. nurse Charing Cross Hospital, 3 yrs. Military Mobile V.A.D.—Box 3770, B.M.J.

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MISCELLANEOUS

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URGENTLY wanted, *Yearbook of Urology*, 1944. —Write Necker, 27, Park Lawn Avenue, Epsom.

WANTED, SECOND-HAND SURGICAL INSTRUMENTS, furniture for surgery and consulting room, blood pressure apparatus, electric diagnostic sets, ophthalmoscopes, auriscopes, microscopes, etc. —Particulars to A Fleming & Co (Succrs.), 51, Mortimer Street, London, W 1 (Telephone Mus. 6292)

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SUPPLEMENT TO THE
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LONDON SATURDAY NOVEMBER 10 1945

STATE HOSPITALS?

The report in a Sunday paper that the State is to take over the voluntary hospitals was followed on Monday and Tuesday by varying accounts of what Mr. Aneurin Bevan's plans are. Whatever may be the truth in these reports, one thing is certain. Mr. Bevan has consulted neither the profession's own representative body, nor the voluntary hospitals, nor the local authorities. The principal organizing bodies concerned are, therefore, ignorant of the Minister's intentions. According to one paper, he has put before the Cabinet a proposal that all voluntary hospitals should come under the State, and the Cabinet has agreed in principle. Another paper suggests that the Minister will declare his plans for a National Health Service before Christmas, and that "when the B.M.A. are asked to meet the Minister the discussion will not be on the form of the health service but on the terms of the service.... The B.M.A. will be allowed to put the case as a trade union...." The same paper gives other details. The Government is apparently to nationalize all hospitals, voluntary and municipal, and will do this through 12 Regional Health Boards to cover the whole of the country. Another prophecy is that Mr. Bevan will abolish the sale and purchase of medical practices; but, we are informed through the same source, fair compensation will be paid. Still another suggestion from what appears to be a well-informed political correspondent is that the terms of service will follow the recommendations of the Spens Committee.

A commentator in the *Evening Standard* suggests that Mr. Bevan is likely to have trouble, especially with the local authorities. Mr. Somerville Hastings, M.P., Chairman of the L.C.C. and for ten years chairman of the L.C.C. Hospitals and Medical Services Committee, is reported to have said that it would be a pity if the unification of the hospitals was achieved by leaving out the local authorities.

Until the profession hears from Mr. Bevan himself what his plans are, no useful comment can be made.

HEARD AT HEADQUARTERS

Local Differentiations

From the point of view of the Local Medical War Committee the West of London was one of the most difficult districts that could be found anywhere. Hammersmith, for example, was always shorter of doctors than Kensington. There were the border cases in which the practice was partly in the committee's area and partly across the road in another borough. It was necessary on one occasion to attend before the Medical Personnel Priority Committee to explain why Kensington was a "black" area. It was easily explained. Kensington is one of those areas which attract an unusual number of doctors who are well on towards retiring age, if not beyond it, and are not, and do not want to be, in very active practice. Yet for the necessarily rough-and-ready purposes of medical man-power each of them counted as one. Statistics are quite inadequate as the tool of such bodies as war committees. The numbers as set out on paper are one thing, and translated into terms of men in practice they become quite another. It was soon brought home to these committees that allocations and determinations are not an arithmetical exercise; full account had to be taken of human factors.

The committees were constituted as democratically as possible. The members were elected annually at a meeting to which all doctors in the area were invited. Their work was marked by great fairness. Every doctor who came before them had the fullest hearing, and the decision was reached after the most careful survey of every side of the question. Dr. Pasmore declared that during the whole of his 4½ years' secretaryship he could not recall one disagreeable episode. Beyond its main task, the committee, especially in the earlier days, was constantly being called upon for the nomination of local doctors for this or that special service—for example, in connexion with the Home Guard, the Medical Boards, and the civil practitioners employed part-time by the military authorities.

Perhaps the work of the local committees is now virtually done, though there will no doubt be reluctance to let an excellent piece of organization disappear. They are being given fresh jobs; the latest is the nomination of medical members of the advisory committees and panels set up under the Disabled Persons (Employment) Act. Some may think they could perform a useful function in the resettlement of men in civil practice. But whether they come to an end or not, they can look back upon an excellent piece of work for the profession and the country.

Public Vaccinators

Some important recommendations on fees for public vaccinators will come before the next meeting of the B.M.A. Council. Following representations by the Association of Public Vaccinators, a representative of which attended at its last meeting, the Public Health Committee of the B.M.A. is asking the Council to express the view that the fees paid to public vaccinators are still wholly inadequate. A more acceptable scale has been formulated in the West Riding of Yorkshire, and has been approved by the Ministry, and in the committee's view the scale should not be less than the West Riding figures: also such fees should be payable whether the vaccination is successful or unsuccessful, and a proper mileage allowance should be paid.

A recommendation will also come before the Council that the necessary modifications be made in the Vaccination Order to allow the vaccination of children under 1 year of age to be carried out at the doctor's surgery where this is thought desirable and expedient, and that a minimum fee of five shillings should be paid for each successful vaccination so performed.

Local Authority Health Functions

Some time ago the L.C.C. put forward its view to the Government that the Council should be constituted as the statutory authority for administering the proposed comprehensive medical service within its area, with the metropolitan borough councils as the local authorities for administering certain parts of the service in their respective boroughs. Last week a report was brought before the council on the delegation of medical duties from the county to the borough councils. These delegated duties are of three kinds: maternity and child welfare, tuberculosis dispensaries, and epidemiological inquiries, this last a linkage between the laboratory service of the boroughs and the fever hospitals and laboratories of the L.C.C.

The delegation of maternity and child welfare from the county to the borough councils is to be exclusive of the institutional work now carried on by the borough councils, which will in the new circumstances be carried on by the county council. This has necessitated a definition of "institutional work"—namely, the provision, directly or indirectly, by a maternity or child welfare authority of residential accommodation for expectant or nursing mothers and their children who have not attained the age of 5 years and are not being educated in schools recognized by the Ministry of Education.

Tuberculosis dispensaries, the L.C.C. lays it down, should be situated in or near a general hospital at which a consultant service of all types and facilities for *x*-ray examinations, etc., are available, but they should retain their separate identity. One-

L.C.C. suggestion is that every three years or so the tuberculosis officer should spend a period of not more than three months on full pay undertaking a postgraduate course. This should be in the form of attendance or residence at a sanatorium, municipal or voluntary, or of an approved study tour. The L.C.C. will help with the financial arrangements, and will arrange for one of its own medical officers to replace the tuberculosis officer if desired.

MEDICAL CARE INSURANCE IN THE U.S.A.

PREPAYMENT ORGANIZATIONS

The plan of prepayment for medical services is gaining ground in the United States, although it is estimated that as yet only between four and five million persons—less than 5% of the civilian population—are covered. A list of over 200 prepayment medical care organizations has been published by the Bureau of Research and Statistics of the Social Security Board, Washington, and from this it appears that these organizations are to be found in all but twelve States of the Union, and are specially numerous in the Pacific States, where Washington has 15, Oregon 10, and California 30. New York has 24, and New Jersey only 4.

The movement began among the employees of certain hazardous industries established in areas remote from other medical facilities. Subsequently it was extended to cover groups of employees in respect of medical services for all injuries and illness regardless of origin. In a few cases the industry itself established and financed the organization, requiring no contribution from the employees, but much more frequently the employees, with or without co-operation of the employers, made their own prepayment medical-care plans. Later some groups of doctors operating private clinics began to furnish medical care on a prepayment basis, and other plans have been set up under the control of friendly societies, co-operative associations, and other groups.

The plans vary widely in their rules concerning eligibility for membership, coverage, facilities, services, and charges. Generally there are certain age and income restrictions. In some cases a physical examination is required before enrolment. Only about one-quarter of the organizations have no membership restrictions. As for the services provided, very few furnish more than the services of a doctor at his consulting room, in the patient's home, and at the hospital for medical and surgical cases (with or without maternity care), and hospitalization. Some provide the services of visiting nurses, *x*-ray and laboratory services, drugs and medicines, and dental care. Some of them limit the total money value of the services that may be received for a single illness or in a single year.

The number of doctors associated with the 214 prepayment medical care organizations included in the list published by the Bureau is 32,000, of whom 836 are employed on a full-time basis, 6,500 render part-time service, and about 25,000 have agreed to accept members of the organizations as patients under the terms of the prepayment contracts. In addition, an unknown number of doctors in 55 communities have agreed to give services to persons eligible for care under these arrangements.*

Briefly put, the purpose of these arrangements is to effect a balance between medical charges and medical services by pooling risks and costs, to minimize overhead expenses, and to assure regular incomes for practitioners. In principle, all types of arrangements are alike in providing a mechanism for continuous availability of medical personnel and facilities, and for protecting the individual or family from large medical expenditure at a time when illness cuts off the income or adds other strains to the family budget.

Distribution of Medical Costs

The desirability of the widest possible extension of the contributory insurance principle so that the population may be protected against the uneven and unpredictable costs of sickness is put forward by a group of American medical men, economists, and administrators in what is described as a new national health programme, published by the Committee on Research in Medical Economics (1790, Broadway, New York). The programme begins with the proposition that medical services should be made financially accessible to all through a system of contributory health insurance for the benefit of people without sufficient income to purchase such services for themselves. The services must be national because the American population is mobile and people in every State will expect to have equal eligibility. Moreover, experience has shown that standards of medical and hospital care established nationally by Government and voluntary agencies are effective in raising the level of facilities and services in many localities. It is also most desirable to have national standards for the certification of specialists, acceptability for hospitals, amounts and methods of payment to hospitals and to doctors, conditions of service, and adjustment of complaints.

It is calculated that at least nine-tenths of the population need protection against sickness costs. Limitation of coverage to certain income groups or occupations is not considered desirable. A national health programme must include all, or almost all, the population. Costs of sickness, unlike most other costs, cannot be regularized in the family budget and illness may bring financial distress, sometimes economic disaster, to all income groups except the well-to-do. The view of these writers is that a national system of medical care can best be based on contributory insurance, though some of them urge that taxation affords a more flexible and theoretically a more desirable method. An income tax reserved for medical purposes is suggested.

The insurance system favoured in this programme is one under which payments will be made by employers, employees, and self-employed persons, the payments being related to the earnings of the contributors. In addition, funds should be afforded from the national exchequer, especially for new and improved hospitals in rural areas.

A principle strongly laid down is freedom of service, the doctor to have the right to act through self-chosen organizations as well as individually, and to have the opportunity for experimentation with new applications of science and new forms of practice. He should have the right to accept or reject patients, to take part or not to take part in a publicly provided system, and to enter group practice or maintain separate practice as he wills.

Group practice is favoured in this memorandum. It is pointed out that there is already group practice in hospitals, though there it is confined principally to non-paying patients. At present, apart from hospitals and clinics, medical care is mostly furnished by doctors who practise as individuals with limited equipment and facilities. The advance of medicine makes it no longer possible for one physician to master more than a fraction of medical science or professional skills.

> "Numerous studies have shown that through well-organized group practice under a prepayment plan about twice as much physician and auxiliary service may be furnished for the same total expenditures as the people are accustomed to spend for comparable services supplied in the same community through individual practice paid for on a fee-for-service basis."

It is suggested that in each local area the general practitioners carrying on individual practice should determine by a majority vote the method of payment which they would prefer, but those who desire group instead of individual practice in the same area, and to be remunerated according to group standards, should be protected.

> "When the war is over some 60,000 or more physicians will be demobilized, about 20,000 of whom will be young men who have never been in practice."

It is considered important to attract these young men into rural areas where there are special needs, and to this end good local diagnostic and hospital facilities must be established in such areas, together with rural health centres. Something might also be done by means of medical education, including the opportunity for institutional postgraduate study for rural doctors, to encourage rural practice.

One other principle laid down in this programme is that administrative responsibility should be "divided functionally on the operating level between the professional and financial fields." The administrative officials of the service should be appointed by and be responsible to a public body or official, and should be removed as far as possible from partisan political pressures. The administrators of all the professional and technical aspects of the programme should be qualified persons. Advisory councils composed of well-informed persons from professional and lay groups are also needed on the local as well as on the national and regional levels.

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* These figures are for 1943.

Thus the position appears to be that at present there are in the United States a very large number of independent organizations for health insurance and prepayment for medical care, but there is a very important movement towards a national system of contributory insurance.

Correspondence

Simple Arithmetic

SIR,—In the *Journal* for June 16 (p. 860) the respective medical strengths of the Navy, Army, and Air Force were given as 2,405, 12,200, and 2,564—a total of 17,169. We are now told that by June, 1946, the Army will be cut to the former strength of the R.A.F. Thus if it maintains the extravagant establishments of the wartime R.A.F., the R.A.M.C. can release approximately 10,000 officers in the period under review. Proportional to the reductions in total man-power R.A.F. and Naval establishments should be 1,343 and 1,243 medical officers respectively—a total of 2,586.

During the last 3 to 4 years the intake of Navy and R.A.F. medical officers has been negligible; thus, of the total condemned to remain, with few exceptions, all will have served longer than that period. Of the thousands who (as explained above) should leave the R.A.M.C. many must have qualified after their unfortunate colleagues were commissioned. Approximately 2,000 new doctors will have graduated this summer and should soon be available for call-up. Is it too much to hope that these will be distributed between the Navy and R.A.F.? Considering that some may elect to continue in the Services, by so doing all medical personnel who served in the dark days up to Alamein could be released by next summer.

Medical officers need no preliminary training, and apart from its financial inequalities rank really is meaningless. Accordingly, the argument of inability to free "trained personnel" (*vide* retention of "key" officers in the B.A.O.R.) cannot be applied to medical officers. The numbers exist; it only remains for the necessary authority to utilize them justly.—I am, etc.,

"Q. E. D."

Labour Party's Health Policy

SIR,—In the *Supplement* of Oct. 13 (p. 84) the officers of the Socialist Medical Association appeal for co-operation in establishing the new health service, and suggest that there is misunderstanding on the part of many doctors as to the policy of the Socialist Party. Any misunderstanding is not all on one side. Dr. Stark Murray, one of the signatories of the letter in your columns, addressing a Labour Party meeting, made some extravagant criticisms of the Representatives at the Representative Meeting—his colleagues—charging one section with attempting to "make the world safe for hypocrisy" (*Supplement*, Jan. 6, p. 3). I could quote other equally unjust statements if space allowed, but such methods of controversy, though perhaps good platform business at meetings of laymen, will not advance any efforts for co-operation.

Your correspondents point out that the Labour Party in its pamphlet *National Service for Health* states: "Patients should be able to change their doctors if dissatisfied, and have a choice of an alternative." That is reassuring, but "free choice of doctor" has been derided in Parliament, in the press, and at Socialistic meetings; and it is doubtful whether the principle would be accepted by the present House of Commons.—I am, etc.,

Sheffield. HENRY BROWN.

The Young Specialist

SIR,—I suppose I am one of the young "indispensable" civilian specialists mentioned by "Quondam Volunteer" (*Supplement*, Oct. 20, p. 92) and others who suspect our "indispensability" and perhaps suggest that we have deliberately avoided service in the Forces. There are probably many such as myself who have been employed by municipal authorities since before the war and who have repeatedly asked their employing councils to release them to volunteer, but have repeatedly been refused such permission on the grounds that they were essential in the service—grounds which, looked at from the employer's point of view, were mostly eminently reasonable.

It is obvious that no person is essential if there is another man of similar experience to replace him; and as I have not been replaced I presume that either no such person is available or, if there is, he is unwilling to undertake the work I do for the salary I work for. The second possibility seems the more likely one. It is hardly to be expected that lieutenant-colonels or even majors will be anxious to undertake such work when it means a very considerable reduction in their earnings. There is no point in volunteering now, even if permission were forthcoming, but I, for one, have no objection whatever to taking my turn in the Forces if I am so directed. I can assure "Quondam Volunteer" that so far as I know there are few civilian municipal specialists who have avoided being called up, and many who have continued in their civilian work throughout the war with regret that they were not allowed to serve in the Forces.

As my point of view has been clear to my employers and to the C.M.W.C. for years I have no reason to remain anonymous.—I am, etc.,

London, S.E.22. J. L. STEPHEN.

Short-service Commissions and Release

SIR,—Permit me to reply to the comments of "Emergency Commission" (*Supplement*, Oct. 20, p. 92), in which he appears to claim the dual personality of having an emergency commission and being "a regular." When we accepted short-service commissions it was in peacetime and before the era of medical conscription. The age-and-service scheme depends on age and *war* service—not merely service. It is true that under the Royal Warrant we are liable to a reserve liability of 12 years (after the expiry of 5 years' service) in an emergency. However, these regulations were framed in the pre-conscription era and clearly not meant to deal with a world war. Now that wholesale release is being carried out by age and service, and reserves of other arms are being released accordingly, it is submitted that to make an exception in the case of short-service R.A.M.C. officers is grossly unfair. Furthermore, the injustice has only recently been decided upon. Early in the year I was given official intimation of my release group by the War Office. A few months ago I was asked if I wished to apply for a deferment. Before I'd had time barely to answer, a new instruction came down that short-service officers were not eligible for release.—I am, etc.,

"ANOTHER MEDICO, R.A.M.C."

One Service: One Release Scheme

SIR,—All political parties in the Government have agreed upon a health service for the nation. This service will be a single entity which would serve the Government by its attention to patients in all walks of life.

Now, there never was a reason why the three Services should have their own medical services. Practically all the senior M.O.s of the R.A.F. were trained in the Army. The unfairness of the method of demobilization on the individual M.O. owing to the group demobilization times of the different Services has been stressed time and again by Service doctors in the hope that the aged and infirm C.M.W.C. might show some sign of life and might do something. Let me at this stage tell them that this approach is as useless as the hope that the Insurance Acts Committee will get the capitation rate raised to the amount it was before the last war—before they were born.

Now, if some active body would point out to the Government that doctors are doctors whether they are dressed in navy or khaki or light blue, we might find that they would feel that the various jobs in the Services are not as diverse as the various jobs in civil life for which they are intending to combine all doctors under one authority. It would be far from impossible to organize one medical service for all the Forces, and then all demobilization groups for doctors would be the same in all the Services. At the same time we could expect some economy, so that the 500 fit men per doctor quoted by Dr. Conybeare (*Supplement*, Oct. 20, p. 91) might be raised to 1,500 and so reach half the numbers that the elderly doctors have had to serve of the less fit and more-widely-spread-about proportion of the people for the past six years.—I am, etc.,

Reading. S. C. ALCOCK.

BRITISH MEDICAL ASSOCIATION

INSURANCE ACTS COMMITTEE

Election of Direct Representatives for 1945–6

The following have been elected as direct representatives of Local Medical and Panel Committees on the Insurance Acts Committee for 1945–6.

Group A 1.—Dr. N. Stewart (Edinburgh)
„ A 2.—Dr. W. J. Leach (Inverness-shire)
„ A 3.—Dr. W. M. Knox (Glasgow)
„ A 4.—Dr. W. Jope (Blantyre, Lanarks)
„ B.—Dr. P. V. Anderson (Shildon, Co. Durham)
„ C.—Dr. H. F. Hollis (Leeds)
Dr. W. H. Smailes (Huddersfield)
„ D.—Dr. C. Baxter (Liverpool)
Dr. A. Campbell (Accrington, Lancs)
Dr. S. A. Winstanley (Urmston, Lancs)
„ E.—Dr. D. B. Evans (Coedpoeth, Wrexham)
Dr. W. V. Howells (Swansea)
„ F.—Dr. J. B. Bennett (Hyde, Cheshire)
„ G.—Dr. J. Hallam (Stoke-on-Trent)
„ H.—Dr. E. Lewis Lilley (Leicester)
„ I.—Dr. C. H. Gregory (Rugby)
„ J.—Dr. D. J. B. Wilson (High Wycombe, Bucks)
„ K.—Dr. J. C. Pearce (Diss, Norfolk)
„ L.—Dr. C. F. R. Killick (Williton, Somerset)
„ M.—Dr. H. S. Howie Wood (Isle of Wight)
„ N.—Dr. S. A. Forbes (Croydon)
Dr. A. T. Rogers (Bromley, Kent)
„ O.—Dr. J. L. McKenzie Brown (London)
Dr. C. F. T. Scott (London)
„ P.—Dr. E. A. Gregg (London)
Dr. H. H. D. Sutherland (London)
„ Q.—Dr. S. E. A. Achesen (Belfast).

Scottish Subcommittee

The following have been elected as direct representatives of Scottish Panel Committees on the Insurance Acts Scottish Subcommittee for 1945–6:

Group A.—Dr. I. M. MacLeod (Inverness)
„ B.—Dr. R. Bruce, C.B., D.S.O. (Cults, Aberdeenshire)
„ C.—Dr. M. J. Murray (Dundee)
„ D.—Dr. J. T. Simpson (Perth)
„ E.—Dr. F. McEwen Sinclair (Glencraig, Fife)
„ F.—Dr. A. F. Wilkie Millar (Edinburgh)
„ G.—Vacancy
„ H.—Dr. A. Simpson (Hawick)
„ I.—Dr. I. D. Grant (Glasgow, S.1)
Dr. J. R. Langmuir (Glasgow, W.2)
„ J.—Dr. G. MacFeat (Douglas, Lanarks)
„ K.—Dr. A. Climie (Barrhead, Renfrewshire)
„ L.—Dr. R. C. Hamilton (Hurlford, Ayrshire)
„ M.—Vacancy
„ N.—Dr. G. McC. Ferguson (Falkirk)

The vacancies in Groups G and M will be filled by the Insurance Acts Committee.

C. HILL,
Secretary.

B.M.A.: Branch and Division Meetings to be Held

SUNDERLAND DIVISION.—At Sunderland Royal Infirmary, Thursday, Nov. 22, 3.30 p.m., Right Hon. Lord Horder: Medicine a Social Science; 7.30 p.m., Annual Dinner.

WESTMINSTER AND HOLBORN DIVISION.—At Meyerstein Hall, Westminster Hospital Medical School, Horseferry Road, S.W., Thursday, Nov. 22, 8 p.m. Film to be introduced by Dr. A. B. Stokes: Neuropsychiatry. Followed by a discussion.

RETURN TO PRACTICE

The Central Medical War Committee announces that the following have resumed civilian practice: Dr. E. Mildred Creak, at 17, Harley Street, W.1; Dr. E. A. Gerrard, F.R.C.O.G., 20, St. John Street, Manchester 3; Dr. R. L. Mackay, at 67, Bath Road, Wolverhampton; Dr. John A. Ross, at 57, Rodney Street, Liverpool, and Warrington; Mr. R. R. Simpson, F.R.C.S.Ed., at 21, Albion Street, Hull.

H.M. Forces Appointments

ARMY

Major-Gen. A. G. Biggam, C.B., O.B.E., K.H.P., late R.A.M.C., is retained on the Active List supernumerary.

Col. H. B. F. Dixon, M.C., late R.A.M.C., having completed four years in the rank, is retained on the Active List supernumerary.

ROYAL ARMY MEDICAL CORPS

Lieut.-Col. E. L. F. Nash, M.C., has retired on account of disability, retaining the rank of Lieut.-Col.

Major W. Duguid has relinquished his temporary commission, and has been granted the honorary rank of Major.

Short Service Commission.—War Subs. Capt. R. S. McClelland, from R.A.M.C., Emergency Commission, has been granted a short service commission in the rank of Lieut., and to be Capt.

REGULAR ARMY RESERVE OF OFFICERS

ROYAL ARMY MEDICAL CORPS

War Subs. Major W. H. Young, from Supplementary Reserve of Officers, to be War Subs. Major.

TERRITORIAL ARMY

ROYAL ARMY MEDICAL CORPS

War Subs. Major P. Weiner, T.D., has relinquished his commission on account of disability, and has been granted the honorary rank of Major.

War Subs. Capt. E. H. Eason has relinquished his commission on account of disability, and has been granted the honorary rank of Capt.

COLONIAL MEDICAL SERVICE

The following appointments have been announced: S. D. Gun-Munro, M.B., B.S., District Medical Officer, Grenada; D. Bell, M.B., Ch.B., Medical Superintendent and Principal of the Medical School, Mulago, Uganda; T. L. Lawson, F.R.C.S.Ed., Orthopaedic Surgeon, Nigeria; H. S. Rassin, M.R.C.S., L.R.C.P., District Medical Officer, Cyprus.

POSTGRADUATE NEWS

The Fellowship of Medicine announces: (1) Week-end course in gynaecology, at South London Hospital for Women, all-day Sat. and Sun., Dec. 15 and 16; (2) Week-end course in general medicine and surgery, at North Middlesex County Hospital, all-day, Sat. and Sun., Dec. 1 and 2; (3) Course in neurology, at West End Hospital for Nervous Diseases, Mon., Tues., and Fri., at 2.30 p.m., Nov. 19 to Dec. 14; (4) Primary F.R.C.S. course, three evenings weekly, 6 p.m. to 8.15 p.m., Jan. 28 to April 1, 1946. Full particulars of courses from Fellowship of Medicine, 1, Wimpole Street, W.

DIARY OF SOCIETIES AND LECTURES

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—*Mon.*, 5 p.m., Mr. V. Zachary Cope: Actinomycosis. *Wed.*, 5 p.m., Sir Thomas Dunhill: The Surgery of Pharyngeal Diverticulum. *Fri.*, 5 p.m., Air Cdre. H. Osmonde Clarke: Fractures of the Tibia and Fractures Involving the Knee-joint.

ROYAL SOCIETY OF MEDICINE.—*Tues.*, 4 p.m., Section of Pathology; 5.30 p.m., Section of Psychiatry. *Wed.*, 4.30 p.m., Section of Physical Medicine; 5 p.m., Section of Proctology. *Thurs.*, 5 p.m., Section of Dermatology. *Fri.*, 8 p.m., Section of Obstetrics and Gynaecology.

CHADWICK TRUST.—At Royal Sanitary Institute, 90, Buckingham Palace Road, S.W., *Tues.*, 2.30 p.m., Mr. F. C. Vokes: The Modern System of Sewage Disposal and the Methods and Materials Employed.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.—*Mon.*, 8.30 p.m., Sir Philip Manson-Bahr: Diagnosis and Treatment of the Main Tropical Diseases Contracted during the Course of the War.

ROYAL INSTITUTE OF PUBLIC HEALTH AND HYGIENE, 28, Portland Place, W.—*Wed.*, 3.30 p.m., Mr. Anthony Green: Uses of Radiology in Medicine.

ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE.—At Bacteriological Laboratory, London School of Hygiene and Tropical Medicine, Keppel Street, W.C., *Thurs.*, 8 p.m., Laboratory meeting.

BIRTHS, MARRIAGES, AND DEATHS

The charge for an insertion under this head is 10s. 6d. *for* 18 *words or less. Extra words* 3s. 6d. *for each six or less. Payment should be forwarded with the notice, authenticated by the name and permanent address of the sender, and should reach the Advertisement Manager not later than first post Monday morning.*

BIRTH

HENDRY.—On Oct. 23, 1945, at the Queen Elizabeth Hospital, Birmingham, to Edna (*née* Woodley), wife of Dr. D. W. Hendry, "Nethersole," Nuneaton, a daughter.

MARRIAGES

CURNOCK—BUCKNELL.—On Oct. 20, 1945, at Chingford, Essex, Surg. Lieut. Henry Curnock, R.N.V.R., to Vera Margery Bucknell, S.R.N.

MCALPIN—GOLDSMITH.—On Oct. 29, 1945, at Edinburgh, James M. McAlpin, Surg. Lieut., R.N.V.R., to Dorothy May Goldsmith, P.M.R.A.F.N.S.(R.).

NOTICE—Applications for vacancies advertised should, except where otherwise specified, state name, address, age, nationality, qualifications, and be accompanied by copies of 3 recent testimonials★ with short statement of experience and appointments held. Unless closing date is stated applications should be sent at once.

★ *SERVICE MEMBERS may have difficulty in supplying recent testimonials, but this should not deter them from applying.*

R—Male, W—Women practitioners, liable to military service under the National Service Acts.

B1—Whole-time appointments, usually resident within the senior establishment—e.g., Registrar, R.S.O., etc.

A—Whole-time resident house appointments open to practitioners without previous experience.

B2—Whole-time house appointments not within the senior establishment, usually resident, and usually held by practitioners with six months' experience.

APPOINTMENTS

INDIAN MEDICAL SERVICE. Recruitment of WOMEN MEDICAL OFFICERS.—The Government of India are prepared to recruit a limited number of woman medical officers for service with the Indian Medical Service for the duration of the war. Applicants must be British subjects, of not more than 45 years of age, and those selected will be appointed in the rank of Lieutenants. Antedate of seniority may be granted up to a minimum period of 6½ years in respect of resident hospital appointments, higher qualifications, and/or professional experience. The antedate will count for pay and promotion, but, in the case of candidates recruited in this country, higher rank will not be assumed until the date of disembarkation in India. On termination of service, a minimum gratuity is guaranteed to those officers who complete one year of service, viz., Rs. 2,000 to officers whose registrable medical qualification is dated before January 1, 1940, and Rs. 1,000 to those who qualified after that date, plus one month's pay for each further completed year of Army Service. Further particulars regarding rates of pay, etc., may be obtained from the Medical Adviser, India Office, London, S.W.1, or from the Secretary, Military Department, India Office, to whom all inquiries should be addressed.

CITY OF BIRMINGHAM MENTAL HOSPITALS. Winson Green Division.—Applications are invited for the post of DEPUTY MEDICAL SUPERINTENDENT at a commencing salary of £625 per annum, plus residential emoluments consisting of unfurnished flat, fuel, light, central heating and laundry, valued for superannuation purposes at £120 per annum. In addition, there is a war bonus of £47 0s. 5d. per annum. Applicants must have had several years' mental hospital experience and must possess a Diploma in Psychological Medicine. Practical experience in Psychotherapy will be a recommendation. The candidate appointed will be required to pass a medical examination and to contribute under the Asylums Officers' Superannuation Act, 1909. He must devote the whole of his time to the duties of the office and will not be allowed to engage in any other work. The appointment is subject to one month's notice on either side, and the successful candidate will be required to serve in such Institutions belonging to the Mental Hospitals Committee as they may from time to time direct. Applications, including those from medical practitioners serving in His Majesty's Forces, must be addressed to the Medical Superintendent, Winson Green Mental Hospital, Birmingham, 18, so as to be received not later than March 1, 1946. The appointment will not be made before April 1, 1946.

CITY OF STOKE-ON-TRENT. City General Hospital. ASSISTANT RESIDENT MEDICAL OFFICERS.—Applications are invited from registered medical practitioners (single—male or female) including R and W practitioners who now hold A posts, for two appointments of Assistant Resident Medical Officer (B2), at the City General Hospital, Stoke-on-Trent. If offered to R practitioners, the appointments will be limited to a period of six months, otherwise they will be for a period of one year. The salary is at the rate of £250 per annum, plus bonus with full residential emoluments. The hospital, which is an emergency hospital, has approximately 1,200 beds and there is excellent scope for medical, surgical and obstetrical work. Applications, endorsed "Medical Officer—City General Hospital," should be sent to the undersigned immediately.—Harry Taylor, Town Clerk.

CITY OF CARLISLE. City General and Fusehill Emergency Hospitals, Carlisle (100 civilian beds and 180 E.M.S.).—Applications are invited for the following appointment:—JUNIOR RESIDENT MEDICAL OFFICER (A) to assist in care of civilian beds and for orthopaedic and general surgical duties in the adjacent E.M.S. Fracture "A" Hospital. Practitioners within three months of qualification who are liable for service under National Service Acts may apply. Appointment will be for a period of six months from November 1, 1945. Salary £200 per annum, with full residential emoluments. Applications should be sent to the Acting Medical Officer of Health, 22, Fisher Street, Carlisle, as early as possible.

COUNTY BOROUGH OF SOUTHAMPTON. Borough Isolation Hospital, Millbrook, Southampton. JUNIOR RESIDENT MEDICAL OFFICER (Locum Tenens) (A).—Applications are invited from medical practitioners, female, for appointment as Locum Tenens Junior Resident Medical Officer (A). Salary is at the rate of £7 7s. per week, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months. Applications should be addressed immediately to the undersigned.—H. C. Maurice Williams, Medical Officer of Health, Civic Centre, Southampton.

CITY OF MANCHESTER. Withington Hospital (1,150 beds). TEMPORARY RESIDENT SURGICAL OFFICER (B1).—Applications are invited from registered medical practitioners, male or female, for the appointment of Temporary Resident Surgical Officer (B1), which will become vacant towards the end of 1945 at the above-mentioned hospital when the present officer is expected to be recruited into H.M. Forces. Candidates should hold a higher qualification in surgery and have had previous experience in resident hospital posts. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Basic salary £475 per annum, but further increments of £25 to a maximum of £550 may be granted at the discretion of the Council. Full residential emoluments valued at £150 are additional to the salary stated. A temporary cost-of-living wages addition amounting, at present, to £60 per annum in the case of a male officer and £48 5s. per annum in the case of a female officer is also payable in addition to the salary stated but will be apportioned as between cash salary and emoluments. The appointment is subject to the Manchester Corporation conditions of service. Full information and forms of application may be obtained from the Medical Officer of Health, Hospitals Administration Section, G.P.O. 399, Town Hall, Manchester, 2. Applications for the post must be forwarded to me only, and not to members of the Committee or the Council, not later than November 28, 1945. Canvassing in any form, oral or written, direct or indirect, is prohibited.—Philip B. Dingle, Town Clerk, Town Hall, Manchester, 2.

CITY OF MANCHESTER. Crumpsall Hospital (1,400 beds). RESIDENT ASSISTANT MEDICAL OFFICER (A).—Applications are invited from registered medical practitioners, male or female, for the above-mentioned appointment, which will become vacant on November 20, 1945, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, the appointment will be for a period of six months, otherwise it will be for a period of twelve months. The duties of the post are mainly medical. The basic salary for the appointment is £200 per annum, with board residence and laundry in addition, subject to the Manchester Corporation conditions of service. A temporary cost-of-living wages addition is payable in addition to the salary stated. Applications are to be addressed to the Medical Superintendent, Crumpsall Hospital, Crumpsall, Manchester, 8, at once. Canvassing in any form, oral or written, direct or indirect, is prohibited.—Philip B. Dingle, Town Clerk, Town Hall, Manchester, 2.

CITY OF PLYMOUTH. City Isolation Hospital. RESIDENT MEDICAL OFFICER (B1).—Applications are invited from registered medical practitioners (male) for the above appointment, which is terminable by one month's notice on either side at any time. Suitably qualified R practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. The successful candidate will be required to work under the direction of the Medical Superintendent, and the duties are chiefly concerned with infectious and venereal diseases. He should be able to drive a car which is provided by the Council. Salary is at the rate of £300 per annum, plus war bonus and full residential emoluments. Applications should be sent to the undersigned as soon as possible. T. Peirson, Medical Officer of Health, Seven Trees, Lipson Road, Plymouth.

CITY OF NORWICH. Woodlands Hospital (311 beds). ASSISTANT RESIDENT MEDICAL OFFICER (B2).—Applications are invited from registered medical practitioners for the appointment of Assistant Resident Medical Officer (B2), including R and W practitioners who now hold A posts. If held by an R practitioner, the appointment will be limited to six months, otherwise it will be for a period of one year. The salary is at the rate of £250 per annum, with full residential emoluments. Further particulars of appointment to be obtained from the Senior Medical Officer, Woodlands Hospital, Bowthorpe Road, Norwich, and to whom applications should be sent.—Bernard D Storey, Town Clerk, City Hall, Norwich.

CITY OF BIRMINGHAM. Little Bromwich Infectious Diseases Hospital (750 beds). JUNIOR MEDICAL OFFICER (A).—Applications are invited from registered medical practitioners, male or female, for appointment as Junior Medical Officer (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. The appointment is for a period of six months. The salary will be at the rate of £300 per annum, plus residential emoluments. Applications should be addressed to Medical Officer of Health, Public Health Department, Birmingham, 3, to reach him not later than November 20, 1945

CITY OF LIVERPOOL. Fazakerley Isolation Hospitals, Longmoor Lane, Liverpool, 9. MEDICAL SUPERINTENDENT.—Applications are invited from fully qualified medical practitioners with the necessary knowledge and experience of hospital administration for the permanent appointment of full-time resident Medical Superintendent at the above hospital. Candidates must have an extensive knowledge of, and experience in, the treatment of fevers and infectious diseases. Applications from Service candidates are invited. The salary is at the rate of £1,000 per annum, together with cost-of-living bonus at present amounting to approximately £30 per annum, and residential emoluments, namely, house, fuel and light, valued at £150 per annum for the purpose of superannuation. All fees received in connection with the above position by the officer appointed are to be handed over to the City Council. The medical officer appointed will assume control of the hospital under the direction of the medical officer of health, and be responsible for the work of the medical, nursing, and administrative staffs in accordance with the instructions of the Council from time to time. The hospital accommodates all types of infectious diseases, has approximately 400 beds, with a staff of resident assistant medical officers and visiting specialists and a nursing staff of 120. The hospital is a training school for fever nursing recognized by the General Nursing Council and the medical superintendent, with the matron, will be required to organize the necessary lectures in connexion with the training of nurses. The appointment will be made subject to the provisions of the Local Government Superannuation Acts and the Standing Orders of the City Council, and will be determinable by three calendar months' notice on either side. Canvassing members of the City Council, either directly or indirectly, will be deemed a disqualification. Applications, stating whether R or W practitioner, should be endorsed "Medical Superintendent" and sent to the undersigned not later than Monday, March 11, 1946. The consent of the Minister of Health has been obtained to advertise for and make this appointment.—W. H. Baines, Town Clerk, Municipal Buildings, Dale Street, Liverpool, 2.

CITY AND COUNTY OF NEWCASTLE-UPON-TYNE. MEDICAL OFFICER OF HEALTH.—Applications are invited from registered medical practitioners, including those now serving in H M Forces, qualified as prescribed by the Local Government Act, 1933, for the permanent appointment of Medical Officer of Health at a salary of £1,700 per annum plus cost-of-living bonus, at present £33 16s per annum. The appointment is subject to the Local Government Superannuation Act, 1937, and the successful candidate will be required to pass a medical examination. Further particulars as to the duties of Medical Officer of Health and conditions of appointment may be obtained on application to the undersigned. Applications endorsed "Medical Officer of Health" should be accompanied by copies of three recent testimonials and the names of three persons to whom reference can be made and must be addressed to the undersigned to reach him not later than March 9, 1946. The consent of the Ministry of Health has been obtained to the making of this appointment.—John Atkinson, Town Clerk, Town Hall, Newcastle-upon-Tyne.

CITY AND COUNTY OF NEWCASTLE-UPON-TYNE. Newcastle General Hospital. RESIDENT ANAESTHETIST (B1).—Applications are invited from registered medical practitioners, male and female, for the post of Resident Anaesthetist (B1), which is now vacant. Applicants must have had previous experience, and will be required to carry out the major portion of the emergency anaesthetist work. R and W practitioners holding B2 posts may apply. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. The appointment is tenable for a period of twelve months, and the salary is at the rate of £350 per annum, plus cost-of-living bonus and the usual residential emoluments. Applications should be forwarded immediately to the Medical Officer of Health, Town Hall, Newcastle-upon-Tyne, 1.

COUNTY BOROUGH OF BOURNEMOUTH.—The Town Council, with the consent of the Ministry of Health, invite applications from medical practitioners, including those serving in H M. Forces, holding the D.P.H. for the permanent appointment of DEPUTY MEDICAL OFFICER OF HEALTH AND DEPUTY SCHOOL MEDICAL OFFICER. Salary £800 increasing by annual increments of £50 to £1,000 per annum and cost-of-living bonus with a car allowance of £75 per annum. Applications will be considered from practitioners already receiving a salary in excess of this salary, and if any such practitioner is appointed he will be paid a salary equal to his present salary." Closing date for applications March 29, 1946. For further particulars apply to A. Lindsay Clegg, Town Clerk, Bournemouth

IMPORTANT—All applicants should read the notice at the top of page 9 about qualifications required.

COUNTY BOROUGH OF CROYDON. Mayday Hospital.—Applications are invited from registered medical practitioners (either sex) who have had practical hospital experience for the following appointments, namely:

RESIDENT ASSISTANT MEDICAL OFFICER (B1) (Temporary). Salary £350 by £25 to £450 per annum, with board residence and laundry, valued at £140 per annum, and cost-of-living bonus of £29 18s. per annum (males), £24 1s. (females). Preference will be given to those holding a higher medical qualification. Suitably qualified R and W practitioners holding B2 posts are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C.

RESIDENT JUNIOR ASSISTANT MEDICAL OFFICER (B2). Salary, £250 with board residence and laundry, valued at £140 per annum, and cost-of-living bonus of £29 18s. (males), £24 1s. (females). Suitably qualified R and W practitioners holding A posts may apply, and in the case of R practitioners the appointment will be limited to six months otherwise it will be for a period of twelve months.

Application forms may be obtained from the Medical Officer of Health, 20, Katharine Street, Croydon, on receipt of a stamped addressed foolscap envelope, and should be returned to him not later than 11 a.m. on Monday, November 19, 1945, together with copies of three recent testimonials. Canvassing will disqualify.—E. Taberner, Town Clerk, Town Hall, Croydon.

COUNTY OF LINCOLN—PARTS OF LINDSEY. Public Health Department. TEMPORARY ASSISTANT MEDICAL OFFICER OF HEALTH for Maternity and Child Welfare (Female).—Applications are invited from fully qualified medical women for the post of Assistant Medical Officer for maternity and child welfare. Before applying, intending applicants already in whole-time employment with local authorities must obtain the permission of their (principal) regional medical officer. Salary will be £650, rising my two annual increments of £25 to £700 per annum, plus war bonus. The appointment will be terminable upon one month's notice from either side. The person appointed will be required to provide her own car for which a travelling allowance will be paid in accordance with the County Council's scale. Further particulars of the appointment and forms of application may be obtained from the undersigned, to whom applications should be forwarded as soon as possible.—W. S. H. Campbell, County Medical Officer of Health, County Offices, Lincoln.

COUNTY COUNCIL OF THE COUNTY OF STIRLING.—Applications are invited for the appointment of an ASSISTANT MEDICAL OFFICER OF HEALTH. Applicants must be registered medical practitioners and also hold a Diploma in Public Health. Considerable experience in tuberculosis and sanatorium work essential. Salary £500 per annum rising by annual increases of £25 to a maximum of £700 per annum, with place on the scale according to experience and qualifications. A temporary cost-of-living bonus, at present 23/- per week, and a car allowance will be granted. The successful applicant will require to pass a medical examination. The appointment is a temporary one meantime, but the successful applicant will be eligible to apply for a permanent post at a later date. Applicants must obtain permission from the Secretary of State for Scotland to apply for the appointment. A form of application may be obtained from the undersigned, with whom applications should be lodged immediately.—George J. Sherriff, County Clerk, County Offices, Viewforth, Stirling.

COUNTY BOROUGH OF ROCHDALE.—Applications are invited for the post of TEMPORARY WHOLE-TIME ASSISTANT MEDICAL OFFICER OF HEALTH from registered medical practitioners not already in whole-time Public Health employment. The duties are mainly in connexion with the Child Welfare Section, and will include work in the School Medical Service and Female Venereal Diseases Clinics The salary will be on the scale £500, rising by £25 to £700 (commencing according to experience) plus bonus at present £110 per annum. Applicants, male or female, should have experience in the branches mentioned, and preference will be given to holders of the Diploma in Public Health or similar qualification. Forms of application may be obtained from the Medical Officer of Health, Public Health Offices, Rochdale, and must be returned to him, accompanied by copies of any recent testimonials, and endorsed Temporary Assistant Medical Officer, as early as possible.

QUEEN ELIZABETH HOSPITAL FOR CHILDREN, Hackney Road, E.2. RESIDENT MEDICAL OFFICER (B1).—Applications are invited from registered medical practitioners, male and female, for the above appointment, to become vacant January 1, 1946, including R practitioners now holding B2 posts. Applications from R practitioners holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Candidates must have had experience in the treatment of sick children. The appointment will be for six months in the first instance and is renewable for subsequent periods not exceeding two years. Salary £300 per annum, with full residential emoluments. Application forms may be obtained from the undersigned and should be returned not later than December 1, 1945.—Charles H. Bessell, General Secretary

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COUNTY BOROUGH OF SOUTHEND-ON-SEA. Southend Municipal Hospital, Rochford, Essex. RESIDENT HOUSE MEDICAL OFFICER (A).—Applications are invited from registered medical practitioners, male or female, for the appointment of Resident House Medical Officer (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be tenable for a period of six months, otherwise for a period of one year. Salary is at the rate of £200 per annum, with full residential emoluments, valued at £100 per annum, plus cost of living bonus. The person appointed will be liable to pay superannuation contributions if the provisions of the Local Government Officers' Superannuation Acts are applicable. The post is now vacant and applications should be addressed immediately to the Medical Superintendent, Southend Municipal Hospital, Rochford, Essex.—Archibald Glen, Town Clerk, Town Clerk's Office, Southend-on-Sea.

COUNTY BOROUGH OF IPSWICH. Borough General Hospital.—Applications are invited from registered medical practitioners, male and female, for the appointment of RESIDENT ASSISTANT MEDICAL OFFICER (B1). Applicants should have held house appointments and had surgical experience. Salary at the rate of £350 per annum, plus full residential emoluments. Suitably qualified R practitioners holding B2 appointments, also those holding B1 and rejected by the R.A.M.C., may apply. Applications to the Medical Officer of Health, Public Health Department, Elm Street, Ipswich.

COUNTY BOROUGH OF SOUTHAMPTON. TEMPORARY ASSISTANT SCHOOL DENTAL SURGEON.—Applications are invited from fully qualified dental surgeons, male or female, for the above position. Applications on the prescribed form to be obtained from the Medical Officer of Health, Civic Centre, Southampton, should be returned as soon as possible.—H. C. Maurice Williams, Medical Officer of Health.

CHESHIRE COUNTY COUNCIL.—ASSISTANT RESIDENT MEDICAL OFFICER (B1) required for medical duties at Clatterbridge (County) General Hospital, near Birkenhead (400 beds). Applications invited from registered medical practitioners (men only) who have held house appointments, including R practitioners holding B2 posts. Applications from R practitioners now holding B1 posts cannot be considered unless they have been rejected by the R.A.M.C. Commencing salary £350 per annum, plus war bonus. Applications to be sent to the undersigned by November 19, 1945. Forms not provided.—Ian C. Mackay, M.B., Ch.B. 24. Nicholas Street, Chester.

ESSEX COUNTY COUNCIL. TEMPORARY ASSISTANT COUNTY MEDICAL OFFICER OF HEALTH.—The County Council invite applications from registered medical practitioners possessing experience of administrative work for the above whole-time temporary appointment on the Central Staff of the Council's Public Health Department. The duties of the Officer will be chiefly to assist in the administration of hospitals, sanatoria, public assistance, establishments, and the tuberculosis services of the Council. Remuneration at the rate of £650 a year, rising, subject to satisfactory service, by annual increments of £25 to £700 a year, together with such war bonus as may be decided by the Council from time to time, will be paid for this appointment. Applications (on the prescribed form obtainable from the undersigned), accompanied by copies of not more than three recent testimonials, which will not be returned, should be addressed to me and delivered at the County Hall, Chelmsford, immediately. Full information should also be given as to the applicant's position in relation to military service. Canvassing, directly or indirectly, is forbidden. This advertisement is published with the approval of the Minister of Health.—John E. Lightburn, Clerk of the County Council, County Hall, Chelmsford.

ESSEX COUNTY COUNCIL. St. Margaret's Hospital, Epping. HOUSE OFFICER (B2).—Applications are invited from registered medical practitioners, male and female, including R and W practitioners who now hold A posts, for the appointment of House Officer (B2) at the above hospital. The salary is at the rate of £200 per annum, with full residential emoluments. If held by an R practitioner the appointment will be limited to six months, otherwise it will not exceed one year. Applications should be made in writing to the County Medical Officer, County Hall, Chelmsford.

EAST RIDING COUNTY COUNCIL. Beverley Emergency Hospital.—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A) vacant immediately, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months, otherwise it will be for a period not exceeding one year subject to one month's notice on either side. The salary is at the rate of £120 per annum with full residential emoluments. Applications to be made as soon as possible to the undersigned.—T. Stephenson, Clerk of the Council, County Hall, Beverley.

CHESHIRE COUNTY COUNCIL. Clatterbridge (County) General Hospital, near Birkenhead (400 beds).—Applications are invited for two posts as CONSULTANT SURGEONS to the above hospital. Salary for each post £300 per annum for two sessions per week (inclusive of bonus and travelling expenses). Applications, including those from medical practitioners now serving in H.M. Forces (no special form), to be sent to the undersigned by February 28, 1946.—Ian Mackay, M.B., Ch.B., County Medical Officer of Health, 24, Nicholas Street, Chester.

GLAMORGAN COUNTY COUNCIL. Llwynypia Hospital, Rhondda.—Applications are invited from registered medical practitioners with good surgical and maternity experience who have held house appointments for the appointment of a TEMPORARY RESIDENT ASSISTANT MEDICAL OFFICER (B1) at Llwynypia Hospital, Rhondda. Suitably qualified R and W practitioners now holding B2 appointments may apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary £350 rising by annual increments of £25 to £550 per annum, plus prevailing cost-of-living bonus and residential emoluments. All fees whatsoever received by the successful applicant whilst holding the appointment must be handed over to the County Council. The appointment will be terminable by one month's notice on either side. Applications should be sent to the County Medical Officer, Glamorgan County Hall, Cardiff, within ten days of the publication of this advertisement.—D. T. Parry, Clerk of the County Council, Glamorgan County Hall, Cardiff.

LONDON COUNTY COUNCIL.—Medical practitioners required for the undermentioned positions:

(1) TEMPORARY ASSISTANT MEDICAL OFFICER, Class I (B1). Salary £350 a year rising by £25 to £425 a year, plus temporary cost-of-living additions: (a) Bethnal Green Hospital, Cambridge Heath Road, E.2, mainly surgical; (b) St. Giles' Hospital, St. Giles' Road, Camberwell, S.E.5, obstetrics and gynaecology; (c) Mile End Hospital, Bancroft Road, Mile End, E.1, obstetrics and gynaecology; (d) St. Andrew's Hospital (two positions), Devons Road, Bow, E.3, (i) surgical, (ii) anaesthetics; (e) St. John's Hospital, St. John's Hill, S.W.11, medical, knowledge of mental diseases and tuberculosis an advantage; (f) Lewisham Hospital, Lewisham, S.E.13, medical and care of a local institution. Suitably qualified R and W practitioners holding B2 appointments also R and W practitioners holding B1 appointments and rejected by the R.A.M.C. may apply.

(2) TEMPORARY ASSISTANT MEDICAL OFFICER, Class II (B2). Salary £250 a year plus temporary cost-of-living addition: (a) Hackney Hospital, High Street, Homerton, E.9, obstetrics and gynaecology; (b) St. Alfege's Hospital, Vanbrugh Hill, S.E.10, obstetrics and medical; (c) Mile End Hospital, Bancroft Road, Mile End, E.1, obstetrics and medical; (d) St. George-in-the-East Hospital (two positions), Raine Street, Wapping, E.1, (i) receiving room and casualty, (ii) medical, diabetics, and anaesthetics; (e) St. Nicholas' Hospital, 79, Tewson Road, Plumstead, S.E.18, receiving room and casualty; (f) St. Leonard's Hospital (two positions), Nuttall Street, Kingsland Road, N.1, (i) receiving room and casualty, (ii) general medical and anaesthetics; (g) High Wood Hospital for Children, Brentwood, Essex, chest cases, mostly tuberculosis. R and W practitioners who now hold A posts may apply when appointment will be limited to six months.

All the above positions are with board, lodging, and washing. Married quarters are not available.

TEMPORARY PART-TIME VISITING MEDICAL OFFICER: St. Luke's Hospital, Sydney Street, Chelsea, S.W.3, salary £200 a year (plus temporary cost-of-living addition). Duties, daily visit and emergencies. Applicants must reside within easy access of the hospital.

Application forms obtainable from the Medical Officer of Health, S.D.2, County Hall, S.E.1. Stamped foolscap envelope necessary, returnable by November 19, 1945. Canvassing disqualifies.

LANCASHIRE COUNTY COUNCIL. Public Health Committee. Abbotsfield Hospital, Flixton, Manchester. ASSISTANT MEDICAL OFFICER (B2).—Applications are invited from registered medical practitioners, male or female, for the above appointment, including R and W practitioners who now hold A posts. If the successful applicant is an R practitioner the appointment will be limited to six months. Otherwise it may be renewed for a further period of six months. Salary is at the rate of £300 per annum together with an allowance of £150 per annum in lieu of residential emoluments, and cost-of-living bonus. Forms of application may be obtained from the County Medical Officer of Health, Hospital and Medical Department, County Offices, Preston, to whom all applications must be forwarded not later than Monday, November 19, 1945.—R. H. Adcock, Clerk of the County Council, County Offices, Preston.

KENT COUNTY COUNCIL. County Hospital, Dartford.—PART-TIME ANAESTHETIST required. Remuneration payable, £2 12s. 6d. a session and travelling expenses. Applications, stating age, qualifications and the names and addresses of two responsible persons to whom reference may be made as to professional ability, to be sent to the Medical Superintendent at the hospital.—W. L. Platts, Clerk of the County Council, County Hall, Maidstone.

IMPORTANT—All applicants should read the notice at the top of page 9 about qualifications required.

LANCASHIRE COUNTY COUNCIL. Public Health Committee. County Hospital, Whiston, Prescot, near Liverpool. TWO RESIDENT MEDICAL OFFICERS (B2).—Applications are invited from registered medical practitioners, male or female, for the above appointments, including R and W practitioners who now hold A posts. If the successful applicant is an R practitioner the appointment will be limited to six months, otherwise it may be renewed for a further period of six months. Salary is at the rate of £250 per annum, together with a cost-of-living bonus and the usual residential emoluments. Forms of application may be obtained from the County Medical Officer of Health, Hospital and Medical Department, County Offices, Preston, to whom all applications should be forwarded at once.—R. H. Adcock, Clerk of the County Council, County Offices, Preston.

MIDDLESEX COUNTY COUNCIL.—VISITING OPHTHALMOLOGIST required at NORTH MIDDLESEX COUNTY HOSPITAL, Edmonton, N.18, to conduct two sessions weekly. Applicants must be registered medical practitioners with the qualification of F.R.C.S. or a degree or diploma in ophthalmology, and who have devoted their time wholly or chiefly to the practice of this specialty. Fee £3 3s. per session of approx. 2½ hours. Temporary appointment. Application to the undersigned by November 17, 1945.—C. W. Radcliffe, Clerk of the County Council, Middlesex Guildhall, Westminster, S.W.1.

SURREY COUNTY COUNCIL. Kingston County Hospital, Wolverton Avenue, Kingston-on-Thames (400 beds). E.N.T. SURGEON (Part-time).—Applications are invited for the appointment of part-time E.N.T. Surgeon to the above acute general hospital. The salary will be £300 per annum for approximately six hours' duty per week, including attendance at a weekly O.P. clinic, routine operating and emergency attendances when required. The appointment is renewable annually. Applications to the C.M.O., County Hall, Kingston-on-Thames by November 30, 1945.

SURREY COUNTY COUNCIL. Kingston County Hospital, Wolverton Avenue, Kingston-on-Thames (400 beds).—Applications are invited from registered medical practitioners for the appointment of MEDICAL OFFICER (B1) for general medical duties at the above acute general hospital. Applicants should have held house appointment. Suitably qualified R and W practitioners holding B2 posts are invited to apply. Applications from R practitioners now holding B1 appointment cannot be considered unless they have been rejected by the R.A.M.C. The appointment is temporary and subject to one month's notice on either side. This is an E.M.S. appointment, and the successful candidate may be required to enter into a contract with the Ministry of Health and be paid by them. Salary £350 per annum, plus full residential emoluments. Apply to Medical Superintendent by November 24, 1945.

SURREY COUNTY COUNCIL. Kingston County Hospital, Wolverton Avenue, Kingston-on-Thames (400 beds).—Applications are invited from registered medical practitioners for the appointment of HOUSE SURGEON (B2) for special departments and casualty, to become vacant on December 1, 1945, including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months, otherwise it will not exceed one year. Salary is at the rate of £200 per annum, plus full residential emoluments. Apply to the Medical Superintendent.

SURREY COUNTY COUNCIL. Kingston County Hospital. Wolverton Avenue, Kingston-on-Thames (400 beds).—Applications are invited from registered medical practitioners for the appointment of HOUSE SURGEON (A), two vacancies, for general surgical duties, to become vacant on January 1, 1946, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts the appointment will be for a period of six months. Otherwise it will not exceed one year. Salary at the rate of £120 per annum, with full residential emoluments. Apply to the Medical Superintendent.

BROMLEY AND DISTRICT HOSPITAL, Bromley, Kent (200 beds).—Applications are invited from registered medical practitioners, male or female, for the post of RESIDENT SURGICAL OFFICER (B1). Preference will be given to candidate holding the Diploma of F.R.C.S. Suitably qualified R practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary commencing at £350 to £400 per annum, with full residential emoluments. Applications to E. H. Hurst, House Governor.

BURTON-ON-TRENT GENERAL INFIRMARY (200 beds normal).—Applications are invited from registered medical practitioners for the appointment of CASUALTY OFFICER AND HOUSE SURGEON (A) also HOUSE PHYSICIAN (A). Salary at the rate of £200, with the usual residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months. Applications to be sent to the Secretary-Superintendent.

BIRMINGHAM UNITED HOSPITAL. The General Hospital. The Queen Elizabeth Hospital. (Also incorporating the Queen's Hospital, 1840-1941.) Teaching Hospital of 1,000 beds. (In association with Birmingham University).—Vacancies on the Honorary Medical and Surgical Staff will shortly arise for the following appointments:—3 ASSISTANT PHYSICIANS, 4 ASSISTANT SURGEONS.

Assistant Physicians are required to be graduates in medicine of a University of which the degree is recognized by the General Medical Council for registration and Fellows or Members of the Royal College of Physicians in London. Assistant Surgeons are required to be Fellows of the Royal College of Surgeons of England. Candidates elected from the Services may be allowed one year from the time of taking up their duties to obtain the higher qualifications required by the laws of the hospital. An honorarium of £50 per annum is at present attached to these posts, but revision of the conditions of service and remuneration to members of the Staff may become decessary in the event of new legislation for a National Medical Service. Candidates are invited to submit applications to the undersigned, from whom all further information may be obtained. Applications, which must be submitted not later than March 1, 1946, will be considered in the first instance by a Special Committee representing the Hospital and the Faculty of Medicine of the University, and its recommendations will be submitted to the Board of Management of the Hospital.—G. Hurford, Secretary, Birmingham United Hospital, The Queen Elizabeth Hospital, Birmingham, 15.

BECKETT HOSPITAL AND DISPENSARY, Barnsley. HOUSE SURGEON (A).—Applications are invited from registered medical practitioners for this appointment. Salary is at the rate of £225 per annum with full residential emoluments. Practitioners within three months of qualification who are liable to service under the National Service Acts may also apply, when the appointment will be for six months. Applications should be sent immediately to Arthur L. Bourne, Secretary-Supt.

BOLTON ROYAL INFIRMARY (270 beds—Resident Medical Staff, 6).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A), vacant now, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts appointment will be for a period of six months Salary £175 per annum, with full residential emoluments. Applications to be forwarded to the undersigned.—Joseph Griffith, Superintendent-Secretary.

BOLINGBROKE HOSPITAL, Wandsworth Common, S.W.11.—The Board of Governors invite applications for the following appointments:

(a) TWO HONORARY PHYSICIANS.
(b) HONORARY SURGEON.
(c) FOUR ANAESTHETISTS.

Candidates for appointments (a) must be Fellows or Members of the Royal College of Physicians, and for appointment (b) Fellows of a Royal College of Surgeons. All must be engaged solely in consulting practice. The appointments (c) are for a period not exceeding 3 years, and carry honoraria of 50 guineas per annum. Service candidates are eligible to apply for these appointments, which will be made towards the middle of March, 1946. Applications with copies of testimonials to be sent by March 10, 1946, to W. S. Randolph Biss, Secretary-Superintendent.

BIRMINGHAM ACCIDENT HOSPITAL AND REHABILITATION CENTRE. HOUSE SURGEON (B2).—Applications are invited from registered medical practitioners, male and female, for the appointment of House Surgeon (B2), to become vacant immediately, including R practitioners who now hold A posts. The appointment will be for six months. The salary is at the rate of £200 per annum, with full residential emoluments.—A. A. MacIver, Secretary, Bath Row, Birmingham, 15.

BRADFORD ROYAL INFIRMARY.—Applications are invited from registered medical practitioners (male, single) for the post of HOUSE SURGEON (A), vacant January 1, 1946. Six months appointment. Practitioners within three months of qualification and liable under the National Service Acts may also apply. Salary £150 per annum, with full residential emoluments. There are 372 beds and 8 resident officers. Applications should be sent immediately to H. Trusson, House Governor and Secretary.

BROMLEY AND DISTRICT HOSPITAL, Bromley, Kent (200 beds).—Applications are invited from registered practitioners for the appointment of HOUSE SURGEON (A), now vacant. Practitioners within three months of qualification, and listed under the National Service Act may apply, and the appointment will be for a period of six months. The salary is at the rate of £150 per annum, with full residential emoluments. Application to be submitted to the undersigned.—E. H. Hurst, House Governor.

CHESHIRE COUNTY MENTAL HOSPITAL, Parkside, Macclesfield.—Male or female TEMPORARY ASSISTANT MEDICAL OFFICER (B1) required, not eligible for the Services. Salary £10 10s. per week, with board, apartments, and laundry. Applications to be sent to the Medical Superintendent.

CAMBORNE-REDRUTH MINERS' AND GENERAL HOSPITAL, Redruth, Cornwall.—Applications are invited for the post of RESIDENT OBSTETRIC OFFICER (B1) for the maternity unit maintained by the Cornwall County Council in connexion with the Camborne-Redruth Miners' and General Hospital. Salary is at the rate of £300 a year, with the usual emoluments. The appointment will be subject to termination by one month's notice in writing, but will ordinarily be for a period of twelve months. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Applications to be addressed to J. C. Field, Secretary-Superintendent.

CARDIFF ROYAL INFIRMARY, Cardiff. HOUSE PHYSICIAN and HOUSE SURGEONS (A).—Applications are invited from registered medical practitioners, male and female, for the appointments as follows: (1) One House Physician; (2) Two House Surgeons, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary is at the rate of £75 per annum, with full residential emoluments. The three posts are now vacant. Applications should reach the undersigned at the earlies possible moment.—R. Armstrong, Medical Superintendent.

CLAYTON HOSPITAL, Wakefield.—Applications are invited immediately from registered medical practitioners for the following appointment: RESIDENT ORTHOPAEDIC OFFICER (B2) with casualty duties, male, salary £250 per annum, with full residential emoluments. R practitioners who now hold A posts may apply, when appointment will be limited to six months; otherwise it may be extended for a further period. Applications should be sent to the undersigned as soon as possible.—W. Read, Superintendent and Secretary.

CARDIFF ROYAL INFIRMARY, Cardiff. CASUALTY SURGICAL OFFICER (B2).—Applications are invited from registered medical practitioners, male and female, for the appointment of Casualty Surgical Officer (B2), to become vacant on December 1, including R practitioners who now hold A posts. If held by an R practitioner, the appointment will be limited to six months. The salary is at the rate of £150 per annum, with full residential emoluments. Applications should reach the undersigned as early as possible.—R. Armstrong, Medical Superintendent.

CAMBORNE-REDRUTH MINERS' AND GENERAL HOSPITAL. Redruth.—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (A), vacant immediately. Salary at the rate of £200 per annum, with the usual residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months. Applications to be addressed to J. C. Field, Secretary-Superintendent, Redruth.

CAMERON HOSPITAL, West Hartlepool (86 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A), duties to commence as soon as possible. Salary at the rate of £200 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months. Applications should be sent to Miss P. M. Betts, Secretary.

DISTRICT INFIRMARY, Ashton - under - Lyne (normally 200 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of CASUALTY OFFICER AND ORTHOPAEDIC HOUSE SURGEON (B2). Salary at the rate of £200 a year, with full residential emoluments. R practitioners who now hold A posts may apply, when the appointment will be limited to six months. Applications should be forwarded at once to the undersigned.—Frank Oliver, General Superintendent and Secretary.

DARLINGTON MEMORIAL HOSPITAL (200 beds).—Applications are invited from registered medical practitioners, male, British, for the following appointment, vacant December 1, 1945:—HOUSE PHYSICIAN (A). Practitioners within three months of qualification and liable under the National Service Acts may apply when appointment will be for a period of six months. Salary £150 per annum with full residential emoluments. Application should be sent as soon as possible to Secretary-Superintendent, Memorial Hospital, Darlington.

DUCHESS OF YORK HOSPITAL FOR BABIES, Manchester, 19 (86 cots).—Applications are invited for the post of HONORARY SURGEON to undertake routine and emergency surgery and one out-patient session weekly. Practitioners serving in H.M. Forces are invited to apply. The hospital is attached to the Department of Paediatrics, Manchester University Medical School. Patients are taken up to the age of three and the post would provide scope for a surgeon especially interested in infant surgery. Applications should be sent by March 31, 1946, to Louise Gillespie, Secretary.

IMPORTANT—All applicants should read the notice at the top of page 9 about qualifications required.

DREADNOUGHT SEAMEN'S HOSPITAL, Greenwich, S.E.10. HOUSE OFFICER (A), including duties of CASUALTY OFFICER.—Applications are invited for the above appointment, now vacant, from registered British practitioners, including those within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary £150 per annum, with full residential emoluments. Applications to be sent immediately to the undersigned.—F. A. Lyon, Administrator and Secretary.

DISTRICT INFIRMARY, Ashton-under-Lyne (200 beds, mainly surgical).—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (A). Salary is at the rate of £200, plus war bonus at the rate of £50 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when the appointment will be for a period of six months. Applications should be sent immediately to Frank Oliver, General Superintendent and Secretary.

EAST SUFFOLK AND IPSWICH HOSPITAL, Ipswich (400 beds).—Applications are invited from registered medical practitioners for the following posts:—

HOUSE SURGEON (B2) to the Senior Surgeon, vacant January 3, 1946. R practitioners now holding A posts may apply for the above.

HOUSE SURGEON (A) to a General Surgeon, vacant now.

HOUSE SURGEON (A) to a General Surgeon, vacant November 24, 1945

HOUSE SURGEON (A) to the Gynaecological and Obstetrical Department, vacant January 7, 1946. Practitioners liable to service under the National Service Acts and within three months of qualification may apply for the above. Appointments will be for six months. Salary for each is at the rate of £175 per annum, with full resident emoluments.—Arthur Griffiths, Secretary, The Hospital, Ipswich.

EAST SUFFOLK AND IPSWICH HOSPITAL.—The Board of Management invites applications for the appointment of a PATHOLOGIST (WHOLE-TIME) at a commencing salary of £1,100 per annum, with house. To permit candidates in H.M. Forces serving abroad being considered the latest date for the return of applications is March 1, 1946. If the selected candidate is subject to any restriction on the transfer of his services from essential National Service, he will not be required to take up his new appointment until the restriction is removed. Applications to be made on form to be supplied.—Arthur Griffiths, Secretary, The Hospital, Ipswich.

ECCLES AND PATRICROFT HOSPITAL, Manchester (88 beds, 12 private beds, Obstetric Unit).—Applications are invited from male registered medical practitioners for the appointment to the B1 POST at the above hospital. An interest in obstetrics is desirable, a unit having been recently installed. Suitably qualified R practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. The salary will be at the rate of £400 per annum, with full residential emoluments, etc. Applications to be addressed to the Secretary, Eccles and Patricroft Hospital, Eccles, Manchester, as early as possible.

EXMINSTER HOSPITAL, Exminster.—Applications are invited from registered medical practitioners, male and female, for the appointment of a HOUSE SURGEON (B2), vacant December 1, 1945. Salary at the rate of £200 per annum, with full residential emoluments. This is an Orthopaedic Hospital with 160 beds, and also a centre for treatment of Peripheral Nerve Injuries. R and W practitioners who now hold A posts may apply, when the appointment will be limited to six months. Applications should be addressed to the Medical Superintendent, Exminster Hospital, Exminster, near Exeter, Devon

EXMINSTER HOSPITAL, Exminster.—Applications are invited from registered medical practitioners, male and female, for the appointment of a HOUSE SURGEON (B1), vacant December 1, 1945. Salary at the rate of £350 per annum, with full residential emoluments. This is an Orthopaedic Hospital with 160 beds and also a centre for treatment of Peripheral Nerve Injuries. R and W practitioners who now hold A posts may apply, when the appointment will be limited to six months. Applications should be addressed to the Medical Superintendent, Exminster Hospital, Exminster, near Exeter, Devon

GLOUCESTER CITY GENERAL HOSPITAL, E.M.S. plastic surgery unit.—Applications are invited from registered medical practitioners, including R and W practitioners now holding A posts, for the post of ASSISTANT RESIDENT SURGICAL OFFICER (B2) in the plastic unit of this hospital. An interest in anaesthetics will be an added advantage. The appointment will be for a period of six months and will commence on December 1. Salary is at the rate of £350 per annum, with residential emoluments. Applications should be addressed to the Medical Superintendent

GRIMSBY AND DISTRICT GENERAL HOSPITAL (237 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of RESIDENT CASUALTY OFFICER AND HOUSE SURGEON (A), now vacant. Appointment is for six months. Salary is at the rate of £175 per annum with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply. Applications to the Superintendent.

THE GENERAL INFIRMARY AT LEEDS.—Applications are invited from Fellows of the Royal College of Surgeons of England for the post of HONORARY AURAL SURGEON to the General Infirmary at Leeds. Information relating to the post will be supplied on reference to the House Governor. Suitably qualified practitioners serving with His Majesty's Forces are invited to apply.

Applications are also invited from Fellows of the Royal College of Surgeons of England for the post of HONORARY ASSISTANT SURGEON to the General Infirmary at Leeds. Information relating to the post will be supplied on reference to the House Governor. Suitably qualified practitioners serving with His Majesty's Forces are invited to apply.

Applications for each post with testimonials (or the names of three persons to whom reference may be made) to be received by the undersigned not later than March 31, 1946.—S. Clayton Fryers, House Governor and Secretary.

GENERAL HOSPITAL, Nottingham (664 beds).—Applications are invited from registered medical practitioners for the appointment of RESIDENT ORTHOPAEDIC AND FRACTURE OFFICER (B1) vacant shortly. Applicants should have had previous experience in Fracture and Orthopaedic work. The Orthopaedic Department serves a large industrial district and the post offers exceptional experience in traumatic surgery. The appointment will be for a period of one year in the first instance. Salary is at the rate of £300 per annum, with full residential emoluments. Suitably qualified R practitioners holding B2 appointments, also those holding B1 appointments rejected by the R.A.M.C. may apply. Applications to be forwarded as soon as possiple to Henry M. Stanley, House Governor and Secretary.

(2nd INSERTION.)

HAMPSTEAD GENERAL HOSPITAL, The Green, N.W.3.—The Council of Management invites applications for the following appointments to the Honorary Staff rendered vacant by the operation of the Retirement Rule:

HONORARY DERMATOLOGIST. Candidates must be Fellows or Members of the Royal College of Physicians, London, engaged in consulting dermatological practice. There is an allotment of beds for in-patient work and attendance will be required at one out-patient clinic each week.

DENTAL SURGEON TO IN-PATIENTS. Candidates must be Licentiates in Dental Surgery registered in the United Kindom, will be required to attend in-patients twice weekly, and at such other times as may be necessary. There is an honorarium payable of £60 per annum.

Practitioners now serving in H.M. Forces may apply. Applications with the names of three easily accessible referees to reach the undersigned by February 28, 1946.—By order of the Council of Management, Kenneth A. F. Miles, House Governor.

HULL ROYAL INFIRMARY.—FIRST AND SECOND HOUSE SURGEONS (B2), two posts. Vacant now. Suitably qualified R practitioners who now hold A posts may apply. If held by R practitioners the appointment will be limited to six months. Salary for each post £200 per annum, with full residential emoluments. Applications to R. J. Carless, House Governor.

HEREFORDSHIRE GENERAL HOSPITAL, Hereford (204 beds).—Applications are invited from registered medical practitioners, male, including practitioners within three months of qualification and liable under the National Service Acts, for the appointment of JUNIOR HOUSE SURGEON (A), including House Surgeon to Ear, Nose, and Throat Department. The appointment will be limited to six months. Salary is at the rate of £150 per annum, with residential emoluments. Applications should be sent to T. W. Upton, Secretary.

HOSPITAL OF ST. JOHN AND ST. ELIZABETH, 60, Grove End Road, N.W.8.—Applications are invited from registered medical practitioners (male) for the appointment of a HOUSE PHYSICIAN (A), to become vacant on December 1, 1945, including practitioners within three months of qualification who are liable for service under the National Service Acts. Appointment will be for a period of six months. Salary is at the rate of £150 per annum, with full residential emoluments. Applications should reach the undersigned by November 22, 1945.—F. Dudley Hobbs, M.A., Secretary.

LEEDS PUBLIC DISPENSARY AND HOSPITAL.—Applications are invited from registered medical practitioners for the appointment of HOUSE SURGEON (A), mainly Casualty duties. Appointment for six months. Salary at the rate of £150 p.a., with board, residence, and laundry. Practitioners within three months of qualification and liable under the National Service Acts may also apply. Applications to be addressed to Charles F. J. Maury, Secretary and Superintendent.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, London, W.C.1.—TWO HOUSE PHYSICIANSHIPS (B2), tenable at Great Ormond Street, and ONE HOUSE PHYSICIANSHIP (B2), tenable at the Sector Hospital, Hemel Hempstead, will fall vacant on January 1, 1946. All appointments are tenable for six months at a salary of £100 per annum, with full residential emoluments.

There is also an unexpected vacancy for one HOUSE SURGEON (B2) at Great Ormond Street for the period to April 15, 1946, on similar terms of appointment. Practitioners, of either sex, including R practitioners now holding A posts, may apply. Further particulars and form of application, which must be returned not later than November 25, 1945, are obtainable from the undersigned.—H. F. Rutherford, Secretary.

HOUNSLOW HOSPITAL, Middlesex (97 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE PHYSICIAN AND CASUALTY OFFICER (A), now vacant, including practitioners within three months qualification who are liable for service under the National Service Acts. If held by a practitioner who is liable under these Acts the appointment will be for six months, otherwise renewable. Salary £150 per annum, with full residential emoluments. Applications to the Secretary immediately.

HULL ROYAL INFIRMARY.—Applications are invited for the post of TEMPORARY HONORARY ASSISTANT OPHTHALMIC SURGEON from candidates holding the Diploma of Ophthalmic Medicine and Surgery. Applications, with copies of testimonials, should be addressed to the Chairman of the Managing Committee by December 31, 1945.—R. J. Carless, House Governor.

HUDDERSFIELD ROYAL INFIRMARY (321 beds).—CASUALTY OFFICER (B2) required, to commence immediately. R and W practitioners who now hold A posts may apply. If held by an R or W practitioner appointment will be limited to six months. Salary at the rate of £200, with full residential emoluments. Applications to be sent to the undersigned as soon as possible.—H. J. Johnson, General Superintendent and Secretary.

JESSOP HOSPITAL FOR WOMEN, Sheffield (193 beds). ASSISTANT PATHOLOGIST.—Early in 1946 the Board will proceed to appoint an Assistant Pathologist. Applications are invited from qualified medical practitioners, male and female, including those in His Majesty's Forces who will be demobilized within the next few months. Salary will be according to experience with £400 per annum as a minimum. Applications to be lodged with the undersigned not later than March 3, 1946.—David Oswald, Superintendent and Secretary.

KIRKCALDY HOSPITAL.—Applications are invited from registered medical practitioners for the appointment of RESIDENT SURGICAL OFFICER (B1), the post being now vacant. Applicants should have held house appointments and have had surgical experience. Preference will be given to candidates holding a higher qualification in surgery. Suitable qualified R or W practitioners holding B2 or B1 appointments are invited to apply. They must have obtained the sanction of the Scottish Central Medical War Committee to their application. Salary according to qualifications and experience but not less than £400. Applications should be sent to the undersigned not later than November 20, 1945.—James Wilson, Hon. Secretary-Treasurer, 170, High Street, Kirkcaldy.

KIDDERMINSTER AND DISTRICT GENERAL HOSPITAL.—Applications are invited from registered medical practitioners for the post of TEMPORARY CLINICAL ASSISTANT to the Ophthalmic Department at the above hospital. Applications should be sent to the undersigned.—C. M. Smith, House Governor and Secretary.

LINCOLN COUNTY HOSPITAL (Voluntary Hospital, 200 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (A), vacant now. Salary is at the rate of £225 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when the appointment will be for six months.—Arthur Moore, Secretary-Superintendent.

LEEDS PUBLIC DISPENSARY AND HOSPITAL, North Street, Leeds, 2.—Applications are invited for two posts of HONORARY SURGEON. Candidates must be Fellows of the Royal College of Surgeons of England. Suitably qualified practitioners serving with His Majesty's Forces are invited to apply. Applications, with testimonials (or the names of three persons to whom reference may be made), to be received by the undersigned not later than March 31, 1946.—Chas. F. J. Maury, Secretary and Superintendent.

PRINCE OF WALES'S GENERAL HOSPITAL, London, N.15.—Applications are invited for the appointment of HONORARY CLINICAL ASSISTANTS in the various departments of the hospital—Medical, Surgical, Neurological, Psychiatric, Children, Gynaecological, Skin, Orthopaedic, Fracture and Traumatic, Genito-Urinary, Ear, Nose and Throat, Eye, X-ray, Physical Medicine, and Rehabilitation—for the year 1946. Applications for appointment to any of these posts should be sent to the undersigned on or before December 3, 1945—J. C. Burdett, Director and House Governor.

IMPORTANT—All applicants should read the notice at the top of page 9 about qualifications required.

MANCHESTER ROYAL INFIRMARY.—The Board of Management invite applications from registered medical practitioners, male and female, for the following B2 posts:

REGISTRAR to Surgical Out-patient Department. Vacant January 30, 1946.

SENIOR HOUSE PHYSICIAN. Vacant January 8, 1946.

SENIOR HOUSE SURGEON to General Surgical Unit. Vacant January 8, 1946.

SENIOR HOUSE SURGEON, Orthopaedic Department. Vacant January 8, 1946.

SENIOR HOUSE PHYSICIAN. Vacant January 22, 1946.

SENIOR HOUSE SURGEON, Neuro-surgical Unit. Vacant January 22, 1946.

R practitioners holding A posts may apply. Appointments are for six months, at salaries of £150 per annum with residence, subject to the Bye-laws as to notice, etc. Applications to be sent to the Chairman of the Medical Board not later than November 17, 1945.—F. J. Cable, Gen. Supt. and Secretary.

MIDDLETON PARK CONVALESCENT HOSPITAL FOR HEAD INJURIES, Nr. Bicester, Oxon.—Wanted immediately, TEMPORARY RESIDENT MEDICAL OFFICER to Red Cross Hospital. Salary £300 per annum, all found. One with R.A.M.C. experience preferred. It would be an advantage if the officer appointed were interested in physical training, physiotherapy, and occupational therapy, these being an important part of the work of the hospital. Would suit someone reading for higher examinations. Applications to Commanding Officer.

MOUNT VERNON HOSPITAL AND THE RADIUM INSTITUTE, Northwood, Middx.—Applications are invited from registered medical practitioners for the appointment of HOUSE SURGEON (A) in the Radiotherapy Department, vacant immediately. Salary is at the rate of £120 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months. Applications to be forwarded immediately to the Secretary.

MANSFIELD AND DISTRICT GENERAL HOSPITAL (227 beds).—Applications are invited for the temporary post of VISITING EAR, NOSE AND THROAT SURGEON. Applicants must be F.R.C.S., and preferably possess the D.L.C., and must be of full consultant status. Salary is in accordance with the B.M.A sessional basis scale. Not less than two sessions per week required. The post is open to persons at present serving with H.M. Forces. Conditions and terms of appointment may be obtained on request from the undermentioned. Applications must be received not later than November 24, 1945.—K. L. Ward, Secretary.

NOTTINGHAM GENERAL HOSPITAL. HONORARY RADIOLOGIST.—The Board invites applications for the above position which has arisen owing to the death of the senior honorary radiologist. Candidates must be fully qualified and registered medical practitioners. The successful candidate must confine his private practice entirely to X-ray and allied work, and shall attend the hospital daily. He will be appointed for a term of five years and then be eligible for re-election. Service candidates are eligible to apply for the appointment, which will be made during the month of February, 1946. The present assistant honorary radiologist is an applicant, and if he is appointed to the post there will be a vacancy for an Assistant Honorary Radiologist. The conditions of the appointment of Assistant Honorary Radiologist are the same as for the Honorary Radiologist. Applications must reach the undersigned by the first post of February 23, 1946. —Henry M. Stanley, House Governor and Secretary.

NORFOLK AND NORWICH HOSPITAL, Norwich.—Applications are invited for the following appointments:—RESIDENT REGISTRAR (B1) to the Orthopaedic Department. Salary (not less than £300 per annum) according to experience. Suitably qualified R and W practitioners holding B2 posts, also those holding B1 and rejected by the R.A.M.C. may apply.

CASUALTY OFFICER (B2). R practitioners who now hold A posts are invited to apply. If held by an R practitioner the appointment will be for a period of six months. Salary £170 per annum with full residential emoluments. Applications to be addressed to Frank Inch, House Governor and Secretary.

NOBLE'S ISLE OF MAN HOSPITAL, Douglas, Isle of Man (137 beds).—Applications are invited from registered medical practitioners for appointment of SECOND HOUSE SURGEON (A), including practitioners within three months of qualification who are liable to service under the National Service Acts. If the person appointed is liable under these Acts the appointment will be for a period of six months, otherwise it will be for a period of twelve months. Salary at the rate of £250 per annum, with full residential emoluments in addition. Copies of two recent testimonials required.—E. K. Kelly, Secretary, Douglas.

NORFOLK AND NORWICH HOSPITAL, Norwich.—The Board of Management hereby gives notice that the following vacancies on the honorary medical staff will be filled at the end of April, 1946:

HONORARY ASSISTANT PHYSICIAN.

TWO HONORARY ASSISTANT SURGEONS.

HONORARY ASSISTANT GYNAECOLOGICAL AND OBSTETRICAL SURGEON.

HONORARY OPHTHALMIC SURGEON.

Candidates for the office of Assistant Physician shall produce evidence of being Doctors in Medicine of one of the Universities of the British Empire, or members of the Royal College of Physicians of London, and of being registered according to the provisions of the Medical Act.

Candidates for the offices of Assistant Surgeon or Assistant Gynaecological and Obstetric Surgeon shall produce evidence of being Masters or Bachelors of Surgery of one of the Universities of the British Empire or of being Fellows of one of the Royal Colleges of Surgeons of the British Empire, and of being registered according to the provisions of the Medical Act.

Candidates for the office of Ophthalmic Surgeon shall produce evidence of being Masters or Bachelors of Surgery of one of the Universities of the British Empire or of being Fellows of one of the Royal Colleges of Surgeons of the British Empire, or of holding a special Diploma in Ophthalmology granted by a University or a Royal College of Surgeons of the British Empire and of being registered according to the provisions of the Medical Act. The present Honorary Assistant Ophthalmic Surgeon is an applicant for this post.

To enable candidates in H.M. Forces to be considered, the latest date for the receipt of applications is March 1, 1946. Candidates on service abroad can send names of three persons to whom application may be made for testimonials. The above appointments are being notified to the Medical Directors-General at the Admiralty, War Office, and Air Ministry. Applications, with copies of testimonials or names of referees, must be sent to the undersigned from whom further particulars regarding the posts may be obtained.—Frank Inch, House Governor and Secretary.

NOTTINGHAM HOSPITAL FOR WOMEN (110 beds, including private wards, annexe for 28 patients on outskirts of town).—Applications are invited from registered medical practitioners for the appointment of HOUSE SURGEON (B1). Some experience of gynaecology and obstetrics desirable. Suitably qualified R and W practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £225 a year, and the appointment is for six months in the first instance. Applications should be sent to the Secretary, Miss R. H. Tweedie.

NOTTINGHAM GENERAL HOSPITAL (712 beds, including E.M.S. beds).—Applications are invited from registered medical practitioners, male and female, including practitioners within three months of qualification who are liable to service under the National Service Acts, for the appointment of a RESIDENT CASUALTY OFFICER (A) for the above hospital. Duties to commence immediately If held by a practitioner who is liable under these Acts appointment will be for a period of six months. Salary at the rate of £200 per annum, with full residential emoluments. Applications to be sent to the undersigned.—Henry M. Stanley, House Governor and Secretary.

NORTH RIDING INFIRMARY, Middlesbrough (158 beds).—Applications are invited from registered medical practitioners (male or female) for the undermentioned appointments:—

SENIOR HOUSE SURGEONS (B2). Salary £225 per annum.

CASUALTY HOUSE SURGEON (A). Salary £200 per annum.

THIRD HOUSE SURGEON (A). Salary £200 per annum.

R practitioners who now hold (A) posts may apply for the B2 appointment, and practitioners within three months of qualification who are liable to service under the National Service Acts may apply for the A posts. The appointments are limited to six months. Applications should be sent to the undersigned:—Gerald A. Kenyon, Secretary-Superintendent.

NORTH CAMBRIDGESHIRE HOSPITAL, Wisbech.—Applications are invited from registered medical practitioners, including practitioners within three months of qualification who are liable to service under the National Service Acts, for appointment of HOUSE SURGEON (A), now vacant. Appointments will be for a period of six months. Salary £200 to £250, with full residential emoluments. Applications to the Secretary.

THE NATIONAL HOSPITAL FOR NERVOUS DISEASES, Queen Square, London, W.C.1.—The Board of Management invite applications for the appointment of two HONORARY ASSISTANT PHYSICIANS. Candidates should be Members or Fellows of the Royal College of Physicians. Doctors serving in H.M. Forces are invited to apply. Applications should be forwarded to the undersigned not later than March 1, 1946.—H. Ewart Mitchell, Secretary.

NOTTINGHAM CHILDREN'S HOSPITAL.—Applications are invited from registered medical practitioners for the appointment of RESIDENT HOUSE SURGEON (B1), woman, to become vacant on December 1, 1945. Applicants should have held house appointments and suitably qualified W practitioners holding B2 appointments are invited to apply. Salary is at the rate of £220 per annum with apartments, board, and laundry, and the appointment is for six months. Applications to be sent to the Honorary Secretary, 1, King John's Chambers, Nottingham, immediately. Selected candidates will be required to attend at the hospital for a personal interview

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NELSON HOSPITAL, Merton, S.W.20.—Applications are invited from registered medical practitioners for the appointment of HOUSE SURGEON (B2), now vacant. Salary at the rate of £250 per annum, with full residential emoluments. R practitioners holding A posts may apply, when the appointment will be limited to six months; otherwise may be extended. Apply to the Secretary.

OLDHAM ROYAL INFIRMARY (203 beds). DEPUTY RESIDENT SURGICAL OFFICER, who will act as Casualty Officer and Orthopaedic House Surgeon (B2).—Applications are invited from registered medical practitioners, male and female, for the appointment of Deputy Resident Surgical Officer, to take charge of the Casualty Department and to work under the Orthopaedic Surgeon, now vacant. R practitioners who now hold A posts may apply, when the appointment will be limited to six months, otherwise it will be for a period of twelve months. Salary is at the rate of £200 per annum, with full residential emoluments. Applications should be forwarded to the undersigned immediately.—F. W. Barnett, General Superintendent and Secretary.

PRESTON ROYAL INFIRMARY (375 beds). Resident medical staff 8.—Applications are invited from registered medical practitioners, male and female, for the appointment of CASUALTY OFFICER (B2), including R practitioners who now hold A posts. If held by an R practitioner, appointment will be limited to six months. Salary £200 per annum, with full residential allowances. Busy department. Applications to be forwarded to the Superintendent and Secretary, Preston Royal Infirmary.

PORTWEY HOSPITAL, Weymouth (150 beds). RESIDENT MEDICAL OFFICER (B2).—The Dorset County Council invite applications from registered medical practitioners, male, for the appointment of Resident Medical Officer (B2), to become vacant on November 18, 1945, including R practitioners who now hold A posts. If held by an R practitioner, the appointment will be limited to six months. Otherwise it may be extended to a period of one year. The salary is at the rate of £200 per annum, with full residential emoluments. Applications should be sent to the Medical Superintendent as soon as possible.

QUEEN CHARLOTTE'S HOSPITAL, 339, Goldhawk Road, London, W.6.—Applications are invited for the appointment of DIRECTOR OF PATHOLOGY to Queen Charlotte's Hospital. The position is a whole-time one, and the duties will include (a) organization of the routine pathology of the hospital, (b) fostering of research in collaboration with the clinical staff of the hospital. The position is open to those engaged in any branch of pathology; a medical qualification is essential. The salary offered will be in accordance with status, but not less than £1,200 per annum, with superannuation under F.S.S.N. Those serving in H.M. Forces are eligible to apply whether they are free to take up the appointment immediately or not. Furthers particulars can be obtained from the Secretary-Superintendent, to whom applications should be sent not later than March 31, 1946.

RADCLIFFE INFIRMARY, Oxford.—Applications are invited from registered medical practitioners, male and female, for the appointment of TEMPORARY ASSISTANT SURGEON with a salary at the rate of £1,000 per annum, with the opportunity of some additional emoluments. The appointment is to be whole time for one year in the first instance. Applicants should have had surgical experience and preference will be given to candidates holding the Diploma F.R.C.S. Applications stating age, nationality, qualifications with dates, experience, and details of previous appointments and accompanied by copies of three recent testimonials or the names of three referees, should be sent to the undersigned not later than Monday, December 24, 1945. Applications by cablegram will be accepted from Service personnel, but as the post is a temporary one and has to be filled as a matter of urgency it will be a waste of time for Service candidates whose availability depends upon release under Class B to apply. Further information can be obtained from the Administrator.—A. G. E. Sanctuary, Administrator.

ROYAL FREE HOSPITAL, Grays Inn Road, W.C.1.—Applications are invited for the post of TEMPORARY HONORARY ASSISTANT ANAESTHETIST to the hospital. Candidates are expected to submit such evidence of their qualifications as they may think desirable. Applications should be sent to the Secretary not later than November 24

IMPORTANT—All applicants should read the notice at the top of page 9 about qualifications required.

QUEEN ELIZABETH HOSPITAL FOR CHILDREN, Glamis Road, Shadwell, E.1. HOUSE PHYSICIAN (A).—Applications are invited from registered medical practitioners, male and female, for the above appointment, to become vacant on January 1, 1946, including practitioners within three months of qualification who are liable for service under the National Service Acts. Appointment will be for six months. Salary at rate of £150 per annum, with full residential emoluments. Application forms may be obtained from the undersigned, and should be returned on or before December 1, 1945.—Charles H. Bessell, General Secretary, Queen Elizabeth Hospital for Children, Hackney Road, E.2.

QUEEN ELIZABETH HOSPITAL FOR CHILDREN, Glamis Road, Shadwell, E.1. R.M.O. (B2).—Applications are invited from registered medical practitioners, male and female, for the above appointment, to become vacant on January 1, 1946, including R practitioners now holding A posts. The appointment will be for six months in the first instance, and is renewable for subsequent periods not exceeding two years. Salary is at the rate of £250 per annum, with full residential emoluments. Application forms may be obtained from the undersigned, and should be returned on or before December 1, 1945.—Charles H. Bessell, General Secretary, Queen Elizabeth Hospital for Children, Hackney Road, E.2.

ROYAL BERKSHIRE HOSPITAL, Reading.—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (B2) to the GYNAECOLOGICAL AND OBSTETRIC DEPARTMENT, to become vacant on December 1, 1945, including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months. Salary is at the rate of £200 per annum, with full residential emoluments.

Applications are also invited from registered medical practitioners, male and female, for the following appointment:—CASUALTY OFFICER (A), to become vacant on December 7, 1945. Salary is at the rate of £150 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months.

Applications should be sent immediately to H. E. Ryan, Secretary and House Governor.

ROYAL HOSPITAL, Wolverhampton (Incorporated under Royal Charter).—Applications are invited from registered medical practitioners for the appointment of HOUSE SURGEON, Fracture and Orthopaedic Dept. (B1), vacant forthwith. Applicants should have held house appointments and had surgical experience. Suitably qualified R practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. Salary is at the rate of £200 per annum.—W. Cockburn, House Governor.

ROYAL MANCHESTER CHILDREN'S HOSPITAL, Pendlebury.—Applications are invited from registered medical practitioners, male and female (including practitioners within three months of qualification, who are liable under the National Service Acts) for the post of non-resident ASSISTANT MEDICAL OFFICER (A) at the Out-patients' Department, Gartside Street, Manchester. The appointment will be for a period of six months, commencing November 22, 1945. Salary is at the rate of £150 per annum. The hours of duty at the Out-patients' Department are from 9 a.m. until 1 p.m. or until the work of the Department is finished. Applications should be sent to the undersigned immediately.—H. Heardman, General Superintendent and Secretary.

ROYAL HOSPITAL, Wolverhampton (Incorporated under Royal Charter).—Applications are invited from registered medical practitioners for the appointment of a HOUSE SURGEON (A), vacant now, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary is at the rate of £100 per annum, with full residential emoluments.—W. Cockburn, House Governor.

ROYAL BERKSHIRE HOSPITAL, Reading.—Applications are invited from registered medical practitioners, male and female, for the following appointment:—HOUSE SURGEON (A), as from December 7, 1945. Salary is at the rate of £150 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months. Applications should be sent immediately to the House Governor.

ROYAL CORNWALL INFIRMARY, Truro (351 beds—5 residential).—Applications are invited from registered practitioners, male or female, for the appointment of RESIDENT ANAESTHETIST (B2) The hospital is recognized for the Diploma in Anaesthetics. Vacant now. Salary is at the rate of £200 p.a., with full residential emoluments. R and W practitioners holding A posts may also apply. If held by an R practitioner appointment will be limited to six months. Applications should be addressed to the Secretary.

RADCLIFFE INFIRMARY, Oxford.—Applications are invited from registered medical practitioners, male and female, for the appointment of SURGICAL TUTOR with a salary at the rate of £750 per annum. The appointment is to be whole time for one year in the first instance. Applicants should have held house appointments and had surgical and teaching experience. Preference will be given to candidates holding the Diploma F.R.C.S. Applications stating age, nationality, qualifications with dates, experience, and details of previous appointments and accompanied by copies of three recent testimonials, or the names of three referees, should be sent to the undersigned not later than Monday, December 24, 1945. Preference will be given to candidates demobilized from H.M. Forces but as the post is a temporary one and has to be filled as a matter of urgency it will be a waste of time for Service candidates whose availability depends upon release under Class B to apply.—A. G. E. Sanctuary, Administrator.

ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL, Southampton (255 beds). CASUALTY OFFICER AND HOUSE SURGEON to E.N.T. Department (B2).—Applications are invited from registered medical practitioners, male, including R practitioners who now hold A posts, for the appointment of Casualty Officer and House Surgeon to the E.N.T. Department (B2). The appointment will be for a period of six months. Salary is at the rate of £200 per annum, with full residential emoluments. Applications should be forwarded immediately to the undersigned.—Frank Jennings, House Governor and Secretary.

ROYAL SAMARITAN HOSPITAL FOR WOMEN, Glasgow.—The Governors invite applications for the post of VISITING SURGEON in the hospital. Practitioners serving in H.M. Forces are invited to apply. Particulars as to duties, etc., may be obtained from the undersigned, with whom candidates are requested to lodge twenty-five copies of application and three relative testimonials with each not later than Thursday, February 28, 1946. Candidates are informed that canvassing is not allowed.—T. Mason MacQuaker, Secretary and Treasurer, 179, West George Street, Glasgow, C.2.

ROYAL HAMPSHIRE COUNTY HOSPITAL, Winchester (432 beds).—Applications are invited from registered medical practitioners, men and women, for the appointment of HOUSE SURGEON (A), vacant November 24, 1945. Salary is at the rate of £175 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when appointment will be for a period of six months. Applications should be sent to D. M. Stanbury, Acting Superintendent and Secretary.

ROYAL CORNWALL INFIRMARY, Truro (351 beds, 5 residential).—Applications are invited from registered practitioners, male or female, for the appointment of HOUSE PHYSICIAN (B2), vacant on or about January 1, 1946. Salary is at the rate of £200 per annum, with full residential emoluments. R practitioners holding A posts may also apply when appointment is limited to six months. Applications should be addressed to the Secretary.

ROYAL NATIONAL HOSPITAL FOR RHEUMATIC DISEASES, Bath.—Applications are invited for the following posts:

(1) HONORARY PHYSICIAN. Candidates must be members of one of the Royal Colleges of Physicians.

(2) HONORARY ASSISTANT PHYSICIAN. Candidates must be registered medical practitioners.

Applications, including those from practitioners serving in H.M. Forces, should reach the Secretary of the Hospital by March 1, 1946.

ST. MARY'S HOSPITAL, W.2. MEDICAL REGISTRAR (B1).—Applications are invited for the above post. Candidates must be registered medical practitioners and fellows, members, or licentiates of the Royal College of Physicians, or graduates in medicine of a university in the British Empire. Suitably qualified R and W practitioners now holding B2 posts may apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been rejected by the R.A.M.C. The appointment is for a first period of six months as from December 1, 1945, at a salary of £400 per annum. Applications should reach the undersigned on or before Tuesday, November 20.—W. Parkes, House Governor.

STAMFORD, RUTLAND AND GENERAL INFIRMARY.—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A), now vacant. Salary is at the rate of £200 per annum with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months. Applications should be sent immediately to the Secretary, H. F. Donald, The Infirmary, Stamford.

SUSSEX EYE HOSPITAL, Eastern Road, Brighton (56 beds).—The Board of Management invite applications for the post of HONORARY CLINICAL ASSISTANT in the Out-patient Department on Wednesday afternoons and Saturday mornings. The appointment is a temporary one. Applications should be addressed to the undersigned at the Hospital.—P. F. Spooner, Secretary-Superintendent.

SIR JOHN PRIESTMAN, Durham County and Sunderland Eye Infirmary.—Applications are invited from registered medical practitioners, male and female, for the appointment of RESIDENT HOUSE SURGEON (B2), including R practitioners who now hold A posts. If held by an R practitioner appointment will be limited to six months. The Infirmary is recognized by the Royal College of Surgeons as partial course of D.O.M.S. (60 beds). Salary commencing at £200 per annum, with board, residence, and laundry, rising to £250 per annum after the period of one year. Applications to be delivered to the Secretary, Sir John Priestman, Durham County and Sunderland Eye Infirmary, Alexandra Road, Sunderland.

STOCKPORT INFIRMARY (167 beds).—Applications are invited from registered medical practitioners for the appointment of a HOUSE SURGEON (A), General and Orthopaedic, now vacant, including practitioners within three months of qualification who are liable to service under the National Service Acts. The appointment will be for a period of six months. Salary is at the rate of £150 per annum, with full residential emoluments. Applications may be sent at once to the undersigned.—H. G. Price, Secretary-Superintendent.

STOCKPORT INFIRMARY (167 beds).—Applications are invited from registered medical practitioners for the post of ASSISTANT RESIDENT SURGICAL OFFICER and CASUALTY OFFICER (B2), now vacant, including R practitioners who now hold A posts. Salary is at the rate of £200 per annum, with full residential emoluments, and the appointment is for six months. Applications to be sent to the undersigned immediately.—H. G. Price, Secretary-Superintendent.

SOUTH LONDON HOSPITAL FOR WOMEN, Clapham Common, S.W.4.—Applications are invited from qualified medical women for the post of JUNIOR PATHOLOGIST, resident or non-resident, for a period of one year from January 1, 1946 Salary £350 resident, £500 non-resident. Applications should be sent to the Secretary by December 8, 1945.

SOUTH LONDON HOSPITAL FOR WOMEN, Clapham Common, S.W.4.—Applications are invited from qualified medical women, including those serving with H.M Forces, for the appointment of FULL-TIME PATHOLOGIST. Salary according to experience but not less than £800 per annum. Applications should be sent to the Secretary by March 9, 1946.

ST. MARK'S HOSPITAL FOR CANCER, FISTULA, AND OTHER DISEASES OF THE RECTUM, City Road, London, E.C.1.—Applications are invited from registered medical practitioners for the appointment of RESIDENT SURGICAL OFFICER (B1), to become vacant on January 1, 1946. Preference will be given to candidates holding a higher surgical qualification. Salary at the rate of £250 per annum, with full residential emoluments, and certain fees. R practitioners holding B2 appointments, and those holding B1 appointments and rejected by the R A.M.C. may apply. Applications to the undersigned as soon as possible.—Raymond Bull, Secretary.

STOCKTON AND THORNABY HOSPITAL, Stockton-on-Tees (135 beds, 3 residents). SENIOR HOUSE SURGEON (B2).—Applications are invited from registered medical practitioners, including R practitioners who now hold A posts, for the above appointment, becoming vacant December 4, 1945. Tenable for six months. Salary £200 per annum, with full residential emoluments. Applications should be sent to the undersigned as soon as possible.—J. Wilkinson, Secretary-Superintendent.

STAMFORD, RUTLAND AND GENERAL INFIRMARY.—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (B2), to become vacant on December 1, 1945, including R practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months. Salary is at the rate of £300 p.a., with full residential emoluments. Applications to the Secretary, H. F. Donald, The Infirmary, Stamford.

THE W. J. SANDERSON EMERGENCY HOSPITAL, North Avenue, Gosforth, Newcastle-upon-Tyne, 3 (162 beds).—Applications are invited from registered medical practitioners for the appointment of a HOUSE SURGEON (A), now vacant. Salary £300 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months, otherwise it may be extended for a further period. Applications should be sent to the undersigned as soon as possible.—Alexander Lawther, House Governor and Secretary.

VICTORIA HOSPITAL, Worksop, Notts.—Applications are invited for the appointment of SURGEON. Applicants must have had extensive experience and possess the Fellowship of one of the Royal Colleges of Surgeons. Consultant practice will be allowed for which there is ample scope. Members of H.M. Forces are particularly invited to apply and should state date of release. Salary £800 per annum rising by annual increments of £50 to £1 000 per annum. Applications may be submitted up to February 28, 1946, and should be addressed to the Secretary-Superintendent.

IMPORTANT—All applicants should read the notice at the top of page 9 about qualifications required.

THE CHILDREN'S HOSPITAL, King Edward VII Memorial, Birmingham, 16. HOUSE PHYSICIAN (A).—Applications are invited from registered medical practitioners, male and female, for the appointment of a House Physician (A) to become vacant on December 24, 1945, including practitioners within three months of qualification who are liable to service under the National Service Acts. The salary is at the rate of £100 per annum with full residential emoluments and the appointment is tenable for six months.

HOUSE PHYSICIAN (B2).—Applications are invited from registered medical practitioners, male and female, for the appointment of House Physician (B2) to become vacant on January 1, 1946, including R and W practitioners who now hold A posts. The salary is at the rate of £100 per annum with full residential emoluments and the appointment is tenable for six months.

Applications for each post should be sent to the undersigned by November 30, 1945.—Arnold Tunstall, House Governor.

WARWICKSHIRE HOSPITALS COUNCIL. VISITING MEDICAL STAFF.—The Warwickshire Hospitals Council invites applications from registered medical practitioners holding appropriate qualifications for the following appointments on the Senior Medical Staff of the Coventry and Warwickshire Hospital, Coventry. Each appointment is remunerated, and the successful candidates will be required to practise exclusively as Consultants in their respective specialities :—

ONE GYNAECOLOGICAL AND OBSTETRIC SURGEON. Salary at the rate of £500 per annum.

ONE (additional) OPHTHALMIC SURGEON. Salary at the rate of £750 per annum (there is already one Ophthalmic Surgeon on the Hospital staff).

ONE ORTHOPAEDIC SURGEON. Salary at the rate of £750 per annum (the Fracture and Traumatic Services of the Hospital are under the direction of a Director of Accident Services; the candidate appointed to the post of Orthopaedic Surgeon will be responsible for the Orthopaedic Service only, but must have some experience in fractures and traumatic surgery).

TWO EAR, NOSE AND THROAT SURGEONS. Salary (each) at the rate of £500 per annum.

TWO RADIOLOGISTS (full-time), one in charge of X-ray Diagnostic Services and one in charge of X-ray Therapeutic Services. Salary (each) at the rate of £1 200 per annum, rising by four annual increments of £200 to a maximum of £2,000 per annum; with ability to receive private patients at the Hospital. Fees for private patients to be shared as to 1/3 to the Hospital.

Each appointment, which will be for a period of five years in the first instance, is subject to the terms and conditions of an Agreement of Service, copies of which may be obtained from the undersigned.

Applications from Service candidates are invited and the above appointments (together with the terms and conditions of the Agreement of Service) are being notified to the Directors-General at the Admiralty, the War Office and the Air Ministry, in order that they may be brought to the notice of medical officers through Service channels. Applications, giving full details as to age, medical training, experience and qualifications, and accompanied by copies of testimonials, must be received not later than March 1, 1946. The successful candidates will be required (subject to release from H.M. Forces of any Service candidate appointed) to take up their appointments on June 1, 1946.—S. Cecil Hill, Warwickshire Hospitals Council, Coventry and Warwickshire Hospital, Coventry.

WEST SUFFOLK GENERAL HOSPITAL, Bury St. Edmund's (191 civilian beds. 244 E.M.S. and reserve beds).—Applications are invited from registered medical practitioners for the following appointments: (i) HOUSE SURGEON (A) with care of Ear, Nose, and Throat Department. Salary at the rate of £175 per annum; (ii) HOUSE SURGEON (B2) with care of Special Departments, including Obstetrics and Gynaecology. Salary at the rate of £200 per annum. Full residential emoluments in each instance. Practitioners within three months of qualification and liable under the National Service Acts may apply for A post, and R practitioners who now hold A posts may apply for B2 post when appointment will be for a period of six months; otherwise for six months with a possibility of renewal at the pleasure of the Committee of Management. Vacancy January 1, 1946. Applications to be sent to E. E. Hardwicke, Secretary.

IMPORTANT NOTICE

APPOINTMENTS

Medical practitioners are requested **not to apply** for any appointment referred to in this notice without first having communicated with the Secretary to the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of the Eire Army appointments, with the Medical Secretary, Medical Association of Eire, 95, Merrion Square, Dublin; and in the case of the Australian appointment, with the Secretary at B.M.A. House, or the Hon. Secretary, Western Australian Branch, Shell House, 205, St. George's Terrace, Perth).

GOVERNMENT SERVICE

ARMY MEDICAL SERVICE OF EIRE.—*(Army, Army Reserve and L.D.F. of Eire, whether in a military or civilian capacity.)*

COMMISSIONER OF PUBLIC HEALTH, Perth, Western Australia.

CONTRACT PRACTICE

ABERTYSSWG MEDICAL AID SOCIETY.—*(Medical Officer.)*

LLWYNYPIA, CLYDACH VALE, PEN-Y-GRAIG, GLAMORGAN.—*(Workmen's Medical Scheme.)*

MID-RHONDDA MEDICAL AID SOCIETY.—*(Assistant Medical Officer.)*

NEATH AND DISTRICT.—*(Medical Aid Association.)*

OGMORE VALLEY, GLAMORGAN.—*(Wyndham Colliery Medical Aid Society.) (Workmen's Medical Scheme.)*

PUBLIC ASSISTANCE

CITY AND COUNTY OF BRISTOL. PUBLIC ASSISTANCE COMMITTEE.—*(District Medical Officer.)*

MENTAL HOSPITAL SERVICE

ROXBURGH DISTRICT MENTAL HOSPITAL, MELROSE.—*(Medical Superintendent.)*

SOMERSET AND BATH MENTAL HOSPITAL, COTFORD.—*(Deputy Medical Superintendent.)*

VOLUNTARY HOSPITAL

NORTHAMPTON GENERAL HOSPITAL.—*(Whole-time Pathologist.)*

By Order of the Council.
CHARLES HILL,
November 6, 1945. *Secretary.*

WATFORD AND DISTRICT PEACE MEMORIAL HOSPITAL (206 beds).—Applications are invited from registered medical practitioners for the post of HOUSE PHYSICIAN (B2), to become vacant in the middle of December. R and W practitioners who hold A posts may also apply, when appointment will be limited to six months. Salary will be at the rate of £200 per annum, with full residential emoluments. Applications should be sent to the undersigned immediately.—H. M. Maskell, Administrator.

THE FOREIGN MISSION OF THE PRESBYTERIAN CHURCH OF WALES.—Wanted, a keen Christian doctor as PHYSICIAN OR SURGEON, higher qualifications desirable, to help resident Superintendent in Mission Hospital, Shillong—premier hospital in Assam, fully equipped for surgery. X-ray, electromedical work, and in association with Provincial Pasteur Institute. Has facilities for all pathological work. Accommodation 130 patients. Practitioners serving with H.M. Forces are invited to apply. Salary £275, free bungalow, doctor covered by insurance scheme. Applications not later than March 3, 1946, to General Secretary, 16, Falkner Street, Liverpool, 8.

WINTERTON EMERGENCY HOSPITAL (1,060 beds).—Applications are invited from registered medical practitioners, male or female, for the appointment of ORTHOPAEDIC HOUSE SURGEON (B2), including R and W practitioners who now hold A posts, when the appointment will be for a period of six months. The salary is at the rate of £200 per annum, with full residential emoluments.

Applications are also invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (A). Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months. Salary at the rate of £120 per annum, plus full residential emoluments.

Applications for each post should be sent to the Medical Officer-in-Charge, Winterton Emergency Hospital, Sedgefield, Stockton-on-Tees.

WALSALL GENERAL HOSPITAL (181 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of CASUALTY OFFICER AND ORTHOPAEDIC HOUSE SURGEON (B2), including R and W practitioners who now hold A posts. If held by an R practitioner the appointment will be limited to six months. Salary is at the rate of £200 a year, with full residential emoluments. Applications should be forwarded immediately to the undersigned.—W. H. Harper, Honorary House Governor.

WARWICKSHIRE KING EDWARD VII MEMORIAL SANATORIUM, Hertford Hill, Near Warwick (239 beds, pulmonary tuberculosis).—Applications are invited from registered medical women, including W practitioners who now hold A posts, for the post of JUNIOR MEDICAL OFFICER (B2) at the above sanatorium. No previous professional experience necessary. Salary £375 per annum plus cost-of-living bonus, with full residential emoluments. Applications to be sent to the Medical Superintendent at the Sanatorium by November 15, 1945.—L. Edgar Stephens, Clerk to the Joint Committee, Shire Hall, Warwick.

WHITEHAVEN AND WEST CUMBERLAND HOSPITAL (voluntary general hospital of 90 beds plus 50 E.M.S. beds with maternity unit, modern fracture clinic, rehabilitation centre, out-patient and casualty departments).—Applications are invited from registered medical practitioners, male or female, for the appointment of HOUSE SURGEON (A), post vacant now, including practitioners within three months of qualification who are liable to service under the National Service Acts. Appointment will be for a period of six months at a salary of £200 per annum, with full residential emoluments. Applications should be sent to the undersigned.—T. W. Lymer, Secretary-Superintendent.

YORK COUNTY HOSPITAL (222 beds).—Applications are invited from registered medical practitioners, male and female, for the appointment of HOUSE SURGEON (A), vacant immediately, whose main duties are in the Eye, Ear, Nose, and Throat Department (37 beds with busy Outpatient Clinics), but who will share in the general work of the hospital, also Casualty Duty, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, appointment will be for a period of six months. Salary is at the rate of £175 per annum, with full residential emoluments. This post is recognized for D.O.M.S. and D.L.O. examinations. Applications to be sent to the undersigned immediately.—J. R. Mackrill, Secretary.

YORK MATERNITY HOSPITAL.—Applications are invited from registered practitioners, including W practitioners who now hold A posts, for the appointment of OBSTETRIC HOUSE SURGEON (B2), vacant January 1. There is a senior medical officer in charge. Duties will consist of work at the Maternity Hospital, attendance at clinics, and such other duties as may be prescribed by the medical officer of health. The appointment will be for six months, and is subject to the Council's Sick Allowance Regulations. Salary at the rate of £200 per annum, with full residential emoluments. A war bonus of 11s. 6d. per week for males and 9s. 3d. per week for females is also paid. Applications, with testimonials, to be forwarded to the undersigned forthwith.—C. B. Crane, M.B., D.P.H., Acting Medical Officer of Health, Health Department, 50, Bootham, York.

THE Medical Defence Union
Established 1885
MUSeum 1337
Annual Subscription £1 MEMBERSHIP EXCEEDS 28,000 *Assets exceed £150,000*
Unlimited indemnity provided against damages and costs in any case undertaken by the Union.
Full particulars from the Secretary (Dr. ROBERT FORBES), The Medical Defence Union, Ltd., 19, Bedford Sq., London, W.C. 1.

CHARGES FOR CLASSIFIED ADVERTISEMENTS

Circulation 55,500

Advertisements should reach the Advertisement Manager not later than the THURSDAY ten clear days before publication.

Cancellation cannot be accepted after 10 a.m. MONDAY for current week's issue.

To economize in accounting, postage and collection, **all advertisements should be paid for at time of order.** Publication will be in the earliest possible issue, but delay is unavoidable in present circumstances.

1. TO MEMBERS OF THE ASSOCIATION the cost of advertisements for Assistants, Dispensers, Locums, Partnerships, *Practices, Secretaries, is ten shillings for 24 words, including name and address. Four figures and £ sign count as one word (example, £2,000). When a Box Number is used, it must be reckoned as six of the total number of words in each advertisement.

1s. *extra* should be added for each insertion to cover the Box fee and postage of replies.

Additional words 2s. 6d. for every six or part.

Please mark advertisements clearly, *MEMBER*.

2. To all other (private) advertisers the charge under the headings specified above, para. 1, is 12s. (minimum) for 24 words, including name and address. Four figures and £ sign count as one word (example, £2,000). When a Box Number is used it must be reckoned as six of the total number of words in each advertisement.

1s. *extra* should be added for each insertion to cover the Box fee and postage of replies.

Additional words 3s. for every six, or part.

*SALE OF PRACTICE. The name and address of owner and of the firm negotiating the sale must accompany the advertisement. Those details are not for publication.

3. Consulting rooms, Dietetic, Duplicating, Hotels, Houses, Miscellaneous, Motor Cars, Typing, the charge is same as para. 2.

Personal, Notices, University and Industrial Appointments, minimum charge of 20s for 24 words, including name and address. Four figures and £ sign count as one word (example, £2,000). When a Box Number is used, it must be reckoned as six of the total number of words in each advertisement.

1s. *extra* should be added for each insertion to cover the Box fee and postage of replies.

Additional words 5s. for every six or less.

Educational, Hospitals, Public Health Appointments, 3s. a line, minimum charge 15s.

Births, Marriages, and Deaths.—The charge for an insertion under this head is 10s. 6d. for 18 words or less. Extra words 3s. 6d. for each six or less. Payment should be forwarded with the notice, authenticated by the name and permanent address of the sender.

BOX NUMBERS.—A Box number is used in place of name and address to conceal identity of advertiser, in no circumstances will this information be divulged by this office. Separate applications should be written to each, addressed Box—, c/o B.M.J. (address as below). All applications are forwarded to the advertiser in plain closed envelopes.

TRADE ANNOUNCEMENTS. 20s. minimum 24 words. Extra words 5s. for six or less.

Every effort is made to ensure the accuracy of advertisements appearing in the Journal. No recommendation is implied by acceptance, and the British Medical Association reserves the right to refuse or interrupt the insertion of any advertisement.

Advertisement Manager, British Medical Journal,
B.M.A. House, Tavistock Square, London, W.C.1.
Telephone: Euston 2111.
Telegrams: Articulate, Westcent, London.

APPOINTMENTS—Hospitals and Public Health, commence at page 9

PERSONAL

ANNUITIES almost tax-free for RETIREMENT, expert advice on best rates and conditions gratis. Young Practitioners should inquire re "Composite Contract," assuring five crucial features.—F. W. Hartley and Co., Annuity Specialists, 65-66, Chancery Lane, London, W.C.2.

DOCTOR'S WIDOW AND DAUGHTER would take entire CHARGE of HOUSE of medical woman or bachelor doctor. Household and surgery duties. Can provide own furniture. Require own rooms. Salary. Light and heat free. Will provide own food and laundry.—Box 4133, B.M.J.

SENIOR CLINICAL PATHOLOGIST with higher qualifications desires TEACHING APPOINTMENT in this subject.—Please send particulars to Box 3975, B.M.J.

NOTICES

APPLICANTS ARE ADVISED not to send original testimonials when replying to advertisements. Copies will answer the purpose quite as well, and in the event of their being lost or mislaid no inconvenience will ensue.

"CAN THE TUBERCULOUS BE TRAINED IN INDUSTRIAL DESIGN, ARTS, AND CRAFTS?"—A Conference for the medical profession and representatives of industry is being held on November 29, 1945, at 2.30 p.m., in B.M.A. House, Tavistock Square, W.C.1. Chairman: The Duchess of Portland. Speakers will include: Mr. Philip James, Director, Council of Arts, Dr. W. C. Fowler, Mr. H. W. Yoxall, Managing Director, *Vogue*. Invitations may be obtained from the Social Welfare Secretary, N.A.P.T., Tavistock House, W.C.1.

NATIONAL UNIVERSITY OF IRELAND APPOINTMENTS COMMITTEE can recommend a limited number of suitably qualified Medical Graduates as Locum Tenentes, Assistants, or House Surgeons. Medical men or Hospitals who require such services should apply, giving full particulars to the Secretary, Appointments Committtee, N.U.I., 86, St. Stephen's Green, Dublin. Telephone 51793.

THE FACT THAT GOODS made of raw materials in short supply owing to war conditions are advertised in this *Journal* should not be taken as an indication that they are necessarily available for export.

UNIVERSITY AND INDUSTRIAL APPOINTMENTS

APPLICATIONS are invited from registered medical practitioners, including those in H.M. Forces, for the post of WHOLE-TIME INDUSTRIAL MEDICAL OFFICER to a large engineering firm in the West of Scotland, within 10 miles of Glasgow. Candidates should preferably be under 35 years of age, and previous experience in industrial medicine is not necessary. This is a permanent post with good prospects, and is pensionable. The commencing salary will not be less than £1,000 p.a. Applications should be submitted before February 13, 1946.—Box 3052, B.M.J.

APPLICATIONS are invited from registered medical practitioners, including those in H.M. Forces, for the post of WHOLE-TIME ASSISTANT INDUSTRIAL MEDICAL OFFICER in a heavy industry. Candidates should be experienced, but not necessarily in industrial medicine. The post is permanent and pensionable. Salary £800 per annum. Applications should be submitted with at least two recent testimonials before March 1, 1946.—Box 4013, B.M.J.

EXAMINING SURGEONS: Factories Act, 1937.—The following appointment as Examining Surgeon under the Factories Act, 1937, is vacant: Garstang, in the County of Lancaster. Applications, which should be received not later than November 28, 1945, should be sent to the Chief Inspector of Factories, 8, St. James's Square, London, S.W.1.

UNIVERSITY OF ST. ANDREWS.—The University Court of the University of St. Andrews, in association with the Directors of the Dundee Royal Infirmary, invites applications for the post of LECTURER IN ORTHOPAEDICS in the University and SURGEON IN CHARGE of the Department of Orthopaedics of the Infirmary. Applications are also invited from Service candidates. By arrangement, the Lecturer will act as Orthopaedics Officer to the Corporation of Dundee, the County Council of Angus, the County Council of Perth, the Town Council of Perth, and the Town Council of Arbroath. He will also be given an honorary appointment by the Department of Health for Scotland as Visiting Orthopaedic Surgeon to Stracathro E.M.S. Hospital. Suitable professional assistance will be provided as the scheme develops. The stipend for the combined offices (inclusive of travelling expenses) will be £1,250 per annum, and the Lecturer may engage in private practice as an Orthopaedic Surgeon in so far as this does not interfere with the discharge of the duties of the above appointments. Applications, supported by testimonials and/or references, will be received up to January 29, 1946. If desired, further information may be obtained on application to the undersigned.—David J. B. Ritchie, Secretary to the University of St. Andrews, the University, St. Andrews.

UNIVERSITY OF ST. ANDREWS.—The University Court of the University of St. Andrews invites applications for the BUTE CHAIR OF ANATOMY in the United College, St. Andrews. The stipend attached to the Chair is £1,450 per annum. Further particulars may be obtained from the undersigned with whom applications should be lodged not later than March 31, 1946. The date on which the appointment will take effect has been left open to meet the case of applicants now serving with the Forces but will not be later than October 1, 1946.—David J. B. Richie, Secretary, the University, St. Andrews.

UNIVERSITY OF DURHAM. King's College, Newcastle-upon-Tyne.—Applications are invited for the post of TEMPORARY DEMONSTRATOR IN PHYSIOLOGY in the Medical School of King's College. Salary £300/£400 per annum according to qualifications and experience. Duties to commence on January 7, 1946, or, if the successful applicant is now serving in H.M. Forces or on other national service, on release. Ten copies of applications, with the names of not more than three persons to whom reference may be made, should be sent not later than November 30, 1945, to the undersigned from whom further particulars may be obtained.—G. R. Hanson, Registrar of King's College.

UNIVERSITY OF LIVERPOOL. ASSISTANT in the Department of Pathology.—Applications are invited from registered medical practitioners, male or female, for the above appointment. The successful applicant will share in the general work of the department and in particular assist in the maintenance of the pathological register of the Liverpool Cancer Control Organization. The appointment will be for one year in the first instance. Salary at the rate of £450 to £650 per annum, according to experience and qualifications. Applications should be received not later than November 30, 1945, by the undersigned, from whom particulars may be obtained.—Stanley Dumbell, Registrar.

EDUCATIONAL

F.R.C.S.(EDIN.)

POSTAL AND ORAL COURSES continued as usual. Full details.—H. C. Orrin, F.R.C.S., Surgeons' Hall, Edinburgh.

EDINBURGH POSTGRADUATE BOARD FOR MEDICINE. — FORTNIGHTLY REFRESHER COURSES primarily for demobilized medical officers (Class 2) will commence on Monday, November 12, and Monday, December 3, 1945. It is hoped to commence a TEN-WEEK COURSE in INTERNAL MEDICINE on Monday, January 7, 1946. Applications to Secretary, Postgraduate Medical Board, University New Buildings, Edinburgh, 8.

EAR, NOSE, AND THROAT WEEK-END COURSE, Saturday and Sunday, December 8 and 9. For general practitioners. Apply Fellowship of Postgraduate Medicine, 1, Wimpole Street, W.1. Langham 4266.

GYNAECOLOGY WEEK-END COURSE at South London Hospital for Women, Clapham Common, S.W.4. All day Saturday and Sunday, December 15 and 16. Limited.—Apply Fellowship of Postgraduate Medicine, 1, Wimpole Street, London, W.1. Langham 4266.

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE. Incorporating The Ross Institute. COURSE OF INSTRUCTION IN TROPICAL MEDICINE AND HYGIENE.—The next course of instruction will open on January 7, and close on May 24, 1946. It will include instruction in Clinical Medicine, Parasitology, Bacteriology, Pathology, Physiology and Hygiene in relation to the aetiology, diagnosis and prevention of tropical diseases, and is designed primarily to prepare qualified medical practitioners for the examination of the Conjoint Examination Board for the Diploma in Tropical Medicine and Hygiene. The fee for the whole course is £40, exclusive of the examination fee payable to the Conjoint Examination Board.

Applications for admission to the course, or requests for further information should be sent to The Registrar, London School of Hygiene and Tropical Medicine, Keppel Street, London, W.C.1.

L.M.S.S.A. FINAL EXAMINATIONS. Surgery, Jan. 14, Feb. 11, Mar. 11. Medicine, Pathology, Jan. 21, Feb. 18, Mar. 18. Midwifery, Jan. 22, Feb. 19, Mar. 19.—For particulars apply Registrar, Apothecaries Hall, Blackfriars Lane, E.C.4.

MEDICINE AND SURGERY WEEK-END COURSE at the North Middlesex County Hospital, Silver Street, N.18. All day Saturday and Sunday, December 1 and 2. Limited.—Apply to Fellowship of Postgraduate Medicine, 1, Wimpole Street, London, W.1. Langham 4266.

NEUROLOGY (M.R.C.P.) COURSE at West End Hospital for Nervous Diseases, Welbeck Street, W.1. Mondays, Tuesdays, Fridays at 2.30 p.m., November 19 to December 14.—Apply Fellowship of Postgraduate Medicine, 1, Wimpole Street, London, W.1. Langham 4266.

POSTGRADUATE STUDY Diploma of Anaesthetics; Diploma in Psychological Medicine; Diploma in Ophthalmology; Diploma in Radiology; Diploma in Larynology; Diploma in Child Health; F.R.C.S.Eng. and all Surgical Examinations; M.R.C.P.Lond. and all Medical Examinations; M.D. Thesis of all Universities; Courses for all Qualifying Examinations. Complete Guide to Medical Examinations sent free on application. Applicants should state in which qualification they are interested Address: Secretary, Medical Correspondence College, 19, Welbeck St., London, W.1.

POSTAL COACHING for all Medical Examinations. Some successes from 1901-1944: M.D.Lond., 440; M.B., B.S.Lond., final, 386; M.R.C.S.Eng., primary, 365; F.R.C.S.Eng., final, 262; M.R.C.P. Lond., 365; M.R.C.S., L.R.C.P., final, 815; D.A. (1936-44), 72; F.R.C.S.Edin. and D.R.C.O.G., many successes Assistance with M.D. thesis. Special arrangements for medical officers with Forces. Medical prospectus (24 pp.) gratis, along with list of Tutors, etc., on application to the Principal. — University Examination Postal Institution, 17, Red Lion Square, London, W.C.1. Phone: HOLborn 6313.

THE BEDFORD PHYSICAL TRAINING COLLEGE, 37, Lansdowne Road, Bedford. Principal, Miss C. M. Read. Vice-Principals, Miss D. M. Wilkie, Miss M. V. Lace. Students are trained to become teachers of all branches of physical education. The training extends over three years, and includes educational and remedial gymnastics, games, dancing, swimming, and allied theoretical subjects. Fees, £186 per annum. Two scholarships of £50 and two of £25 are offered annually. For particulars apply Secretary.

POSTGRADUATE STUDY instruction is arranged in medical, surgical, and special subjects, as circumstances permit. Information and advice obtainable from the Fellowship of Postgraduate Medicine, 1, Wimpole St., London, W.1. • Langham 4266.

ROYAL COLLEGE OF PHYSICIANS OF LONDON

The next EXAMINATION for the MEMBERSHIP will commence on MONDAY, DECEMBER 31, 1945. Candidates are asked to note the change of date of the Examination and are required to give at least tweny-one days' notice in writing to the Registrar of the College. The last day for receiving entries accompanied by the certificates and testimonials required by the bye-laws is, therefore, Monday, December 10, 1945. Candidates who propose to submit published work under the regulations are required to give twenty-eight days' notice and should apply in writing to the Registrar, without delay, for detailed instructions as to the procedure they should follow. The last day for receiving completed entries for published work is Monday, December 3, 1945.—H. E. A. Boldero, D.M., Registrar, Pall Mall East, London, S.W.1.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

LICENCE IN DENTAL SURGERY

Notice is hereby given that the following Examinations will commence on the dates stated below:

FIRST PROFESSIONAL EXAMINATION.
Monday, December 10.
SECOND PROFESSIONAL EXAMINATION.
Tuesday, December 11.

Candidates who have fulfilled the necessary conditions, and who desire to present themselves for examination, must give notice in writing to the Director of Examinations, Examination Hall 8-11, Queen Square, London, W.C.1, at least 21 days before the Examination, transmitting at the same time such certificates as may be required by the regulations, together with the full amount of the fee for the Part or Parts of the Examination for which they desire to enter.

Horace H. Rew, Director of Examinations.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

ELECTION TO THE COURT OF EXAMINERS

Notice is hereby given that the Council on February 14, 1946, will elect five members of the Court of Examiners. The examiners retiring in rotation are Mr. Neil Sinclair, Mr. W. D. Doherty, Mr. A. Hedley Whyte, Mr. J. B. Oldham, and Mr. B. H. Burns, all of whom are eligible and seek re-election. Fellows of the College desirous of becoming candidates for the office must make application in writing to the Secretary on or before Monday, *December 3, 1945.—Kennedy Cassels, Secretary.*

ASSISTANTSHIPS VACANT

WANTED, ASSISTANT with or without VIEW. North Midlands town. Mixed practice, panel about 3,000. Unfurnished accommodation if required.—Box 4009, B.M.J.

WANTED, OUT-DOOR ASSISTANT, either sex, preferably single, for country practice, Shropshire. Cottage hospital. Must own car. No objection newly-qualified. £800 per annum.—Box 4007, B.M.J.

WANTED, immediately, indoor British male ASSISTANT, rural practice, able to drive, two partners, dispenser, salary by arrangement.—Dr. Miall, Paulton, Bristol.

WANTED, URGENT, ASSISTANT, married, British. Furnished house, branch. Good prospects, view partnership, salary arranged.—147, Narborough Road, Leicester.

WANTED DECEMBER, ASSISTANT, Scot or English, male or female, single, mixed G.P. Opportunity for experience in all types of practice, including *midwifery. Salary according to experience, in*door at present. Car provided. Sheffield suburbs and rural area.—Box 3957, B.M.J.

WANTED by partnership in Northern Cathedral city energetic MALE ASSISTANT with definite VIEW, after six months, to share whose present value is £1,500 gross. Salary according to experience, not less than £650. Unfurnished house.—Box 3761, B.M.J.

WANTED, OUTDOOR ASSISTANT, British, with VIEW in old-established practice on outskirts of large Lancashire town, pleasant surroundings, car allowance.—Box 3775, B.M.J.

WANTED, ASSISTANT, with definite VIEW to partnership in a country practice in North Midlands. No collieries. Hospital. Share worth £1,300 available at first. House and separate surgeries.—Box 3817, B.M.J.

WANTED, British male ASSISTANT, North Cheshire practice. Experience in G.P. essential. House if required. Car allowance and generous salary.—Box 3808, B.M.J.

WANTED, outdoor ASSISTANT, either sex, in *country district in the Midlands. Unfurnished house* provided, car essential. Salary by arrangement.—Box 4022, B.M.J.

WANTED, ASSISTANT in a country practice South Oxfordshire. Outside accommodation available. A salary of £12 12s. a week is offered and car allowance. Partnership will be considered after preliminary assistantship.—Box 4026, B.M.J.

WANTED, qualified young British ASSISTANT. Harrogate. Live in. Full particulars on application.—Box 4105, B.M.J.

WANTED, experienced MALE ASSISTANT (British) with VIEW partnership or succession in old-established, mixed, town and country practice. N.E. Coast. Car and furnished flat available. Good salary by arrangement.—Box 4123, B.M.J.

WANTED, immediately, indoor and outdoor ASSISTANTS for town and country practices with and without view to partnership, also Locums, good salaries offered, state full particulars.—British Medical Bureau, 33, Cross Street, Manchester, 2.

WANTED, OUTDOOR ASSISTANT, town and country practice South-West Devon, car provided. Salary by arrangement.—Box 4125, B.M.J.

WANTED, ASSISTANT, male or female, single, live in, with VIEW to early partnership, for country practice in Yorkshire. Little night work or midwifery. Partnership free if satisfactory after twelve months.—Box 4122, B.M.J.

ASSISTANT, with VIEW to PARTNERSHIP, required for large practice in semi-rural area near Manchester. Secretary-dispenser kept. Good hospital facilities. Car provided during assistantship. Salary according to experience.—Box 4126, B.M.J.

ASSISTANT WANTED. East Anglian rural practice. Accommodation available, single or married man. Partnership considered after short assistantship. Allowance for own car. House available later.—Box 4024, B.M.J.

ASSISTANT WANTED. Young English graduate preferred, able to anaesthetize. South-West school town. Unfurnished house available. Car not essential.—Box 3978, B.M.J.

ASSISTANT WANTED in pleasant South Coast town, mixed practice, single, male, car provided, or car allowance.—Send particulars to Box 3984, B.M.J.

ASSISTANT WANTED immediately, large mixed practice South-East London. Unfurnished house available. Salary by arrangement.—Dr. Livingstone, 34, Charlton Road, Blackheath, S.E.3 (Greenwich 0639.)

ASSISTANT with VIEW, male, under 35, British. Town 40 miles from London. Two partners. Car essential.—Box 4017, B.M.J.

ASSISTANT, male, British, wanted immediately for Westmorland country practice. Small (furnished) house. Car or car allowance. Good salary.—Box 4118, B.M.J.

ASSISTANT for practice in London suburb. Ex-Service preferred. Car and full board provided. Salary by arrangement. Share of £1,300 in partnership available if desired.—Box 4020, B.M.J.

ASSISTANT WANTED, British, single, male, for a pleasant South Derbyshire village, near large towns, non-colliery, work light. Board, lodging, car provided. Salary £500 to start.—Box 3972, B.M.J.

ASSISTANT REQUIRED, immediately, British, either sex, in mixed country practice, 30 miles from London. Midwifery experience desirable. Salary by arrangement. Possible partnership later. Good furnished house available.—Write, stating full particulars, to Drs. Bates, Hamilton, and Goodwin, West Malling, Kent.

ASSISTANT WANTED for three months, commencing during November, dispensers kept, car provided, salary £60 monthly all found.—Box 3764, B.M.J.

ASSISTANT WANTED for mixed general practice in South Wales town, agricultural district.—Apply, stating experience, to Box 3762, B.M.J.

ASSISTANT OR LOCUM, either sex, industrial and country practice. Car available or allowance. Dispenser employed. No branch surgeries.—Dr. Lewis, Hoyland Common, Barnsley.

DEVON, ASSISTANT, either sex, wanted immediately for pleasant country practice. Light work, few night calls. Own car preferred.—Dr. Mainprise, Holcombe Rogus, Wellington, Som.

LANCASHIRE COAST resort. Wanted, MALE ASSISTANT for good class mixed general practice. Own car preferred.—Box 3956, B.M.J.

OUTDOOR ASSISTANT, with VIEW, £650; or consider long term without view if preferred. Scottish West Coast town. Excellent prospects keen worker.—Box 3989, B.M.J.

PERMANENT ASSISTANT. *VIEW succession if* desired. British, able to drive, experienced general practice and midwifery. Indoor at first (own sitting room). Car or car allowance. All found. Practice mixed, district mainly working class, panel over 2,000.—Box 4027, B.M.J.

PART-TIME ASSISTANT REQUIRED, South West London suburb, morning and evening surgeries. Some visiting. Male or Female. Car provided.—Box 3964, B.M.J.

REQUIRED immediately, full-time indoor ASSISTANT, male, single. With or without VIEW, car supplied, all found, excellent salary.—Box 3844, B.M.J.

SURREY, ASSISTANT, capable of undertaking surgery, wanted with VIEW to PARTNERSHIP in six months, in better-class practice in residential area. Unfurnished house available.—Box 4127, B.M.J.

TWO WOMEN DOCTORS require PART-TIME WOMAN ASSISTANT in London (Eastern suburb) for winter months.—Box 4023, B.M.J.

ASSISTANTSHIPS WANTED

WANTED, ASSISTANTSHIP with VIEW to purchase. Aberdeen M.B., Ch.B., married, demobilized December. Mainly hospital experience, including anaesthetics. Hard worker. Large rural or semi-rural practice preferred. Large furnished or unfurnished house. Abstainer, non-smoker, good driver. Interview gladly. Please state probable salary and allowances.—Duncan, West Balhalgardy, Inverurie, Aberdeenshire.

M.B. Ch.B.,Liverpool, aged 31, now released R.N.V.R., requires ASSISTANTSHIP with VIEW in good-class practice. Own car. Furnished accommodation for wife and infant essential.—Box 4101, B.M.J.

WANTED, OUTDOOR ASSISTANTSHIP, London area, preferably with VIEW. Captain R.A.M.C., 31, British (Jewish), qualified January, 1937, married, one child, G.P. and hospital experience, demobilization end November, accommodation essential.—Box 3968, B.M.J.

WANTED, by experienced woman practitioner, OUTDOOR ASSISTANTSHIP, preferably with VIEW for self and husband after demobilization. North-West area preferred. Free January. Driver.—Box 3771, B.M.J.

ASSISTANTSHIP WITH VIEW country practice South-West England by doctor just demobilized, aged 33, wife also doctor, would like rent unfurnished house.—Box 3953, B.M.J.

DOCTOR, now demobilized and free, requires ASSISTANCY in G.P., country town in S. or S.W. preferred. Married, 35, and requires a house. Partnership considered.—Box 3974, B.M.J.

ELDERLY LONDON PRACTITIONER would ASSIST surgeries mornings or afternoons, also visits.—Box 3983, B.M.J.

EXPERIENCED DOCTOR, Squad. Ldr., R.A.F., married, recently demobilized, wishes to ASSIST busy doctor in or around Brighton or Plymouth with or without VIEW.—Replies Box 4018, B.M.J.

EXPERIENCED DOCTOR, M.B., B.Ch., L.M., postgraduate student, wants EVENING SURGERIES Liverpool area.—Box 4001, B.M.J.

LADY DOCTOR requires ASSISTANTSHIP within a radius of approximately 5 miles of Southport, Lancashire. Whole or part-time. Own car and house.—Box 4006, B.M.J.

M.B. DURHAM, 6 years, ex-R.A.M.C., requires ASSISTANTSHIP with VIEW and small house and car. Available now.—Box 3993, B.M.J.

MANCHESTER M.B., aged 26, varied G.P. experience, owner-driver, requires ASSISTANTSHIP with self-contained married quarters.—36, Staverton Rd., London, N.W.2.

PART-TIME ASSISTANTSHIP wanted by woman doctor, 6 years' experience general practice, hospitals. Own car. N.W. and W. London.—Box 4016, B.M.J.

SCOTTISH GRADUATE, aged 39, now demobilized, seeks ASSISTANTSHIP with VIEW partnership or succession. Experienced own practice, and seven years tropics, civil, and senior administrative. Would consider industrial appointment.—Box 4028, B.M.J.

SURGEON REQUIRES ACCOMMODATION in return for ASSISTANTSHIP evenings and weekends or as paying guest, central London area.—Box 3981, B.M.J.

WOMAN DOCTOR requires ASSISTANTSHIP, surgeries only. London area. Married, one child. Accommodation with garden essential. Free February.—Box 3986, B.M.J.

LOCUMS

ADVERTISER recently sold practice would TAKE CHARGE, or act as LOCUM good-class practice, long term. Thoroughly experienced. Own car.—Box 4025, B.M.J.

LOCUM WANTED from Dec. 21 for 1 week. 16 gns. all found, fare paid.—Dr. Posner, 25, Hylton Road, Sunderland, Co. Durham.

LOCUM WANTED for 2 weeks end of November. Able to drive car. Busy practice outside Bournemouth.—Box 4000, B.M.J.

M.D. AVAILABLE for SHORT LOCUMS, South-West England.—Espine Ward, Grahams Hill, Owermoigne, Dorset.

PARTNERSHIPS

WANTED, JUNIOR PARTNER, N.E. Coast seaside resort. Good house available.—Box 3999, B.M.J.

WANTED, PARTNERSHIP or SUCCESSION in Devon or Cornwall, preferably near coast, income £1,000 to £1,500, by Wing Commander, R.A.F.V.R., age 30, married, energetic and experienced, own car. House to rent essential. Free end December.—Box 4008, B.M.J.

WANTED, PARTNERSHIP by Irish doctor. Within thirty miles London. House essential Cash available.—Box 4014, B.M.J.

BUSY PRACTICE, South Coast town. Average gross receipts £4,000. HALF SHARE for sale. Two years' purchase.—Box 3792, B.M.J.

FOR SALE, 11/21 SHARE of deceased partner Midlands mining town, average for three years £4,900, panel and clubs £3,500. Two years' purchase or best offer. Cash essential. Modern house and surgeries, price £4,000, or rent, £200 plus rates.—Box 3969, B.M.J.

ONE-THIRD SHARE of £5,600 (increasing) N.W. London suburb. Incoming partner must be British, 30 to 45, experienced in G.P., panel, dispensing, midwifery, etc. Well-appointed 6-room detached house, unfurnished, for sale or rent. Premium by arrangement. Good terms for first-class man. *Minimum original capital £1,500 to £2,000 desirable.*—Box 4119, B.M.J.

PARTNER REQUIRED in large Yorkshire town. 5/12 share available at 2 years' purchase. Accountant's figures 1942 £3,526, 1943 £3.892, 1944 £4,083, including panel and contract £700, appointments £500. Vendor's house available after short preliminary assistantship.—Box 3803, B.M.J.

PARTNERSHIP REQUIRED by M.B., Ch.B. (Glasgow), aged 34, married, hospital and general practice experience, excellent testimonials, free now.—Box 3991, B.M.J.

PARTNERSHIP WANTED, country practice South-West England by doctor, aged 33, just demobilized, wife also qualified, would like rent unfurnished house.—Box 3952, B.M.J.

PARTNER (married) REQUIRED, following preliminary assistantship, to commence not later than January. Experienced. Post-graduate qualification preferred. Prospect of hospital appointment. East Midland market town, some industry. Area pop. approx. 30,000. Two-partner practice. Senior retiring. Gross income approx. £5,700. Panel just under 3,000. Good house (unfurnished) to rent, garden, garage, residential district. Modern joint surgery at rear. Accommodation during assistantship. With view to ONE-THIRD of practice to commence.—Box 3529, B.M.J.

PARTNER WANTED for large mixed old-established practice (Monmouthshire). Two young partners at present, hospital appointment, good scope for all branches hospital work. Preliminary assistantship desirable, one year's purchase 1/4 share. Practice expanding rapidly, excellent investment.—Box 4116, B.M.J.

PARTNER (British) wanted in first-class old-established practice in Kent, applicant must be well qualified, preference for one holding F.R.C.S., or M.D., or M.R.C.P., or M.R.C.O.G. qualification, excellent modern house and garden available, SHARE producing £1,500 suggested to commence with.—Apply Box 3274, B.M.J

PARTNER REQUIRED. Ophthalmic practice in Northern town, with hospital appointments. Receipts last year £4,000. 1/3 share in first place. —Age and particulars to Box 3823, B.M.J.

PARTNERSHIP offered at exceptional terms after shortest possible assistantship in war-depleted practice. Own car essential. Exchange particulars. Box 4113, B.M.J.

TRINITY COLLEGE, Dublin, M.B., D.P.H., 33 years, married, 2 children, Church of England, 6 years English practice (2 years' hospital, 4 years' general practice) at present in practice and on staff hospital, requires PARTNERSHIP in select PRACTICE. London, South or South West counties, minimum income £2,000.—Box 3973, B.M.J.

SALE, HALF SHARE £3,000 practice, South Wales seaport. Established over forty years.—Box 3982, B.M.J.

MEDICAL POSTS

A SECRETARY with some knowledge of medical sciences is wanted in the Department of Pharmacology, Oxford. Main work would be preparation of abstracts of medical literature. There would be opportunity for doing biological work, either learning methods or research. Post might suit someone wishing to become a medical journalist. Salary according to experience. Maximum £500 p.a. Applications should be made to the Board of the Department.

COLONEL, late R.A.M.C., aged 39, demobilized, desires APPOINTMENT or employment, administrative or professional, anywhere in British Empire. Progressive country with scope hard work and initiative. Own practice London disappeared during war. University degrees. Experienced consulting, G P., industrial medicine, general surgery, and E.N.T., hospital administration, tropical medicine. Extensive experience military and civil medical organization and administration. Civil experience includes medical relief and rehabilitation, all medical services European country. Adequate remuneration essential.—Box 4111, B.M.J.

COLONEL, R.A.M.C., demobilized, desires FULL-TIME APPOINTMENT. Age 56. 16 years' G.P., experience hospital administration, and with P.O.W. —Box 3772, B.M.J.

SQUADRON LEADER R.A.F.V.R., aged 34, release early November, requires PRACTICE or ASSISTANTSHIP, with or without VIEW, Devon or Cornwall, house required, own car available.—Box 4121, B.M.J.

PRACTICES

WANTED, RURAL PRACTICE, Yorkshire preferred, definitely not industrial, about £1,000 p.a. Good freehold detached house with large garden essential. Ample capital available.—Box 3992, B.M.J.

WANTED, by ex-Service M.O. for end December, PRACTICE doing approximately £1,500, predominantly panel. Good house to rent essential.—Box 4114, B.M.J.

WANTED, by demobilized M.B. Ch.B., mixed PRACTICE London area, about £2,000, with scope. —Box 4019, B.M.J.

WANTED, by practitioner of 20 years' standing, good PRACTICE or PARTNERSHIP in London or South Coast resort. Strictest confidence. Capital available.—Box 4128, B.M.J.

WANTED, urgently, general PRACTICE or Partnership, returns £1,500 approximately, house to rent, capital available.—Box 3846, B.M.J.

COUNTRY PRACTICE, small, for sale, panel £220, together or separately with very good modern house, two acres of garden, hard tennis court. Lovely situation.—Box 3976, B M J.

DEATH VACANCY. Immediate sale old-established private PRACTICE, medium panel. Excellent prospects for surgeon. Gross receipts 1944 over £1,600. Audited accounts available. Progressive Lancs. town bordering country. Population 40,000. Good original house, surgery, and garage.—Box 3852, B.M.J.

DEATH VACANCY. West Riding industrial town; income averages £2,613, panel over 2,000, 1 year's purchase, modern house with garden for sale, surgery attached.—Box 3850, B M.J.

ADVERTISER who sold his house and practice in 1939 to enlist is now looking for a PRACTICE or SHARE producing £1,250 to £2,000 with HOUSE of about 5 bedrooms to rent (option of later purchase). Advertiser 44 years old, married with family, experienced, qualified 20 years, healthy, now demobilized and free. Capital available. Country or small market town preferred in Norfolk, Midlands or North Wales.—Box 3955, B.M.J.

EX-R.A.M.C. OFFICER wishes to purchase for cash good-class, non-dispensing, non-panel PRACTICE. Net income around £1,800. Accountant's figures essential. Preliminary assistantship followed by short partnership preferred.—Box 4011, B.M.J.

EASILY-WORKED GENERAL PRACTICE in Midland town for sale. Average receipts last 3 years £1,325. Good house and garden to rent. Premium £2,000 cash.—Box 3988, B.M.J.

FOR SALE, well-established WOMAN'S PRACTICE, North East Scotland. Panel and private. Rented professional rooms available.—Box 3970, B.M.J.

FOR SALE, well-established, very steady PRACTICE in Lancashire town. Gross takings over £4,000 per annum, including panel over 3,800, and appointments £300. Good house with garden for sale or rental. Entire practice or half-share available as desired. Premium 1¼ years' purchase.—Bov 4129, B.M.J.

FOR SALE, through illness, old-established PRACTICE near Manchester. Worked by vendor for past nine years. Taking £2,000 per annum, increasing. Premium approximately 1¼ years.—Box 4029, B.M.J.

FOR SALE, well-established MEDICAL PRACTICE in populous area in Glasgow, with or without suitable house. Panel list 1,600.—Apply Crawford, Herron and Cameron, Solicitors, 257, West George Street, Glasgow, C.2.

FOR SALE easily worked old-established PRACTICE, seaside town, North Wales, average income £1,008 p.a. including £400 panel, hospital facilities, excellent house and professional offices to rent, vendor retiring, premium 1¼ years.—Box 4015, B.M.J.

FOR SALE, woman's PRACTICE and appointments. £850. No panel or midwifery. Surrey suburbs. House available. Price £1,000. Good scope.—Box 4103, B.M.J.

FOR SALE, small country PRACTICE. Dorset. Panel £220. Plenty of scope. Good terms for quick sale. Retiring owing to ill health.—Box 3998, B.M.J.

FOR SALE, rural PRACTICE in Derbyshire. Gross receipts £2,000. Family house, garden and garage. —Box 3845, B.M.J.

FOR SALE, Lincolnshire seaside town, well-established private and panel PRACTICE. Panel 1,400. Average audited receipts last three years £2,280 and increasing. Premium 1¼ years' purchase. Freehold house for sale.—Box 3960, B.M.J.

FOR SALE, general PRACTICE doing £1,750; panel 1,600, immense scope; 12 miles north-east of Charing Cross—Box 3586, B.M.J.

FOR IMMEDIATE SALE, old-established medical PRACTICE in South Wales.—J. F. Morris, Son & Lloyd, Solicitors, Carmarthen, South Wales.

FOR SALE, PRACTICE, within 30 miles London, in nice surroundings, over £4,000 per annum, 2,000 panel, good fees, eminently suitable two partners or married couple although always run with an assistant. Plenty of scope; good accommodation.—Box 3548, B.M.J.

GENERAL PRACTICE in Scottish border town with house and surgery. Substantial closed panel list and excellent opportunities for private practice. —Particulars from Drummond and Reid, S.S.C., 32 Moray Place Edinburgh.

LONDON, N.W.2. Service doctor, intending to specialize, wishes to dispose without premium non-panel PRACTICE, yielding £1,600 in 1939, to purchaser of residence. Enormous scope for increase. Consulting room with furniture, and unfurnished three-room flat available immediately, remainder of house within two years.—Box 4107, B.M.J.

MAIDENHEAD DISTRICT. PRACTICE or ASSISTANTSHIP required by married ex-Service doctor. Prepared to find own accommodation.—Box 4112, B.M.J.

NORTH SCOTLAND. Wanted May, 1946, on demobilization, country or country-town PRACTICE. Gross income £1,200 approx. House with garden, rent preferred. Capital.—Box 3987, B.M.J.

OPHTHALMIC SURGEON (woman) requires PRACTICE within two hours of London, with scope for surgery. All information confidential.—Box 4021, B.M.J.

PRACTICE FOR SALE, Manchester, over £3,000, audited. Panel 1 900. Premium 1½ years. House for sale.—Box 3995, B.M.J.

PRACTICE WANTED. Released doctor with capital desires purchase practice South West England. Income about £2,000. Good house rent preferred.—Box 3958, B M.J.

STAFFORDSHIRE TOWN. PRACTICE for sale; mixed, panel and private. Gross income £5,000. Panel 2,500 and clubs. House freehold. Strongly recommended.—Apply: "Staffordshire", c/o 144, Edmund Street, Birmingham.

SOUTH DERBYSHIRE.—Flourishing old-established colliery and rural PRACTICE, unopposed; panel about 1,600; good private and club. Total gross receipts exceed £2,500 per annum. Three months' introduction. Special reason for sale.—H. Gompertz, Evans and Mason, Chartered Accountants, 235, Pershore Road, Birmingham, 5.

DIETETIC, DISPENSING, TYPING, SECRETARIAL, RECEPTION, ETC.

None of the vacancies for women advertised in these columns relates to a woman between the ages of 18 and 40 inclusive, unless she is exempted from the provisions of the Control of Engagement Order, 1945, or the vacancy is for employment excepted from the provisions of that Order.

WANTED, DISPENSER-BOOKKEEPER before December 1 for country practice in West Suffolk.—Write giving full particulars to Dr. Batt, Wickhambrook, near Newmarket.

WANTED, LADY DISPENSER-RECEPTIONIST for partnership of three, at, or shortly before, New Year. Furnished accommodation can be arranged. —Dr. Cook, Uplyme, Lyme Regis.

WANTED, qualified DISPENSER-BOOKKEEPER (female), able to do simple dressings.—Dr. Ablett, Whitehaven, West Cumberland.

WANTED, private and personal SECRETARY by woman consultant. Older woman preferred. Light post.—Box 4104, B.M.J.

A.T.S. ADJUTANT, aged 26, recently released, desires position as SECRETARY-RECEPTIONIST to doctor, preferably London or Southern England. Experienced in secretarial duties and bookkeeping, with sound knowledge of administration.—Box 4115, B.M.J.

DISPENSER BOOKKEEPER REQUIRED for single handed practice in small country town.—Beckett, High St., Manningtree, Essex.

DISPENSER-SECRETARY requires POST beginning December. Three years' experience in general practice. Apothecaries' Hall certificate.—Box 3985, B.M.J.

DISPENSER-SECRETARY requires POST, South Devon preferred, twelve years one practice. Hall certificate, thoroughly competent all branches dispensing, shorthand, typewriting, bookkeeping, unfurnished accommodation essential.—Box 3990, B.M.J.

DISPENSER REQUIRED for combine of doctors in Hampshire. Hall certificate. Two dispensers employed.—Box 4109, B.M.J.

DISPENSER-BOOKKEEPER REQUIRED immediately.—Dr. Little, Walsingham, Norfolk.

DOCTOR'S WIFE, 25, exempt, adaptable, desires permanent RESIDENTIAL post as RECEPTIONIST-SECRETARY. Bookkeeping, typing, some nursing experience.—Box 4120, B.M.J.

EX-A.T.S. AMBULANCE driver, as RECEPTIONIST to doctor, adaptable and tactful. London or Eastern Counties, free now.—Box 4005, B.M.J.

EX-A.T.S. (F.A.N.Y.) seeks POST with doctor. First aid and home nursing certs. Short course bookkeeping. Drive and maintain car. London or Home Counties.—Box 4004, B.M.J.

EXPERIENCED SECRETARY (B.R.C.S.) requires country post with doctor; good references; car-driver; free shortly.—Box 3578, B.M.J.

LADY, experienced, seeks post as RECEPTIONIST to doctor or dentist, clerical knowledge.—Box 4010, B.M.J.

LADY, 30, requires post RECEPTIONIST/SECRETARIAL, January, experienced, typing, no shorthand. Intelligent, adaptable. London preferred.—Box 4012, B.M.J.

LADY PHARMACIST with good dispensing experience desires POST with doctor or firm of doctors. London preferably. Good salary expected.—Box 4002, B.M.J.

NAVAL OFFICER'S WIFE, young, needs POST in doctor's house. Experienced clerical work. London or Home Counties; live in preferred.—Box 3963, B.M.J.

NAVAL OFFICER'S WIDOW requires whole or part-time post as RECEPTIONIST to West End doctor or dentist. Five years' previous experience. —Box 4110, B.M.J.

OPHTHALMOLOGIST REQUIRES SECRETARY-RECEPTIONIST, accurate with figures, shorthand and typing. Pleasant London suburb, hours 9-6 30. —Full particulars Box 3961, B.M.J.

RECEPTIONIST WORK REQUIRED in London by well educated young lady (22).—Please write Box 3980, B.M J.

RESIDENT RECEPTIONIST REQUIRED for combine of doctors in Hampshire. Some nursing experience an advantage. Suitable post for an ex-V.A.D.—Box 4108, B.M.J.

REQUIRED, DISPENSER-BOOKKEEPER for market town practice. Salary £5 weekly. Extra for shorthand typing.—Gregson, Stamford, Lincs.

REFINED YOUNG LADY, good education, 5 years' nursing experience, seeks post as RECEPTIONIST in doctor's house in or near London.—Write Box 3804, B M.J.

V.A.D. serving B.A.O.R., demobilized early December, requires post as SECRETARY to consultant, London. 5 years experience as secretary to ophthalmic specialist. Also knowledge of orthopaedic and general medical work.—Box 3997, B.M.J.

YOUNG LADY (23), smart appearance, tactful, keen, requires post as MEDICAL-RECEPTIONIST. Red-Cross nurse, hospital experience, good knowledge clerical work, typing, record-keeping.—Box 3028, B.M.J.

MISCELLANEOUS

FOR SALE, EXAMINING COUCH, £10. Trolley table, 2 shelves, £2. Note filing cabinet, £3 Electric sterilizer, £5. Flexible standard lamp, £4. London Area.—Box 3967, B.M J.

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SUPPLEMENT TO THE

BRITISH MEDICAL JOURNAL

LONDON SATURDAY NOVEMBER 17 1945

British Medical Association

PROCEEDINGS OF COUNCIL

Wednesday, Nov. 7, 1945

A meeting of the Council of the Association was held on Nov. 7 and lasted the whole day. For the first time in, at all events, the recent history of the Council every member was present. The Minister of Health, Mr. Aneurin Bevan, was the guest of the Council at a fork luncheon. This was the first official contact of the Association with the new Minister, who accepted the invitation with a view not to making a speech but to meeting the members individually and conversationally.

Dr. H. GUY DAIN was in the chair of the Council.

Preliminary Business

The Council received with regret the intimation of the death of a former member, Dr. David F. Todd of Sunderland.

Representatives were appointed on a number of outside bodies to fill vacancies caused by resignation or decease.

An interesting report was received from Dr. Aubrey Lewis, representative of the Association on the Population Investigation Committee, which, jointly with the Royal College of Obstetricians and Gynaecologists, is sponsoring an inquiry into the maternity services of the country.

The Council considered certain resolutions of the last Annual Representative Meeting. The resolution about diplomatic representation of the medical profession was referred to the International Relations Committee. The request to the Council to make concrete proposals for safeguarding private practice under a "comprehensive" National Health Service was referred to the General Practice Committee.

It was stated that the Medical War Relief Fund Committee had resolved that an early appeal should be made for contributions in view of the anticipated heavy demands on the Fund from released Service doctors needing assistance to re-establish themselves in civil practice. The Chairman said that a time had come when something large and useful was needed, and the appeal, which would be made in the medical journals at the beginning of December, was already assured of a substantial send-off. The "target" would be £100,000.

Protection of Practices

Dr. E. A. Gregg, on behalf of the committee concerned, brought forward a report on the Protection of Practices Scheme. He said that the committee's advice had been sought by a number of Local Medical War Committees as to the difficulty which would arise where a patient of an absentee doctor who had been attended by an acting practitioner during the war desired to transfer to the acting practitioner's list after the absentee had returned. It had decided that it could not concur in any departure from the principle embodied in local schemes that an acting practitioner was bound by the terms of his undertaking not to accept a patient on his own behalf for a period of twelve months after the date of the return of the absentee. Dr. Vaughan Jones suggested that while this was ideal it was not in all cases practicable; it would do away with free choice of doctor.

The Chairman hoped that the principle would be sustained; if there were exceptional cases each must be dealt with on its merits, but it was important to uphold the undertaking which the acting practitioner had made with the local committee. Dr. N. E. Waterfield said that on any breach of this rule it would be open for a complaint to be made to the Central Ethical Committee. Dr. F. Gray suggested that the problem might be looked into again with a view to possible easements to meet difficult cases.

The report was approved. It contained also an account of the Essex scheme for securing to each returning doctor for a limited period payment out of the Practitioners' Fund of not less than he was receiving in 1939. This scheme was approved provided the local insurance practitioners were consulted and manifested no substantial opposition. A further item in the report related to a case in London in which an acting practitioner had not honoured his agreement. The case had been taken to the High Court and judgment given against the practitioner.

Salary Scale for Public Health Medical Officers

Dr. James Fenton, the newly appointed chairman of the Public Health Committee, said that his committee had considered the resolution of the last Annual Representative Meeting that negotiations for a scale of salaries to replace the Askwith agreement should be conducted with the Government as part of the negotiations for the whole profession and not, as on previous occasions, with associations of local authorities. It was in agreement with the first part of the resolution, but some members thought that negotiations on conditions of service of whole-time public health medical officers who were employed and paid by local authorities should be conducted between representatives of those officers and of local authorities; also that centrally determined scales could have no real effect unless the agreement of local authorities was secured. On the other hand, attention was drawn to the method by which the Rushcliffe scales for nurses had been imposed upon local authorities by the Government. The committee still had under consideration the revised scale of salaries to replace the Askwith agreement; it had been asked to review certain recommendations in the case of officers in the mental health service, and the Medical Superintendents Society was also submitting proposals. The committee would report later if it was considered desirable to make any modification of the proposals put forward, and meanwhile it recommended, as a resolution to be conveyed to the Minister of Health and the Negotiating Committee, that the negotiations with regard to salaries and conditions of service for doctors in the public health and municipal hospital services be conducted with the Government as part of the negotiations for the whole profession.

This was agreed to by the Council.

Equal Cost-of-living Bonus

Dr. Fenton further said that his committee had accepted the principle of equal cost-of-living bonus for men and women, believing that although the amounts involved were small the principle was important. The matter had been discussed with representatives of the Medical Women's Federation, who recognized that it would be difficult for the Association to refuse publication of advertisements which were in conflict with the principle. In due course cost-of-living bonuses would probably be consolidated with salaries, and therefore the Federation felt that every other step that was possible should be taken to implement the policy, otherwise it would be difficult to maintain the principle of equal pay when such consolidation took place. The Public Health Committee's view was that the question of equal bonus should be left in abeyance until the new salaries and conditions of service of public health medical officers were dealt with by the Negotiating Committee, and that the Negotiating Committee should be asked to take steps to secure implementation of the Association's policy in the new scales.

Dr. Janet Aitken said that she feared it would take a long time for the new agreement replacing the "Askwith" to be implemented, and meanwhile this question of equal bonus would hang over. Every opportunity should be taken to press forward this policy. Col. A. H. Proctor said that it was for the Medical Women's Federation to decide what policy they should take to establish this principle and for the Association to give them every support in its power.

The report of the committee was approved.

A Belated Reference

Dr. Fenton said that certain recommendations had been received from the British Association of Otolaryngologists on the terms of service of ear, nose, and throat specialists under Government Departments and public authorities. These recommendations had already been circulated to Government Departments and local authorities' associations, and were now passed on to the B.M.A. in the hope that it would see its way to adopt them. "If any body of doctors wants our support," said Dr. Fenton, "they ought to come to us before they publish and broadcast their scale, and I hope that will be brought to the notice of all bodies concerned. It should be well known that we are not going to commit ourselves to support scales of salaries that are not brought to us before they are published."

In this case the Public Health Committee had deferred consideration of the matter until the Council had had an opportunity of considering a recommendation from another committee that the Association's scale of fees for doctors (including ear, nose, and throat specialists) employed part-time by local authorities was inadequate for present-day purposes.

At a later stage of the Council meeting the Special Practice Committee brought forward a recommendation that the necessary steps be taken to revise the existing scale of fees for consultants employed on a part-time basis by local authorities. The recommendation was agreed to, and a special committee was set up to carry out the work of revision.

Fees for Life Insurance Examinations

Dr. S. Wand, chairman of the General Practice Committee, proposed that it be recommended to the Representative Body that the agreement reached with the Life Offices Association in 1919 concerning fees for medical examination for life insurance should be terminated. He explained that three years ago the Life Offices Association was urged to increase the fees by 20%, but replied that the proposed increase was not justified, and adhered to this contention when met by a deputation. There was a growing volume of complaint from members about the inadequacy of these fees. For example, the fee for medical examination for industrial insurance was 5s. minimum or 10s. 6d. according to the form of report, and for the ordinary branch of industrial offices and ordinary offices which issued policies whose average amount was small the minimum fee for medical examination was 10s. 6d. for policies up to £100, and 21s. for those over £100. When a practitioner complained to an insurance company that the fees were inadequate he was informed that they were approved by the Association under the 1919 agreement. The committee therefore felt that the agreement should be ended and a new scale of fees drawn up for submission to the Representative Body as an alternative policy.

The recommendation was carried.

Compensation and Superannuation

Dr. Wand also presented a report on behalf of the Compensation and Superannuation Committee. He said that if the question of compensation was raised as part of the Government's proposals for a National Health Service it must be assumed that the question of compensation for all general practitioners was automatically raised, and that any assessment of the value of practices should be based upon the value over an agreed pre-war period. The Committee felt that the position would be safeguarded by making it clear that if it was decided that the value of practices in the years immediately before the war was the basis of calculation for compensation purposes an adjustment would be necessary to take account of the changed value of money.

The committee had had a general discussion on possible schemes of superannuation, but it was felt that no definite proposals could be formulated until the Government's attitude on the compensation issue was known.

National Health Service: the Government's Intentions

Certain resolutions of the Representative Meeting concerning the national health service proposals were on the agenda, and the recent statements in the Press concerning the nationalization of hospitals were also mentioned. The Council was informed that according to statements in the Press the Government had in mind the establishment of a national hospital service, with responsibility for hospitals removed from both voluntary bodies and local authorities. The newspapers said that this had been approved by the Cabinet in principle; it had apparently not been discussed with either the local authorities or the representatives of voluntary hospitals, and certainly not with the British Medical Association or the Negotiating Committee.

After much discussion it was agreed to defer further consideration until after the meeting with the Minister. In a short extempore speech at the Council luncheon—an informal gathering at which it had been intimated that speeches were not expected—Mr. Bevan spoke of his pleasure at meeting the Association. There were matters on which he intended to ask the advice of the Association, with which he hoped to enter into "harmonious negotiation" on terms and conditions of service. He was very conscious of the extreme difficulty with which general practitioners had carried on their work during the six years of war and of the shortage of man-power in the profession, but he looked forward to the return of a large number of doctors from the Forces as a great easing of the situation. He said that he would soon be publishing a statement. He repeated that "we" had no prejudice or inhibitions. What was desired was to create for the people of Great Britain the best kind of service that medical science could provide, and in that he was sure he would have the enthusiastic support of the members of the profession.

After lunch the Council resumed its examination of the present position. It was decided to communicate with the Minister reminding him of the composition and functions of the Negotiating Committee and of the interest of the profession in all aspects of the proposed health service, and requesting that the Negotiating Committee, as representing the whole profession, should be consulted by him before final decisions are reached and before the Bill is published.

Hospital Policy

Mr. R. L. Newell, chairman of the Hospitals Committee, brought forward draft agreements for co-operation with the Medical Superintendents Society and the Association of Municipal Specialists with the object of securing uniformity of action between either of these bodies and the B.M.A. on matters of policy affecting their common interests. It looked to him as if the forces were mobilizing under the leadership of the Association before the impending storm.

The terms of agreement with the two bodies were approved.

It was agreed that there should be sent to hospital authorities a letter clarifying and amplifying the Association's policy on the postponement of the retirement of practitioners who have been absent on national service.

Mr. Newell said that the committee had considered the question of payment of visiting medical staffs of hospitals in respect of patients who were the financial responsibility of the Ministry of Pensions. The committee had authorized its chairman and three other members to meet the Ministry and discuss the matter.

Proposed Group of Homoeopathy

Sir John Weir, Dr. W. L. Templeton, and Dr. Agnes Moncrieff, representing the Faculty of Homoeopathy, attended in support of a petition signed by 87 members of the Association for the establishment of a Group of Homoeopathy. The Council had previously decided against such a claim, but the Faculty desired to send representatives and to press certain other points.

Sir John Weir said that the request for the formation of a Group had been made chiefly in view of a possible State service. At the moment, under a free and uncontrolled system of medicine, homoeopaths had no outstanding professional interests which differed essentially from those of the rest of the profession, because arrangements could be made between patient and doctor in regard to availability of service and its remuneration; but under a fixed State service this would not be so. Homoeopathic physicians were specialists in the sense that they practised in accordance with principles fundamentally different from those generally followed. Patients came from all over the country to consult their physicians, who, in turn, must travel equal distances when occasion demanded. Homoeopathic hospitals, for similar reasons, drew their patients from all parts of the country. Another point which affected homoeopaths was the possibility of direction in practice when appointments would be under the control of joint authorities. If a doctor who had been practising homoeopathy retired or died and a practitioner knowing nothing about the system were appointed the patients would find themselves without the treatment they desired. Another point was the large proportion of chronic cases which seemed to drift to the homoeopath. Consideration of the needs of these patients naturally took longer, and as a result fewer could be seen in a day. This might penalize the homoeopathic practitioner under the scheme by curtailing his list if he was in general practice. At the moment homoeopathic treatment under National Health Insurance was possible only where the doctor was subsidized by private practice, and this would not be possible under a National Health Service once it was recognized as the normal way of obtaining health services. As a Faculty they felt that they would rather have their difficulties put forward from within the B.M.A., as from a Group of the Association itself, than go separately to the Minister. He added that they were accorded an interview by the late Minister, by whom their particular difficulties were considered sympathetically.

Dr. Templeton said that their claim rested in no way essentially on any difference of therapeutic methods. They wanted the Council to realize that they had these special difficulties, and he hoped that homoeopaths might be dealt with much as the Church dealt with the wandering friars in the Middle Ages —namely, by absorption, not exclusion. In reply to questions as to the numbers of homoeopaths, Dr. Templeton said that the membership of the Faculty (formerly the Society) had increased by a small number during the last ten years. The Faculty had 206 members, but many more were practising homoeopathy.

Dr. Wand asked whether the purpose of the petition was to ensure the proper presentation of the case for homoeopathy in the new National Health Service rather than to set up a permanent Group. Dr. Templeton replied that their difficulties had been brought to a focus by the new proposals. The Chairman asked what difficulties homoeopaths had experienced under National Health Insurance, and on being told that they had had no difficulties he suggested that if similar conditions applied to the whole population they would not be any worse off. Dr. Templeton replied that the homoeopath had only a small insurance practice, subsidized by his private practice, and those conditions would not obtain under an all-in system.

Dr. J. B. Miller asked whether, in view of the smaller insurance lists of homoeopaths, it was suggested that their capitation fee should be greater. Dr. Templeton said that it was not for them to make suggestions: they were only stating their difficulties. Mr. Zachary Cope asked if, supposing arrangements were agreed to whereby private practice was safeguarded, there would be any need for a special Group. Dr. Templeton replied that there was an "if" in that question, but he asked whether homoeopaths must wait until faced with a *fait accompli* before taking steps to safeguard their position. In reply to Dr. F. H. Bodman he said that it would be grossly unfair if anybody but a trained homoeopathic physician were appointed to a homoeopathic hospital. The Chairman pointed out that it was Association policy that the hospital concerned should be the body to appoint the staff, and Dr. Templeton said that would solve their problem. Most of their hospitals were bound to limit the choice of physicians to those who held the diploma of the Faculty.

The deputation then withdrew.

The Chairman said he thought the answer to the homoeopaths was that National Health Insurance had not interfered with their practice and that this disposed of any claim to be a separate Group on medico-political grounds. Dr. J. W. Bone said that it seemed to him that the homoeopaths could get all the help they wanted from the Insurance Acts, the General Practice, and the Special Practice Committees.

The Secretary said that there were two methods within the present arrangements of the Association for examining the problems of particular groups. One was by the constitution of special Groups, and the other was by special arrangements such as they had already with medical officers of health, municipal specialists, medical superintendents, and others. If the request for a Group was not granted the Council might reply to the present request on the lines that it sympathized with the problems of the homoeopaths, would afford them every help, and would be glad to discuss with them the arrangements by which their views on medico-political problems could be obtained and considered as the negotiations on the National Health Service proceeded. It would be exactly the same sort of problem as they would have to consider in relation to the Medical Women's Federation—a problem deriving from the relative sparseness of distribution of the practitioners and the wider areas from which they drew their practice.

It was agreed that the reply be sent to the Faculty on the lines indicated by the Secretary.

The Education Act, 1944

Mr. Newell presented the report of the Special Committee set up to consider hospital and general practitioner services and other matters arising under the new Education Act.

Dr. Fenton gave a report of the deputation which met the officers of the Ministry of Education on October 25. He said they reminded the officers of the Ministry that the Coalition Government and the "Caretaker" Government had given an assurance which they now sought from the present Minister—namely, that the development of the school medical service should be so controlled as to ensure that it would not be inconsistent with or duplicate the arrangements to be made for the purposes of the National Health Service of the future. The officers said there was no reason to believe that the present Minister would take any other view than that nothing should be done to prejudice the National Health Service arrangements. It was pointed out by the deputation that it was the Minister who had introduced this service, and that the profession did not favour a system whereby the Minister gave a maintenance grant to a hospital for this purpose and the profession were expected to have some proportion of it; they wanted direct payment on the basis of service rendered. They also wished the general practitioner to have his proper place in the scheme. The officers could not give an assurance that there would be created a central liaison in connexion with the schemes now being developed locally, but it was a matter to which very careful thought would be given, and he believed the deputation impressed the officers that such an arrangement would be desirable. He felt that the deputation was a successful one. The present report must be regarded as of an interim nature.

The report was approved.

Consultants and Specialists

Prof. A. H. Burgess, chairman of the Special Practice Committee, brought forward a proposal for the establishment of a new standing committee, to be known as the Consultants and Specialists Committee, to take the place of the present Special Practice and Group Committees. It was proposed that it be constituted with 20 members elected on a regional basis by those engaged exclusively in consultant and specialist practice, 5 elected on a national basis by members engaged part-time in consultant and specialist practice, one member appointed by the committee of each of the eight Groups, and other members appointed by the Council, the Representative Body, and certain other committees of the Association. A further proposal was that steps be taken to establish a list of part-time consultants and specialists for use as an electoral roll for the purpose of election to the new committee. On the subject of part-time consultants and specialists the Council was asked to reaffirm its opinion that the formation of a special group was unnecessary and undesirable, and that the interests of these members would best be safeguarded through representation on the proposed new committee.

Dr. O. C. Carter said that there had been a strong feeling during the last few years that part-time consultants would not get a square deal in the new National Health Service. After the last Representative Meeting he was asked by a number of part-time consultants to voice their views and to endeavour on the Council to get something done to implement the manifest desire of the Representative Body in this respect. Part-time consultants were a very large body of practitioners and should have some machinery to safeguard their interests. He did not feel that the new committee would be a satisfactory compromise. He suggested that it be recommended to the Organization Committee that another standing committee be set up to go into the question of safeguarding the interests of part-time consultants and specialists.

The Chairman pointed out that the proposed new committee corresponded largely in constitution to the Insurance Acts Committee, though, unlike the latter, it did not include non-members of the Association. There was a special reason for the inclusion of non-members on the Insurance Acts Committee because all insurance practitioners were under a contract of service. With regard to the proposals concerning part-time consultants and specialists, there had never been any suggestion that they should be treated in the matter of contract in the new service in any way different from the whole-time consultants and specialists. For such work as he did as a specialist the part-time man should have the pay and be under the conditions of a specialist, and for such work as he did as a general practitioner the pay and conditions of a general practitioner should apply.

The proposals were adopted. It was also agreed that the expressions of opinion of consultants and specialists in relation to a National Health Service as elicited at open meetings in all the regions in the early part of the present year should be passed on to the Negotiating Committee.

Other Organization Matters

Dr. J. A. Pridham, as chairman of the Organization Committee, presented a report which included recommendations for grouping the Divisions in Northern Ireland for the election of members to the Northern Ireland Committee, and for forming within the Association a group of practitioners engaged predominantly in the practice of dermatology. These proposals were approved.

Dr. Pridham mentioned that the membership of the Association on October 16 was 51,217. During the last year the number of names in the *Medical Register* had increased by 1,000, and the membership of the Association by 3,000. When the members of the Medical Association of South Africa dropped away, however, at the end of the present year there would be a fall of over 2,000. (During the present Council Meeting 318 candidates serving in the Forces were elected by the Council as members of the Association.)

The Chairman brought forward a motion for the reconstitution of the Ophthalmic Group Committee consequent upon the formation of a new body called the Faculty of Ophthalmologists, organized by and taking the place of the Council of British Ophthalmologists. This was approved, and approval was also given to an agreement for a working arrangement between the Association and the Faculty on medico-political policy.

The Association Building

Mr. A. M. A. Moore presented a report from the Building Committee with recommendations for the allocation of additional space for departments of the Association in Tavistock House as soon as circumstances permitted and also for an extension of the library accommodation. The committee had further proposed that the centre room, over the archway from Tavistock Square, should be suitably decorated and furnished and set aside for receiving distinguished guests at B.M.A. House. This last proposal, however, was referred back for further consideration; the other proposals were agreed to, and recommendations with regard to the tenancies on the property were also approved.

Mr. Zachary Cope, as chairman of the Science Committee, mentioned the pressing question of library accommodation. He said that owing to the gradual return to peacetime conditions and the increased demand for books and library facilities the extension of accommodation had become a matter of urgent importance. It had been suggested that when the wing now used by the Historical Research Library was again available the Association's library might be housed there, and in the meantime extra house room might be found for the librarian and his staff. While this might improve the position temporarily, it was felt that the importance of the library to the normal activities of the Association demanded a long-term policy which would mean a considerable extension of the whole library. On the recommendation of the Finance Committee it was agreed that the construction of an annexe to the existing library should be approved, and a report was called for upon possible further improvements.

Rehabilitation

Several recommendations were brought forward by the Rehabilitation Committee. The first concerned hospital almoners, of whom at present there was said to be a great shortage. The committee recommended, and the Council approved, an expression of the opinion that the almoner is an essential link in the efficient functioning of a rehabilitation service and that the provision of a better status and more recruits to this profession is an urgent need.

The committee had considered the National Insurance (Industrial Injuries) Bill and submitted the following recommendations, all of which were agreed to: (1) That there is insufficient medical membership on the House of Commons Standing Committee which is dealing with the Bill; (2) that the rates for sickness and disablement benefit should be substantially the same; (3) that if a person injured in the course of his employment can be trained for some alternative employment without loss of earning capacity he should receive the flat-rate disability allowance while undergoing this training; (4) that adequate financial provision should be made for those exceptional cases in which a person cannot be reinstated in his own work and cannot be trained for equivalent employment.

It was also agreed to reaffirm the decision of the last A.R.M. that the Ministry of Health should be concerned with all civilian health services in which the Government is involved and with none other; that apart from the Industrial Injuries Advisory Council set up under the present Bill, there should be established a medical advisory committee composed entirely of doctors to advise the Minister on the medical problems; that all cases of dispute on medical issues should be referred to medical boards and not to individual practitioners; and that the assessment of prescribed industrial diseases should be the responsibility of the proposed medical advisory committee. A further recommendation was carried, arising out of the dissatisfaction with the present arrangements whereby the D.R.O assesses the suitability of the person for employment from medical evidence which he is not qualified to interpret. It asked that a medical board should be set up in each region to include an industrial medical officer and, when available, the examining surgeon, to which all applicants to the Register of Disabled Persons should be referred and which should advise the D.R.O. on the medical aspects of the case.

The Chairman offered the congratulations of the Council to Dr. Vaughan Jones, deputy chairman of the committee, on the work he had done in collating the facilities for rehabilitation which existed at the present time.

Other Business

A report from the Dominions Committee was presented by Dr. J. L. Gilks. Dr. J. B. Miller, Chairman of the Representative Body, said that until he came into contact recently with the work of the committee he had no idea that it was so detailed and extensive.

Dr. R. G. Gordon presented a memorandum of evidence submitted on behalf of the Association to the Interdepartmental Committee on the Care of Homeless Children. The memorandum was approved and Dr. Gordon was thanked for the outstanding part he had taken in its preparation.

The Naval and Military Committee, through Col. Proctor, its chairman, brought forward a report on war gratuities. It was satisfied that no useful purpose would be served by urging a general increase.

It was reported that arrangements for the publication of the "Charter of Health" were in hand, and it was expected that the publication would take place in January.

The Association's booklet *The Returning Doctor*, for the information of medical officers released from the Forces, was before the Council, and those concerned were congratulated on an excellent compilation.

It was agreed that representations be made to the Ministry of Health concerning the inadequacy of fees paid to public vaccinators.

A proposal was approved for the appointment of a permanent joint committee of representatives of the Association and of the Magistrates' Association to consider matters of common interest relating to psychiatry and the law.

On the motion of Dr. Waterfield it was agreed that there should be an appropriate memorial in B.M.A. House to the late Mr. Bishop Harman.

It was agreed that suitable letters of thanks be forwarded to the following honorary secretaries who have lately relinquished office: Dr. O. C. Carter (Bournemouth Division), Dr. R. B. Hick (Swindon Division), and Dr. D. A. Urquhart (Shropshire and Mid-Wales Branch).

Reports on routine matters by the Ethical Committee, the Journal Committee, the Finance Committee, the Office Committee, and the Scottish, Welsh, and Northern Ireland Committees were adopted. The Northern Ireland Committee report, presented by Dr. J. M. Hunter, was the first since the constitution of that committee.

Association Notices

OPHTHALMIC GROUP COMMITTEE

The Council of the B.M.A. at its meeting on Nov. 7 approved:

(*a*) The reconstitution of the Ophthalmic Group Committee of the Association as follows:

13 members directly elected by members of the Group in the regions as at present constituted.

6 members elected by the Council of the Faculty of Ophthalmologists.

2 members elected by medical practitioners (not eligible for membership of the Group) for the time being approved for examination of patients under the National Eye Service.

1 member appointed by the Council of the B.M.A.

1 member appointed by the Insurance Acts Committee of the B.M.A.

(*b*) The following agreement for a working arrangement between the British Medical Association and the Faculty of Ophthalmologists on medico-political policy affecting medical practitioners engaged in the practice of ophthalmology:

1. If the Faculty of Ophthalmologists desires to formulate and urge upon central or local authorities, or other bodies, any medico-political policy affecting the interests of public or private practice, or is consulted thereon by such authorities or bodies, it shall communicate its proposals to the British Medical Association before taking action.
2. If such policy or proposals are approved by the British Medical Association either in their original form or in an agreed amended form, all action consequent thereon shall be taken through the appropriate machinery of the Association.
3. If the proposals of the Faculty of Ophthalmologists are not approved by the Council of the British Medical Association, or if the Faculty is dissatisfied with the form in which the Council of the British Medical Association is willing to take action thereon, it shall be open to the Faculty of Ophthalmologists to take action independently.

These proposals had previously been submitted to and approved by the members of the Ophthalmic Group Committee and the Council of the Faculty of Ophthalmologists.

Nominations for the election of members of the Ophthalmic Group Committee for the normal period, three years, have been received as follows:

Region 1 (3 seats):
- G. W. Black, F.R.C.S., Leeds.
- S. H. Faulkner, M.D., D.O.M.S., Manchester
- F. Gamm, M.B., Ch.B., Huddersfield
- E. G. Mackie, F.R.F.P.S., D.O.M.S., Sheffield
- A. McKie Reid, F.R.C.S., D.O.M.S., Liverpool
- D. D. Stenhouse Stewart, D.O.M.S., Hull

Region 2 (2 seats):
- L. P. J. Evans, F.R.C.S., Birmingham
- N. P. R. Galloway, D.O., Nottingham

Region 3 (2 seats):
- W. S. Burr, F.R.C.S.Ed., D.O.M.S., Plymouth
- J. J. Healy, M.B., Ch.B., Llanelly
- F. Heckford, D.O.M.S., Ryde, I. of W.
- David Wilson, M.B., B.S., Torquay.

Region 4 (3 seats):
- J. D. M. Cardell, F.R.C.S., London
- J. H. Doggart, M.D., F.R.C.S., London
- Sir Stewart Duke-Elder, M.D., F.R.C.S., London
- L. M. Green, D.O.M.S., London
- F. W. Law, M.D., F.R.C.S., London
- J. Minton, F.R.C.S., London
- O. Gayer Morgan, M.Ch., F.R.C.S., London
- Humphrey Neame, F.R.C.S., London.
- A. S. Philps, F.R.C.S., London
- F. E. Preston, D.O.M.S., London.
- M. H. Whiting, F.R.C.S., London
- Charles W. Yow, M.D., London

Region 5 (1 seat):
- J. E. H. Cogan, D.O., Tunbridge Wells
- F. Oliver Walker, D.O., Dartford

Region 6 (2 seats):
- W. A. Anderson, M.D., Belfast
- C. R. Duncan Leeds, F.R.C.S.Ed., D.O.M.S., Edinburgh
- John Marshall, F.R.F.P.S., D.O.M.S., Glasgow

Non-members of Group engaged in National Eye Service work (2 seats):
- A. G. Lumsden, M.B., Ch.B., London, W.1.
- R. Gordon-Simpson, M.B., B.S., D.T.M., London, N.21
- C. M. Stevenson, M.D., Cambridge
- R. Colston Williams, M.R.C.S., L.R.C.P., London, W.1.

Where there are contests voting papers will be issued on Nov. 16.

CHARLES HILL,
Secretary.

Nov. 8, 1945.

Areas of North Caernarvon and Anglesey, and South Caernarvon and Merioneth Divisions, and Shropshire and Mid-Wales Branch

Notice is hereby given of the following proposals made by the Welsh Committee for adjustment of the areas of the North Caernarvon and Anglesey, and South Caernarvon and Merioneth Divisions, and the Shropshire and Mid-Wales Branch:

1. That the South Caernarvon and Merioneth Division be discontinued.
2. That the area of the North Caernarvon and Anglesey Division be extended so as to be conterminous with that of the counties of Caernarvon and Anglesey; and that the name of the Division be altered to Caernarvonshire and Anglesey.
3. That a Merionethshire and Montgomeryshire Division, comprising the Counties of Merioneth and Montgomery, be formed.

Any member affected by these proposals and objecting thereto is requested to write to the Secretary of the Association by December 19, 1945, stating the objection and the ground therefor.

CHARLES HILL,
Secretary.

Nov. 10, 1945.

Meetings of Branches and Divisions

SOUTHERN BRANCH

At the annual meeting of the Southern Branch held at Winchester on Aug. 30, which was preceded by a luncheon, Dr. R. H. Balfour Barrow was elected president for 1945–6 and Dr. John Clayre re-elected hon. secretary and treasurer. Dr. R. Arderne Wilson, of Guernsey, immediate past-president, attended the meeting, this being his first visit to England since the enemy occupied the Channel Islands. He was warmly welcomed, and gave a most interesting account of conditions in Guernsey during the occupation. Dr Thomas Beaton reported on a visit he had recently made to Jersey. The meeting approved the work of the Branch Council in the last two years (which had been done mainly by the officers owing to the difficulty of holding routine meetings), particularly the measures taken to supply literature and some instruments to colleagues in the Channel Islands. The meeting concluded with an address by the president entitled "Having Eyes, they See Not."

Branch and Division Meetings to be Held

AYRSHIRE DIVISION.—At Ayrshire Central Hospital, Irvine, Sunday, Nov. 18, 7 p.m., Clinical Meeting.

EAST HERTS DIVISION.—At Mayflower Hotel, Hertford, Thursday, Nov. 29, 8.15 p.m., Dr. Alan Moncrieff: Recent Advances in Diseases of the Newborn.

WAKEFIELD, PONTEFRACT, AND CASTLEFORD DIVISION.—At Clayton Hospital, Sunday, Nov. 25, 11 a.m., Mr. D. W. Currie: Minor Gynaecological Ailments.

Correspondence

Health Centres and the Scientific Method

SIR,—I do not wish to prolong this correspondence, but I must correct one or two points in Dr. Laurence Phillips's letter (*Supplement*, Oct. 13, p. 85) which give wrong impressions. In one of my letters I stated that research into minor maladies must be based on the spirit of friendship. Any obligatory assignment of doctor or patient cannot fulfil my ideal, for it would introduce an atmosphere of compulsion. When compulsion enters into human relationships, friendships vanish.

If I understand Dr. Phillips aright his argument in the second paragraph amounts to this: that the great interweaving of doctors' practices brought about by the use of motor-cars makes health centres more than ever justifiable and desirable. The reverse is the truth. The defects of health centres would not be so great where doctors had to walk their rounds. It might, however, be difficult to give gainful employment to six doctors in a health centre under those circumstances unless the density of population was great. All this may seem very puzzling, but the explanation can be made obvious by using a map of any urban area and spotting the panel patients attached to the various practitioners, using a different colour of spot for each doctor. Draw that critical "five-minute" circle round each doctor and then around any point selected for the health centre. Count the number of the doctor's spots in his circle and then the number of his spots in the "health centre" circle. This will also supply the effective answer to Dr. Phillips's argument that six doctors "working in a health centre could produce data at least as reliable as six doctors working in their own areas." It will be seen to be impossible. The reliability of a sample depends upon its size. Its probable error diminishes as the numbers in the sample increase. The combined work of six doctors working in their own areas would produce a larger and therefore a more reliable sample than the same doctors could produce working from a health centre.

The final paragraph of Dr. Phillips's letter is devoted to a criticism of statistics. I sincerely regret that I cannot attempt to explain its theory. The knowledge I possess on the subject was acquired through necessity, not through inclination, and it was subsequent to the discovery that there are sequences among minor maladies which are incredible in their implication. To study these scientifically some knowledge of statistics will be essential to the general practitioner. He can put that knowledge to many uses, including a study of the plausible theories of health centres.—I am, etc.,

Halifax. A. GARVIE.

*** This correspondence is now closed.—ED., *B.M.J.*

Registrarships for Released Service Doctors

SIR,—Lieut.-Col. F. F. Hellier has made an urgent plea (*Journal*, Oct. 6, p. 477) that an authoritative statement be issued defining the conditions under which released M.O.s would be granted registrar appointments under the much-publicized scheme of the Ministry of Health. This plea seems to have gone unanswered. During the next two to three months a large proportion of those recognized as specialists in the Services will be released. What will be their position if they did not hold civilian staff appointments before the war?

On the one hand, the scheme referred to is so hedged round with conditions that few of them will be eligible to benefit by it; on the other, civil hospitals, which have not filled staff appointments during the war—for which fact those in the Services are grateful—still keep their appointments "frozen." Even were the thaw to set in immediately it seems likely that at least another six months must pass before anyone now being released and hoping to embark on a specialist career can expect to begin.

The war is over, there is in process a reasonably rapid release from the Services, then why need there be further delay in advertising staff vacancies provided due notice is given?—I am, etc.,

Wolverhampton. J. V. MACGREGOR.

H.M. Forces Appointments

ARMY

War Subs. Major J. K. Slater, O.B.E., R.A.M.C., to be a Consultant, and has been granted the local rank of Brig.

ROYAL ARMY MEDICAL CORPS

To be Majors: War Subs. Majors A. B. Dempsey, W. Stewart, M.B.E., J. A. Davidson, M. H. P. Sayers, O.B.E., D. P. Stevenson, G. A. E. Harman, K. G. F. Mackenzie, and A. T. Marrable, D.S.O.; Capts. E. A. Smyth, J. A. G. Carmichael, W. N. L. Haynes, J. F. Wilson, J. R. Kellett, M.B.E., and I. N. Fulton.

RETURN TO PRACTICE

The Central Medical War Committee announces that the following have resumed civilian practice: Mr. C. W. Flemming, F.R.C.S., at 5, Upper Wimpole Street, W.1; Dr. Gordon B. Mitchell-Heggs, F.R.C.P., at 88, Harley Street, W.1; Miss Jocelyn A. M. Moore, F.R.C.S., M.R.C.O.G., at 4, Devonshire Place, W.1; Dr. J. D. W. Pearce, at 13, Harley Street, W.1; Mr. H. B. Stallard, F.R.C.S., at 24, Harley Street, W.1.

POSTGRADUATE NEWS

The Fellowship of Medicine announces: (1) Neurology at West End Hospital for Nervous Diseases, Mondays, Tuesdays, and Fridays, 2.30 p.m., Nov. 19 to Dec. 14. (2) Week-end course in general medicine and surgery, at North Middlesex County Hospital, all day, Saturday and Sunday, Dec. 1 and 2. (3) Week-end course in diseases of the ear, nose, and throat, at Metropolitan Ear, Nose, and Throat Hospital, all day, Saturday and Sunday, Dec. 8 and 9. (4) Week-end course in gynaecology, at South London Hospital for Women, all day, Saturday and Sunday, Dec. 15 and 16. (5) Primary F.R.C.S. course, three evenings weekly, 6 p.m. to 8.15 p.m., from Jan. 28 to April 1, 1946. Full particulars of courses from the Fellowship of Medicine, 1, Wimpole Street, W.

DIARY OF SOCIETIES AND LECTURES

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—*Mon.*, 5 p.m., Mr. J. B. Oldham: Surgery of the Biliary System. *Wed.*, 5 p.m., Mr. L. Colledge: Cancer of the Larynx. *Thurs.*, 5 p.m., Prof. Hugh Cairns: Head Injuries.

ROYAL SOCIETY OF MEDICINE.—*Fri.*, 3.45 p.m., Section of Disease in Children; 3 p.m., Section of Epidemiology and State Medicine.

ROYAL COLLEGE OF OBSTETRICIANS AND GYNAECOLOGISTS, 58, Queen Anne Street, W.—*Fri.*, 5 p.m., William Blair-Bell Memorial Lecture by Prof. Leonard G. Parsons: Antenatal Paediatrics.

ROYAL INSTITUTE OF PUBLIC HEALTH AND HYGIENE, 28, Portland Place, W.—*Wed.*, 3.30 p.m., Mr. J. C. Ainsworth-Davis: Urology—Some Common Symptoms and their Significance.

ROYAL MEDICAL SOCIETY OF EDINBURGH, 7, Melbourne Place, Edinburgh.—*Fri.*, Col. Walter Elliot: Medicine and the State.

BIRTHS, MARRIAGES, AND DEATHS

The charge for an insertion under this head is 10s. 6d. *for* 18 *words or less. Extra words* 3s. 6d. *for each six or less. Payment should be forwarded with the notice, authenticated by the name and permanent address of the sender, and should reach the Advertisement Manager not later than first post Monday morning.*

BIRTHS

APPLEYARD.—On Nov. 2, 1945, at The Willows Nursing Home, Bramley, Leeds, to Jeanne, wife of Bernard Appleyard, Fl/Lieut. R.A.F., a daughter.

KELLY.—On Nov. 4, 1945, at Cowes, to Ella, wife of W. P. Kelly, L.R.C.P.&S.Ed., a daughter—Patricia Mary.

PATTON.—On Nov. 4, 1945, at West Middlesex Hospital, to Peggy, wife of Dr. Geoffrey Patton, a son.

MARRIAGE

ZAKI—HOPE.—On Nov. 10, 1945, at Old Parish Church, Portobello, Dr. Y. E. Zaki to Irene Hope.

The chairman and members of the North Northumberland Local Medical War Committee gave a dinner on Sept. 20 to those doctors in the Division who had returned from service with the Forces—including Lieut.-Cols. J. C. MacKay, *M.C.*, W. R. Sprunt, and R. Armstrong, and Major A. J. Gray Newton. Mr. J. B. Hannay, who had been officer in charge of the bureau during the war, was also a guest. Seventeen members and friends were present, and toasts were proposed to the guests and chairman, to which Lieut.-Col. MacKay, Mr. Hannay, and Dr. V. E. Badcock, *M.C.*, the chairman, made suitable replies.

SUPPLEMENT TO THE
BRITISH MEDICAL JOURNAL
LONDON SATURDAY NOVEMBER 24 1945

ANNUAL CONFERENCE OF LOCAL MEDICAL AND PANEL COMMITTEES

DEBATE ON FUTURE OF MEDICAL SERVICES: LETTER FROM MINISTER OF HEALTH ON NEGOTIATIONS

The Annual Conference of Local Medical and Panel Committees was held at the B.M.A. House, London, on Thursday, Nov. 15. The chair was taken by Dr. J. A. BROWN (Birmingham), who in the course of the day was unanimously elected chairman for a further year. The main document before the Conference was the annual report of the Insurance Acts Committee, which was published in the *Supplement* of Oct. 13. It was presented to the meeting by Dr. E. A. Gregg, chairman of the Committee.

ANNUAL REPORT OF INSURANCE ACTS COMMITTEE

The Capitation Fee

A motion by Bristol, moved from the chair in the absence of the representative, complained that the Minister of Health had not publicly reaffirmed the intention of his predecessors to inquire into the capitation fee after the war, "from the ground up," and instructed the I.A.C. to request him to do so. Dr. GREGG said that the committee had previously asked for the question of the capitation fee to be raised on the widest possible basis, and as a response there had come into being the Spens Committee, which included in its reference standards of remuneration for all publicly remunerated general practitioner services. What Bristol was asking for was actually in operation, and the Spens Committee had shown itself very willing to take evidence from them.

The Bristol motion was withdrawn, but a motion by Cumberland was carried without dissent, expressing the opinion that the time was ripe for a substantial increase in the capitation fee, which was long overdue.

The Government Proposals

The discussion on "The Future of Medical Services" was initiated by two motions from Hampshire, the first of which asked the Conference to reaffirm that a resolution of the Annual Representative Meeting in December, 1944, had laid down the right mode of approach to a National Health Service, and to request the I.A.C. to urge the adoption of this method. The resolution in question was the one which proclaimed that health legislation should proceed by evolution, that the National Health Insurance service should first be completed by making it embrace institutional, specialist, and all auxiliary services, and then be extended to dependants and others of similar economic status.

Dr. GREGG said that this was simply a reaffirming resolution. What the Annual Representative Meeting had laid down was precisely what they had been saying to the Ministry, and he saw no reason for these continual reaffirmations. It was agreed to pass to the next business, which was the second of the Hampshire motions, declaring that another Annual Representative Meeting resolution afforded a valuable safeguard against possible misrepresentation of the profession—namely, the resolution calling for a separate Bill to implement the National Health Service proposals instead of making the proposals a part of the financial provisions of the social insurance measure. This was carried.

Fourteen Points

Dr. GORDON WARD (Kent) moved:

That in the opinion of the Conference a National Health Service satisfactory for both the patients and the doctors can only be established if the following safeguards are ensured:

1. Free choice of doctor by patient and of patient by doctor shall be maintained to the utmost possible extent.
2. All questions as to what treatment (for prevention, cure, or rehabilitation) is best for individual patients or for particular classes of patients shall be decided only by medical practitioners.
3. The practitioner attending shall be the responsible arbiter of the treatment necessary for the individual patient, including type and place of treatment.
4. Questions of health policy, whether regional or local, shall not be determined without the concurrence of advisory medical committees, subject to appeal by either party to any dispute to the Minister of Health.
5. All administrative medical officers directly concerned with general practice must themselves have had not less than ten years' experience as general practitioners.
6. Contracts between general practitioners and the State shall be made with the Minister of Health, with whom also all questions of appointment, promotion, pay, and pension shall be agreed.
7. All general practitioners shall have reasonable security of tenure.
8. The right of private practice shall be retained for all practitioners.
9. Service under the National Health Insurance Act shall count towards pension, etc., in any new service.
10. After retirement doctors to have the right to undertake remunerative work without loss or reduction of pension.
11. Sick leave on full pay shall be allowed for an agreed period and a locumtenent shall be provided by the State.
12. All practitioners of British nationality on the *Medical Register* on the appointed day shall have a right of entry into the service, and also all such practitioners subsequently admitted to the *Register*.
13. There shall be secured to aggrieved patients and aggrieved doctors a statutory right to have any complaint fully investigated.
14. Practitioners adjudged to be guilty of faults incurring removal from the *Medical Register* shall have full right of appeal to the Courts.

Dr. Ward said that the Conference was more representative of general practitioners than any other body in the Kingdom, and it was meeting in the face of an obvious and considerable threat with no policy at all unless it was the policy of evolution which the Conference had just failed to reaffirm. State control was coming, but were there not certain measures on which they could agree and which would apply to any system—measures for safeguarding what might be called the decencies of practice? In Kent they had tried to provide some sort of policy on which the Conference might agree. While they might not be able to make themselves heard on general policy by a Government which had recently received a mandate from the country, surely they would be heard on terms of service. They would have to get down to "brass tacks," to such relatively small matters, for instance, as whether the administrative medical officers of the service should be drawn from general practitioners.

Dr. F. C. COZENS (Kent) said that the main thing for the Conference to do was to unite. If they could not dig their heels in and unite against what might possibly be the hard terms of a national service they would regret it for the rest of their professional lives. Surely there could not be a division of opinion as to the least possible things they should accept. Dr. J. H. BENNETT (Kent) also spoke in support of the motion. Dr. J. A. IRELAND (Shrewsbury) believed that there was not going to be any further contact of the profession with the Minister. Negotiations of the "Willink type" would not take place, and such negotiations were the only ones capable of any fruitful outlook so far as they were concerned.

Dr. S. **Wand** (Birmingham) said that most of them would be in agreement with the majority of the principles set out in the Kent resolution, but it would require a Representative Meeting to discuss them fully. He suggested that the general principles be accepted and that the motion be passed to the Negotiating Committee for more intimate discussion. Dr. **Ireland** seconded.

Dr. **Gordon Ward** asked whether it was suggested by Dr. Wand that the Conference was not a fit body to debate these subjects. ("No.") What was the Negotiating Committee? Was it negotiating? Was it doing anything at all? The Negotiating Committee had in the past done controversial things on which that body of insurance practitioners had had no opportunity of expressing an opinion.

Dr. H. **Guy Dain** (Chairman of Council) said that it was important that the Conference should show to the public a united front on the negotiation of a health service. Dr. Gordon Ward had done a great disservice by endeavouring to discount the value and importance of the Negotiating Committee. The body appointed by the profession should have the support of the Conference. They had all had an opportunity of seeing the results of the negotiations with Mr. Willink, and in view of this, and with a new Government in power having perhaps entirely different ideas, it was a stab in the back for medical negotiation to get up at this time of day and say that the Negotiating Committee was not to be trusted. Some of them saw the Minister last week, and he said he was looking forward to having a talk with representatives of the profession. It was important to strengthen the hands of those representatives.

Dr. **Gregg** said that there was running through this series of resolutions by Kent a distinct implication of acceptance of a whole-time State salaried medical service. Dr. Ward had appealed for unity. Let them keep on that note and have unity, and not spend their time criticizing those who had been placed in the position of negotiators. The Insurance Acts Committee was represented on the Negotiating Committee, but he would remind the representatives that neither the I.A.C. nor the Conference was an independent entity. On the Council of the B.M.A. he had never heard any other desire expressed than that the views of insurance practitioners on all questions affecting them should be fully heard. People talked about avoiding division when they were doing much to create it. It was not to be expected that the Negotiating Committee should come back and report to its various constituent bodies every iota in the negotiations as they proceeded. If representatives did not trust the members of the Negotiating Committee let them say so, let them name the members they did not trust, and put in some whom they did, and stick to them. It was up to them all to see that they did have some negotiations with the Minister before the Bill was introduced. It was their business to set forth three, four, five—not too many—points on which they were prepared to stand. "But don't go round the corner providing ammunition for our opponents and enabling them to say that there are divisions amongst us. (Applause.)

Dr. F. C. **Cozens** protested that those who had put forward the motion by Kent had faith in the Negotiating Committee, and the motion was designed to strengthen its hands. Dr. A. M. **McMaster** (Rochdale) said that at every Conference they passed a number of resolutions, all of which had to be referred to someone, and the only adequate body to deal with this resolution was the Negotiating Committee.

Dr. A. **Campbell** (Accrington) said that Dr. Gregg had stated that everything was reported to them. But two years ago the Conference voted that the Insurance Acts Committee be allowed three representatives on the Negotiating Committee; that was accepted by the Council, the three were appointed, and the negotiations took place, but there was not a single report to the I.A.C. If the Conference passed the Kent motion—he was not saying that he was in favour of it—he advised them not to pass it on to the Negotiating Committee. Dr. J. T. **McCutcheon** (Glasgow) said that he was most distressed as a young practitioner at the signs of disunity which were developing. How could they expect unity in the profession outside if there was unity in the Panel Conference? He urged the Conference ress its faith in the Negotiating Committee and show an to their colleagues.

Wand said that he bowed to no man in standing up hts of free speech, but he asked the Conference to do nothing at this stage which would embarrass the Negotiating Committee. How many Panel Committees had had an opportunity of discussing these proposals in the full way in which they should be discussed? There was much in the Kent resolution with which they were all heartily in concurrence; there were other things in it which they would not "touch with a barge pole."

The proposal to refer it to the Negotiating Committee was carried by a very large majority.

A State of Uncertainty

Dr. N. E. **Waterfield** (Surrey) moved a resolution expressing concern that the Minister of Health had given no indication that he proposed to enter into negotiations with the medical profession before introducing his new Health Services Bill into Parliament, and calling on the Negotiating Committee to take whatever steps might be necessary:

(1) To state in the light of decisions reached by the profession what are the conditions of service the profession consider vital before they will agree to serve;

(2) to approach the Minister and ask if he is willing to negotiate;

(3) concurrently to prepare plans for providing for the medical needs of the nation should negotiation be refused or have an unsatisfactory result.

Some of those who were at the Council meeting and met the Minister informally were very much disquieted. They were not at all sure that the Minister was intending to negotiate, although no doubt he would tell them his plans. There was every chance that he would present them with a *fait accompli.* It was for the profession to bring their views before him and to express their determination not to agree to serve unless the scheme accorded with certain principles.

Dr. **Dain** said that since the new Government had been in office an endeavour had been made on behalf of the profession to get in contact with the Minister, but until recently this had not been successful because the Minister had been too busy with his housing programme to discuss the proposals for a medical service. They had met the Minister on private occasions, on which he had always expressed very friendly and considerate feelings towards the medical profession. But they became anxious as time went on and they saw statements that a Bill was to be introduced into Parliament early next year and further statements that the hospitals were to be nationalized. Some time ago he arranged for a meeting of the Negotiating Committee, although at that time there was no indication that they were going to be called upon to negotiate. The previous Wednesday the Minister had lunched with the members of the B.M.A. Council and said that he intended to have negotiations with the representatives of the profession, though he did not state the date on which such negotiations should begin. Some of them formed the view that possibly what he did mean was that he would talk to them on conditions of service after the Bill had been introduced. On the day following the Council meeting Dr. Hill sent a letter to the Minister, and that morning, since the Conference had started, they had received the Minister's reply.

Dr. **Hill** then read the correspondence as follows:

Letter from B.M.A. to the Minister

"Dear Mr. Bevan, November 8, 1945.

The Council of the Association has asked me to express to you its appreciation of your visit yesterday. It welcomed the promise of full discussion and negotiation with the profession on the many problems involved in the contemplated legislation on health services. It is particularly anxious that the Negotiating Committee of the profession, in which the Association, the Royal Colleges, and other medical bodies combine, shall have the opportunity of discussing with you the subjects to be dealt with in the promised legislation before the decisions are finally reached and the Bill is published. The Council knows that you will appreciate that, useful though conversations with individual members and groups of our profession may be, only the Negotiating Committee can express the collective view of the profession as a whole.

You will appreciate that the British Medical Association in its approach to the problems of medicine and medical organization does not confine itself to terms and conditions of service in the narrow interpretation of those words. It is interested in and concerned with general problems of health, as its reports on nutrition, physical education, and a wide range of other subjects indicate. It is concerned with the problems of medical organization in the wider sense, as its report on "A General Medical Service for the Nation" and the Interim Report of the Medical Planning Commission indicate. In short, it is concerned with health organization and administration in their widest sense and would wish to be consulted through the Negotiating Committee upon these subjects as well as upon terms and conditions of service.

The Council thought it would be useful to indicate to you in this way the range of the B.M.A.'s interests, the representative character of the body specifically established by the profession to represent it in discussion with the Government, and, in particular, of its desire that the representatives of the profession should be fully consulted before legislation is introduced.

Yours sincerely,
CHARLES HILL,
Secretary."

Minister's Acceptance of Negotiation

To this letter the Minister replied as follows:

"Dear Dr. Hill,

Thank you for your letter of November 8. Yes. I shall be happy to meet the Negotiating Committee before the Government finally decide what proposals they will submit to Parliament. Neither of us, I think, contemplates beginning afresh a long series of protracted negotiations. Indeed to do so would mean covering all over again ground which has been repeatedly tilled and so wasting time which we cannot now afford. But I certainly have no intention of introducing a Bill until I have given the profession the opportunity to express their views to me, and I hope that I shall be able fairly soon to invite the Negotiating Committee to meet me for this purpose.

I fully appreciate that the medical profession as represented by the Committee are concerned in the matter of the new health service, not merely with terms and conditions on which they will take part in it, but all the wider considerations, the public interest and the general technique of health services organization.

Yours sincerely,
ANEURIN BEVAN."

The reading of the letter was received with applause from the Conference. Dr. **WATERFIELD** congratulated the Chairman of Council on what had been achieved. He suggested that the motion he had just proposed should be withdrawn, but that paragraphs (1) and (3) should be referred to the Negotiating Committee, the words "should negotiation be refused" being deleted from paragraph (3).

This was agreed to.

Dr. J. A. **PRIDHAM** asked if the I.A.C. had taken any action in the event of the breakdown of negotiations. Dr. **GREGG** said that that eventuality had been considered, and some time ago a committee was set up to deal with that specific matter. The Committee had met again fairly recently and gone over the material.

Dr. **FRANK GRAY**, chairman of the committee in question, then made a private statement to the Conference.

Treatment of Invalided Service Men

Dr. **HOWIE WOOD** (Isle of Wight) moved that it should be made possible for clerks of insurance committees to obtain the medical records of demobilized Service personnel on the request of the patients' doctor and subject to the patients' permission. It was of the utmost importance to the patient that the practitioner should have ready access to the medical history, particularly in the case of those men who had been invalided from the Services. It was possible to make application for these records to the Ministry of Pensions, but men in his area had found difficulty in getting the information which was sought.

Dr. **GORDON WARD** said that if they wanted to wreck the whole system of the Ministry of Pensions they should pass this motion and let these records get loose in the hands of insurance practitioners. ("Oh.") Had they any idea of what such records were like? They represented an enormous bundle.

It was agreed to substitute the words "a précis of the medical records," and Dr. **GREGG** said that the I.A.C. would take this up again with the Ministry. If a practitioner in any part of the country had difficulty in the matter he hoped that he would communicate with headquarters.

Certification

A further motion by the Isle of Wight was accepted that in view of the long delay in obtaining alteration of the certification rules, the draft new rule, combining Rules 5 and 12, should be put into operation forthwith without waiting for the Ministry's reply to the submission of the I.A.C. (see Annual Report, paras. 19-21), which the Conference strongly supported.

Dr. J. G. F. **HOSKEN** (Gloucestershire) moved for the appointment of a subcommittee to study and amend the forms of certificate to be used in any N.H.I. practice and to impress upon the Ministry the urgency of a reduction in the number of individual forms at present existing. He said that five volumes of certificates had now been produced which the rural practitioner had to carry about with him in his rounds of the countryside. It would be an advantage to have them reduced to the original two. The wording of the certificates might also be revised. The motion was accepted, and Dr. **GREGG** asked that any practical ideas for the revision of certificates might be sent in for consideration.

The Regional Medical Service

Dr. L. H. **WILSON** (Sheffield) moved to instruct the I.A.C. again to urge on the Ministry that no reference of patients should be made by the regional or divisional medical officer to the tuberculosis officer or other specialist without previous consultation with the doctor in attendance. He said that it could not be too strongly emphasized that the function of the regional medical officer must be confined to the ascertainment of the patient's capacity for work, and not extend to advice concerning treatment.

Dr. G. W. **TAYLOR** (Leicester) proposed an amendment which extended the original motion and stated that no such reference should be made "under any circumstances."

Dr. J. T. **MCCUTCHEON** (Glasgow) said that in Scotland they could not support this proposal, because there they had an excellent Regional Medical Service and there was good co-operation between practitioners and the regional medical officers. Dr. W. **JOPE** (Lanarkshire) also asked for the exclusion of Scotland from this proposal. The Regional Medical Service was a very valuable one to the Scottish practitioner, and he had never heard a practitioner say a word against it. Dr. G. H. **SINCLAIR** (Dumfriesshire) spoke to the same effect. Dr. A. **BEAUCHAMP** (Birmingham) hoped the Conference would support the Leicester amendment. The function of the regional medical officer was to decide as to capacity or incapacity for work. The regional medical officer would have the full co-operation of the insurance practitioner.

Dr. **GREGG** said that so far as he understood the Scottish scheme it was not an integral part of the original N.H.I. organization; it was the result of an arrangement which had been agreed between the practitioners themselves and the Department of Health for Scotland. The matter set out in the present motion arose out of an altogether different set of circumstances and was related to the ordinary working of N.H.I. They had found that there was developing on the part of the Ministry a new way of doing certain things, and although the Ministry stated that it was always within its power to do them, the committee considered that it was a new departure. The regional medical officer was embarking on the field of treatment. The committee took the greatest exception to the case being taken out of the practitioner's hands by the regional medical officer, and it had succeeded in getting the Ministry to wipe out the arrangement so far as the reference by the regional medical officer to the tuberculosis officer was concerned. He was very much in sympathy with the idea of extending their efforts so that the regional medical officer should not refer a patient to any specialist without first giving the patient's own doctor an opportunity to do so, and when the committee next met the Minister this particular matter should be down for discussion. But the Leicester amendment included the words "under any circumstances," and there might be some cases in which a practitioner was remiss in carrying out his duties—the kind of case which might be on the eve of coming before the Medical Services Subcommittee. Perhaps the I.A.C. might be allowed to discuss this whole question with the Ministry.

Both the motion and the amendment were referred to the I.A.C.

New Entrants into Insurance

Dr. **HOWIE WOOD** proposed a motion which was agreed to supporting fully the recommendations of the I.A.C. as set out in para. 29 of the annual report, and recommending that Form Med. 50 be duly amended to show that the insured perso already employed. A motion by Sheffield was also agreed to, to press the Ministry to find some way by which new entrants to N.H.I. could be issued with a medical card immediately they became employed.

Dr. N. S. B. **Vinter** (Bristol) asked the Conference to agree that when the irregular removal of a name from a doctor's list was remedied during the same or the following quarter, the capitation fee for that quarter should be credited to the doctor concerned, even though the reinstatement did not take place during the statutory ten days.

Dr. A. **Beauchamp** said that in Birmingham there was an arrangement whereby when a patient had been irregularly removed from the list the insurance practitioner was credited with the capitation fee from the date of removal. If the Bristol motion were carried it would mean that the doctor would get paid from the beginning of the quarter in which the removal was noticed and not from the actual day of removal.

Dr. **Vinter** agreed to the amendment of his motion in the sense suggested by Dr. Beauchamp, and the motion was agreed to.

A motion by Sheffield calling attention to the continuance of this irregular procedure, and urging the Ministry to take action to alleviate a grievance which caused hardship to the insured person and hindered the doctor in the performance of his duties, was also carried.

Sickness Benefit and Pregnancy

Dr. W. F. **Eberlie** (Bedfordshire) moved a resolution expressing dissatisfaction with Form R.M.2 from the point of view of the pregnant woman and pointing out that it did not agree with the resolution passed by the Annual Representative Meeting that all examinations within eight weeks of the expected date of confinement should be made at the patient's home. The arrangement proposed by the Ministry would tend to disturb the patient and to upset the idea which they had been inculcating for many years that pregnancy, after all, was not in any way an illness. If, of course, the intercurrent condition was of such a nature as to prevent the pregnant woman leaving her home then the provisions of Form R.M.2 were very satisfactory.

Dr. A. **Beauchamp** opposed the amendment. He agreed that pregnancy was not an illness, but if examination was to take place he did not think it right for the pregnant woman during the last eight weeks of pregnancy to be called upon to go to a regional medical centre which in many cases was quite a distance from her home.

Dr. **Gregg** pointed out that there was all the difference in the world between the woman going to her doctor whom she knew and to whom she went regularly under circumstances suitable to herself, and having to travel a considerable distance to a place where she had not been before and seeing someone who was a complete stranger. The committee was not satisfied with the Ministry's view and would continue to press for all examinations within eight weeks of confinement to be conducted at the patient's home. Dr. J. A. **Ireland** said that he knew of patients in his town of Shrewsbury who were required to travel to Wellington, eleven miles away. It was an unreasonable thing to expect of the pregnant woman.

Dr. **Eberlie** pointed out that Form R.M.2 was a form which was under their own control; they did not like the idea of compulsion in this matter.

The Bedfordshire amendment was lost.

Dr. G. F. **Chissell** (Reading) moved a resolution urging that sickness benefit be paid for six weeks preceding the date of confinement. He said that a number of women in his area did not seem to know whether they were entitled to benefit or not. The idea of bringing this up at the Conference was to get some definite ruling.

An amendment to this was moved by Southampton:

> This this Conference considers that provision for payment should be made in the case of employed women of a weekly maternity benefit for a total of thirteen weeks on both sides of the date of confinement after the issue of the first certificate by the practitioner, h certificate, would normally be given six weeks before the ed date of confinement.

ver explained that the purpose of this was to avoid the woman within six weeks of her confinement having every week to her doctor, even when it was not him to see her clinically.

Dr. **Howie Wood** supported the amendment. He said that the Government agreed that it was a desirable thing that the woman should be paid over a total period of thirteen weeks on both sides of her confinement, but they were not prepared to bring it into operation immediately owing to a fear of embarrassing the new proposals as a whole. That was an example of the procrastination which was causing so much annoyance among insurance practitioners. If a thing was good and desirable why not simply issue a regulation and bring it into force immediately?

The Southampton amendment was agreed to by the Conference.

Post-war Financial Aid for Doctors

Dr. F. E. **Gould** (Birmingham) had a motion asking that all information relating to the new scheme for the purchase of practices should be circulated as soon as possible, and to all medical officers while they were still serving. As this information would also be of value to other doctors in practice who might not yet have completed the full purchase of their practices, or who contemplated entering into partnership, a copy of the scheme should also be sent to them.

The **Secretary** said that the office would give further publicity to the scheme. In so far as demobilized doctors were interested in the scheme there was being issued to each one a booklet entitled *The Returning Doctor*, which included the fullest details.

Dr. **Gould** said that he wanted the information circulated to doctors while they were still serving. There were doctors not yet demobilized to whom this booklet would be useful.

The motion was carried.

Treatment of Tropical Diseases in Ex-Service Men

Dr. G. F. **Chissell** (Reading), in connexion with the reference in the annual report to the facilities for the treatment of ex-Service people suffering from malaria and other tropical diseases, moved:

> "That this Conference considers that the medical report should be sent to the patient's own doctor so that treatment may be continued at home, if possible, references to hospitals being made only if necessary."

He said that in his own area it was difficult to obtain hospital accommodation. Persons returning from the Tropics were in the habit of assuming, for example, that every attack of enteritis was dysentery, and in consequence a number of patients would be sent to hospital without cause.

The motion was agreed to.

Dr. W. R. **Pratt** (Bournemouth) moved to instruct the Committee to ask the Minister to circulate a memorandum on the modern treatment of tropical diseases. He said that in 1943 a letter of advice was sent to medical officers of health regarding the provision of consultant services and laboratory investigation. Since demobilization started many of the Service personnel had been discharged from hospital during treatment and their doctors might be uncertain as to how they had been treated. A memorandum such as this would be of benefit to both patient and practitioner should future advice and treatment be required. It would probably save further reference to the still overcrowded out-patient department. The motion was carried.

This completed the motions arising out of the report of the Insurance Acts Committee, and the report was approved.

NATIONAL INSURANCE DEFENCE TRUST

Dr. J. W. **Bone** (Treasurer of the Trust) reported a gratifying increase in subscriptions from Panel Committees. The amount received from this source had increased from about £7,000 in 1943 to £12,400 in 1944, and in the current year already to £16,500. The largest cheque received from any single Panel Committee in recent months was £5,000 from County Durham. The assets of the fund, at the nominal value of the securities, were £301,000, and they were at a much higher figure than that at present prices.

MEDICAL WAR RELIEF FUND

Dr. **Dain** drew the attention of the Conference to the claims of the Medical War Relief Fund, by which it was hoped to help men coming back from the Services who found their financial affairs in a very sad condition. The appeal was made only to doctors; nobody outside the profession had been approached. Men were now being demobilized and in a position to start in practice again, but in some cases found themselves seriously handicapped for want of ready money. Requirements were increasing rapidly, and a special appeal would shortly be issued, headed, it was hoped, by a substantial list of early contributions and promises. The "target" was £100,000.

The ASSISTANT SECRETARY (Dr. Macrae) said that this was the second appeal for this fund. The first was made at the initiation of the fund five years ago, when there was plenty of time to prepare the ground. On that occasion 126 people sent early individual contributions amounting to £1,525. On this occasion, during only a fortnight, there had been 73 individual replies bringing in a total of £1,672. Already four subscriptions each of 100 guineas, and nine of 50 guineas, had been collected. There had not been much time for Panel Committees to do anything, but 15 of them had already sent or promised a total of more than £900. In addition 200 guineas had been received from the Royal College of Physicians. The total amount raised in a fortnight was £2,800. (Applause.)

MATTERS NOT REFERRED TO IN ANNUAL REPORT

Grouping of Areas for Election of I.A.C.

The Conference then turned to a number of motions from Panel Committees which dealt with matters other than those referred to in the annual report.

Dr. J. H. WARD (Lindsey) brought forward a motion urging reconsideration of the grouping of areas for election of direct representatives to the I.A.C. Lincolnshire, he said, was in Group H, which included also Leicestershire, Nottingham, and Rutland. For 25 years Lincolnshire had never succeeded in getting one of its men elected on to the Committee; it was always outnumbered by Nottingham, which meant that in effect Lincolnshire was disfranchised. This had caused considerable dissatisfaction.

Dr. J. COTTRELL (Grimsby) supported the protest, pointing out that Lincolnshire was the second largest county in England. They objected to "being misrepresented by the industrial Midlands." Dr. N. S. B. VINTER (Bristol) said that in the West Country they were in a similar difficulty. The area of his Group stretched from the borders of London to the Bristol Channel. There should be a general recasting of Groups.

Dr. GREGG sympathized, but said that when one began to tinker with the present basis of I.A.C. representation the result was only to produce inequalities elsewhere. His predecessors in the chair of the I.A.C., Sir Henry Brackenbury and Dr. Dain, had both tried their hands at it, as he in his turn had done, but without success. He was quite prepared to have the matter looked at afresh by the I.A.C. so as to arrive at a better representation of constituencies. In the meantime it would help matters if representatives of Groups on the committee would remember that they represented the whole area and not merely their own district. A little sportsmanship whereby representation might be shared in turn between different parts of the area at successive elections was also to be commended.

Dr. A. T. ROGERS (Bromley) said there should be a much greater use made of the Group Consultative Committee mechanism. This would allow the different counties and county boroughs in each Group to get together regularly.

The Lindsey motion was carried by a very large majority.

Dr. H. W. POOLER (Derbyshire) called attention to the continued disfranchisement of Derbyshire owing to the preponderant strength of Panel Committees in Cheshire (the other county included in Group F), and urged some rearrangement, preferably by the inclusion of Derbyshire in the North Midland Group. It was not a good arrangement, he said, whereby one county in a two-county group was overwhelmed by the numbers in the other county so that it had no chance of obtaining direct representation. Dr. J. KERR (Cheshire) said that it was certainly not true that Derbyshire had been permanently disfranchised. From 1929 to 1937 the representative of the Group, who served with great acceptance to the Cheshire Panel Committee, was Dr. Pooler himself.

A motion to consider the question of Derbyshire was carried.

Dr. POOLER moved that the Ministry of Health be approached with a view to securing its approval of new elections of Panel Committees at an early date. He said that it was six years since Panel Committee elections took place. There had been Parliamentary and municipal elections, but Panel Committee elections could not take place without the sanction of the Ministry. Some Panel Committees had made the approach on their own initiative, but he thought this was a matter which should be carried out by the I.A.C.

Dr. GREGG promised that the necessary inquiries would be made so as to make it possible for elections to be held.

Mass Miniature Radiography

Dr. H. SUNDERLAND (Bradford) moved that in cases where a patient was examined by mass miniature radiography and abnormal findings were discovered it should be the practice for these findings to be communicated to the patient's own doctor, through whom further investigation should be arranged to establish a diagnosis. He said that no one could disapprove of a method of examination which conferred such benefit, but the question was what was to be done with the cases in which something abnormal was discovered at the first examination. His committee had been rather concerned lest such cases drifted into the clinics for further examination and were not referred to the patients' own doctors. The method of mass miniature radiography was revolutionary because it introduced the practice carried out by the public health authorities in which diagnosis of disease was made in its early stages. This hitherto had been regarded as the chief concern of the private practitioner, and if this practice by the public health authority was not checked and cases which showed abnormalities were referred to the chest clinics instead of to the private doctor, the latter position was going to be sidetracked. He drew attention to an article in the *British Medical Journal* of Oct. 27 concerning mass miniature radiography of factory groups in Middlesex, in which it was stated: "There were a further 36 who, having had a large film and on interview being recommended to attend a chest clinic, failed to do so." It seemed quite obvious that the practice was to refer to a chest clinic those cases in which abnormalities were discovered.

Dr. W. D. STEEL (Worcester) pointed out that it would be helpful to have the normal as well as the abnormal findings communicated to the patient's doctor, and he moved that the resolution read as follows:

> That in cases where a patient is examined by mass miniature radiography it should be the practice for the findings to be communicated to the patient's own doctor, through whom further investigation, if necessary, should be arranged to establish a diagnosis.

In this form the motion was agreed to.

Assistance for Returning Practitioners

Dr. H. C. BOYDE (West Ham) moved:

> That this Conference recognizes that many practitioners discharged from service with H.M. Forces will return to "panel lists" which are seriously depleted, particularly because of their inability to undertake new acceptances during their absence. It endorses in principle the efforts of those Panel Committees which are trying to provide some compensation for these practitioners by appropriate adjustments of their Distribution and Allocation Schemes, but believes this should be done on a national scale. It instructs the Insurance Acts Committee to examine with all possible speed the possibilities of taking such action, and to issue guidance thereon to Local Medical and Panel Committees.

Dr. Boyde said that the first sentence was simply a statement of fact. In the view of his committee it was not enough to recognize the fact, but everything possible must be done to remedy the position and to make up to their absentee colleagues something of what they had lost. This in fact linked up very closely with Dr. Dain's appeal for the Medical War Relief Fund. There was no suggestion of a hard-and-fast scheme. It was desired only to ventilate the question and obtain agreement on the principle if possible. The problem of recompensing their absentee colleagues for loss of insurance practice was relatively easy in those areas where "pegging" had taken place, and in such areas an admirable lead had been given by the Essex Panel Committee. He understood that in Essex this would cost between 1% and 2% of the total pool. The acting practitioners who had not been away would subscribe in effect a sum of money for the support of those who had. The problem was not so easy in relation to an area like West Ham. There the lists of men who had been away on service since the days of the war had fallen by 75%. His colleagues were anxious to follow the lead of Essex to some degree and to subsidize these men who were returning, but another interesting fact was that the lists of the acting practitioners who did not themselves go on service had also almost uniformly dropped by some 45%. It was therefore a little difficult to ask men who had already lost considerably themselves to subsidize their colleagues. In the case of West Ham this would cost, not 1% to 2% as in Essex, but about 14% of the total pool. This matter should be tackled on the national scale.

Dr. I. G. **Innes** (Hull) said that it seemed unfair that the acting practitioners whose lists were very much diminished should bear the whole brunt of this obligation. In Hull, owing to bombing attacks and other causes, the population diminished from 315,000 to 180,000 at one time, and the lists of practitioners accordingly suffered heavily.

Dr. R. A. **Woodhouse** (Essex) supported the West Ham motion. Essex, he said, had formulated a scheme which it was proposed to put in operation on Jan. 1 next. The proposals had been circulated to all the doctors in the county, and out of 800 there had been only two dissentient voices. This was regarded as a gesture to their returning colleagues. The amount required would in no instance be more than £25 and in most instances very much less than that. It would be made retrospective from Jan. 1, 1945, and so would cover men lately demobilized.

Dr. D. F. **Hutchinson** (Middlesex) speaking as one of the returned practitioners, said that in Middlesex they had not had any scheme of "pegging." He foresaw many practical difficulties in the West Ham motion. In actual fact it seemed to him asking rather too much of their colleagues who had undoubtedly borne the heat and burden of general practice during the absence of others on service to expect them to make a substantial addition to the incomes of these absentee practitioners on their return. The resolution showed the most excellent feeling, but he thought it hardly practical politics.

Dr. G. **de Swiet** (London) was in whole-hearted agreement with West Ham, but he desired to put in a word for London practitioners. As a member of the London Protection of Practices Committee he had studied a good many cases of practice of absent doctors, but now and then he had come across the cases of those who did not absent themselves from their practices, and some of these were harder cases than the others. He had in mind one case in which such a doctor had lost 90% of his panel practice. There would have to be some adjustment between reception and evacuation areas, and London was notoriously an evacuation area. It would be necessary to have a give-and-take between these two kinds of areas; up to now there had been only "give" so far as London was concerned.

Dr. S. F. **Fouracre** (East Riding) said that in Hull and in his area they were prepared to go on with this scheme locally if necessary, but to do that they would have to alter the allocation scheme for the district and get the acceptance of all the panel practitioners in the area. He wanted this resolution to go through, but it should be carried out on a national scale. Further, the question should be examined by the I.A.C. with all possible speed because the matter was urgent.

Dr. G. H. **Sinclair** (Dumfriesshire) said that Scotland was ready to give this scheme its support. A meeting was held recently in Edinburgh attended by representatives of the Department of Health and of Panel and Insurance Committees, and it was stated by the Department that if the Essex scheme were put into effect on agreement of a majority of the doctors in the area, all the doctors in that area would be bound to fall in. The support of Scotland was also voiced by Dr. C. W. **Somerville** (Midlothian).

Dr. A. M. **McMaster** (Rochdale) thought that a local scheme was not enough. In his area, to recompense the returning practitioners a levy of 1½d. per insured person would be required, but a London representative had told him that day that in London the levy would have to be about 2s. ("No.") The I.A.C. should decide on a levy for all areas. Dr. F. C. **uzens** (Kent) pointed out that circumstances during the war so bad in the coast towns of Kent that men had to appeal Ministry to be included in the E.M.S. if they were to live In fact, the absentee practitioner was doing very much the practitioner who was at home. He felt that if helping the returning practitioner was to take any m it should be on a national basis. Local areas could not find an equitable figure. It was only by spreading such a figure over the whole nation that the practitioner who remained at home could meet the obligation adequately. He doubted very much if they would be in a position to stand a levy such as West Ham had suggested.

The **Chairman** said that the Essex representative desired to make it clear that Essex would go forward with its own scheme, but that if anything on a national basis was arrived at it would let its scheme go and come in on the national footing. Dr. H. C. **Boyde** said that what they were endeavouring to do in an organized fashion through N.H.I. funds was the same thing as they were endeavouring to carry out on the private side by means of the Medical War Relief Fund.

The West Ham motion was carried with two dissentients.

Demobilization of Practitioners

Lieut.-Col. A. H. D. **Smith** (Carmarthenshire) moved that, with a view to expediting the demobilization of medical personnel from the Forces, the I.A.C. be asked to press for representation on the Central Medical War Committee of medical men who had held commissions in territorial or temporary mobilized forces since September, 1939. He said that this was no reflection on the excellent work done by the Central Medical War Committee, but an entirely different state of affairs existed to-day, calling for a new outlook. The officers mentioned in the motion would know better than anybody else the exact state of affairs both in civilian practice and in Service life. A number of officers who had held such commissions for six years were now returning.

The **Chairman** said that this matter was already being taken in hand and would no doubt be implemented at the next meeting of the Central Medical War Committee.

The motion was carried.

Dr. B. **Hutchison** (Lanarkshire) moved:

> That immediate steps should be taken by the Government in the interests of the insured population to accelerate the demobilization of medical practitioners from H.M. Forces.

His committee had been seriously concerned by the very slow demobilization of medical practitioners. At the beginning of the war practically all the junior men in his area who were acting as assistants were called up, but that was not sufficient to fill the quota, and many of the younger men in practice in the county were also called up. This led to a heavy burden on the older doctors left. During the last six years the numbers had been further depleted by death or retirement, and in his own area 17 practices had fallen vacant and the work had had to be shared out. On the other hand many doctors still in the Forces were doing nothing. He was informed of one Service hospital of 1,200 beds, fully staffed, in which there were fewer than 500 patients, and very few of those were seriously ill. It was time to demand some relief for the men in civilian practice.

On the motion of Dr. J. A. **Ireland** (Shrewsbury) the motion was extended to include medical students in Class B, and in this form it was carried.

Other Motions

A motion from Glasgow, that the continued toleration of unscientific and untruthful advertising of proprietary medicines is an evil inimical to medical progress and the best interests of the public, was carried without discussion.

A motion by Swansea urging that the time was ripe for the removal of the purchase tax from doctor's prescriptions, drugs ordered in bulk for dispensing, and surgical instruments, was also carried, and was extended to include doctors' cars.

Dr. J. **Ward** (East Sussex) moved a resolution deploring the prejudice against insurance practitioners who had the necessary experience and qualifications in connexion with obtaining hospital appointments for major specialties, and he cited a particular case. Dr. C. M. **Stevenson** (Cambridge) said that formerly in his town there was a prejudice created against hospital consultants doing general practitioner work, but an agreement was arrived at with the consulting staff of the hospital that they would entirely give up general practice work, and that agreement had been in existence for fifteen or twenty years and worked perfectly satisfactorily on both sides.

The motion was carried.

Dr. H. R. **Cran** (Surrey) moved:

> That this Conference is of opinion that persons discharged from the Services should not be supplied with medical cards until they have entered or re-entered insurable occupations.

He said that there were two main groups of people coming out of the Services. One group consisted of those who had been insured before they joined the Service, and during their time of service they had had a certain amount a week deducted from their pay. Some of these people were coming out after six years during which they had not contributed a penny to medical benefit, but they were given a medical card and were entitled to eighteen months' free medical attention although they might or might not enter insurable employment. Then there were the persons who had never been insured. They also were presented with a medical card entitling them to eighteen months' free medical attendance. Some of these cards were presented quite irrespective of the income limit of the person concerned. Dr. Cran exhibited a card which had been given to him by a member of the Stock Exchange, a broker in a large way of business, who was a major recently discharged, and whose income, of course, was above insurance limits. He had not paid for medical benefit, nor had anything been paid on his behalf, and yet he was entitled to such benefit free for eighteen months.

Dr. **Gregg** said that he felt that the Ministry ought to be asked for some definite information on this subject, and he promised that it should be taken up with the Ministry at an early date.

The motion was carried in the form of a reference to the Committee.

Closing Proceedings

Dr. J. A. Brown was unanimously re-elected chairman of the Conference. A ballot was taken for the election of six members of the Insurance Acts Committee by the general body of the Conference. The six so elected were: Dr. A. Beauchamp (Birmingham), Dr. I. D. Innes (Hull), Dr. J. A. Ireland (Shrewsbury), Dr. J. A. Pridham (Weymouth), Dr. F. M. Rose (Preston), Dr. N. E. Waterfield (Surrey).

Dr. D. G. Greenfield was re-elected as the representative of the Conference to serve on the Conjoint Committee of Epsom College.

Dr. N. E. **Waterfield** obtained permission to move the following as an emergency resolution:

> This Conference recommends the Negotiating Committee in their negotiation with the Minister to express the view that the medical profession is not prepared to accept a full-time salaried service; that in any body or bodies set up to administer the service the medical profession should be adequately represented; that there should be no "direction" of medical personnel; that the patient should have the right to decide whether he should receive his treatment under the scheme or by private arrangement; and that the doctor should be entitled to treat patients either under the scheme or privately according to the wish of the patient.

He said that these were founded on decisions reached at various representative conferences, and he thought they crystallized what the medical profession, or the majority of it, desired.

Dr. **Dain** said that the principles put forward in this resolution were among those which had been established at various meetings of the medical profession, both the Representative Meeting and the Panel Conference. There was nothing new in any of them. But they had been put together very quickly, and while he had nothing to say in opposition to any of them, they were not all of equal importance and were not necessarily set out in the best language to establish them. The Negotiating Committee was to meet in the following week to lay down the principles which would be placed before the Minister, and he hoped that, while the Conference might approve everything in the resolution, it would not at that stage of the proceedings, when it was placed before them without any warning and without any opportunity of consulting their constituents, pass it as a binding resolution. He wanted everything done properly and with proper thought.

On the motion of Dr. H. W. **Pooler** it was agreed by the necessary (two-thirds) majority to pass to the next business.

On the proposition of the chairman, the Conference sent a message of sympathy to Dr. L. J. Picton in his illness.

The Conference concluded at 4.30 p.m.

Correspondence

Sickness Benefit and Pregnancy

Sir,—For several years I have been very much troubled over this question, and the position seems further complicated by the paragraph in the report of the Insurance Acts Committee (Oct. 13, p. 83). We have an official memo. 324 A.I.C. (which I have tried to obey against strong pressure from insurance agents and patients), and this forbids us to give certificates of incapacity to women in normal uncomplicated pregnancy, with the vague proviso that it *might* be done in exceptional circumstances. Now we have the Ministry suggesting that we should disobey its instructions, and, as I understand it, give certificates to *all* women in the last two months. The situation is ridiculous.

We also remember that the Ministry in the past has demanded complete obedience to the last letter of its certification rules (nearly all the work of the medical service subcommittee is on this subject), and now we are invited to ignore the Ministry's explicit instructions, which are not modified or withdrawn in any way. Our only warrant for this is to be a report of an interview or correspondence published in an unofficial journal with no guarantee that it is accepted by the officials or will be the basis of their future action. Can we quote this report before a medical service subcommittee and must they accept it as authoritative?

Surely the simple way out is for the Minister to put his pride in his pocket and withdraw his memo., and let the question of incapacity be decided on medical grounds and not on insufficiency of funds.—I am, etc.,

King's Langley. **Reginald Fisher.**

Local Medical War Committees

Sir,—In the *Supplement* of Oct. 13 (p. 84), under the heading "Heard at Headquarters," reference is made to criticism of Local Medical War Committees in exercising what is described as their little brief authority. Before any Local Medical War Committee feels that, as amateur administrators, they have been unjustly criticized in carrying out what is apparently only an improvised procedure, an opportunity of considering the original context of the expression "a little brief authority" may prove salutary. It may also remind them that membership of a Local Medical War Committee does not confer any immunity from the same human errors such as are attributed in your columns to some critics. I therefore take the liberty of bringing the original context to their notice:

"... but man, proud man!
Drest in a little brief authority;
Most ignorant of what he's most assur'd,
His glassy essence,—like an angry ape,
Plays such fantastic tricks before high Heaven,
As make the angels weep."

Measure for Measure, Act II, Scene 2.

—I am, etc.,

Bournemouth. **Thomas Robson.**

Regulations which restrict the use of the title "nurse" and govern the licensing and control of agencies for the supply of nurses came into operation on Oct. 15. They have been made by the Minister of Health and the Secretary of State for Scotland under the Nurses Acts, 1943. It will now be an offence for persons to use the title "nurse" unless they are State-registered nurses or enrolled assistant nurses. The Acts make an exception, however, in favour of children's nurses, and by the regulations titles such as "trained nurse," "maternity nurse," "student nurse," "pupil assistant nurse," and others can be used by certain classes. Agencies for the supply of nurses—often called "nurses' co-operations"—must be licensed by local authorities and supply only State-registered nurses, enrolled assistant nurses, midwives, or members of other classes allowed by the regulations. The main objects of these provisions are to secure that only persons possessing some nursing qualification shall describe themselves as nurses, and to safeguard the public against the risk of being supplied without their knowledge with the servi of unqualified persons, possibly at high fees.

SERVICE M.O.s OF QUEEN'S UNIVERSITY, BELFAST

The Northern Ireland Government has made a grant to Queen's University to enable a scheme for demobilized medical officers to be evolved similar to that in Great Britain. Under this scheme graduates who joined the Forces within a year or so of qualification (Class I) will be appointed house physicians or surgeons for a period of 6 months in a teaching hospital. Remuneration will be at the rate of £350 per annum if resident, £450 if non-resident.

For those practitioners who on recruitment were being trained to become specialists or consultants a number of posts of registrar status will be available. The salaries for these posts will be of the order of £550 a year plus board and lodging, or £100 in lieu thereof. Facilities for refresher courses will also be made available for general practitioners if so desired.

All applications concerning these appointments should be made to Prof. J. Henry Biggart, Dean of the Medical Faculty, Queen's University, Belfast.

RELEASE FROM THE R.A.F.

The Central Medical War Committee has been informed of a further acceleration of the rate of release of R.A.F. medical officers. In addition to age-service groups 21 and 22, groups 23, 24, and 25 will be released during December, 1945.

LOAN OF LIBRARY BOOKS OVER-SEAS

The Council of the British Medical Association has decided to extend the facilities for borrowing books from the Library to members serving with Occupation Forces, and other official organizations, in the Continent of Europe. This is an experiment, and its continuance will depend upon the various factors applicable to conditions prevailing on the Continent in so far as loss of and damage to books are concerned. The ordinary rules as to the borrowing of books will apply, with an extension for time taken in transit. No deposit will be required. Applications for books should be made to the Librarian at B.M.A. House, Tavistock Square, London, W.C.1.

MEDICAL WAR RELIEF FUND

SEVENTY-SECOND LIST

Amount previously acknowledged £58,397 19s. 9d. *and* £100 3½% *Conversion Stock and* £40 3% *Defence Bonds*

Individual Subscriptions

£5 5s.—Dr. J. G. Thwaites, Brighton.
£2 2s.—Major W. Happer, I.M.S. (27th donation).
£1 1s.—Dr. T. B. Evans, Prestatyn (27th donation).
10s.—Capt. G. C. Tresidder, I.M.S. (3rd donation).

Local Medical and Panel Committees

£52 10s.—Carmarthenshire (4th donation).
£50.—Dorset (3rd donation).
£44 3s.—Newcastle-upon-Tyne (17th donation).
£42 16s. 7d.—County of Ayr (19th donation).
£32 17s. 11d.—Midlothian (19th donation).
£18 4s. 2d.—East Lothian (18th donation).

Total—£58,647 9s. 5d. *and* £100 3½% *Conversion Stock and* £40 3% *Defence Bonds*

Sums for Books for Prisoners of War

Amount previously acknowledged, £216 14s. 6d.

Cheques, payable to the Medical War Relief Fund, should be sent to the Hon. Treasurer of the Fund, British Medical Association House, Tavistock Square, London, W.C.1.

RETURN TO PRACTICE

The Central Medical War Committee announces that the following ha[illegible]esumed civilian practice: Dr. J. B. Harman, F.R.C.P., at 89, [illegible]eet, W.1: Dr. R. H. Leaver, at 49, Wimpole Street, W.1; [illegible]Kim H. McCullagh, F.R.C.S., at 149, Harley Street, [illegible] J. Shortall, F.R.C.S.I., at Laurel Lodge, Downshire [illegible] Co. Down: Dr. Bernard C. Tate, F.R.C.P., at 25, [illegible] Edgbaston, Birmingham; Dr. E. A. Wood, at [illegible] Hill, St. Leonards-on-Sea.

Association Notices

SCHOLARSHIPS IN AID OF SCIENTIFIC RESEARCH

Scholarships

The Council of the British Medical Association is prepared to receive applications for research scholarships as follows: an Ernest Hart Memorial Scholarship of the value of £200 per annum, a Walter Dixon Scholarship of the value of £200 per annum, and four research scholarships, each of the value of £150 per annum. These scholarships are given to candidates whom the Science Committee of the Association recommends as qualified to undertake research in any subject (including State medicine) relating to the causation, prevention, or treatment of disease. Preference will be given, other things being equal, to members of the medical profession. The scholarships will be tenable for nine months in the first instance, commencing on Jan. 1, 1946. A scholar may be reappointed for not more than two additional terms of one year each. A scholar is not necessarily required to devote the whole of his or her time to the work of research, but may be a member of H.M. Forces, or hold a junior appointment at a university medical school or hospital, provided the duties of such appointment do not interfere with his or her work as a scholar.

Conditions of Awards: Applications

Applications for scholarships must be made not later than Saturday, Dec. 1, 1945, on the prescribed form, a copy of which will be supplied on application to the Secretary of the Association, B.M.A. House, Tavistock Square, London, W.C.1. Applicants are required to furnish the names of three referees who are competent to speak as to their capacity for the research contemplated.

Branch and Division Meetings to be Held

WAKEFIELD, PONTEFRACT, AND CASTLEFORD DIVISION.—At Clayton Hospital, Sunday, Dec. 2, 11 a.m., Mr. D. H. Russell: Defects and Deformities of the Foot.

WESTMINSTER AND HOLBORN DIVISION.—At City Hall, Charing Cross Road, W.C., Thursday, Dec. 6, 8 p.m., ordinary meeting.

POSTGRADUATE NEWS

The Fellowship of Medicine announces: (1) Week-end course in general medicine and surgery, at North Middlesex County Hospital, all day Saturday and Sunday, Dec. 1 and 2; (2) Week-end course in diseases of the ear, nose, and throat, at Metropolitan Ear, Nose, and Throat Hospital, all day Saturday and Sunday, Dec. 8 and 9; (3) Week-end course in gynaecology, at South London Hospital for Women, all day Saturday and Sunday, Dec. 15 and 16; (4) Primary F.R.C.S. course, three evenings weekly, 6 p.m. to 8.15 p.m., Jan. 28 to April 1, 1946. Full particulars of courses from the Fellowship of Medicine, 1, Wimpole Street, W.

DIARY OF SOCIETIES AND LECTURES

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—*Mon.*, 5 p.m., Air Vice-Marshal Stanford Cade: Surgery of Cancer. *Wed.*, 5 p.m., Mr. Harry Jackson: Surgery of the Spinal Cord. *Thurs.*, 5 p.m., Prof. J. Paterson Ross: Surgery of Arterial Injury and Disease.

ROYAL SOCIETY OF MEDICINE.—*Mon.*, 5 p.m., Section or Odontology. *Tues.*, 5 p.m., Section of Medicine. *Thurs.*, 8 p.m., Section of Urology.

CHADWICK TRUST.—At Westminster Hospital Medical School, Horseferry Road, S.W., *Thurs.* 2.30 p.m., Dr. A. M. H. Gray: Some Social Aspects of Industrial Dermatitis.

ROYAL INSTITUTE OF PUBLIC HEALTH AND HYGIENE, 28, Portland Place, W. *Wed.*, 3.30 p.m., Dr. W. W. Payne, Diabetes in Childhood.

BIRTHS, MARRIAGES, AND DEATHS

The charge for an insertion under this head is 10s. 6d. *for* 18 *words, or less. Extra words,* 3s. 6d. *for each six or less. Payment should be forwarded with the notice, authenticated by the name and permanent address of the sender, and should reach the Advertisement Manager not later than first post Monday morning.*

BIRTH

WICKES.—On Nov. 7, 1945, at the City of London Maternity Hospital, to Monica, wife of Surg. Lieut. Ian Goodson Wickes, R.N.V.R., a son.

SUPPLEMENT TO THE
BRITISH MEDICAL JOURNAL
LONDON SATURDAY DECEMBER 8 1945

HEARD AT HEADQUARTERS

In and Out of the E.M.S.—and Back Again

A London consultant recently discharged from the R.A.M.C. found the protection afforded by the Reinstatement of Civil Employment Act of 1944 highly useful in a dispute he had with the Emergency Medical Service. This is the story. At the outbreak of war he joined the E.M.S. on a whole-time basis, which, at the suggestion of the Ministry of Health, was changed to a part-time basis in December, 1939. In 1943 he joined the R.A.M.C. as a surgeon specialist with the rank of major, and when in June of this year he realized that his time for demobilization was approaching he asked to be reinstated in his last civil post—namely, that of a part-time specialist in the E.M.S. He was told that this was not possible, but that he could be employed on a sessional basis. He refused this, and said that he would apply for reinstatement under the Act referred to. Then the offer came of whole-time employment at a hospital some distance away from London, private practice being excluded. But the Major stuck to his guns and had his case presented by counsel before a Ministry of Labour Tribunal, which decided that the Ministry of Health had not complied with the Act and that he should be reinstated on a part-time contract in the London area. This seems to be a useful object-lesson for others finding themselves in a similar position.

Getting Started

About two months ago the B.M.A. decided, as an emergency measure, to supplement the normal facilities available through the medical agencies by providing an advice service for demobilized medical officers. This service came into being more or less involuntarily. On the one hand, many inquiries were being received at Headquarters from demobilized practitioners; on the other, a certain amount of information was already available, from Local Medical War Committees and other sources, of practices which were in special need of assistance. It was inevitable that the office staff should attempt to bring the two together. As a further help to the ex-Service doctor, practitioners needing help are now invited to communicate with their Local Medical War Committee in order that this information may be passed on to Headquarters. It is hoped, however, that they will not regard this action as a substitute for the usual methods of introduction.

The Expert Witness

The discussion in the General Practice Committee of the B.M.A. on the difference between the ordinary medical witness as to the fact and the expert witness who offers his opinion, and incidentally the difference in fees for the two classes of evidence (Nov. 3, p. 97), was carried a little further in Dr. Norwood East's presidential address to the Medico-Legal Society on the following day. Dr. Norwood East remarked on the curious fact that the oath administered to the expert witness is in exactly the same terms as that administered to the witness who speaks only as to facts within his knowledge. The evidence of a psychiatrist in court—as well as other special classes of medical evidence—is mostly based on the opinions the witness has formed from facts observed by himself and by others. In such circumstances to be required to tell the whole truth and nothing but the truth suggests something approaching omniscience. For the relief of tender consciences, if not for protection against possible future action, there ought to be varied forms of oath. The late Mr. Justice McCardie once made a similar observation.

Another Fine Record

A correspondent, having seen my reference in these columns a week or two ago to the long service of a Leicestershire doctor on the local insurance committee, reminds me that Dr. Robert Jackson of St. Helens, who was an original member of St. Helens Insurance Committee, is still an active member. For most of that time, too, he has been chairman of the St. Helens Local Medical and Panel Committee.

The Handbook Again

The *Annual Handbook of the B.M.A.* has made a welcome reappearance. It is dated 1945–6, and a limited number of copies have been prepared for issue to secretaries of Divisions and Branches, but there will probably be a few copies over which can be had on application to the Secretary. It is very much smaller than the *Handbook* of pre-war days, probably about three-fourths of its size in superficial dimensions, and containing fewer than half the number of pages, but that makes it suitable for slipping in the pocket. It is full of the names and addresses and figures and facts which the B.M.A. secretary or other worker wants. The historical matter has been left out, also those "more important decisions of the Representative Body," which occupied 60 pages of the old book. A brief outline is given of the constitution of the Association and the powers and composition of the Council.

Two-stage Notification

The Public Health Committee of the Association has intimated its disapproval of the proposal of the Joint Tuberculosis Council for what may be described as a two-stage procedure in the notification of tuberculosis. The idea of the Joint Tuberculosis Council is that a doctor who suspects that a patient may be tuberculous should send to the local authority a non-committal or provisional notification, instead of, as now, being compelled to decide upon a definite diagnosis of tuberculosis which would automatically place the patient on the register of tuberculous persons. If this suggestion were carried out the final diagnosis and therefore the responsibility of placing the person on the register would rest with the tuberculosis officer. This is not thought by the Public Health Committee—and in accepting the report the Council of the Association endorsed the view—to be a desirable procedure. It would mean another step in the process of attrition whereby the responsibility of the doctor is lessened, and it would create a precedent in the generally accepted principle of notification, which would be undesirable and inappropriate. If this is conceded in the case of tuberculosis, why not in diphtheria and other notifiable infectious diseases?

Hon. Secretary's "Ha'pence"

It is good to learn of another proposed revival in the B.M.A. calendar—the conference of honorary secretaries of Divisions and Branches. This conference used to be held during the week of the Annual Meeting, but the honorary secretaries have not had a chance of meeting together since "Aberdeen, 1939." It has now been decided to call a conference, presumably in London, in the spring of 1946. Meanwhile, as honorary secretaries receive "kicks" from time to time, it is only right that the "ha'pence" should be acknowledged. A letter has come our way, written to the honorary secretary of one Division by a member who is removing from the area. The member, after thanking the secretary for all his kindness, adds: "It cannot be much fun being a B.M.A. honorary secretary, but a helpful secretary makes B.M.A. membership a very live advantage."

GENERAL MEDICAL COUNCIL

The autumn session of the General Medical Council opened at Hallam Street, London, on Nov. 27, under the presidency of Sir Herbert Eason, a report of whose address appeared in last week's *Supplement* at page 121. A vote of thanks to the President for his address was adopted on the motion of Prof. Sydney Smith, seconded by Dr. J. W. Bone.

The Council, sitting *in camera*, considered a report from its Public Health Committee on the revision of the rules made under Sect. 21 of the Medical Act, 1886, as to courses of study and examinations for diplomas in public health, and also received a report from the Education and Examining Committees sitting jointly on the inspection of qualifying examinations. Still in secret session it devoted a whole day to reports on the Curriculum Committees on pre-clinical and clinical studies and on social medicine and public health. The only non-penal business taken in public was the report of the Pharmacopoeia Committee, which was of a routine nature and concerned the preparations for the next edition of the *British Pharmacopoeia.*

DISCIPLINARY BUSINESS

Cases Arising out of Convictions for Misdemeanours

The Council considered the case of Ewen Lovat Fraser, registered as of Shaftesbury Avenue, Worthing, who had been found at a previous session to have been convicted at West Sussex quarter sessions in September, 1943, of driving a motor vehicle while under the influence of drink and fined £100 and 25 guineas costs and had his licence suspended for life. The Council had postponed judgment for two years. Dr. Fraser now appeared and said that he had been a complete abstainer since this occurrence, and he produced several testimonials from medical men and others in his neighbourhood. He said that his practice was among middle-class people who expected a certain standard of treatment, and if he had failed in this respect "they would have no time for me," but in fact during the past year his practice had almost doubled. Having heard his statement and considered his testimonials the Council did not see fit to direct the Registrar to erase his name.

The case next considered—also one in which judgment had been postponed from a previous session—was that of Graham George Robertson, registered as of Mariners Lane, Tynemouth, against whom it had been found that at a court-martial held at Quetta in 1942 he had been found guilty of being drunk while on active service and had been dismissed from H.M. Service, and that in 1943 at Newcastle-upon-Tyne he had been convicted of driving a motor-car when under the influence of drink. Dr. Robertson attended, accompanied by his solicitor, who put in certain testimonials on his behalf. He said that after the hearing of his case a year ago he had worked as an assistant, to the satisfaction of his principal, who had testified for him, and had refrained from all indulgence in alcohol, but in January he started to show signs of returning depression and a tendency to take alcohol again. Thereupon he sought treatment in the Crichton Royal Institution, Dumfries, and, responding very favourably, he was eventually appointed a clinical assistant there. He had, however, a slight relapse while off duty, and became a patient again, and subsequently was transferred to Gilgal Hospital, Perth, leaving this institution after about seven weeks in order to take up an appointment in a mental hospital in England. The Council again postponed judgment for a further period of twelve months.

The Council next considered the case of Ronald Alexander Paton, registered as of Birkdale, Southport, who appeared on the charge that he had been convicted of certain misdemeanours: in 1932 at Manchester of being in charge of a motor-car while under the influence of drink; in 1939 at Liverpool of being drunk and incapable; in 1943 at Southport of being drunk and disorderly; and in 1944 at Manchester of being in charge of a motor-car while under the influence of drink. Dr. Paton appeared and was accompanied by Mr. Lester Davidson, solicitor. Mr. Davidson said that in 1943 Dr. Paton was employed as a surgeon on a ship which was torpedoed, and he was three hours in the sea before being rescued, and afterwards was detained for eight days in a prison camp for security reasons. He returned to this country suffering severely from that experience. He had insomnia and severe nervous depression, and it was then that the incident occurred which led to the conviction of being drunk and disorderly in Southport. He subsequently carried his duties on another ship for ten months with complete satis- As for the conviction of 1944 he maintained that the ere was not due to alcohol but to an overdose of insulin. iabetic subject and had at the time a very unstable blood ad now received another appointment as ship surgeon o be away for 18 months. In reply to the President, Dr. Paton stated that he started diabetes in 1938 and foolishly tried to do without insulin but eventually broke down. He then started dosing himself with insulin and took as much as 20 minims. After consideration *in camera*, the Council found the convictions proved, but in the circumstances of the case decided not to direct the Registrar to erase Dr. Paton's name.

The next case was that of John Gray Gilmour, registered as of Hyndland Road, Glasgow, against whom there were four convictions—two in Scottish courts and two in Bradford—of driving a motor-car while under the influence of drink and of being found in a state of intoxication. Mr. Hempson, who appeared on behalf of Dr. Gilmour, recited a singularly tragic story of domestic trouble. Dr. Gilmour, he said, was by no means addicted to alcohol; he was a man struggling against adversity who had weakly given way on occasion. The Council found the convictions proved, but in the circumstances decided not to direct the Registrar to erase the name

Dental Disciplinary Case

The Council considered the case of Colin Newton, registered as of Ormskirk, "Dentist, 1921," on a report from the Dental Board that his name ought to be erased from the *Register*. It had been found on inquiry that in a number of cases set out he had made false statements in dental letters issued by approved societies to their members, whereby certain small sums of money had been wrongfully obtained. Mr. Newton was ill and did not appear, but he was represented by a solicitor, who pointed out that the cases, although formidable as set out, were in reality of a trivial character. All the offences related to 1941 and 1942, and it was surely sufficient punishment that Mr. Newton should have had these charges hanging over him for so long. The Council, after private deliberation, directed the Registrar of the Dental Board to erase from the *Register* the name of Colin Newton.

The name of William Laird was restored to the *Dentists Register*

(To be concluded.)

SHORTAGE OF NURSES

SOCIALIST MEDICAL ASSOCIATION'S REMEDIES

A memorandum put out by the Socialist Medical Association claims—"unlike all the statements so far made"—to attempt to get to the root of the trouble which has resulted in a chronic shortage of nurses. The shortage arises, not from a diminished interest in nursing by young people, but from the wastage, amounting to between 50 and 60%, of recruits during training. What is the reason for this wastage? Is there some deterrent factor in the practice of nursing as presented to the nurse in training or is there some radical defect in methods of selection?

The great teaching hospitals, followed later by the local authority hospitals, have used probationer nurses as their main source of labour to the detriment of training and service. "Probationer nurses have at all times buffered the hospital machine." They have been cheap, plentiful, especially in the well-known voluntary hospitals, disciplined, and without political power. In consequence conditions of service have been poor, there has been no legal contract with right of appeal, nothing to save their labour, and often only small consideration given to their health and nutrition. "The exploitation of the nurse," says the S.M.A., "has now recoiled upon the patient."

Colleagues, not "Handmaids"

The idea of nurses and midwives as "handmaids" of the medical profession, the memorandum goes on, is out-of date. They must be regarded as professional colleagues. A careful job analysis of the work done by nurses, trained or in training, should be made. This would serve to show which duties performed by nurses can properly be described as nursing; it would also show that many services which good nurses know to be essential for the well-being of their patients are not done, often not even thought of, and in danger of becoming a lost art. It would show what services remain to be performed by persons other than nurses. Finally, such an analysis might stimulate inventiveness in hospital arrangements and administration so that the labour of the nurse was eased—the kind of inventiveness which is called forth in industry when labour becomes scarce and expensive.

As the S.M.A. sees it recruits in future will come from one of three groups: (1) girls leaving school before 18 and entering approved employment, but destined for nursing and receiving continued education; (2) girls leaving school at 18 or earlier who have done a full-time pre-nursing course; and (3) girls of 18 and older women who have not done a recognized pre-nursing course. For a long time a large proportion of entries will be from the third group, and for these candidates central preliminary training schools are suggested. The interview with the matron, which has been the traditional method of selecting probationers, in the association's view has its limitations. Certain appropriate tests should be devised.

> "The basis of good nursing is interest in other people and desire to serve, but these attributes must be accompanied by not less than average intelligence, good health, pleasant manners, and good hand-eye co-ordination."

There should also be agreement after careful research on the standard of education and the basic skills to be acquired before the candidate enters hospital.

The view is put forward that, providing nurses are relieved of non-nursing duties (which may take up 30 to 50% of the student nurse's time), a thorough basic training can be given in two years. Short intensive courses and part-time courses should be started all over the country for nurse-teachers. After the two-year period the nurse might spend six months as staff nurse under supervision before final licence to practise. Ultimately practising nurses, like practising midwives, should be required to take a compulsory, free, periodical post-certificate course. Nurses who wish to be considered for promotion to ward sister or to specialist positions should undergo periods of further training and experience.

The shortening of training would do away with the need for the "assistant nurse" category for the chronic sick; the whole nursing of the country would be done by trained nurses. The "assistant nurse" of the Nurses Act, 1943, is thought not likely to be forthcoming. "If she is good she does not care to be called by an alias, and if she is bad she has no place in nursing." The General Nursing Council is regarded as unsatisfactory, but an alternative structure is not detailed. A Central Training Council is called for to advise on nursing education.

The Immediate Programme

These are long-term proposals; certain other suggestions can be put into effect immediately. In the view of the S.M.A. nurses who are employees of hospitals should have a legal contract of service and a right to appeal against dismissal. Marriage should not be a barrier to continued employment. Salary scales should be revised, and in particular more recognition should be given to the ward sister; at present the salary gap between the matron and sister tutor and the ward sister is too wide. Superannuation payments should be interchangeable between all forms of nursing service. Hospital work should be on the basis of three eight-hour shifts; overtime should be paid for, and all instances of overtime should be the subject of inquiry by Nurses Representative Councils, which, to deal with this and other matters, should be set up in all institutions.

The health of nurses during and after training should be safeguarded, with initial medical examination and periodical re-examination, and there should be satisfactory sick-bay accommodation. The dietary of nurses should be adequate and appetizing. Trained nurses and, if suitable accommodation is arranged, nurses in training should be allowed to choose where they will live. Nurses' homes and hostels should be run by a specially selected warden assisted by a house committee of residents. In large hospitals there should be trained welfare supervisors. As for nurses in training, the student status of nurses should become the concern of the education authorities, and the rule of the General Nursing Council requiring registration of student nurses should be brought into effect immediately.

Perhaps the crux of the matter is stated in the final paragraph of the memorandum—that in the past hospitals have tried to get their nursing services as cheaply as possible.

RETURN TO PRACTICE

The Central Medical War Committee announces that the following have resumed civilian practice: Dr. H. W. Applin, at 83, Park Lane, Croydon; Dr. D. Blatchley, at 2, Chatsworth Road, Chiswick, W.4.

Correspondence

Naval Medical Establishments

SIR,—In the *Supplement* of Oct. 27 (p. 95) you published a letter from "Three R.N.V.R. M.O.s" testifying to the waste of medical personnel in the Services. They give the instance of the gross over-establishments in hospital ships. Here is another instance given to me this week by an R.A.M.C. medical officer serving in a hospital ship. It has 505 beds. He assured me that if he had to do the whole work involved himself he would not have to work as hard as he did at home in private practice; that three medical officers would be ample; that four would be excessive. In that ship there are twelve medical officers.

The letter you publish casts doubt on the efficiency of the Central Medical War Committee because on it "the Services are represented only by permanent Service officers." All the work of the Central Medical War Committee is done by its subcommittee—the Services Committee—and on this committee there are no Service "representatives." There is an "observer" from each of the three Fighting Services, really more of the nature of an "assessor." Their advice has been and is most helpful to the committee, but they have no part in making its decisions.

The committee is just as alive to the urgent need for demobilization as your correspondents and has taken what steps it can to urge this in the proper quarters. It seems not unlikely that the result may shortly prove to be acceptable to the "Three R.N.V.R. M.O.s" as well as to others, but it must be remembered that the "Services Committee" as well as the Central Medical War Committee are advisory bodies only and have no executive powers.—I am, etc.,

PETER MACDONALD,
Chairman, Services Committee.

York.

*** The above letter was written by Dr. Peter Macdonald on Oct. 27, but went astray.—ED., *B.M.J.*

Praise where it is Due

SIR,—While one usually hears criticism of the Protection of Practices Scheme, I would like it placed on record that my own experience of it has been entirely satisfactory. I feel the personnel concerned in it are all to be congratulated on its being carried out so successfully, and this applies particularly to the doctors who were in the scheme, the Insurance Committee, and its Clerk. To them my thanks. From conversations from other Service M.O.s it would appear that others have been less fortunate, but I am in the happy position of having a fair nucleus once again instead of a start from absolute zero, as was the case with those returning in 1918.—I am, etc.,

B. M. JENSEN.

Prestatyn.

The Case for Private Practice

SIR,—I am surprised not to have seen any reference in your columns to Dr. J. Campbell Young's well-thought-out scheme as expressed in the article "The Case for Private Practice" (*Supplement*, Oct. 20, p. 87). It is simple, workable, and much more straightforward than any put forward by our accredited representatives. Nationalization of medical services is demanded by none but rabid Socialists, and, in my experience, what the average man wants is rather to revert to the custom of his doctor visiting him than any extension of clinics or panel surgeries. Since it is the patient who has to pay in one way or another why not give him what he wants instead of what the politicians think he ought to have?—I am, etc.,

H. G. LEYTON.

Oxford.

SIR,—I am, to say the least of it, most surprised that the admirable article by Dr. J. Campbell Young (*Supplement*, Oct. 20, p. 87), entitled "The Case for Private Practice," should have evoked no response whatever in the correspondence columns. To my mind it solves the apparently insoluble problem of reconciling the principle of 100% health insurance (accepted, as he says, by all parties) with the democ principle of an independent alternative service, usable without incurring financial disability. It certainly seems amazing that above all else the Council of the B.M.A. should apparently have ignored the article at a time when one would have imagined that every possible means would have been explored in order to find a certain method of preserving real freedom for our patients—and, incidentally, for ourselves.—I am, etc.,

Hungerford, Berks. D. H. STUART BOYD.

Local Medical War Committees

SIR,—In the *Supplement* of Nov. 24 (p. 117) Dr. Thomas Robson suggests that a consideration by Local Medical War Committees of the flustered Isabella's retort to the hard-hearted Angelo may prove salutary. Perhaps! But he might have continued to quote Isabella, who, in a calmer moment, said:

> "... authority, though it err like others,
> Hath yet a kind of medicine in itself."
>
> *Measure for Measure*, Act II, Scene 2.

—I am, etc.,

"CHAIRMAN OF ONE OF THEM."

Organization of Physiotherapists

SIR,—I have just read the letter on physiotherapists and other auxiliaries in the *Journal* of Sept. 29 (p. 444). I am much interested in some of the points raised, particularly the suggestion that the functions of the Chartered Society of Physiotherapy should be split up. The Devon and Cornwall Branch of that Society has been advocating for some time that an association of members should be formed which would deal with all social matters relating to members, while the council of the Society should continue with its functions as the examining, registering, and disciplinary body. There is already a committee known as the Branches' Central Committee, composed of a representative from each branch, which could be developed into the executive body of an association. Up to the present the majority of the council have not welcomed the suggestion of the Devon and Cornwall Branch.

A special general meeting of the Society was held recently to obtain the sanction of members to approach the Privy Council for permission to alter certain by-laws of the charter to allow of the introduction of a compulsory annual subscription. The majority of members present voted in favour, but only a very small percentage of members of the Society were present at that meeting. I should like to point out that at that meeting the chairman stated that the council holds absolute power within the charter. Members of the Society should consider whether this is altogether a satisfactory position from their point of view. With over 14,000 members scattered over the whole of the British Isles, is it possible for one body, such as the council, to deal adequately with the social as well as the academic duties entailed? We are constantly told that we appoint council, and in theory that is the case, but in practice it is quite impracticable; the majority of the members know nothing of those members nominated for council: therefore they do not vote. At this last election 900-odd votes were received out of a membership of 14,000.

An association of members could be divided into areas; each area could be responsible for the nomination of a candidate for council, who would be known to the majority of members in that area. Some form of a compulsory annual subscription would be necessary to finance the association, but the association would have the financial control of its funds.

The Devon and Cornwall Branch has put forward this suggestion of an association of members in no antagonistic spirit to our council, but with the honest desire to make the whole Society as efficient as possible and to enable every member to take a personal and an intelligent and active part in all affairs of our Society. I do urge all members to consider this matter now before a compulsory annual subscription is in force. Now [illegible]e time to form an association which would be the safe-[illegible]ggested by your correspondent, and I would ask the [illegible]rofession as a whole to support the suggestion of [illegible] and Cornwall Branch to form an Association of [illegible]siotherapists.—I am, etc.,

D. S. PALMER,
Hon. Sec., Devon and Cornwall Branch, C.S.P.

Association Notices

GROUP OF DERMATOLOGY

Notice is hereby given of the formation by the Council of a Group of Dermatology, which shall be composed of all those members of the Association who are engaged predominantly in the practice of dermatology. Members of the Association who claim to conform to this definition, including those serving with H.M. Forces, are requested to apply to the Secretary, B.M.A. House, Tavistock Square, W.C.1, not later than Jan. 31, 1946, for a form of application for membership of the Group. The first general meeting of the Group will be held at a date to be subsequently announced in the *Supplement*.

CHARLES HILL,
Dec. 1, 1945. *Secretary.*

Meetings of Branches and Divisions

KENYA BRANCH: MOMBASA DIVISION

A start has been made to carry out the decision to hold more clinical meetings which was arrived at by the Mombasa Division at its annual general meeting last February. Two clinical meetings were held on June 11 and July 18 respectively. At the former a unit of the No. 6 General Hospital showed a number of interesting medical and surgical cases and Major A. P. L. Blakely opened a discussion on "Typhus Syndrome as seen in the Mombasa Area," and Capt. H. B. Young, R.A.M.C., one on "Metatarsalgia." On July 18, after another demonstration of cases, Major B. Lowbury opened a discussion on relapsing fever and its treatment with penicillin.

SUNDERLAND DIVISION

There was a good attendance at Sunderland Division's first meeting of the 1945–6 session, which was held at the Royal Infirmary, Sunderland, on Oct. 19. A clinical demonstration by Dr. A. A. McIntosh Nicol and Messrs. Hamilton Ross and Jowett was followed by an address on some experiences as O.C. of a West African Hospital by Col. P. Hickey, T.D., late R.A.M.C.

Branch and Division Meetings to be Held

AYRSHIRE DIVISION.—At Kilmarnock Infirmary, Sunday, Dec. 16, 7 p.m., Clinical meeting.

EAST YORKSHIRE BRANCH.—At Jackson's Restaurant, Paragon Street, Hull, Wednesday, Dec. 12, 7.30 for 7.45 p.m., annual dinner.

GUILDFORD DIVISION.—At Royal Surrey County Hospital, Guildford, Friday, Dec. 7, 8.30 p.m., Dr. Bruce Williamson: Diastole, or the Economics of the Heart.

DIARY OF SOCIETIES AND LECTURES

ROYAL SOCIETY OF MEDICINE.—*Tues.*, 5.30 p.m., Section of Experimental Medicine and Therapeutics; 5.30 p.m., Section of Psychiatry. *Wed.*, 4.30 p.m., Section of Physical Medicine. *Fri.*, 5 p.m., Clinical Section.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.—*Mon.*, 8.30 p.m. Discussion: Present Position of Hormone Therapy in the Treatment of Cancer. To be introduced by Prof. E. C. Dodds, F.R.S., and Mr. Terence Millin.

ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 26, Portland Place, W.—*Thurs.*, 8 p.m. Presentation by Mr. J. S. Winant, U.S.A. Ambassador to Great Britain, of the Theobald Smith Gold Medal, awarded by the American Academy of Tropical Medicine, to Dr. C. M. Wenyon, F.R.S. Discussion, to be opened by Dr. Everard Napier: Teaching of Tropical Medicine. Sir Philip Manson-Bahr, Prof. R. M. Gordon, Dr. George Macdonald, and Lieut.-Cols. E. H. Vere-Hodge and W. R. M. Drew will also speak.

BIRTHS, MARRIAGES, AND DEATHS

The charge for an insertion under this head is 10s. 6d. for 18 words or less. Extra words 3s. 6d. for each six or less. Payment should be forwarded with the notice, authenticated by the name and permanent address of the sender, and should reach the Advertisement Manager not later than first post Monday morning.

BIRTHS

CRUICKSHANK.—On Nov. 30, 1945, at Old Court Nursing Home, to Eileen, wife of Alexander Cruickshank, F.R.C.S., 89, Harley Street, W.1, a son.

EASTES.—On Nov. 22, 1945, at Marshfield, Glos., to Drs. Zeta and Henry J. Eastes, a daughter—Janet.

DEATH

JACQUES.—On Nov. 21, 1945, at 55, Hurlingham Court, S.W.6, Evelyn Bessie Jacques, M.B., Ch.B. (Bristol), D.T.M.&H., late Malayan Medical Service, wife of Frederick Viel Jacques, M.B., Ch.B. (Bristol), D.P.H., D.T.M.&H., Malayan Medical Service. Cremated at Mortlake on Nov. 24.

Correction

An error of identification crept into the report of the Panel Conference in the *Supplement* of Nov. 24. The speaker reported on pages 113 and 116 was Dr. F. McEwen Sinclair of Fife and not Dr. G. H. Sinclair of Dumfriesshire.

SUPPLEMENT TO THE
BRITISH MEDICAL JOURNAL
LONDON SATURDAY DECEMBER 15 1945

HEARD AT HEADQUARTERS

The Secretary's Letter

One after another pre-war customs are revived. One which has just been restored at B.M.A. House is the periodical letter from the Secretary to the chairmen and honorary secretaries of Divisions. Into the late 'twenties this was a useful method of communication; Dr. Alfred Cox was accustomed to send a monthly letter. Later Dr. Anderson felt that more was to be gained by an occasional letter, not necessarily monthly, but written when he had anything important to say. Dr. Hill has now sent out the first periodical letter of a new series. It is an informal and personal letter, not for printing or quotation, but designed to give to those responsible for Division work some up-to-date information on matters that cannot be conveyed with quite the same freedom in public print. With the letter, which is concerned with anticipations of the Government's proposals concerning the National Health Service, goes a copy of *The Returning Doctor*, a booklet prepared by Headquarters for the information of medical officers released from the Forces. I hear good opinions of this publication from many sides.

Demobilized Officers and N.H.I.

The position of demobilized officers as insured persons has been the subject of correspondence between the Ministry of Health and the B.M.A. Officers who were not entitled to medical benefit before they joined the Services are now presenting cards to insurance practitioners, and in one case an insurance committee is said to have informed a practitioner that all officers on being demobilized, whether or not they were insured before joining, are entitled to medical benefit. The Ministry now states that the position generally is that an officer is entitled to medical benefit after demobilization if he was compulsorily insured under the Insurance Acts during his service. Liability to compulsory insurance during service is determined in the following way: regular officers are not compulsorily insured; other officers—that is, officers of the reserve and auxiliary Forces and those appointed to temporary commisssions or warrants—are compulsorily insurable during their period of service if they were to any extent insured under N.H.I. or the Contributory Pensions Act on the date of joining the Service. The only exception is that officers promoted from the ranks, who were insured at the beginning of their commissioned service, can elect within two months from the date of their appointment to discontinue their insurance if they were not insured when their war service began. Therefore the statement of the insurance committee that all officers on demobilization, whether insured before joining up or not, are entitled to medical benefit is not correct.

Friendly Societies Up in Arms

The National Friendly Societies Conference in London coincided with the announcement in Parliament by the Minister of National Insurance that it was not proposed to use the Friendly Societies in the Government's insurance scheme. The first reaction in the conference was one of profound depression, but later all the societies bound themselves by a strong resolution to fight the Government on this issue. The fact that the Friendly Societies represent eight and a half million voluntarily insured members, not to speak of a similar number of State-insured persons, makes them a formidable obstacle. They talk of a nation-wide campaign, the formation of a Friendly Societies' Group of Labour Members of Parliament, fighting by-elections, and other means of preserving their existence and continuing what is now a century-old tradition. On the subject of the National Health Service the conference reaffirmed a previous resolution which laid down two fundamental principles: the preservation of the right of the individual to choose his own doctor and to change his doctor if he wants to, and the utilization of good existing facilities and experience with no unnecessary uprooting of established services.

Compulsory Health Insurance in the U.S.A.

The Washington correspondent of the *News Chronicle* reports that Bills introduced into the Senate and House of Representatives recently, following a message to Congress from President Truman, mark the beginning of fresh attempts to get compulsory health insurance accepted in the U.S.A. President Truman, in his message, asked for legislation that would in effect increase the amount of money spent by the Federal Government on hospitals and clinics, would insure workers against loss of wages when ill, and would make prepayment of medical costs compulsory "under a plan that would leave patients free to choose their own doctors and hospitals." He said that the need for health insurance was evident from the fact that Americans had been spending nearly 4% of their income to cure sickness, and from the revelation that during the war one-third of the men examined for military service had to be rejected on health grounds, while a further three million who were passed had later to be discharged. Senator Wagner, who is responsible for the Bill in the Senate, has sponsored legislation on health insurance before; he was part-author of the Wagner-Murray-Dingell Bill, which, introduced into Congress in June, 1943, aimed at extending social security law to provide medical and hospital insurance. The last we heard of that Bill, which was described in these columns on March 10 this year, was that it had aroused strong opposition and was still being discussed. That there will be opposition from the medical profession as well as from leading conservatives in Congress to the latest efforts to secure compulsory health insurance seems certain.

A Medical Family

The influence of heredity in medicine could be supported by many examples, but not often does there come to light such a medical family tradition as is recalled by the recent marriage of Dr. R. Hayden Ellis, the only son of Dr. Robert Ellis, chairman of the Cambridgeshire County Council. The *Independent Press and Chronicle* of Cambridge states that Dr. Hayden Ellis comes of a long line of doctors on both sides of his family. Those on his father's side, all connected with the Willingham and Cottenham district of Cambridgeshire, began some 150 years ago with Dr. Robert Ellis, of Willingham. After him came his nephew, Dr. R. Sage Ellis, also of Willingham, and then his son, Dr. J. W. Ellis, of Swavesey, father of the present Dr. Robert Ellis. Dr. Hayden Ellis's mother was a daughter of Dr. C. Hayden Cox, of Cottenham, and on her side of the family there have been eight uncles all practising as doctors. It would be interesting to know whether this record can be beaten.

Particular interest attaches this year to the figures for income and costs of administration of the Hospital Saving Association, especially to the fact, announced by the chairman, Sir Alan Anderson, at the recent annual meeting of the association, that there was "a record increase on a record income, without parallel in the hospital world." Income from contributions during the year was £1,491,354, an increase of £257,393 over that for the previous year. This figure reflects the increase in the rate of contribution from 3d. to 4d., which came into operation last August. Administration costs were only 4.6% of the contributions, the lowest yet recorded. Payments for hospital services were also higher, totalling £1,282,144. Some 2,250,000 people in the London area contributed voluntarily to these funds, which entitled over 4,500,000 men, women, and children to benefits.

GENERAL MEDICAL COUNCIL

DISCIPLINARY BUSINESS

Convictions for Misdemeanours (concluded)

The Council considered the case of John Corboy, registered as of Astley, Manchester, against whom there were two convictions at Salford police court, one on Jan. 5, 1945, and the other on July 10, of being in charge of a motor car when under the influence of drink. The practitioner had been fined £10 on the first conviction and £20 on the second, and on the second he had been disqualified from holding a licence for twelve months. Dr. Corboy attended and pleaded exceptionally heavy work and domestic worry. The Council postponed its judgment for one year.

The Council also considered the case of Bernard Maguire, registered as of Chorlton, Manchester, who appeared on two convictions at Manchester police court, one on Aug. 3, 1944, and the other on June 27, 1945, of being in charge of a motor car while under the influence of drink. He had been fined £15 on the first conviction and £30 on the second, and on the second he had been disqualified from holding a licence for two years. Dr. Maguire pleaded that at the time of both incidents he was under treatment at Manchester Royal Infirmary for anxiety neurosis. Now, on the return of his partner, he had been relieved of great pressure of work, and he assured the Council that the circumstances would never recur. In this case the Council postponed its judgment for two years.

Alleged Professional Relationship in Adultery

The Council considered the case of Charles Gibson Auld, now an officer in the R.A.M.C., registered as of Bromsgrove, who appeared on the charge of having committed adultery with Mabel Blakeway Adie, a married woman, of which adultery he had been found guilty by a decree of the Divorce Division in 1945 in a case in which he was the co-respondent, and of having stood in professional relationship with Mrs. Adie at all material times. The defendant was represented by Mr. Russell Vick, K.C., and Mr. A. A. Pereira. The complainant, Mr. Adie, was represented by Mr. Leslie Tucker, solicitor.

Mr. Adie in evidence said that he was married in 1938. After the outbreak of war his wife joined the V.A.D. and worked at Bromsgrove cottage hospital, where Dr. Auld was honorary medical officer. Early in 1943 his wife consulted Dr. Auld and was advised to undergo a curettage operation. This was performed by Dr. Auld in May at the hospital, where his wife was a patient in the private ward. Mr. Adie paid the hospital account, but, although he asked many times, he never received any account from Dr. Auld. After the operation his wife continued her work at the hospital, and consequently was in close association with the doctor. Until January, 1944, he had no suspicion that there was anything more than ordinary friendship between them. His wife then told him that she was in love with Dr. Auld and was going to leave her home and live with him. Dr. Auld saw him later and confirmed the statement. Various meetings took place with a view to preventing the break, and in February, 1944, his wife and Dr. Auld signed undertakings that they would not meet or communicate for six months if he on his part would not take any steps in the matter or report to the British Medical Association [meaning the General Medical Council]. He learned later that previous to the undertakings Dr. Auld and Mrs. Adie had stayed as man and wife at various hotels. Shortly before the time expired, Dr. Auld, who was going abroad, broke his undertaking not to meet Mrs. Adie. Divorce proceedings were started.

Dr. Auld in his evidence said that he first met Mrs. Adie in the summer of 1940 when she was a member of the V.A.D., but not until 1942 did they become friends—a friendship which developed into affection. From then onwards they met frequency and intimacy took place from time to time. From the end of 1942 until January, 1944, he used to call and see Mrs. Adie at her house when her husband was not there. She had never been a patient of his. Dr. Meldon, of Stourbridge, had always been her doctor. In the early months of 1943 Mrs. Adie told him she was suffering from backache and irregularity of periods. They were on intimate terms and, as was natural, she discussed her trouble with him. He took the view that as she was a voluntary worker at the cottage hospital the hospital ought to do what it could for her, and the operation was accordingly performed by him at the hospital in his capacity as honorary medical officer, his partner Dr. Rae giving the anaesthetic. After she left the hospital she was not in need of professional care and he did not prescribe for her. After Mrs. Adie and he had agreed to disclose to her husband the relations in which they stood transferred his share of his practice to his partner and volunteered rvice in the R.A.M.C. He observed his undertaking not to ommunicate with Mrs. Adie for six months until three re the expiration of that time, when he had to join a vice in Egypt and felt that he had to see Mrs. Adie broad. He spent three days of his embarkation leave wrote to the solicitors and told them of the broken ee days after the six months Mr. Adie, who, notwithstanding his undertaking, must have been seeking evidence, filed his petition for divorce, which was served on the practitioner while he was in Egypt. In January, 1945, he was in a train accident while on service and his right leg was crushed and had to be amputated below the knee. In due course he expected to be discharged from the R.A.M.C. with a pension in respect of his disability. If he were erased from the *Register* he would be dismissed from the Army and lose his pension. He repeated that he had never stood in the professional relationship of doctor and patient with Mrs. Adie except when he performed the operation in his capacity as honorary medical officer to the hospital.

In answer to questions from members of the Council Dr. Auld admitted that he did not inform Dr. Meldon about the operation or send him a report on it.

Mrs. Adie (who had lately changed her name by deed-poll to Auld and said she was now living with Dr. Auld) also gave evidence bearing out his statement. She said that, apart from the operation at the hospital, Dr. Meldon had always been her doctor and had attended her during an attack of paratyphoid in 1941, and again for some illness in January, 1944. She and Dr. Auld had talked of getting a surgeon from Birmingham to perform the operation, but she asked him to do it himself; she had seen him do it so often at the hospital, and it was such a simple thing.

Mr. Russell Vick: When you spoke to Dr. Auld about it did you think you were speaking to him as your doctor or as your lover?

The Witness: Definitely not as my doctor—as my lover.

The Council deliberated *in camera*, and the President afterwards announced its decision that the fact alleged against Dr. Auld that he had stood in professional relationship with Mrs. Adie at all material times had not been proved to the satisfaction of the Council. The complaint was therefore dismissed.

Restorations

The Council restored the following names to the *Medical Register*: Humphrey Manly Hamilton Ashwin, John Black, Patrick Joseph Conlin, Alan Gray, William Lyle Paterson, William Alexander Stevenson Welsh.

MEDICAL ASSISTANCE IN EVENT OF EPIDEMICS

In circulars which the Minister of Health has sent to local authorities suggesting measures that might be taken if infectious diseases, including influenza, should assume serious epidemic proportions this winter, reference is made to possible difficulties arising from a shortage of doctors (see *British Medical Journal*, Dec. 1, p. 778). To meet this contingency the Service Departments have agreed with the Ministry upon arrangements on the lines of those operating in the winter of 1943–4, whereby assistance may be given by medical officers of the Services to civilian doctors, though the Services may not be in a position to help to the extent which was possible on the previous occasion.

The Minister's Chief Medical Officer has communicated separately with medical officers of health on this subject, and the Central Medical War Committee has circularized local committees. Medical officers of health have been invited to take the initiative in calling a joint meeting as soon as possible with the secretary of the Local Medical War Committee and the appropriate Service Department representatives. General practitioners needing assistance would apply to the secretary of the Local Medical War Committee, and the method of payment will follow that adopted on the former occasion.

It is emphasized that, while there should be no delay in the preparation of plans, they should not be put into force until the local authorities receive a specific request from the Ministry of Health to that effect. The Central Medical War Committee will inform local committees if and when this contingency occurs. The Secretary of State for Scotland and his Chief Medical Officer have communicated in similar terms with the Scottish local health authorities and their medical officers of health.

Mr. Churchill, speaking to the Conservative Party recently, said that not a stiff enough opposition was being shown to Government Bills. He continued: "I will tell you why. It is because in many cases for some time to come the most important of those Bills are in a great measure our own Bills, like our proposed comprehensive National Health Service. . . . These were advocated and prepared in the Coalition Government, and we are determined by conviction and conscience to place upon the statute book those measures which we ourselves shaped with our superior majority in those days and put forward for the good of the British people. We do not turn from them because political fortune has been withdrawn from us. On the contrary, all those immense measures which have now to be carried through must in their principles be supported and driven forward faithfully by us who were committed to them and believe in them, and we must endeavour to see that they are not wrecked and ruined by spiteful Socialist additions and alterations put in in order simply to gain a little party prestige and exultation."

Correspondence

Demobilization of Naval M.O.s

Sir,—Upon whom does the rate of demobilization rest—with the Service chiefs or with civilians? We were told upon very high authority that the target for doctors in the Navy was Group 45 by June. This decision was apparently communicated to the C.M.W.C., but the official Naval figure is Group 35 by June. How is this discrepancy explained?

It is in fact essential that civilians should fix the rate of demobilization. We feel that this is slower than it need be by reason of the dog-in-the-manger attitude of heads of establishments who will not reduce complements although their medical officers have little to do.

Here [in the East Indies] my job in hospital takes 50 minutes daily for routine work, an extra hour or two on those days (about once weekly) when new patients arrive, and a 24-hour duty every eight days. In the local transit camp exist 20 doctors who have no duties and who form a reserve pool. Yet when reliefs are required they are obtained from England. Thus we have an apparent attempt to retain doctors both at the highest levels and again by heads of establishments. The whole cries aloud for rigorous civilian control. The Services must be told how much of our precious man-power they can retain. They must then cut their coats according to their cloth.

An excuse made locally recently for not releasing a doctor overdue for demobilization was that we must be prepared for any emergency, as, for instance, an influx of prisoners of war. As all known prison camps had been emptied weeks previously, the commanding officer concerned must have been thinking of those in Shangri-la. Perhaps his intimacy with this country was not surprising. So many senior officers have lived in "Cloud-Cuckoo Land" for so long.—I am, etc.,

"Surg. Lieut., R.N.V.R."

*** The Secretary of the Central Medical War Committee states: The C.M.W.C. understands that the rate of demobilization is decided by the Government and not by the Service authorities. The committee has received no information as to the age-service groups likely to be released from the Navy by June, 1946.

Emergency Reform of Representative Body

Sir,—Notices in the public press make it probable that before long we shall be faced with the necessity for making very grave decisions. The concluding sentence in the prefatory note to the *Supplement* of Nov. 10 seems to indicate that we shall not be given very long to make those decisions. It seems possible that we shall be presented with a complete scheme which we shall have to accept or decline *in toto,* though minor modifications in detail, not affecting the main principles, may perhaps be conceded. It is therefore most necessary that we should be able to speak as a united body with a clear understanding of the issues at stake.

The Representative Body, our mouthpiece, should have ample time and opportunity to consider the proposals from every aspect. I submit that Standing Orders for Representative Meetings are not adapted for the conduct of business in an emergency like this. Everything has to be done in plenary sessions, and these are consequently swamped by the multitude of business before them. In December, 1944, there were 472 items on the agenda, which, with roughly 21 working hours, allowed an average of 2½ minutes for each item. At subsequent meetings the congestion was as great, if not greater. When it is remembered that each proposer of a motion is allowed to speak for ten minutes and subsequent speakers for five, it is obvious that the great majority of motions could never be debated at all. This is not the way to deal with business in a grave crisis like the present. I venture to suggest that for the time being Standing Orders should be amended to allow of committees of the R.B. sitting simultaneously to deal with the majority of the business. Plenary sessions could then probably be reduced to two—an opening one for formal business and the election of committees; a closing one for the reception of the reports of committees and again formal business. This procedure, if adopted, would allow for adequate consideration of at least the greater part of the agenda.

May I, in conclusion, submit the urgency of undertaking such a reform at once, if it is to be done at all. Time is not unlimited. It is, too, from Divisions that the initiative must come. Governing bodies in being are notoriously unwilling to alter their ways unless the pressure of public opinion is unmistakable and overwhelming. If anything is to be done in the direction I have ventured to indicate it must be both, and also, in this case, immediate.—I am, etc.,

Andover. J. A. Balck-Foote.

State Medicine

Sir,—Some correspondents in your columns have suggested that we should give our whole-hearted support as a profession to the Labour Party's national health service. They are entitled to do this and they may be right. Unfortunately they base their support on arguments which not only are unsound but have been major causes in hindering the progress of mankind throughout the ages.

The first of these arguments is founded on "inevitability." It has been put forward in many forms, but basically it runs: "Our cause is bound to succeed; you have only to look at it to see that it is inevitable. You will waste both time and energy in opposing it. Far better come in with us and, though you don't like what is going on, you can at least use your powers constructively." This argument has unfortunately a great appeal. It depends for its success on the weakness of humanity and the general desire to back a winner. It fails because: (1) it takes no account of right and wrong; (2) accepting it at its own moral level—i.e., that right and wrong do not matter—it depends on human judgments of the inevitable. The Almighty is the only one who can make accurate judgments about the inevitability of human actions.

The people who use an argument do not make it true or false, but one could go through history and show how evil cause after evil cause has been supported by this argument. It was a mighty instrument in the hand of Hitler as he conquered Europe. Country after country was told that Germany's victory was inevitable, that resistance and obstruction were futile, and the peoples and their chosen leaders accepted it. Fortunately there were a few who believed in a cause however "inevitable" its failure and were prepared to obstruct this "inevitable" new order.

The second argument is: "The people have elected a Labour Government; the Labour Government believes in a national health service, therefore the medical profession should not oppose the wishes of the people by opposing a national health service. The argument is, of course, formally unsound, but that is a small thing. Assuming that it is valid, there is the basic fallacy that because the people want a thing and have chosen a Government to give it to them no section of the community should oppose it, however better informed it may be about the right and wrong of the matter in question.

I hope that few will be found in our profession who will agree with this argument. Its assumption would have meant the continuance of many wrongs from which we have been saved by the few who have opposed, and opposed bitterly, the wishes of the people and their representatives. The people of Germany chose Hitler and his policy; part of that policy was destruction of the Jews. The result was the greatest persecution of the medical profession which has been known for centuries. Is it suggested that because this was the will of the people and their chosen representatives the medical profession in Germany should have given it their whole-hearted support?

In conclusion I would like to state what I think should be our attitude in this matter. A State medical service may be right or wrong (unfortunately I am not yet quite certain about this). We should judge its rightness or wrongness on the following: Will it tend to lessen disease? Will it give better treatment to the diseased? Will it help the medical profession in its search for truth?

In so far as we think it will do these things we must support it and, if necessary, fight for it. In so far as we think it will hinder these things we must oppose it to the end. In making this decision there must be no expediency; there must b following the "inevitable"; there must be no uncr servience to the will of the people. Let us remember that "in our halls is hung the armoury of the invincible knights of old."—I am, etc.,

1st British Survey Regiment, R.A., S.E.A.C. EDGAR RENTOUL.

House Officers in Teaching Hospitals

SIR,—To-day, when most of our interest is focused on the improvement and reorganization of nursing and hospital conditions in general, and plans are being discussed for the improvement of undergraduate training, little is heard concerning a problem that to my mind is as needy of immediate attention as any: that of the house officer in the teaching hospital. For although we do not know what kind of a medical service we are to have in the future, nor what kind of changes will be made in the existing system, there can still be vast improvements made at the present time to meet not only the demands of the newly qualified doctors but also those of doctors being demobilized from the Forces who deserve something more than the formality of the present house job. In my opinion the training a house officer should receive is sadly neglected.

He enters the hospital unbiased, with new ideas, initiative, and a flair for research, being filled with the spirit of physiological experiment that he acquired in the laboratory. He seeks guidance and instruction, and expects the "honorary" to be his guide and his instructor; a respected teacher and not his master; a man filled with ideas like his own. Too often he ends his appointment as filled with dismay and as disillusioned as a patient who receives medicine but no sympathy or kindness.

Most house officers, however junior, have a good deal of responsibility; yet even the more senior ones often have little authority when it comes to supervising of wards or the actual nursing of the patient. This is in my opinion because "honoraries" now have so many other commitments that they let their authority slide into the hands of matrons and sisters. The result is that the house officer is placed in a ridiculous position, subservient to the sister and looked upon with indifference by the nurses, and unless his position is clarified he can never hope to inspire confidence or encourage hope as he should, even in the most morbid of his patients.

If the standard of hospital treatment for our people, and the quality of our doctors, are to keep pace with other countries, we must give the house officer more authority and supervision and encourage criticism both inside and outside the hospital. This could be achieved inside the hospital by the formation of committees of house officers and senior members of the hospital staff to meet fairly frequently and discuss current problems and suggestions that may be made towards the efficient running of the institution. The teaching of house officers could be improved by the introduction of lectures by their own and visiting specialists, and by meetings for house officers at which they can present to other house officers the interesting cases they have come across in their work. Opportunities should be made available for house officers to teach junior nurses and medical students, for in so doing they not only learn themselves but gain confidence. The performing of post-mortem examinations should be encouraged and regular pathological conferences held to check the accuracy of diagnosis. Facilities for research and studying should be provided and well-equipped laboratories for the use of the house officer.

Only by these measures and the replacement of surplus misdirected discipline and scepticism by a more humane and enterprising spirit of service to mankind will the teaching hospital produce a house officer who when he leaves does so confident that his patients will get the best of treatment if he sends them there, and at the same time is filled with the realization that the primary aim of medicine is to give the best possible treatment to the patient.—I am, etc.,

R. D. BROOKE WILLIAMS,
Surg. Lieut., R.N.V.R.

Ainsdale, Lancs.

The ordinary procedure which an insured person follows when he wishes to change his doctor is being relaxed in Scotland for the present. Instead of getting the agreement of his present doctor or else giving notice to the insurance committee a month before the end of a quarter, he need only ask the selected doctor to accept him. This does not apply to persons who are temporarily on the li[illegible] of their present doctor simply because their usual one is away [illegible]ervice unless they chose that doctor after Sept. 3, 1939. All [illegible]ople are automatically restored to the care of their usual [illegible]n he comes back. When most doctors have returned and [illegible]tice, the local insurance and panel committees will fix [illegible]ee months during which insured persons who have [illegible]nt doctor since Sept. 3, 1939, can transfer to any [illegible]her he has been on Service or not, without going [illegible] procedure.

H.M. Forces Appointments

ROYAL ARMY MEDICAL CORPS

Capt. F. Lanceley, holding a short-service commission, has been appointed to a permanent commission.

REGULAR ARMY RESERVE OF OFFICERS

ROYAL ARMY MEDICAL CORPS

Capt. A. G. Stevenson, having attained the age limit of liability to recall, has ceased to belong to the Reserve of Officers.

LAND FORCES: EMERGENCY COMMISSIONS

ROYAL ARMY MEDICAL CORPS

War Subs. Major N. G. C. Gane has relinquished his commission, and has been granted the honorary rank of Major.

War Subs. Capt. F. P. H. E. Orban has relinquished his commission, and has been granted the honorary rank of Major.

War Subs. Capts. J. M. Mair, W. Clark, and J. McKenzie have relinquished their commissions on account of disability, and have been granted the honorary rank of Capt.

To be Lieuts.: W. G. E. Eggleton, J. S. Webster, G. L. McEwan, G. A. B. Cowan, F. K. Lau, D. L. Cran, and W. E. Stuart.

ROYAL AIR FORCE

Squad. Ldrs. (Temp.) V. T. Powell and V. A. F. Martin have been granted the rank of War Subs. Squad. Ldrs.

ROYAL AIR FORCE VOLUNTEER RESERVE

Squad. Ldr. (Temp.) D. M. Wallace, O.B.E., has been granted the rank of War Subs. Squad. Ldr.

Fl. Lieut. W. M. Bennett has relinquished his commission on account of medical unfitness for Air Force service.

Flying Officers J. G. Fitzgerald, S. E. Greenhill, W. J. Moffett, and D. H. Sidebottom to be War Subs. Fl. Lieuts.

WOMEN'S FORCES

EMPLOYED WITH THE MEDICAL BRANCH OF THE R.A.F.

Flying Officers E. C. Baird and A. A. Jervis to be War Subs. Fl. Lieuts.

INDIAN MEDICAL SERVICE

Col. A. C. Macrae has retired.

Major de L. Carey to be Lieut.-Col.

Capts. S. C. Colbeck, J. H. Bowie, W. S. Empey, A. G. Miller, V. R. Damle, and T. D. Chablani to be Majors.

ARMY IN BURMA RESERVE OF OFFICERS

EMERGENCY COMMISSIONS

To be Lieuts.: B. Nyan, T. Min, T. Gyaw, B. C. Barua, R. B. Singh, B. Maung, O. Thwin, G. Singh, S. Maung, B. Thanchain, M. Gale, R. S. K. N. Menon, W. C. Tun, and B. Nyun.

COLONIAL MEDICAL SERVICE

The following appointments have been announced: V. O. Finlayson, M.R.C.S., L.R.C.P., Assistant Medical Officer, Jamaica; C. Bowesman, F.R.C.S., Specialist, Gold Coast; E. Jackson, M.B., Ch.B., Medical Officer, Tanganyika; D. Lennox, M.D., Assistant Director of Medical Services, Gold Coast; I. G. MacGregor, M.B., Ch.B., Senior Specialist, Nigeria; F. McLagan, M.B., Ch.B., Assistant Director of Medical Services, Sierra Leone; W. M. Quin, F.R.C.S., Specialist, Sierra Leone; J. G. S. Turner, M.B., Ch.B., Deputy Director of Medical Services, Gold Coast; G. R. Waller, M.B., Ch.B., Assistant Director of Medical Services, Nigeria.

DIARY OF SOCIETIES AND LECTURES

ROYAL SOCIETY OF MEDICINE.—*Tues.*, 4.15 p.m. Section of Pathology; 5.30 p.m. General meeting of Fellows. *Thurs.*, 5 p.m. Section of Dermatology. *Fri.*, 2.15 p.m. Section of Comparative Medicine.

BIRTHS, MARRIAGES, AND DEATHS

The charge for an insertion under this head is 10s. 6d. for 18 words or less. Extra words 3s. 6d. for each six or less. Payment should be forwarded with the notice, authenticated by the name and permanent address of the sender, and should reach the Advertisement Manager not later than first post Monday morning.

BIRTH

CARTWRIGHT.—On Nov. 26, 1945, at her home in Ilminster, Somerset, to Lilias (*née* Matheson), the wife of Dr. W. H. Cartwright, a son.

MARRIAGE

DAVIES—RAPPORT.—On Dec. 12, 1945, at Bombay, Major David L. Davies, R.A.M.C., to Celia Marjorie Rapport, Capt., R.A.M.C

DEATH

BARK.—On Oct. 29, 1945, Ernest Gilbert Bark, aged 66, of "Cluny," Manor Road, Wallasey, Cheshire.

RETURN TO PRACTICE

The Central Medical War Committee announces that the following have resumed civilian practice: Dr. D. Evan Bedford, F.R.C.P., at 1A, Upper Wimpole Street, W.1; Dr. E. R. Cullinan, F.R.C.P., at 140, Harley Street, W.1; Dr. T. Fane Tierney, at 40, Harley Street, W.1.

SUPPLEMENT TO THE
BRITISH MEDICAL JOURNAL
LONDON SATURDAY DECEMBER 22 1945

INSURANCE ACTS COMMITTEE OF THE B.M.A.

FIRST MEETING OF NEW SESSION

The first meeting of the new session of the Insurance Acts Committee was held on Dec. 6, and Dr. E. A. Gregg was unanimously re-elected to the chair. Two new members were welcomed—Dr. J. B. Bennett of Hyde and Dr. S. A. Forbes of Croydon. On a point arising out of the minutes a member referred to a case that came before the General Medical Council in July in which an insurance practitioner was charged with negligence. He understood that although the defending solicitor had stated that the case was brought before the council by the Ministry of Health, that was not so. This case, and another involving the insurance practitioner's contract, appeared to be of a new category so far as G.M.C. action was concerned. How was it they came before the council at all?

Dr. Dain, as one of the members of the G.M.C. and of its Penal Cases Committee, explained that the council was not concerned with contracts as such, but only with professional behaviour; not with immorality as such, but only with immorality in connexion with professional relationships. All convictions of various kinds were automatically reported to the council, and as the particular case referred to appeared on the reported facts to call for inquiry, the Penal Cases Committee decided that it should be properly investigated. This was done, with the result that the practitioner was not penalized. The council's duty was to see that the standards were maintained.

Remuneration of Insurance Practitioners

It was reported that the B.M.A.'s witnesses had appeared again before the Spens Committee to discuss the section of the written evidence dealing with net annual income.

The Insurance Acts Committee had before it a resolution from the Isle of Wight Panel Committee urging that the remuneration of doctors should be based on the assumption either of an adequate pension or of no pension; if the latter the remuneration must obviously be higher to enable the doctor to make his own provision. The Secretary stated that a special committee of the Association Council was considering the whole question of pensions, but it was difficult to make precise suggestions until it was known what range of service and mode of remuneration were proposed. He thought it unlikely that the Superannuation Committee would report before next March, by which time, it was hoped, the Spens Committee's report would be available. It was agreed that the resolution should be passed to the committee concerned.

The resolution of the recent Panel Conference declaring that the time was ripe for a substantial increase, long overdue, in the capitation fee was considered. The chairman pointed out that the appointment of the Spens Committee itself arose out of a similar declaration by the Insurance Acts Committee, and now the question was apparently being investigated "from the ground up," to use the phrase of Mr. Ernest Brown. The point had been pressed very strongly on the Spens Committee. It would be helpful to have some knowledge of the findings of the Spens Committee before taking action on the Panel Conference resolution. To send up a request for a hypothetical increase at the present time would not be very satisfactory.

It was agreed that the question be further considered at the next meeting of the I.A.C. in February.

At this point the Secretary read to the committee the statement made in the House of Commons by the Minister of Health half an hour earlier on compensation for medical practice.

Formation of a Guarantee Fund

The Treasurer of the National Insurance Defence Trust reported that the amount now standing to the credit of the fund was £318,595. The committee, sitting as trustees, considered the formation of a guarantee fund, and the following propositions were unanimously agreed to:

(1) That every Panel Committee be asked to make available to the Trust on demand all the funds at its disposal over and above the amount required for administrative expenses and to indicate immediately, precisely or approximately, the amount the Trust should expect to receive under this heading.

(2) That every Panel Committee that is not already doing so be urged to take immediate steps to secure contributions to the Trust from its constituents on the basis of a halfpenny a year for each insured person on their lists, in accordance with the decision to increase the Trust Fund to one million pounds.

(3) That the Insurance Acts Committee be urged to recommend the Council of the B.M.A.: (*a*) to establish an Emergency Guarantee Fund for the whole of the profession; (*b*) that the proposed Guarantee Fund be composed of predetermined contributions from the British Medical Association and the National Insurance Defence Trust, together with the amounts guaranteed by individual members of the profession; (*c*) that the amounts so guaranteed be called in only on the decision of the Council; (*d*) that the unexpended portion of the total fund be refunded to the B.M.A., the I.D.T., and the individual guarantors in proportion to the amounts contributed: (*e*) that each individual member of the profession be asked to guarantee a minimum contribution of £25; and (*f*) that the whole of the administrative expenditure in the collection of guarantees and contributions be borne by the B.M.A.

The chairman pointed out with regard to this third recommendation that it was felt that this was a matter not affecting insurance practitioners alone, and that on this question of a very large fund the proper course would be for the Council of the Association to seek guarantees from the whole profession, including consultants and those in all other branches. This fund would be built up in parts, part from the Association itself, part from the Trust, and part from guarantors in the whole body of the profession.

Fees for Part-time Regional Medical Officers

At its previous meeting the committee had expressed the view that the sessional fees paid to part-time regional medical officers should be increased, but as some of these officers are not insurance practitioners, and as it is desirable to have such fees in harmony with those paid by the Ministries of Labour, Education, and Pensions, as well as of Health, the matter was remitted to the General Practice Committee. It was now reported that the General Practice Committee had passed a resolution that the fee payable to part-time regional medical officers of the Ministry of Health should be increased to three guineas for a session of two hours. The Insurance Acts Committee concurred in this proposal, and it is to be pressed upon the Ministry.

Dispensing

The chairman stated that in view of the announcement that the Ministry had approved an increase in the dispensing fees paid to chemists, he, on behalf of the committee, had authorized an application to the Ministry for an increase in the dispensing capitation fee which would compensate dispensing doctors for the additional cost of the drugs they supplied and for the time they spent on dispensing, putting them in a position not less favourable than the chemists in this respect.

The action of the chairman was approved.

The Buckinghamshire Panel Committee had asked that dispensing practitioners be permitted to prescribe any of the drugs or appliances in the "specially expensive" list appended to the distribution scheme. On this point the Ministry had replied that it was thought that it would detract from the efficiency of the service if an insured person, who by reason of distance had difficulty in obtaining his supply from a chemis was required so to obtain it in the case of expensive

The Ministry appreciated that in present circumstances a doctor might sometimes have difficulty in obtaining some of the specified drugs, but it was to be expected that shortly the supply position would improve.

A special case which had arisen in Buckinghamshire where a practitioner, backed by the Panel and Insurance Committees, had applied for special payment for large quantities of dressings required by two patients, and his application had not been approved by the Ministry, is to be put forward again, with further details, at the next meeting of the committee with the Ministry.

The committee agreed to support a request from the Gateshead Panel Committee that test-tubes for diabetic patients for whom Fehling's solution is ordered, for the purpose of testing their own urine, and atomizers and nebulizers for use where inhalant preparations are ordered for the self-treatment of asthma, should be added to the schedule of appliances forming part of medical benefit.

Reference of Patients

Discussion again arose on the question of the reference of patients by the regional or divisional medical officer to the tuberculosis officer or other specialist. Dr. Dain pointed out that they had agreed to the intervention of the regional medical officer for one purpose only—namely, to check up their opinion as to the fitness or unfitness of the patient for work—nothing more and nothing less than that. The underlying suggestion that the regional medical officer should be a stepping-stone to the consultant's sphere could not be accepted. The position must be maintained that practitioners sent their patients for a consultant opinion when and where they thought well. It was impossible to accept a service where somebody was going to stand over them all the time at their work.

The Scottish members of the committee again put forward the special position of these officers in Scotland, where a different relationship has prevailed. The chairman said that in any further discussion on this subject with the Ministry the special position of Scotland would certainly be respected, but on the other hand he asked the Scottish representatives to appreciate the position of their English and Welsh colleagues in this matter of the regional medical service. He added that on the original and main question of reference of cases by the regional medical officer to the tuberculosis officer the profession had gained its point. What was now in question was a subsidiary issue.

A large amount of other business was transacted by the committee during a long afternoon sitting. Most of the business arose on resolutions of the recent Panel Conference and the appropriate action to be taken on them.

RETURN TO PRACTICE

The Central Medical War Committee announces that the following have resumed civilian practice: Dr. John Fleming, F.R.F.P.S., at 17, Woodside Terrace, Glasgow, C.3; Dr. J. U. Human, at 132, Harley Street, London, W.1; Mr. Cameron MacLeod, F.R.C.S., at 61, Harley Street, W.1; Mr. F. W. Roques, F.R.C.S., at 55, Harley Street, W.1; Mr. Walter Simpson, at 3, Perry Road, Bristol 1.

The Dental Board has been accumulating reserves against the emergency of demobilization, when it is expected that a large number of young people will seek to enter the dental schools. At the recent session of the Board a very liberal policy was adopted in educational grants. Grants ranging from £150 to £500 a year for five years in aid of the salaries of teachers, lecturers, and demonstrators, were offered to Queen's University, Belfast (two), the Universities of Birmingham, Bristol (two), Durham, Leeds, Liverpool (two), Manchester, and St. Andrews (two). In addition certain grants in aid of salaries of professors and other instructors were renewed for of Birmingham, Bristol (two), Durham, Leeds, Liverpool (two), Sheffield (two), and Queen's, Belfast. Although the General Medical Council and the Board have both made recommendations to the Interdepartmental Committee on Dentistry that the existing Board [illegible] superseded by a council with wider functions, it is not [illegible] that the duty of subsidizing dental education should form [illegible] functions. Therefore the Board has had to consider [illegible] on the alternative suppositions that on the one [illegible] called upon for an indefinite period to continue to [illegible] under the existing law, and, on the other, it [illegible] but not distant, date be relieved of them.

STAFFING OF MIDDLESEX COUNTY HOSPITALS

Employment of Whole-time Consultants

Middlesex was one of the first counties to introduce whole-time senior clinicians into the local authority hospital service, which it did eleven years ago. As the result of a report to the Public Health Committee of the Middlesex County Council by Dr. H. M. C. Macaulay, county medical officer of health, the system is being extended and improved. Dr. Macaulay states that his aim is that every patient shall be supervised by a consultant of a high degree of skill, an arrangement which obtains in the best voluntary hospitals. The clinical work of the Middlesex hospitals will be done by teams consisting of a senior clinician, chief assistant, and senior and junior house officers, the post of junior house officers being filled by the young practitioner who, under the Goodenough recommendations, would have to hold a house appointment for twelve months before registration. This team would be responsible for a definite number of beds, acute and chronic, with out-patients and teaching. A team for a specialty would be similarly constituted, except that both house officers would be senior. An obstetric team would be responsible for about 30 lying-in beds, about the same number of gynaecological beds, and a few antenatal beds, again with out-patients and teaching.

The senior clinician in such an arrangement would be a person of high professional attainments and capable of conducting graduate and postgraduate teaching, as it is accepted that the county hospitals will form centres of medical education and research. A starting salary of £1,200, rising to £1,800 and higher in cases of exceptional achievement, is recommended for this post. "I attach very great importance," says Dr. Macaulay, "to the inclusion by the county council in its grading scheme of this provision of additional financial reward for really outstanding clinicians in its hospital service, and in my opinion the knowledge that very exceptional merit would be so recognized would produce a most stimulating effect upon the service."

It is anticipated that those applying for the post of chief assistant will be men or women already holding a higher qualification and who aim at becoming consultants or specialists; therefore the appointment will be for a few years only. In the department of pathology there will be, according to the needs of the hospital, one, two, or three men respectively in charge of bacteriology, morbid anatomy, and chemical pathology. It is intended that there shall be at least one resident radiologist at each general hospital, and also a grade of radiological registrar, a person already possessing a diploma in radiology who wishes to become a specialist. The recommended salary of the medical director in each of the five major county hospitals commences at £1,400, rising to £2,300, with no emoluments.

The Medical Director

In a later report the Public Health Committee further discusses the function of the medical director. It is preferred that he should be a clinical director, remaining in active practice, not a non-clinical administrator. The committee rejects the idea of a lay secretary or house governor, such as is to be found in a large number of voluntary hospitals, where there is usually no senior whole-time medical man on the staff. "The county hospitals at the present time are in a state of active evolution, during which the process of building up strong medical staffs comparable with those of the teaching hospitals of the country should be in progress." When medical staffs, strong both in quality and in numbers, have been built up in all the council's hospitals the matter may be reviewed, as it may then be found that the purely medical administration could be undertaken perhaps by the chairman of the medical advisory committee and the rest of the hospital administration placed in the hands of a lay secretary or house governor.

Dr. Macaulay's report does not favour the employment of part-time specialists who, in addition to serving the local authority hospitals, engage also in private consulting practice, but he believes that in certain directions a specialist employed by the county might undertake work outside his own hospital, as, for instance, that of visiting consultant in charge of beds at some of the larger voluntary hospitals in the neighbourhood.

Postgraduate Education at County Hospitals

In a subsequent report to the October meeting of the Council the Public Health Committee suggests that arrangements be made for postgraduate education at county hospitals for medical officers released from the Forces. There are two classes of demobilized doctors for whom postgraduate facilities have to be provided. The first includes doctors recruited from large practices, for whom whole-time refresher courses require to be provided. The second includes practitioners who, on recruitment, were training to become specialists or consultants. Junior posts carrying a salary of £350 resident or senior or registrar posts with a salary of £550 resident are to be created for them. In the junior posts the officers concerned would largely perform the functions of a senior house officer, but the post would be primarily an educational one, while those holding the senior posts would carry out the duties of junior consultants and work under the supervision of the senior staff of the hospital.

Correspondence

Legal Obligations of the Practising Doctor

SIR,—Dr. G. L. Davies's protest (*Supplement*, Dec. 1, p. 123) against the almost complete silence of the profession on the severe penalty inflicted by the G.M.C. is fully justified. In the absence of full details of the alleged default it is not easy to come to any fair judgment on the case, but everyone must admit that the penalty was devastating, approximating a "death sentence." Personally I was deeply shocked by the decision and feel that a great injustice may have been done. I am sure that this feeling must be agitating the majority of the profession, yet practically no protest was lodged.

In the early days of the national health insurance service I was also deeply shocked at the vicious fines inflicted on members of that service for relatively small offences. Members of the Labour Party are never tired of professing that the B.M.A. is the strongest trade union in the country, which is, of course, fantastically untrue. No trade union would tolerate such action without the strongest possible protest and inquiry, yet the B.M.A. is dumb. The G.M.C. may be justified on the facts before them, but the profession, in the very serious circumstances, should have some knowledge of the true facts, and an appeal should be made to the B.M.A. to ascertain the exact position. Is there no appeal against this decision?

There is a dangerous lethargy among the profession, who *seem* to have no interest in the other fellow's trouble so long as the latter does not affect them personally. The same lack of interest is shown in ethical matters. An amusing and enlightening case of this occurred when doctors in one area were inflicted by a very bad instance of ethical misconduct. No interest was taken in another area until a much less reprehensible case occurred there, when immediately strong feelings were expressed. Is this the spirit in which the profession is going to meet the ordeal ahead? What an example and precedent to hold up before the gloating eyes of the present Government, who are determined to nationalize and enslave the profession, like all other members of the community, for the good of their soul and for the glory of Socialism (chaos).—I am, etc.,

Birkenhead. D. J. GAIR JOHNSTON.

SIR,—The letter of Dr. G. L. Davies is very timely. The profession will be wise to take stock of the new position. Two doctors have been brought before the G.M.C. on complaints brought by the Ministry of Health. One of them has been removed from the *Register*. The Ministry has power to remove them from the panel for breach of contract, but, from the reports, it would appear that this course was not adopted in either case. Instead, the Minister, not content to exercise his own authority, asked that they should be deprived of their livelihood.

This latest manifestation of the autocracy of the Ministry of Health must be carefully noted at this time. Many of us are tired of the tolerance shown by the profession to the "dictators" of Whitehall. The sands are running low, and Mr. Bevan, without discussion or negotiation, may at any moment present us with a *fait accompli*. Before our freedom is wrenched from us let us achieve that unity which alone will enable us with ease to resist further encroachments on private enterprise and individual liberty. We wield power possessed by no other section of the community, and the eyes of the country are upon us. Let us, while there is time, see that we are true to ourselves, for only thus can we ensure we are not false to the rights of other men.—I am, etc.,

Plymouth. C. H. HUTCHINSON.

A Forty-hour Week

SIR,—The politicians, press, and public have acted on the assumption that the medical and allied professions and occupations, as a whole, are totally unorganized. The end-result of this will be to our lasting disadvantage unless and until we, as individuals, take a more personal and active part in our own defence, and do not leave it for our leaders to act for us without knowing how much they can rely on our unswerving support for the principles they uphold in the public interest.

Any member who attends the Division business meetings of the Association, will have observed their sparseness, and the eventual reflection on the discussion at the Annual and Special Representative Meetings. It would be charitable to assume that the small attendance at Division meetings is due to the desire of the majority to put the patient first, and to give the service which they, as individuals, feel the public requires. Such a service, however, involves the practitioner who gives it in continuous "split-turn" and "spread-over" duties, which must of necessity prevent him from attending adequately to his private and business affairs.

The public, employers, and the Government have become acclimatized to the various forms of restricted labour supply and hours of work in all business and public services, and it should not be unbearable to add one more to their burden. I refer to the practical proposition of restricting our services, with reasonable exceptions and by mutual agreement, to morning consultations only, and so permit our evenings to be free, without a time limit, for collective discussion and organization. A forty-hour week and no "spread-over" can be as beneficial to us as it is to other workers.—I am, etc.,

London, N.11. RICHARD H. MOORE.

Retention of Specialists in the Services

SIR,—Before applying "the exigencies of the Services" clause when considering the demobilization of specialists would it not be wise for the Service chiefs to take stock of their available misemployed specialists? I feel that my own experiences may be of interest to others.

Before the end of the European war was even contemplated I was sent over-seas by the consultant of my branch to take up an appointment as a specialist at the command hospital. Draft notes agreed with my verbal instructions. After [illegible] pleasant voyage lasting several weeks I was removed from the troopship some days short of my destination and rushed into a general duty medical officer's post. On pointing out that I had been sent out to continue my special duties, which I had performed for over two years in England, I was told that there was no establishment for a specialist. Since then no action has been taken to rectify this error, although at least three general duty medical officers have been sent home after a few months' service here and their label has invariably been "Surplus to requirements."

I bring this forward because in all probability a full specialist is being retained in the Forces because such people as myself are grossly misemployed. During the past three months my average sick parade has fluctuated between 1 and 6 men with minor complaints. Knowing full well that victimization does occur in this particular State system I prefer to sign myself

"MISEMPLOYED."

Man-power Economy in the Navy

SIR,—I am the medical officer to an escort vessel in the East Indies fleet. It is now three months since VJ Day, and a Fleet Order has come round stating that there is to be economy in the use of medical man-power, yet well over half of the sixteen or so escort vessels on this station are still carrying medi officers. The average complement of these ships men. While I am not yet due to return home mys

Group 30, I feel that here is a place where economy might be exercised. If it is necessary for any of these small ships to carry medical officers in peacetime surely one per four ships would be sufficient. Doctors in lower age-and-service groups would then be freed to return home, and surgeon lieutenants with 4 or 5 years' service to their credit be given a chance to hold more responsible jobs.—I am, etc.,

"SURG. LIEUT., R.N.V.R."

MEDICAL WAR RELIEF FUND

SEVENTY-THIRD LIST

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£3.—Dr. P. E. J. Cutting, Stowmarket.

£2 2s.—Anonymous; Capt. N. Bickford, R.A.M.C. (18th dona- [illegible]; Dr. A. J. M. Butter, London (4th donation); Dr. G. W. S. de [illegible] Swanage (2nd donation); Dr. W. Harmens, Addlestone; [illegible] I. Hounsfield, Tunbridge Wells; Dr. A. G. K. Ledger. [illegible]; Dr. V. E. Lloyd-Hart, Aylesbury; Dr. R. S. MacArthur, [illegible]d donation); Dr. H. T. Merrick, Horsham (3rd dona- [illegible] Peterkin, Edinburgh (2nd donation). [illegible] Col. J. C. Holdich Leicester, Newbury; Dr. G. [illegible]thall (5th donation); Dr. F. W. Morton Palmer, [illegible]; Mr. A. E. Sawday, London (3rd donation)

10s. 6d.—Dr. T. B. Evans, Prestatyn (28th donation).

£58 16s.—Practitioners in Buckinghamshire area—per Dr. R. W. McConnel (amount already sent £505 4s. 6d.).

£57 13s.—Practitioners in the Huddersfield area—per Dr. W. H. Smailes (amount already sent £172 13s.): Dr. R. Gellatly £10 10s. (2nd donation); Dr. F. Fessler £1 1s.; Mr. C. D. Pye-Smith £3 3s. (2nd donation); Dr. Leslie Ballon £2 2s. (2nd donation); Drs. A. M. Affleck and S. G. Smith £2 2s. (2nd donation); Dr. J. Walker Hirst £2 2s.; Dr. C. W. Patterson £2 2s.; Dr. J. A. Stephens £1 1s. (2nd donation); Dr. Jane C. Miller £1 1s. (2nd donation); Dr. R. Graham £1 1s. (2nd donation); Mr. Wm. Barclay £5 5s.; Mr. A. Latimer Walker £3 3s. (2nd donation); Dr. H. Mercer £3 3s. (2nd donation); Dr. T. S. Davy £5 5s.; Dr. J. I. Arnold £2; Drs. W. H. and T. W. Smailes £2 2s. (2nd donation); Dr. W. L. Ingham £2 2s. (2nd donation); Dr. Jessie Sheard £3 3s. (2nd donation); Dr. G. Crompton £2 2s. (2nd donation); Dr. J. F. Hanratty £2 2s.; Dr. J. W. Watthews £1 1s. (2nd donation).

£15—City of Edinburgh Division, B.M.A.—per Dr. J. Hunter (amount already sent £207 14s.): Dr. W. A. Alexander.

£10.—Plymouth Division, B.M.A.—per Dr. M. Ramsay (amount already sent £375 17s. 6d.): Dr. C. B. F. Tivy (2nd donation).

£7 3s.—Birmingham General Medical Practitioners' Union—per Dr. M. G. Sheldon (amount already sent £58 9s.): Dr. F. R. Gedye £3 3s. (2nd donation); Dr. J. G. Sheldon £1; Dr. M. G. Sheldon £3 (6th donation).

£5.—Practitioners in East Herts Division, B.M.A.—per Dr. J. S. Ross (amount already sent £366 13s. 1d.).

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Cheques, payable to the Medical War Relief Fund, should be sent to the Hon. Treasurer of the Fund, British Medical Association House, Tavistock Square, London, W.C.1.

B.M.A.: Meetings of Branches and Divisions

NYASALAND BRANCH

Routine business at the annual general meeting of the Nyasaland Branch, held at Zomba on July 14, was followed by the election of officers; Dr. Bourke was elected president, Dr. Pretorius vice-president, and Dr. D. A. Baird hon. secretary and treasurer. After tea Mr. Cronyn demonstrated the following: (1) Three cases showing different types of amputation in the lower limb. (2) A case of sinus of the ethmoid region existing from an operation performed two years previously. (3) A tumour removed from the anal region of a child. (4) A case of melanotic carcinoma of the foot. (5) A case of leprosy with gangrene of the little finger. Mr. J. de Meza, Chief Veterinary Officer, Nyasaland, then read a paper on rabies and its control, which was followed by a good discussion. Problems of bilharzia in Nyasaland was the subject of a paper by Dr. Gopsill, which concluded the proceedings.

SUDAN BRANCH

At a meeting held in the Kitchener School of Medicine, Khartum, on Oct. 29, Dr. Robert Buchanan presiding, some forty-five doctors, mainly members of the Sudan Medical Service, heard Dr. James Dunlop of the Public Health Department, Glasgow, who is on a month's lecturing tour to the troops in the Middle East, describe the health organization of a large city. Dr. Dunlop said that there had been a big drop in infant mortality and a great improvement in the health of the pre-school child, who, in Glasgow, was now an inch taller and two pounds heavier when entering school life than was a similar-aged child some years back. This was [illegible]buted to the diet and to the regular wages among the poorer classes.

Many questions were asked and answered and the meeting closed with the usual vote of thanks.

BIRTHS, MARRIAGES, AND DEATHS

The charge for an insertion under this head is 10s. 6d. for 18 words or less. Extra words 3s. 6d. for each six or less. Payment should be forwarded with the notice, authenticated by the name and permanent address of the sender, and should reach the Advertisement Manager not later than first post Monday morning.

BIRTHS

BELL.—On Dec. 11, 1945, at 27, Preston Avenue, North Shields, to Dr. Jean Margery (*née* Cass), wife of Ralph Graham Bell, a son.

GARDNER.—On Dec. 10, 1945, at St. Johnstoun's Nursing Home. Perth, to Janet (*née* Addison-Scott), wife of Dr. A. Miller Gardner, a son.

WORMALD.—On Dec. 7, 1945, at Newcastle General Hospital, to Robina, wife of Capt. J. L. Wormald, R.A.M.C., B.A.O.R., a son.

SUPPLEMENT TO THE
BRITISH MEDICAL JOURNAL
LONDON SATURDAY DECEMBER 29 1945

HEARD AT HEADQUARTERS

Microscopic Prescription Forms

Complaints come from many quarters about the size and quality of the prescription form books now being supplied to insurance practitioners. Some doctors say that they cannot get the whole of what they want to write in the space provided in the form, which, if the reduction goes much further, will approximate in size to a postage stamp. The quality of the paper is also a matter for complaint, the pen often perforating it instead of marking it. The time in fact is ripe for a reconsideration of the quality and layout of these forms. If insurance doctors are to be condemned to so much form-filling there is no reason why the forms should not be as convenient as possible. This applies particularly to certificates; the recent Panel Conference called for a revision of forms of certificates, as well as for a reduction in their number if possible. There is a case for greater uniformity and convenience in such forms, and also for printing with counterfoils.

Two Bills

It is understood that as social insurance is now a completely separate Department in Government from the Ministry of Health there will be no connexion between the Social Insurance Bill and the Health Service Bill. This may be regretted from some points of view; on the other hand it may lessen complications.

All Except One

A piece of good recruiting is reported from Aberdeen, where the acting honorary secretary of the City Division, Dr. D. W. [illegible]y, who has always had a good measure of success in bringing newly qualified practitioners into the B.M.A., has succeeded in obtaining as members all but one of the September graduates of Aberdeen University. The farthest north has set an example to all honorary secretaries in Divisions which include university towns.

The Returning Practitioner

It was fully expected that there would be a full crop of problems arising out of the Protection of Practices Scheme as soon as men in any numbers return to their practices from military service. The problems do not imply that the scheme was defective or has been inefficiently worked; they arise from the infinite diversity of the circumstances from which the men went and to which they return. Three specific questions have been put by Local Medical War Committees: (1) What period should be allowed to elapse between release from the Forces and return to practice? (2) Should a practice be protected under a local scheme where the absentee practitioner does not return to the area but sells his practice? (3) Should it be protected where he has intimated that he is not returning to the area? The decision on these matters rests with the Local Medical War Committees, but the Central Protection of Practices Committee and the Council have given some guidance. They consider that the time permitted to a released practitioner to return to his practice should not be more than three months unless adequate reasons are given for further absence; that when the absentee practitioner is not returning to the area and [illegible] disposed of his practice to another doctor the latter should [illegible] considered the successor to the practice and be entitled to [illegible] benefits of the scheme; and, finally, when the absentee has not returned after three months, and no notification has been received of the sale of the practice or of intention to return, the local scheme need no longer be regarded as affording protection.

Then there is the difficult case, long foreseen, of the patient of the absentee who has been attended by the acting practitioner during the war and wants to transfer to him after the absentee has returned. A leaflet which is being sent to Local Medical War Committees administering the scheme gives some considered advice for these and for allied cases, but, briefly, it comes to this, that no departure should be sanctioned from the principle embodied in local schemes whereby the acting practitioner is bound by the terms of his undertaking—and this relates to any signatory practitioner in the area who has not been absent on war service—to refuse to accept on his own behalf any patients of an absentee until after the expiry of one year from the absentee's return. It is said that this is a restriction of the patient's freedom of choice, but the patient's freedom of choice is always conditioned by the doctor's freedom to accept or refuse the patient, and in this case the acting practitioner's attitude is determined by an agreement voluntarily undertaken. The great majority of such cases will, of course, be resolved by mutual good will.

Doctors as Business Men

It is so often assumed that doctors are lacking in business ability that it is worth putting on record a challenge to that statement by the new President of the Society of Medical Officers of Health. In a recent address Dr. Johnstone Jervis agreed that there are medical practitioners, like the old doctor in Ian Maclaren's *Bonnie Brier Bush*, who are completely indifferent to financial interests. But, then, every profession, including the Law and the Church, has a number of such men, and it is not apparent that medicine has a larger quota than the others. On the other hand, said Dr. Jervis, "anyone who has had business dealings with the average practitioner, be he consultant or general practitioner, must have sensed the existence of a strongly developed bargaining propensity and a possessive instinct unsurpassed by any other class or profession." The members of the profession will scarcely feel themselves complimented, and would probably prefer to be thought of as unbusinesslike rather than commercial and grasping. Surely the truth is that business ability is one thing, and "the possessive instinct" is something different which may go with business ability or may not.

Administrative Capacity

What Dr. Johnstone Jervis was leading up to, however, in his remarks on the business-like habit of the majority of doctors was in praise of the medical man as an administrator. There has grown up even in the profession itself an idea that medical men usually make poor administrators, or, if they should make good ones, it is at the sacrifice of their medical skill. There have been medical men in whom administrative capacity amounted to genius—names, past and present, could be quoted by the score—and it has not been proved that on that account they have been less good doctors. Dr. Jervis claimed for the public health departments of local authorities in this country that, taken as a whole and judged by the strictest standards, they were well administered, at least as well administered as any other departments of the town or county hall. It is important to stress this point because in the new National Health Service, whatever form it takes, administrators will be needed, and as the service will consist of a large number of institutions, hospitals, clinics, health centres, and so on, all medical in character, and each with its staff of doctors, it seems obvious that the integration of so many varying elements calls not only for administrative capacity in the ordinary sense, but for a knowledge of technical detail to be found only [illegible] those who have had a basic medical training.

Correspondence

Emergency Reform of Representative Body

SIR,—It would appear that proposals are being made in certain quarters that a Special Representative Meeting should be summoned on the requisition of 20 constituencies, as provided in By-law 46 (i), with a view to the alteration of the Articles and By-laws to give effect to the suggestions contained in Dr. Balck-Foote's letter in the issue of Dec. 15 (p. 131). It appears to me that the procedure which the proposers seem to have in view is governed under the terms of By-law 75 as it stands.

In view of the probability that there will be more than one Special Representative Meeting during 1946 to consider the proposals of the Minister of Health, it is important that an additional meeting should not be held if in any way it can be avoided.—I am, etc.,

Downton, Wilts.

J. C. MATTHEWS,
Chairman, Regulations and Standing Orders Subcommittee, 1932-44.

*** By-law 75 is as follows: "The Representative Body and the Council shall respectively have power to appoint Committees with such powers as may to them seem necessary or convenient, and to fix the quorum thereof and lay down Rules for regulating the proceedings of such Committees."—ED., *B.M.J.*

Medical Certification

SIR,—The number and variety of the certificates required from doctors are, like queues, part of the nightmare of the times. But I am sure the general public miss the point of our protests; we grumble about having to give so many certificates, but what really troubles us is the fact that so many have to be refused. Every time a doctor refuses a certificate it involves him in a conflict of some sort. In the first place there is the effort required to weigh up the pros and cons, and the tiresome struggle with his conscience; and, secondly, there is the conflict with the patient, which may be almost nothing, or it may be an extremely unpleasant and exhausting dispute.

We know well enough that, rather than give an unsound certificate, we must quarrel with our patients, but we are not at all satisfied that the certificates are always necessary—for example, certificates for [illegible]rsets. But that is not my point; there is a much more [illegible] consideration. There is a danger of a run on the doctors rather like a run on the banks. It is obvious that if the doctors were to hand out certificates to all who asked for them there would be a calamitous breakdown in the supply of coal, milk, eggs, etc., and in the national health insurance system. In the end the whole of our social security depends on the integrity of the family doctors. But if the public want a high standard of certification the doctors are entitled to demand a high standard of integrity on the Government side. We do not demand anything superhuman; we did not make trouble four or five years ago when every doctor in the country could have supplied instances of mistresses who were told by Ministry of Labour officials that if they wanted to get exemption for their maids all that they had to do was to get a medical certificate. Minor officials still push the responsibility of refusal on to us. But the state of affairs is much more serious now because the practice is winked at by the authorities.

Recently it was widely reported in the press that Miss Jenny Lee had tried to get a man in her constituency out of the Army. She told the House of Commons that as a last resort she had suggested to the man's father that he should get a medical certificate. Miss Lee admitted in the House that it was a case of fraud; and with engaging naivety added that she had been honourably refused. And it was left at that. The fact that there was no storm of protest from M.P.s is easily explainable. [illegible] is so serious is that there has been no overwhelming [illegible] from the medical profession for the removal from [illegible] (if not the decapitation) of Miss Jenny Lee. Do the [illegible] profession imagine that we general practitioners [illegible]uptible saints, or do they imagine that we have [illegible] it just that they are too busy squabbling among [illegible] correspondence columns of the *Times*? [illegible] Sir, for help and encouragement from the [illegible] extremely difficult, distasteful, and often unnecessary work of certification. We do not ask for any My point is simply that if you want a high standard of ce tion you will have to insist on a much higher stand Government circles.—I am, etc.,

Wetherby.

R. L. KITC

The Case for Private Practice

SIR,—Like Drs. Leyton, Boyd (*Supplement*, Dec. 8, 22 and others I have been greatly surprised at the apparen bl ness of reaction on the part of members of the B.M. as whole to the extremely suggestive article entitled "Th Cas for Private Practice," by Dr. J. Campbell Young (*Supplemen* Oct. 20, p. 87). Is this a case of soft pedalling or is it, as were, a delayed-action bomb? The silence of the execu can more easily be accounted for by the fact that it is al committed to the principle of a centrally controlled service. it has no intention of altering this policy until it is forced t do so by members of the Association.—I am, etc.,

Bexley, Kent.

E. U. MACW M.

Terms, then Conditions

SIR,—In connexion with the proposed medical servic the threatened annexation of our practices there are so points which would seem to be of importance to the gener practitioner.

1. When a person applies for a job he usually wants to what remuneration is offered. Upon that depends whether is willing to undertake certain conditions and hours of The more the remuneration obviously the more he is will undertake. Surely the same should apply to our own p to some degree. It seems to be absurd to negotiate ditions of service, etc., without knowing in the least wh financial side of the bargain.

2. If our practices are to be nationalized (I leave questions of the pros and cons as there are supporters o different methods of organization), then surely we shoul that the ruling authority, whoever that eventually should also accept all the extraneous responsibilities viding surgery accommodation and necessary staff for it in order, drugs, bottles, pill-boxes, etc., door-mats, s etc.; and all travelling facilities (the purchase tax o car would then be their affair) necessary to carry out th As it is, in very many doctors' households the wif answer the door, be surgery cleaner, etc., as well as r home when the doctor is out. Such a thing as an ev together seems to be almost a thing of the past.

If we are to be virtual civil servants then let us have the amenities of other civil servants and let our rem be real remuneration and not some problematical sun ing upon how cheaply we can manage our affairs.—I

Middlestown.

CHARLES H.

The Question of Rank

SIR,—May I add my small say to the vexed problem o conditions as they affect me directly. I returned to after five years' service over-seas. While in S.E.A.C. an Acting Lieutenant-Colonel—i.e., A/Lieut.-Col., T and W.S. Captain. I was posted to the B.A.O.R. a having retained my acting rank for one month after e tion and temporary rank for two months. In the B.A found myself junior in rank to officers who had les than I. To the question, "Are you happy in the Se my answer will inevitably be "No," because we are to everything possible will be done to ensure that heroes N.W. Europe campaign do not make way for older coming from other theatres.

I speak as an emergency-commissioned officer, bu officers are affected equally. My C.O. is three years service to the A.D.M.S., both are regulars, and his demeanour is that he, like myself, came home u "Python" scheme. We are told that [illegible] future polic make the Army a reasonable career [illegible] can the authoritie expect serving emergency-commis[illegible] officers to accep regular commissions when these inco[illegible] are allowe to continue?

Congress of Physical Medicine in recognition of his contributions in this field.

Dr. R. J. Goldacre, Ph.D., has been appointed to the London University readership in cell physiology, tenable at the Institute of Cancer Research, Royal Cancer Hospital.

COMING EVENTS

William Meredith Fletcher Shaw Lecture.—Dr. T. F. Corkill will lecture on "New Zealand's Debt to British Obstetrics," September 23, 5 p.m., at the Royal College of Obstetricians and Gynaecologists. Tickets from the Secretary of the College.

Middlesex Hospital Medical School.—Week-end course for former Middlesex men, September 30 (starting 2.15 p.m.)—October 2. Annual dinner at the Savoy Hotel (7 for 7.30 p.m.), September 30. Further information from the Medical School Secretary, the Middlesex Hospital, London W.1.

Institute of Diseases of the Chest.—Clinical demonstrations, open to medical practitioners without fee, in the lecture room of the Institute (in the grounds of the Brompton Hospital, Fulham Road, London S.W.3) on Fridays at 5 p.m. from September 30 to December 16.

Cambridge University Medical School.—Details of postgraduate courses for general practitioners during the academic year October 1, 1960, to July 31, 1961, are now available from the Secretary, the Medical School, Tennis Court Road, Cambridge.

Medical Faculty, Birmingham University.—Mr. L. Farrer-Brown will deliver the inaugural address at 3 p.m. on October 3.

Medical Defence Union.—Annual general meeting, 3.15 p.m. on October 4 at Tavistock House South, Tavistock Square, London W.C.1.

Royal Free Hospital School of Medicine.—Inaugural address: Sir Ifor Evans, October 5, 3 p.m., at the Senate House, London W.C.1.

Symposium on Cancer.—Week-end course, October 14–15, for consultants, S.H.M.O.s, and senior registrars, on recent advances in treatment, diagnosis, and research on cancer. Tickets (free) and information from the secretary, Institute of Cancer Research, Royal Cancer Hospital, 33 Sumner Place, London S.W.7.

Faculty of Radiologists.—Provincial meeting in Cardiff, October 15. Details from the Faculty, 47 Lincoln's Inn Fields, London W.C.2.

British Postgraduate Medical Federation.—Professor C. H. Waddington, F.R.S., will deliver the inaugural lecture of the 1960–1 series on the Scientific Basis of Medicine on October 20 at 5.30 p.m., at the Senate House, London University. His subject will be "The Significance of Developmental Biology."

Harben Lectures.—Professor R. A. Kehoe, department of preventive medicine and industrial health, Kettering Laboratory, Cincinnati University: "The Metabolism of Lead in Health and Disease." Three lectures, October 25, 26, 27, all at 5 p.m. Details from Royal Institute of Public Health and Hygiene, 28 Portland Place, London W.1. Admission free.

Sydney Watson Smith Lecture.—Sir Stanley Davidson will lecture on "Anaemia and Operations on the Gastrointestinal Tract" at the Royal College of Physicians of Edinburgh on October 26 at 5 p.m.

Wessex Rahere Club.—Autumn dinner, October 29, at the Grand Spa Hotel, Clifton, Bristol. Details from Mr. A. Daunt Bateman, F.R.C.S., 11 The Circus, Bath.

Conference on Accident Surgery.—Details of a conference, November 30 to December 2, arranged jointly by the Universi[illegible]lasgow and the Royal Faculty of Physicians [illegible], are given at p. 64 of the advertisements.

University College Hospital Medical School.—Programme of postgraduate demonstrations, October 27, 28, including annual dinner Savoy Hotel, Strand, London W.C.2, October 28, 7 for 8 p.m. Details from Honorary Secretary, U.C.H. Old Students' Association, University Street, London W.C.1 (Tel. EUS 5861).

SOCIETIES AND LECTURES

A fee is charged or a ticket is required for attending lectures marked ●. Application should be made first to the institution concerned.

Thursday, September 29

London Jewish Hospital Medical Society.—At 11 Chandos Street, W., 8.30 p.m., presidential address by Dr. David Preiskel: Physiotherapy.

Friday, September 30

Institute of Diseases of the Chest.—5 p.m., Dr. J. Smart: clinical demonstration.

Institute of Laryngology and Otology.—3.30 p.m., clinical discussion for general practitioners. Mr. A. S. Walker: Prescription of Hearing-aids.

Society of Chemical Industry: Fine Chemicals Group.—At Alderley Park, Cheshire, 2 p.m., symposium: Drugs for the Treatment of Hypertension.

Saturday, October 1

Cambridge University Medical School.—At Lecture Room "B," Addenbrooke's Hospital, Symposium on Haematology. Morning: 10.30 a.m., Dr. D'A. Kok: Clinical Diagnosis of Blood Disorders; 11.30 a.m., Dr. D. G. Chalmers: Use of Laboratory Services in Haematology for the General Practitioner; 12.15 p.m., Dr. F. G. J. Hayhoe: Treatment of Common Anaemias. Afternoon: 2.30 p.m., Dr. E. Davidson: Investigation and Treatment of Haemorrhagic Diseases; 3.30 p.m., Dr. C. B. V. Walker: Practitioner and the National Transfusion Service.

North-east Metropolitan Thoracic Society.—At Papworth Hall, Cambridge, 10.30 for 11 a.m., joint meeting with East Anglian Thoracic Society. Papers by Dr. Audrey Hanson, Dr. R. A. Bruce, Dr. D. J. Lawless, and Dr. H. A. Fleming.

North of England Otolaryngological Society.—At Bolton, 2 p.m., 14th annual and 40th ordinary meeting.

APPOINTMENTS

North-west Metropolitan Regional Hospital Board.—A. E. Carter, M.B., B.S., F.R.C.S., Consultant Surgeon, King Edward Memorial Hospital and Clayponds Wing; D. E. Bolt, M.B., Ch.B., F.R.C.S., Consultant Surgeon, West Middlesex and South Middlesex Hospitals; Dinah C. M. Henderson, M.B., Ch.B., D.M.R.D., Consultant Radiologist, Edgware General and West Hendon Hospitals; D. R. Sweetnam, M.B., B.Chir., F.R.C.S., Consultant Orthopaedic Surgeon, King Edward Memorial Hospital (including Clayponds Wing); A. E. Richardson, M.B., B.S., F.R.C.S., F.R.C.S.Ed., Consultant Neurosurgeon, Whittington Hospital; J. F. Hare, M.B., Ch.B., M.R.C.P., Assistant Physician (consultant grade), Windsor Group Chest Clinic and Canadian Red Cross Hospital; K. Bobath, M.D., D.P.M., Consultant Psychiatrist, Harperbury Hospital (new Cerebral Palsy Unit).

BIRTHS, MARRIAGES, AND DEATHS

BIRTHS

Porteous.—On September 6, 1960, at Liverpool Maternity Hospital, to Myfanwy (formerly Dr. Roberts), wife of Dr. Colin Ross Porteous, a son.

DEATHS

Bendle.—On August 27, 1960, at his home, 20 Littlemoor Road, Preston, Weymouth, Dorset, William George Bendle, M.B., F.R.C.S.Ed.

Black.—On August 20, 1960, the result of a road accident, Alfred Black, L.R.C.P.&S.Ed., L.R.F.P.S., of 7 Beresford Drive, Woodford Green, Essex, formerly of 97 Browning Road, Manor Park, London E.

Eckford.—On August 21, 1960, at The Rosery, Garfit's Lane, Boston, Lincs, Alan Eckford, M.D., D.Obst.R.C.O.G.

Graetz.—On August 16, 1960, at Woodside Road, Lockwood, Huddersfield, Gerhard Herman Arnold Graetz, M.B., B.Ch., aged 56.

Grant.—On August 20, 1960, Montagu Frederick Grant, M.D., D.P.H., Colonel, late R.A.M.C., retired, of Bredon House, Bredon, Tewkesbury, Glos, aged 82.

Hutchinson.—On August 22, 1960, at Whipps Cross Hospital, London E., Michael Lincoln Hutchinson, M.R.C.S., L.R.C.P., aged 59.

Hyman.—On August 22, 1960, Morris Hyman, M.B., Ch.B., of 34 Cedra Court, London N.

Neville.—On August 16, 1960, at Hill End Hospital, St. Albans, Herts, Norman Alan Neville, B.M., B.Ch., M.R.C.P., of 9 Westfield Road, Hertford, Herts, aged 46.

Oxley.—On August 17, 1960, in Kent and Canterbury Hospital, James Charles Stewart Oxley, F.R.C.S.Ed., Lieutenant-Colonel, I.M.S., retired, of 138 Dover Road, Walmer, Kent.

Pennington.—On August 19, 1960, at the Memorial Hospital, Henley-on-Thames, Oxon, Drury Pennington, M.B., B.Ch., aged 85.

Pike.—On August 26, 1960, at the Queen Elizabeth Hospital, Birmingham, Warwicks, John Donald Pike, M.B., Ch.B., of Applebeck, Streetsbrook Road, Solihull, Birmingham.

Primrose.—On August 16, 1960, at Dalchalm, Brora, Sutherland, Dorothy Anderson Primrose, M.B., Ch.B.

Richardson.—On September 16, 1960, at his home, The Holt, Gerrards Cross, Bucks, Sir Albert Victor John Richardson, K.B.E., C.B., M.B., B.Ch., D.P.H., Air Marshal, R.A.F., retired, aged 7[illegible].

Robertson.—On August 24, 1960, at Ravenswood, Whalley, near Blackburn, Lancs, Guy Scott Robertson, M.B., Ch.B., aged 60.

Russell.—On August 26, 1960, at Kirkhill Cottage, Newton Mearns, Renfrewshire, James Russell, C.B.E., M.B., F.R.C.S.Ed., F.R.F.P.S., late of Glasgow.

Symons.—On August 20, 1960, at King Edward VII Hospital, Windsor, Berks, William John Francis Symons, M.B., B.Ch.

Woodhouse.—On August 18, 1960, at Plymouth, Devon, Guy Walker Woodhouse, M.R.C.S., L.R.C.P., Surgeon Captain, R.N., retired.

Any Questions ?

We publish below a selection of those questions and answers which seem of general interest. It is regretted that it is not possible to supply answers to all questions submitted.

Chlorination of Swimming-baths

Q.—*Is there any risk of direct chemical damage to the conjunctiva or of causing increased susceptibility to local infection when water in a swimming-bath is over-chlorinated?*

A.—Over-chlorination, although causing slight discomfort, is unlikely to cause any significant damage to the eyes, and there is no evidence to suggest any increased susceptibility to local infection.

Monilial Vulvitis and Carcinoma

Q.—*Is there a risk of malignant changes occurring in pruritus vulvae due to chronic intestinal moniliasis?*

A.—Intestinal moniliasis does not usually cause pruritus vulvae unless it results in infection of the vulva itself. A special association between monilial vulvitis and carcinoma is not described. Nevertheless, some authorities take the view that any long-standing skin lesion of the vulva, and especially one which causes scratching, can ultimately result in malignant change. Considering the frequency of pruritus vulvae and the rarity of carcinoma vulvae the risk, however, must be small.

Excluding Noise

Q.—*Is there an ear-plug or any other appliance which is more effective in excluding noise than cotton-wool packed into the external auditory meatus?*

A.—Yes, there are many. First, there are many proprietary makes of ear-plugs on the market. These are made in a variety of materials—rubber, plastic (soft or firm), and even metal. They are worn by insertion into the exterior auditory meatus. Secondly, there are several ear-defenders designed for and used in noisy industries, including aviation, when it is associated with jet aircraft engines. These are worn like earphones and have large ear-encasing acoustic domes with malleable or fluid-filled rims. Thirdly, there is the so-called "bone dome" used by Service and certain civil aircraft pilots. This consists of a rigid helmet encasing the head with special ear-protecting pads.

Contact with Leprosy in Infancy

Q.—*A baby was separated from his mother at the age of 10 days and was taken into an institution. During the 10 days he was breast-fed. Three months later the mother was found to have leprosy. Bacilli were found both in her nasal secretions and in the blood around her skin lesions. So far as it can be assessed, there were no suspicious signs until two and a half months after delivery. The baby, now aged 6 months, is clinically normal. Is it possible to forecast the baby's future? What investigation should be done, and is any prophylactic treatment necessary?*

A.—While it is claimed that children are more susceptible to leprosy than adults, the incidence of leprosy amongst children who have been separated from infective parents before they were 6 months of age is so extremely rare that it can be taken that the chances of a child acquiring the disease after having been separated from an infective mother at 10 days is so infinitesimal that the risk can be discounted. So far as I know, there are only two cases on record in which leprosy has been described in children under 6 months. It must be remembered that the natural immunity to leprosy is very high indeed, and that even when children have been kept with an infective mother for as long as eighteen months the incidence of leprosy in the child is again very low. Therefore so far as this child is concerned I do not think there is any cause for concern.

With regard to the possibility of forecasting the baby's future acquirement of the disease, this would be very difficult. All one can say is that the average latent period in leprosy is one to three years, and if no signs of the disease have appeared within a period of five years one can conclude, I think, that the child would not show any signs of infection in later life.

With regard to possible investigations, workers in Bombay have found that in certain instances evidences of an early infection can be demonstrated in contacts of open cases of leprosy. An investigation that could be done would be to take a small biopsy from the skin of the back of the child and have it fixed under what is termed the hyalase technique. The area to be biopsied is injected intradermally with procaine and hyalase (1 ampoule of crystalline hyalase to 2 ml. of procaine). Then the physician waits not less than 10 minutes and not more than 20 minutes and performs a small biopsy. The tissue then is fixed in neutral formalin and despatched to a laboratory, where special investigations can be undertaken with reference to the condition of the nerves in leprosy. But the chances of any definite evidence of infection are so slight that I think that this is hardly worth while.

I would not recommend any prophylactic treatment, for in this case it would mean a course of treatment which should extend for a period of five years—that is, until the child is 5. A prophylactic dose of sulphones in a case of this type would be 10 mg. dapsone (diamino-diphenyl sulphone) twice a week for one month, then 25 mg. of dapsone twice a week until the child is aged 5. Then all treatment could be stopped. A step which could be taken would be to vaccinate the child with B.C.G., since it is generally considered that a positive lepromin reaction is more valuable than a negative. It is probably impossible to secure lepromin in this case, and therefore I would suggest that the child be vaccinated with B.C.G.

Finally, I think, because of the extreme rarity of infection at so low an age, that apart from examining the child every six months for the next three to five years no further steps need be taken.

A leading article on modern treatment of leprosy was published in a recent issue of the *Journal* (August 27, p. 655).

Up on the Points

Q.—*At what age should a child learning ballet dancing be allowed to "go up on her points"? Is it likely to be inadvisable in a child aged 10?*

A.—I do not think that we know the answer to this. I personally cannot see any reason for setting an age limit, and I am sure 10 years of age would be quite safe.

Collected Articles from the "British Medical Journal"

The following books are available through booksellers or from the Publishing Manager, B.M.A. House. Prices, which include postage, are now the same for both inland and overseas.

Refresher Course for General Practitioners, Volume 3 (26s. 9d.).
Clinical Pathology in General Practice (22s. 3d.).
Any Questions?, Volume 3 (8s. 3d.).

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